

Growing Greener:

CONSERVATION SUBDIVISION DESIGN

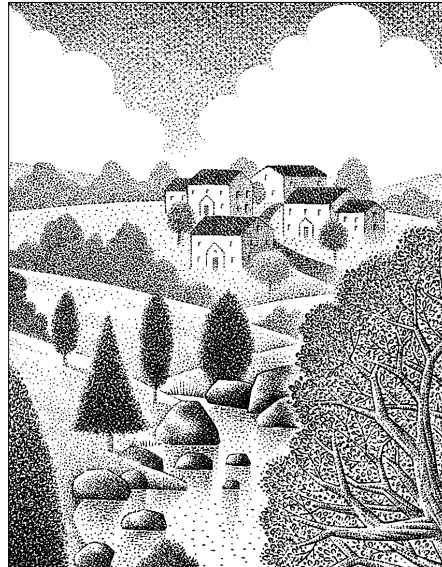
by Randall Arendt

Subdivision regulations are one of the principal tools for shaping our communities. It is through the subdivision review process that communities most directly assure that residential development is designed in a way which promotes community objectives such as the preservation of open space and natural areas.

But to back up a step, why should we be concerned about protecting open space? In a nutshell, by preserving open space we protect streams and water quality, provide habitat for plants and animals, preserve rural "atmosphere," provide recreational areas, protect home values, and reduce costs of municipal services. In short, land conservation makes our communities better places to live.

As you will see on the following pages, the conservation subdivision approach involves small, but significant, changes to the subdivision design and review process. When integrated with comprehensive plan and zoning provisions which encourage the preservation of open space, a community can — over a period of years — protect an interconnected network of conservation lands. Developers can easily become the community's leading conservationists, as each new subdivision adds another link to an area-wide open space system. One Michigan community¹ has, in fact, conserved more than 1,000 acres through this approach in the last eight years, a conservation value of at least \$10 million!

It is critical to realize that conservation subdivision design is not only fair to developers, it actually enhances the value of development. Studies comparing developments built according to conservation design principles with those following more conventional, land-consumptive, layouts show that houses tend to sell faster and real estate values appreciate more with conservation



design. This should not be surprising. Homebuyer surveys show that people strongly desire open space, recreation areas, and scenic views. See pages 8-9 for more on this.

Conservation subdivision design differs in several significant ways from the more familiar "cluster development" approach. Under conservation design principles (as you will see in the model ordinance), full density is achievable only when at least 50 percent of potentially buildable land is set aside. This compares with cluster provisions that frequently require only 25 to 30 percent of the gross land area to be conserved. Moreover, with cluster development this open space is often comprised of left over, undesirable areas such as stormwater management facilities or land under high-tension power lines.

Although clustering has produced a few small "green islands" here and there, conservation design can protect blocks and corridors of permanent open space.

These areas should be pre-identified on a community-wide map of potential conservation lands in the comprehensive plan (see page 11) so that each new development will add to — rather than subtract from — the community's open space acreage.

Another result is that conservation subdivisions make it easier for municipalities to implement community-wide greenway plans, which may depend on developers to provide critical links along particular stream valleys or hilltop ridges.

On the following pages you'll learn more about conservation subdivision design, and how this approach might benefit your efforts to plan for a more liveable community.

1 Hamburg Township, Livingston County.

continued on page 8

Editor's Note: On the following pages, excerpts from Randall Arendt's *Model Ordinance Provisions for Conservation Subdivision Design* are set out, along with discussion of nine key issues — including the "economics" of conservation subdivisions. As a planning commissioner I've found it is often helpful in understanding how a proposal really works to see it in ordinance form. In reading through the model ordinance note, in particular, how the focus is on identifying land to be conserved **before** moving on to locate house sites and streets.

Our thanks to Island Press for allowing us to excerpt from the *Model Ordinance*, which appeared in Arendt's *Conservation Design for Subdivisions* (Island Press, 1996). Note also that Island Press will be publishing Arendt's *Growing Greener Workbook* this Autumn. It will contain illustrated case studies, and much additional material. For information on either publication, call Island Press at: 800-828-1302.

MODEL ORDINANCE PROVISIONS FOR CONSERVATION SUBDIVISION DESIGN

MINIMUM PERCENTAGE OF OPEN SPACE

The minimum percentage of land that shall be designated as permanent open space, not to be further subdivided, and protected through a conservation easement...

