

# RURAL CLUSTER DEVELOPMENT GUIDE



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# PREFACE

This Planning Guide presents the concept of rural cluster development and illustrates how that concept may be applied as a planning and zoning technique in Southeastern Wisconsin communities. While the concept has been applied to urban development within the Region for many years, its applicability to rural areas has generated renewed interest within the Region.

This renewed interest in cluster development is a result of the increasing concern of residents and local officials over the loss of open space and the rural character of the landscape in their communities. There is a growing dissatisfaction with conventional, large-lot development patterns that simply do not conserve landscape character and, in fact, during the normal course of development, usually serve to destroy the significant features that frame it: woodlands, wetlands, hedgerows, cropland, pastures, prairies, scenic views, and wildlife habitat. Conventional rural residential development is, in part, the result of the provisions in local zoning ordinances that require an even distribution of lots across a development parcel, regardless of its natural features.

In spite of attendant diseconomies, inefficiencies, and adverse environmental impacts, the demand for housing in rural areas will not soon diminish. The quandary for local officials is how to continue to meet this demand and still conserve the rural landscape character of their community and avoid the creation of costly environmental and developmental problems. A useful technique for accomplishing this objective is "clustering." Very simply, clustering involves the grouping of dwellings on a portion of the development tract, preserving the remainder of the parcel in open space. The concept of cluster development is applicable to almost any residential zoning district and there is great flexibility in how a cluster zoning ordinance may be adapted to existing local ordinances.

This Guide is intended for use by anyone interested in learning more about the concept of cluster development and how it may be implemented in ordinance form. It gives an overview of the concept, describes how comprehensive planning goals for open space preservation may be achieved through the use of cluster development, guides the reader through the design process, explains how clustering may be implemented in local zoning and subdivision control ordinances, and describes the various options for the management of the open space created by cluster development. The appendices are further guides to implementation, including model zoning ordinance and model subdivision control provisions for cluster development.

This Guide is not intended to be applied without regard for local conditions, nor is it intended to supplant necessary professional planning, engineering, and legal advice at the county and local levels of government. The Guide assumes the existence of duly constituted county and local planning agencies charged with carrying out the public planning function and is intended to assist those agencies in the performance of their functions and duties.

The *Rural Cluster Development Guide* was prepared by the staff of the Southeastern Wisconsin Regional Planning Commission; any questions concerning its content and use should be addressed to the Commission. Commission staff are available to assist counties and local municipalities in applying the concepts in this Guide and in the adaptation of cluster provisions to local zoning and subdivision control ordinances. It is the hope of the Commission that the *Rural Cluster Development Guide* will be a helpful and informative aid to all those interested in conserving the rural landscape character of their communities, while still accommodating the demand for rural residential development.

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## CHAPTER I

# AN OVERVIEW

### **CLUSTER DEVELOPMENT DEFINED**

Cluster development, quite simply, is a means of preserving open space while permitting residential development. This is done by grouping, or “clustering,” the dwellings on only a portion of the development parcel, thereby preserving the remainder of the parcel in open space. This grouping or clustering of all the permitted dwellings into a small area is made possible by reducing the individual lot sizes. For example, in a conventional zoning district requiring a minimum lot size of five acres, 17 dwellings may fit on a 100-acre parcel. The dwellings would be distributed evenly across the parcel. Under cluster zoning, however, a reduction in lot size would be permitted. The degree of reduction can vary from one municipality to another, depending upon the particular open space preservation objectives of each. For the purposes of this example, if the lot size reduction were 5 to 1, a lot area of one acre would be permitted. Those same 17 lots would, then, occupy only 17 acres of the site, leaving 83 acres preserved in permanent open space. The advantage of cluster development is that in this example each resident would have 84 acres to enjoy, a one-acre private lot plus 83 acres of common open space, while under conventional development each resident would have only five or six acres (see Figure I-1).

### **Benefits of Clustering**

Not only do the residents of the new development benefit from clustering, but the residents of the community at large can enjoy the open space and preserved landscape character each time they drive, bicycle, or walk by. In addition to enjoying the open space visually, community residents may also be permitted to access the land physically for passive or active recreation.

Cluster development provides an option for open space preservation that can be exercised with the submittal of every development within a cluster zoning district. While not preserving an entire site, cluster development can preserve a large part of it without cost to the municipality. The municipality does not need to purchase the land to preserve it. And if the regulations in the zoning ordinance require the open space to be located in a way that preserves enough of the special rural features of a site, the meadows, wetlands, woodlands, or hedgerows, then the rural character of the landscape need not be lost. With proper site planning and design guidelines for the open space as well as for the developed areas, the housing sites, a community and a developer can work together to achieve open space preservation goals.

Cluster development is a type of growth management tool that controls the location of residential development within the boundaries of a development parcel. It does not artificially control the rate, timing, amount, or location of development within a municipality overall or regionwide. It simply manages the residential development that would occur through normal market forces by controlling how much land that development occupies and where the dwelling-occupied area should be on a particular parcel.

Comprehensive planning should precede the implementation of cluster zoning so that when open space acreage is proposed for a development parcel, the municipality will know where the open space should be located and how it should be configured to enhance an overall municipal open space plan (see Figure I-2). For example, a parcel may be located adjacent to planned open space systems in the municipality, such as environmental corridors or recreational trails. Cluster

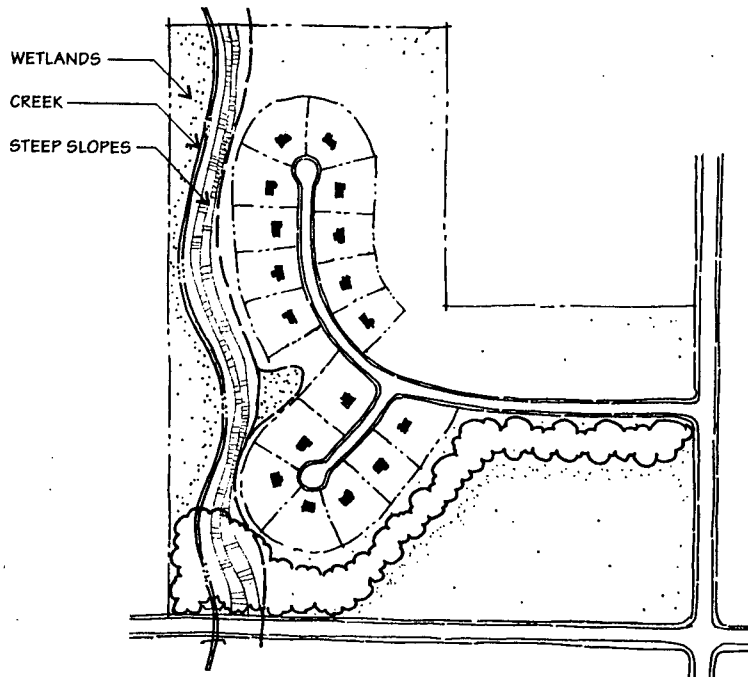
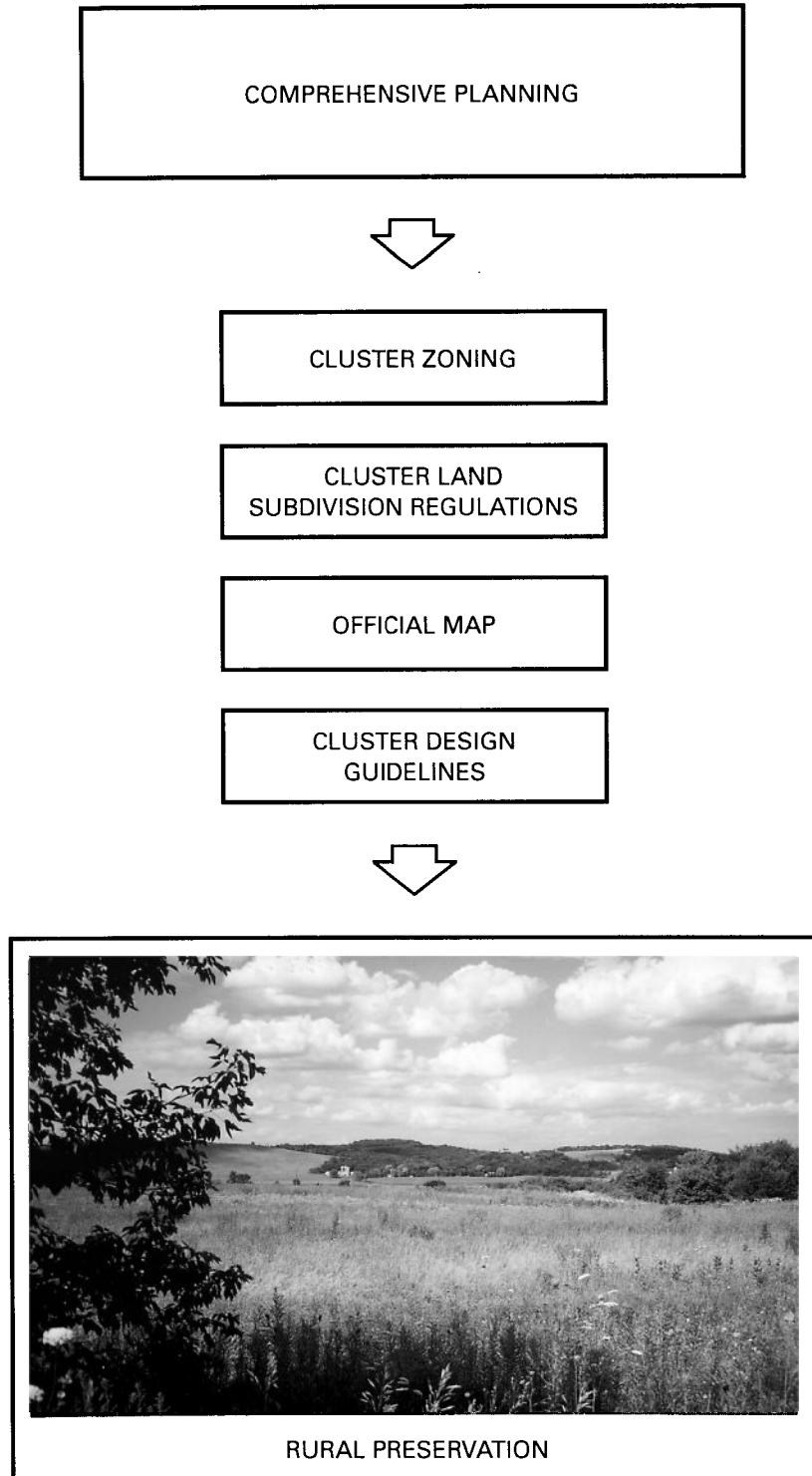


Figure I-1. Through a reduction in lot size, open space can be created without losing density.



**Figure I-2.** Comprehensive planning should precede the implementation of cluster regulations as a means of growth management.

development can provide links for such systems that could be lost under conventional development. Additionally, specific locations for proposed parks for active or passive recreation previously identified in a community open space plan can be accommodated within cluster developments.

In addition, an evaluation should take place to determine the particular landscape character of the development parcel and the specific inherent features or areas that should be preserved. These may be topographic and other natural features such as steep slopes or ridge lines, wetlands, woodlands, specimen trees standing alone, streams, or floodplains. These areas, combined with the applicable open space elements of the broader municipal plan, should form the framework for the overall open space to be preserved on the parcel.

### **Common Misconceptions**

To understand further what cluster development is, it is helpful to understand what it is not. A common misconception is that cluster development means higher densities of development. Because most people are used to thinking in terms of lot size, a reduction in lot size would appear to mean an increase in density. But this is true only if the entire development parcel is permitted to be covered by lots. In a cluster development only a small portion of the parcel is occupied by lots; the number of lots permitted is usually no more than under conventional zoning.

There can be much confusion over the term “density.” It is helpful to separate the concepts of “density,” “lot size,” and “yield.” The expression “five-acre density” means the number of permitted dwellings on a development parcel as determined by dividing the gross area of the parcel by five. For example, a 100-acre parcel with five-acre zoning could be said to have five-acre density, permitting twenty lots. However, twenty lots of five-acres would not fit on a 100-acre parcel because some land would be needed for public streets; because of layout inefficiencies, perhaps only 18 lots would fit. The number of lots that can actually fit on a development parcel is called the “yield.” Since the yield is often fewer lots than a straight calculation would indicate, it is clear that “five-acre density” and an actual layout with five-acre lots may not be the same. Figure I-3 illustrates lot size, density, and yield on a 100-acre parcel with a

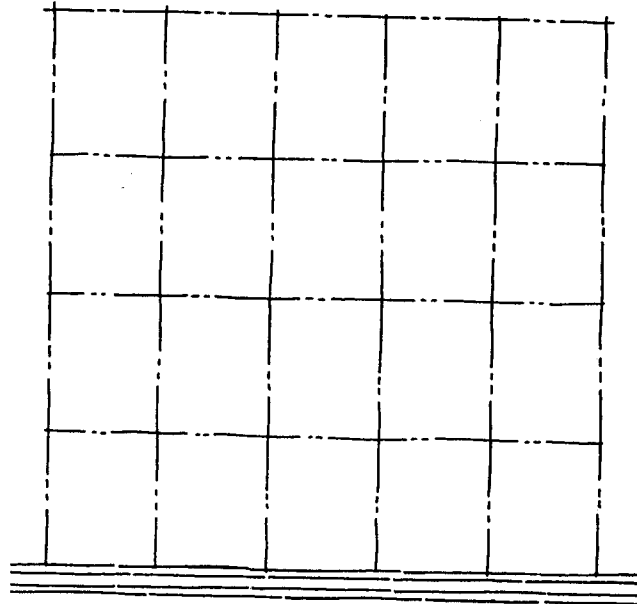
minimum lot size of five acres permitted by zoning. In cluster zoning ordinances, density formulas and lot sizes are handled separately; each subject can be so treated as to meet the objectives of the municipality.

Cluster development can, if a municipality so desires, include an overall increase in the number of dwellings permitted on a parcel compared to the number permitted by the existing underlying zoning. However, unless there is a specific reason for doing this, such as providing an incentive for the developer to choose cluster development over conventional development, many municipalities choose to maintain the same density for cluster development as for conventional development. It should be understood that cluster zoning does not mean an increase in overall density unless the municipality chooses to write the zoning ordinance that way.

Cluster zoning ordinances can be written many different ways. There is great flexibility for the municipality to write the regulations in a way that will help achieve community open space and rural preservation objectives. In any set of cluster regulations three basic elements must be balanced: development density, lot size, and the amount of required open space. As long as a workable balance is maintained between these three elements, the municipality can, for example, opt for the greatest amount of open space achievable, or can limit the minimum lot size, or can put a cap on the density. Whichever choice or limit is selected first, the other two elements can be adjusted to accommodate that choice.

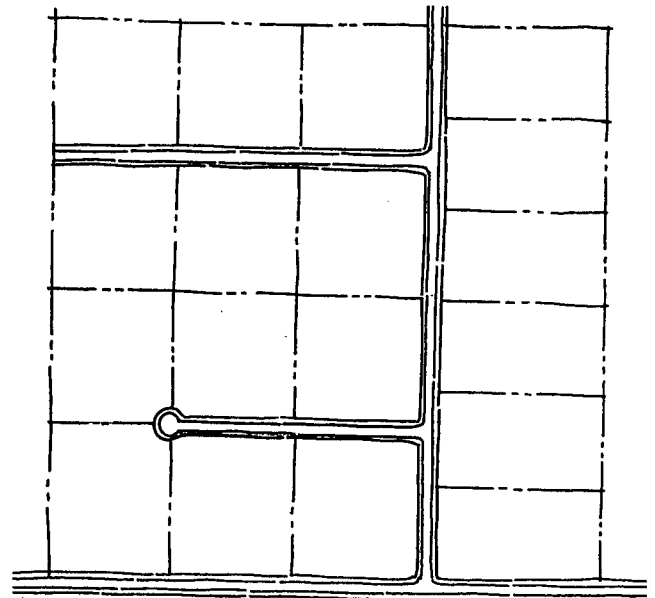
Another common misconception about cluster development is that it will provide housing which is more affordable. It is true that cluster development can sometimes be an effective means of providing affordable housing, because of its ability to increase the density on a parcel through lot size reduction and because street lengths and utility runs can be shorter because of the more compact area of construction. However, achieving the goal of providing affordable housing through cluster development would have to involve a substantial increase in density. If the density on a parcel were doubled from 0.5 dwelling units per acre to 1.0 dwelling units per acre, affordability would increase because the costs of development, land, financing, fees, carrying costs, street and utility improvements, could be spread over twice as many units. However, if density is maintained at the level determined by the underlying

## GROSS DENSITY VERSUS YIELD



5-ACRE MINIMUM LOT AREA

$$\begin{aligned} \text{GROSS DENSITY} &= \text{TRACT AREA} \div \text{MINIMUM LOT SIZE AS PERMITTED} \\ &\quad \text{BY ZONING} \\ &= 100\text{-ACRES} \div 5\text{-ACRES} = 20 \text{ LOTS} \end{aligned}$$



5-ACRE MINIMUM LOT AREA

$$\text{YIELD} = \text{ACTUAL NUMBER OF LOTS ACHIEVABLE} = 18 \text{ LOTS}$$

**Figure I-3.** Gross density results from a calculation, while yield results from a road and lot layout. Gross density is usually greater than yield.

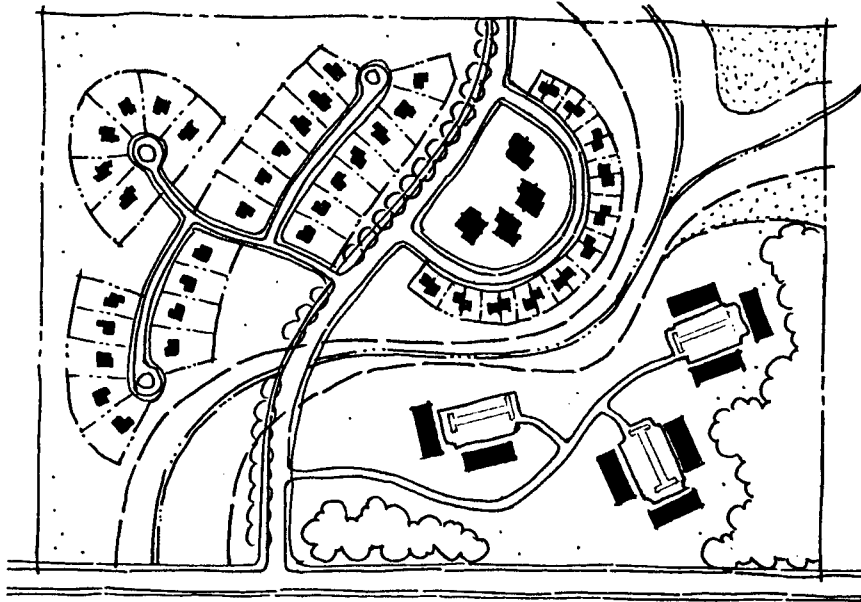
zoning district, it is unlikely that the housing that would result would be any more affordable than what would be built under conventional zoning.

Another misconception is that cluster zoning can be a primary means of preserving prime agricultural lands. In an area like Southeastern Wisconsin, exclusive agricultural zoning is by far the preferred method of preserving prime agricultural lands. Where the option to utilize exclusive agricultural zoning exists, cluster development is a poor second choice as a means of preserving agricultural lands. It must be remembered that whenever residential development occurs in proximity to agricultural activities, some conflicts can occur. Residents may complain about odors, dust, noise, and the use of agricultural chemicals; farm operations may be hampered by vandalism, harassment, or traffic. Thus, permitting the intrusion of residential development, even in clustered form, into agricultural areas is not an ideal

way to ensure the continued viability of the farming community. However, when the only other choice is standard large-lot development, clustering that development provides a good option for preserving some of the farmland and reducing conflicts.

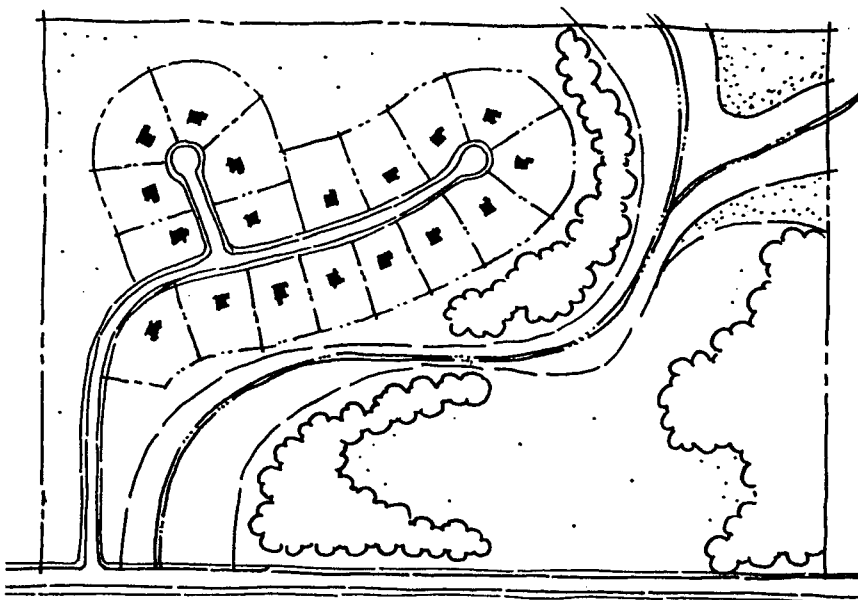
Finally, cluster development should be distinguished from planned unit development (PUD) (see Figure I-4). Clustering of dwellings to create open space is an important characteristic of PUD, but the aims of such developments are typically much broader in scope than are cluster projects. They are larger and contain mixed dwelling types at higher densities, often including such nonresidential uses as commercial and industrial uses. Rural cluster development usually provides for only one dwelling type, usually the single-family, detached residence. Cluster development in more urbanized settings, however, can incorporate attached dwellings.

Figure I-4



**PUD (PLANNED URBAN DEVELOPMENT)**

- MIXED DWELLING TYPES
- GROSS DENSITY: MEDIUM TO HIGH
- COMMON OPEN SPACE 15-40%
- DESIGN GUIDELINES SIMILAR TO CLUSTER DEVELOPMENT



**CLUSTER DEVELOPMENT**

- SINGLE DWELLING TYPE
- GROSS DENSITY: LOW TO MEDIUM
- COMMON OPEN SPACE 50-90%
- USES DESIGN GUIDELINES



Cluster development, then, is a type of residential development that preserves open space. The amount of open space preserved and how it is situated and configured determines the character of the overall development. Early cluster developments tended to provide only 15 to 25 percent open space and often looked much like conventional subdivisions. Recent projects across the country, however, provide as much as 50 to 75 percent open space, sometimes as much as 90 percent, and are quite successful in the preservation of the rural character of the landscape.

## HISTORICAL OVERVIEW

Cluster development has not yet been widely used in Southeastern Wisconsin, but, nevertheless, is not a new, exotic, or unfamiliar type of development even within the Region. A brief historical overview is useful to provide a better understanding of where cluster development fits into the spectrum of planning practices.

Clustering, or grouping, of human dwellings in a fairly compact arrangement, is, historically, probably the most basic form of human settlement. This form of settlement usually included an open common area created by the structure of the dwellings. Throughout history this concept flourished in many cultures, appearing time and again in this country and others. It can be recognized in the New England village centered on a crossroads, the mid-19th-century mill town, and historic country estates and farm complexes (see Figure I-5). The centuries-old appeal of clustering relates to its common-sense approach to housing and lifestyle and responds to the timeless values of security, community, land conservation, energy efficiency, and economy. Clustering has taken a variety of forms in this country over approximately the last 100 years; each form has taken its own approach to providing flexibility in design and sensitivity to the environment in creating livable communities.

### The City

From the 1840s to the early 1900s, massive immigration and rapid industrialization caused American cities to grow rapidly. Wealthier families moved into areas that were direct expansions of the city core, occupying large homes lining the streets of the earliest suburbs.

These families had a variety of transportation options: walking, horse and buggy, and streetcars. However, the less affluent families of those who worked in the mills and factories usually lived very close, within walking distance, of their places of work. Despite the improved conditions for the affluent, cities remained crowded, dirty, and noisy for most middle- and lower-income families.

### Greenbelt Towns

In the 1920s and 1930s a movement arose to improve the living conditions of the American working class. A milestone in this effort was the creating of Radburn, New Jersey. Constructed in 1928, it was built to serve as a model suburban development. Organized to promote community life and environmental considerations by preserving open space, housing groups in the form of superblocks were created, each containing central parks surrounded by two-story single-family houses. This type of layout was a radical departure from the street systems of existing American cities, which were largely grid patterns. Pedestrian paths led from the houses through the central parks to the local school and to nearby shops, separating pedestrian and vehicular traffic. Although Radburn was never completed because of the onset of the Great Depression, this project became the model for what was considered "advanced" planning in America for the next fifty years.

A further outgrowth of this movement was the planning of four "Greenbelt Towns," which were, in part, a response to the "garden city" movement in Great Britain. These new towns were built to assist in local employment, to resettle relocated farm families, and to create model communities to guide future development. They were financed, built, and managed by the Federal government until sold to private enterprise in the 1950s. Three of the four planned towns were built in the mid-1930s: Greenbelt, Maryland; Greenhills, Ohio; and Greendale, Wisconsin. Greenbrook, New Jersey, was never built. These towns were marked by excellent site planning, the use of a functionally differentiated street system, and courts of closely grouped homes that faced onto linear parks crossed by pedestrian paths. Town centers included stores, offices, a school, and recreation centers. The towns were surrounded by isolating greenbelts. Unfortunately, some of the greenbelts were developed for urban uses after the sale of the towns by



**Figure I-5.** A compact grouping of dwellings, churches, and stores at a crossroads or river is the most basic form of early American settlement.

the Federal government. These towns were widely accepted as successful. Indeed, Greendale, Wisconsin, is still widely regarded by its residents as a model community, providing an exceptional urban environment and stable property values. The cluster principles used in the planning of the greenbelt towns, however, were not widely applied elsewhere.

