

---

---

**Rural Tier Planning Study**  
for  
**Prince George's County, Maryland**

Prepared by:

**FREILICH, LEITNER & CARLISLE**

1150 One Main Plaza  
Kansas City, Missouri 64111  
(816) 561-4414 voice  
(816) 561-7931 fax  
[www.flc-kc.com](http://www.flc-kc.com)

**PLANNING WORKS, LLC**

8014 State Line Road, Suite 208  
Leawood, Kansas 66208  
(913) 381-7852 voice  
(913) 381-7850 fax  
[www.ourplanningworks.com](http://www.ourplanningworks.com)

**December 23, 2003**

---

---

## TABLE OF CONTENTS

Table of Contents .....	i
List of Exhibits.....	iii
List of Exhibits.....	iii
Executive Summary.....	iv
Section I. Background.....	1
A. Overview .....	1
B. Planning Framework .....	1
1. Statutory Framework.....	1
2. Prince George's County 2002 General Plan.....	2
3. Current Plans, Programs and Policies .....	4
4. Ongoing Planning Efforts.....	5
C. Rural Growth and Land Preservation Trends .....	6
Section II. Current Rural Growth Strategies .....	7
A. Zoning .....	7
1. Rural Zoning.....	7
2. Villages .....	8
3. Cluster Subdivisions.....	9
B. Adequate Public Facility Standards .....	10
1. Fire, Rescue and Emergency Medical Services.....	10
2. Police Service .....	10
3. Schools.....	11
Section III. Potential Rural Growth Strategies.....	12
A. Overview .....	12
B. Permanent Growth Strategies .....	14
1. Rural Area Zoning.....	14
2. Purchase of Development Rights (PDR).....	15
3. Transfer of Development Rights.....	17
4. Rate of Growth Ordinances.....	22
C. Interim Growth Strategies .....	25
1. Moratoria .....	25
2. Interim Development Ordinances.....	26
Section IV. Rural Character Strategies .....	28
A. Overview .....	28
B. Rural Design Factors.....	28
1. Context Sensitive Setbacks.....	30
2. Fencing .....	30
3. Lot Access .....	31
4. Lot Sizes/Density .....	31
5. Development Scale.....	31
6. Buffers.....	32
7. Lighting.....	32
8. Open Space.....	32

9. *Road Cross Sections* ..... 32

10. *Stormwater Management Improvements*..... 33

11. *Wastewater Alternatives* ..... 33

C. *Conservation Subdivision Design*..... 33

    1. *Mandatory or Voluntary Clustering*..... 41

    2. *Location*..... 42

    3. *Land Uses* ..... 42

    4. *Intensity* ..... 43

    5. *Infrastructure* ..... 43

D. *Rural Subdivision Standards*..... 46

    1. *Open Space*..... 46

Section V. *Recommended Rural Development Strategy* ..... 50

    A. *Overview* ..... 50

    B. *Growth Management* ..... 50

        1. *Purchase of Development Rights* ..... 50

        2. *Funding the PDR Program* ..... 51

        3. *Transfer of Development Rights*..... 52

        4. *Building Permit Allocation System*..... 53

        5. *Rural Villages*..... 53

        6. *Conservation Subdivisions*..... 53

        7. *Interim Development Ordinance* ..... 54

    C. *Rural Design* ..... 55

    D. *Conservation Subdivisions* ..... 59

        1. *Regulatory Provisions* ..... 59

        2. *Infrastructure* ..... 60

    E. *Villages and Hamlets* ..... 61

    F. *Other Agricultural Protection Strategies* ..... 62

## LIST OF EXHIBITS

*Exhibit 1: Prince George’s County, Maryland Rural Tier.....3*

*Exhibit 2: Rural Land Preservation.....7*

*Exhibit 3: R-O-S, O-S and R-A Standard Regulations.....8*

*Exhibit 4: Village/Hamlet Development Pattern.....10*

*Exhibit 5: Summary of Rural Growth Strategies.....13*

*Exhibit 6: Transferable Development Rights Concept.....18*

*Exhibit 7: TDR Density Bonus Example.....21*

*Exhibit 8: Non-density TDR Incentives.....22*

*Exhibit 9: Rural Design Factors Summary.....30*

*Exhibit 10: Context Sensitive Setbacks Illustration.....32*

*Exhibit 11: Rural Local Road Cross Section.....35*

*Exhibit 12: Conventional Versus Conservation Subdivisions.....36*

*Exhibit 13: Conservation Subdivision Design and Policy Options.....37*

*Exhibit 14: Building Location on Large Parcels.....58*

*Exhibit 15: Retained Vegetation Along Right-of-Way.....59*

*Exhibit 16: Recommended Conservation Subdivision Lot Sizes.....62*

## EXECUTIVE SUMMARY

Recent trends indicate that Prince George's County is not meeting the objectives adopted in the County's General Plan for land preservation and growth limitation in its Rural Tier. Additionally, existing standards for the County's rural zoning districts do not ensure that the rural character of the area is retained or that agriculture operations are protected from residential encroachment. This report recommends strategies to address the following growth and character issues:<sup>1</sup>

- **Pace of Development.** The General Plan recognizes that limited residential development is desirable within the Rural Tier as long as the area's rural character is protected or enhanced. At the same time, the General Plan envisions a redirection of residential development, with an increased pace of development in the Developed Tier and a slower pace of development in the Developing and Rural Tiers. The General Plan strategies are intended to provide incentives and disincentives in order to achieve this redirection of development. However, in the last two years, the pace of development has exceeded General Plan objectives for both the Developing and Rural Tiers and the rate of residential construction in the Developed Tier has fallen short of Plan objectives. In addition, the subdivision approvals within the Rural Tier during the past two years have outpaced the growth objective of the General Plan (over 4 percent of the lots approved during the subdivision process have been located in the Rural Tier as compared to a growth objective of less than one percent of total county growth over the next 25 years). This study evaluates the effectiveness of the Plan's strategies and considers other measures to achieve General Plan goals.

### Recommendations:

- Adopt an interim development ordinance limiting subdivision and building permit activity for the next 18 months while the County pursues the balance of the report's recommendations.
  - Adopt a permit allocation system that allocates one percent of the County's annual building permits for residential units to development in the rural tier.
- **Land Preservation.** The General Plan describes the need to protect agricultural and other open space lands. Towards that end, the plan recommends potential incentives for land preservation such as purchase of development rights (PDRs), transfers of development rights (TDRs), and tax incentives for protected open space. Disincentives to development cited in the General Plan (such as a stricter transportation level-of-service or requiring new development to pay for needed infrastructure costs) may, indirectly, protect open space by limiting development yields. This report discusses these and other implementation techniques that could achieve the land preservation goals of the General Plan and evaluates these techniques with regard to legal basis, applicability to the characteristics of Prince George's County's Rural Tier, funding, and effectiveness.

### Recommendations:

- Establish a local purchase of development rights program to be funded by a combination of grants, a local bond issue and local mitigation fees.

---

<sup>1</sup> "Issues Memorandum -- Rural Tier Planning Study" from Tom Tyson to Al Dobbins, August 20, 2003, Pg. 4.

- Conduct a market study to evaluate the feasibility of transfers of development rights with Rural and Environmental Overlay Tiers as sending zones and villages, conservation subdivisions and centers as receiving zones.
- **Rural Character.** In addition to the preservation of open and agricultural land, the protection and enhancement of the Rural Tier's character is a key recommendation of the General Plan. The General Plan recommends that rural design guidelines be adopted to ensure that public and private development projects are designed and constructed consistent with the prevailing character of rural areas. This report outlines potential standards and how such standards should be implemented. Conservation subdivision techniques, open space dedication/protection, use and design standards for rural areas, and the design of and development along rural and scenic roadways are considered.

**Recommendation:** Refine and supplement existing development regulations addressing setbacks, buffers, fencing, lighting, access and open space in the Rural Tier.<sup>2</sup>

- **Infrastructure.** The General Plan recognizes that some new residential development is desirable in the Rural Tier. The General Plan gives minimal priority for public funding of infrastructure in the Rural Tier and recommends that infrastructure improvements not encourage additional future development. Other concerns, such as water supply for fire suppression, also face existing and future development in the Rural Tier. The Rural Planning Study will evaluate the types of infrastructure improvements that should be provided in the Rural Tier and needed funding mechanisms.

**Recommendations:**

- Continue to limit public infrastructure investments in the Rural Tier.
- Adopt rural road cross-sections to allow narrower local and collector roads.
- Continue to evaluate options for community systems to facilitate conservation subdivision and village development.
- **Uniformity of Rural Policies.** The Rural Tier is largely a mix of low density, large lot residential areas, farms, woodlands and public land. While most of the Rural Tier is outside of the water and sewer service envelopes defined by the Water and Sewer Plan, there are Rural Tier properties that are served or could be served by existing water and sewer lines. In addition, there are two sections of the Rural Tier, the Town of Upper Marlboro and the area around the Broad Creek Historic District, that are not contiguous to the larger mass of Rural Tier properties.

**Recommendations:**

- Use the village zoning and conservation subdivision to accommodate and allow for limited growth of existing centers in the Rural Tier.

---

<sup>2</sup> Open space and lighting issues may be resolved by planning studies currently being conducted.

## SECTION I. BACKGROUND

### A. Overview

The march of development across Prince George's County's rural landscape has generated a variety of cultural, fiscal, environmental, economic and service-related challenges that are identified and addressed in the County's General Plan. This report identifies options for action that will enable the County to achieve the Plan's objectives. The rural development options discussed in this report:

- Support the County's goals and objectives as articulated in the General Plan while retaining personal property value;
- Preserve vital green infrastructure and working agricultural land while promoting a healthy urban development pattern;
- Moderate the amount and timing of growth in the Rural Tier;
- Promote efficient use of land and infrastructure;
- Ensure that rural development reinforces the desired character of the County's Rural Tier; and
- Minimize land use conflicts between agriculture based activities and rural residential development.

This report is intended to guide the County in developing a coherent strategy that will achieve the County's goals and objectives through a variety of fiscal, land use and other regulatory techniques. While an interim development ordinance is discussed as a potential stop-gap strategy to minimize rural land conversion until a long-term rural development program is devised and adopted, the report focuses on specific long-term techniques to address the rate, amount and timing of growth through: rate of growth controls, agriculture protection zoning, land conversion mitigation fees, adequate public facility standards, transfer of development rights, and purchase of development rights. To address rural character issues, this report discusses conservation subdivision design and standards for buffers, lighting, roads, drainage and development scale.

### B. Planning Framework

Prince George's County's General Plan identifies the community's development related issues and establishes goals, objectives and policies necessary to address the issues. The Plan and related statutes provide a legal framework that enables decision makers to influence the timing, location, intensity and pattern of growth.

#### 1. Statutory Framework

The Maryland General Assembly adopted the 1992 Planning Act, which established the following growth objectives:

1. Development is concentrated in suitable areas;
2. Sensitive areas are protected;
3. In rural areas, growth is directed to existing population centers and resource areas are protected;

4. Stewardship of the Chesapeake Bay and the land is a universal ethic;
5. Conservation of resources, including a reduction in resource consumption, is practiced;
6. To ensure the achievement of 1 through 5 above, economic growth is encouraged and regulatory mechanisms are streamlined;
7. Adequate public facilities and infrastructure under the control of the county or municipal corporation are available or planned in areas where growth is to occur; and
8. Funding mechanisms are addressed to achieve these visions.

These directives were further refined by the 1997 Smart Growth Principles listed below that, when taken in concert with the 1992 directives, provide clear support for the adoption of rural development limitations consistent with Prince George's County's General Plan.

1. Support existing communities by targeting resources to support development in areas where infrastructure exists;
2. Save our most valuable natural resources before they are forever lost;
3. Save taxpayers from the high cost of building infrastructure to serve development that has spread far from our traditional population centers; and
4. Provide Marylanders with a high quality of life, whether they choose to live in a rural community, suburb, small town, or city.

## 2. Prince George's County 2002 General Plan<sup>3</sup>

The 2002 Prince George's County General Plan designated a Rural Tier (see Exhibit 1), generally located along the eastern boundary in the Patuxent watershed and areas in the southern part of the county in the Mattawoman, Potomac and Piscataway watersheds. Three smaller areas were also included in the Rural Tier: most of the Town of Upper Marlboro in recognition of its rural, small town character, an area in the northern part of the county in the Rocky Gorge Reservoir watershed, and an area including, and near, the Broad Creek Historic District. The 2002 General Plan describes the Rural Tier as follows:

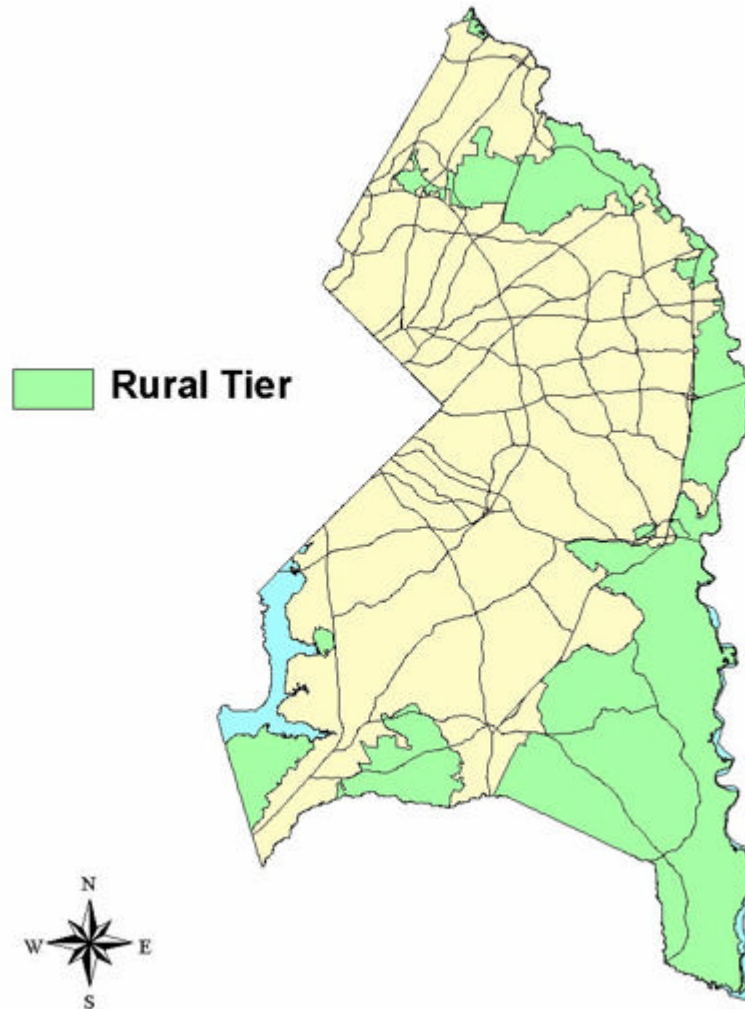
The Rural Tier is the most scenic part of the county and is characterized by fine landscapes, most of the county's remaining farms, extensive woodlands, numerous streams, and diverse wildlife habitat. Development activity includes mining and widely dispersed large-lot residential home sites. The community structure dates back over 300 years and historic roadways and structures dot the landscape. Public land holdings account for large portions of the Rural Tier, including extensive park and federal agency properties. Although large-lot estate development is anticipated in this Tier, it needs to be carefully balanced with agricultural pursuits and preservation to maintain its rural character. The preservation of the remaining environmentally sensitive features in their Tier is a priority for any future development.

---

<sup>3</sup> *Id.*, Pg. 1-4.

The General Plan's vision for the Rural Tier is "protection of large amounts of land for woodland, wildlife habitat, recreation and agriculture pursuits, and preservation of the rural character and vistas that now exist."

### Exhibit 1: Prince George's County, Maryland Rural Tier



Pursuant to the General Plan, the County's goals for the Rural Tier are to:

- Preserve environmentally sensitive features;
- Retain sustainable agricultural land;
- Maintain rural character;
- Allow large-lot estate residences;
- Limit nonagricultural land uses;
- Protect landowners' equity in their land; and
- Maintain the integrity of a rural transportation system.

The General Plan also establishes objectives or benchmark measures that can be used to gauge the success of its implementation. Many of these objectives are more or less equally applicable to all three tiers as well as Centers and Corridors (such as the objective to ensure funding to achieve the objectives of the Trails Plan). Other objectives are broadly applicable to the county with the exception of the Rural Tier (such as increasing the percentage of mixed use development). The following objectives either apply only to the Rural Tier or have particular relevance to Rural Tier plans and policies:

- Capture less than one percent of the county's dwelling unit growth by 2025 in the Rural Tier;
- Protect a countywide average of 1,500 acres per year of agricultural, strategic forest, or other sensitive lands through the use of the Rural Legacy Program, county-funded acquisitions, and other conservation programs;
- Meet or exceed a forest and tree cover goal of 60 percent in the Rural Tier by 2025; and
- Encourage and increase the proportion of private sector funding of needed transportation infrastructure in the Developing and Rural Tiers.

In order to achieve its goals and objectives, the General Plan includes policies and strategies. Most of the policies and strategies relevant to the Rural Tier are included in the Plan's Development Pattern Element. However, these policies and strategies are reinforced and supplemented in other Elements of the Plan. Appendix A lists policies and strategies pertaining to the Rural Tier.

### 3. Current Plans, Programs and Policies

There are existing plans, programs and policies that impact development and preservation within the Rural Tier. In addition to the five master plans, all prepared prior to approval of the 2002 General Plan, that address portions of the Rural Tier, policies for the Rural Tier are included in the following plans and programs:

- **Water and Sewer Plan.** The county's water and sewer plan establishes an envelope beyond which water and sewer service is not to be provided except under very limited circumstances. To a great extent, this water and sewer envelope defines the boundaries of the Rural Tier. Future amendments to the envelope could encourage denser development (by eliminating restrictions due to septic tank suitability) within the Rural Tier as well as development that is not designed to protect the area's rural character.
- **Rural and Scenic Roads.** The county has identified and designated a number of rural and scenic roads throughout the Rural Tier via master plans and the Historic Sites and Districts Plan. The design of improvements to these roads is addressed through the County Road Code administered by the county's Department of Public Works and Transportation. In 1988, the Rural Historic Landscapes and Scenic Roads Study was prepared for the Planning Department by Land and Community Associates. This study evaluated two survey areas, Bleak Hill, located north of MD 4 and east of US 301, and an area along Croom Road. The study also proposed strategies for historic road and landscape and scenic road protection. The design and layout of development along historic and scenic roads is reviewed during the subdivision process.

- **State Land Preservation Programs.** The county participates in two land preservation programs administered by the State of Maryland. The Maryland Agricultural Land Preservation Foundation (MALPF) program allows property owners to voluntarily form agricultural districts if their properties meet certain criteria for size and productivity. Further, districts may only be created in areas where water and sewer service is not planned. After formation of a district, a property owner may negotiate to sell a permanent development easement to MALPF. The other program, Rural Legacy, provides funding for development easements or fee simple acquisition within a defined portion of the county (along the Patuxent River in the Rural Tier).

Both of these programs have been used within Prince George's County. In the last two years, M-NCPPC has acquired over 460 acres of land within the Rural Tier through the Rural Legacy program. In 2002, the first MALPF district was approved for 122± acres on the south side of Accokeek Road; the owner is currently negotiating with the state for easement purchase. Unfortunately, funding at the state level has been reduced – there will be no state funding for either program for next year.