A minimum of fifty percent (50%) of the total tract area, after deducting the following kinds of unbuildable land...

wetlands... floodway and floodway fringe within the 100-year floodplain... land with slopes exceeding 25%, or soils subject to slumping... land required for street rights-of-way (10%) of the net tract area)... land under permanent easement prohibiting future development...

LOCATION OF OPEN SPACE

The location of open space conserved through compact residential development shall be consistent with the policies contained in the Open Space, Recreation, and Environmental Resources Element of the comprehensive plan, and with the recommendations contained in this section and the following section ("Evaluation Criteria").

Open space shall be comprised of two types of land: "Primary Conservation Areas" and "Secondary Conservation Areas." All lands within both Primary and Secondary Areas are required to be protected by a permanent conservation easement, prohibiting further development, and setting other standards safeguarding the site's special resources from negative changes.

1. Primary Conservation Areas.

This category consists of wetlands, lands that are generally inundated (under ponds, lakes, creeks, etc.), land within the 100-year floodplain, slopes exceeding 25%, and soils subject to slumping. These sensitive lands are deducted from the total parcel acreage to produce the "Adjusted Tract Acreage," on which density shall be based

2. Secondary Conservation Areas.

In addition to the Primary Conservation Areas, at least fifty percent (50%) of the remaining land shall be designated and permanently protected. Full density credit shall be allowed for land in this category

that would otherwise be buildable under local, state and federal regulations, so that their development potential is not reduced by this designation. Such density credit may be applied to other unconstrained parts of the site.

... The locations of Secondary Conservation Areas shall be guided by the maps and policies contained in the Open Space, Recreation, and Environmental Resources Element of the comprehensive plan, and shall include all or part of the following kinds of resources: mature woodlands, aquifer recharge areas, areas with highly permeable ("excessively drained") soil, significant wildlife habitat areas, sites listed on the [state natural areas inventory], prime farmland, historic, archaeological or cultural features listed (or eligible to be listed) on national, state or county registers or inventories, and scenic views into the property from existing public roads. Secondary Conservation Areas therefore typically consist of upland forest, meadows, pastures, and farm fields, part of the ecologically connected matrix of natural areas significant for wildlife habitat, water quality protection, and other reasons. Although the resource lands listed as potential Secondary Conservation Areas may comprise more than half of the remaining land on a development parcel (after Primary Conservation Areas have been deducted), no applicant shall be required to designate more than 50% of that remaining land as a Secondary Conservation Area.

EVALUATION CRITERIA

In evaluating the layout of lots and open space, the following criteria will be considered by the Planning Commission as indicating design appropriate to the site's natural, historic, and cultural features, and meeting the purposes of this ordinance. Diversity and originality in lot layout shall be encouraged to achieve the best possible relationship between development and conservation areas. Accordingly, the Planning Commission shall evaluate proposals to determine whether the proposed conceptual preliminary plan:

1. *Protects and preserves all floodplains, wetlands, and steep slopes from clearing, grading, filling, or construction (except as may be approved by the governing body for essential infrastructure or active or passive recreation amenities).*

2. *Preserves and maintains mature*

continued on page 10



Mown trail through open space. Stillmeadow development. Waukesha County, Wisconsin.

1 Are conservation subdivision regulations fair to developers?

Conservation Design rearranges the development on each parcel as it is being planned so that half (or more) of the buildable land is set aside as open space. Without controversial "down zoning," the same number of homes can be built in a less land-consumptive manner, allowing the balance of the property to be permanently protected and added to an interconnected network of community green spaces. This "density-neutral" approach provides a fair and equitable way to balance conservation and development objectives.

Conservation zoning is fundamentally fair because it allows landowners



Tot lot in Garnet Oaks development. Bethel Township, Delaware County, Pennsylvania

and developers to achieve full density under the municipality's current zoning.

Although conservation zoning precludes full-density layouts that do not conserve open space, this is legal because there is no constitutional "right to sprawl."

Second, no land is taken for public use. None of the land which is required to be designated for conservation purposes becomes public (or even publicly accessible) unless the landowner or developer wants it to be. In the vast majority of situations, municipalities themselves have no desire to own and manage such conservation land, which they generally feel should be a neighborhood responsibility.

2 The "economics" of conservation subdivisions

The first advantage of conservation subdivision design is the opportunity it offers to reduce infrastructure engineering and construction costs. Because the development pattern is more compact, street and utility costs are reduced. In addition, conservation design can reduce the number of costly wetland crossings needed, since those



parts of the site are within the open space conservation area.