### **Suburbs**

After World War II, population growth, with its attendant demand for housing, coupled with easy financing, the widespread use of the automobile, and the construction of freeways stimulated suburban expansion. Land was relatively inexpensive and with the mass-production techniques adopted by builders single-family homes became widely available. Local governments, in efforts to manage this growth, adopted zoning and subdivision control ordinances that promoted single-use zoning districts, lower density patterns of development

with curvilinear street layouts, uniform lot sizes, and little preserved open space. These land subdivisions were often scattered in a haphazard and diffused pattern.

### **New Towns**

In the 1960s and 1970s, growing concern about the monotony, excessive land consumption, and expensive infrastructure requirements of the post-World War II urban development led to the “new town” movement in the United States. This was again based on the British concept of the garden city and on the greenbelt towns in America. Reston, Virginia, and Columbia, Maryland, on the East Coast, and Irvine and Valencia, California, on the West Coast, were the first of these new towns. Thirteen additional new towns, including Jonathan, Minnesota, and Norris, Tennessee, were built across the United States in the 1970s, funded in part by the U. S. Department of Housing and Urban Development.

A major feature of these new towns was the clustering of homes and other uses on the more buildable portions of the site with the remainder of the tract left open. Such environmentally sensitive areas as steep slopes, stream valleys, or wetlands were preserved and provided recreational opportunities for residents of the community. The new towns were organized into several villages around a town center. With higher-density housing sited close to the town center, single-family housing was clustered within open space networks. An important difference between these new towns and older cities and suburbs was a clear street hierarchy that moved traffic from residential cul-de-sacs to regional highways. This meant that traffic volumes in residential areas remained low, creating a pleasant, safe atmosphere.

These new towns demonstrated that cluster housing was marketable and that many families preferred a community with large amounts of open space, even though their individual lot sizes were reduced. Additionally, the concept of homeowners associations as a means of managing open space and other common amenities became more widely accepted by builders and buyers.

### **Early Cluster Development**

Concurrent with the new town movement, individual cluster developments were undertaken in the early 1960s as a reaction to a growing perception that typical suburban development was not responsive to the environmental constraints of a site or to the social needs of its residents. A trend toward more flexible development controls began. Early cluster developments included both attached and detached single-family homes, grouping the dwellings on the most buildable parts of the site while preserving a portion of the site in open space. By shortening streets and utility runs, builders could realize significant savings and pass these on to potential buyers. Wisconsin examples of such early cluster developments with single-family detached dwellings include Ville du Parc and Lac du Cours, both in the City of Mequon, Ozaukee County (see Figures I-6 and I-7). Other states with such early cluster developments include California, Colorado, Connecticut, Georgia, Illinois, Kentucky, Massachusetts, Maryland, Missouri, New Jersey, North Carolina, South Carolina, and Virginia.

### **Planned Unit Developments**

Planned Unit Development (PUD) ordinances developed in the 1970s in response to continued local governmental desires to permit more flexible and creative planning of neighborhoods so as to provide community benefits and protect environmental features. Many existing zoning ordinances in Southeastern Wisconsin include PUD provisions.

Clustering of dwellings to create open space is a primary characteristic of the PUD. Both clustering and PUDs use a more flexible approach to development, but there are some basic differences. The PUD concept is broader in scope. PUDs are usually much larger, ranging in size from campus-type developments to small new towns, often marketed around a special theme or amenity, such as a golf course. They also involve mixed uses, including various residential types, such as single-family detached, townhouses, garden apartments, and commercial and, sometimes, industrial, uses. Cluster development is usually limited to single residential uses. PUD usually permits a higher density and has a more urban form, while cluster development may or may not permit a higher density and is more adaptable to rural areas. In recent years cluster development has usually complied with existing zoning with respect to overall density and use. Finally, a more complex review and approval process has been the norm for PUD, while in recent years, clustering has often been permitted by right.

### **Modern Cluster Development**

In the 1960s cluster development was not widely permitted in zoning ordinances outside PUDs, but by 1980 many communities permitted nonPUD clusters. Most of these communities, however, still required a more stringent review process for cluster development than for conventional subdivision. Experience has shown, however, that in communities where clustering is encouraged by local officials and permitted as a use by right, similar to conventional subdivision, developers are more interested in using the cluster form of development than in communities with a complex review process.

Not only is cluster development becoming widely accepted as a flexible, site-responsive form of single-



**Figure I-6.** Lac du Cours, in the City of Mequon, is an example of early cluster development in Southeastern Wisconsin.



**Figure I-7.** Open space adjacent to the perimeter road at Lac du Cours, City of Mequon, preserves rural character.

family residential development, it is also becoming more common for municipalities to make clustering mandatory. In Massachusetts one-third of the towns encourage clustering as an option for developers and over a third of the municipalities in Montgomery, Chester, and Bucks Counties, in the Philadelphia metropolitan area, permit cluster development; several mandate it. Several rural towns in southern Maine and upstate New York have mandated clustering for many years. Towns in Massachusetts, New Hampshire, Maryland, and Pennsylvania include mandatory clustering as part of their growth management strategies. A partial list of other states with municipalities that encourage cluster development includes Michigan, Missouri, Illinois, Minnesota, New Jersey, Virginia, Washington, South Carolina, Vermont, and Connecticut.

There is a great variety in the types of regulations found in modern cluster zoning ordinances regarding lot size, density, and open space requirements. However, several overall trends can be identified.

1. Cluster development is often used in conjunction with a variety of other comprehensive plan implementation techniques as part of an overall growth management strategy.
2. In addition to all its previous applications, cluster development is being recognized as a viable means of preserving landscape character and, when enough open space is required, true rural character. Cluster development is commonly being used for this purpose by communities across the country.
3. A greater amount of open space is being required in many communities. Communities have come to realize that, while cluster development that provides only 15 to 25 percent open space can be helpful in preserving specific, environmentally sensitive features, such as wetlands or steep slopes, this amount of open space is not large enough to have any meaningful impact on the overall character of the development, which tends to look very much like conventional suburban development. When preservation of overall landscape character or open spaces of strong visual

impact are the objectives, 50 to 75 percent required open space is becoming the norm, with 80 to 90 percent not uncommon.

4. Many recent cluster development involve only single-family detached dwellings at a single density. However, modern planned unit developments using cluster design principles still consist of mixed dwelling types at mixed densities.
5. Recognizing that complicated review and approval procedures discourage developers from using the cluster concept, many communities are permitting cluster by right, with no special permits or rezoning required if all specified standards are met; other communities are simplifying the public review and approval process.
6. More communities are including design guidelines for the open space as well as for the developed areas, because of dissatisfaction with the quality of the developments that have resulted from earlier ordinances lacking such guidelines.

#### **THE USE OF CLUSTER DEVELOPMENT IN RURAL AREAS**

As urban development pressures have increased in Southeastern Wisconsin, public concern has grown over the loss of open space and rural character that seems to inevitably accompany what may be otherwise perceived as desirable growth. The disappearance of the qualities that make the Southeastern Wisconsin Region an attractive place to live is caused by the very development that allows new residents to move into the Region. Rolling topography, wetlands, woodlands, hedgerows, streams and lakes, farm fields, and scenic views are distinct features that define the rural qualities which make this area so appealing. But when housing is scattered throughout the landscape in ways that do not respect its special qualities, those qualities can be lost, and, indeed, have been in many areas. Low-density, one- to three-acre suburban housing seeks a rural environment and, in the process of giving each new homeowner a "piece of the country," destroys the very

Table I-1

POPULATION DENSITY TRENDS IN THE REGION: SELECTED YEARS 1850-1990

Year	Urban Population		Rural Population		Total Population	Area (square miles)		Persons per Square Mile	
	Number	Percent of Total	Number	Percent of Total		Urban	Total	Urban	Total
1850	28,623	25.2	84,766	74.8	113,389	4	2,689	7,156	42.2
1880	139,509	50.3	137,610	49.7	277,119	18	2,689	7,751	103.1
1900	354,082	70.6	147,726	29.4	501,808	37	2,689	9,570	186.6
1920	635,376	81.1	148,305	18.9	783,681	56	2,689	11,346	291.4
1940	991,535	92.9	76,164	7.1	1,067,699	90	2,689	11,017	397.1
1950	1,179,084	95.0	61,534	5.0	1,240,618	146	2,689	8,076	461.4
1963	1,634,200	97.6	40,100	2.4	1,674,300	282	2,689	5,795	622.6
1970	1,728,946	98.5	27,137	1.5	1,756,083	338	2,689	5,115	653.1
1980	1,749,238	99.1	15,558	0.9	1,764,796	444	2,689	3,940	656.3
1985	1,730,500	99.3	12,200	0.7	1,742,700	477	2,689	3,628	648.1
1990	1,800,751	99.5	9,613	0.5	1,810,364	512	2,689	3,517	673.2

NOTE: Beginning in 1940, the "rural nonfarm" population is included in the urban total.

The data pertaining to urban land and urban population density for the years 1950, 1963, and 1970 are different from data presented in SEWRPC Planning Report No. 25, due to a refinement of the inventory data.

Source: U. S. Bureau of the Census and SEWRPC.



Figure I-8. When houses on conventional three-acre lots are placed in open fields, rural character is lost.

character of the land that was sought out (see Figure I-8). Often the only reminder of the pre-construction rural character existing on a site is in the name of the subdivision, such as "Walnut Woods" or "Pleasant View." By the time the new residents have moved in, the "woods" and the "view" have long been destroyed and cannot be enjoyed by either the residents or passers-by from the community at large.

It remains a fact, however, that the most desired form of housing in the region is still the single-family home on one to three acres or more. It does not appear likely that the demand for such suburban housing will soon lessen. In fact, housing and population statistics show that the trend over the last three decades has been to house fewer people in more homes occupying more land, reflecting a national trend toward the diffusion of population away from urban centers and further and further out into suburban and exurban areas.

**Development Trends**

This diffusion of population has been well documented in past Commission studies and reports, most recently in A Regional Land Use Plan for Southeastern Wisconsin: 2010, published in 1992. Table I-1 shows the changes in population density as the overall population in the Region grew between 1850 and 1990. Between 1850 and 1970 the region's population grew 15-fold, from about 113,400 persons to about 1.76 million persons. Concomitantly, the overall population density increased from about 42 to about 653 persons per square mile. From 1970 to 1990 the overall population increased at a slower rate, from 1.76 million persons to 1.81 million



**Figure I-9.** The demand for large lots in rural areas are a root cause of urban sprawl.

persons, an increase of about 50,000 persons, or about 3 percent. However, in the urban areas of the Region population densities in that time period decreased substantially, from about 5,100 to 3,500 persons per square mile, while the urbanized area increased from 338 square miles to 512 square miles. This decrease in urban population density actually began in about 1920 and has continued ever since.

A further indication of the trend toward using more land to house fewer people is the fact that while the average household size in the Region decreased from 3.30 to 2.62 persons per household between 1960 and 1990, the typical new house size increased from 1,520 square feet to 2,100 square feet, with many up to 4,000 square feet. The typical new lot size increased from 10,000 square feet to 30,000 square feet.

This regional trend is a reflection of development trends nationwide. It is this spreading out of urban populations across the landscape that is the essence of what has come to be known as “urban sprawl” (see Figure I-9). Urban sprawl has been criticized across the country for needlessly increasing the costs of urban infrastructure facilities and services, for increasing the dependence upon the automobile as the sole mode of transportation, and for causing environmental degradation, loss of agricultural land and open space, a compromised quality of life, and a general loss of a

sense of community. These costs of urban sprawl are often seen as an inevitable by-product of community growth and economic expansion.

Within the Region, urban development has expanded well beyond the first- and second-ring suburbs. In the past 20 years a growing population of nonfarming rural residents has become evident in these exurban areas of the Region. These are persons who seek out a rural living environment, but are not directly involved in any farming activity and do not earn any of their income from farming. They simply like the freedom, privacy, quiet and general environment of the countryside. But it is their homes and accoutrements of life, such as cars, sheds, driveways, boats, mailboxes, lampposts, fences, and manicured lawns, that have often been blamed for the loss of rural character in an area.

Many factors have contributed to the dispersion of urban development and the decline in urban population density in the Region since the 1920s. Within the Region, as well as the nation as a whole, the widespread availability of electric power and telephone service, the practicality of onsite sewage disposal and water supply made possible by the septic tank and electrically powered well, the development of “all-weather” highways, changing household characteristics, and the value the American public apparently places on space in the vicinity of its residence all contributed to the dispersion phenomenon. However, the single most influential factor since the 1950s has been the widespread ease of automobile ownership (see Figure I-10). Car ownership, particularly multiple car ownership, made it feasible for households to live far away from places of employment, without the need to locate close to sources of public transportation. The automobile became synonymous with the freedom to live anywhere.

Although the automobile provided a perceived freedom to locate anywhere in the countryside, a very practical limitation also existed, which for a time restricted the outward movement of nonfarm persons into rural areas of the Region. This was the need for onsite sewage-disposal systems in areas not served by public sewers and not planned to be served by sewers. Because of soil characteristics that limited proper percolation of effluent from these systems, many areas of the Southeastern Region were not suited for onsite sewage-disposal systems and thus could not be developed.



**Figure I-10.** Widespread automobile ownership since the 1950s has dispersed population into the countryside.

Improvements in technology, however, led to State of Wisconsin approval of the use of alternative sewage-disposal systems, one of which directly impacts development in rural areas: the mound system of onsite sewage treatment and disposal. This system permits the construction of a soil mound for sewage disposal in areas where the natural soils do not have the proper percolation characteristics for a typical in-ground system (see Figure I-11). This onsite mound then functions above the grade as receptor for the tile drainage component of the sewage-treatment system. Mound systems were approved for general use in 1987. Although rural residential development was occurring prior to the development of the mound systems in those areas covered by appropriate soils, the availability of this new technology opened almost all rural areas to development, except for those areas protected by other legislation, such as wetland, shoreland, and floodland zoning. Mounds can be accommodated on lots as small as one acre.

Thus, with easy accessibility to rural areas by automobile and the ability to locate homes almost anywhere with mound sewage-disposal technology on lots as small as one acre, rural residential development is no longer constrained by factors other than economic ones, which include the willingness of rural landowners to sell, the financial strength of developers to build, and the

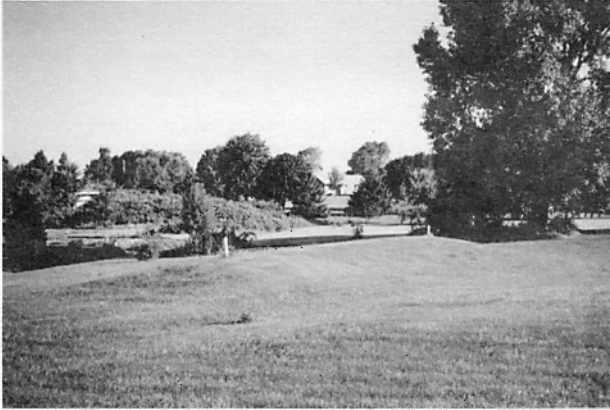
financial power of consumers to buy. It is beyond the scope of this report to discuss the economic factors related to suburban development; however, it is clear that the development pressures in outlying suburban and rural areas is strong in the Southeastern Wisconsin Region. Between 1970 and 1985, land occupied by residential uses increased by over 65 square miles. This was almost a 30 percent increase within just 15 years, from approximately 223 square miles to 288 square miles, about 12 percent more than envisioned in the Commission's adopted year 2000 regional land use plan. Though that plan recommended that new residential density should average about four housing units per net acre, a substantial amount of residential land was developed at lower densities. Seventy-three percent of the overall increase in land devoted to residential uses was for housing on lot sizes of one-half acre or larger, even though 70 percent of all housing units built were at medium or high densities (2.3 to 17.9 dwelling units per acre). Thus, 30 percent of the housing units consumed 73 percent of the land.

With such residential development forces in effect, it may appear that the loss of open space and rural character within the Region is inevitable. If farmers or other rural landowners are willing to sell their land and developers desire to build on it, it may appear that little can be done. However, development and open space preservation are not necessarily mutually exclusive.

#### **Methods for Preserving Open Space**

With creative planning, zoning, and site design it is possible to permit residential development and still preserve the scenic quality of the Region which is so prized by current residents and which may be expected to be sought by future residents. Many techniques have been used by municipalities across the country to preserve open space. These include fee-simple purchase of land, purchase of development rights, transfer of development rights, the use of urban growth boundaries, public land dedication, land ownership by private land trusts and conservancies, preservation easements, deed restrictions, and a variety of zoning techniques such as agricultural zoning, planned unit development, and cluster zoning. Most successful open space preservation programs use a combination of these techniques and do not rely on just one. In Southeastern Wisconsin some of these techniques are already in use, most notably





**Figure I-11.** Alternative onsite sewage disposal systems, such as this mound, have opened almost all rural areas to development.

agricultural zoning, conservancy zoning, planned unit development, deed restrictions, fee- simple purchase of land, public land dedication, and land ownership by private land trusts.

Local units of government interested in preserving the rural qualities of their yet undeveloped land should examine their comprehensive plans, zoning ordinances, and subdivision control ordinances to determine whether or not the proper techniques are in place to reach their rural preservation goals. Municipalities face a choice of either permitting existing residential development trends to continue, which may be entirely appropriate in some areas, or of making some changes in planning and zoning that would permit the preservation of open space and rural character as well as permitting development.

Of the many planning and zoning techniques available for the preservation of open space, this planning guide focuses on residential cluster development, sometimes known as “open space subdivision.” Other quite successful regulatory measures which result in rural preservation of various types already exist in Southeastern Wisconsin. These measures, however, preserve open land primarily through the general exclusion of development. While rural preservation is a direct result of these regulations, it is not necessarily their primary

intent. For example, exclusive agricultural zoning aims at the preservation of economically viable farming and mandates very large lots, 35 acres or larger; State-mandated prohibitions on filling and construction in wetland and floodland areas regulate development; State-mandated shoreland zoning regulates lot sizes, setbacks and construction in shoreland areas along rivers, ponds and lakes; and county and local lowland conservancy districts prohibit development in primary and secondary environmental corridors. There is no zoning technique currently being used in the Region that both permits standard development densities and preserves open space at the same time. Cluster development does. In those areas that are planned for large lot residential development, cluster development generally provides benefits for all parties involved: the landowner, the developer, the future resident, current adjacent residents, conservationists and the municipality.

While cluster development cannot, by itself, solve all the problems of urban sprawl, it can achieve a variety of comprehensive planning objectives. By situating development in creative ways, and following flexible zoning regulations and good site planning guidelines, significant steps can be taken toward preserving the rural character of the Region, while still permitting development to take place. Through the use of cluster development a county or municipality can:

- Reduce the visual impacts of urban sprawl
- Preserve rural character
- Preserve significant natural features
- Preserve environmentally sensitive lands
- Preserve permanent open space
- Preserve agricultural land
- Achieve better site design through flexibility
- Create an opportunity for nonpublic ownership of open space
- Increase the efficiency of infrastructure development

## SCHEME OF PRESENTATION

This planning guide discusses the concept of cluster development and how it may be applied in the Southeastern Wisconsin Region. A definition of cluster development, its place in planning history, and its use as a method of rural preservation in the Region are presented in Chapter I. It is important to note that, while the cluster development concept clearly has application in urban development, this guide focuses on the use of cluster development in rural areas, with the primary objective being preservation of the rural character of the landscape.

Chapter II, "Achieving Comprehensive Planning Objectives Using Cluster Development," identifies the particular comprehensive planning objectives for the Region that may, in part, be implemented by the use of cluster development. The applicable comprehensive planning objectives are selected from the many objectives set forth in SEWRPC Planning Report No. 40, A Regional Land Use Plan for Southeastern Wisconsin: 2010, the adopted plan for Southeastern Wisconsin.

Chapter III, "The Cluster Design Process," describes the cluster development design principles and site planning processes involved in producing an effective plan for a land development based on the cluster concept. A discussion of appropriate land development standards

is included and the issue of providing sewer and water facilities in rural areas is also discussed.

Chapter IV, "Implementing the Cluster Development Concept," provides a background of State legislation empowering local units of government to adopt cluster regulations in their land development control ordinances. It sets forth the many options available as to the cluster zoning regulations a local unit of government may wish to adopt. A discussion of the plan approval process for a land development plan incorporating the cluster concept is included, and regulations that should be included in Subdivision Control Ordinances are described.

Chapter V, "Managing the Open Space in a Cluster Development," presents the various methods of owning preserved open space, legally protecting it from further development, and the tax implications of setting aside open space as part of a land development. Land stewardship of the open space and the need for the good management of the open space created by cluster development is also discussed.

Appendices include a list of annotated definitions, a method for determining a density formula, a model zoning ordinance, a model subdivision control ordinance, typical community association documents, a list of existing cluster developments in the Region, and a list of land trusts in the region. A bibliography is also included.

## ACHIEVING COMPREHENSIVE PLANNING OBJECTIVES USING CLUSTER DEVELOPMENT

In the last twenty years, farmland and other open land in the Southeastern Wisconsin Region was lost to urban development at a rate of 6.6 square miles per year. Many of the physical features that are most significant in framing the rural character of the Region, such as wetlands, woodlands, hedgerows, farm fields, and scenic views, as shown in Figure II-1, have been destroyed during the course of this development. The reaction of local officials and residents has been one of growing concern about the loss of open space and a deterioration of the general quality of the physical environment and rural character of the area. This concern can include an element of disappointed surprise that the residential districts regulated by the local zoning ordinance did not preserve the landscape as they had envisioned and planned.

Developers are often blamed for this irretrievable loss of open space and traditional landscapes. But for developers to build, landowners must be willing to sell their land and consumers must be willing to buy the new houses. The landowner, developer, and homebuyer are the three participants that create the market for residential housing. When the economic climate is such that these three participants can interact, development will occur, but only if a fourth factor is present as well, the proper zoning. Zoning determines the character and type of residential development that will occur. With conventional zoning in place, requiring an even distribution of lots across a development parcel, residential development will mean a continued loss of open space. It should be recognized that development directly reflects what is permitted in the local zoning and subdivision control

ordinances. These ordinances are major determinants of the future character of a community. Unfortunately, what these ordinances actually produce may not agree with the vision the municipality has of its future character or with what is envisioned in its own comprehensive plan. When open space preservation is an objective, conventional residential zoning districts will not attain that objective.

### ZONING AND THE RURAL LANDSCAPE

For a prophetic glimpse into its future, a municipality should carefully examine its own current zoning ordinance. A residential and agricultural zoning district that permits two-acre lots will not retain the rural, much less agricultural, appearance of the community; the community will eventually be fully developed. Two- and three-acre residential zoning is seen by some municipalities as providing for the preservation of the rural character of the community, but the impact on the landscape will be otherwise. Rural character is one in which open or undeveloped space predominates; a true rural character requires about 95 percent of the land to be in open space. A 100-acre farm may typically contain a complex of farm buildings that occupies three to five acres; the remainder of the land is entirely open, interrupted only by occasional hedgerows, woodlands, wetlands, streams, or other natural features. To scatter 30 to 50 houses and several roadways evenly across that farm and expect it to have the same "rural" character is an invitation to disappointment. As shown in



**Figure II-1.** Physical features, such as these large trees, woodlands, and scenic views, help frame the rural character of the region.

Figure II-2, the visual perception of the land is converted from that of agricultural or rural open space to that of conventional suburbia.

Unfortunately, many elected officials and members of plan commissions may not be aware of this difference between their vision of retained rural character and what will actually occur in their municipality through development completed in accordance with their own zoning ordinance. Even if this discrepancy is recognized by

the officials of a municipality, their subsequent efforts to institute typical rural preservation zoning, usually through an increase in lot size and a decrease in development density, may not have the support of landowners affected by the change.

A municipality that wishes to continue to permit residential development in its open areas, but at the same time is not pleased with the result, does have some options available to it. A very useful zoning technique



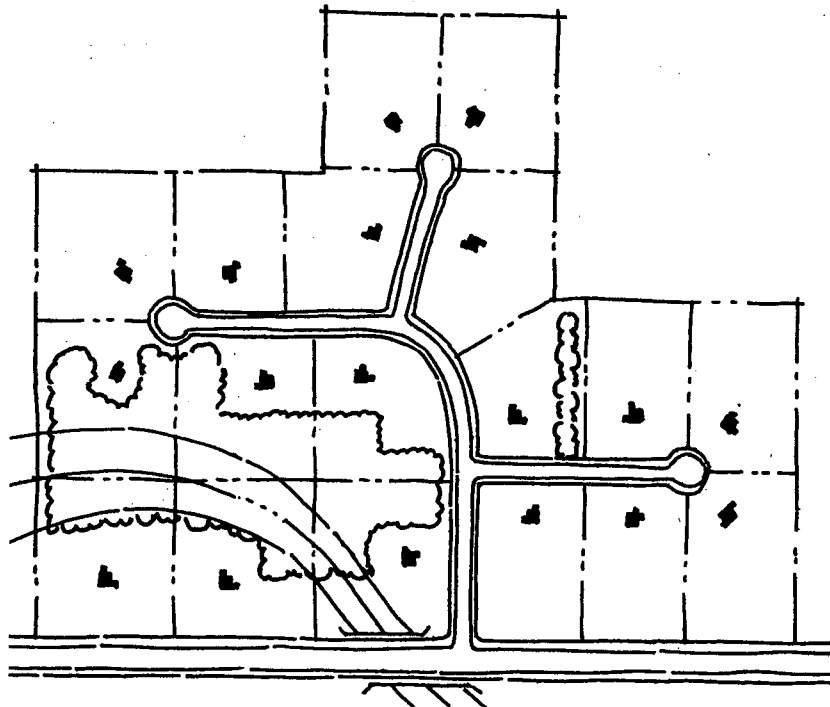
**Figure II-2.** Houses on conventional 3-5 acre lots convert rural open space to suburbia.

aimed at permitting development while preserving open space is “clustering,” or “open space subdivision.” Developments built under cluster regulations concentrate the permitted amount of development on a small portion of the tract, keeping the remaining land in an essentially open, natural state. For example, as seen in Figure II-3, a 60-acre tract zoned for a minimum lot size of three acres would be able to yield approximately 18 lots; 20 lots would not fit, since some additional land is usually lost to roads and inefficiencies of lot layout. Assuming permitted density under cluster regulations is based on the yield, these 18 permitted dwellings would be grouped, or “clustered,” in one area of the tract on lots of reduced size, for example, one-half acre, as stipulated in the cluster zoning ordinance; the remainder of the land becomes permanently protected open space. In this example, the lotted area with streets would equal about 13 acres, with about 75 percent of the tract in open space.