- **Tree Mitigation Banks.** As part of the county's woodland conservation program, developers may, under certain circumstances, be permitted to establish off-site areas, placed under permanent easement, for tree mitigation. In the past two years, more than 470 acres have been added to tree mitigation areas, most of which are located in the Rural Tier.

#### 4. Ongoing Planning Efforts

In addition to the Rural Tier Planning Study, there are other efforts that will affect implementation of the General Plan's recommendations for the Rural Tier. The projects listed below will be coordinated with the Rural Tier Planning Study. In some instances, implementation of Rural Tier strategies may be dependent on the findings and recommendations of these projects; in other instances, the projects listed below may be guided by the recommendations of the Rural Tier Planning Study.

- **Countywide Green Infrastructure Plan.** The 2002 General Plan recommended that a Green Infrastructure functional plan be prepared in order to define important natural areas and coordinate county and state environmental preservation efforts. The functional plan, initiated earlier this year, will define, on a macro-scale, natural area corridors and hubs. Although this plan is countywide in scope, the Rural Tier, because of its limited existing and future development, provides significant opportunities for preservation.
- **Bowie and Vicinity Master Plan.** This plan, initiated earlier this year includes portions of the Rural Tier generally located north of Swanson Road and south of the federal properties that include the Patuxent Wildlife Research Center and the Beltsville Agricultural Research Center. The plan will provide detail to the broad policy guidance of the General Plan. A factor to be considered in the development of this plan is a vision created by the Central Patuxent Citizens' Association for most of the Rural Tier within the plan's study area.
- **Henson Creek-South Potomac Master Plan.** This area includes a small portion of the Rural Tier, the area that includes, and is near, the Broad Creek Historic District. This portion of the Rural Tier is small and surrounded by suburban development in the

Developing Tier. However, it has a rural character characterized by single-family homes on large lots along with historic sites and some undeveloped land.

- **Decentralized water management.** The Prince George's County Department of Environmental Resources is investigating new technologies, procedures and regulations to reduce nutrient loadings in the Patuxent River watershed. Potential techniques to be used include alternative methods to accommodate wastewater, storm water and drinking water in the Rural Tier. This effort may provide opportunities to alter development methods within the Rural Tier.
- **Zoning Task Force.** This group, established by the County Council, has a broad mandate to recommend changes to development regulations in accordance with General Plan recommendations. The group may become involved in future legislative and regulatory efforts to implement Rural Tier strategies.

### C. Rural Growth and Land Preservation Trends

The General Plan objectives set specific targets for land preservation and the proportion of countywide growth that should occur in the Rural Tier. In the two years since the Plan was adopted, Rural Tier growth has exceeded 1% of total residential growth and land preservation efforts have protected less than 1,500 acres per year.

In recent years, the County has experienced an accelerated rate of growth in rural areas. Between 1990 and 2000, 1.4% of countywide residential permits were approved in rural areas. This amounted to approximately 45 new dwellings in rural areas annually. Recently the County projected that 1.7% of all residential permits between 2000 and 2020 would be issued for development in the Rural Tier. Between 2000 and 2003 rural development comprised 2.2% to 2.4% of the County's annual residential permits. Not only has the number of permits in rural areas has risen, but recent subdivision approvals show that approximately 4% of the new lots in the County have been created in the Rural Tier. To meet the County's rural growth objectives, rural residential growth within the Rural Tier will need to be reduced to 1% of the countywide residential development.

The General Plan sets the objective of preserving 1,500 acres of agricultural, forest and other strategic lands annually. Exhibit 2 shows that while more than 1,052 acres of land have been preserved, preservation efforts are falling far short of the County's objective.

**Exhibit 2: Rural Land Preservation**

Preservation Strategy	Lands Preserved 2002-2003 in acres	Average Annual Acres Preserved
Rural Legacy	460	230
MALPF	122	61
Tree Mitigation	470	235
Scenic/Conservation Easement Dedication	(1)	(1)
Total	1,052	526

Note: (1) The County does not currently have a mechanism for tracking scenic/conservation easements.

## SECTION II. CURRENT RURAL GROWTH STRATEGIES

### A. Zoning

#### 1. Rural Zoning

The primary growth management tool in rural areas is rural or agriculture zoning. Prince George's County has the zoning districts that apply to a majority of rural land: the Reserved Open Space (R-O-S), Open Space (O-S) and Residential Agriculture (R-A) zoning districts. The R-O-S district currently is applied only to publicly owned lands, so it has little effect on private development applications in the Rural Tier. Although requirements vary based on a parcels subdivision history, the general lot sizes, setbacks and building heights are shown in **Exhibit 3**. The O-S and R-A minimum lot sizes coupled with the absence of a maximum lot size allows the fragmentation of the rural landscape into parcel sizes that have minimal preservation value and represent an inefficient residential land use pattern.

The potential for inefficient land use patterns is increased by the lack of limitations on the number of times a rural property may be subdivided. Sequential subdivision of a single parcel typically results in odd shaped lots with poor access. Land fragmentation also makes participation in the State's agriculture land preservation program extremely difficult due to the required 50-acre minimum preservation district size. In addition, large-scale land fragmentation reduces the likelihood of state investment in the purchase of development rights due to the marginal preservation value of small land parcels.

The County's setback requirements play a key role in retaining rural character. The front setback requirement of 50 feet is inadequate to retain rural vistas, particularly from vantage points on major roadways.

**Exhibit 3: R-O-S, O-S and R-A Standard Regulations**

Zone	Minimum Lot Size*	Setbacks			Building Height
		Front	Side	Rear	
R-O-S	20 acres	50	20	20	35
O-S	5 acres (1)	50	20	20	35
R-A	2 acres (1)	50	17	35	50

Note: (1) Lot sizes may vary subject to the County's lot averaging provisions.

#### Rural Zoning Opportunities.

- **Context sensitive setbacks.** While large setbacks are not necessary or desirable along local subdivision streets, development along major roadways should require setbacks of at least 100 feet to retain the rural character.
- **Flexible lot sizes.** Lot averaging allows for the creation of lots of different sizes, but more flexible lot size requirements could enable rural subdivisions to retain meaningful open space and minimize some of the maintenance issues associated with ownership of large lots. Conservation subdivision (see more discussion on Section III of this report), is density-based zoning that provides greater flexibility in lot sizes in exchange for the preservation of meaningful open space land.

- **Limits on sequential subdivision.** To avoid inefficient arrangements of lot sizes, the County should consider limiting sequential subdivisions, unless they are subject to an approved concept plan. By defining a subdivision as a use of land, granting a single subdivision by right and requiring a discretionary approval for subsequent subdivisions, the County could ensure that sequential divisions of land create rational ownership patterns.
- **Subdivision scale limits.** There currently are no limitations on the magnitude or scale of developments. While small pockets of housing may be consistent with the character of the Rural Tier, a continuous development of hundreds of lots is not. The County should determine maximum size of housing clusters and establish appropriate buffer standards that are similar to the standards for hamlets established in the County's Village zoning districts.

## 2. Villages

Villages are essentially pockets of urban/suburban development, but these settlements typically are associated with rural character as quaint small-scale settlements surrounded by rural landscapes. Within the Prince George's County zoning regulations, village style development is accommodated through the Village-Medium (V-M) and Village-Low (V-L) zoning districts. These districts establish an appropriate mix of residential, localized commercial, recreational and institutional uses. Hamlets are small neighborhoods that are allowed within the Village districts.

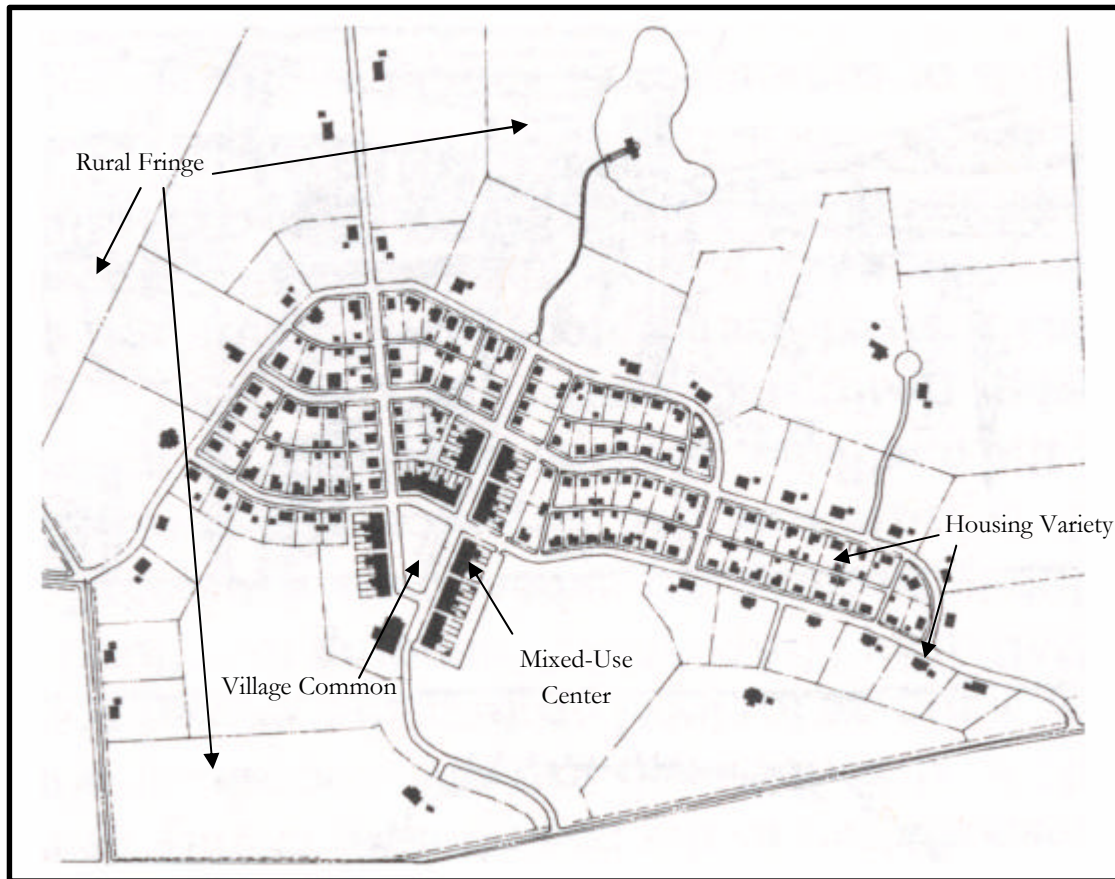
The V-M and V-L zoning districts require the following:

- Minimum district sizes (300 acres for V-M and 150 acres for V-L);
- Maximum size of the village core (not more than ¼ mile from the center)
- Maximum densities (2 dwelling units s per acre (du/a) for V-M and 1.3 du/a for V-L)
- Minimum and maximum hamlet size (20 to 40 dwelling units, although 10 to 60 units may be approved);
- A centralized village common, square or green and an open space buffer on the fringe of the village;
- Minimum lot sizes for fringe development (1 to 5 acre lots)
- Maximum distance of ¼ mile from the center of the village to the fringe;
- Minimum buffering standards;
- Minimum open space requirements (50%); and
- Minimum separations of villages and hamlets.

Neither the V-M and V-L districts have been used in the County, but the concept remains valid. One of the key challenges is the provision of wastewater service for the Village core. The current study on potential alternatives, such as community systems, could resolve this issue.

Although not directly based on Prince George's County's zoning regulations, **Exhibit 4** illustrates the village/hamlet development concept.

### Exhibit 4: Village/Hamlet Development Concept



Source: Randall Arendt, *Rural By Design*, 1994.

#### Village Zoning Opportunities

- **Location Criteria.** Village separation requirements currently are inadequate and insufficient guidance is provided for the location of villages. Villages should be separated by at least a mile under most circumstances and should be located in close proximity<sup>4</sup> to, but not divided by, a major arterial road to minimize potential new infrastructure demands.
- **TDR Receiving Sites.** Village core areas should be receiving zones for Transferred Development Rights (see later discussion).

### 3. Cluster Subdivisions

The Prince George's County zoning regulations allow for the development of "cluster subdivisions" in the R-55, R-80 and RR zones. These suburban clustering regulations require:

- Development potential to be based on the minimum lot sizes of the standard zoning;
- Open-space equal to the total lot size reduction below the standard zoning requirement;

<sup>4</sup> Village centers should not be located more than 1 mile from a major arterial unless the center already exists.

- A minimum of 16 dwellings in a cluster subdivision;
- All dwellings to be served by public facilities; and
- Open-space<sup>5</sup> to be dedicated to the public, unless authorized by the Planning Board.

Prince George's cluster subdivision provisions fail to target conservation subdivision design to areas where they make sense. Allowing clustering within urban and suburban areas may fail to use public infrastructure and services in an efficient manner. Conserving open-space adjacent to water and sewer lines fails to make use of public investments. The County's provisions also do not establish the minimum amount of subdivision open-space or design criteria to ensure that open-space is meaningful. The usefulness of open-space to preserve rural character is compromised by the inclusion of public and infrastructure uses that are not rural in character.

#### **Cluster Subdivision Opportunities:**

- **Develop Standards for Conservation Subdivision in the Rural Tier.** See discussion in Section III of this report.

## **B. Adequate Public Facility Standards**

Prince George's County has established level of service standards for water, wastewater, schools, roads and emergency management services. With the exception of utility and road congestion standards, there is no difference between the LOS standards for the Developed, Developing and Rural Tiers. Adequate public facility tests for each of these services are routinely applied during subdivision review.

### **1. Fire, Rescue and Emergency Medical Services**

The County has adopted methodology to determine whether adequate fire, rescue and EMS services are available to new development. The APF methodology consists of a "first due vehicle" and response time tests. If adequate emergency service facilities are planned and budgeted for completion within three (3) years from the approval date of a development application, the facilities are considered in place and adequate. Within rural areas, where fire stations are at a lower density than in urban areas and may have fewer apparatus, the need to mitigate development impacts on emergency services is only a minor disincentive to development.

Under the existing policy, the development applicant may mitigate the impact on emergency services by offering mitigation measures that are adequate to address service deficiencies caused by the proposed development. Such mitigation measures must be approved by the County through the preliminary plan of subdivision approval process.

### **2. Police Service**

Although there are six (6) defined police districts, the adequacy of police services is determined on a countywide basis to account for potential police district boundary changes. The Rural Tier lies almost entirely within Police Districts II and V. If adequate police stations are planned and

---

<sup>5</sup> Note that open-space may include school grounds, community buildings and stormwater management facilities that have limited open space value.

budgeted for completion within three (3) years from the approval date of a development application, the facilities are considered in place and adequate.

Within rural areas, the need to mitigate development impacts on police services is only a minor disincentive to development. Under the existing policy, the development applicant may mitigate the impact on police services by offering a mitigation measures that are adequate to address station deficiencies that would be caused by the proposed development. Such mitigation measures must be approved by the County through the preliminary plan of subdivision approval process. To date, mitigation has not been required of any development.

### 3. Schools

Prince George's County has used a school facility adequacy test to evaluate and mitigate the impacts of new residential development on the provision of public school services.

The County is divided into "school cluster" service areas for which school capacity is determined and in which new residential development is evaluated. Recently the County General Assembly established the "school facility surcharge" at \$7,000 for development within the Developed Tier and for certain types of residential development near Metro stations. Elsewhere in the County the surcharge was set at \$12,000.<sup>6</sup> The differential in surcharge provides an incentive to development residential units within existing developed areas and away from rural areas. Since the surcharge was increased to cover capital costs, the County has not delayed development based on available capacity.

---

<sup>6</sup> Prince George's County General Assembly, [HB 487](#) (April 2003).

## SECTION III. POTENTIAL RURAL GROWTH STRATEGIES

### A. Overview

This section describes in detail interim and permanent rural land development and preservation strategies. While the ultimate purpose of the rural growth strategy is to address the long-term development and public service patterns in the Rural Tier, interim growth controls offer Prince George's County an opportunity to minimize development pressures until the ultimate strategies are developed and adopted. An effective long-term rural development strategy will implement a variety of techniques that work in harmony to retain rural land and character. **Exhibit 5** provides a brief overview of the techniques discussed in this section.

**Exhibit 5: Summary of Rural Growth Strategies**

Strategy	Description	Strengths	Limitations
<b>Long-Term Growth Strategies</b>			
<b>Rural Area Zoning</b>	Rural zoning restricts the density of non-AG uses and preserves land parcel sizes to provide for efficient agricultural operations and to discourage residential development. Various zoning techniques can be employed to increase the viability of AG operations and preserve land resources, including, but not limited to: parcel split limitations, minimum lot sizes and density/intensity limitations.	<ul style="list-style-type: none"> <li>• Relatively inexpensive to implement.</li> <li>• Applicable to a large area.</li> <li>• Familiar to the public.</li> <li>• Establishes a ceiling of development potential.</li> </ul>	<ul style="list-style-type: none"> <li>• May cause excessive land fragmentation if lot sizes are not large enough.</li> <li>• Reductions in density reduce land values.</li> <li>• Large lot zoning may accelerate land consumption.</li> </ul>
<b>Purchase of Development Rights</b>	A landowner sells development rights to a government agency or non-profit conservation organization (land trust) and receives compensation for the difference between fair market value with development and fair market value exclusively used for agriculture.	<ul style="list-style-type: none"> <li>• Market based approach.</li> <li>• Targets specific properties for preservation.</li> <li>• Development rights may seed a "Development Rights Bank" and revolving fund.</li> <li>• May leverage state and federal funds.</li> <li>• Perpetual preservation of land resources.</li> <li>• Gives value for land to be preserved.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires large and/or ongoing public investment.</li> <li>• Affects only those parcels that sell development rights.</li> <li>• Requires staff monitoring and maintenance of program.</li> </ul>

Strategy	Description	Strengths	Limitations
<b>Transfer of Development Rights</b>	TDR programs allow developers to buy the development rights from rural land to increase development in urbanizing areas. A community identifies an area it wants to preserve "a sending area", and an area that receives the increased development is called a "receiving area".	<ul style="list-style-type: none"> <li>• Market based approach.</li> <li>• Targets preservation and development areas.</li> <li>• Adjustable standards and incentives.</li> <li>• Perpetual preservation of land resources.</li> <li>• Gives value for land to be preserved.</li> </ul>	<ul style="list-style-type: none"> <li>• Needs sufficient development activity (demand) to be effective.</li> <li>• Initial funding of a "Development Rights Bank" may be necessary.</li> <li>• Requires staff monitoring and maintenance of program.</li> <li>• Does not target specific properties – only targets areas.</li> </ul>
<b>Rate of Growth Ordinances</b>	Limits the amount of development that can occur during a given time period by establishing quotas for building permits, zoning changes, subdivision approvals, water and wastewater connections and other development approvals.	<ul style="list-style-type: none"> <li>• Bases growth on the ability of local government to accommodate it.</li> <li>• Can guide growth to specific areas.</li> <li>• Does not halt growth.</li> <li>• Inexpensive to implement.</li> </ul>	<ul style="list-style-type: none"> <li>• Likely to increase housing costs.</li> </ul>
<b>Adequate Public Facilities Standards</b>	Limits development to areas with adequate public facilities that will be provided concurrently with new development.	<ul style="list-style-type: none"> <li>• Ensure that services are adequate for new development.</li> <li>• Provide basis for regulating the timing of development.</li> <li>• Development agreements may be used where facilities are inadequate.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires clear level of service standards and up-to-date capital improvement program.</li> <li>• Can create incentive for development in remote areas where standards are met if standards are not carefully crafted.</li> </ul>

**Interim Growth Strategies**

<b>Moratorium</b>	Temporary halt to specific development approvals until long-term growth management measures are in place.	<ul style="list-style-type: none"> <li>• Provides a "time out" period.</li> <li>• Allows long-term measures to be developed without unnecessary urgency.</li> <li>• Establishes a deadline for long-term solution.</li> </ul>	<ul style="list-style-type: none"> <li>• Temporary measure.</li> <li>• May cause a "permit rush".</li> <li>• Likely to increase housing prices.</li> <li>• Likely to be viewed as "heavy handed".</li> </ul>
<b>Interim Development Ordinance</b>	Development regulations enacted for a specific period of time until long-term growth management measures are in place.	<ul style="list-style-type: none"> <li>• Inexpensive to implement.</li> <li>• Allows specified development.</li> <li>• Allows long-term measures to be developed without unnecessary urgency.</li> <li>• Provides greater flexibility than moratoria.</li> <li>• More defensible and politically palatable than moratoria.</li> <li>• Establishes a deadline for long-term solution.</li> </ul>	<ul style="list-style-type: none"> <li>• Temporary measure.</li> <li>• May increase housing prices.</li> </ul>

## B. Permanent Growth Strategies

### 1. Rural Area Zoning

One of the most cost-effective ways to retain rural character is to enact zoning regulations. Rural zoning can control the density of activities, structure location, structure dimensions, lot configuration, vegetation retention, site improvements and other rural development standards. Limitations on the density of development controls the overall number of units, which directly relates to total service demands. Density controls are to some degree independent of design provisions such as structure, lot configuration and site improvement provisions. Design issues are examined in **Section III** of this report. Density can be limited by:

- Parcel split limitations;
- Minimum lot sizes; and/or
- Maximum densities/intensities.