The second advantage occurs during marketing and sales, when developers and realtors can capitalize on the amenities that have been preserved or provided within the development. These positive features can form the basis for an environmentally-oriented marketing strategy highlighting the benefits of living in a community where forest habitat, meadows, wetland buffers, and/or productive farmland has been preserved.

A national survey of homebuyers conducted in 1994 by American Lives revealed that of 39 features critical to their choice, homebuyers ranked "lots of natural open space" and plenty of "walking and biking paths" as the third and fourth highest rated factors affecting their decisions.¹

The "art" of marketing conservation subdivisions emphasizes that buyers of smaller lots are actually purchasing much more than their individual lots. With open space ranging from 50 to 65 percent, sales strategies focusing on this kind of amenity strike a responsive chord among many homebuyers, particularly when lots are laid out to maximize views of the conservation land.

When the conservation area abuts other similar land, as in the community-wide open space network, a further marketing advantage exists.

3 How do residential values in conservation subdivisions compare to conventional subdivisions?

Homes in conservation subdivisions tend to appreciate in value faster than their counterparts in conventional developments. A fairly long-term study comparing two Amherst, Massachusetts, subdivisions built at about the same time, with very similar homes that originally sold for almost the same price, found that homes in the "open space" subdivision (which included more woodlands, meadows, and trails, but smaller house lots) appreciated in

value 13 percent more over a 20 year period than the conventionally designed subdivision (which had much larger individual houselots, but little community open space).²

In conservation subdivisions with substantial open space, there is little or no correlation between lot size and price. These developments have sometimes been described as "golf course communities without the golf course," underscoring the idea that a house on a small lot with a great view is frequently worth as much or more than the same house on a larger lot which is boxed in on all sides by other houses.



Ponds at Woodward development. Kennett Township, Chester County, Pennsylvania.

4 Wildlife management benefits

Conservation biologists tell us that riparian woodlands along rivers, creeks, and streams offer our best hope for creating a system of interconnecting corridors for a variety of wildlife — from aquatic organisms and fish to amphibians and small terrestrial mammals (such as raccoons, muskrats, and otters) — that link the aquatic system to the adjoining upland.

Natural areas preserved in conservation subdivisions provide important habitat for wildlife to dwell in and travel through. The greenways that are one of the hallmarks of conservation subdivision design provide cover and naturally selected corridors for various species to move through, as they travel

¹ See page 5 for citation

² Jeff Lacy, "An Examination of Market Appreciation for Clustered Housing With Permanent Open Space." Center for Rural Massachusetts 1990. For information, call: 413-545-2612.

woodlands, existing fields, pastures, meadows, and orchards, and creates sufficient buffer areas to minimize conflicts between residential and agricultural uses....

3. If development must be located on open fields or pastures because of greater constraints in all other parts of the site, dwellings should be sited on the least prime agricultural soils, or in locations at the far edge of a field, as seen from existing public roads....

4. Maintains or creates an upland buffer of natural native species vegetation of at least 100 feet in depth adjacent to wetlands and surface waters, including creeks, streams, springs, lakes, and ponds.

5. Designs around existing hedgerows and treelines between fields or meadows, and minimizes impacts on large woodlands (greater than five acres), especially those containing many mature trees or a significant wildlife habitat, or those not degraded by invasive vines. Also, woodlands of any size on highly erodible soils with slopes greater than 10% should be avoided. However, woodlands in poor condition with limited management potential can provide suitable locations for residential development. ...

6. Leaves scenic views and vistas unblocked or uninterrupted, particularly as seen from public thoroughfares....

7. Avoids siting new construction on prominent hilltops or ridges, by taking advantage of lower topographic features.

8. Protects wildlife habitat areas of species listed as endangered, threatened, or of special concern....

9. Designs around and preserves sites of historic, archaeological, or cultural value, and their environs, insofar as needed to safeguard the character of the feature, including stone walls, spring houses, barn foundations, cellar holes, earthworks, and burial grounds.

10. Protects rural roadside character and improves public safety and vehicular carrying capacity by avoiding development fronting directly onto existing public roads. Establishes buffer zones along the scenic corridor of rural roads with historic buildings, stone walls, hedgerows, and so on.

11. Landscapes common areas (such as community greens), cul-de-sac islands, and both sides of new streets with native species shade trees and flowering shrubs with high wildlife conservation value....

