OPEN SPACE – CONSERVATION DESIGN OVERVIEW[1]

"Open Space Design" sometimes also called conservation design, comes in many variations depending upon the nature of the county and direction in which the county intends to grow. In Northumberland County, in order to retain its rural nature, land conservation should be one of the central organizing principles in designing new subdivisions. "Conservation" means the significant natural and cultural features are preserved. Our County does not have the problems besetting other counties, especially in Northern Virginia where open space design has other meanings. Many of the subdivisions in our County are planned unit developments consisting primarily of lots whereon each owner was expected to build the home of their choice on whatever timetable fits their own situation. The developers only provide the infrastructure, identify common areas and improvements and perhaps restrictive covenants. The subdivision developers to date have not been interested in selling homes – just home-sites. The focus of the conservation approach outlined below is to be consistent with the rural character of the County and to help preserve it.

The primary purpose of this design approach is to provide landowners and developers with their full legal density in a way that conserves not only the most special features of the proposed development site, but in the long term should provide and protect a number of unique conservation areas extending across the developed parts of the County.

The heart of this design process can be summarized as four sequential steps beginning with the all-important identification of the conservation land that should potentially be protected. Those steps for the proposed parcel are: (1) identifying conservation areas; (2) locating house sites; (3) aligning roads and trails; and (4) drawing the lot lines.

[1] See Randall Arendt, GROWING GREENER, Putting Conservation into Local Plan and Ordinances, Washington, DC: Island Press, 1999 (*Sponsored by Natural Lands Trust, American Planning Association, and American Society of Landscape Architects*.)

An important preliminary step is to identify the amount of land that can be developed on each parcel.

There are two different approaches that can be used to determine the net "developmentable" acreage on any given tract: One is to simply establish a certain percentage of the available land as constrained or to be conserved or as open space and the second is to base the number of lots on a "Yield Plan".

The Yield Plan is used to establish the baseline to determine the maximum number of lots that could reasonably be expected to be achieved through a conventional subdivision layout, given the presence of fundamental building constraints such as wetlands, floodplains, steep slopes and the RPA. The Yield Plan would be a lightly engineered sketch.

Using either approach – fixed percentage or Yield Plan, a four-step design process is followed.

Step 1: Identifying Conservation Areas

Step 1, involving the delineation of the lands to be conserved, which could include agricultural land, is divided into two parts. Part 1 is to locate the inherently unbuildable parts of the property that are wet, flood prone, steep or in the RPA. These are referred to as the Primary Conservation Areas. Part 2 involves selecting a certain proportion of the remaining relatively unconstrained land and designating that as a Secondary Conservation Area. In general, the features that are selected for inclusion in the Secondary Conservation Areas are those which are the most sensitive environmentally, the most significant historically or culturally or the most scenic, or could include an existing farmhouse and outbuildings..

The intent is to arrange the homes in a park like setting full of natural features that all can enjoy (including wildlife) and one begins by defining the open space first.

This exercise will quickly identify the likely core areas of future development on the property. One should then work outward from those cores, careful to recommend for development only those other areas that appear to be least important to conserve when looking at the site as a whole (including its relationship to resources existing on neighboring parcels.

Step 2: Locating the House Sites

The next design step is to identify potential house site locations. Since it is well known that people prefer (and are often willing to pay extra) to see open space from their windows, it makes economic sense to create as many view lots as possible and to provide open space within convenient walking distance from all the other houses. On parcels with waterfront, it is obvious that houses should be located along the RPA line.

Although it is rarely possible to design layouts so that every house has a view over major open space or a view of the water, it is often feasible to give most houses a view or be located in the woods. On developments not on waterfront, at least minor open space, such as a small neighborhood common or village green, or several acres of trees and grass around a small pond doubling as a storm water retention facility and attractively landscaped can be provided.

Once the Primary and Secondary Conservation Areas have been delineated, the remaining lands that stand out as the most logical places to situate the house lots and roads are called Potential Development Areas.

Step 2 involves locating house sites within these Potential Development Areas in a way that maximizes the number of homes enjoying direct views of the conservation land or water.

It is clear that identifying house sites before lot lines and roads allows building locations to be carefully selected so that natural, historical, or cultural features worth preserving, including large trees and other archeological remains can be avoided.

Because it is not always possible to draw the Secondary Conservation Areas sufficiently large to include all these features, some of the less significant areas might fall into those parts of the site slated for development. However, the flexibility of this design approach enables the majority of such features – and all of the best ones – to be designed around.

Step 3: Aligning Roads and Trails

After the conservation land has been at least tentatively identified and potential house sites have been sketched in, the third logical step is to determine the best way to access every property or residence with a road system.

Areas with relatively level of rolling topography pose few road design challenges from an engineering stand point, with the major considerations being to avoid crossing wetlands and to minimize the length (and cost) of new access roads. There are further considerations from an environmental perspective such as avoiding large trees, mature tree stands, or wildlife habitats and some ingenuity may be required or experience from other developments brought to bear on the problem.

Step 4: Drawing in the Lot Lines

The fourth and final step is the easiest, once the conservation areas have been delineated, the likely house sites located, and the road alignments determined.

At this point in the design process, drawing in the lot lines is usually little more than a formality (and one that is unnecessary in condominium developments where all land is jointly owned).

Clearly the most significant aspects of a development from the view point of future residents are how their houses will relate to the open space, to each other, to water and to the road. Lot lines are the least important element in the development design process, yet they and the road pattern are typically the first items to be set down on paper.

Conservation and open space subdivisions become possible only by reducing the overall density or by reducing lot sizes. In other words, the desired result is achieved by building fewer homes, or by building the same number of homes on a smaller portion of the site. Waterfront subdivisions consisting of single family homes would still have the same number of homes on the water, but application of the conservation principles would improve the utilization of the total space and provide more flexibility in the use of the land off the water through significant increases in the amount of common property.