These three approaches can work together to reinforce a rural land use and subdivision pattern. The County's plans specifically cite large lot zoning and density based zoning as regulatory avenues for use in the Rural Tier.<sup>7</sup>

#### Parcel Split Limitations

Maximum parcel split requirements limit the number of times a rural parcel may be subdivided by right and therefore limits the number of legal building sites. If the number of splits allowed through conventional subdivision is too high, the community's ability to protect rural character, viable agricultural operations and green infrastructure will be severely compromised. Allowing a single subdivision by right and establishing a discretionary review (e.g., conditional use permit) for subsequent subdivisions will give the County greater discretion to ensure that Rural Tier subdivisions are consistent with efficient land use, efficient infrastructure provision and other adopted goals.

#### Minimum Lot Sizes

A large minimum lot size can ensure that development activity is consistent with rural character by separating activities. However, if the minimum lot size is too large, these provisions may accelerate the conversion of land into parcels that are "too big to mow and too small to farm", which represents an inefficient development pattern.<sup>8</sup> The County has recognized this drawback of lot size regulations, particularly as it relates to the R-A (1 unit per 2 acres) and O-S (1 unit per 5 acres) zoning districts.<sup>9</sup> In addition, the provision of rural public services may be more costly due to the increased distances between uses. Minimum lot sizes should be developed with an intimate knowledge of what makes local agricultural operations viable. For residential lots in rural areas, a lot range (i.e. 2-acre minimum with 4-acre maximum) can ensure that residential uses have enough land for on-site water and wastewater facilities, yet not unnecessarily consume land.<sup>10</sup>

---

<sup>7</sup> Smart Growth Commission 2000, *supra* note #, Pg 22.

<sup>8</sup> Peter Whoriskey, "Density Limits Only Add To Sprawl – Large Lots Eat Up Area Countryside", *The Washington Post* (Washington, March 9, 2003), Pg A01.

<sup>9</sup> Prince George's County, *supra* note 1, Pg 8.

<sup>10</sup> A further discussion of rural residential lot sizes is in **Section III** of this report.

## Maximum Densities/Intensities

Density based zoning allocates development potential based on the number of units per acre. Density is typically allocated on an acreage basis.<sup>11</sup> For example, a 40 acre parcel may accrue 1 dwelling unit or non-residential use per 2 acres, therefore twenty (20) units of development would be allowed on the 40 acres subject to zoning and subdivision provisions. Once a density-based regulation is enacted, the development potential of rural land is quantifiable regardless of lot sizes or the number of parcel splits. If the amount of activity allowed per acre is too high, the rural environment will be harmed. Development potential allocated by density based zoning serves as the basis for determining the number of TDRs available to sending areas sites, as discussed in subsection 3 of this Section.

## 2. Purchase of Development Rights (PDR)

PDR programs involve the government purchasing development rights through the purchase of conservation easements on agriculture or vacant land. The landowner continues to own the land and may use the land as provided for by the easement. PDR programs involve the significant expenditure of government revenue that is most often raised in conjunction with a bond issue for AG preservation. State, federal, and non-profit conservation organizations (land trusts) can purchase development rights or provide supplemental funding for local or non-profit conservation efforts. Mitigation fees also may be used to fund PDR programs. Purchasing of development rights through conservation easements is less expensive than fee simple acquisition. If fee simple acquisition occurs, the PDR holder may sever the development rights and sell the land for agriculture purposes. The severed right may be extinguished or placed in a "TDR Bank" for future resale to developers.

## Conservation Easements in Maryland

"Development Rights" refers to the property interest to use land for development purposes subject to local, state or federal laws. This property right is conferred to the fee simple owner of land and may be severed from the property through sale or other transfer. This is typically accomplished by the placement of a perpetual conservation easement on the property, which specifically indicates to what use the property may be used. Most state conservation enabling legislation is fashioned after the Uniform Conservation Easement Act, which was adopted by the National Conference of Commissioners on Uniform State Laws in 1981. However, Maryland's law has permitted the creation and enforcement of conservation easements since 1957. Although conservation easements have been allowed for nearly 50 years, in Maryland they only have been authorized property tax credits since 1991, provided that the Maryland Environmental Trust certifies easements.<sup>12</sup>

---

<sup>11</sup> The manner in which development density is calculated should be explained within the zoning regulations. The community may want to subtract a site's undevelopable land (floodplains, steep slopes, wetlands, etc...) from the calculation, which may dramatically reduce the development potential. In addition, the community should stipulate whether right-of-way is included or excluded and whether partial acreage accrues a development right. For instance, if the allowable density is one (1) dwelling unit per five (5) acres and a parcel has 14.8 acres, is the site allowed to have two (2) or three (3) development rights.

<sup>12</sup> Julie Ann Gustanski and Roderick H. Squires, *Protecting the Land – Conservation Easements Past, Present, and Future* (Washington, D.C., Island Press, 2000), Pg 189.

## **PDR Funding Alternatives**

Local Dedicated Source - In order to establish a PDR program, it is imperative to secure a dedicated funding source to preserve land resources. It is common for PDR funding from local sources to be derived from voter accepted bond issues that typically are funded through property, sales or other taxes. Voter approved bond issues provide clear political support for preservation activities. Local monetary support may be used to leverage state, federal and other funding sources. In the event that fee simple acquisition is required due to a lack of available conservation easement, the development rights will be severed and the land may subsequently be sold for agricultural purposes.

State Conservation Programs - Maryland has a relatively long history of funding environmental and agricultural preservation efforts. In 1957, Maryland authorized the use of public funds for conservation through the Wildland and Open Space Act. The Heritage Conservation Fund and Rural Legacy Land Program offer matching funds to local governments, state agencies and land trusts for the preservation of vital environmental, agriculture and historically significant lands. The Rural Legacy Land Program specifically is designed to protect contiguous lands that are "rich in a multiple of agricultural, forestry, natural and cultural resources" from urban sprawl and rural development.<sup>13</sup> MALPF provides state funding for the creation of conservation easements on agricultural land. The current State budget limitations are likely to limit available funding for these programs in the near future.

Land Consumption Mitigation Fees - Land Consumption Mitigation Fees, which are essentially impact fees levied against low density development to mitigate its impacts on rural and resource land supplies.<sup>14</sup> Land Consumption Mitigation Fees can be charged for development that is inefficient due to its location and/or density. A maximum lot size or minimum density may be adopted for residential development in the Rural or Developing Tier. However, developers have the option to develop residential lots larger than maximum sizes or at lower than minimum densities if a corresponding number of acres are preserved. For instance, if 2 acres is the maximum lot size in the Rural Tier, then the development of a 7-acre residential lot would require preservation of 5 acres of agricultural land either by conservation easement or a payment to purchase 5 acres of development rights. The fee would be based on the difference between the cost of 5 acres of developable land and 5 acres land limited to agricultural purposes. Fees collected must be placed in a dedicated land conservation fund and used to purchase conservation easements or development rights.

## **Prioritizing Purchases**

When allocated scarce financial resources towards specific development right purchases, the County should evaluate an easements consistency with the intent of the program. Prioritizing easements can be facilitated using scoring systems commonly referred to as Land Evaluation and Site Assessment (LESA) systems. LESA were originally devised in 1981 by the Soil Conservation Service to assist in the evaluation of land for suitability for agriculture use. Many local jurisdictions (predominately Counties) have implemented LESA systems as part of the development review process. Most locally adopted LESA systems are used to evaluate agricultural suitability and conversely a property's likelihood of conversion to non-agricultural

---

<sup>13</sup> *Id.*, Pg 191.

<sup>14</sup> Anne E. Mudge, "Impact Fees for Conversion of Agricultural Land: A Resource-Based Development Policy for California's Cities and Counties", *Ecology Law Quarterly* (Vol. 19, 1992), Pg 64.

use. However, as in the case of Lancaster County, Pennsylvania, a LESA system is used to prioritize PDRs for funding.<sup>15</sup> Most systems include an evaluation based on the soil's capability to produce food and fiber (land evaluation) and a review of non-soil variables that affect the property's use (site assessment). Non-soil variables would include:

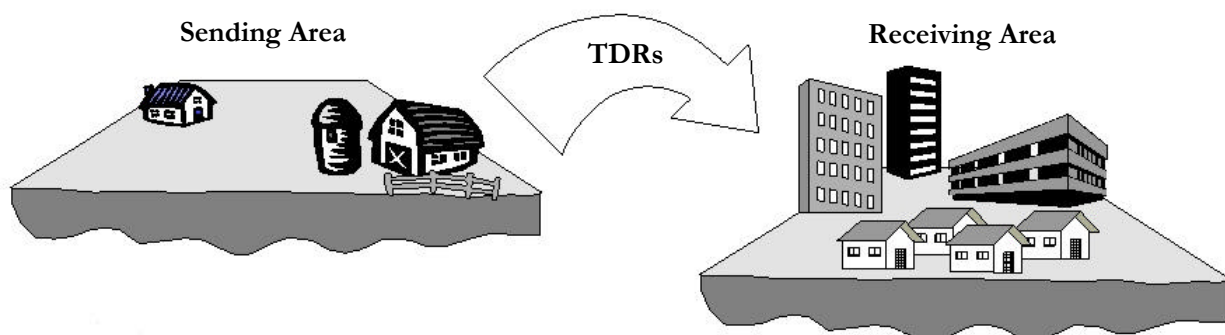
- The level of public services available;
- Adjacent land use;
- Land base fragmentation;
- Planned land use and zoning;
- Proximity to the developed, developing, corridor and centers Tiers;
- Historic significance of structures, farms and roads; and
- Floodplains and other environmental factors.

A point system is devised which can be weighted to provide emphasis on local concerns. For instance, if a community's primary goal were to protect the best prime soils, the soil rating would be a large part of the overall total points. If the community is concerned with directing rural residential growth to areas served by adequate public facilities, service availability would be more highly weighed variables.

### 3. Transfer of Development Rights

As the name implies, Transferable Development Rights (TDRs) allow the development rights from one property to be transferred and used on another property, as shown in **Exhibit 6**. The right to develop land under local zoning codes has a financial value that is reflected in the land price. Provided the local government sanctions the use of TDRs, landowners in priority conservation areas “sending areas” can sell their development rights to developers who will use them in “receiving areas” to increase the density of development and enhance their return on investment. In order for a TDR program to be successful, there needs to be sufficient development pressure to make development rights valuable to developers. Transfer ratios, conversion rates, density bonuses and other incentives maybe combined with development review processes to implement Comprehensive Plan objectives.

**Exhibit 6: Transferable Development Rights Concept**



<sup>15</sup> Thomas L. Daniels, “Using LESA in a Purchase of Development Rights Program: The Lancaster County, Pennsylvania, Case,” *A Decade With LESA – The Evolution of Land Evaluation and Site Assessment*, ed. Frederick R. Steiner, James R. Pease and Robert E. Couglin (Soil and Water Conservation Society, 1994), Pg 195.

## **Sending Areas**

The Rural and Environmental Overlay Tiers are identified as potential areas from which development potential may be transferred to receiving areas. Based on current land use patterns and zoning patterns the sending zones may need to be adjusted to remove areas of exhausted development rights or planned non-rural land conversions. In addition, land adjacent to County identified historic roads and trails may be considered for inclusion within the sending areas.<sup>16</sup>

Downzoning of large parcels zoned with the intensity of 1 dwelling unit per 2 acres (R-A Zone) or greater may facilitate continuity between the plan identified sending areas and development potential. Although downzoning reduces development potential of the parcels being rezoned, the County could allow TDRs to be calculated on a pre-rezoning basis. Since TDRs have value based on development potential, allowing downzoned parcel owners to sell pre-rezoning development rights would minimize takings claims and compensate property owners for the resulting loss of property value.<sup>17</sup>

## **Transfer Ratios**

Transfer ratios refers to the number of TDRs granted per development right. A transfer ratio of 1:1 indicates that for every dwelling unit forgone in the sending area one (1) can be built in the receiving area. A transfer rate of 1:2 would allow two (2) dwelling to be built in the receiving areas for every one (1) home not built in the sending areas. Transfer ratios motivate sending area landowners to use TDRs by increasing the properties development potential provided the development potential is used in designated receiving areas, especially when accompanied by strong regulatory constraints on development in the sending area.<sup>18</sup>

Transfer ratios may vary within the sending area due to specific parcel characteristics, which represent priority conservation opportunities for the County. For instance, if the County's priority is to create green infrastructure rather than farmland preservation, a higher transfer ratio within the Environmental Overlay zone would provide landowners of environmentally sensitive land a greater motivation to use TDRs than owners of farmland. Similarly, parcels within or adjacent to Patuxent River Legacy Land may receive a higher transfer ratio. In addition, parcels that are contiguous with existing preserved land may warrant high transfer ratios due to the value of creating a critical mass of continuous open space, farmland, environmentally sensitive land or critical habitat. Transfer ratios may be used to reduce infrastructure and service demands, reinforce development tier boundaries, protect historic resources, protect productive soils and other objectives.

One pitfall of transfer ratios is that excessive transfer ratios may flood the TDR market with a supply of TDRs that reduces the price of TDRs. Sellers may find it hard to find buyer and lose interest in TDR transfers. Program management relying on development and market data should periodically adjust transfer ratios or ensure that a glut of TDRs don't create a disincentive for sending area owners.

---

<sup>16</sup> Prince George's County, Guidelines for the Design of Scenic and Historic Roadways in Prince George's County, Maryland (Draft, May 2003), Appendix A.

<sup>17</sup> *Id.*, Pg 93.

<sup>18</sup> *Id.*, Pg 53.

## Receiving Areas

Centers and Corridors in the Developed and Developing Tiers are potential areas to receive development potential from sending areas. Making the entire Developed and Developing Tiers receiving areas could have the effect of allowing random increased densities in inappropriate locations. This may be overcome by clearly delineating and prioritizing in-fill, redevelopment, centers and corridors as receiving areas. The receiving areas should include a sufficient number of potential TDR sites to generate demand for increased density. Villages and conservation subdivisions offer two additional opportunities to generate demand for TDRs. Regulatory controls, development trends, land prices and other market factors should be monitored to evaluate the level of demand for TDRs.

In Prince George's County, there are regulations and market forces that should be considered before delineating receiving areas. Zoning within the County's corridors and centers allows sufficient development potential to meet the intensities desired by most developers. If developer's density requirements already are being met by existing zoning, there is no demand for additional density and no demand for the purchase of TDRs. The market demand for TDRs should be evaluated for all potential receiving sites, including designated corridors, centers, villages and conservation subdivisions. When conducting this evaluation, the County should consider the potential adoption of minimum density requirements, density bonuses and other actions to increase market demand for TDRs.

## Conversion Rates

In order to expand the development communities TDR use options, and thereby making TDRs more useful, many communities allow TDRs to be used for residential and non-residential development. TDRs are generally calculated and expressed in terms of residential dwelling units. Translating residential based TDRs into commercial or industrial development potential requires the creation of conversion rates expressed as "dwelling unit equivalents" (DUEs). Typically developed in conjunction with level of service, adequate public facilities, and impact fees, DUEs measure the comparative impact of different land use on public facilities.

## TDR Density Bonuses

Developers may use TDRs to increase the allowable density on receiving area sites, which represents a relative equivalent to the impact of 1 dwelling unit per TDR. However, the developer may be authorized additional density per TDR for projects that address a specific need within the community. For instance, the development potential of each TDR may be enhanced by a percent factor for projects within Transit Oriented Development centers. Other potential density bonus projects may include, but are not limited to, those which incorporate:

- Affordable housing;
- Public facilities;
- Public art;
- Historic preservation; and
- Infill and brownfield redevelopment.

When density bonuses are granted, each TDRs development potential increases. Therefore, the developer could need to purchase fewer TDRs than would be required without the bonus. This translates to cost savings. **Exhibit 7** provides a hypothetical example of how density bonuses

can be used to achieve a 10% density increase while reducing the development costs. As shown in the example, a 50% TDR density bonus reduces total development costs by \$150,000 for 330 dwelling unit (\$455 dollars per Dwelling Unit). Greater savings per unit would be achieved by increasing the maximum density increase to 20% instead of 10%. This approach would not work for areas where market demand or minimum density requirements are insufficient to support the purchase of additional development rights.

### Exhibit 7: TDR Density Bonus Example

Regional Center – Edge <sup>19</sup>		
	TDR Project without Density Bonuses	TDR Project with Density Bonuses
Maximum Residential Density (DU/Ac)	30.0	30.0
Maximum Density Increase for TDRs	10%	10%
Density Increase	3.0	3.0
Maximum Residential Density	33.0	33.0
TDRs Needed without Bonuses	3.0	3.0
TDR Density Bonus	0%	50%
TDRs Needed with Bonuses	3.0	1.5
Project Site Size (Ac)	10	10
Total TDRs Needed	30	15
Cost Per TDR	\$10,000	\$10,000
Cost of Density Increase Per Acre	\$300,000	\$150,000
Total Dwelling Units	330	330
Cost Per Dwelling	\$909	\$455

### Other Incentives

TDR senders and receivers may benefit or be motivated to use TDRs from a number of additional incentives. **Exhibit 8** lists other potential incentives, some of which work in conjunction with strategies described in this report.

<sup>19</sup> The Regional Center – Edge is identified in the Prince George's County Approved General Plan in Table 3 on Page 49.