12. Provides active recreational areas in suitable locations that offer convenient access by residents and adequate screening from nearby houselots.

13. Includes a pedestrian circulation system designed to assure that pedestrians can walk safely and easily on the site, between properties and activities or special features within the neighborhood open space system. All roadside footpaths should connect with off-road trails, which in turn should link with potential open space on adjoining undeveloped parcels (or with existing open space on adjoining developed parcel, where applicable).

14. Provides open space that is reasonably contiguous. For example, fragmentation of open space should be minimized so that these resource areas are not divided into numerous small parcels located in various parts of the development.

ELEMENTS OF THE PRELIMINARY PLAN PROCESS

1. Pre-Application Discussion.

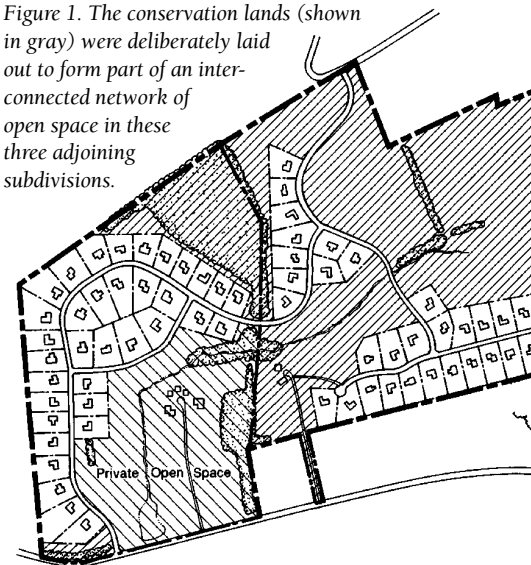
A pre-application discussion is strongly encouraged between the applicant, the site designer(s), and the Planning Commission. The purpose of this informal meeting is to introduce the applicant and the site designer(s) to the zoning and subdivision regulations and procedures, and to discuss the applicant's objectives in relation to the official policies and ordinance requirements....

2. Existing Resources (Site Analysis) Plan.

Plans analyzing each site's special features are required for all proposed subdivisions, as they form the basis of the design process for greenway lands, house locations, street alignments, and lot lines. The applicant or his/her representative shall bring a copy of the Existing Resources (Site Analysis) Plan to the on-site walkabout. Detailed requirements for Existing Resources (Site Analysis) Plans are contained in another section of this ordinance, but at the minimum must include:

- (1) a contour map based at least upon topographical maps published by the U.S. Geological Survey;
- (2) the location of severely constraining elements such as steep slopes (over 25%), wetlands, watercourses, intermittent streams and 100-year floodplains, and all rights-of-way and easements;
- (3) soil boundaries as shown on USDA Natural Resources Conservation Service medium-intensity maps; and
- (4) the location of significant features such as woodlands, treelines, open fields or

Figure 1. The conservation lands (shown in gray) were deliberately laid out to form part of an interconnected network of open space in these three adjoining subdivisions.



from their nests and burrows to their feeding places or hunting grounds.

In addition, conservation subdivisions can include areas managed as wildlife or wildflower meadows.

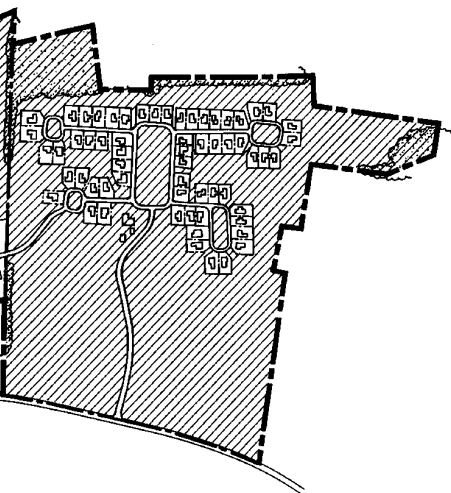
5 Community map of potential conservation lands

Although many communities have adopted either Comprehensive Plans or Open Space Plans containing detailed inventories of their natural and historic resources, very few have taken the next logical step of pulling



View from porch. Farmcolony development. Greene County, Virginia.

continued on page 12



together all that information and creating a Map of Potential Conservation Lands.

Such a map is vitally important to any community interested in conserving an interconnected network of open space. The map serves as the tool which guides decisions regarding which land to protect in order for the network to eventually take form and have substance.