This simple principle should be combined with design guidelines expressed in zoning and subdivision control ordinances to produce a development that can benefit all parties concerned, including landowners, municipalities, developers, and current and future residents of the community. Landowners, often farmers plan-

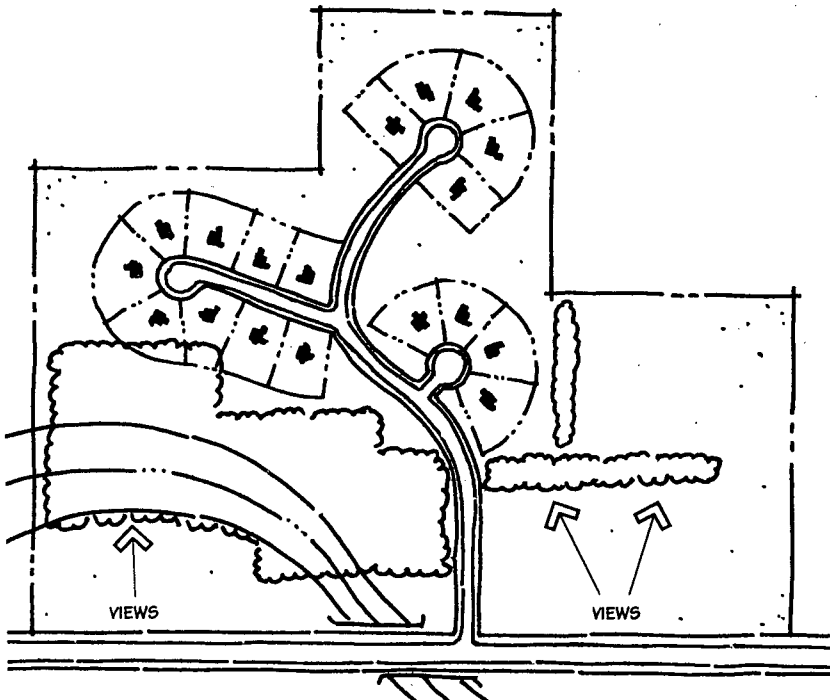
ning for retirement, benefit because the development potential of the land is preserved, land values are not reduced, and profits from a future sale of the land are not diminished. Municipalities benefit because, at less public expenditure than would be required under development under conventional zoning, their objective of preserving the rural character and the quality of life of the community through open space preservation can be met. Developers benefit because they can build at least the same number of houses as conventional zoning would permit and may be able to market a more desirable product. Future residents of the development benefit by being able to live next to permanent open space. Existing residents of the municipality also benefit by being able to continue to enjoy the rural character of the new development as they drive, walk, or bicycle by.

The concept of “permanent” open space is an important one. Not only does cluster development help preserve open space, it preserves it permanently. Under conventional zoning, when new homeowners settle “in the country,” they can enjoy the surrounding fields, meadows, and woodlands only as long as they are not sold by the landowner for development. The adjacent open space is not permanent. It does not belong to the nearby resident who visually enjoys it every day, nor to the



CONVENTIONAL DEVELOPMENT

Acres: 60  
Lots: 18  
Density: 1 Dwelling Unit / 3.3 Acres  
Minimum Lot Size: 3 Acres  
Common Open Space: 0



CLUSTER DEVELOPMENT

Acres: 60  
Lots: 18  
Density: 1 Dwelling Unit / 3.3 Acres  
Minimum Lot Size: 1/2 Acre  
Common Open Space: 75%

Figure II-3. New houses in conventional development are easily seen from existing streets and form a suburban landscape. But clustering can preserve rural views along existing streets.

community. It belongs to someone else and is subject to the operation of the urban land market. It is temporary open space. Cluster zoning permits development to respond to the market, but it preserves open space permanently as well.

### **A TRADITION OF ENVIRONMENTAL PROTECTION**

Open space preservation and the preservation of environmental quality, which are both critical elements in the protection of the rural character of an area, have long been goals of the Regional Planning Commission. A variety of comprehensive planning concepts directed toward achieving these goals have been set forth by the Commission since 1966, when they were first formalized in SEWRPC Planning Report No. 7, Volume Three, Recommended Regional Land Use and Transportation Plans: 1990. They were further refined and updated in Planning Report No. 25, A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin—2000, published in 1977, and in Planning Report No. 40, A Regional Land Use Plan for Southeastern Wisconsin: 2010, published in 1992. Three major concepts resulting in open space, environmental, and rural protection advocated in these plans are: the preservation of primary environmental corridors; the preservation of prime agricultural lands; and the protection of floodland, shoreland, and wetland areas. These concepts are supported by State and Federal regulations. Implementation in the Region has taken many forms, ranging from zoning to grant programs and tax reductions, as described in the regional land use plan reports. The subject of this Guide is how cluster zoning can serve as an implementation technique to help attain some of the comprehensive planning objectives embodied in the regional land use plans, particularly the objective of preserving open space and rural character in the Region.

The concept of clustering residential development is just one of a number of planning and zoning techniques that can be used to preserve open space and rural character. Some of these are already in use in the Southeastern Wisconsin Region and so far have been quite successful in attaining the intended objectives. Cluster zoning can fit very well into this complex of regulatory mechanisms which preserve open space for a variety of purposes and are currently in place in the Region. These include:

1. Park and recreation zoning
2. Floodland, shoreland, and wetland zoning
3. Agricultural zoning
4. Conservancy zoning and rural residential zoning in environmental corridors
5. Rural residential zoning outside corridors

To provide a better understanding of how cluster development can fit into, and work with, these other zoning devices, a brief description of each follows. A more complete discussion of each of these topics is contained in the three regional land use plans mentioned above and in additional, local, planning guides prepared by the Commission.

### **PARK AND RECREATION ZONING**

Park and recreation zoning is often the first type of zoning thought of when considering open space preservation. While it is an important element in a comprehensive approach to plan implementation, it is not the zoning with the greatest impacts on preserving the rural character of an area. In 1985, about 178 square miles of the Region were occupied by outdoor recreation sites, with 74 percent of these sites in public ownership. This area constituted about 6.6 percent of the area of the total Region. Local zoning ordinances vary considerably in their treatment of recreational lands. Some ordinances include exclusive recreational districts which are applied to both public and private recreational land. In 1985, about 35 square miles, or about 1.3 percent of the total area of the Region, were zoned for exclusive recreational open space uses, as recommended by the Commission.

Other ordinances in effect within the Region do not provide a zoning district exclusively for recreational uses, but permit recreational uses within other zoning districts. It is in such zoning districts that cluster development can be instrumental in helping to set aside land for recreational uses. The adopted regional land use plan for the year 2010 recommends that about 6.5 square miles of public recreational land be added to the existing stock of recreational land in the Region. Acquisition of such lands may be accomplished in various ways, ranging from gifts by landowners through dedication

by land developers to purchase by public entities. Outright purchase may be perceived as being too costly for a local unit of government, as might purchase of less than fee interest, as, for example, the purchase of scenic easements. Cluster development would provide another option that could make dedication by developers a more likely occurrence.

Zoning for park and recreational uses which permits such uses in other districts is not seen by the Commission as a primary means for preserving large areas of open space, particularly since intensive recreational uses are the main uses in this category. However, if cluster development were instituted as an option in such districts, it would afford an additional opportunity to acquire public or private park land. When a development parcel is located adjacent to or includes lands proposed for recreational open space uses, those lands can be acquired by the county, city, village or town through the cluster development process, without public expenditure, as shown in Figure II-4. The housing units that would have been permitted on these lands are shifted to locations elsewhere on the site. The public would gain recreational lands at little or no expense and the developer would lose no housing units.

### FLOODLAND, SHORELAND, AND WETLAND ZONING

The Wisconsin Statutes mandate that cities, villages and counties adopt floodplain zoning for their unincorporated areas. Such zoning should be based on the hydrologic and hydraulic data and large scale topographic mapping necessary to accurately delineate flood hazard areas. Local floodland zoning regulation must prohibit nearly all forms of development within the floodway and must also restrict filling and development in the flood fringe. Such regulations have been adopted on a widespread basis in the Region to preserve the natural floodwater conveyance and storage capacity of floodplain areas and avoid the location of new urban development in flood hazard areas. In 1985, six counties and 61 cities and villages had adopted such ordinances. Many local units of government actually exceeded the minimum standards by prohibiting, in accordance with long-standing Commission recommendations, nearly all forms of development in the flood-fringe as well as the floodway areas.

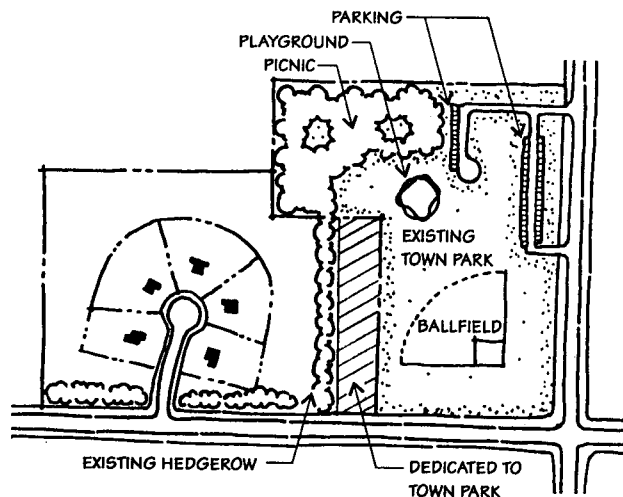


Figure II-4. Open space generated by a cluster development may be dedicated to a municipal park system.

The Wisconsin Statutes also protect shoreland areas; counties are required to adopt special regulations for the protection of shorelands in unincorporated areas. Shorelands are defined as including all land lying within 1,000 feet of a navigable lake, pond or flowage, or within 300 feet of a navigable stream, or to the edge of the floodplain, whichever area is greater. Shoreland regulations are to set forth minimum requirements for lot sizes and building setbacks as well as restrictions on cutting of trees and shrubbery. In 1985, all counties in the Region had adopted such regulations. Each county has also placed all wetlands at least five acres in size lying in shoreland areas in a protective conservancy zoning district, as required by the Wisconsin Administrative Code. Under other sections and chapters of the Wisconsin Statutes and Administrative Code, cities and villages are also required to protect shoreland-wetlands in this manner. By the end of 1989, 20 cities and villages within the Region had State-approved shoreland-wetland zoning regulations in place.

Since the required zoning regulations governing floodland and wetland protection are quite stringent in prohibiting development, other techniques for open space preservation, such as cluster development, are not necessary in those areas. However, in shoreland areas where residential development is permitted, cluster zoning can be instrumental in protecting desirable natural





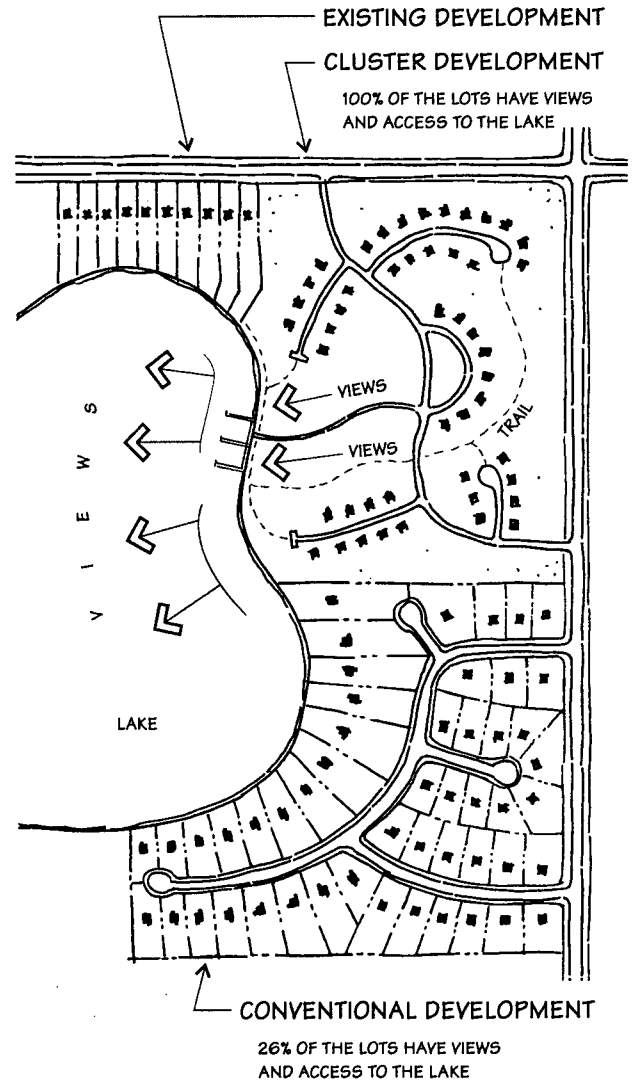
CONVENTIONAL LAKEFRONT DEVELOPMENT PROVIDES ACCESS TO ONLY A LIMITED NUMBER OF LOTS

**Figure II-5.** By using cluster designs in lakefront development, access and views to the lake are opened to all lots, not just a privileged few.

features, particularly scenic views of the water body concerned. In cluster development, rather than providing a waterfront view for a limited number of very expensive homes, through the stringing out of houses along a lakefront or river's edge, the view can be preserved as a community amenity for all to enjoy, while still maintaining desired overall development densities (see Figure II-5).

### AGRICULTURAL ZONING

Agricultural zoning has had by far the greatest impact on keeping land open in the Southeastern Wisconsin Region in a manner that can be described as rural preservation. It is important to note, however, that the true purpose of agricultural zoning is not preserving rural "character," but rather preserving prime farm lands to keep them available for farming as a viable, income-producing industry. But a pleasant by-product of agricultural zoning is the fact that not only is the farming industry supported, but the pastoral, rural qualities attendant to preserved farmland are also preserved. Thus, while for farmers agricultural zoning serves a useful purpose in securing their livelihood, for nonfarming



residents of the area agricultural zoning may be viewed as essentially open space zoning. However, not all agricultural zoning achieves both purposes.

Two main categories of agricultural zoning currently exist in Southeastern Wisconsin: "exclusive" agricultural zoning and "general" agricultural zoning.

"Exclusive" agricultural zoning, attempting to preserve prime farmland in agricultural use, requires a minimum parcel size of 35 acres and restricts permitted uses to farm-related activities. The application of exclusive agricultural zoning received considerable impetus in 1977 with the establishment of the Wisconsin Farmland

Preservation Program. This is a program that combines planning and zoning provisions with tax incentives to promote the preservation of farmland. The minimum parcel size of 35 acres established under that program has become the generally accepted standard for exclusive agricultural zoning. By 1985, 56 percent of all the prime agricultural land in the Region was protected by exclusive agricultural zoning. The largest concentrations of these lands occur in Ozaukee County, Walworth County, and western Racine and Kenosha Counties.

“General” agricultural zoning consists of all other agricultural zoning and is intended to be applied to rural land other than prime agricultural land. The adopted regional land use plan recommends that, in addition to preserving prime agricultural land in exclusive agricultural districts, general agricultural lands should also be preserved as an important part of the economic well-being, natural beauty, and quality of life in Southeastern Wisconsin. Although such general agricultural land should be preserved to the maximum extent possible, it can also serve as a location for rural residential development and as a reserve for future urban expansion. The preservation of these lands should be accomplished through the use of general agricultural or rural-residential zoning districts, limiting density to one dwelling unit per five acres or less. One of the current problems with general agricultural zoning is the widespread use of districts which, in addition to agricultural and open space uses, permit residential development at densities greater than one dwelling unit per five acres, often one dwelling unit per one to three acres. Residential development in rural areas at densities greater than one dwelling unit per five acres is generally inconsistent with, and disruptive to, agricultural use and contributes to urban sprawl. About 35 percent of all land in agricultural zoning districts within the Region in 1985 permitted residential development at densities greater than one dwelling unit per five acres.

Cluster zoning is not applicable to exclusive agricultural zoning districts, but can be very effective in general agricultural districts for reducing the visual impacts of permitted rural residential development. If a local unit of government makes the determination that exclusive agricultural zoning with 35-acre parcels is not appropriate for certain areas and wishes to continue to permit residential development in general agricultural

districts, cluster development can provide a good alternative to conventional lotting patterns. Rather than evenly distributing housing across a development parcel, the houses can be grouped, or clustered, on just a part of the parcel and the remainder kept available for farming (see Figure II-6).

It should be recognized, however, that cluster zoning is residential zoning that functions primarily as an open space preservation tool, not necessarily as a tool for agricultural preservation. While the open space that is preserved can assist in protecting elements of rural character, cluster zoning should not be viewed as a primary means of farmland preservation. That purpose should be served by exclusive agricultural zoning. But cluster zoning ordinances often include in their list of purposes “preservation of prime agricultural land” or “preservation of agriculture and farming.” While it is true that prime agricultural soils can be protected from construction through cluster development, it is not necessarily true that the farming operations that previously occurred on those soils can continue as easily as before. Whenever residential development, clustered or not, intrudes on farming, conflicts can occur.

Farming should be viewed as an industry with a number of activities that are not compatible with residential development. Dust, fumes, odors, chemicals, and noise from machinery and animals, as well as long operating hours, may become problematic when occurring close to residential development. While the situation is sometimes unpleasant for the homeowner, the farmer can also suffer by having his normal farming activities hampered. Nuisance complaints; traffic congestion intolerant of farm vehicles; vandalism resulting in damage to crops; animals, or equipment; trespass by hunters, hikers, and off-road vehicles; horseback riders and pets; harassment and other possible conflicts may preclude efficient farming operations in an area containing residential development. In addition, the intrusion of urban development into agricultural areas will inevitably and significantly increase the costs of local and county governmental services and local property taxes, thereby threatening the continued economic viability of farming operations.

Thus, it should be accepted that areas devoted to active farming are no more compatible with clustered residential development than they are with conventional

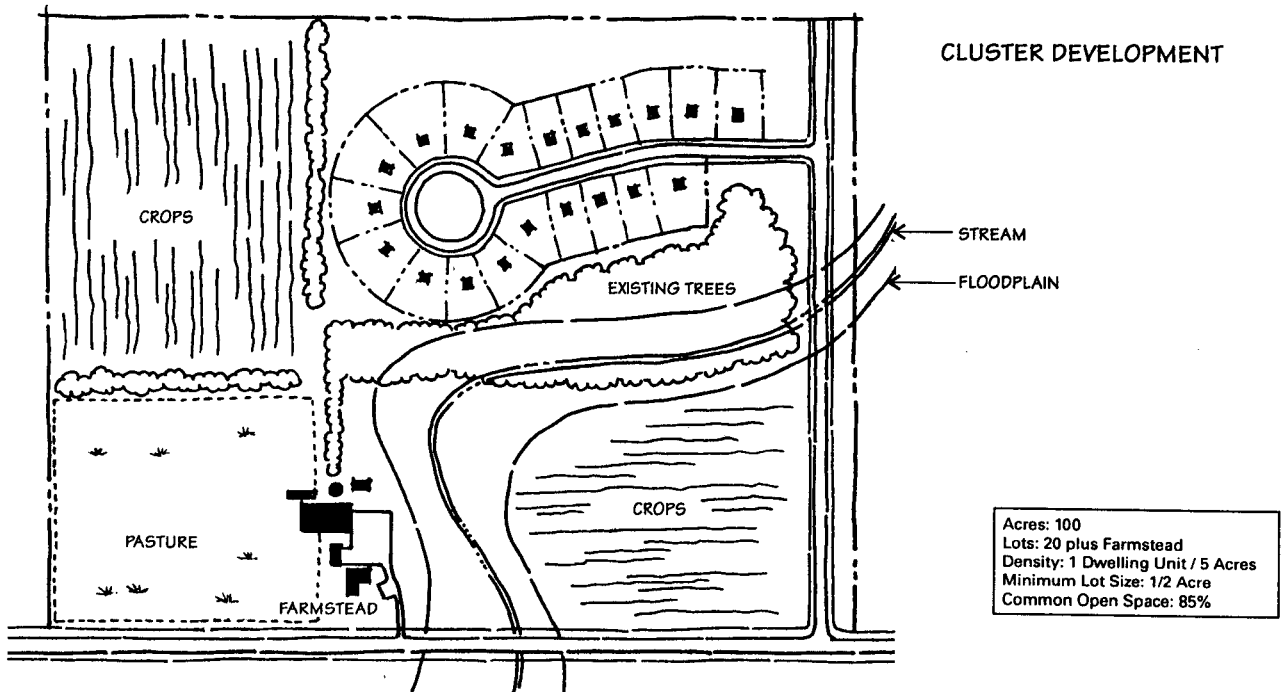
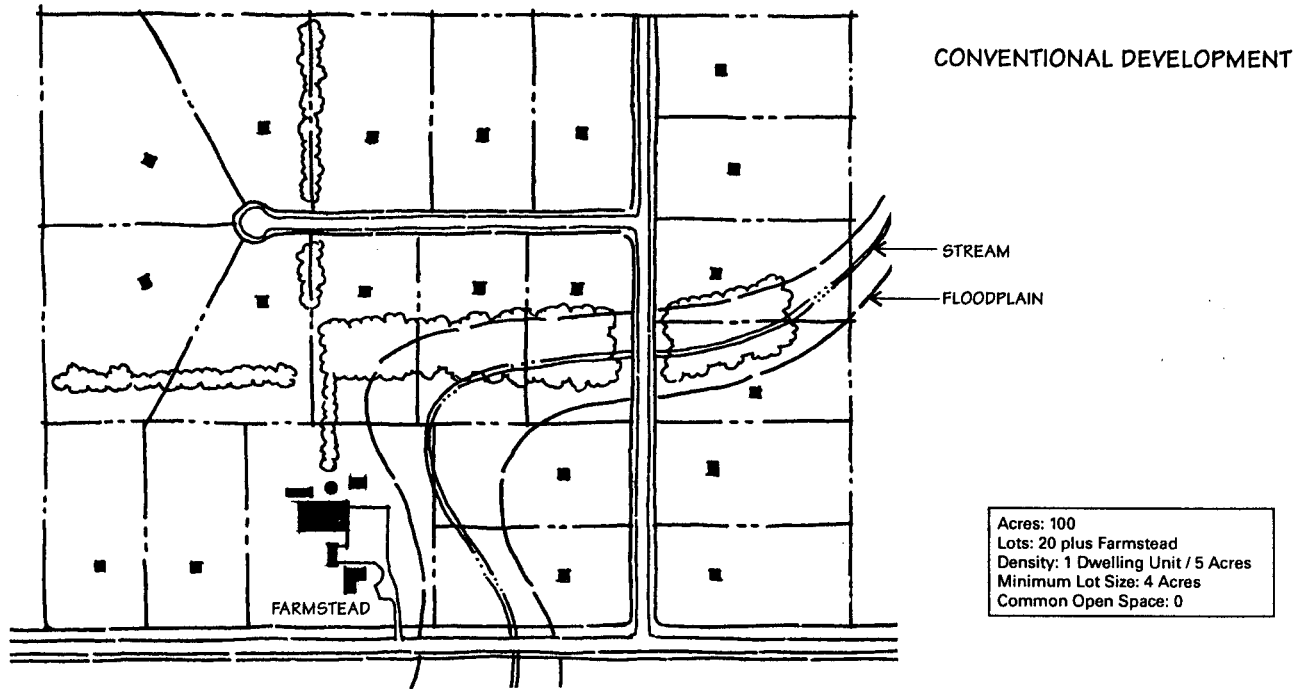


Figure II-6. In general (not exclusive) agricultural districts where residential development is permitted, clustering can help preserve farming activities and rural character.

residential development. The increase in resident population and in traffic generation remains the same; these factors can conflict with the needs of the farming community.

However, when the only choice for residential development in an agricultural area is standard, large-lot development, clustering that development provides a good option for preserving some of the farmland and reducing conflicts. If the nature of the farming activity is changed to be more compatible with residential uses, the chances of attaining a successful interrelationship between the two uses are much greater. For example, the farming of crops is less objectionable than intensive raising of animals. Truck farming, which entails less use of large machinery and more hand labor, is less intrusive than large-scale crop farming. Activities related to the raising of such specialty products as berries, fruits, nuts, honey, flowers, and Christmas trees are also more compatible with residential uses than traditional farming activities. It is possible for certain forms of agriculture and clustered residential development to coexist harmoniously if care is taken to eliminate or reduce the potential for conflicts by choosing compatible agricultural uses, requiring appropriate setbacks, and by implementing effective site planning.

#### **ENVIRONMENTAL CORRIDORS, ISOLATED NATURAL RESOURCE AREAS, CONSERVANCY ZONING, AND RURAL RESIDENTIAL ZONING**

One of the most important recommendations of the adopted regional land use plan is the preservation of the remaining primary environmental corridors of the Region in essentially natural, open land. These corridors were identified in 1963 as part of the original regional land use planning effort of the Commission and subsequently refined under the Commission's watershed studies and regional park and open space planning programs. The concept of primary environmental corridors has been widely accepted throughout the Region. By 1985, 75 percent of the 468 square miles of primary environmental corridors remaining in the Region were fully or partially protected from inappropriate development.

Primary environmental corridors are defined as concentrations of one or more of the following seven elements of the natural resource base which are essential to

the maintenance of the ecological balance and natural beauty of the region: lakes, rivers, streams and associated undeveloped shorelands and floodlands; wetlands; woodlands; prairies; wildlife habitat; wet, poorly drained and organic soils; rugged terrain and high-relief topography (see Figure II-7).

Five additional elements, although not a part of the natural resource base per se, are closely related to that base and, therefore, are also important in identifying areas with scenic, educational and recreational value. These additional elements are: existing outdoor recreation sites; potential outdoor recreation sites and related open space; historic, archaeological, and other cultural sites; significant scenic areas and vistas; natural and scientific areas.