**Exhibit 8: Non-density TDR Incentives**

<b>TDR Incentives</b>	
<b>Sending Areas</b>	<b>Receiving Areas</b>
Protection from local Eminent Domain	Priority in Rate of Growth Ordinance allocations
Preferential Fee Structure or Waivers	Streamlined Development Review Processes
Property Tax Incentives	Technical Assistance
Local Right-to-Farm Protections	Preferential Fee Structure or Waivers
	Redevelopment Assistance
	Design Flexibility
	County Minimum Densities Initiated Rezoning

**Development Rights Banking**

“Development rights banking” is a development rights transfer technique that incorporates elements of PDR and TDR programs. Once local government has purchased development rights, the rights may be either extinguished or transferred to other sites for use. Development rights banking (a.k.a. TDR Bank or Land Bank) is the process by which purchased development rights are placed in an administrative “Bank” to establish a centralized medium of exchange and create a revolving fund for ongoing acquisition.<sup>20</sup> Development right banking provides:

- Developers a centralized place to purchase development rights;
- Development right sellers a centralized purchaser;
- Revolving funds to finance the purchase of additional development rights;
- The local government with an opportunity to donate development rights to activities that clearly support the public interest;
- The Bank administration information to evaluate the TDR market; and
- Price stability through institutionalization of PDR/TDR programs.

Through the development rights bank, the County may use a number of techniques to achieve preservation goals. Some banks institute “last resort” provisions, which state that the purchase and transfer of rights is a last resort to promote activity and avoid interference with the market. However, other banks have adopted TDR price floors to stabilize TDR prices and ensure a minimum revolving fund contribution from each sale of TDRs from the bank. Extinguishing the purchased development rights can increase the marketability of rights from the TDR program by reducing the supply of TDRs.

<sup>20</sup> Rick Pruetz, *Saved by Development – Preserving Environmental Areas, Farmland and Historic Landmarks with Transfer of Development Rights* (Burbank, Arje Press, 1997), Pg 62.

## Tracking/management

**Personnel** - Tracking and management of PDRs and TDRs requires staff dedicated to the monitoring, education, modification and other administrative duties involved in a successful program.

**Medium of Exchange and Transactions** - The most significant management issues involve the legal mechanism creating severed development rights and the exchange procedures. Some jurisdictions issue TDR certificates that establish the development rights available and provide them to sending area landowners, who can trade them freely provided a conservation easement is placed on the sending area site. Local governments that operate a PDR and development rights bank may require that all development rights transactions go through the bank, even if transactions are between private entities. Another approach is to allow direct exchanges between private individuals provided the local government is notified of the trade. As part of the TDR transaction, the sending area site must have a conservation easement placed on the land to ensure perpetual preservation.<sup>21</sup>

**Redemption** – The holder of the PDR/TDR may use the development potential on receiving site development projects pursuant to the development regulations. Some programs require the sending site owner and the receiving site developer to be co-applicants in the development review process, which would include a review of the conservation easement documents before development approval in the receiving area. If certificates are used as a medium of exchange, the receiving site developer may redeem the TDRs as part of the initial development application. Once development rights have been used in a development, they are extinguished. Regardless of the exchange and redemption process, sending area sites from which development rights have been stripped must be encumbered by a conservation easement or similarly effective legal mechanism, in order to assure long-term protection of rural and environmental resources. If a conservation easement is not filed when the TDR is sold, a sending area site landowner may sell TDRs and purchase other TDRs at a later date for use on the sending area site, assuming the use of TDRs is not mandatory. This may lead to TDR speculation on behalf of both landowners and developers.

## 4. Rate of Growth Ordinances

A Rate of Growth Ordinance (ROGO) limits the amount of development that may occur over a specified time period (typically annually). A ROGO allocates the maximum amount of development that can occur in a given time period and/or region. The most common allocation systems are permit quotas and facility capacity allocations.

### Permit Quotas

Permit quotas limit the amount of building activity that can occur during a specified period of time. Counties may use this technique to limit the amount of land conversion to non-agricultural uses during a given period of time. Cities use this technique to ensure that infrastructure and services are not overwhelmed by rapid growth. A secondary impact of permit quotas is that it moderates urban expansion in the short-term therefore preventing rapid

---

<sup>21</sup> Conservation easements are discussed in greater detail on Page #.

conversion of agricultural land on the urban fringe. The General Plan states that less than 1% of new countywide dwelling units should occur within the Rural Tier.

**Development Allocation Systems** - Development allocation systems limit the amount of building activity that can occur during a specified period of time. The allocation system establishes an annual quota for new building permits based on a formula against which each development application is scored and tested. Depending on the goal a municipality wants to achieve, they may be designed to apply to all development, to development in certain areas, or to a certain type of development. Development allocation systems can be used to stop encroachment onto rural and agricultural lands, to slow growth so its pace is concurrent with the provision of public facilities, to preserve the status quo during the implementation of new land use regulations, or for other long term planning goals.

**Setting a Quota** - Communities must develop a quota that represents the desired amount of growth over a certain time period. The most common types of quotas are: (1) unit caps, (2) area caps and (3) quotas based on the impact of development on public facilities. Unit caps limit the number of units, generally expressed by building permits, in a given time period. Area caps express the quota in terms of square footage allowed to be developed instead of a specific number of units. The third type is set by comparing public facility capacity to the demands of particular types of development.

**Criteria for Spatial Distribution** - Communities should establish minimum criteria for obtaining building permits. The permits may be granted based on their score, with the highest score being granted a permit first, and the rest granted in descending order until the annual growth cap is met. Base criteria should prioritize development by location. The General Plan prioritizes growth in the Developed Tier and Developing Tier. If permits are to be limited in the Rural Tier, the County should establish criteria to identify which areas of the Rural Tier are most appropriate for development. Other criteria may be generally divided into three categories: land use, infrastructure, and environmental.

The land use factors may include: (1) proximity of the parcel from other agricultural and open space uses; (2) area of other agricultural and open spaces uses within one mile (3) distance from the Developed and Developing Tiers; (4) land uses adjacent to the site; (5) historic uses of the site; (6) parcel size; and/or (7) feasibility of the parcel for sustainable agricultural uses.

Infrastructure factors may include: (1) availability of potable water; (2) available of sewer service; (3) proximity to major roads and central transportation corridors; (4) emergency services response time; and/or distance from and capacity of schools.

Environmental factors may include: (1) soil quality; (2) water quality; and (3) percent of the property subject to inundation; and/or (4) area having steep slopes.

**Exemptions** – The County may want to exempt certain types of development or certain properties from the allocation system. The decision is based on policy to promote certain types of development, for example affordable housing or conservation subdivisions. However, exemptions are ineffective for encouraging growth in particular areas. Instead, the community should set aside particular allocations for by area and type of use.

Vested properties may also be exempt from the allocation system. Simply stated, though the topic is the subject of numerous court decisions and law review articles, a developer-landowner has a vested right when they have investment-backed expectations based on a specific County approval. Any allocation system should include a process to assure that vested rights are respected.

**Timing** – The County must consider timing of two separate issues. First, there is the allocation period. That is, how many units will be allowed over how many years? The General Plan establishes an objective of 1% of the total growth of the County through 2025. The other timing issue relates to when the permits are allocated. Generally, applications are reviewed quarterly. Each quarter is allocated an equal number of units, and applications may be allocated accordingly.

### **Adequate Public Facilities**

**Basis for APF Limitations** - An adequate public facilities ordinance (APFO) is a land use regulation ensures that necessary public facilities and services to support new development are available and adequate, based on adopted level of service (LOS) standards, at the time that the impacts of new development occur. APFOs are designed to manage the timing, not the location or quality of new development.<sup>22</sup> For example, if infrastructure capacity is limited, an APFO might require an applicant to delay the construction of part of a development. However, an APFO does not normally control the design or layout of buildings (as do architectural design standards). The major objectives of an APFO are:

- To link the provision of needed public facilities and services to the type, amount, location, density, rate and timing of new development;
- To ensure that new growth and development does not outpace the ability of service providers to accommodate such development at established level of service standards;
- To coordinate public facility and service capacity with the demands created by new development.

The first step in establishing an APFO is through the development of level of service standards, which are “an indicator of the extent or degree of service provided by, or proposed to be provided by a facility, based on and related to the operational characteristics of the facility. Level of service indicates the capacity per unit of demand for each public facility.” Once a level of service standard is established, the local government and the developer can determine when new facilities will be needed. New development may have to be delayed until the adequate public facilities are in place, based on a community’s capital improvements plan. Alternatively, the developer can provide the necessary new facilities, or use impact fees to pay for the new infrastructure.

The primary features of an APF system are “adequacy” and “availability.” Adequacy requires that before development is approved, it must conform to specified level of service (LOS) standards established by local regulation. For example, in the case of roads, LOS is a measurement of traffic congestion, typically based on capacity per unit of demand (e.g., miles of roadway “consumed” per additional dwelling unit). Where infrastructure does not conform to

---

<sup>22</sup> S. MARK WHITE, ADEQUATE PUBLIC FACILITIES ORDINANCES AND TRANSPORTATION MANAGEMENT 5 (PAS Report No. 465, 1996).

the capacity standards set forth in the local regulation, the project must be denied or deferred until conformance is achieved. Availability requires development to be timed and sequenced in a manner consistent with the capacity of the facilities. If road capacity is not immediately available for development, the applicable CIP should indicate when improvements would expand the capacity sufficient for development to proceed.

The key to an effective APF system is the adoption of proper LOS standards for each regulated facility. The adopted LOS will govern the amount of growth and development in the area and the amount of public investment needed to achieve the adopted road LOS standard. As a means of measuring performance, a LOS standard should take into account both the capacity of a public facility and the demand currently and potentially placed on the facility from existing development, approved development, and projected future growth. By comparing the demand to the capacity of a public facility, the local governing body can determine how much of the capacity of a given facility may be allocated to a proposed development within a designated area.

Though not a direct funding mechanism, an APFO may delay the introduction of additional demand for capacity until adequate facilities are provided based on the city's adopted capital improvements plan. If an applicant chose to commence development before the necessary facility was scheduled for construction under the CIP, the developer would be permitted to contract with the local government to either pay for the planned facility or to actually construct the facility at the developer's expense. Either way, the fiscal integrity of the government would be preserved, as would the rational growth policies set forth in the city plan. Specifically, the local government is not committed to approve development before adequate facilities are either actually constructed or at least planned and funded within the same timeframe as the proposed construction.

## C. Interim Growth Strategies

### 1. Moratoria

Moratoria are temporary halts of development approvals such as subdivisions, rezonings, plats, building permits, water and sewer connections, and other permits. While moratoria have been the target of "takings" claims by developers, investors and landowners, in most cases moratoria are legal if they:

- Seek to address specific problems that will either be created or worsen if development is allowed to continue without appropriate measures being taken; and
- Are in effect for a reasonable period of time to allow local government to remedy the specific problem being that created the need for the moratoria.<sup>23</sup>

While the "time out" established may be absolutely necessary to protect the public interest, there are drawbacks. Potential negative effects of moratoria include:

- A "permit rush" in which developers seek approvals prior to the moratoria;
- Political conflicts that can occur if a moratoria is long-term or perceived as heavy handed;
- Potential legal costs for defending "takings" claims; and

---

<sup>23</sup> Douglas R. Porter, *Managing Growth in America's Communities* (Washington, Island Press, 1997), Pg 80.

- An increase in the price of housing and land if the moratorium significantly reduces the housing supply.<sup>24</sup>

### **Purposes**

The specific purpose that triggers a moratorium must be an item of public interest typically related to the implementation of development regulations, infrastructure and facilities improvements, and/or other growth controls. Prince George's County has experienced intensified growth pressures within and adjacent to rural areas. A moratorium in the Rural Tier would allow Prince George's County time to:

- Adopt level of service and adequate public facilities requirements for water, sewer and transportation facilities in rural areas;
- Establish rural development standards to minimize the impact of rural housing growth on agricultural operations and/or the rural character;
- Create buffer and site disturbance standards to minimize the degradation of water quality; and
- Adopt regulations and other mechanisms to ensure that rural growth rates are consistent with the one percent (1%) growth objective.<sup>25</sup>

### **Duration**

The duration of the moratoria must be reasonable relative to the purpose for which it was enacted. Local governments have adopted moratoria that range in duration from a couple months to several years. The longer the duration the more likely the moratorium will be found to be a taking. During the duration of the moratorium, the local government must take concrete steps to address the issues identified in the moratorium. The duration of a moratorium may be extended, but ultimately should expire within a reasonable time period.

### **Applicable Development**

The type of governmental approvals halted by the moratoria should be directly related to the purpose of the moratoria. For instance, if lack of school capacity is the justification for the moratorium, there is little justification for stopping commercial construction that would not increase demand for schools. However, a moratorium on residential construction may be appropriate. Since the issues to be resolved in the Rural Tier are diverse and related to land use and infrastructure, a broad moratorium may be in order. In most cases, residential accessory buildings, minor site improvements and the removal of TDRs from sending areas may be exempt without causing increased harm to the public interest.

## **2. Interim Development Ordinances**

### **Purposes**

The purpose of Interim Development Ordinances (IDOs) is similar to moratoria in that development approvals are controlled to allow regulatory, policy and administrative functions of local government to address compelling development issues, in the short term. Unlike moratoria, which preclude development IDOs may limit or establish specific conditions on

---

<sup>24</sup> *Id.*, Pg 81.

<sup>25</sup> The Maryland-National Capital Park & Planning Commission, *supra* note 2.

targeted development approvals. Specifically, enactment of an IDO can enable local officials to address specific development issues by:

- Restricting specific types of development approvals to maintain the status quo (e.g., zoning, platting, conditional uses, improvement agreements, etc...);
- Establishing a deadline by which long-term growth controls should be in effect and ensuring that controls are actually completed;
- Ensuring the effectiveness of the planning process by minimizing the creation of non-conforming uses prior to the adoption of permanent controls and preventing the vesting of development rights;
- Eliminating the “race” to secure building permits and develop property;
- Allowing for ample time to develop regulations that meet all legal requirements;
- Providing a framework for the planning process by providing a timeframe and organizing system;
- Promoting public debate on growth issues by landowners of land subject to the IDO.<sup>26</sup>

### **Duration**

The duration of IDO applicability is determined within the ordinance and may have statutory limitations. Within states where the law is silent on IDO duration limitations, the local government should establish a reasonable duration relative to the anticipated completion and adoption of long-term growth controls that would apply after the IDO is void. IDO extension provisions should be written into the IDO to establish procedures and criteria for IDO extensions.

### **Applicable Development**

IDOs can apply throughout a jurisdiction or be adopted within target areas depending on the nature of issues being addressed during the interim. However, IDO provisions should not be adopted to apply within areas not affected by the planning process triggered by the IDO. Within areas subject to the provisions of the IDO, only development activities that have the potential to be contrary to the comprehensive plan and impending implementation measures should be restricted. For example: an IDO may restrict the rezoning, platting, building permits and other development approvals for residential uses within rural areas until a mechanism is established to maintain adopted rate of growth objectives.

The County's General Plan suggests that TDR, adequate public facilities ordinances (APFOs) and conservation subdivision design standards be adopted within the Rural Tier. An IDO may be drafted and adopted to allow the County time to develop, adopt and establish administrative procedures for each of the Plan recommended implementation tasks.

---

<sup>26</sup> Robert H. Freilich, *From Sprawl to Smart Growth – Successful Legal, Planning, and Environmental Systems* (American Bar Association, 1999), Pg 46-7.

## SECTION IV. RURAL CHARACTER STRATEGIES

### A. Overview

This section examines the design factors that affect the character of the Rural Tier and examines regulatory, design and administrative components of alternative development patterns, such as, Conservation Subdivisions and Villages/Hamlets.

### B. Rural Design Factors

Rural character is an aesthetic quality that is influenced by several factors related to the location, scale, design and diversity of structures, vegetation and roads. **Exhibit 9** summarizes key rural design factors including, design objectives, potential regulatory tools and related issues. Each design factor is discussed in greater detail following the exhibit.

**Exhibit 9: Rural Design Factors Summary**

Design Factor	Rural Design Objectives	Potential Regulatory Tools	Related Issues
<b>Context sensitive setbacks</b>	<ul style="list-style-type: none"> <li>• Preserve rural views from major roads in the Rural Tier</li> <li>• Provide setback flexibility along interior subdivision streets, along interior lot lines and in villages</li> </ul>	<ul style="list-style-type: none"> <li>• Rural thoroughfare overlay</li> <li>• Conventional setbacks through zoning districts</li> <li>• Form-based guidelines that focus on qualitative rather than quantitative standards</li> </ul>	<ul style="list-style-type: none"> <li>• Buffering of incompatible uses</li> <li>• Lot configuration</li> <li>• Location of open spaces</li> </ul>
<b>Fencing</b>	<ul style="list-style-type: none"> <li>• Ensure that perimeter fencing does not create urban or suburban feel</li> <li>• Limit stockade fencing and tall walls within subdivisions</li> </ul>	<ul style="list-style-type: none"> <li>• Fencing standards in the zoning ordinance for the Rural Tier</li> </ul>	<ul style="list-style-type: none"> <li>• Screening and security fencing for utilities</li> </ul>
<b>Lot access</b>	<ul style="list-style-type: none"> <li>• Ensure reasonable access while retaining and promoting rural character</li> </ul>	<ul style="list-style-type: none"> <li>• Subdivision and zoning regulation access standards</li> </ul>	<ul style="list-style-type: none"> <li>• Street cross sections.</li> <li>• Access separation.</li> <li>• Maintenance of private streets and shared driveways</li> </ul>
<b>Lot Sizes/Density</b>	<ul style="list-style-type: none"> <li>• Limit the density of development in the rural tier</li> <li>• Base minimum lot sizes on environmental constraints for on-site facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Density based development rights</li> <li>• Minimum and/or maximum lot sizes</li> <li>• Lot sizes based on ability to accommodate on-site facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Conservation subdivisions</li> </ul>