A Map of Potential Conservation Lands starts with information contained in the community's existing



planning documents. The next task is to identify two kinds of resource areas. Primary Conservation Areas comprise only the most severely constrained lands, where development is typically restricted under current codes and laws (such as wetlands, floodplains, and slopes exceeding 25%). Secondary Conservation Areas include all other locally noteworthy or significant features of the natural or cultural landscape—such as mature woodlands, wildlife habitats and travel corridors, prime farmland, groundwater recharge areas, greenways and trails, river and stream corridors, historic sites and buildings, and scenic viewsheds. These Secondary Conservation Areas are often best understood by the local residents who may be directly involved in their identification. Usually these



View from hill. Ponds at Woodward development. Kennett Township, Chester County, Pennsylvania.

resource areas are totally unprotected and are simply zoned for one kind of development or another.

A base map is then prepared on which the Primary Conservation Areas have been added to an inventory of lands which are already protected (such as parks, land trust preserves, and properties under conservation easement). Clear acetate sheets showing each kind of Secondary Conservation Area are then laid on top of the base map in an order reflecting the community's preservation priorities (as determined through public discussion).

This overlay process will reveal certain situations where two or more conservation features appear together (such as woodlands and wildlife habitats, or farmland and scenic view-



Homes backing onto open space. Prairie Crossing development. Grayslake, Lake County, Illinois.

sheds). It will also reveal gaps where no features appear.

Although this exercise is not an exact science, it frequently helps local officials and residents visualize how various kinds of resource areas are connected to one another, and enables them to tentatively identify both broad swaths and narrow corridors of resource land that could be protected in a variety of ways.

Not surprisingly, the most important step in designing a conservation subdivision is to identify the land that is to be preserved. By using the community-wide Map of Potential Conservation Lands as a template for the layout and design of conservation areas within new subdivisions, these developments help to create an interconnected network of open space spanning the entire municipality.

Figure 1 shows how the open space in three adjoining subdivisions has been designed to connect, and illustrates the way in which the Map of Potential Conservation Lands can become a reality.

6 Stormwater management & water quality

Conservation subdivision design offers a more effective and less costly approach to stormwater management than conventional subdivision layout. This is because conservation design causes less disturbance to the subdivision parcel as a whole (leaving a greater percentage of woodlands and meadows in their natural state), providing larger areas of natural vegetation that act as buffers to help filter stormwater.

meadows, scenic views into or out from the property, watershed divides and drainage ways, fences or stone walls, rock outcrops, and existing structures, roads, tracks and trails...

These Existing Resources (Site Analysis) Plans shall identify both the Primary Conservation Areas (floodplains, wetlands, and steep slopes, and Secondary Conservation Areas ... The Existing Resources (Site Analysis) Plan shall form the basis for the conceptual Preliminary Plan, which shall show the tentative location of houses, streets, lot lines, and greenway lands in new subdivisions, according to the four-step design process described below.

3. On-Site Walkabout.

After the Existing Resources (Site Analysis) Plan has been prepared, the Planning Commission shall schedule a mutually convenient date to walk the property with the applicant and his/her site designer. The purpose of this visit is to familiarize local officials with the property's special features, and to provide them an informal opportunity to offer guidance (or at least a response) to the applicant regarding the tentative location of the Secondary Conservation Areas and the potential house locations and street alignments. If this visit is not scheduled before submission of the sketch plan or the Conceptual Preliminary Plan, it should occur soon thereafter.

4. Pre-Submission Conference.

Prior to the submission of the sketch plan or a Conceptual Preliminary Plan, the applicant shall meet with the Planning Commission to discuss how the four-step approach

to designing subdivisions, described below, could be applied to the subject property. At the discretion of the Planning Commission this conference may be combined with the on-site walkabout.

5. Conceptual Preliminary Plan.

After the pre-submission conference, a sketch plan or a Conceptual Preliminary Plan shall be submitted for all proposed subdivisions. As used in this ordinance, the term "Conceptual Preliminary Plan" refers to a preliminarily engineered sketch plan drawn to illustrate initial thoughts about a conceptual layout for greenway lands, house sites, and street alignments. This is the stage where drawings are tentatively illustrated, before heavy engineering costs are incurred in the design of any proposed subdivision layout....