The delineation of these 12 elements within the Region results in an essentially linear pattern of relatively narrow, elongated areas which have been termed "environmental corridors" by the Commission. By definition, primary environmental corridors are at least 400 acres in size, two miles in length and 200 feet in width. Secondary environmental corridors typically connect with primary corridors and are at least 100 acres in size and one mile in length.

Primary environmental corridors are subject to urban encroachment because of their desirable natural resource amenities. Between 1970 and 1990 the area encompassed in primary environmental corridors decreased by almost five square miles, or almost one percent. Unplanned or poorly planned intrusions of urban development into these corridors not only tend to destroy the very resources and related amenities sought by the development, but can create severe environmental problems as well. Because of the many interlocking relationships between living organisms and their environment, the destruction of one element may lead to a chain reaction of deterioration or destruction of the total environment. The destruction of woodland cover, for example, which may have taken a century or more to develop, may result in soil erosion and stream siltation, and in more rapid runoff and increased flooding, as well as destruction of wildlife habitat. Although the effects of any one of these environmental changes may not by themselves be overwhelming, the combined effects of many such incidents may lead eventually to the deterioration of the underlying natural resource base and of the overall quality of the environment needed to sustain



**Figure II-7.** Environmental corridors are often centered on streams and associated floodlands, wetlands, and woodlands.

life. Moreover, corridors, particularly lowland portions of the corridors, are poorly suited to urban development. When such development occurs in the corridors, costly problems may result, including failing foundations for roadways, parking areas and buildings; wet basements; and the excessive infiltration of clear water into sanitary-sewer systems.

Secondary environmental corridors generally lie along intermittent streams or are links between segments of primary corridors. Secondary corridors often contain remnant resources from primary corridors which have been fragmented by agricultural or urban land uses. These corridors facilitate surface water drainage, maintain "pockets" of natural resource features, and provide for the movement of wildlife, as well as the dispersal of seeds for a variety of plant species. Secondary corridors should also be preserved where possible; however, over 600 acres, or about one percent, of the land in secondary corridors were lost to urban development between 1970 and 1990.

The adopted regional land use plan recommends that the preservation of environmental corridors be accom-

plished through a combination of private and public land acquisition and land use regulation. While outright public acquisition provides the greatest degree of protection, it may not be financially feasible for public agencies to purchase all lands needing protection. Requirements for public land dedication and reservation in local subdivision control ordinances can help provide an additional means for the public acquisition of primary environmental corridors, but substantial protection can be achieved through other public land use regulation, including cluster zoning.

Many existing regulations already have a direct bearing on the protection of primary environmental corridors. These include general zoning; floodland and shoreland-wetland zoning; State administrative regulations governing sanitary-sewer extensions; and Federal wetland regulations. These regulations may be supplemented by the local and county lowland and upland conservancy zoning districts in corridors, as recommended in past Commission studies and reports. Lowland conservancy districts, usually districts established for wetland and floodland protection, would be left undeveloped and would include all lakes, rivers, streams, and associated

undeveloped floodlands, shorelands, wetlands, and lowland wildlife habitat. Upland conservancy districts, which include upland wooded areas, steep slopes of 12 percent or more, scenic overlooks, and upland wildlife habitat areas, should also be preserved to the maximum extent possible. However, certain limited residential uses may be accommodated within these parts of the corridors without jeopardizing their overall integrity. Limited single-family residential development may occur in various forms ranging from large rural lots to clustered single-family development with low overall density. The plan recommends that density be held to no more than one housing unit per five acres in such rural residential zoning districts. Individual lots should contain at least one acre of developable area, defined as upland area but without steep slopes. Where building sites are located within these areas, disturbance of wetlands, woodlands, prairies, wildlife habitat, and other sensitive natural resources should be avoided; the overall biological diversity of the area should be maintained.

While calling for the preservation of environmental corridor lands, the adopted regional land use plan recognizes that there will continue to be some demand for rural, or "country" living and that certain lands, both inside corridors and outside them, provide highly desirable settings for rural residential development. In the past, this demand has been met, to a large extent, through the development of subdivisions with lot sizes of one to three acres served by septic tanks and private wells. To maintain a better demarcation between rural and urban areas, the plan recommends that this portion of the housing market be satisfied, in part, through very low-density residential development. Such rural residential zoning districts should limit residential density to no greater than one dwelling per five acres. A cluster form of development can be very instrumental in permitting environmentally sensitive, low-density residential development in upland conservancy or rural residential zoning districts lying in primary environmental corridors. Because of the flexibility in site design permitted in cluster districts, housing sites are not forced into an evenly scattered pattern across a development parcel but may be located away from preserved natural resources, as shown in Figure II-8.

In addition to the natural resource-base elements existing in primary and secondary environmental corridors, other small concentrations of natural resource-base elements

exist throughout the Region. Termed "isolated natural resource areas" by the Commission, these are isolated from the environmental corridors by urban development or agricultural uses but, although they are separated from the overall corridor network, also have important natural values. Isolated natural resource areas may provide the only available wildlife habitat in an area, provide good locations for local parks and nature study areas, and lend an aesthetic character or natural diversity to an area. These areas should be preserved in a natural state whenever possible; however, about 2,600 acres, or 6 percent, of the isolated natural resource areas in the Region were lost between 1970 and 1990. The flexibility of cluster zoning would enable developers to keep building sites and lot areas out of isolated natural resource areas without a significant change in density.

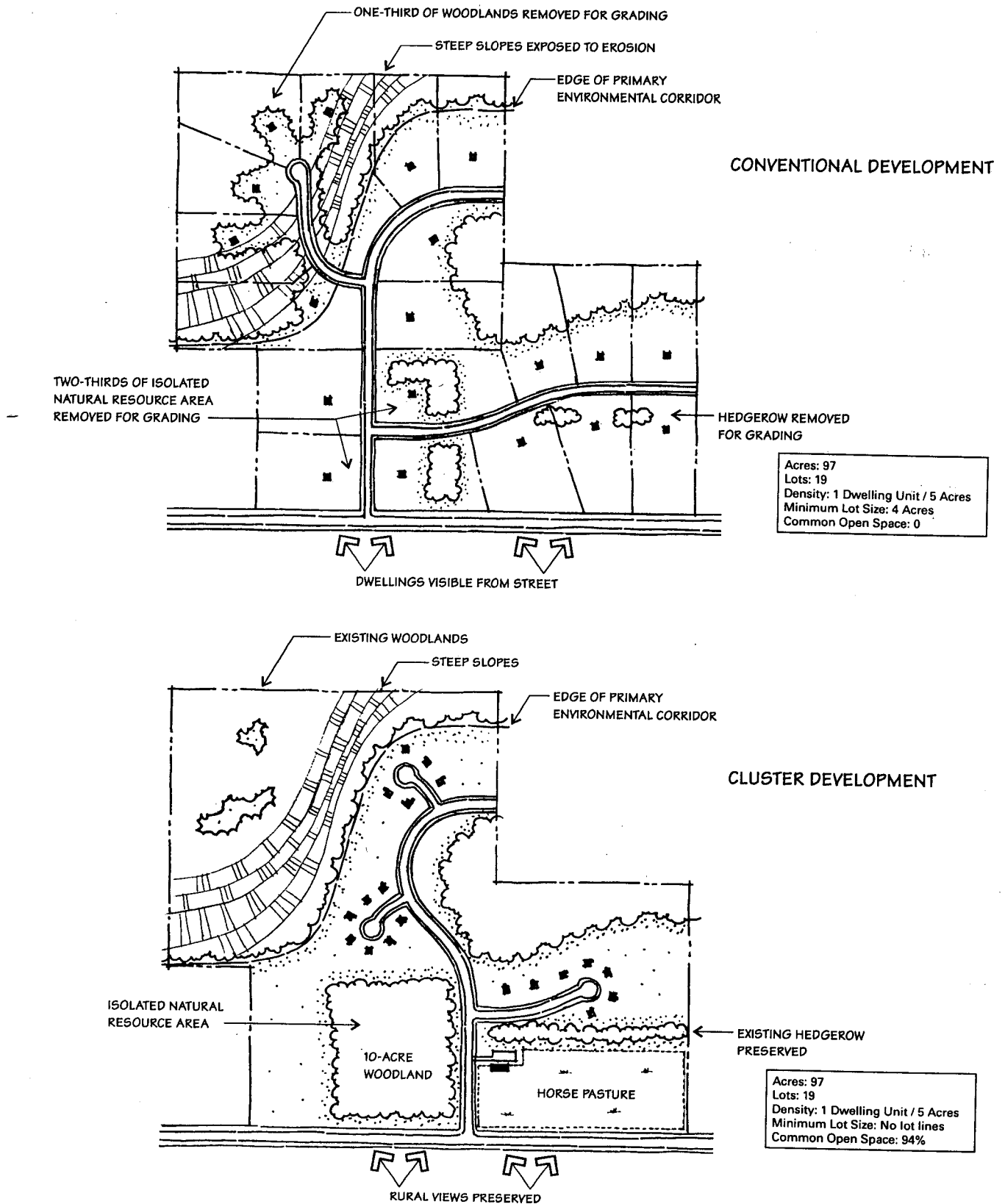
#### **RURAL RESIDENTIAL ZONING OUTSIDE CORRIDORS**

As discussed above, cluster zoning can work very well with existing regulations aimed at open space preservation in Southeastern Wisconsin, including park and recreation zoning; floodland, shoreland, and wetland zoning; agricultural zoning; and conservancy zoning in environmental corridors.

However, any existing rural residential zoning district can also be amended to meet the goals of general open space preservation. If the open space within the district is intended to promote the preservation of rural landscape character, however, at least 60 percent open space must be achievable within the district. Since the achievable open space is a direct result of lot size reduction and permitted density, the only limitations on which districts might be suitable for rural clustering would be those that preclude a lot reduction large enough, or a net density high enough, that 60 percent open space would not be possible, Chapter IV discusses these factors in depth.

#### **SUMMARY**

Many objectives of comprehensive planning can be attained through the use of cluster development. Because the developed area of a parcel occupied by the permitted housing is much less than the entire parcel, a flexibility



**Figure II-8.** With conventional development, environmental features are often not preserved. And with most new houses visible from the existing street, previously rural views become suburban. With cluster development, however, woodlands, steep slopes, and rural views can be preserved.

for locating that developed area on the parcel is created. Depending on the objectives for the tract and the surrounding area, the location of the developed part of the parcel can be shifted to meet those objectives. Such flexible site design does not exist with conventional zoning, which would require subdivisions with lots distributing the houses evenly across the entire development parcel. With flexible site design and a knowledge of municipal comprehensive planning objectives, a developer can much more easily locate the open space to accommodate those objectives. Whether the community favors woodland protection, preservation of farmland, or views from local roads, for example, the ability to shift development out of areas to be preserved is the greatest advantage offered by cluster zoning.

In the achievement of regional, county, and local comprehensive planning objectives, the rural areas in the Southeastern Wisconsin Region which would benefit most from the preservation of open space and the

flexibility in site design provided by rural cluster development are:

1. Shoreland areas, which permit residential development at densities not exceeding one dwelling unit per five acres.
2. General agricultural zoning districts, which permit rural residential development at densities not exceeding one dwelling unit per five acres. These areas would not include prime agricultural lands, which should be in exclusive agricultural zoning districts.
3. Upland conservancy areas of primary and secondary environmental corridors and isolated natural resource areas.
4. All other rural residential zoning districts in which open space preservation is an objective and at least 60 percent open space is possible.



## CHAPTER III

# THE CLUSTER DESIGN PROCESS

Cluster developments should be designed around the open space. That is, the areas for open space preservation should be set aside before the streets and lots are laid out. Since the purpose of clustering in rural areas is to preserve the rural character of the landscape, the areas which contribute to that character should be identified and set aside for preservation prior to any attempts to design a street and lot layout. In conventional subdivisions the streets and lots are often laid out first, with no real regard for natural areas other than those protected by State law, such as wetlands and floodplains. A proper site analysis, identifying desirable features and problem areas on the parcel to be developed, is rarely done; if it is, the features are nevertheless rarely preserved in any meaningful way. As shown in Figure III-1, the street and lot layout is often determined primarily by the size and shape of the development parcel and has little to do with any natural features on it. Although State-regulated areas like wetlands and floodplains are protected from construction, other natural features, such as interesting topography, scenic vistas, hedgerows, woodlands, and historic features are usually simply included within private lots or are destroyed.

A major difference between the approach taken in the design of a cluster subdivision and the design of a conventional subdivision involves "yield"; that is, the number of lots achievable on a parcel. In conventional subdivision design, the objective regarding density typically is to fit as many lots as possible on the development parcel. The maximum number of achievable lots, the yield, is developed through the preparation of alternative layouts. The layout with the highest yield becomes the "best" layout.

In cluster development, on the other hand, the number of permitted lots is normally fixed by a density formula in the zoning ordinance. In a properly written zoning

ordinance, development density, lot size, and open space objectives are balanced so that the maximum number of lots at minimum lot size will fit on a site with the required amount of open space. Thus, it is usually known, prior to working out street and lot layouts, that a certain permitted number of lots will fit on the site. In working out the layout, the designer has the ability to set aside the open space first and then locate the lots accordingly, without the potential loss of lots.

### THE DESIGN PROCESS FOR CLUSTER DEVELOPMENT

The design process for cluster development takes place in three basic steps:

1. Identification and analysis of existing conditions, or site analysis;
2. Delineation of preservation areas;
3. Layout of dwelling locations and street and lot pattern.

#### Step One: Site Analysis

The design of a cluster development around the open space first requires a proper site analysis. The site analysis should identify existing features that determine the landscape character of a site and analyze those features to determine the desirability of preserving them. A site analysis should also identify features that present problems that must be considered and overcome in the design.

The inventory of existing conditions should include all natural and man-made features of a site. Some of

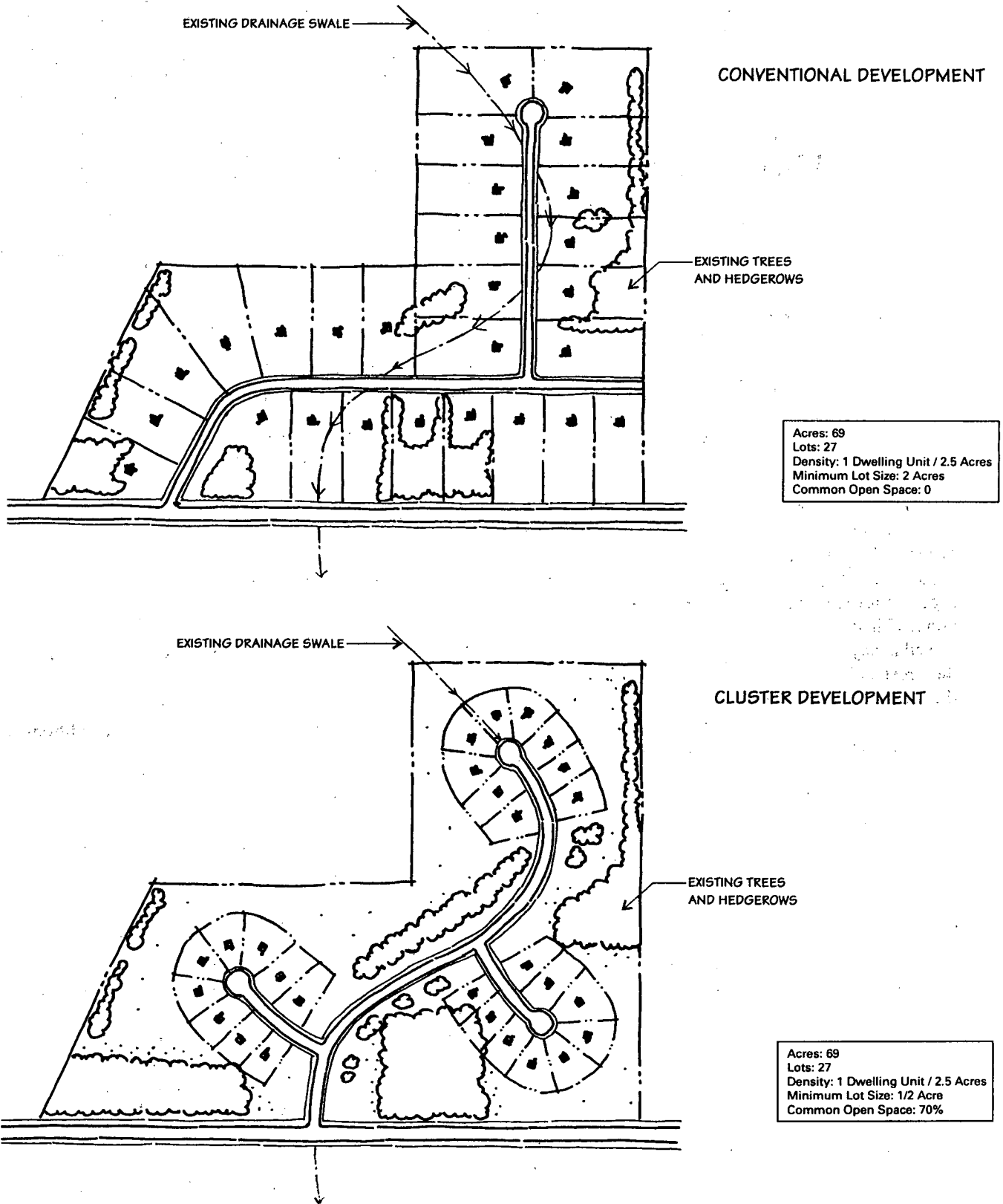


Figure III-1. In conventional development, street alignment is often determined by the shape of the development parcel. But with cluster development, natural features can determine street alignment.



**Figure III-2.** Woodlands, hedgerows, and large single trees are important landscape elements to identify in a site analysis and to preserve in a final design.



**Figure III-3.** Ruins, such as this old stone silo, are strong rural landscape elements which may be worthy of preservation.

these will be natural areas protected by law, such as floodplains, wetlands, shoreland areas, and water bodies. Other areas that are developable, but contain certain features (see Figures III-2 and III-3) that may lend character to the rural landscape, should also be identified. Such areas could include hedgerows along an abutting road or dividing two fields; a healthy stand of trees atop a rise in terrain; diverse woodlands; wild flower meadows; fallow farm fields; wildlife habitats; areas that afford good views; historic buildings or ruins; fencerows; and even lone specimen trees. Problem areas that must be accommodated in the design may include such features as power line rights-of-way, transmission towers, utility easements, and drainageways.

It should be noted that a site analysis completed for the sketch-plan layout of a cluster development is not usually as technically comprehensive as those required for engineered preliminary plats. Although the engineering constraints on a site should be generally understood and taken into account, the site analysis for the purposes of designing a sketch plan for cluster layout is intended primarily to identify landscape character, preservation areas, and building areas. While some of the elements required for sketch plans and typical preliminary plans will be the same, topography, for instance, the level of detail and accuracy required for

documenting conditions for engineering purposes is not needed at the sketch-plan level. The elements of a site analysis for the purposes of cluster design would supplement and precede the site information normally required for conventional subdivision. When the approval process moves on to the preliminary-plat stage, complete documentation and analysis oriented toward proper engineering practices would then be needed. The cluster layout would then be adjusted, if necessary, to accommodate engineering considerations.

A good site analysis done for the purposes of cluster sketch-plan layout will include field investigations and should, at a minimum, consist of a map, or set of maps, showing the following:

1. A topographic analysis identifying slopes over 12 percent or greater and under 2 percent. The topographic map should have a scale of one inch equals 100 feet or more, with a vertical contour interval of two feet or less. Hilltops and ridge lines should be highlighted.
2. An analysis of drainage patterns. The management of stormwater runoff from a site depends largely upon the existing drainage patterns which, for greatest economy and site preservation, gen-

erally should not be altered. Onsite drainage patterns are part of a larger drainage network and connect to the drainage patterns of adjacent sites. The role a particular site plays in the overall watershed should be recognized.

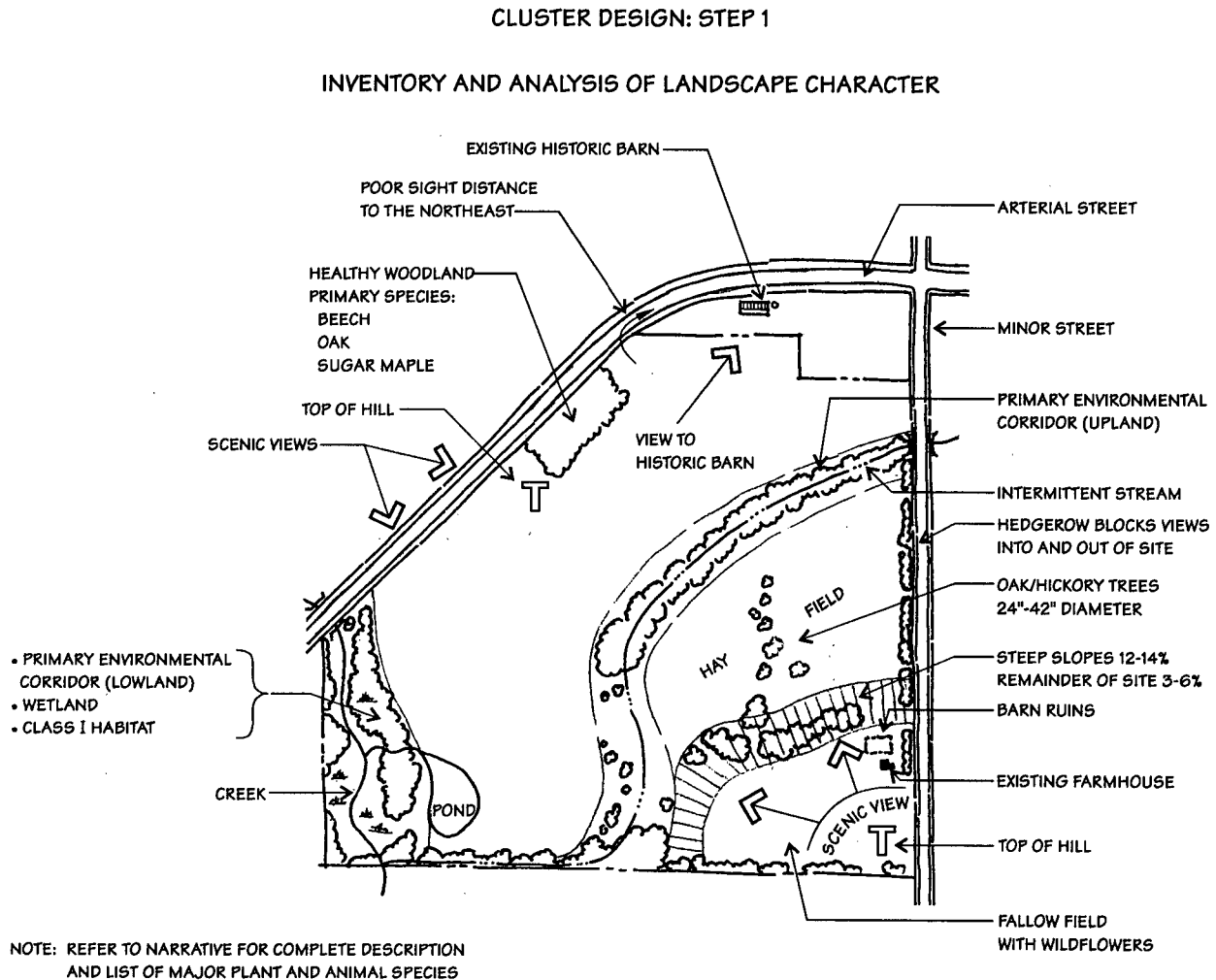
3. A vegetation analysis, identifying woodlands, hedgerows, lone specimen trees, grasslands, meadows, pastures, and active or fallow farm fields. Vegetation should be identified as evergreen or deciduous. The health and condition of each vegetative type should be identified. Predominant species in hedgerows and woodlands should be identified. Specimen trees should be identified by species, size, and health. Unique or endangered plant species should be noted.
4. A delineation of soil types and identification of selected soil characteristics, as provided by the information in the regional soil survey completed for the Regional Planning Commission by the U. S. Soil Conservation Service.<sup>1</sup> Such characteristics would include, for example, suitability of soils for crops, pasture, woodland, wildlife habitat, and recreation, as well as for building foundations, roadways, and onsite sewage-disposal systems. Prime agricultural soils and alluvial floodplain soils should be noted.
5. Shoreland protection areas, including the minimum 75-foot building setback from the ordinary high-water mark of navigable waters, the 100-year recurrence interval floodplain boundaries, and lakes, ponds, streams, and wetlands.
6. Boundaries and characteristics of primary and secondary environmental corridors and isolated natural resource areas, as identified in the adopted regional plans or local comprehensive plans.
7. Wildlife habitat, whether in fields, wetlands, or woodlands. Predominant species of birds, mammals, amphibians, fish, and reptiles should be identified when possible. The presence of rare or endangered species should be noted.
8. Historic or cultural features, including ruins and stone fencerows.
9. Other existing buildings and structures. All buildings in a farm complex should be located and identified as to their use, as well as the locations of existing wells and onsite sewage-disposal systems.
10. Scenic vistas, both into the site from adjacent roads and outward from the site.
11. Classifications of existing streets and highways adjacent to the development parcel, as well as especially desirable or undesirable points of entry into the parcel. Street connections required by the local official map should be noted.
12. Existing physical conditions surrounding the development parcel within 200 feet. These might include such notes as "adjacent three-acre housing," "connection to regional trail," or "view to historic barn." The size and extent of existing adjacent open space areas should be noted, as well as any further open space connections these spaces may have.
13. Future areawide plans that affect the site should also be taken into account. These could include, among others, plans for future parks; open space, trail, and bikeway systems; agricultural preservation areas; arterial street networks; stormwater management systems and other utilities; and general land use plans.

Figure III-4 is an example of a typical site analysis. This is often accompanied by a written narrative that further explains the existing conditions on the site.

#### **Step Two: Delineation of Preservation Areas**

After determining the existing conditions on a site, the next step is to determine which areas should be preserved, as shown in Figure III-5. Areas of first and second priority for preservation should be identified.