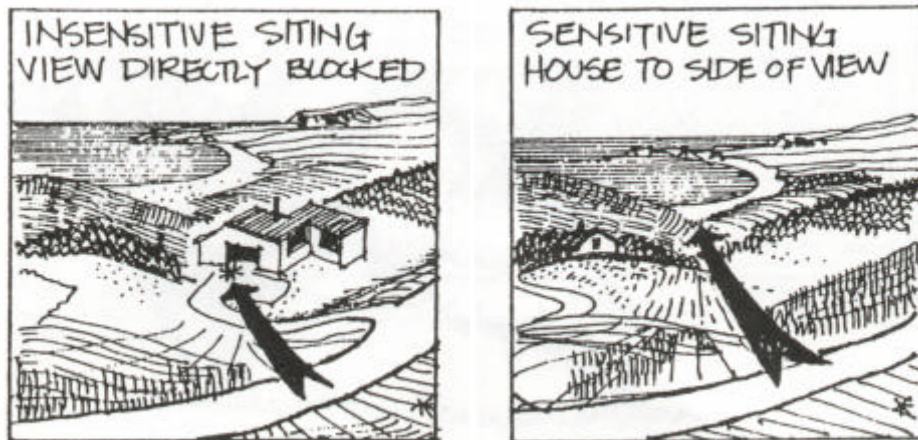
Design Factor	Rural Design Objectives	Potential Regulatory Tools	Related Issues
<b>Development Scale</b>	<ul style="list-style-type: none"> <li>Limit the grouping of homes to no more than that established in the village zoning for hamlets</li> <li>Require buffers and open space separations as established in the village zoning</li> </ul>	<ul style="list-style-type: none"> <li>Maximum development sizes (acres, dwellings and commercial floor area)</li> <li>Building height, size and/or floor area ratio limitations</li> <li>Separation and buffer requirements between developed areas</li> </ul>	<ul style="list-style-type: none"> <li>Village and hamlet design standards</li> <li>Public/private facility and service adequacy and design</li> <li>Land use mix</li> </ul>
<b>Buffers</b>	<ul style="list-style-type: none"> <li>Buffer subdivisions from view from major roadways</li> <li>Buffer residential development from agricultural operations</li> </ul>	<ul style="list-style-type: none"> <li>Location and screening of structures</li> <li>Buffer design and maintenance requirements</li> </ul>	<ul style="list-style-type: none"> <li>Right-to-farm measures</li> <li>Context sensitive setbacks</li> </ul>
<b>Lighting</b>	<ul style="list-style-type: none"> <li>Maintain dark skies to reduce glare and increase visibility of stars</li> </ul>	<ul style="list-style-type: none"> <li>Outside lighting standards</li> <li>Location and screening of structures</li> </ul>	<ul style="list-style-type: none"> <li>Buffering and screening of structures from roadways</li> </ul>
<b>Open space</b>	<ul style="list-style-type: none"> <li>Retain open space in proximity to rural development</li> <li>Preserve sensitive environmental areas</li> <li>Conserve of farmland</li> </ul>	<ul style="list-style-type: none"> <li>Minimum open space and maintenance requirements</li> <li>Very large lot zoning.</li> <li>Conservation Subdivision</li> </ul>	<ul style="list-style-type: none"> <li>Buffering</li> <li>Vegetative stormwater management</li> <li>Recreational opportunities</li> </ul>
<b>Road cross sections</b>	<ul style="list-style-type: none"> <li>Create narrow rural-scale roads with appropriate design standards</li> <li>Employ traffic calming with rural design.</li> <li>Minimize impervious surfaces.</li> </ul>	<ul style="list-style-type: none"> <li>Road design and improvement standards in subdivision regulations</li> </ul>	<ul style="list-style-type: none"> <li>Drainage structures</li> <li>Public safety services</li> <li>Dedication and maintenance</li> </ul>
<b>Stormwater management improvements</b>	<ul style="list-style-type: none"> <li>Require natural stormwater management improvements rather than hardscape</li> </ul>	<ul style="list-style-type: none"> <li>Stormwater drainage requirements</li> <li>Retention, detention, collection and conveyance design standards</li> </ul>	<ul style="list-style-type: none"> <li>Infrastructure Maintenance</li> <li>Water quality</li> </ul>

Design Factor	Rural Design Objectives	Potential Regulatory Tools	Related Issues
Wastewater alternatives	<ul style="list-style-type: none"> <li>• Protect groundwater resources</li> <li>• Base lot sizes on wastewater treatment constraints</li> <li>• Allow use of common open space for drain fields in conservation subdivisions</li> </ul>	<ul style="list-style-type: none"> <li>• Standards for private on-site and community wastewater systems</li> <li>• Lot size flexibility based on wastewater facility needs</li> </ul>	<ul style="list-style-type: none"> <li>• Potable water</li> <li>• Use of open space</li> <li>• Ownership and maintenance</li> </ul>

**1. Context Sensitive Setbacks**

Rural character is largely defined by the visibility and design of man-made structures. Context sensitive setbacks preserve rural views by applying flexible structure location standards that focus on line of sight rather than distances from property lines. Site-specific vegetation and topography determine where structures should be located to minimize they visual impression on the landscape. Locating structures behind buffers and off of ridgelines (**Exhibit 10**) are examples of context sensitive setback provisions. Structures that or located in the middle of a parcel are usually within the path of views across the parcel, so locating buildings on the edges of the property retains larger uninterrupted views of open space.

**Exhibit 10: Context Sensitive Setbacks Illustration**



*Source: University of Southern Maine and the Maine Arts Commission, The Hidden Design in Land Use Ordinances – Assessing the Visual Impact of Dimensions Used for Town Planning in Maine Landscapes (March 1991).*

**2. Fencing**

Fencing is one of the first structures visually encountered when property is approached. Rural fencing is distinct from urban fencing due to its historic use to define property boundaries, identify the property entrance and restrict the movement of livestock while allowing grazing. Traditional rural fencing does not interfere with the visibility of property; it relies on low stone walls, barbed

wire or split rail design. Where screening is desired, trees create an effective visual buffer without sacrificing rural character.

### **3. Lot Access**

Property access in rural areas is both a prominent visual design feature and a safety concern. Rural residential property access can be secluded with entrance gained through country lanes and shared driveways. Lanes and shared driveways are designed strictly for very low speed access to a limited number of lots, thus requiring modest design standards, improving road safety and capacity, and reinforcing the rural character. Farm entrances that access public roads may be wider than residential entrances due to the size and weight of equipment associated with commercial agriculture operations. Entrance location and the ability of emergency services to access property are important access design issues.

### **4. Lot Sizes/Density**

Lot sizes and densities should reflect the desired character of an area and the adequacy of public facilities and the needs of local agriculture. While one dwelling per viable agriculture tract often serves as a baseline to establish rural densities, minimum required lot sizes in Prince George's County are too small to effectively retain rural character or agricultural viability.

Density may be independent of lot size by determining development potential on a per acre basis followed by a cap on residential parcel size that is significantly less than the density per acre. For instance, density may be figured at 1 dwelling per 20 acres with a residential lot size range of 2 to 5 acres. Therefore a 40-acre parcel would accrue two (2) residential development rights, which would be allocated to two (2) 2- to 5-acre parcels. The third parcel created would be for agriculture, forestry or open space use only.

Regardless of the method in which development density is determined and allocated, lot sizes should be contingent on the wastewater facilities used for the site. Lot sizes may be very small if a public or community wastewater system is used. Private on-site wastewater treatment requires a site-specific analysis of the land's ability to process wastewater through a septic tank with lateral line fields or waste stabilization ponds. The lands capacity to process wastewater should determine the appropriate lot size for the property.

### **5. Development Scale**

Development scale refers to the number of dwellings and/or structures within a specific development or on adjacent parcels. Limitations of the number, height and area of structures reduce development's impact on rural character. While lot size, building height and density controls have some impact on the character of development, they facilitate and encourage large lot cookie-cutter subdivision that appears more suburban than rural, despite the relatively low densities. Establishing limits to village, hamlet and conservation subdivision scale is commonly accomplished through development size limitations measured by total acres, the number of dwellings or the number of buildable lots. Coupled with open space separation requirements between villages, hamlets and conservation subdivisions, development scale controls can allow significant development potential without sacrificing the rural character.

## 6. Buffers

Buffers are areas of land occupied by vegetation, fences and/or berms that minimize visibility and noise between adjacent uses. Buffers are used to:

- Reduce visibility of structures from roads;
- Reduce road noise for residents;
- Mitigate negative impacts between agriculture operations and residences;
- Filter stormwater runoff; and
- Retain rural character by creating a visual and sound barrier between residential lots and other land uses.

## 7. Lighting

A common notion of rural character is that stars are visible on a clear evening. In suburban and urban areas, the views of stars are washed out by lights on buildings, from cars, along streets, in parking lots and on signs. Establishing rural outdoor lighting standards that minimize light intensity, the number of lights, light location and direction of illumination (frequently called dark skies provisions) can minimize light pollution, enhance the rural character and improve night vistas without sacrificing safety and convenience of residents.

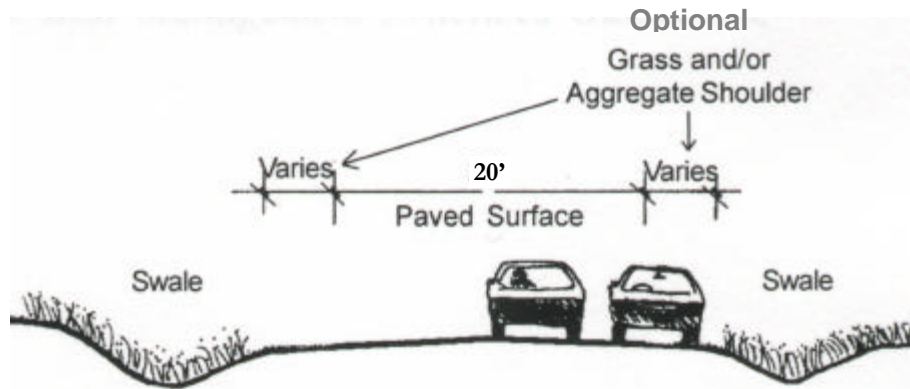
## 8. Open Space

The most predominant feature of rural areas is the existence of open space. While open space typically includes undeveloped lands, agricultural operations may be conducted on land without sacrificing the open space character. There are many ways open space can be preserved, some of which have been discussed previously in this study or will be discussed in conjunction with conservation subdivision design. Buffer requirements may be used to create some of the benefits of open space within conventional subdivisions. Open space may be secured through minimum dedication and/or in-lieu fee requirements.

## 9. Road Cross Sections

Traditional rural roads have a different design standard than suburban and urban roads. Local rural roads used to gain access to residential property often have narrower rights-of-way, lower roadway surface widths, and curb and guttering are replaced with shoulders and swales/ditches. Most rural collector roads will have pavement widths of 20 to 24 feet or greater on right-of-way of 50 feet or greater. Exhibit 11 illustrates a typical two-lane rural road design. Access design, lane width and other design factors influence travel speeds and effective capacity. Eliminating or reducing shoulder widths and employing various traffic calming techniques on internal streets could enhance rural road character and safety, while reducing construction and maintenance costs.

### Exhibit 11: Rural Local Road Cross Section



#### 10. Stormwater Management Improvements

Buildings, patios, roads and driveways create impervious surfaces that do not allow stormwater to be absorbed into the ground. Removal of trees, shrubs and ground cover during site development increases water run off velocity and decreases absorption. Ideal stormwater detention and retention systems are those that use the natural contours of the land and retain and/or supplement vegetation to reduce run-off velocity, reduce soil erosion, increases absorption, and filter pollutants out of the water.

#### 11. Wastewater Alternatives

Within rural areas, wastewater facilities play a key role in the development pattern. Whether wastewater is processed on-site or off-site has a profound influence on lot sizes, structure location and screening. The two primary wastewater facilities used in rural areas are community systems and private on-site septic systems. Community systems centralize maintenance and can reduce groundwater pollution associated with private septic tank and waste stabilization ponds. On-site systems are only feasible where the lot size and percolation rates allow absorption of effluent while avoiding contamination of wells. Since community wastewater systems do not require building site conditions to be conducive to wastewater processing, smaller lots and higher densities are possible. Rural development that relies on private on-site systems may have flexible minimum lot sizes provided that sufficient space for facility effectiveness is retained.

### C. Conservation Subdivision Design

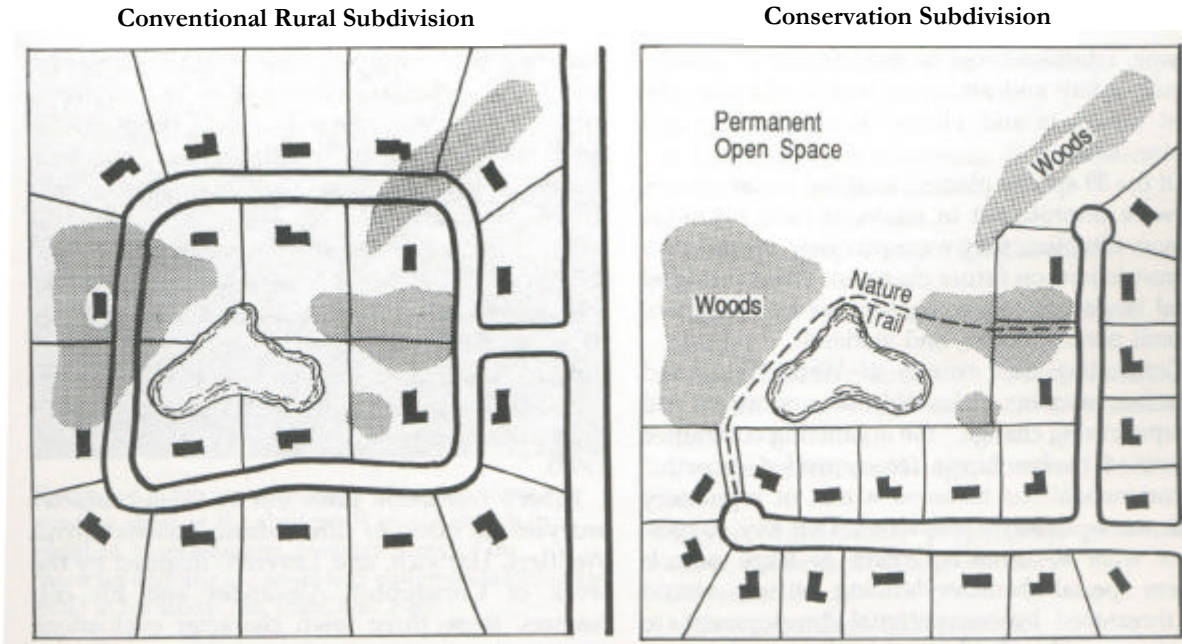
Conservation subdivisions (a.k.a., clustering or open space subdivisions) are residential or mixed-use developments that preserve a large portion of land for open space, forestry, agriculture, habitat protection or other non-development purposes, while condensing development on modest, clustered lots adjacency to the preserved land (**Exhibit 12**). If properly located, designed and maintained, conservation subdivisions can:

- Serve as a land use transition between urban and rural areas;
- Locate rural housing on the least important agricultural, forest or environmental land;

- Preserve sensitive environmental and habitat areas;
- Minimize rural infrastructure costs; and
- Provide a rural housing option on manageable lot sizes.

While many developers, real estate brokers and construction lenders are leery of non-conventional development forms, those who have invested in conservation subdivision projects have found a responsive market that is willing to pay a premium for this development product.

### Exhibit 12: Conventional Versus Conservation Subdivisions



Source: Randall Arendt, et al., *Rural By Design*, Pg 31.

Although there are a number of benefits to conservation design, there are a number of legitimate concerns, including:

- Potential fragmentation of farmland leading to disinvestment in agriculture operations;
- Potential nuisances between agricultural operations and adjacent residential development;
- Clustered sprawl rather than legitimate land preservation where too much development is allowed in remote locations;
- Transient retention of open-space;
- Minimized conservation value of permanently preserved land that becomes surrounded by development; and
- Leapfrog development patterns may increase conflicts between land uses and increase demand for Rural Tier infrastructure.

Most, if not all, of these concerns can be avoided with proper implementation of conservation subdivision provisions. **Exhibit 13** summarizes conservation subdivision regulatory, design and administration options, which are discussed in greater detail following the exhibit.

**Exhibit 13: Conservation Subdivision Design and Policy Options**

Regulatory Options	Description of Regulatory Options	Strengths	Constraints
<b>Applicability</b>			
Mandatory	<ul style="list-style-type: none"> <li>Require the use of Conservation Subdivisions</li> </ul>	<ul style="list-style-type: none"> <li>Ensures conservation of open space land</li> <li>Provides value for property owners</li> </ul>	<ul style="list-style-type: none"> <li>Perceived as interfering with market demands</li> <li>Limits rural development options</li> </ul>
Voluntary	<ul style="list-style-type: none"> <li>Allow Conservation Subdivisions as an optional development type</li> </ul>	<ul style="list-style-type: none"> <li>Allows options for rural estates</li> <li>Incentive based</li> </ul>	<ul style="list-style-type: none"> <li>Perceived risk and unfamiliarity</li> <li>Reduces strategic use</li> </ul>
<b>Location</b>			
Zoning Districts	<ul style="list-style-type: none"> <li>Allow conservation subdivision in Rural Tier zoning districts</li> </ul>	<ul style="list-style-type: none"> <li>Regulatory structure already exists</li> </ul>	<ul style="list-style-type: none"> <li>Inability to target areas within the zoning district</li> </ul>
Adjacency to Developing Tier	<ul style="list-style-type: none"> <li>Require conservation subdivisions close to the Developing Tier</li> </ul>	<ul style="list-style-type: none"> <li>Mandatory conservation subdivision adjacent to urban areas reduces development pressures on remote areas</li> <li>Serves as a transition zone between urban and rural areas</li> </ul>	<ul style="list-style-type: none"> <li>Transition creates a permanent barrier to urban expansion</li> <li>Future urban growth may "leap frog" over transition zone</li> </ul>
Service Areas	<ul style="list-style-type: none"> <li>Limit conservation subdivision use to areas with adequate public facilities</li> </ul>	<ul style="list-style-type: none"> <li>Makes best use of public facilities</li> <li>Allows smaller lots.</li> </ul>	<ul style="list-style-type: none"> <li>May restrict areas of conservation subdivision use in remote areas</li> </ul>
Defined Overlay Zones	<ul style="list-style-type: none"> <li>Establish an overlay district specifically for the use of conservation subdivisions</li> </ul>	<ul style="list-style-type: none"> <li>Targets use to non-critical rural areas</li> <li>May be used to reinforce Developing Tier boundary</li> <li>May make mandatory use more palatable</li> </ul>	<ul style="list-style-type: none"> <li>May hamper opportunity if voluntary and limited to small area</li> </ul>

Regulatory Options	Description of Regulatory Options	Strengths	Constraints
Land Uses <sup>27</sup>	<ul style="list-style-type: none"> <li>Establish appropriate land uses within the conservation subdivision</li> <li>Preclude non-residential land uses</li> </ul>	<ul style="list-style-type: none"> <li>A mix of uses can support residents</li> <li>Residential only subdivisions minimize compatibility challenges</li> </ul>	<ul style="list-style-type: none"> <li>Not all uses are compatible with rural residential uses.</li> <li>Overly restrictive use regulations deter appropriate uses and increase auto dependency</li> </ul>
Density			
Units Per Acre	<ul style="list-style-type: none"> <li>Establish development potential by the area of the conservation subdivision</li> </ul>	<ul style="list-style-type: none"> <li>Easy to administer</li> <li>Easy to assess development potential and impacts</li> </ul>	<ul style="list-style-type: none"> <li>If the number of units per acre is too high, preservation goals may be difficult to achieve</li> <li>Doesn’t address scale of development</li> </ul>
Lot Size	<ul style="list-style-type: none"> <li>Establish minimum and maximum lot sizes</li> </ul>	<ul style="list-style-type: none"> <li>Easy to administer</li> <li>Minimum lot sizes ensure adequate area for on-site systems</li> <li>Maximum lot sizes ensure efficient use of land resources and conservation</li> </ul>	<ul style="list-style-type: none"> <li>Doesn’t address scale of development</li> <li>Large minimum lot sizes may make it difficult to achieve conservation goals</li> </ul>
Cluster Size	<ul style="list-style-type: none"> <li>Establish maximum number of units per cluster</li> </ul>	<ul style="list-style-type: none"> <li>Easy to administer</li> <li>Avoids appearance of suburban subdivision</li> </ul>	<ul style="list-style-type: none"> <li>Small clusters may result in excessive land fragmentation</li> </ul>
Infrastructure			
Water			
<i>Public Water</i>	<ul style="list-style-type: none"> <li>Require public water systems for domestic use in subdivisions</li> </ul>	<ul style="list-style-type: none"> <li>Makes use of existing infrastructure.</li> <li>Low risks of deficient supply or contamination</li> <li>Allows smaller residential lots</li> <li>Facilitates fire suppression</li> </ul>	<ul style="list-style-type: none"> <li>If new infrastructure is needed, it may add to costs for ratepayers</li> </ul>

<sup>27</sup> The appropriate mix of uses will depend on the development location and scale. Most conservation subdivisions will have inadequate land area to support significant commercial space.