A Conceptual Preliminary Plan shall be submitted by the applicant to the zoning officer who will then submit it to the Planning Commission for review for the purpose of securing early agreement on the overall pattern of streets, houselots, Primary and Secondary Conservation Areas, and potential trail linkages (where applicable), prior to any significant expenditure on engineering costs in the design of streets, stormwater management, or the accurate delineation of internal lot boundaries....

6. Four-step Process.

Each sketch plan or Conceptual Plan shall follow a four-step design process, as described below (See Figure 2 below)

a. *Designating the Open Space.* During the

continued on page 14



Reducing runoff velocity allows stormwater to be absorbed into the soil and be taken up by the vegetation. Buffers also offer important infiltration and "recharge" benefits because they help maintain adequate flows of filtered water to underground aquifers. Aquifer replenishment is essential for maintaining stream flow during dry summer months, which is, in turn, necessary for the health of aquatic habitats.

Although the groundwater impact of an individual development may not be terribly significant, the cumulative effect of hundreds of acres of native woodland and meadows being evenly graded and

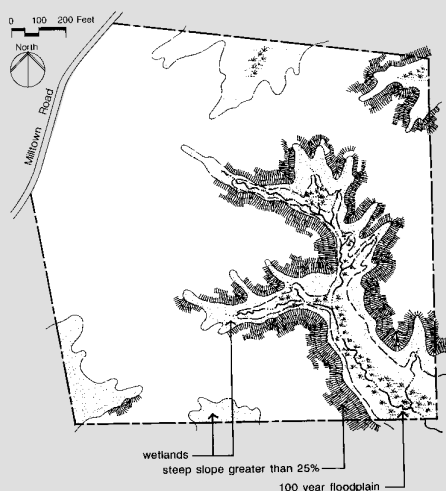
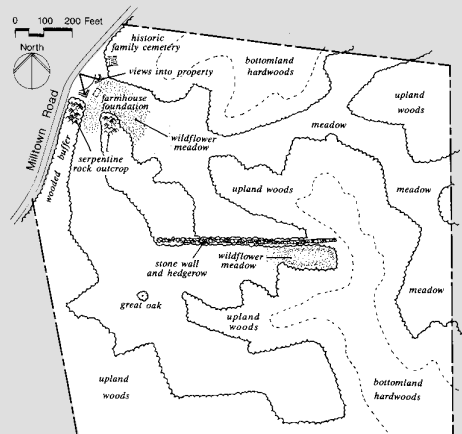
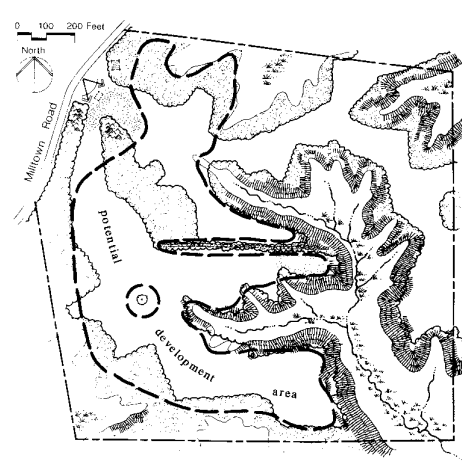


Figure 2. The Four-Step Process. Step 1, Part One. Identifying Primary Conservation Areas



Step 1, Part Two. Identifying Secondary Conservation Areas



Step 1, Part Three. Identifying Potential Development Areas



Creek and meadow. Ranch at Roaring Fork, Garfield County, Colorado.

covered with streets, driveways, patios, rooftops, and lawns (which allow for a surprisingly high amount of runoff) can be very considerable.

By reducing the overall area of impervious surfaces and suburban lawns that would otherwise be created, conservation design reduces the total volume of stormwater runoff.

7 Sewage Treatment

Conservation subdivisions offer greater opportunities to implement environmentally sensitive sewage treatment and disposal systems, known alternatively as “land treatment,”

“spray irrigation,” and “wastewater reclamation and reuse.” These terms describe variations of a well-documented technology that is superior to conventional mechanical systems in many ways because they produce only very small amounts of sludge by-products and help to replenish local aquifers.

With spray irrigation, wastewater is heavily aerated in deep lagoons where it receives a “secondary” level of treatment, similar to that provided by conventional sewage plants. It is then applied to the land surface at rates consistent with the soil’s natural absorption capacity. A growing number of environmentally sensitive golf courses are irrigated and fertilized with wastewater treated in this way. The practice has been well accepted by golfers and nearby residents because it is safe, odorless, and environmentally sound.