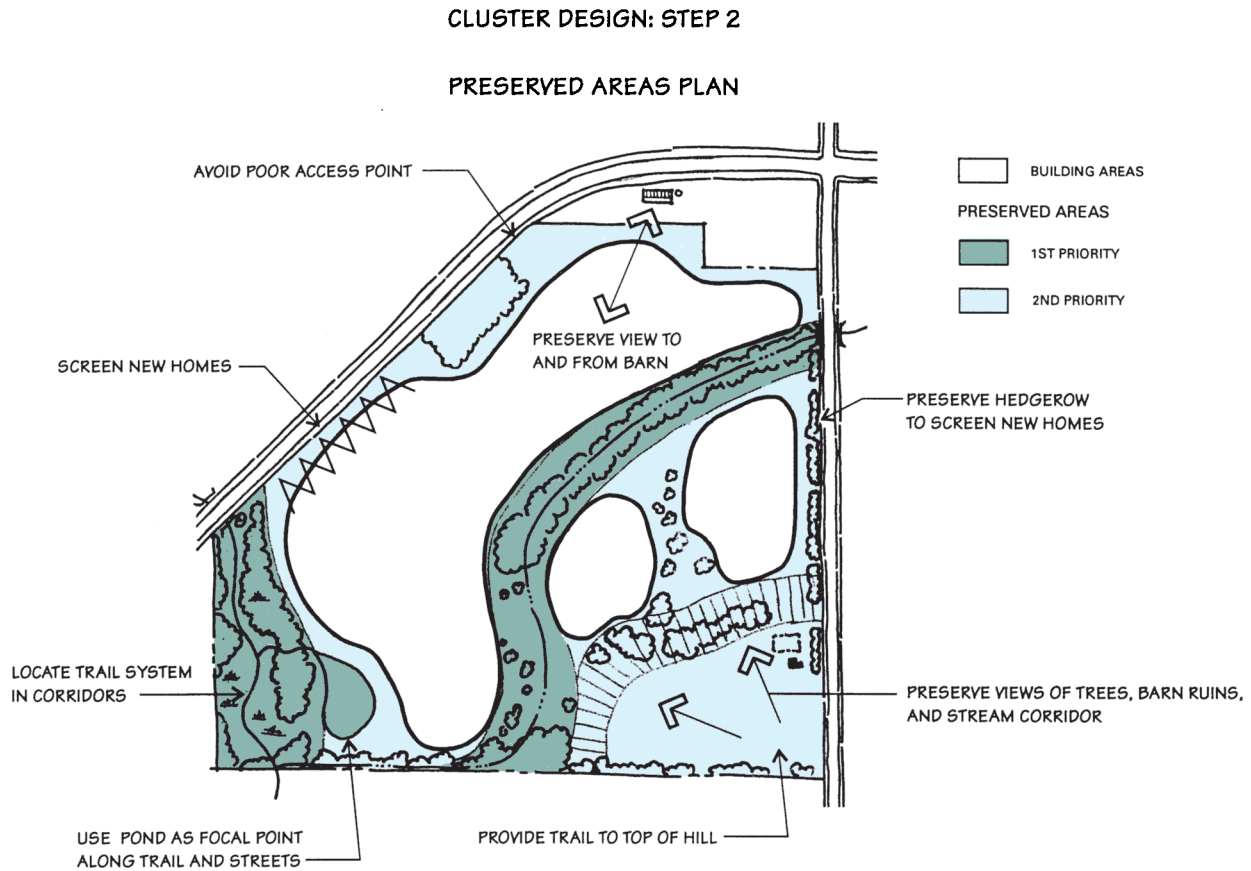
<sup>1</sup>This was the name of the Service at the time of the surveys. The name has recently been changed to the U. S. Natural Resources Conservation Service.



**Figure III-4.** A site analysis for the purposes of cluster design would supplement and precede the engineering information normally required for a conventional subdivision. When the approval process moves to the preliminary plat stage, the cluster layout would then be adjusted to accommodate engineering considerations.

Areas of first priority will include two types of areas: those protected through State and Federal regulation, such as floodplains, wetlands, and shorelands, and those connecting to larger municipal, county, or regional park and greenway systems, such as primary environmental corridors. The more connected areas of open space are, the more valuable they become. The concept of connectedness is extremely important when trying to pre-

serve meaningful open space. Fragmented open space areas lead to disrupted wildlife migration paths, non-functional wildlife corridors, inefficient farming operations, and piecemeal trail systems. Areas of disconnected open space preserved on a variety of development parcels, while valuable to some degree, can never have the same impact on preservation of landscape character as continuous open space does. When areas of open



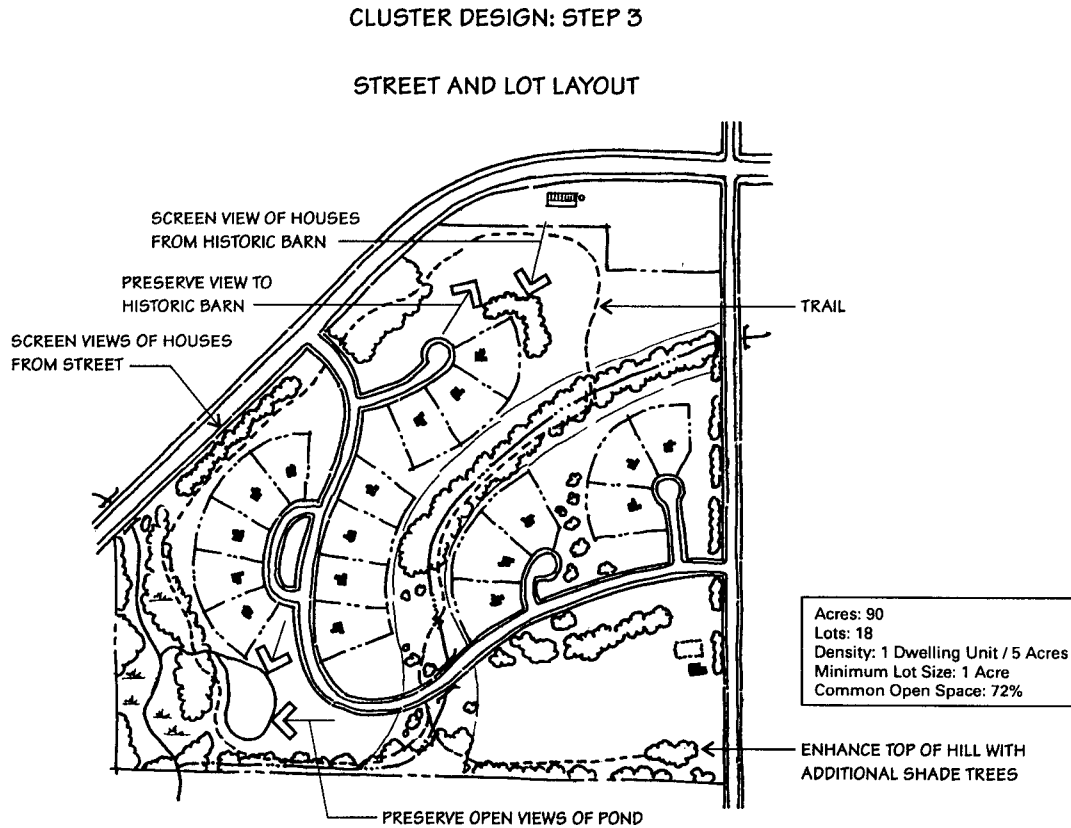
**Figure III-5.** Areas of first and second priority for preservation should be identified and preservation areas should be connected.

space in cluster developments on adjacent parcels abut each other, the impact on landscape character is greater than if they are separated by visible development.

The goal of connectedness in open space should always be kept in mind, not only in terms of the importance of connecting onsite open space with offsite open space, but also in terms of connecting all onsite open space as much as possible. While the opportunity to connect areas of onsite open space with adjacent offsite areas is not always available, areas of open space within the site can and should be connected. The zoning ordinance regulations should require that acceptable open space parcels be of a specified minimum size and that areas of open space be connected as much as is practicable.

After designating first priority areas for preservation, regulated environmentally constrained areas and areas that provide connections to offsite open space, areas of second priority are added. These would include other developable areas with natural features that have been identified as contributing to the particular rural landscape character of the site, as seen from adjacent roads and other public ways, as well as from within the site. Some judgements may have to be made at this stage as to the desirability of preserving certain areas of marginal value. For example, a hedgerow with weak-wooded or diseased trees may not be desirable for preservation.

Not all the open space will be environmentally constrained land, nor should it be. On parcels that have a



**Figure III-6.** After areas for preservation are identified, specific locations for building lots and streets are determined.

great deal of environmentally constrained land, not all of it should be accepted as meeting the open space requirement of the ordinance. On parcels with few constraints, much of the open space will be in well-drained upland areas that would be considered buildable. Decisions would have to be made as to which portions of these areas should be used for lots and which should be saved for open space. These decisions should be based on the overriding objective of preserving rural landscape character.

In the process of determining the preservation areas, the areas available for buildings, streets and lots are, by default, also identified. These are the “left over” areas. This process is the opposite of that often used in the design of a conventional subdivision, where the leftover

areas are the areas considered unsuitable for building. Often the areas with the most attractive natural amenities are set aside first to be included in a few prime lots that can be sold at a premium price.

**Step Three: Conceptual Delineation of Street and Lot Layout (Sketch Plan)**

When preservation areas are set aside, their outlines give shape to the building areas. On many development parcels, the areas available for building will be larger than the area needed to accommodate the permitted number of lots. Thus, the third step in the cluster design process is to determine more specifically the preferred locations of building lots and how best to provide access to them with the streets (see Figure III-6).

The street and lot layout at this stage in the design process is conceptual only. Because of the large variety of street layouts that are possible through the flexibility permitted by cluster regulations, agreement on the general acceptability of a plan should be reached before the plan is more precisely detailed. While general municipal engineering principles should be followed, no detailed site engineering is done at this stage, although all zoning and subdivision regulations should be met. It is beneficial for both the developer and the municipality to reach a consensus on a conceptual sketch plan before the developer incurs the costs of preliminary engineering. It is during review of the sketch plan that design changes can be made at little cost to the developer. Thus, before the preparation of preliminary plans is initiated, both the developer and the municipality should have agreed upon a conceptual layout.

The result of this process will be that streets and houses blend into the landscape in a natural way that protects the rural character of the site, rather than being forced onto the landscape in a form determined by rigid lot sizes and the configuration of parcel boundaries, as is often the case in conventional subdivision design and development.

### **CLUSTER DESIGN PRINCIPLES**

While the general principle of preservation of natural features is usually well understood by designers of cluster developments, a number of additional, specific design principles should be followed for effective preservation of rural character. These principles apply to both the preserved areas and the developed areas. A cluster layout that does not follow these design principles can look much like a conventional subdivision layout and is not likely to achieve the goal of rural preservation. These principles should be stipulated as regulations in the zoning and subdivision control ordinances.

Unfortunately, it is difficult to guarantee good design through regulation; a good designer using a poor ordinance may still produce a good design, but a poor designer using a good ordinance may still produce a poor design. The chances of this happening, however, are reduced when certain important design standards must be met. When elected officials are contemplating the approval of a cluster development zoning

ordinance they should ensure that, at a minimum, the following design principles are included. Without these, poor designs that simulate conventional subdivisions should be expected to result and the opportunity for rural preservation may be lost.

### **Main Principles**

Perhaps the three most critical design principles for achieving preservation of rural character are the following:

1. Preserve existing natural features.
2. Preserve open space adjacent to existing perimeter roadways.
3. Screen new housing with topography or existing or new vegetation.

Hikers and bicycle enthusiasts notwithstanding, the vast majority of people form their perceptions of rural character by what is seen from an automobile while driving through the countryside. Although these perceptions can be formed while walking or bicycling, it is the motor vehicle that is the predominant form of transportation in rural areas. Thus, the preservation or enhancement of the view of a development parcel from the adjacent roadways is a major factor in the preservation of rural character.

It is what is seen, not what actually exists on a parcel, that is of importance in this respect. Significant minimum setbacks from existing adjacent roadways can go far in protecting the rural character of the development parcel as seen from these roadways. Even though many homes may be built on a development parcel, if they cannot be seen, the perception will be that the parcel has remained rural (see Figure III-7). If these setback areas do not contain existing hedgerows or woodlands, landscaping with a mixed variety of hardy native trees and shrubs sufficient to screen the dwellings should be required. Alternatively, if it can be shown that other natural features, such as a rise or fall in topography, can hide the proposed dwellings when the developed parcel is viewed from the roadway, screen plantings may not be required. These requirements may be included as "performance standards" in the zoning ordinance. Performance standards are flexible and are not the same for





**Figure III-7.** At Lac du Cours (left side of aerial photo, right side of ground photo), in the City of Mequon, Ozaukee County, natural open space was preserved next to the existing road, screening new housing and preserving rural character.

every situation, but respond to the conditions of the site. As long as the final result is reached, in this case, hiding the dwellings from the roadway, the standards may be flexible as to how this is to be achieved.

### Cluster Groups

Design principles for the cluster groups themselves are also important, since it is within the cluster groups that

daily living will take place. Cluster developments that have not been required to follow good design guidelines relative to the cluster groups tend to look like conventional subdivisions from the inside. Except for the residents of the dwellings that may back onto open space, most of the dwellings may be located on lots surrounded by other lots, with no view of any open space. With this kind of layout, devoid of any direct open space benefit, such dwellings might be better

situated on five-acre lots. Design principles that, when applied, help differentiate a good cluster subdivision from a conventional subdivision deal with the size of cluster groups, the relationship of the groups to each other, and the relationship of the groups to open space:

1. Limit the size of cluster groups.
2. Locate open space within cluster groups.
3. Require a separation between cluster groups.
4. Locate each lot to be adjacent to some form of open space.

By limiting the size of cluster groups, requiring open space within the cluster, and requiring clusters to be separated from each other by open space, it is possible to locate each lot in the development adjacent to some type of open space (see Figure III-8). The cluster development will avoid the undifferentiated, “cookie cutter” pattern of continuous lots along a road, with no relief provided by larger areas of open space. In a cluster development, the residents of each dwelling live on a lot of reduced size in exchange for the benefit of having access to larger areas of open space; thus, they should not only be able to view open space from their lot, but should also be able to access the open space physically from their lot.

### **Open Space**

The next design principles address the importance of guiding the design of the open space parcels themselves:

1. Configure open space to be of efficient size and shape.
2. Configure open space and to be continuous wherever possible.

Cluster ordinances should not leave the acceptable size and configuration of open space parcels to the chance of poor design. As shown in Figure III-9, small, fragmented areas of open space or landlocked areas of open space do not contribute to the objectives of rural preservation or successful open space subdivision. Such unusable areas of open space often result when there are no regulations specifying what constitutes acceptable

open space. All cluster zoning ordinances should include regulations governing, not only permitted uses within open space, but also minimum standards for acceptable size and configuration and a requirement that open space be continuous. An exception to the principle of not accepting small, unconnected pieces of open space would be the use of common greens, landscaped cul-de-sac islands, and buffers along streets. To encourage the use of these desirable features, they should be permitted to qualify as required open space.

### **Buffering**

The next five design principles involve the need for buffering between uses that may be incompatible with cluster groups under certain circumstances. Buffers should consist of both distance setbacks and landscaping. Providing landscaped buffers between incompatible uses helps to forestall potential conflicts.

1. Provide tract-boundary setbacks along streets and buffer cluster groups from incompatible uses on adjacent parcels.
2. Buffer cluster groups from active farming.
3. Buffer adjacent larger lots from cluster groups.
4. Buffer cluster groups from active recreation areas and trails.
5. Buffer wetlands and floodlands from cluster groups.

Incompatible uses on adjacent parcels can include a variety of nonresidential uses. Commercial, office, or industrial uses may exist in an adjoining district that permits these uses or may exist in a residential zoning district as legal, nonconforming uses. Such incompatible uses should be screened from any proposed residential use located adjacent to them, including cluster development. The developer of the cluster development should bear the cost of such screening. This is particularly important in cluster development where a landscape screen may be essential for creating the perception of rural preservation from within the development.

Buffers in the form of setbacks from active farming operations are also important. Potential conflicts between

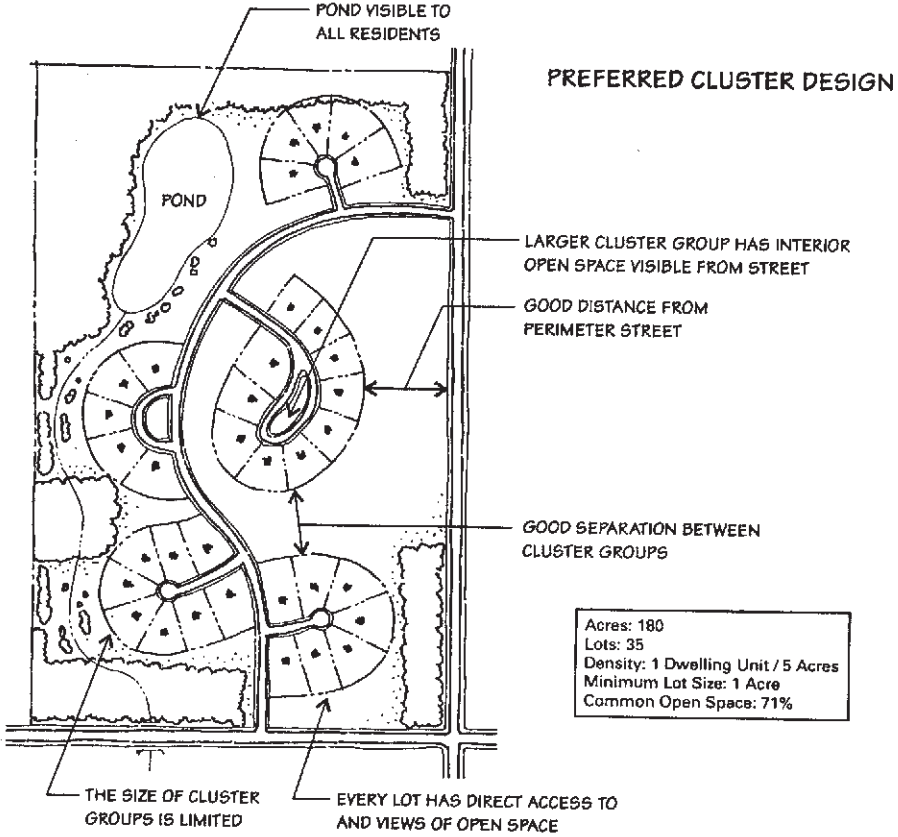
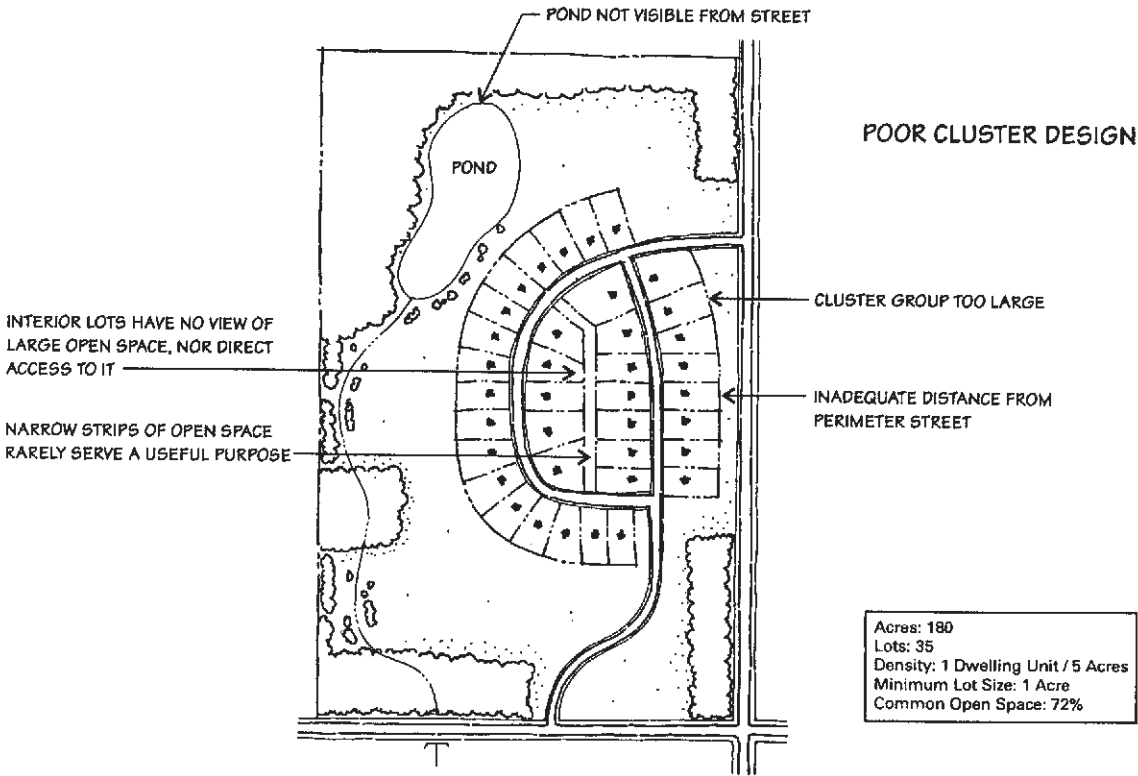
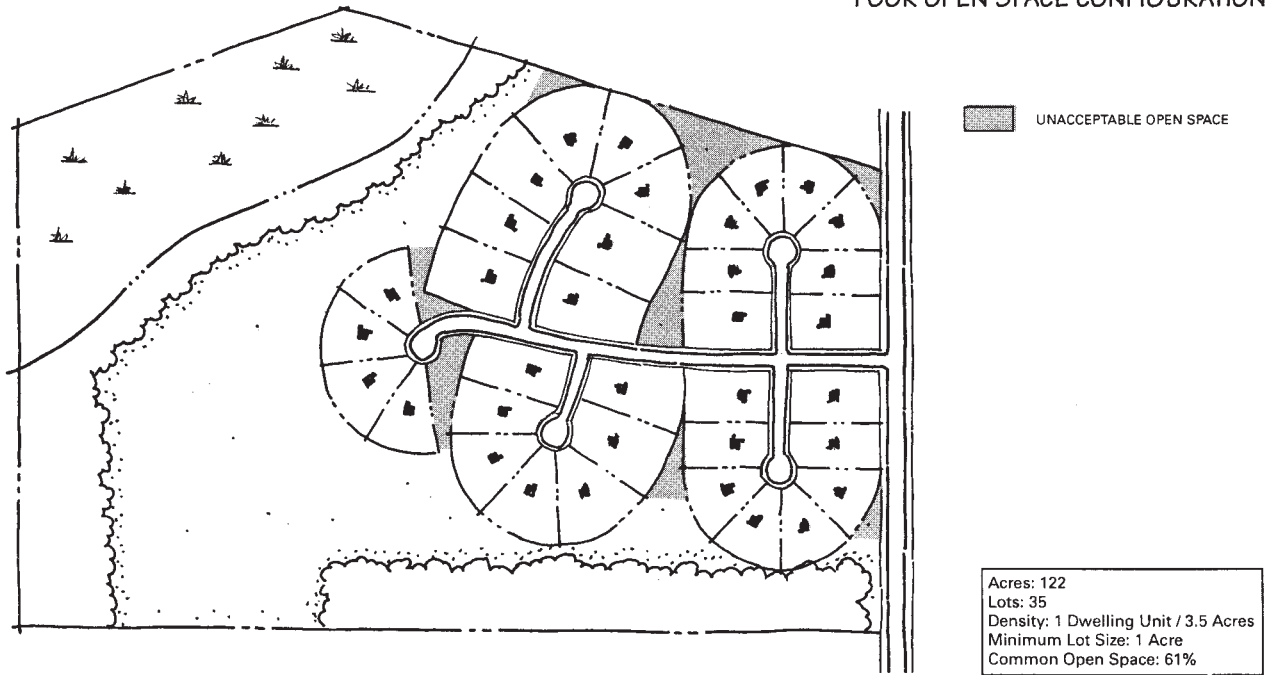
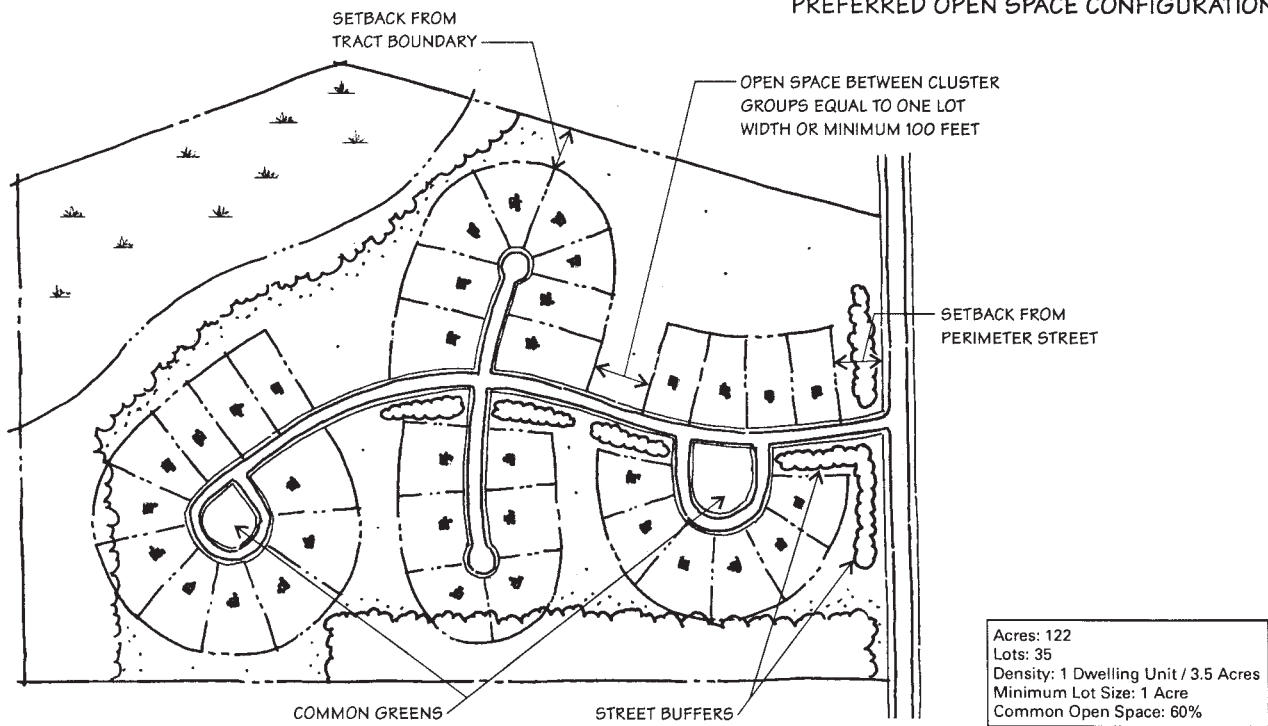


Figure III-8. Without design guidelines, cluster developments may look much like condensed, conventional subdivisions. Design guidelines can aid in the good design of cluster groups and the proper distribution of open space.