Regulatory Options	Description of Regulatory Options	Strengths	Constraints
<i>Private Water</i>	<ul style="list-style-type: none"> <li>• Allow individual wells</li> </ul>	<ul style="list-style-type: none"> <li>• No burden on ratepayers</li> </ul>	<ul style="list-style-type: none"> <li>• May cause lot sizes to increase due to separation requirements</li> <li>• Potential health hazard due to poor maintenance, drought or contamination</li> <li>• Public intervention may be necessary to alleviate health risks</li> </ul>
<i>Community Water System</i>	<ul style="list-style-type: none"> <li>• Require privately owned community water system for domestic use</li> </ul>	<ul style="list-style-type: none"> <li>• No burden on ratepayers</li> <li>• Low threat of contamination and insufficient maintenance</li> <li>• Allows small residential lots</li> <li>• Facilitates fire suppression</li> </ul>	<ul style="list-style-type: none"> <li>• Potential health hazard due to drought</li> </ul>
Wastewater			
<i>Public Wastewater</i>	<ul style="list-style-type: none"> <li>• Require public wastewater system</li> </ul>	<ul style="list-style-type: none"> <li>• Avoids health risks from poor maintenance, failing systems and groundwater pollution</li> <li>• Permits small lot sizes</li> </ul>	<ul style="list-style-type: none"> <li>• Requires infrastructure investment in Rural Tier</li> <li>• Not consistent with smart growth principles</li> </ul>
<i>Private Wastewater</i>	<ul style="list-style-type: none"> <li>• Require on-site systems</li> </ul>	<ul style="list-style-type: none"> <li>• Construction and maintenance privately funded</li> </ul>	<ul style="list-style-type: none"> <li>• May require large residential lots</li> <li>• Increase health risk due to poor maintenance, failing systems and groundwater pollution.</li> </ul>
<i>Community Wastewater System</i>	<ul style="list-style-type: none"> <li>• Allow privately owned community wastewater system</li> </ul>	<ul style="list-style-type: none"> <li>• Allows small residential lots.</li> <li>• Avoids health risks from poor maintenance and groundwater contamination.</li> <li>• No public construction or maintenance costs.</li> </ul>	<ul style="list-style-type: none"> <li>• Failure of system may require emergency public action</li> <li>• Public monitoring required to ensure ongoing performance of system</li> </ul>

Regulatory Options	Description of Regulatory Options	Strengths	Constraints
Roads			
<i>Public Roads</i>	<ul style="list-style-type: none"> <li>Require public roads throughout the subdivision</li> </ul>	<ul style="list-style-type: none"> <li>Ensures public access</li> <li>Enables ongoing maintenance and construction</li> <li>Facilitates connectivity</li> </ul>	<ul style="list-style-type: none"> <li>Increases public maintenance costs</li> </ul>
<i>Private Roads</i>	<ul style="list-style-type: none"> <li>Allow or require privately owned local roads within the subdivision.</li> </ul>	<ul style="list-style-type: none"> <li>Avoids increased burden on taxpayers</li> </ul>	<ul style="list-style-type: none"> <li>Requires public monitoring of maintenance and funding</li> <li>Increases difficulty in promoting connectivity</li> </ul>
<i>Shared Driveways</i>	<ul style="list-style-type: none"> <li>Allow privately owned shared driveways in-lieu of roads in some circumstances</li> </ul>	<ul style="list-style-type: none"> <li>Reduces construction costs</li> <li>Reduces access points on roads</li> <li>Reduces public expense</li> <li>Reinforces rural character</li> </ul>	<ul style="list-style-type: none"> <li>Increases potential for private use and maintenance disputes</li> <li>May impede provision of emergency services</li> </ul>
<b>Open Space</b>			
Conservation Theme Declaration	<ul style="list-style-type: none"> <li>Establish the conservation goal of the subdivision, which influences subdivision and open space design</li> </ul>	<ul style="list-style-type: none"> <li>Allows conservation intent to be planned and implemented effectively through design</li> </ul>	
Minimum Percentage of Open Space	<ul style="list-style-type: none"> <li>Determine the appropriate amount of open space required</li> </ul>	<ul style="list-style-type: none"> <li>If set high enough, it can strongly support conservation efforts</li> <li>Standardized and equitable</li> </ul>	<ul style="list-style-type: none"> <li>If set too low, it may not sufficiently achieve conservation goals</li> <li>Does not account for properties with substantial key preservation elements (wetlands, critical habitat, etc...)</li> </ul>

Regulatory Options	Description of Regulatory Options	Strengths	Constraints
Use	<ul style="list-style-type: none"> <li>• Limit open space uses to agricultural or passive open space purposes</li> <li>• Allow more intensive recreational uses</li> </ul>	<ul style="list-style-type: none"> <li>• Encourages long term agricultural production</li> <li>• May provide recreational opportunities and opportunities to generate POA funds</li> </ul>	<ul style="list-style-type: none"> <li>• Use may harm the environmental quality of the land</li> </ul> <p>Ag or recreational uses are potential nuisances to adjacent residential activities</p>
Open Space Ownership, Management and Maintenance			
<i>Private Entity</i>	<ul style="list-style-type: none"> <li>• Open space owned and managed by a private landowner or entity</li> </ul>	<ul style="list-style-type: none"> <li>• Allows private entity to use and manage land</li> <li>• Minimizes public cost</li> </ul>	<ul style="list-style-type: none"> <li>• Requires monitoring to ensure that open space is maintained and used for allowable purposes</li> </ul>
<i>Homeowners Association</i>	<ul style="list-style-type: none"> <li>• The HOA owning and maintaining open space.</li> </ul>	<ul style="list-style-type: none"> <li>• Minimizes public cost</li> <li>• Assigns responsibilities to residents</li> <li>• May supplement HOA funds</li> </ul>	<ul style="list-style-type: none"> <li>• Requires monitoring to ensure that open space is maintained and used for allowable purposes</li> </ul>
<i>Public</i>	<ul style="list-style-type: none"> <li>• Dedication of open space to the public</li> </ul>	<ul style="list-style-type: none"> <li>• Provides potential for public recreational and educational uses</li> <li>• Provides potential public revenue through leasing</li> <li>• Ensures maintenance and management</li> </ul>	<ul style="list-style-type: none"> <li>• Creates public expense for management activities</li> <li>• Requires coordination with adjacent homeowners</li> </ul>
<i>Land Trust</i>	<ul style="list-style-type: none"> <li>• Dedication of open space to the stewardship of a land trust</li> </ul>	<ul style="list-style-type: none"> <li>• Assigns responsibility to qualified interest group</li> <li>• Minimizes public cost</li> <li>• Minimizes public monitoring and maintenance responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>• May require some public endowment</li> <li>• May limit public use of open space</li> </ul>

Regulatory Options	Description of Regulatory Options	Strengths	Constraints
Conservation Tenure			
<i>Permanent</i>	<ul style="list-style-type: none"> <li>Require the conservation of land to be permanent</li> </ul>	<ul style="list-style-type: none"> <li>Perpetually preserves land</li> <li>Supports long-term conservation goals</li> <li>Minimizes speculative purchasing of preserved land</li> </ul>	<ul style="list-style-type: none"> <li>Inflexibility</li> </ul>
<i>Temporary</i>	<ul style="list-style-type: none"> <li>Allow conservation land to be converted at a future date</li> </ul>	<ul style="list-style-type: none"> <li>Provides flexibility to review easement at future date</li> </ul>	<ul style="list-style-type: none"> <li>Subjects open space protection to political process</li> <li>Does not fulfill long-term preservation goals</li> <li>May fuel speculative buying of conservation sites</li> </ul>
Contiguity with Open Spaces	<ul style="list-style-type: none"> <li>Require conservation property to be adjacent to existing or potential preserved sites</li> </ul>	<ul style="list-style-type: none"> <li>Achieves conservation benefits attributed to contiguous open space.</li> <li>Minimizes degradation of open space from encroaching uses.</li> <li>Helps achieve consistency and preservation goals.</li> </ul>	
Legal Conservation Tools			
<i>Covenants/Deed Restrictions</i>	<ul style="list-style-type: none"> <li>Preserve land through the placement of restrictive covenants or deed restrictions.</li> </ul>	<ul style="list-style-type: none"> <li>No public cost</li> </ul>	<ul style="list-style-type: none"> <li>Has a defined time period</li> <li>May be changed by landowners</li> <li>No public enforcement</li> </ul>
<i>Conservation Easements</i>	<ul style="list-style-type: none"> <li>Place a conservation easement over land to be preserved</li> </ul>	<ul style="list-style-type: none"> <li>Held and enforced by land trust or government</li> <li>May include third party enforcement provisions</li> <li>May accrue tax benefits</li> <li>Most are perpetual</li> <li>Often include detailed preservation provisions</li> </ul>	<ul style="list-style-type: none"> <li>Requires long-term monitoring and enforcement costs</li> <li>Land trusts may require stewardship endowment</li> </ul>

Regulatory Options	Description of Regulatory Options	Strengths	Constraints
<i>Dedication to Public</i>	<ul style="list-style-type: none"> <li>• Dedicate open space to the County.</li> </ul>	<ul style="list-style-type: none"> <li>• Allows public recreational use</li> <li>• Ensures maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• Increases public cost.</li> <li>• Private concerns about public access</li> </ul>
<b>Design Requirements</b>	See previous section for discussion of setbacks, buffers and other rural design issues		

## 1. Mandatory or Voluntary Clustering

### Mandatory

Most communities find it difficult to make conservation subdivision design mandatory for residential construction in rural areas, simply because it limits the opportunity for rural estate development. The primary criticisms levied against mandatory conservation design are:

- That it's perceived as interfering with the private market;
- That it's an infringement on private property rights without options; and
- That it may reduce the retirement assets of land rich and cash poor landowners.

However, mandatory conservation design may be appropriate for specific portions of the Rural Tier, depending on local planning priorities.

### Voluntary/Optional

While the most politically viable way to implement conservation subdivision design standards is to make them voluntary, the ability of this technique to successfully maintain rural character may be impaired by the reluctance of developers and lenders to enter into the market before it is proven. This "race to be second" may be exacerbated if conservation subdivision requires discretionary approval and adjacent property owners are unfamiliar with conservation subdivisions. Developer and lender avoidance of conservation design can occur despite substantial evidence suggesting that lots adjacent to permanently preserved open space generate greater returns in the market place than conventional subdivision.<sup>28</sup> Optional conservation design frequently requires incentives, such as density bonuses and design waivers to make conservation subdivisions attractive to developers.<sup>29</sup> Making conservation subdivision optional reduces the potential strategic benefits of conservation subdivisions as transitions between urban and rural development.

<sup>28</sup> Theresa Fiscus, "Clustering as a Farmland Preservation Tool: The Differing Perceptions of Farmers and Experts", *Journal of Maryland Planning* (Summer 1993) Pg 21.

<sup>29</sup> Tom Daniels and Deborah Bowers, *Holding Our Ground – Protecting America's Farms and Farmland* (Island Press, 1997) Pg 123.

## 2. Location

Conservation subdivision design is not appropriate in all parts of the community or even rural areas. Identifying areas in which conservations subdivisions are useful as a rural preservation tool requires an examination of zoning, land use and infrastructure patterns.

### Zoning Districts

Prince George's County currently allows clustering only within suburban zoning districts that are not applicable in the Rural Tier. Within the existing Prince George's County zoning code, conservation subdivision would be most effective in the O-S and R-A zoning districts due to their relatively low development potential and large lot size requirements. Its use in the R-A district would be limited unless community wastewater systems or the use of common open space for septic system drain fields are authorized.

### Adjacency to Developing Tier

Directing conservation subdivisions adjacent to the Developing Tier would establish a transition area and reduce development pressure on more remote portions of the Rural Tier. However, this transitional area will likely become a permanent boundary to the Developing Tier unless "leap frog" development is allowed.

### Service Areas

If public services are required for conservation subdivisions, the subdivisions should be located within rural service areas in close proximity to existing infrastructure. The adequacy of rural services to accommodate conservation design residential growth should be taken into account prior to the approval of zoning boundaries and individual conservation developments.

### Defined Overlay Zones

Adopting a Conservation Overlay district would allow the local government to target the use of conservation subdivisions to areas where they are most appropriate. For instance, an overlay zoning may be located just beyond the Developing Tier boundary, thereby serving as a transition between urban and rural uses. Wide spread use of conservation subdivisions adjacent to the Developing Tier boundary can reinforce the long term effects of Tier system thereby promoting infill and redevelopment of underused urban sites and minimizing development pressures in more remote portions of the Rural Tier.

## 3. Land Uses

The range of permitted, accessory and conditional uses directly affects the character of the conservation subdivision. Typically, industrial and large-scale commercial uses are excluded, while neighborhood retail and service uses may be appropriate in a village or hamlet design. Exclusive rural residential conservation subdivisions may not be appropriate for non-residential uses other than home occupations because the scale of development is seldom sufficient to support such uses. Agricultural uses may or may not be appropriate depending on the development concept, natural features and size of the preserved land. If agriculture is allowed, livestock and poultry operations should be excluded to avoid significant nuisances and potential health problems.

## 4. Intensity

### Density

The number of units allowed is generally dictated by the zoning district regulations and should be low enough to retain rural character. If the base gross density is too high, meaningful open spaces may be difficult to establish, rural character would be compromised, and the resulting development form could become “clustered sprawl”.<sup>30</sup> However, the density needs to be high enough to make conservation design financial viable, especially if used as an optional development form. Density bonuses by right or via TDRs may be authorized as incentives for the use of conservation subdivision design. However, excessive bonuses could result in a series of suburban pockets in the Rural Tier.

### Lot Sizes

Lot sizes within conservation subdivisions should be smaller than the standard for conventional subdivisions, so that a reasonable amount of open space can be preserved. Lot standards should include minimum and maximum sizes to ensure conformance the intent of conservation design. The primary determinant of allowable lot size is the method of providing water and wastewater facilities. If lot sizes are too small, private on-site water and wastewater facilities may not be feasible. If public facilities are provided, lot sizes may be reduced. Note that lot sizes may be reduced below conventional requirements if common open space may be used for septic system drain fields.

### Cluster Size

The maximum size of a cluster or group of homes has a significant impact on the character of a development. While a cluster of 200 homes can appear to be a sprawling suburban development, a cluster of 20 to 25 homes can be buffered more effectively to maintain the rural character. If attached units are allowed, up to 50 dwelling units may be included within a rural cluster.

## 5. Infrastructure

### Water

**Public** – The concentration of residential lots, which is a primary characteristic in conservation subdivisions, is made easier when public water is available. The use of existing public water facilities reduces the threat of failing private water wells and lack of water during times of drought, but diverts resources from the Developed and Developing Tiers to areas where growth is least desirable. Construction and maintenance costs of the public water system will be borne by ratepayers, unless new development is required for pay the full cost of serving their demands through the imposition of impact fees, construction and dedication requirements. Centralized water services provide more reliable water supplies for fire suppression.

**Private** - When private well water is allowed within conservation subdivisions, the construction and maintenance costs are the responsibility of the landowner. Private water wells are subject to groundwater contamination, improper maintenance and drought, all of which can pose health risks. In addition, minimum separation between septic tank leach fields and water supply wells

---

<sup>30</sup> Tom Daniels, *When City and Country Collide – Managing Growth in the Metropolitan Fringe* (Island Press, 1999) Pg 219.

can limit the potential for small lots in conservation subdivisions. Lot sizes in conservation subdivision design may not provide an adequate groundwater supply for individual residential lots, depending on the underlying rock strata and water table. Private water wells may be installed within conservation open spaces, provided that proper easements are in place.

**Community System** – A community water systems may be approved to provide subdivision wide water service that is owned and maintained by the Homeowner's Association (HOA). Community systems tend to be more cost-efficient than private water wells and are independent from local government management. Where a community water system is approved, it should be required that all developable lots must be served and landowner membership in the HOA is mandatory. Community water systems are more likely to be maintained due to joint interest of the landowners. However, failure of community water facilities may force long extensions of public systems to alleviate public health concerns, which in turn promotes development along the extended infrastructure. Centralized water services provide more reliable water supplies for fire suppression.

### **Wastewater**

Public – The use of public wastewater facilities would permit small lot sizes that are consistent with conservation subdivision design. Where existing public wastewater service is available, conservation subdivisions may be accommodated with a minimum of public investment. Public systems reduce the threat of insufficient maintenance, failing systems and groundwater pollution all of which are associated with private septic tank and waste stabilization ponds. Construction and maintenance costs will be borne by ratepayers, unless new development is required to pay the full cost of serving their demands.

Private - Private on-site systems are only feasible where the lot size and percolation rates allow safe absorption of wastewater effluent while avoiding cross contamination with private domestic water sources. Private wastewater systems may be installed within conservation open spaces provided the proper easements are in place. Maintenance of the private systems is typically the responsibility of the homeowner. To ensure that a lapse in private maintenance does not create health problems within the subdivision, the HOA and local governments can require the power to place a lien against property owners to ensure maintenance costs are recoverable. Some HOA's hire private contractors to maintain private systems funded by HOA dues from private landowners.<sup>32</sup> HOA Membership and the payment of dues should be mandatory to ensure the HOA's capacity to manage the subdivision, including private facilities when necessary.

Most states require a distance separation between septic tank leach fields and water supply wells, floodways and critical habitat.<sup>33</sup> County Health Departments sometimes oppose the use of on-site septic systems that depend on commonly owned land for drain fields and may be unfamiliar with the design concepts of conservation subdivisions.<sup>34</sup>

---

<sup>32</sup> Natural Lands Trust, *supra* note 8, Pg 11.

<sup>33</sup> Randall Arendt, *Rural by Design* (American Planning Association, 1994) Pg 221.

<sup>34</sup> Daniels, *supra* note 2, Pg 122.

Community Wastewater System - A community wastewater system may be approved to provide a subdivision wide sewer system owned and maintained by the Homeowner's Association (HOA). Community systems tend to be more cost-efficient than private septic tanks or waste stabilization ponds and are independent from local government management. Where a community wastewater system is approved, it should be required that all developable lots be served and landowner membership in the HOA is mandatory. Community wastewater systems are more likely to be maintained due to joint interest of the landowners. However, failure of community wastewater facilities may force long extensions of public systems to alleviate public health concerns, which in turn promote development along the extended infrastructure.

## **Roads**

Public – Requiring public roads within rural residential subdivisions offers benefits at a price. While public roads ensure access and uniform construction standards, they also mandate long-term public expenditures for road maintenance. Public roads allow the County to maintain connectivity and minimize disputes that can occur when private roads systems are connected to adjacent developments.