Although the conservation design makes it easier to use land treatment systems, a conservation subdivision can, of course, be served by conventional sewage plants, individual septic systems, or community septic systems.

8 Who will own and maintain the conservation land?

Ownership Choices.

There are basically four options, which may be combined within the same subdivision where that makes

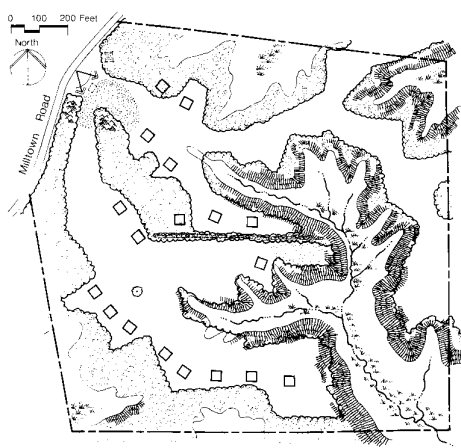
the most sense.

• Individual Landowner

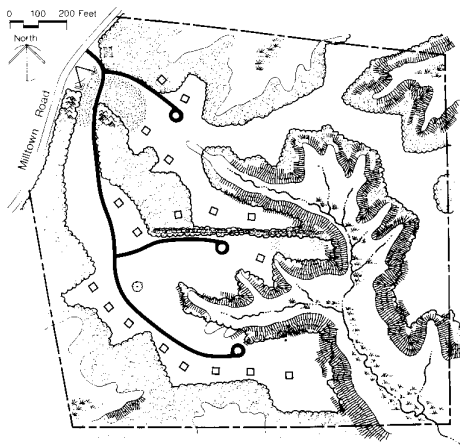
At its simplest level, the original landowner (a farmer, for example) can retain ownership to as much as 80 percent of the conservation land to keep it in the family. (At least 20 percent of the open space should be reserved for common neighborhood use by subdivision residents.) That landowner can also pass this property on to sons or daughters, or sell it to other individual landowners, with permanent conservation easements running with the land and protecting it from development under future owners. The open space should not, however, be divided among all of the individual subdivision lots as land management and access difficulties are likely to arise.

• Homeowners’ Associations

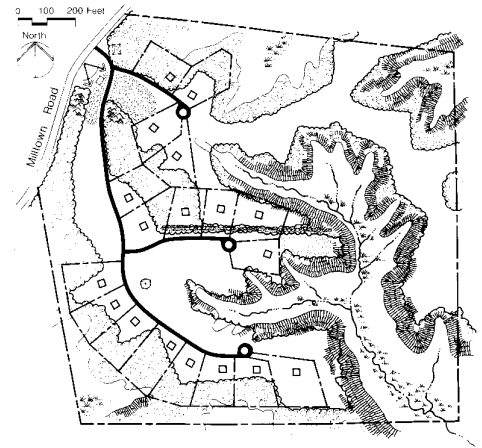
Most conservation land within subdivisions is owned and managed by homeowners’ associations (HOAs). A few basic ground rules encourage a good performance record. First, membership must be automatic, a precondition of property purchase in the development. Second, zoning should require that bylaws give such associations the legal right to place liens on properties of members who fail to pay their dues. Third, facilities should be minimal (ball fields and trails rather than clubhouses and swimming pools)



Step 2. Locating House Sites



Step 3. Aligning Streets and Trails



Step 4. Drawing in the Lot Lines

first step, all potential conservation areas (both primary and secondary) are identified, using the Existing Resources (Site Analysis) Plan. Primary Conservation Areas shall consist of wetlands, floodplains, slopes over 25%, and soils susceptible to slumping. Secondary Conservation Areas shall comprise 50% of the remaining land, and shall include the most sensitive and noteworthy natural, scenic, and cultural resources on that remaining half of the property.