POOR OPEN SPACE CONFIGURATION



PREFERRED OPEN SPACE CONFIGURATION



**Figure III-9.** Landlocked, fragmented, or narrow parcels of open space should not be accepted toward meeting an open space requirement. Open space should be continuous and of efficient size and shape.

certain types of farming and residences can usually be mitigated with setbacks of 100 to 300 feet. If the residents of a cluster development choose to permit farming on a portion of the commonly owned open space, they can determine the extent of the setback appropriate for the type of farming that is to take place. However, the initial design should delineate the maximum setback to ensure that adequate space is set aside.

Cluster developments may be built next to existing, conventional subdivisions of two- to five-acre lots. When this occurs, the residents of the larger lots may view the smaller, clustered lots as potentially devaluing their property. It is sometimes difficult to convince owners of large, conventional lots to the contrary, even though clustered lots usually equal or exceed the value of larger lots in adjacent subdivisions. Potential conflicts over perceived impacts on property values can be alleviated by creating a landscaped buffer between these two types of residential development.

Landscaped buffers should also be established between dwellings and active recreation uses within the cluster development. Lots should not be located too close to such noisy activity areas as playgrounds, swimming pools, or court-game facilities. Further, to avoid a loss of privacy, lots should not be located too close to heavily used trails; natural landscaping should be established between the lots and the trails.

Additionally, to protect wetlands and floodplains from the impacts of development, they should be buffered from cluster groups by a minimum separation distance from lot lines.

#### **Farmsteads**

A final important cluster design principle is preserving existing farmsteads where possible and accommodating such farmsteads appropriately within the overall development plan.

1. Accommodate existing farmsteads on large lots.

These often historic groups of agricultural structures, or farmsteads, exemplify rural life within the farming community and are often the most dominant features of a rural landscape. Historically barns, in particular, evoke the perception of a rural landscape and, once



**Figure III-10.** When barns are closely surrounded by new housing, rural landscape character is lost.

gone, cannot be easily replaced. Growing interest in the preservation of barns in Wisconsin has led to the formation of citizen groups committed to the restoration and adaptive reuse of these historic structures. Regardless of their use after development of the surrounding farm, farmsteads need to be accommodated on parcels of land that are proportionate to the size of the building complex, thereby helping to preserve the context of a rural landscape. Farmsteads to be preserved should be surrounded with enough open area to maintain that context; new housing should not encroach upon that area. Setbacks of 100 to 300 feet may be appropriate. However, distance alone is no guarantee that visual encroachment does not occur (see Figure III-10). New housing may be clearly visible, even though it may be set back several hundred feet. Thus, landscaped buffers may be needed to separate the new housing from the farmstead to preserve its rural context (see Figure III-11).

#### **LAND DEVELOPMENT PRINCIPLES**

In addition to the basic design principles for site planning enumerated above, a number of more specific principles for land development should also be applied in the design of cluster developments to achieve optimum results. These principles should be applied in conjunction with the standard subdivision control regulations found in county and municipal subdivision control ordinances.

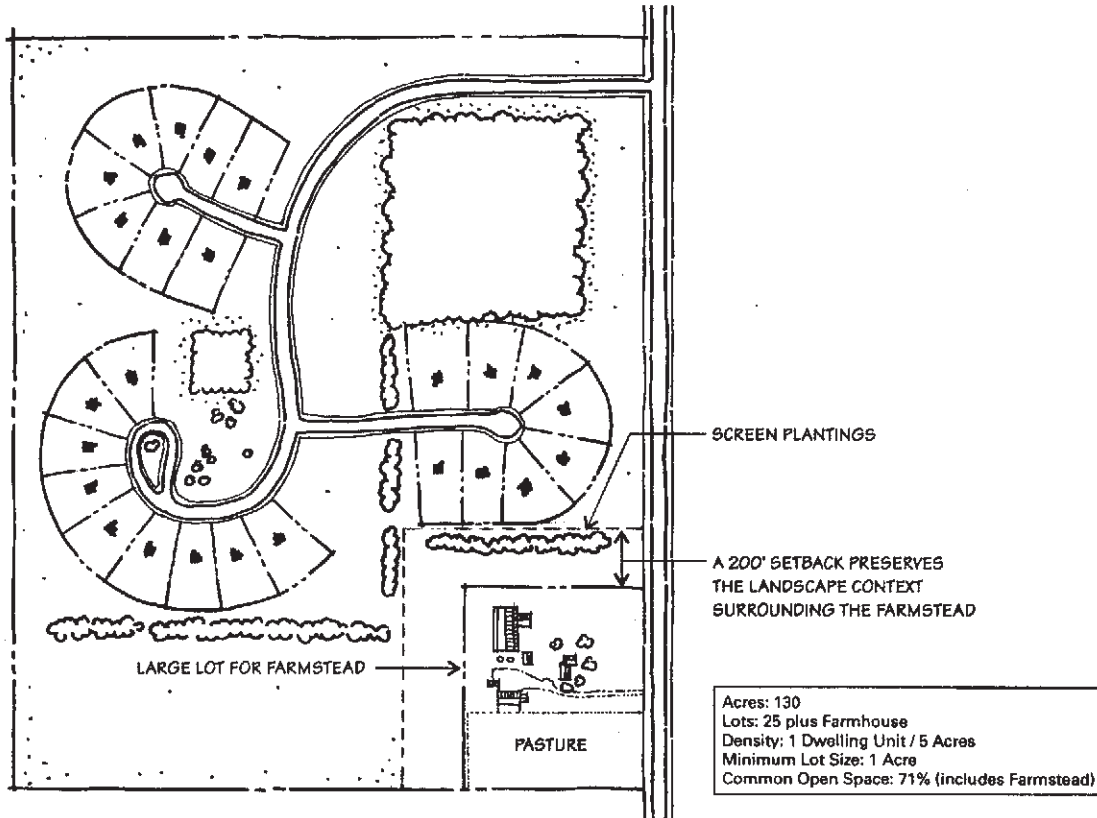


Figure III-11. Preserved farmsteads on a development tract should be given a lot area proportionate to the size of the building complex, with setbacks and landscaped buffers to help preserve the landscape context.

### The Street System

The street system forms the functional framework of the residential portion of a cluster development. It provides access to the individual lots as well as to the open space. Principles for a good street layout are illustrated in Figure III-12 and include:

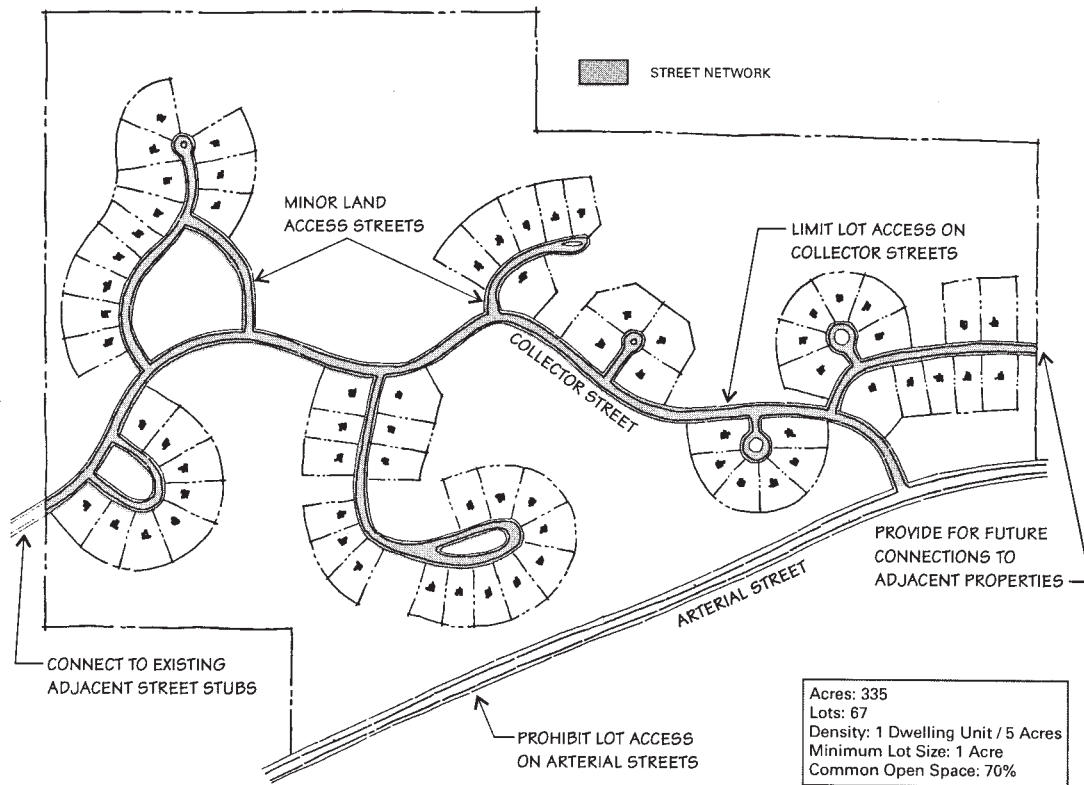
1. Streets should connect to the arterial street and highway network of the area.

A cluster development should not be envisioned, nor permitted to be built, as a private, isolated enclave, in effect separated from the surrounding area. The connectedness of the public street and highway system should not be disrupted by the cluster development. The planned arterial street and highway network of the area

should be accommodated in the cluster design. However, arterial streets and highways should extend through the development parcel only when necessary. The collector and land-access streets within the development should align with existing road intersections where appropriate. Care should be taken that when arterial streets and highways are accommodated in a cluster design, the quality of the open space to be preserved is not negatively impacted.

2. The number of access points to existing perimeter streets and highways should be limited.

While connections of the collector streets to the arterial street and highway network are essential, such access points should be limited in order to preserve the rural character of the development, as well as to protect the



**Figure III-12.** A clear street hierarchy should be established. New streets should connect to the surrounding street system and adjacent properties. Lot access should be prohibited on arterial streets and limited on collector streets.

capacity and safety characteristics of the arterials concerned. Individual residential lots should never access perimeter arterials directly, nor should cluster groups, unless there are strong design reasons to do so. Farmsteads may access perimeter arterials under existing conditions and should be permitted to continue to do so.

3. A clear hierarchy of streets and highways should be established.

The streets in a cluster development should fit into the overall street and highway system hierarchy established for the area. Such a hierarchy is expressed by classifying streets in accordance with their functions. A functional classification of streets includes at least three basic categories: minor land-access streets, collector streets, and arterial streets. Minor land-access streets provide access to individual lots; traffic from these streets is

conveyed via collector streets to arterial streets. Arterial streets provide for the areawide movement of traffic. Generally, cluster developments will include only minor land-access streets and collector streets. However, the alignment of an arterial street through a cluster development should be accommodated when it has been shown on the county highway width map or local official map or when the street network in the area otherwise requires it.

4. Access to arterial and collector streets and highways from individual lots should be restricted.

Individual lots should generally be accessed from a minor land-access street that serves only the cluster group in which they are located; cluster groups should be accessed from a central collector road. Such a layout and design limits the amount of traffic passing

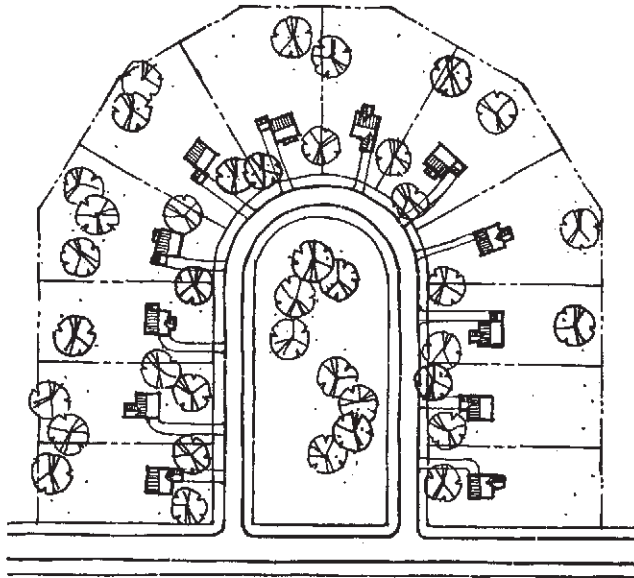


Figure III-13. A common green may be defined by short, straight streets.

each dwelling and adds to a sense of privacy for the residents. Both characteristics add to the perception of a rural environment.

5. Collector and land-access streets should be carefully fitted to the topography.

Collector and land-access streets should generally be curvilinear; any straight segments should be kept short. When streets gently curve with the topography and around natural features, the perception of rural character is enhanced. Unfolding views, whether of dwellings or natural scenery, as seen from a curving roadway, can lend interest to a landscape. However, straight streets can work well when kept short, particularly when defining a common green surrounded by dwelling units (see Figure III-13).

It is important to stress that a street system in a cluster development is not only functionally essential, but also

very instrumental in determining the aesthetic quality of the development. Next to the open spaces, the street system is the most important element of the design, giving, as it does, form and structure to the cluster groups. Residents of a cluster development may walk through their common open space only once or twice a week, but they will probably drive along the streets every day or several times a day. Thus, it is important that the design of the street system incorporate well-planned views of the open space as a part of each resident's daily driving experience. Views of landscape features, historic structures, or farm buildings can act as focal points along this drive. These should not be accidental occurrences, but should be planned on a development parcel as a part of the rural preservation effort and carefully designed into the street and lot layout.

6. Reduce residential street and roadway widths.

Urban roadways are generally wider than rural roadways. Travel lanes on urban arterial and collector streets are often 10 to 12 feet in width, with parking lanes of 8 to 10 feet. Travel lanes on urban land access streets are often also 10 feet in width, with parking lanes, if any, of 8 feet. Rural arterial roadways may also have travel lanes measuring 10 to 12 feet and shoulders 8 to 10 feet in width; nonarterial rural roadways may have travel lanes 10 to 12 feet in width, but distress lanes or shoulders often do not exist at all or have minimal widths of two to four feet. When the objective is to create a rural perception through cluster development, it is essential to limit nonarterial roadway and shoulder widths; additionally, shoulders should be kept as grass (see Figure III-14).

Studies have shown that travel speeds are reduced when the width of travel lanes is reduced. To better preserve rural character, it is desirable to use roadway design as a means of reducing the speed of traffic through residential neighborhoods rather than the posting of too many speed limit signs.

Boulevards, with bidirectional travel lanes separated by a landscaped median, should be permitted for collector streets in cluster developments. Although boulevard medians with curbs can tend to have an urban look, if





Figure III-14. Rural roadway widths should be kept narrow.

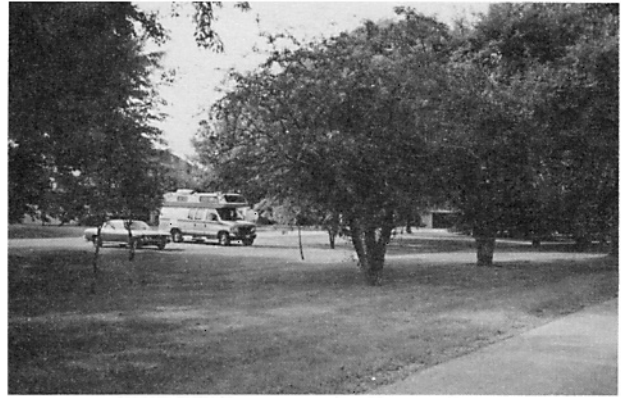


Figure III-15. Small parking areas may be accommodated within cul-de-sac islands.

they are left uncurbed they can provide a desirable form of open space. Grassy medians should be permitted to qualify as part of the required open space if they are landscaped with trees and shrubs.

When on-street parking is needed on one side or both sides, the roadway should be wide enough to accommodate this; when on-street parking is not to be permitted, the roadway width should be reduced. When lots are one acre or larger, on-street parking should not normally be necessary, since private driveways should be long enough to accommodate most ordinary parking demand. In cluster developments with smaller lots, those of one-half acre or less, the front building setbacks may be less and driveways may be shorter. Thus, there may be occasions when not all parked vehicles can be accommodated on the lots, especially during holiday parties or other such gatherings. In developments with smaller lots, small, congregate guest parking areas should be provided to ensure that enough off-street parking is available for those occasional events. Such parking areas should not be located on collector streets, but should be accessed from the land-access streets serving the individual cluster groups. Cul-de-sac islands in the center of wide loops at the end of cul-de-sacs may provide locations for such parking areas (see Figure III-15).

7. Encourage landscaping in cul-de-sac bulbs and views of, and access to, common open space from the ends of cul-de-sacs.

The turn-around area of a cul-de-sac at its terminus, the “bulb,” offers an opportunity to provide a pedestrian connection between lots to common open space, with a view into the open space as well. To be visually effective and to avoid intrusion on the privacy of adjacent lots, such an open space connection should be no less than 50 feet wide and, preferably, approximately equal in width to the minimum lot width required by the zoning district (see Figure III-16).

To reduce the urban appearance of a fully paved cul-de-sac, landscaped islands and bulbs in the form of loops should be encouraged by counting the interior area toward the required amount of open space.

### The Open Space Network

Cluster zoning and subdivision control ordinances should contain specific regulations regarding the configuration and organization of the open space in a cluster development. Since it is essentially the open space that creates the rural environment, standards that spell out minimum acceptable characteristics are needed. If left

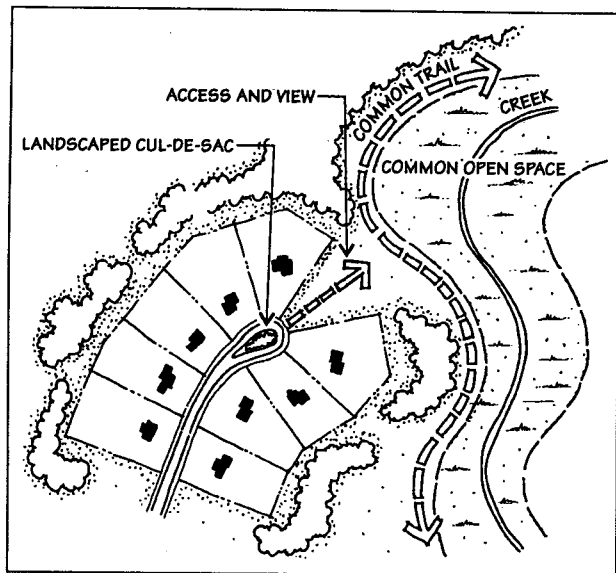


Figure III-16. Access and views to common open space can be provided at the ends of cul-de-sacs.

to the chance of the design process, open space is too often poorly located or badly configured or essentially unusable. In addition to the general site planning design principles set forth earlier, the following regulations should be included in the zoning and subdivision control ordinances.

1. An organized and linked open space network should be required.
2. Passive- and active-use open space areas should be identified.
3. Minimum area, width, and length requirements for open space parcels should be stipulated.

As shown in Figure III-17, the open space on a cluster development parcel should be organized into a logical system that is linked and is identified as to areas of use. Active recreation areas should be allocated the appropriate amount of space, including buffers to adjoining residential or passive use areas. Small, fragmented, and oddly shaped pieces of land should not be permitted to qualify toward meeting the open space requirements. Regulations can stipulate that to qualify as required open

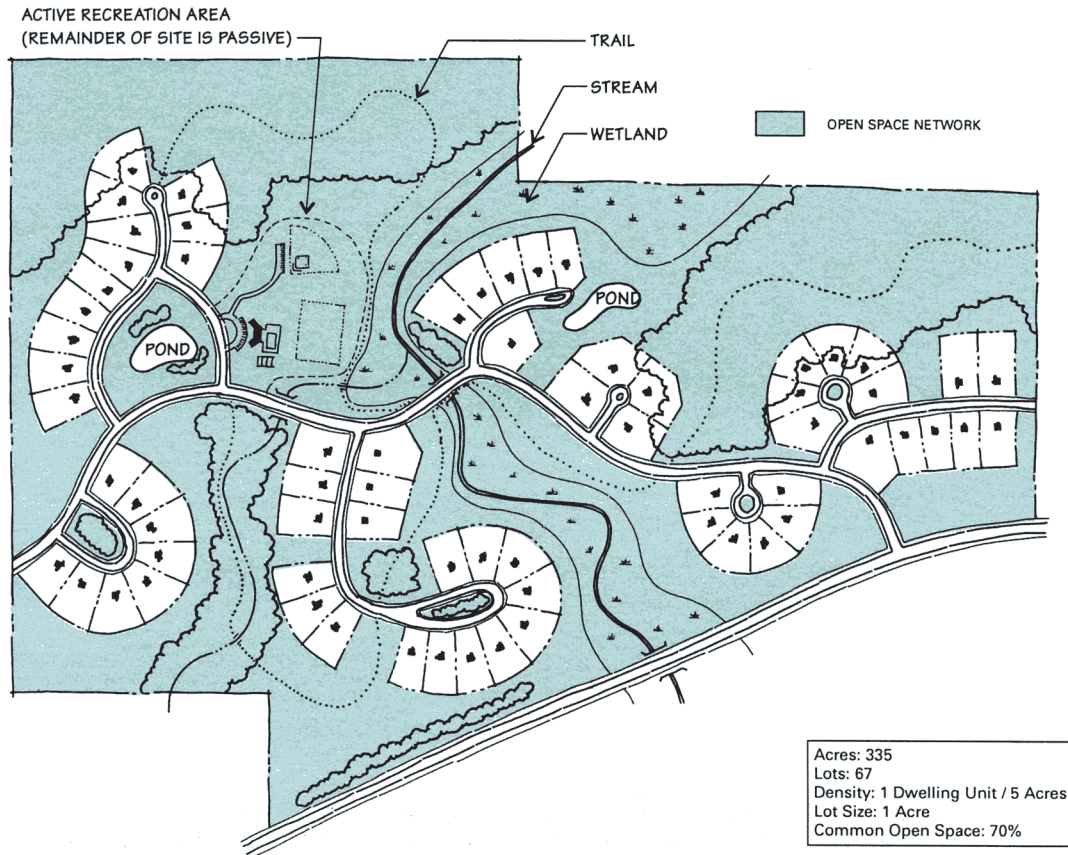
space, parcels must be of a specified area, width, and length. Long, narrow areas, such as those created by acute street or lot corners, should be disqualified. Minimum widths for trail and pathway areas should be established. Unconnected fragments of open space below a specified size should also be disqualified. However, to encourage landscaped islands in cul-de-sacs, these should be included as qualifying for required open space. Various configurations of open space areas can be encouraged or discouraged by permitting or not permitting certain areas to qualify toward fulfilling the required amount of open space.

4. Provide common access to streams, ponds, and lakes.

In conventional subdivision layouts, access to streams, ponds, and lakes is often limited to a few prime lots that front on these desirable features or to a public street right-of-way platted to the shoreline. In a cluster development, however, it is possible to provide such access to the residents of every lot. Streams, ponds and lakes should be surrounded by open space and treated as community assets which are made accessible to all residents of the development (see Figure III-18). An important aspect of such accessibility is the provision of enough open space around and along such features that general access is possible without impacting the privacy of adjacent private residential yards. A separation of at least 100 feet is recommended, more is preferred.

5. A linked pedestrian system with paths into the open space should be provided; bicycles should also be accommodated.

Walking for pleasure is an important form of outdoor exercise and relaxation; thus, provision for this activity should be made in cluster developments. With open space as a primary feature of the development, it follows that access into that open space is an important element in a cluster design. For open space to be enjoyed to its fullest extent, it must be possible to get out into it. This is often most easily accomplished with a simple path. Paths can be as basic as a mown strip through a wild flower meadow. Woodlands should be made accessible with selective clearing of underbrush to permit a pathway to be constructed. While some totally natural, open space areas not accessed with paths play an essential role in the preservation of rural character, some accom-



**Figure III-17.** The open space system should be connected and contiguous; active and passive recreation areas should be designated.

modation should be made for pedestrian access into other open areas. Each development site will have its own characteristics. A balance must be found between the need to preserve open space in a natural state and to provide access to it and through it. In any case, a continuous pedestrian walkway system should be provided within a cluster development.

Pedestrian walkway systems fulfill other functional uses in addition to recreation. A pedestrian walkway system can consist of two kinds of walkways: paths and sidewalks. Paths provide access to open space (see Figure III-19), but may also provide connections between cluster groups and between such groups

and other supporting land uses, such as schools and churches. Sidewalks generally run parallel to roadways and are provided primarily for safety reasons, so that pedestrians need not walk in the more heavily traveled roadways, such as collector streets. Sidewalks can function as part of an overall onsite pedestrian walkway network, connecting to paths and trails. Sidewalks tend to be perceived as urban in character, however, and should be limited in rural cluster subdivisions. Paths, usually constructed of asphalt or more natural materials such as crushed stone or shredded bark, are much less urban in appearance than concrete sidewalks and can generally be located within open space areas. These require some additional maintenance, however.



**Figure III-18.** In conventional lakefront development, as seen in the lower half of the photo, views and lake access are usually reserved for a limited number of lots. But with cluster development, as seen in the upper half of the photo, at The Preserve at Hunters Lake in the Town of Ottawa, Waukesha County, everyone can have access to the lake.