Private – If private roads are allowed or required, the County has the ability to require uniform construction and maintenance standards. Public access would be at the discretion of the developer but must include provisions for emergency vehicles and other public service access. Connectivity of the private road system can become a major issue when adjacent property is developed with access through an existing private road. If connectivity is required, a detailed maintenance agreement should be drafted to ensure that future beneficiaries of existing private roads are responsible for their impact on the private road through access and maintenance fees paid to the original HOA that built the road. The cost of construction and maintenance should fall on those who directly benefit. Because long-term maintenance is the responsibility of the HOA, there is no assurance that maintenance will be sufficient unless the County is allowed to place a liens on property.

Shared Driveways – The use of shared driveways can limit access points on public roads, ensure private maintenance and protect rural character. Shared driveways should be limited in distance, have a maximum number of properties with access and be constructed to minimum County construction. Shared driveways should be included on the subdivision plat with an ingress/egress easement necessary to ensure property access. Legal access should extend to public service vehicles. A maintenance agreement must be established between the landowners or with an HOA to assure private funding of long-term maintenance. If the number of properties taking access on a shared driveway is excessive, maintenance, safety and nuisance problems can occur.

## D. Rural Subdivision Standards

### 1. Open Space

#### Conservation Theme Declaration

Some communities require the developer to declare a conservation theme upon which the preservation of land is going to support. Conservation themes may include agriculture, forest, environmental, historic, scenic view and other preservation related purposes. The conservation theme may impact the amount and location of development and open space as well as the appropriate nuisance mitigation and legal preservation tools.

#### Minimum Percentage of Open Space

Determining the amount of required open-space is a delicate balance between land preservation and market viability of conservation subdivisions. If the required amount of open space is too small, the open space preservation intent of the regulations may be compromised. However, if the required amount of open space is excessive, the local government may face a takings claim (if conservation subdivision design is mandatory) or developers will not choose to use conservation subdivision design options. Open space requirements may be expressed as a flat rate (50% to 70% of development is most commonly used range) or a sliding scale (progressive or regressive) system in which the size of the parcel dictates the amount of open space required. Incentives may be provided to encourage the preservation of open space beyond the minimum requirement. Incentives may include lot size flexibility, density bonuses and/or other flexible requirements.

#### Use

The use of open space should be compatible with the rural character and adjacent rural residential development. Use of open space for agricultural pursuits may generate a lease income for the HOA, but the agricultural operation may create nuisances such as noise, smoke, dust and odors associated with commercial agriculture.<sup>35</sup> If open space is to be used for recreational purposes, the selected purposes should be passive and require few improvements. Open space that is owned and/or maintained by the County may allow public access. However, public access may negatively impact adjacent residential property values.

#### Ownership, Management and Maintenance

**Private Entity** – Common open space may be owned by a private individual. Private ownership is most common where the open parcel is used for agricultural or private recreational purposes. Once the land is legally encumbered to agriculture or open space, the property owner is responsible for managing the property in accordance with the preservation requirements. While this saves the public from incurring maintenance costs, ownership by an out-of-town entity could make open space management difficult to enforce.

**Homeowners Association** – It is common for rural conservation subdivision to have a homeowners association (HOA) that collects dues, maintains private facilities and enforces

---

<sup>35</sup> American Farmland Trust, [Saving American Farmland: What Works](#) (American Farmland Trust, 1997) Pg 33.

restrictive covenants. HOA's are more appropriate for large conservation subdivisions due the increased maintenance and funding responsibilities.<sup>36</sup> Common open space that is owned by the HOA, generally limits use of the open space to members or guests of the HOA. This arrangement creates a situation where residents and members of the HOA may feel empowered to ensure that conservation provisions are followed and enforced.<sup>37</sup> In addition the HOA may be able to supplement dues income by leasing open space for agriculture or recreational purposes. The HOA may not want to lease the land due to common nuisance factors associated with agriculture operations, such as noise, odor, dust, chemical application and late hours of operation.

**Public Ownership** - Frequently public entities are reluctant to take on additional maintenance and liability responsibilities associated with conservation subdivision open space.<sup>38</sup> Local, state and/or the federal governments may require public access to the common open space, which is perceived to negatively impact the value of nearby homes;

**Land Trust** - Land trusts are non-profit organizations dedicated to the preservation and stewardship of vital land resources. In general, land trusts have expertise in easement monitoring and enforcement and can draft customized easement provisions to support the landowner's preservation intent. Land trusts are independent of local government, which shields them from changes in political climate. This autonomy assures that conservation priorities are maintained regardless of political pressure to convert land to non-open space uses.<sup>39</sup> Land trusts generally request a stewardship endowment donation from the landowner, developer or HOA to finance long-term monitoring and enforcement of the common open space easement provisions.

Granting conservation easements to land trusts benefit the HOA, developer and landowners by:

- Absolving the HOA, developer and landowners of easement management costs for the open space;<sup>40</sup>
- Constituting a "charitable contribution" for which tax deductions may be available; and
- Ensuring that the long-term conservation purpose will be maintained in perpetuity.

Easement may be transferred to the land trust through a "bargain sales" whereby the land trust pays below the fair market value of the easement and the difference in value and price would be a charitable contribution. Proceeds from the bargain sale may be used for subdivision maintenance.<sup>41</sup>

---

<sup>36</sup> Amy Bergstedt, Patricia Deyo and Matthew Yungwirth, Conservation Subdivisions: Ecological, Landscape and Construction, and Legal Applications to Cherokee County, Georgia (No Date) Pg 14.

<sup>37</sup> *Id.*, Pg 17.

<sup>38</sup> *Id.*, Pg 14.

<sup>39</sup> Natural Lands Trust, Growing Greener – Conservation by Design (September 2001) Pg 9.

<sup>40</sup> Bergstedt, *supra* note 5, Pg 14.

<sup>41</sup> *Id.*

## Permanent Versus Temporary Open Space

The duration of common open space retention must be established at the time it is created. Most conservation easements are intended to permanently preserve open space and other rural uses. Concern about the inflexibility of this arrangement have led some jurisdictions to adopt review provisions after a specified time period (e.g. 10 to 20 years). Temporary open space provisions:

- Ignore the intent of conservation subdivisions and ensures that future zoning changes and political based decisions will allow the land to be converted to non-open space uses;
- Do not accrue tax benefits, which require that conservation be perpetual;
- Are subject to political change; and
- Fail to achieve environmental and rural character benefits that can only be realized if substantial congruent tracts are preserved.

## Contiguous with Open Spaces

Many of the benefits of conservation subdivision open space and buffers can only be realized if they add to a regional open space system or green infrastructure. Green infrastructure is a contiguous preserved land area consisting of preserved riparian buffers, agriculture land, forest land, wetlands, steep slopes, park, trail, nature preserve and other preserved open spaces. Requiring that open spaces within conservation subdivisions be internally contiguous and externally adjacent to other conservation land helps create uninterrupted habitat, riparian corridors, recreational trails and agriculture production areas.

## Legal Conservation Tool

**Covenants/Deed Restrictions** – Covenants and deed restrictions are legal limitations on the use of land, which are placed, monitored and enforced by private landowners. Provisions within the covenants may be changed or deleted by a vote of owners of land subject to the restrictive covenants, thus the long-term conservation may be compromised. In addition, the private entity (HOA, landowners, etc...) charged with enforcing the covenants or deed restrictions may neglect enforcement without public recourse.<sup>42</sup> Covenants and deed restrictions are subject to state common law, which often provides for a sunset period after which the covenant restrictions are void.

**Conservation Easements** – Conservation easements are legal tools that limit the use of property by severing development rights from the land and thereby encumbering future landowners to use the land in accordance with the easement limitations. Conservation easements can be specifically written to control all aspects of the preserved properties land use, structures, improvements, soils disturbance, vegetation planting and removal, maintenance and any other aspect of the property. Most conservation easements are granted on a perpetual basis, which mandates long-term compliance with the conservation provisions. Conservation easements may accrue tax benefits as a charitable contribution only if the easement is perpetual.

Conservation easements generally are granted to a non-profit conservation organization (land trust) or to the local government who in turn monitors and enforces easement provisions. It is

---

<sup>42</sup> *Id*, Pg 18.

common for land trust to require a management endowment be paid by the easement grantor to fund long-term monitoring and enforcement activities. Easement provisions often include a provision for third party enforcement to ensure that in the event the easement holder is unable to enforce the easement provisions, the provisions may be enforced by another entity, such as a second land trust or local government. In the event that a land trust is dissolved or the easement owner fails to monitor and enforce easement provisions, the conservation easement may be held void by the courts.<sup>43</sup>

**Dedication to the Public** – Conservation land may be dedicated to the public if the local or state government involved accepts the dedication. Dedication typically occurs through the platting process, however, it may also be achieved through deed. Dedication of open space does not permanently preserve the land because the fate of the land is subject to changes in public policy. When open space is dedicated to the public, the taxpayers assume responsibility for maintenance of the land. However, the local government may lease the land subject to real property encumbrances. If the open space is used for recreational uses public access is often allowed, which may constitute a nuisance to the homeowners within the conservation subdivision. In the event that the County revokes the dedication, landownership reverts to the original owner and the conservation purposes may be void, unless another legal preservation tool is adopted.

---

<sup>43</sup> Gustanski, *supra* note 18, Pg 46.

## SECTION V. RECOMMENDED RURAL DEVELOPMENT STRATEGY

### A. Overview

This final section presents a range of interim and permanent recommendations to achieve the County's goals and objectives outlined in the General Plan, including:

- Preserving 1,500 acres per year of agricultural, strategic forest, or other sensitive lands;
- Ensuring that the Rural Tier captures less than one percent of the county's dwelling unit growth by 2025; and
- Preventing the encroachment of urban development into the Rural Tier by maintaining rural levels of service for roads, water and sewer, police, fire, emergency, services, schools, storm drainage, parks, and other infrastructure.

The recommendations for the Rural Tier direct residential development into villages and conservation subdivisions located along transportation corridors and centers as a top priority and secondarily, towards rural estate single-family housing. These recommendations are based on the guiding principle that development will be directed into the Developed and Developing Tiers and limited development in the Rural Tier through a building permit allocation system that has specific priorities to guide where, when, and how development should occur.

Other recommendations address the long-term character of the Rural Tier. The objectives are to maintain low levels of service within most of the Rural Tier and to ensure that growth is timed and sequenced and located contiguous to the Developing Tier and along transportation corridors such as Highway 301. The recommendations aim to keep the road system in the Rural Tier at permanent rural capacity with levels of service that are appropriate for forested lands, open space, and an agricultural community. To assure that property rights are protected, there should not be any downzoning and all property owners should retain the right to build one dwelling unit on each existing parcel, exempt from the allocation system. In addition each property owner should be offered the option of retaining agricultural and environmentally sensitive lands through a purchase of development rights program furnishing an equivalent economic incentive to sale of the land.

To ensure that the County does not lose the character it is trying to protect while its permanent strategy is being developed, this study recommends adoption of an interim development ordinance (IDO) for approximately 18 months, which should be sufficient time to develop the specific implementation strategies needed to carry out the General Plan Rural Tier objectives, to gather the necessary data and information to support these strategies and to allow for full and deliberate public participation. Interim development regulations, limited in duration, will preclude residential development above the one percent allocation within the Rural Tier while the required amendments to the General Plan and the land development regulations are completed.

### B. Growth Management

#### 1. Purchase of Development Rights

To facilitate the retention of 1,500 acres of forest, open space, and agricultural lands, the County should adopt a purchase of development rights (PDR) program whereby eligible property owners may petition the County to voluntarily sell their development rights as a transaction independent of any proposed residential development activity. These programs are popular with farmers and rural land owners because government purchase of the development rights enables

the property owner to capture equivalent economic value from their land, as they would achieve from sale for development, while preserving rights of ownership, including the continued right to farm or use the property for recreational uses, in perpetuity.

PDR programs have been successful across the nation in preserving agricultural, open space, and forest lands. Typically, the government or a partner non-profit agency will purchase the property owner's right to develop the land for non-agricultural or open space purposes, leaving the land available for agriculture or open space uses in perpetuity. The price of the development right is generally equal to the diminution in the market value of the land resulting from the removal of the development right, or the difference between the value of the land for open space or agricultural purposes and the land's development value.

During the IDO period, the County should develop a program to prioritize the purchase of development rights based on the appropriateness of the subject parcel for continued open space, agricultural, or forest use. The priorities should be linked to the building permit allocation system, discussed below, and should use LESA type standards discussed in this study. Determination of the permanent criteria through consideration of the following factors: existing and future development pressure, location in relation to the Developing Tier, transportation corridors and centers (including Highway 301), environmental sensitivity, parcel size, distance from sewer and water facilities, and vested rights.

## **2. Funding the PDR Program**

The most critical component of a PDR program is a viable stream of funding to purchase a sufficient number of development rights to achieve the annual 1,500-acre objective. Though funding is the most challenging aspect of a PDR program, many communities have overcome the challenge through a two-pronged approach of bonds coupled with federal, state and private contributions.

The County should pursue a general revenue bond measure, the proceeds of which will be spent annually for the purchase of the 1,500 acres. The bond can be a "double barreled" obligation backed by both general taxing authority and through secondary revenues generated by a mitigation fee program discussed below. The countywide rationale of the bond measure reflects the fact that the benefit of retaining open space, agricultural, and forest lands accrues to all residents of the County, not only those who live in the Rural Tier. The benefits of preserving these lands are fiscal, environmental, social, recreational, cultural and economic.

The County will determine the bond amount based on the number of acres of land they plan to purchase and the market value of the development right. While the PDR program will be the predominant method of preserving the 1,500 acres, the County can take into account the number of acres that will be saved through other programs discussed below.

Mitigation fees are a secondary method of funding the PDR program. Development in the Rural Tier consumes land at a far greater extent than land in the Developed or Developing Tiers because of authorized minimum densities. A single family dwelling unit may only consume  $\frac{1}{4}$  of an acre within the Developed or Developing Tiers, but may consume 20 acres in the Rural Tier, thus using 80 times more land per capita for a similar lot in urbanizing acres. To mitigate the harmful effects of the excess consumption of land, the County should adopt a mitigation fee

program that would require future development in the Rural Tier to offset this excessive impact on open space, agriculture, and forest lands. The mitigation fee program should be coordinated with the PDR program so that the fees can leverage the County bond proceeds.

The details of the mitigation fee program should be developed in an ordinance during the IDO period with consideration of several factors. First, the county should identify and prioritize lands within the Rural Tier that are most critical for preservation. Second, the mitigation fee should apply to development in the Rural and Developing Tiers unless the development preserves open space, agricultural lands, or forested lands. The amount of the mitigation fee will vary depending on the actual impact of the development, thus the fee for a lot located on 5 acres will be higher than for a 2-acre lot. Exemption from mitigation fees should be considered for villages and conservation subdivision subdivisions that provide open space directly and/or through transfers of development rights and are located near Hwy. 301.

For the second prong of the funding approach the County must coordinate with state and local agencies. The Federal government has several sources of funding for PDR programs, including the Farm and Ranch Lands Protection Program administered by the Natural Resources Conservation Service of the USDA. The state of Maryland has one of the most progressive open space and agricultural funding programs in the nation, including the Wildland and Open Space Act, the Heritage Conservation Fund, and the Rural Legacy Land Program. The County can also investigate private sources of funding through non-profit organizations such as the Trust of Public Land, the Nature Conservancy, and local land trusts.

### **3. Transfer of Development Rights**

The TDR program should be linked to the building permit allocation system. The County should use the allocation system prioritization to determine the location of the sending and receiving areas. Since the County may not be able to buy all of the development rights in the Rural Tier, during the Plan period, the County should prioritize which properties are most vital for conservation pursuant to the General Plan mandate. Priorities should be for those lands most suitable for permanent open space, environmental and agricultural use. These lands are likely to be identified in the Green Infrastructure Plan currently being developed.

In addition to complying with stated goals of the General Plan, the TDR program offers a unique opportunity for the County to advance other long term planning goals. The current regulations are not creating a desired pattern of orderly development within the Developing Tier, as there is little phasing and sequencing of growth and as industrial areas are being converted to residential areas. Targeted identification of the receiving areas will play a double role of open space, agriculture, and forest preservation while directing growth to appropriate locations within the Developed and Developing Tiers, such as transportation corridors and centers. The two priority areas to be designated as receiving zones are the rural villages and the Developing Tier. TDRs can be used to increase densities within the villages where new urbanist design principles are feasible. TDRs are appropriate for the Developing Tier because they will direct development to those locations where infrastructure already exists. Additionally, subject to resolution of wastewater issues, the County should evaluate the potential for conservation subdivisions as receiving zones for TDRs.

#### **4. Building Permit Allocation System**

The General Plan mandates limitation of residential development in the Rural Tier to one percent of the total residential development in the County until 2025. The County can limit real residential growth only through a strict allocation system. The building permit allocation system would ensure that the number of units constructed within the Rural Tier does not exceed one percent of the total units in the County.

Under a building permit allocation system, points would be assigned, and permits issued, based on a Land Evaluation System Analysis (LESA). Criteria might include, among other things, the proposed location for development, environmental factors, agricultural suitability criteria, and eligibility for participation in PDR and TDR programs.

The point system should also require that an established percentage of annually permit rural residential development be located within Rural Villages, rural transportation corridors (Highway 301) and conservation subdivisions. Rural Villages and conservation subdivisions should have priority in the allocation system to encourage development in these areas instead of on 2- to 5-acre parcels that excessively consume viable agricultural and open space lands. The building permit allocation system should limit the number of units allowed to be built on large acreage lots. A reduction in maximum lot size to 2 or 5 acres for conventional rural residential development coupled with mitigation fees will consume less land provided that the annual allocation of rural residential dwelling units does not exceed the one percent total.

Since goals and objectives of the Rural Tier are to limit development in the Rural Tier while concurrently setting aside permanent agricultural environment, forest and open space lands, road and infrastructure and levels of service must be limited to rural and agricultural standards. Road capacity should never be expanded beyond current capacities.

#### **5. Rural Villages**

The County should change the V zone regulations to encourage the development of Rural Villages located along, or in close proximity to, Highway 301, or in areas currently served by public sewer and water infrastructure, to reduce the harmful impacts on agricultural, open space, and forest lands. Only a limited number of villages should be allowed, receiving priority for a percentage of building permits that will be allocated.

The County also should consider the creation of villages through upzoning of properties currently zoned RA and OS that are located in the Developing and Rural Tiers and in close proximity to arterial roads. The upzoning may occur through legislative action on the part of the County and should authorize density bonuses so that villages will become receiving areas for the TDR program.

#### **6. Conservation Subdivisions**

The County should adopt regulations promoting conservation subdivisions. These subdivisions are beneficial through preservation of open space and agricultural lands. Conservation subdivisions should not be located adjacent to permanent agricultural areas due to inherent conflicts of residential development with agricultural use. Development of conservative subdivisions may necessitate some upgrading of infrastructure and services along the 301 corridor.

The design and site planning concepts embodied in many conservation subdivisions are useful tools for open space and forest preservation and are discussed in more detail in sub-section D of this Section. The County must develop specific criteria for identifying where such subdivisions are appropriate in order to make the most of these tools. Location criteria should focus on allowing conservation subdivisions in areas where sewer and water infrastructure presently exists, close to designated rural corridors such as Route 301, and adjacent to existing subdivisions or existing urban development.