Guidance on which parts of the remaining land to classify as Secondary Conservation Areas shall be based upon:

- the procedures described in *Conservation Design for Subdivisions...*
- on-site visits or "walkabouts"
- the open space locational criteria
- the evaluation criteria
- information from published data and reports, and
- conversations with existing or recent owners of the property, and members of the planning commission.

b. Location of House Sites. During the second step, potential house sites are tentatively located. Because the proposed location of houses within each lot represents a significant decision with potential impacts on the ability of the development to meet the 14 evaluation criteria, subdivision applicants shall identify tentative house sites on the Conceptual Preliminary Plan and proposed house sites on the detailed Final Plan. House sites should generally be located not closer than 100 feet from Primary Conservation Areas, but may be situated within 50 feet of Secondary Conservation Areas, in order to enjoy views of the latter without negatively impacting the former....

c. Street and Lot Layout. The third step consists of aligning proposed streets to provide vehicular access to each house in the most reasonable and economical way. When lots and access streets are laid out, they shall be located in a way that avoids or at least minimizes adverse impacts on both the Primary and Secondary Conservation Areas. To the greatest extent practicable, wetland crossings and streets traversing existing slopes over 15% shall be strongly discouraged. Street connections shall generally be encouraged to minimize the number of new cul-de-sacs to be maintained by the township and to facilitate easy access to and from homes in different parts of the property (and on adjoining parcels)....

d. Lot Lines. The fourth step is simply to draw in the lot lines (where applicable). ...◆



Trail sign. Garnet Oaks development. Bethel Township, Delaware County, Pennsylvania.

to keep annual dues low. And fourth, detailed maintenance plans for conservation areas should be required by the municipality as a condition of approval. The municipality has enforcement rights and may place a lien on the property should the HOA fail to perform their obligations to maintain the conservation land.

• Land Trusts

Although homeowners' associations are generally the most logical recipients of conservation land within subdivisions, occasionally situations arise where such ownership most appropriately resides with a land trust (such as when a particularly rare or significant natural area is involved). Land trusts are private, charitable groups whose principal purpose is to protect land under its stewardship from inappropriate change. Their most common role is to hold easements or fee simple title on conservation lands within new developments and elsewhere in the community, to ensure that all restrictions are observed. To cover their costs in maintaining land they own or in monitoring land they hold easements on, land trusts typically require some endowment funding.

• Municipality or Other Public Agency

In special situations a local government might desire to own part of the

conservation land within a new subdivision, such as when that land has been identified in a municipal open space plan as a good location for a neighborhood park or for a link in a community trail network. Developers can be encouraged to sell or donate certain acreage to municipalities through additional density incentives, although the final decision would remain the developer's.

Maintenance Issues.

Local officials should require conservation area management plans to be submitted and approved prior to granting final subdivision approval. ◆

Randall Arendt is a land use planner, site designer, author, lecturer, and advocate of conservation planning. He is vice president of conservation at the Natural Lands Trust in Media, Pennsylvania. Arendt is



the principal author of *Rural by Design: Maintaining Small Town Character* (APA Planners Press, 1994), and authored "Open Space Zoning: What It Is & Why It Works," in *PCJ* #5 (1992). If you have any questions, you can contact Arendt at: Natural Lands Trust, 1031 Palmers Mill Rd., Media, PA 19063; 610-353-5587. More details on the Growing Greener approach outlined in this article can be found at the Natural Lands Trust web site: www.natlands.org

P.O. Box 4295, Burlington, VT 05406 -- Telephone: 888-475-3328 -- FAX: 802-862-1882

License Fee to Print or Make Up to 20 Copies of Article

Please note that if you initially paid for the right to print one copy of this article (and/or store on one computer) and you now want to print or make additional copies of this article (up to 20 copies) you need to return this form to us with an additional payment. The license fee depends on the length of the article. Use the following table for calculating the license fee for each article:*

1 page article: add'l \$5.00	4 page article: add'l \$9.50	7 page article: add'l \$14.00
2 page article: add'l \$6.50	5 page article: add'l \$11.00	8 page or longer article: add'l \$15.50
3 page article: add'l \$8.00	6 page article: add'l \$12.50	

* Partial page is considered a page when determining article length (e.g., fee for 2½ page article would be \$8.00). Call us for fee if you want to make more than 20 copies of an article.

You can either enclose a check (payable to: Champlain Planning Press, Inc.) or use your credit card (Visa, Master Card, or American Express).

List article(s) you are enclosing payment for (you can use one form if you want additional copies of more than one article; list each article, using reverse if necessary):

Your name & address: _____

Your e-mail address: _____

Please return this form with your payment. Mail to:

Planning Commissioners Journal, P.O. Box 4295, Burlington, VT 05406

If you are paying by charge card, please complete below:

Card # _____ Exp.: _____ (mo/yr)

Name on card: _____

Cardholder address: _____

Phone #: () _____ Authorized signature: _____

Please call us if you have any questions: 888-475-3328 (toll free)