It should be noted that streets carrying low traffic volumes can also be used for walking and can provide important links in the pedestrian walkway system.

Accommodations can, and should, also be made for bicycle traffic in cluster developments. Bicycles can normally be accommodated on streets where vehicular traffic volumes are low. The speed of bicycles is generally more compatible with automobiles than with pedestrians; however, pedestrians and bicyclist can share a pathway if it is wide enough. When the cluster development can provide an important link in a larger municipal or regional bicycle path network, a bicycle path separated from streets and pedestrian paths should be provided.

6. Protect views by locating dwelling units below ridge lines.

One way to protect the appearance of preserved open space is to avoid siting dwelling units on ridge lines. Houses seen from a distance against a gently sloping hillside are less obtrusive than houses silhouetted against the sky atop a ridge. Also, because they are more obtrusive, houses on a ridge are more difficult to screen than houses below the ridge.

Unless density is fairly low, it is not always possible to achieve this objective, but emphasis should be placed on protecting the views of the most prominent ridges on a site and reinforcing their importance in the character of the landscape with well-placed plant material. Trees should not be removed from ridge lines.

#### **Stormwater Management Facilities**

1. Natural stormwater drainage systems should be used.



**Figure III-19.** Paths should provide access to the open space in cluster development.



**Figure III-20.** Stormwater management basins should be graded with gentle side slopes to blend into the landscape.

2. Stormwater retention and detention basins and sedimentation basins should be blended into the landscape.

Stormwater management facilities can be very intrusive in the rural landscape if patterned after urban systems. Natural, open drainage swales should be used, rather than systems using curbs, gutters, and piped storm sewers with inlets. Drainage swales should be carefully sized and aligned vertically and horizontally to carry runoff from specified design storms. Such storms, depending upon the function a swale in the total drainage system, may have recurrence intervals ranging from five to 100 years. The swales should be gently graded to blend into the natural topography; steep side slopes should be avoided. Stormwater detention or retention basins should be graded to a safe slope, no steeper than 4:1, and should blend into the natural landscape (see Figure III-20). When properly graded and planted with appropriate native species, such basins can become an attractive amenity, rather than having a purely utilitarian look. Fencing of basins should be avoided, because such fencing generally conveys a very urban appearance. It is steep side slopes combined with deep depths that can make basins a safety hazard. Fencing for safety should not be necessary if depths of 24 to 30 inches are not exceeded and side slopes are gentle. The

drainage system should be carefully designed, based upon quantitative analyses, to avoid flooding of streets and street intersections in minor storms and of building sites in major storms.

When sedimentation basins are included in a stormwater management system, they should also be designed to blend into the natural landscape. The purpose of such basins is to improve water quality by allowing sediment from surface runoff to settle out from the stormwater before being discharged from a site. Gradual side slopes blended into existing topography and appropriate plantings around the basin help to prevent such basins from intruding into the rural landscape.

### Landscaping

Plants are one of the most defining elements in the rural landscape. Evergreen and deciduous trees and shrubs, vines, grasses, and crops combine in various ways to shape a landscape. Woodlands, pasture, wild flower meadows, farmfields, hedgerows, wetlands, and lone specimen trees all have important impacts on the landscape. Landscaping for a cluster development should be viewed as consisting of two steps: the preservation of existing plant materials and the addition of new plant materials. Many people think only of new plantings



**Figure III-21.** Hedgerows and large individual trees are striking landscape features that should be preserved in the final plan and properly protected during construction.

when considering landscaping, but the preservation of existing plant materials has the greatest impact on a site and on rural preservation. It is therefore important to identify existing plant materials to be preserved and to protect the edges as well as the interiors of preservation areas during the process of construction.

1. Woodlands, hedgerows and individual specimen trees should be protected from construction, but selective clearing should be permitted.

New plantings of trees cannot, for many years, duplicate the positive impact on the landscape provided by existing, mature trees, whether massed in woodlands or standing alone (see Figure III-21). Many native trees, especially ashes, oaks, maples, and walnuts, may take 50 years or more to reach maturity; shrubs and other smaller woody plant materials may take up to 15 years. While herbaceous plants usually grow to maturity within a single growing season, they are usually part of a larger ecosystem made up of interdependent plant communities that can take several years to establish. Thus, subdivision control ordinances should place great emphasis on preserving existing vegetation, particularly healthy, mature native trees. To encourage such preservation, a credit for preserved plant materials could be given toward satisfying a requirement for new plantings.

The successful preservation of trees, shrubs, hedgerows, woodlands, and wetlands requires that they be properly protected during construction. It is critical that the underground root system of a plant be protected as well as the above-ground trunks and branches. In addition to common above-ground mechanical injury, such as breakage of branches and damage to tree trunks, compaction of roots from storage of equipment or building materials, suffocation of roots from filling the grade too high above them, drowning of roots by increasing surface water conditions through grading, reducing the root system by cutting the grade, and exposing and removing roots are all hazards to the survival of trees and shrubs. Dumping construction debris around trees and toxic runoff affecting the quality of the water absorbed by the roots are additional dangers affecting survival. Sedimentation of watercourses and wetlands also affects plant life and should be avoided by using good erosion-control measures during construction.

The best way to protect trees and shrubs in the field is to require a setback distance for grading and construction activity of any kind, marked by a snow fence or other similar barrier. As a general rule, two to three feet outside the drip line of trees, larger shrubs, and edges of woodlands is the minimum distance needed to protect the bulk of the root systems. Regular field inspec-



Figure III-22. Trees should be planted along streets to enhance future landscape character.

tion is needed to ensure that the protected areas are not encroached upon during the course of construction.

When trees are not properly protected, it is not always immediately evident if their survival has been compromised. They may lose vigor slowly over a period of two to three years and finally die. When this occurs on a private lot, the homeowner is faced with the expense of removing the dead trees, often after having paid a premium for a lot containing mature trees. Similarly, a municipality or conservation organization controlling the open space in a cluster development may be faced with the expense of dead tree removal. Developer maintenance bonds or other sureties usually do not remain effective for more than about one year following completion of construction. Thus, several years later there may be little recourse to have the situation corrected or to recoup costs.

It should be noted that selective clearing of understory plants in wooded should be permitted. Removal of noxious weeds, nonnative species, or dead or diseased plants may be desirable in some areas, as would clearing to provide pathways through woodlands. Areas of both plant protection and selective clearing should be noted in an overall land management plan for a cluster development, as further explained in Chapter V.

2. Street trees should be required.

The planting of street trees should be required in all cluster developments, as it should for all subdivisions in general, to enhance future landscape character (see Figure III-22). This requirement may be waived to maintain vistas, preserve agricultural use of fields, or otherwise shape the desired landscape character of an area. The required trees should be permitted to have some randomness or informality in their arrangement. A monoculture, the use of a single species, should be avoided because of the risk of susceptibility to pests or disease; a variety of deciduous species should rather be used.

3. Landscaping should be provided within setbacks, buffer areas, and common greens.

Landscaping should be provided in tract boundary setbacks, in buffers between cluster groups, in open spaces which serve as common greens within cluster groups, in islands of cul-de-sacs, between incompatible uses and to screen cluster groups from existing streets, as shown in Figure III-23. Such landscaping should consist primarily of deciduous and evergreen trees and shrubs planted in informal groups and functioning as a screen to a greater or lesser degree, as the situation demands. When existing vegetation can fulfill the intended purpose of the required new plant material, a credit should be granted toward any of these requirements.

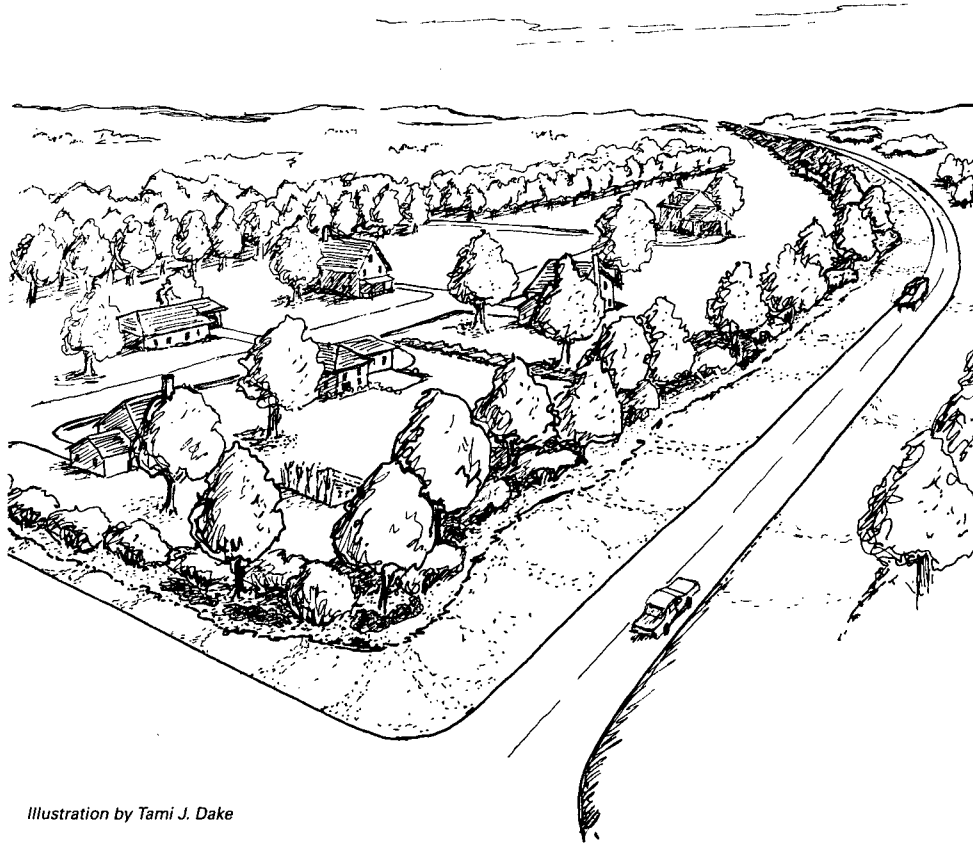


Illustration by Tami J. Dake

**Figure III-23.** Landscaping in setback areas should be provided to screen cluster groups from existing roads.

### Cultural and Historical Features

Cultural and historical features often lend a unique character to a development site that distinguishes it from other sites, perhaps even more than natural features can.

1. Existing cultural and historical features should be converted into community assets whenever possible.

A barn, a farmstead, a well house, a stone fence, or even the ruins of an old building can often be incorporated into a cluster design as a community asset. For example, it may be possible to reuse an old building as a community center (see Figure III-24) or to feature a small

outbuilding as a resting spot along a trail. While it is not always possible to preserve old buildings because of the cost of rehabilitation, when the economics are viable the effort is well worthwhile. Features that are not buildings, however, can often be preserved for the benefit of the development at little or no cost. For example, it can be difficult to duplicate the rustic character of an old fence line, but if it is simply left undisturbed, such a feature can make an invaluable contribution to the preservation of the rural character of an area.

Every effort should be made to preserve cultural and historical features as unique amenities on a site. To encourage this, credits toward, or relief from, other required improvements may be granted. Alternatively, a small density bonus could be granted as an eco-





**Figure III-24.** The barn complex at Woodfield Village in the Town of Merton, Waukesha County, serves as a horse stable and is incorporated into the design as a community asset. It is surrounded by ample open space, preserving rural landscape character next to the perimeter road.

conomic incentive to undertake the added expense attendant to such a venture. Such credits or bonuses would be included in the zoning provisions for cluster development.

#### **SEWERAGE FACILITIES AND WATER SUPPLY CONSIDERATIONS**

The purpose of rural cluster development as defined in this report is to help preserve open lands, environmentally sensitive natural areas, and rural community character. In many areas of the region, however, where cluster development would be most effective, extensive public infrastructure does not exist, particularly public water-supply and sanitary-sewer services. A major challenge faced when cluster development is considered in rural areas is the provision of adequate sewage-disposal and water-supply facilities. Implementing cluster development will sometimes mean permitting innovative means of providing for sewage treatment and water supply.

The provision of proper utility services, particularly sanitary sewerage and water supply, is critical to the protection of the public health. Moreover, certain utility facilities are closely linked to the surface-water and groundwater resources of the area, and may, therefore, affect the overall quality of the natural resource base. This is particularly true of sanitary sewerage. Utility services are therefore an important consideration in proposed cluster developments, as they are in conventional developments.

Rural water-supply and sewage-disposal requirements directly influence the size, location, and design of cluster developments, including the number of homes. A major benefit of cluster development is the flexibility to locate wells and sewage-disposal systems in the most suitable location on a site. Developers are more likely to be able to build all the permitted units because the flexibility of cluster design provides sites for wells and sewage-disposal systems. Projects proposed to be developed by conventional designs may contain lots that are not suit-

able for onsite sewage disposal systems or wells, and therefore are not buildable.

### **Sewerage Facilities**

In general, there are three categories of sewage-treatment systems that can apply to cluster development: private individual onsite systems (serving a single lot), private community systems (a centralized system serving a specific development or one or more cluster groups), and public municipal systems (a centralized system serving one or more municipalities). A range of alternatives exist within these three categories of systems and each alternative may treat various components of the system differently.

All sewerage systems, whether individual or community, consist of three basic components:

1. *Collection and conveyance:* The pipes and such appurtenances as pumping stations that lead from the house to the area of treatment;
2. *Treatment:* The physical, biological, and chemical breakdown and removal of organic and inorganic material and microorganisms (for example, an individual septic tank or a public sewage-treatment plant);
3. *Disposal:* The disposal of liquid effluent (for example, in a subsurface absorption field or a spray-discharge system) and the disposal of separated and stabilized solids.

There are many collection and conveyance, treatment, and disposal options and a variety of ways to combine these components in a system. The alternatives that are likely to be used by cluster developments in the Region are discussed here. Most alternatives suitable for rural cluster development, however, deal primarily with the components of treatment and disposal. Table III-1 clarifies some of the options available for the three basic components.

Selection of the best alternative for a particular proposal depends on the physical characteristics of the site (such as steep slopes or availability of open space), the char-

acteristics of the proposed development (including the number and net density of units and lot size), environmental factors (woodlands, wetlands, streams), and economic considerations. Usually there are only a few suitable alternatives for a specific site. The best overall system is the one that suits the site and is also acceptable to the municipality. Many municipalities are becoming more concerned about the environmental impacts of development. When a unit of government is considering cluster development, that concern is already being expressed. Thus, sewage-treatment facilities that benefit the environment the most will probably have the greatest possibility of acceptance.

It is important to note that sewage-disposal facilities in rural cluster developments would most likely consist of individual onsite systems or community systems with discharge through a soil-absorption system, thus requiring careful consideration of soil properties. As noted earlier in this chapter, in 1966 the Regional Planning Commission, in cooperation with the U. S. Soil Conservation Service,<sup>2</sup> completed a detailed soil survey of the entire seven-county Region. The survey included interpretations for the suitability of the various mapped soils for the use of onsite sewage disposal facilities. These interpretations have been maintained correct by the Commission, reflecting changes in the technology concerned, including the use of mound-type, as well as conventional, onsite sewage-disposal systems. This information on soils is important in helping to determine potential locations for cluster residential developments using onsite systems. Detailed site investigations are necessary to more definitively determine if the soils on a specific tract of land are suitable for development with onsite sewage-disposal systems. In addition to identifying the location for a sewage-disposal system, the type of system should also be carefully selected from the variety of types available.

The State regulatory agencies responsible for the sanitary-sewer permit application process are the Wisconsin Department of Natural Resources (DNR), for public sewerage systems, and the Wisconsin Department

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<sup>2</sup>Please see Footnote 1 on page 34.

**Table III-1**  
**SEWERAGE SYSTEM COMPONENTS**

Type of System	Collection and Conveyance	Treatment	Disposal
Individual Onsite Disposal System	Collection lines minimal; a building sewer and possibly a pump	Septic or aerobic tank, possible sand filter	Absorption field or mound
Individual Holding Tank	Building sewer from house to tank	None	Conveyance by truck for off-site treatment and disposal
Public Community System	Gravity flow sewers or force mains; small diameter vacuum or pressure sewers with grinder pumps, or individual septic tanks with treatment at common absorption field	Septic or aerobic tank, sand filter, common soil absorption field, centralized community plant	Absorption field or mound; land application
Public Centralized System	Gravity flow sewers or force mains; small diameter vacuum or pressure sewers	Sewage treatment plant	Land application or stream discharge

Source: SEWRPC.

of Commerce,<sup>3</sup> for private sewerage systems, according to Chapters NR 110 and ILHR 82 and 83 of the Wisconsin Administrative Code. Many State requirements related to private sewage systems are administered by the counties. Both State agencies review the conformity of proposed sanitary-sewer extensions with adopted areawide water quality management plans and the sanitary sewer service areas identified in such plans. Prior to approval, these agencies must make a finding that

<sup>3</sup>Effective July 1, 1996, the former Department of Industry, Labor, and Human Relations was partially subsumed into the newly created Department of Workforce Development. The regulatory function exercised under ILHR chapters in the Wisconsin Administrative Code, however, were subsumed by the newly created Department of Commerce. The identifying initials in the Code, however, will remain the same at present.

the area to be served is located outside areas with physical or environmental constraints, which, if developed, would have adverse water-quality impacts. Areas with such constraints may include wetlands, shorelands, floodways and floodplains, steep slopes, highly erodible soils and soils with other limiting characteristics, and groundwater discharge-recharge areas, all found chiefly within the environmental corridor network.

#### **Private Individual Onsite Systems**

The most common type of sewage-disposal system in rural areas is the individual system on a private lot. Such private, onsite systems for cluster developments would most likely consist of conventional systems, mound systems, or holding tanks.

#### **Conventional Sewage Disposal Systems**

All components of the conventional septic systems are usually located on the individual lot. This system consists of a pipe leading from the house to an in-ground

septic tank. Treatment takes place in the tank, where solids are broken down by microorganisms in an anaerobic (oxygen-free) environment. Effluent disposal takes place when effluent flows from the tank to an in-ground disposal field (septic field), where further treatment of the effluent occurs through the action of microorganisms and filtration through the soil. This system usually operates by gravity, but sometimes a small pump may be used to pump effluent up to an absorption field situated higher than the septic tank.

The disposal field can consist of a series of trenches between undisturbed earth (absorption-trench system), or a bed in which the entire field is excavated and the soil replaced with gravel or crushed rock (absorption bed). Distribution lines discharge the treated effluent evenly over the entire bed. Chapter ILHR 83 of the Wisconsin Administrative Code requires that, for all systems, a sufficient area of suitable soils must be provided on the lot for the proposed absorption field and for one replacement absorption field, should the first system fail; construction of the second system is not required until actually needed.

#### *Mound Systems*

The most common alternative to the conventional onsite sewage disposal system is the mound system. At the time that the aforementioned regional soil survey was completed in 1966, disposal of domestic sewage was primarily based on the use of conventional systems. Since that time, alternative onsite sewage disposal systems have been designed, field-tested, and, in some cases, approved by regulatory agencies for use under more limiting soil conditions than those for which conventional systems would be acceptable. For example, mound systems may be approved for use in areas with shallow bedrock or high water tables, either of which would preclude the use of conventional systems. The Regional Planning Commission has updated the soil suitability interpretations originally provided in the 1966 soil survey report.

Mound systems are similar to conventional sewage-disposal systems in that they consist of a septic tank and a soil-absorption field; however, mound systems are constructed above the surface of the ground and covered with soil, while conventional systems are located

beneath the surface. In addition, conventional systems usually distribute sewage through the absorption field by gravity, while a mound system typically uses a pumped, pressurized distribution system to purge the absorption field periodically. A variation of the mound system consists of shallow in-ground systems or at-grade systems, distributing effluent either by gravity or by pressure flow, with dosing-pump systems preferred. An area for a second absorption field may also be required for mound systems for the reasons stated above for conventional systems. Mound systems are usually costlier than conventional systems.

#### *Effluent Disposal in the Common Open Space*

If the lots in a cluster development are not large enough, or if the soils where the lots are located are not adequate to accommodate disposal fields, an alternative is to locate the final treatment and disposal fields in the common open space adjacent to the lots, while initial treatment still takes place on the lots. Houses can thus be located in areas covered by soils poorly suited for onsite sewage-disposal and the disposal fields can be located on better soils in the open space. During the initial design process, the open space can be delineated with the purpose in mind of including the soils on the site that are suitable for disposal fields. Treatment would still take place in the septic tank or aerobic tank on the individual lots. Another alternative is for several units to share a single, larger disposal field. By using common open space for individual or shared systems, cluster development becomes feasible without the need to resort to conveyance to a central public sewage treatment plant.

#### *Holding Tanks*

Holding tanks may be used for a site which cannot accommodate either a conventional or a mound onsite sewage disposal system or where such systems have failed and public sanitary-sewer services are not available. Essentially, sewage from the house is conveyed to a holding tank located outside the house. The tank may be above or below the grade. When the tank is full, a truck operated by a private contractor or a public utility district collects the effluent and conveys it to a public sewage treatment plant for treatment and disposal, or, in special cases, to a land-application site. The latter practice, while permitted by State regulation, should be discouraged. A permit for disposal of sludge is required

to ensure proper disposal of such waste, in accordance with Chapter NR 113 of the Wisconsin Administrative Code.

When holding tanks are used, it is recommended that the installation, operation, and maintenance of the tanks be managed by a public utility district established for this purpose. The adopted regional water quality plan recommends that such utility districts provide evidence of a contract with a municipal sewage-treatment plant for treatment and disposal of the holding tank wastes.

#### ***Community, or Cluster-Group, Systems***

Community, or cluster-group, systems are similar to municipal systems in that sewage is collected from all houses and treated and disposed of in a central location. However, the facilities serve only a single development and the location of the treatment facilities is on the development site. Such systems should be owned and operated by a special-purpose unit of government, such as a sanitary or utility district, or a general-purpose unit of government, such as a town.

#### ***Dispersed Community System***

A dispersed community system serves two or more dwellings, but not an entire development. Each of the alternative individual onsite systems heretofore described can be used for several dwellings sharing the system; many of these “shared” systems can be dispersed throughout a development. The method of sewage treatment is the same as in the individual system, but the components, the septic tanks and absorption fields, must be larger. Dispersed community systems provide a useful alternative that may have application in some situations; however, in most cases, only one centralized community system serving an entire cluster development should be used.

#### ***Centralized Community Systems***

A centralized community system collects sewage from all the houses in a development and conveys it to a central onsite treatment facility. The treatment facility treats the sewage to the level required by State regulation and disposes of the effluent on the site. The common treatment and disposal components of the system would typically be located in the common open space of the cluster development.

Typically, in a centralized system, sewage is collected from individual houses or dispersed cluster groups to a central location by either vacuum, pressure, or gravity-flow sewers. The sewage is conveyed to a central treatment facility, which may use the same methods as those used for individual onsite sewage disposal systems, but on a larger scale: a larger septic or aerobic tank with larger disposal fields, whether conventional or a mound, or larger holding tanks. The entire facility, except the collection and conveyance lines from the houses, would be located in the open space. In some cases, the soil-absorption system may be preceded by a small-scale treatment system. Such a system should provide for a reduced level of conventional pollutants in the final effluent, particularly of nitrates.

The collection and conveyance facilities comprising a community sewage-treatment and sewage-disposal system should be designed to good municipal engineering standards with respect to pipe materials, sizes and grades, manhole designs and spacings, and pumping station configuration and design. This will facilitate connection to a municipal sanitary sewerage system when connection to such a system becomes available.

#### ***Public Sewerage Facilities***

In a public centralized sewerage system, an extensive network of collection and conveyance sewers are connected to a central sewage-treatment plant for the treatment and disposal of the sewage. If the cluster development is located close enough to existing municipal sewage facilities, it may be connected to such a public sewerage system, just as a conventional development could. Extensions of sewerage system are often made to accommodate new development. As long as adequate capacity exists at the treatment plant and the connection is found to be cost-effective, such connections to public systems are often seen as the best alternative.

However, such sewer extensions should not conflict with regional and local comprehensive development objectives. Extending municipal sewers may encourage unwanted growth. When development “leapfrogs” outward from an existing service area, undeveloped parcels remain between the existing and new development. Sewer lines extended through undeveloped areas to serve new development also provide sewer access to the unde-

veloped parcels. Invariably pressure builds, not only to develop these vacant parcels, but to develop at higher densities. Thus, sewer extensions to cluster developments may not be desirable from a community planning perspective, although, if a sound, agreed-upon land use plan is in place for the community, such secondary growth pressures may be mitigated. Additionally, such extensions are costly to provide and increase maintenance costs for the community. In some cases it may be practical to utilize a community, or cluster, onsite system or large holding tank to serve a clustered development on an interim basis before possible future connection to a public system. The collection system provided initially would thus be installed to municipal standards for future use as a component of the public system.

#### ***Maintenance***

The maintenance of individual on-lot septic systems is typically the responsibility of the individual homeowner. The maintenance of a community system should, however, be the responsibility of a general-purpose or special-purpose unit of government. Proper maintenance of these systems will help avoid long-term problems, even though it may not be the responsibility of the municipality.

#### **Water-Supply Facilities**

As already noted earlier, the proper treatment and disposal of sewage is crucial in order to protect, not only surface-water resources, but also the groundwater resources, which may be the source of water supply for cluster developments in rural areas. The water-supply system used to serve a cluster development may consist of either individual on-lot wells or a community system. In some cases, existing municipal water systems may be extended to cluster development if the location of the development makes the extension cost-effective.

A good water-supply system with an adequate supply of high-quality water is essential to sound cluster development. The source of such a water supply for a cluster development will usually be the groundwater reservoir. The availability of groundwater can be affected by the loss of pervious cover in recharge areas or through excessive or overly concentrated pumping. In addition,

groundwater quality is subject to potential degradation from pollution by onsite sewage disposal systems, infiltration of polluted surface waters, and leakage from underground storage tanks and sanitary landfills, as well as from accidental chemical spills in the recharge areas. For these reasons, it is very important that any proposed cluster developments should be established in an environmentally sensitive manner to protect the natural resources it depends on, especially groundwater.