## 7. Interim Development Ordinance

Drafting and implementing permanent policies and for the Rural Tier will require approximately 18 months, although validation and issuance of the bond measure may take more time. Reasonable limitations on building permit issuance and development location through adoption of an Interim Development Ordinance (IDO) during this interim period will protect the integrity of the Rural Tier, facilitate the implementation of the recommendations, and ensure that County objectives are not thwarted by a race to development during the transition period.

The IDO should require that the County allocate appropriate resources to ensure the timely adoption of the Rural Tier General Plan amendments and land development regulations. The IDO should delegate responsibilities to County staff to ensure that the appropriate studies and data acquisition are completed and policies and standards are fully considered. The IDO must include a plan for ensuring meaningful public participation in the development of the Plan and regulatory amendments. The IDO should identify the appropriate growth policy and regulations for the interim period.

As discussed more fully above in these recommendations, the County needs to consider the following issues during the IDO period:

- Determination of development density, minimum and maximum lot size for agricultural, environmentally sensitive and rural development lands;
- Raising funds through bonds, mitigation fees and federal, state and private grants;
- Development of priority locational criteria, annual totals, and exemptions for a building permit allocation system;
- Establishment of locations where village and conservation subdivision is development is desirable, within the Rural Tier;
- Coordination with federal, state and other local agencies for leveraging funding streams for the PDR program;
- Adoption of regulations for conservation subdivisions that limit use of lands adjacent to open space or forest lands, rural villages, corridors and centers, and away from permanent agricultural land;
- Development of a real estate disclosure ordinance for all residential development contiguous or close to permanent agricultural lands;
- Creation of density incentives, bonuses and waivers to stimulate use of villages conservation subdivisions and non-agricultural development contiguous to the Developing Tier;
- Establishment of maximum lot sizes for residential development in the Rural Tier with exemptions for a limited number of estate lots;

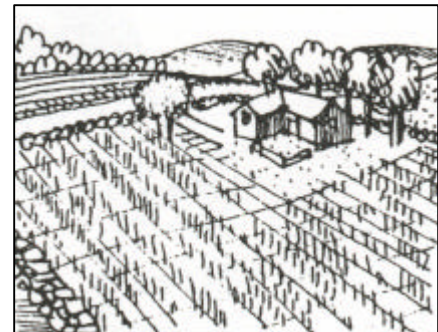
- Revision of current zoning districts and text language to encourage new urbanist villages in appropriate locations within the Rural Tier, including but not limited to the 301 corridor and non-agriculturally viable lands contiguous to the Developing Tier;
- Providing exemptions to the building allocation system to those properties with vested rights, and for one single-family dwelling unit on each parcel;
- Reduction of sequential subdivisions and lot splits by revision of the subdivision regulations and close cumulative impact monitoring by staff;
- Location and priority of sending and receiving area boundaries for TDRs, PDRs, villages and conservation subdivision, including opportunities for upzoning and density bonuses;
- Establishment of evaluation mechanisms and measures for biennial monitoring and tracking; and
- Consideration of changes to the Developing Tier policies and strategies to require timing and phasing of development in an orderly pattern from the Developed Tier outward and along corridors and corridor centers.

### C. Rural Design

As previously mentioned, rural character is an aesthetic condition, which does not lend itself to steadfast quantitative rules. Numeric development standards, such as a 100 ft. front setback, are rigid and may be a detriment to preserving rural character. A qualitative approach can provide flexibility while directly relating to the rural design objective. For instance, requiring that new structures be located below hillcrest lines to preserve landscape views cannot be adequately defined by numeric standards that apply effectively to all property. However, flexibility and objectives require development review decisions that are qualitative. Due to the qualitative nature of rural character, some of the recommendations contained herein are stated as design guidelines rather than absolute standards. Guidelines and standards should be implemented through development regulation revisions and design manuals for public and private use.

The rural design guidelines are intended to shape new development within the Rural Tier under the R-O-S, O-S and R-A zoning districts and should apply to all conditional and by-right development. In some cases these standards and guidelines may not be effective in the R-A zoning district due to the suburban nature of the R-A standards. The guidelines are divided into functional categories describing the primary issue they address. The following rural design standards and guidelines are recommended for incorporation into the County's development regulations.

- Context Sensitive Setbacks
  - To the greatest extent possible, new structures and garage doors shall be located and screened from the view of arterial and collector streets, unless located within a village or hamlet.
  - When located in proximity to historic structures, new structures must be located further from the public road than the historic structure.
  - New structures shall be located to avoid interference with views of unique local focal points



- such as, historic structures, historic sites, landscape views and unique topographical features (**Exhibit 14**).
- All structures new structures must be setback at least 150 feet from rivers, streams, ponds, lakes, wetlands, other significant hydrologic features and arterial streets;
  - To the greatest extent possible, new structures must be located below the crest line of hills.
  - When located on a parcel of land in excess of 10 acres, new structures must be located within 50 feet of a side property line and not more than 100 feet of the front property line, provided that other setback requirements are met and there are no scenic reasons for greater setbacks.
- Fencing
    - When existing vegetation is minimal, fencing adjacent to public or private right-of-way shall consist of natural materials or mimic natural materials.<sup>44</sup>
    - When existing vegetation along public or private right-of-way is sufficient to serve as a buffer, fencing must be located within the vegetation line.
    - Fences shall contain no more than three (3) horizontal split rails.
    - Fences shall not exceed 4 feet in height.
    - Masonry and stone walls shall not exceed 2.5 feet in height.
  - Lot Access
    - Shared Driveways
      - May provide access to a maximum of six (6) dwellings.
      - Shall consist of a 12 ft. to 16 ft. surfaced travelway.
      - Must have only one entrance point from a public or private road.
      - Must be perpetual and established through an access easement, which addresses right of use and maintenance issues.
  - Lot Sizes/Density
    - Minimum lot sizes are less critical than overall densities in retaining rural character, but must be at least 2 acres to accommodate most conventional rural development that relies on wells and septic systems. Smaller lots may be authorized through the conservation subdivision process.
    - Standards for the RA and OS districts should cite maximum densities of one dwelling per 2 and 4 acres respectively in lieu of existing minimum lot sizes.

---

<sup>44</sup> Exceptions shall be made to allow barbed wire for existing agricultural operations.

- Development Scale
  - Existing standards for hamlets establish a limit of 20 to 40 dwellings. This standard would allow relatively limited pockets of housing that could be buffered to minimize the visual impact of rural residential development.
- Buffer and tree retention
  - Existing vegetation
    - Require a tree survey and preservation plan.
    - Viable self-perpetuating tree stands shall be retained.
    - All existing vegetation within 15 feet of subdivision boundary must be retained.
    - Site excavation shall not disturb the root system of mature trees to be preserved.
    - Trees and other wooded vegetation located on public and private rights-of-way and within five (5) feet of the adjacent property frontage must be retained (**Exhibit 15**).
    - Existing vegetation within 50 feet rivers, streams, ponds, lakes, wetlands and other significant hydrologic features shall be retained.

### Exhibit 15: Retained Vegetation Along Right-of-Way

Vegetation Retained Screens Structures



Vegetation Removal Exposes Buildings

*Source: University of Southern Maine and the Maine Arts Commission, The Hidden Design in Land Use Ordinances – Assessing the Visual Impact of Dimensions Used for Town Planning in Maine Landscapes (March 1991).*

- Buffers
  - Where sufficient existing vegetation does not exist along parcel frontage, a planted buffer may be required unless a significant rural view would be obstructed.
  - Establish buffer standards between residential and agricultural uses.
- Lighting
  - Address the types, brightness, height, direction, screening and location of lighting in the Rural Tier.

- Open Space
  - Establish minimum open space requirements for conservation ad conventional subdivisions.
  - Allow in lieu payments to an open space fund within conventional developments.
  
- Minor Collector and Local Road Cross Sections
  - Shall have a 18' to 20' surfaced travelway;
  - Shall have a maximum of two (2) traffic lanes on minor collector and local roads;
  - Shall be designed with ditch and swale drainage, curb and gutter is prohibited; and
  - Shall have sufficient right-of-way to allow for preservation of vegetation adjacent to the road.
  
- Stormwater Management Improvements
  - Use of natural filtration of run-off through vegetated swales or sheet flow wherever feasible.
  - Retain natural drainage patterns where feasible.
  - Limit alteration of stream banks to vegetative stabilization, except where in stream retention or detention is used.
  
- Wastewater Alternatives
  - Where community wastewater systems are available:
    - New Development must connect to the system; and
    - Lot sizes may be reduced through conservation subdivisions.
  - Where private on-site wastewater facilities are used:
    - Wastewater management analysis and system installation plans will be required prior to development approval;
    - Minimum lots sizes may be reduced if common areas can be used for drain fields; and
    - On-site facilities will be subject to periodic facility inspections and health code enforcement, if necessary.
  
- Lot Access
  - Shall have a maximum of two (2) traffic lanes on minor collector and local roads;
  - Shall be designed with ditch and swale drainage;
  - Shall have sufficient right-of-way to allow for public preservation of vegetation adjacent to the road;
  - May be gravel surfaced; and
  - Shall be provided by internal subdivision streets.

- Other Rural Development Considerations
  - No excavation within 100' of a floodplain.
  - Minimize cut and fill.
  - Minimal impervious surfaces, especially in the floodplain.
  - Antennas, towers and other tall structures shall be located to minimize visibility from public or private rights-of-way.
  - Require an “Agriculture Use Notice” or similar right-to-farm measure as a disclaimer of agriculture related nuisances.

## D. Conservation Subdivisions

The County's existing conservation subdivision provisions (referred to as “clustering” in the existing code):

- Fail to address key rural design issues;
- Have provisions that may not be appropriate for rural areas, and;
- Does not establish appropriate location criteria for rural conservation subdivisions.

These significant deficiencies should be addressed through the adoption of rural conservation subdivision provisions within the development regulations and the creation of a conservation subdivision design manual to be used by the development community. While it is beyond the scope of this report to establish specific requirements, the following design guidelines should be incorporated into conservation subdivision requirements.

### 1. Regulatory Provisions

- Establish a voluntary conservation subdivision option that includes density bonus incentives.<sup>45</sup>
- Allow conservation subdivisions as a by right use pattern within a Conservation Subdivision Overlay Zone that includes areas:
  - Zoned R-O-S, O-S and R-A;
  - Located within ½ mile of Developing Tier boundary; and
  - In areas within the Rural Tier where public water and sewer are available.
- Land uses shall be limited to residential, institutional, public facilities, public services and open space uses and appropriate accessory uses with performance standards to minimize land use conflicts.
- Base density shall be:
  - 1 dwelling unit per 2 acres in R-A;
  - 1 dwelling unit per 5 acres in O-S; and
  - 1 dwelling unit per 20 acres in R-O-S.
- Allow additional density for the use of TDRs within the Conservation Subdivision Overlay Zone.

---

<sup>45</sup> Density bonuses may require modifications of existing General Plan policies.

- Residential lot sizes shall conform to the standards in **Exhibit 16** subject to wastewater limitations.
- Rural design guidelines shall apply to the greatest extent possible.

**Exhibit 16: Recommended Conservation Subdivision Lot Sizes**

Zoning District	Minimum Lot Size	Maximum Lot Size
R-A	5,000 sq. ft.	20,000 sq. ft.
O-S	5,000 sq. ft.	40,000 sq. ft.
R-O-S	5,000 sq. ft.	80,000 sq. ft.

## 2. Infrastructure

### Water and Wastewater

Require community water and wastewater service for conservation subdivisions within the R-A and O-S districts.

### Roads

Local roads internal to the conservation subdivision and not connected to adjacent land may be either public or private. In the event, that private roads are established, a Homeowners Association (HOA) or similar organization shall be responsible for the construction and on-going maintenance of the road through an agreement to be approved by Prince George's County. All private roads must allow access to emergency vehicles. Public street improvement standards are required.

Collector and Arterial roads located internal or external but adjacent to a conservation subdivision must be public and provide access to adjacent properties.

### Shared Driveways

Shared driveways are strongly encouraged provided the number of parcels taking access is limited to six (6). Shared driveways shall be established by ingress/egress easement and include a maintenance agreement among adjacent property owners or a HOA. Shared driveways must be constructed to adopted minimum standards, which is modest compared to public road improvement standards.

### Fire Suppression

Where public water is available, require the installation of fire hydrants where water pressure and flow is adequate. Where public water is available, but fire flow is not maintained, require a

standpipe within each cluster. Where public water is not available, require well-filled on-site storage or a pond equipped with an accessible hydrant.

### **Open Space**

**Conservation Theme** - Require each conservation subdivision to establish a conservation theme or set of themes that guide the design and use of open spaces.

**Amount of Open Space** - The amount of open space in conservation subdivisions is determined the combination of density limits and maximum lot size requirements. A minimum of 50% of the land must be preserved to open space uses.

**Use** – Open space may be used for habitat protection, vegetative buffering, forest preservation, passive recreational uses, flood and stormwater management, and/or agriculture production (except animal feeding and processing) in accordance with the approved Conservation Theme.

**Ownership, Management, Maintenance and Duration** – Open spaces must be preserved through a perpetual conservation easement that requires private entity or HOA maintenance and land ownership.<sup>46</sup> The easement must be granted to a qualified conservation organization (land trust) and/or Prince George's County, and must contain a right for third party enforcement. Land Trusts may require an endowment fee, which would be negotiated between the developer and the land trust prior to the establishment of the easement. The County may accept open-space as a park dedication, when such dedication is provided, a perpetual conservation easement with third party enforcement is in place.

**Contiguous with Open Spaces** – Whenever possible, open space must be contiguous with other preserved land areas. Open space within a conservation subdivision must be contiguous to the greatest extent possible and incorporate riparian buffers, agriculture land, forestland, wetlands, steep slopes and critical habitat. Open spaces must be designed to extend existing parks, trails, nature preserves and other preserved open spaces external to the conservation subdivision.

## **E. Villages and Hamlets**

The use of village and hamlet development can be an effective rural development management tool if they:

- Are appropriately located and served by public services;
- Are established as receiving areas for TDRs;
- Are designed with open spaces that:
  - Create a clear and significant separation between development;
  - Connect with adjacent protected open spaces to create a Countywide open space system;
  - Mitigates environmental impacts of the village or hamlet; and
  - Provide passive recreational opportunities.

---

<sup>46</sup> At the County's option a decennial review period may be established.

The existing village zoning districts provisions form a foundation for refinements to accomplish the above referenced effectiveness issues. The following recommended changes would enhance the village and hamlet design's effectiveness as rural population centers:

- Clarify the relationship between villages, cities and hamlets.
- Increase the minimum separation between villages to at least one (1) mile.
- Require TDRs to achieve village densities in the Rural Tier.
- Establish standards for appropriate phasing of village development.

## **F. Other Agricultural Protection Strategies**

The County should warn future homebuyers of potential agricultural/residential land use conflicts through the use of real estate disclosure requirements within the Rural Tier. The seller of such property should be required to inform the buyer that the land or adjacent land is used for agricultural purposes and that there are associated noises, pollutants, and activities that might be offensive to the buyer. Both buyer and seller must sign a disclosure form indicating that they have read and understood the terms of the language. To enhance the protection of agricultural landowners from nuisance suits brought by adjacent landowners, the County should consider requiring that nuisance easements be created over development located in agricultural areas that allow nuisances that result from standard farm practices (e.g., noise, lights, dust, odors).

## Appendix A: 2002 General Plan Rural Tier Policies and Strategies

### Development Pattern Element: Rural Tier Section

**POLICY 1:** Retain or enhance environmentally sensitive features and agricultural resources.

#### Strategies

- I. Consider revisions to tax regulations to provide for a reduced tax assessment for all protected, not just agricultural, land in the Rural Tier.
- II. Consider creating a county program to purchase development rights that would supplement the state's Rural Legacy and other programs to protect valuable agricultural and environmental resources in the Rural Tier (and other Tiers as appropriate).
- III. Investigate options for establishing a transfer of development rights (TDR) program to protect both land in the Rural Tier and important environmental properties in the Developed and Developing Tiers. This investigation should consider the following criteria:
  - "Sending areas" include the Rural Tier and green infrastructure areas in Developed and Developing Tiers.
  - "Receiving areas" are the Centers and Corridors.
  - Density increases are limited to no more than 10 percent over the maximum density that is otherwise permitted.
  - No Adequate Public Facilities (APF) evaluation for transportation would be required for the density increment permitted by the transfer of development rights.
- IV. Develop programs to sustain agriculture as a viable industry and help farmers respond to changing market conditions and consumer demands.
- V. Reinforce programs that promote agricultural industries that are successful in metropolitan locations, such as the nursery and greenhouse business, vegetable and specialty crop production, and the horse industry.
- VI. Utilize agricultural preservation and advisory groups, such as the Agricultural Preservation Advisory Board and the Agricultural Resources Advisory Committee, as a conduit for addressing agricultural land preservation issues.

**POLICY 2:** Design future development to retain and enhance rural character.

#### Strategies

- I. Adopt rural design guidelines and standards to ensure that public and private development projects are designed and constructed consistent with the prevailing character of rural areas including roadway design, setbacks, buffering, tree retention, fencing, screening and building bulk standards.
- II. Identify appropriate locations for large-lot estate development through future master plans and sector plans.

**POLICY 3: Provide for a Rural Tier transportation system that helps protect open space, rural character, and environmental features and resources.**

**Strategies**

- I. Consider the preservation of the rural, scenic and historically significant characteristics of this Tier during the planning, design and construction of any transportation facilities or capacity improvements.
- II. Establish traffic LOS C as the minimum acceptable standard for the transportation system throughout the Rural Tier.
- III. Evaluate measures, such as the use of special impact financing or assessment programs, to encourage or require developer funding of any local road or street facilities or local capacity improvements that are needed to accommodate residential development that is approved in the Rural Tier.
- IV. Assign low priority in the county's Capital Improvement Program (CIP) and Maryland's Consolidated Transportation Program (CTP) to transportation system improvements needed to accommodate the preferred development pattern.

**POLICY 4: Public funds should not encourage further development in the Rural Tier.**

**Strategies**

- I. Assign minimal priority to public sector capital improvements in or for the Rural Tier.
- II. Require the private sector to fund a greater portion of needed infrastructure.
- III. Prohibit extension of water and sewer services into the Rural Tier unless necessary to address existing health problems or if found to be consistent with other county growth policies.
- IV. Designate water and sewer line extension into the Rural Tier as controlled access only.

**Public Facilities Element**

**POLICY 1: Provide public facilities in the locations needed to serve existing and future county residents and businesses.**

**Strategies**

- II. Follow priorities for public sector provision of capital facilities in the Developed, Developing and Rural Tiers. (See Development Pattern section for further discussion of priorities.)
- III. Require the private sector to fund a greater portion of the infrastructure needed in the Developing and Rural Tiers

## **Economic Development Element**

### **POLICY 2: Retain and enhance the county's existing businesses.**

#### **Strategies**

- V. Ensure that land use, development review, and other policy decisions support the retention and growth of existing businesses.
- VI. Foster retention and promotion of the agricultural sector.

## **Urban Design Element**

### **POLICY 1: Provide urban design that promotes the Development Pattern and Economic Development goals of this plan.**

#### **Strategies for the Rural Tier**

- IV. Ensure that the design of new development in rural areas maintains or enhances the existing rural character