Groundwater in the Region is obtained from two main water-bearing geologic units. The upper unit includes shallow limestone, referred to as the Niagara aquifer, and overlying glacial deposits, referred to as the sand and gravel aquifer. These two interconnected aquifers are often called collectively the shallow aquifer, or the shallow groundwater system. Separated from the shallow aquifer by the relatively impervious Maquoketa shale formation is a deeper sandstone aquifer. The shallow aquifer is typically under atmospheric water table conditions, while the deep sandstone aquifer is confined and under pressure. The depths of wells vary dramatically throughout the Region, since aquifers may be exposed at the ground surface or may be covered by relatively impermeable materials. Groundwater levels within an aquifer may vary seasonally and with topography. Cluster development may obtain water from either of the two aquifers underlying the Region.

All water-supply systems, including wells, in the Region are regulated by the Wisconsin Department of Natural Resources, in accordance with Chapter NR 811 and 812 of the Wisconsin Administrative Code. The code specifies the permit application process and includes specific requirements for locating wells in relation to potential contaminating sources, such as requiring minimum distances between a well and septic systems, floodplains, and other features with a potential for contamination of the groundwater reservoir.

#### ***Private Individual Well Systems***

Most individual homes within cluster developments may be expected to obtain their domestic water supply from private wells, typically located on the lot. Water is essentially transported from a pump located in a well system connected to the groundwater aquifer through pipes leading into a pressure tank inside the house,

where it is stored. It is the responsibility of the individual homeowner to maintain this plumbing system. All systems must be installed by a licensed well driller and the water must be tested prior to consumption.

#### ***Private Community Well Systems***

Sometimes community wells may be preferred to individual wells because of site constraints and the cost of developing an individual high-quality water source in certain situations. A community system in a rural cluster development would typically serve five or more homes. Such a system, like a community sewerage system, should be owned, operated, and maintained by a general-purpose or special-purpose unit of government. The water-supply system could consist of more than one community well system serving dispersed cluster groups or of a single central system serving all the individual residences or cluster groups in a development. The central operating system is similar to the individual systems, except the mechanical components such as the pump and the main distribution lines feeding into the smaller pipes that lead into the houses are larger. The well itself would be located in the common open space of the cluster development.

The provision of a community system, if properly designed to good municipal engineering standards, also offers an advantage for fire protection, since it is equipped with adequate pumping and storage facilities, and provided with proper main sizing and valving and street hydrants. Such design would also allow for ready connection to a municipal water-supply system when connection to such a system becomes available.

#### ***Public Water-Supply Systems***

Municipal water systems consist of an extensive network of components operating as a system, including surface or groundwater sources of supply, treatment plants, pumping stations, storage reservoirs, and transmission mains. Like a municipal sewerage system, if a cluster development were located near existing municipal water facilities, it could connect to those facilities. As long as adequate water supply and pumping capacity exists and the system extension found to be cost-effective, connection to public systems is often the best alternative. However, as in the case of sewerage systems, such extension should not conflict with regional

and local development plans, since the extension may encourage unwanted growth.

#### **SUMMARY**

Since the primary purpose of clustering in rural areas is to preserve the rural character of the landscape, the areas which contribute to that character should be carefully identified, delineated, and set aside as common open space prior to any attempts are made to design street and lot layouts. The process for designing cluster development around the open space should take place in three basic steps:

1. Identification and analysis of existing conditions;
2. Delineation of preservation areas;
3. Layout of dwelling locations and the street and lot patterns.

In addition to following a good process for planning the site, preserving open space where it is most effective, certain design principles should be followed to ensure good design for both the cluster groups and the open space. Three important design principles for preserving rural character are:

1. Preserve existing natural features;
2. Preserve open space adjacent to existing perimeter roadways;
3. Screen new housing with topography or vegetation.

Important design principles for cluster groups include:

1. Limit the size of cluster groups;
2. Locate open space within cluster groups;
3. Require a separation distance between cluster groups;
4. Locate each lot adjacent to some form of open space.

Important principles for the design of open space are:

1. Configure open space to be of efficient size and shape;
2. Common open space should be continuous wherever possible.

Important principles for buffering include:

1. Provide tract boundary setbacks from streets and buffer cluster groups from incompatible uses on adjacent parcels;
2. Buffer cluster groups from active farming;
3. Buffer adjacent larger lots from cluster groups;
4. Buffer cluster groups from active recreation areas and trails;
5. Buffer cluster groups from wetlands and floodlands.

A final design principle involves the preservation of farmsteads:

1. Accommodate farmsteads on appropriately configured large lots.

In addition to the aforementioned general design principles for site planning, several additional site-specific land development principles should also be followed. Principles involving the proposed street system are:

1. Proposed streets should connect at proper locations to the existing arterial street and highway network of the area;
2. The number of access points to existing perimeter streets and highways should be limited;
3. A clear street and highway hierarchy should be established;
4. Lot access to arterial and collector streets and highways should be restricted;

5. Collector and land-access streets should be carefully fitted to the topography;
6. Excessive residential street and roadway widths should be avoided;
7. Landscaping in cul-de-sac bulbs and views and access to common open space from the ends of cul-de-sacs should be encouraged.

Site-specific land development principles for open space areas include:

1. An organized and linked open space network should be required;
2. Open space areas for passive and active uses should be identified;
3. Minimum area, width, and length requirements for open space parcels should be stipulated;
4. Common access to streams, ponds, and lakes should be provided;
5. A linked pedestrian system with paths into the open space should be provided; bicycles should also be accommodated;
6. Vistas should be protected by locating dwelling units below ridge lines.

Land development principles for storm water management facilities include:

1. Natural stormwater drainage systems should be used to the extent feasible;
2. Stormwater retention and detention basins and sedimentation basins should be blended into the landscape.

Principles for landscaping include:

1. Woodlands, hedgerows, and individual specimen trees should be protected from construction, but selective clearing should be permitted;



2. Street trees should be required, but informality in pattern should be encouraged;
3. Landscaping should be provided within setbacks, buffer areas, and common greens.

And, finally, a principle regarding the preservation of cultural and historical features:

1. Existing cultural and historical features should be converted into community assets whenever possible.

This chapter concludes with an examination of sewer and water-supply considerations in cluster development. Three types of sewage-treatment systems are applicable to cluster development: private individual systems, serving a single lot; public community systems, centralized

systems serving a specific development or one or more cluster groups; and public municipal systems, a centralized system serving one or more municipalities. Private individual onsite systems for cluster development would most likely consist of conventional systems, mound systems, or holding tanks. Community systems could consist of dispersed community systems or centralized community systems. Public municipal systems serve one municipality or more.

Water-supply facilities may consist of private individual well systems, private community well systems, or public water-supply systems. Community sewerage and water-supply systems, if used, should be designed to good municipal engineering standards to facilitate proper connection to central public systems if and when they become available. Such systems should be owned and operated by general-purpose or special-purpose units of government, such as existing sanitary districts.

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## IMPLEMENTING THE CLUSTER DEVELOPMENT CONCEPT

When the policy decision has been made by a municipality that the preservation of the rural character of the landscape and a concomitant preservation of open space are a part of the community's vision for the future, and the municipality has formalized this policy as an objective in its comprehensive plan, with clustered housing listed as a means of achieving that objective, the next step is the implementation of the cluster concept in local ordinances, specifically the zoning ordinance and the land subdivision control ordinance. Accompanying the adoption of these ordinances should be the inclusion of cluster development concepts on the official map.

The zoning ordinance is the primary means for implementation of cluster development; it is the means by which such development is specifically permitted and regulated. The land subdivision control ordinance contains important related land development regulations. The official map ensures that an integrated street and open space network will result as individual cluster developments are constructed either side by side or integrated with conventional developments. This chapter describes how to provide for cluster development in both these ordinances and the official map, beginning with a section on the statutory authority enabling counties and local units of government to adopt cluster ordinances.

### **STATUTORY AUTHORITY FOR CLUSTER ZONING AND PLANNING**

Cluster development is simply another type of residential development; zoning regulations for cluster development are simply another form of regulating structures and open spaces for residential and other uses

as authorized under the grants of the power to zone included in the Wisconsin Statutes. Although regulations for cluster development are somewhat different from those for conventional development, they are not "exotic" or unusual. The same basic legislation that empowers local units of government to adopt zoning regulations for conventional development permits regulations for cluster development.

Zoning legislation is enacted under what is known as the "police power" of government; that is, the power of government to enact regulations for the purpose of promoting the public health, safety, morals, and general welfare. In the United States, the local municipalities are creatures of the states and obtain their authority to adopt zoning ordinances from the state legislatures through zoning enabling legislation. In Wisconsin, counties and local governments were empowered to adopt zoning ordinances when the State Legislature adopted planning enabling legislation in 1917. Under Section 62.23 (7)(a) of the Wisconsin Statutes, local units of government are granted the power to:

. . . regulate and restrict by ordinance the height, number of stories, and size of buildings and other structures, the percentage of lot area that may be occupied, the size of yards . . . and other open spaces, the density of population, and the location and use of buildings, structures and land for trade, industry, residence or other purposes.

Section 62.23(7)(b) authorizes "planned development districts" which will "promote the maximum benefit for coordinated area site planning, diversified location of structures and mixed compatible uses." Such devel-

opments would include “attractive recreation and landscaped open spaces” and in such districts “the regulations need not be uniform.” Known as planned unit developments (PUDs), developments under this section are similar to cluster developments and this section of the Statutes is often cited as specifically authorizing cluster development.

The validity of regulating cluster developments is clear under the general zoning powers of the local municipalities; such regulations are defensible as a form of residential zoning. The advantages of cluster development as a means of protecting sensitive environmental features are hardly arguable. Cluster development regulations aimed at preserving rural landscape character, however, are also concerned with visual qualities and aesthetic appearances. Such regulations aimed at aesthetic, or “character,” preservation are often coupled with more easily defensible environmental protection aims.

Although cluster zoning is clearly permitted on other grounds, the “aesthetic” or the “preservation of landscape character” aspects of the regulations commented on in the first three chapters of this Guide are also firmly rooted in enabling legislation and court decisions. In 1955 the Wisconsin State Supreme Court held that aesthetic objectives alone may be sufficient to sustain an ordinance regulating the exterior design and arrangement of buildings.<sup>1</sup> And in 1954, the United States Supreme Court declared:

The concept of public welfare is broad and inclusive . . . . The values it represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well-balanced as well as carefully patrolled.<sup>2</sup>

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<sup>1</sup>*State ex rel. Saveland Park Holding Corp. v. Wieland*, 269 Wis. 262, 69 N.W. 2d 217 (1955).

<sup>2</sup>*Berman v. Parker*, 348 U.S. 26, 75 S. Ct. 98, 98 L. Ed. 27 (1954).

In the Wisconsin Statutes, landscape character is specifically mentioned as an asset to be valued in Section 27.015 (2), which deals with rural planning at the county level. This section of the Statutes permits counties to set aside through acquisition “community woodlands, places of local and historic interest” and to provide “for the reservation of land for public uses along river fronts, lake shores, fine outlooks from hill-tops, and for the preservation of our native landscape.” Section 21.015 (7)(e) goes on to provide that counties can set aside “places of historic interest” and protect and preserve “unique and picturesque scenery along rivers, lakes and streams, or other scenery or features remarkable, to the end that they may be continued and preserved.”

That landscape is an amenity that can be protected through zoning is mentioned in Section 59.69(1)<sup>3</sup> of the Wisconsin Statutes, which deals with planning and zoning authority at the county level. It is, among other things, the stated purpose of that section to “encourage uses of land and other natural resources which are in accordance with their natural character and adaptability,” to “conserve soil, water and forest resources,” and to “protect the beauty and amenities of landscape and manmade developments.” This section further states that county zoning may regulate “. . . places, structures or objects with a special character, historic interest, aesthetic interest or other significant value . . . .”

In Section 62.23 of the Wisconsin Statutes, which empowers cities, and by reference villages and towns which adopt village powers, to plan and zone, “the character and extent of neighborhood units,” and “the character of the district and its peculiar suitability for particular uses . . . with a view to conserving the value of buildings and encouraging the most appropriate use of land” are all mentioned as elements in master planning.

And finally, under the umbrella of historic preservation, the Wisconsin Statutes empower counties, cities, villages, and towns to regulate “any place, structure or object with a special character, historic interest, aesthetic interest or other significant value, for the purpose of preserving the place, structure or object and its

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<sup>3</sup>Section number amended effective September 1, 1996, Act 201.

significant characteristics.” (Sections 59.69 (4m), 62.23 (7)(em), and 60.64).

For further reference, the enabling legislation in the State of Wisconsin which permits cities, villages, towns, and counties to make use of the zoning power can be found in the following sections of the Wisconsin Statutes (section numbers per amendments effective September 1, 1996, Act 201):

City Planning and Zoning	Section 62.23 to 62.234
Village Planning and Zoning	Section 61.35 to 61.354
Town Planning and Zoning	Sections 60.10(2)(c), <sup>4</sup> 60.61 to 60.65
County Planning and Zoning	Sections 59.69 to 59.99, 91.51

**THE OFFICIAL MAP**

The official map is one of the oldest plan implementation devices available. It is also one of the most effective and efficient devices to manage the problem of reserving land for future public use. The official map is intended to help implement community master plans, including those incorporating the cluster development concept. Its basic purpose is to prohibit the construction of buildings and associated improvements on land which is identified on the map for future public use. This is particularly important in cluster developments which, too often, are considered by both the developer and the municipality as isolated, private enclaves separate from adjacent parcels, surrounding street systems, and open space networks.

The Wisconsin Statutes provide that governing bodies may establish an official map to identify the precise

<sup>4</sup>Section 60.12(2)(c) of the Wisconsin Statutes provides that town boards may exercise village powers, including comprehensive planning powers delegated to cities and villages under Section 62.23 of the Statutes, the city enabling act. Most towns have adopted village powers and are thus empowered to make and adopt a “master,” or comprehensive, plan for the physical development of their town.

location and width of existing and proposed streets, highways, railways, parkways, and waterways,<sup>5</sup> and the location and extent of historic districts, public transit facilities, parks, and playgrounds. The Statutes also provide that the official map may be extended to include areas beyond corporate limits, but within the extra-territorial plat approval jurisdiction, of a city or village.

The applicable legislation enabling official mapping or containing elements of the official map concept are as follows:

<u>Unit of Government</u>	<u>Applicable Official Map Enabling Statute (1996)</u>
Cities	62.23(6)
Villages	61.35 <sup>6</sup>
Towns	60.10(2)(c) and 60.22(3)
Counties	80.64 and 236.46
Wisconsin Department of Transportation	84.295(10)

Unlike subdivision control, which operates on a plat-by-plat basis and acts on individual development proposals, the official map can operate over the entire community in advance of development proposals. The official map is a useful device to achieve public acceptance of long-range plans, since it serves as legal notice of the government’s intentions well in advance of any actual improvements. It thereby avoids the altogether too com-

<sup>5</sup>Waterways may be placed on the map only if they are included within a comprehensive surface-water-drainage plan.

<sup>6</sup>Section 61.35 of the Wisconsin Statutes confers and imposes all planning powers and duties set forth in Section 62.23 of the Statutes upon villages, including official mapping powers. In a similar manner, town boards are authorized to exercise all powers relating to villages and conferred on village boards except those laws that would conflict with statutes referring to towns and town boards. This provision is set forth in Section 60.22(3) of the Statutes, and the assumption of village powers must be authorized at a town meeting in accordance with Section 60.10(2)(c). Thus, the official map legislation as set forth in 62.23(6) of the Statutes applies in its entirety to villages and towns as well as to cities.

mon situation of development being undertaken without knowledge or regard for existing long-range plans. Thus, it can help avoid public resistance when plan implementation becomes imminent.

The streets, highways, drainageways, parkways, trails, and parks delineated on official maps are particularly relevant to any proposed cluster development. The map may designate such features on property adjacent to proposed cluster developments, providing a unique opportunity to connect the common open space and trails of the developments to future public parks and parkways. Because of the design flexibility in cluster development, connecting these network systems between adjoining parcels is possible.

A more complete description of the functions and benefits of official mapping and of the engineering considerations entailed in the creation of such maps, together with a model official map ordinance, can be found in SEWRPC Planning Guide No. 2 (2nd Edition), Official Mapping Guide, June 1996.

## THE ZONING ORDINANCE

The implementation of cluster zoning consists of two parts: one, drafting the cluster zoning district regulations; and, two, applying the district, that is, delineating the area within the municipality to which the cluster zoning district regulations would apply. There is considerable flexibility in how a cluster zoning ordinance can be written and applied; each community must determine for itself what specific regulations are most suitable for its own particular situation. Each of the many choices that can be made is considered below. However, it is important to first have an understanding of the terminology commonly used in cluster zoning. Accordingly, Appendix A provides a list of cluster zoning-related terms that are often misunderstood or used incorrectly; it clarifies the meaning of the terms, and explains their relevance to the application of cluster zoning.

A number of alternative zoning approaches can be taken as to how to permit cluster development. Since municipalities will differ in their comprehensive planning objectives regarding residential development, open space preservation, agricultural preservation, and in their

perceptions of rural landscape character and of its value in the community, as well as their administrative ability and financial resources, the approaches toward permitting cluster development will also necessarily differ. Each of the approaches described below has advantages and disadvantages. A municipality should utilize the approach that best suits its own planning objectives and administrative abilities.

### Application of the Cluster Zoning District

Usually a municipality will have certain specific areas in mind when it starts to consider cluster zoning. In the local comprehensive plan, general areas or types of areas for various types of residential development may have been generally identified. When defining a cluster district in the zoning ordinance, specifics must take the place of generalities. The specifics will depend on exactly how the community wants to apply the cluster regulations and how those regulations are to relate to the community development objectives set forth in the comprehensive plan.

It is not necessary for an area to have a large percentage of environmentally constrained land to be considered for cluster development. While clustering is an excellent means of permitting development in such an area, cluster development should not be seen as being suited for only such areas. Nearly any undeveloped land areas, environmentally constrained or not, may benefit from cluster development.

### Areas Suitable for Rural Cluster Zoning Districts

Nearly any undeveloped area zoned for residential use may be suitable for cluster zoning. But rural clustering is not appropriate where the existing permitted density exceeds one dwelling unit per acre. Clustering in such districts would probably entail using chiefly attached and multi-family housing types or single-family dwellings on lots smaller than one-quarter acre in order to gain the 60 to 75 percent open space needed for rural preservation. Development with a preponderance of attached and multi-family housing, or very small lots, would have a strong urban appearance; homebuyers looking for rural character would probably not be attracted to such a development.

A primary factor in determining whether or not an existing area may be suitable for cluster zoning is the

willingness of the community to make the decisions that are required to preserve 60 to 75 percent of the area in open space. The necessary regulations may be politically unpopular, difficult to administer, or may not fit the vision of the community. If this is the case, the area should probably not be designated for clustering. Adopting zoning district regulations that are not as effective as they could, or should, be, owing to ill-advised compromises, may lead to disappointment and should be avoided.

Figure IV-1 illustrates the kinds of choices a community may make to achieve the needed amount of open space. In this example, the initial proposal by the community is to revise an existing zoning district requiring a minimum lot size of three acres by adding a cluster provision maintaining a gross density of one dwelling unit per three acres and a minimum lot size of one acre. Unfortunately, this 3:1 lot-reduction ratio would produce only 45 percent open space, which is not adequate for effective preservation of the rural character of a landscape. Possible solutions for producing enough open space in this district would include, but would not be limited to, the following three alternatives:

**Alternative No. 1**

Maintain a one-acre minimum lot size, but decrease density from one dwelling unit per three acres to one per five acres. This would create approximately 60 percent open space through down-zoning.

**Alternative No. 2**

Decrease the minimum lot size to one-half acre and permit community sewage disposal systems, if centralized sewer service is not available. Permitting individual systems outside the lot area in the common open space is also an alternative. This would create approximately 65 percent open space because of a 6:1 lot-reduction ratio, a reduction of lot area from three acres to one-half acre.

**Alternative No. 3**

Maintain density, but permit a variety of housing types, including attached units. Because of the reduced land area required by smaller lots and attached units, 75 percent open space could be attained. Again, community sewage-disposal systems or individual systems sited in the common open space would be required for the smaller lots.

This example illustrates that there is no single best way to apply cluster zoning to an area. Alternative No. 1 would not be suitable for a community in which down-zoning would be politically infeasible. Alternative No. 2 would not be suitable for a community that does not want to permit either community sewage disposal systems or individual systems located in the open space. Alternative No. 3 would not be suitable for a community which does not want to consider permitting attached units in the cluster district. None of these approaches is particularly preferable to the others, but each achieves 60 to 75 percent open space. It is simply a matter of which alternative may be expected to work best in a specific community and situation.

**Methods of Zoning for Cluster Development**

Figure IV-2 illustrates a variety of methods of zoning for cluster development, showing the difference in land area affected by the methods chosen. The five methods shown are explained below.

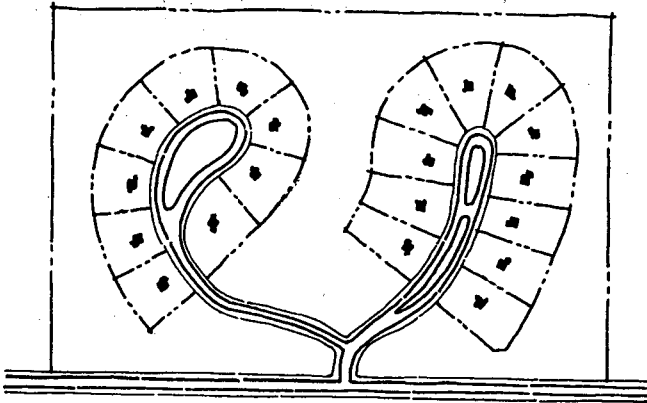
**Adding Cluster Provisions to Existing Zoning Districts**

Perhaps the simplest approach to delineating where clustering can take place is to add cluster provisions to one existing zoning district or more. Cluster development may be added as an optional permitted use in one existing zoning district or more. The existing boundaries of the districts on the zoning map would define where cluster development could take place. Density, lot size, and open space regulations for cluster development would be added, as well as design guidelines or incentives. This would involve making only textual additions to the ordinance; no district boundary changes would take place on the zoning map (see Figure IV-2b).

When the density in a proposed cluster zoning district is to be based on existing zoning, the most important determination to be made is whether or not 60 to 75 percent open space can be preserved while maintaining the specified density. Since the cluster concept is based on gaining open space through lot size reduction, the beginning lot size (see Appendix A, "Definitions") cannot be too small. The lot size reductions needed for achieving at least 60 to 75 percent open space are in the range of 5:1 to 8:1 (refer to the chart in Appendix B). If a community has determined that only individual onsite sewage-disposal systems located within

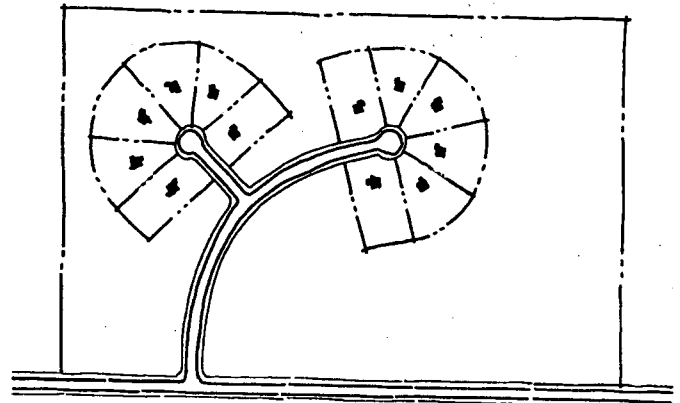
**ORIGINAL PROPOSAL**

DENSITY 1 DWELLING UNIT / 3 ACRES  
 20 1-ACRE LOTS  
 45% OPEN SPACE



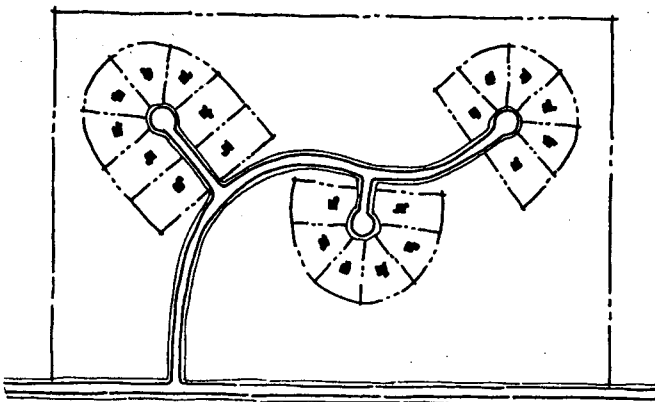
**ALTERNATIVE NO. 1**

REDUCE DENSITY TO 1 DWELLING UNIT / 5 ACRES  
 MAINTAIN LOT SIZE (1 ACRE)  
 60% OPEN SPACE



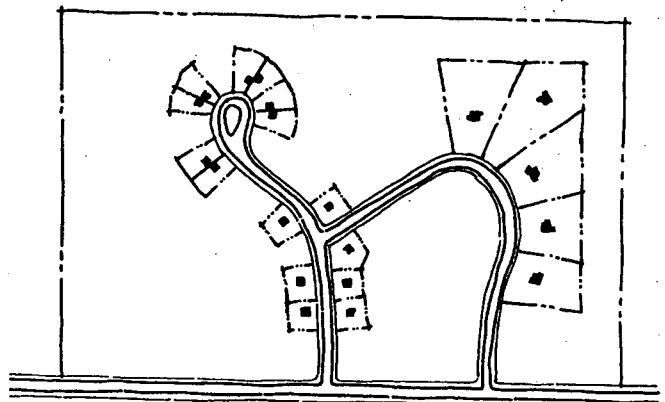
**ALTERNATIVE NO. 2**

MAINTAIN DENSITY  
 REDUCE LOT SIZE (TO 1/2 ACRE)  
 65% OPEN SPACE



**ALTERNATIVE NO. 3**

MAINTAIN DENSITY  
 PERMIT SEVERAL HOUSING TYPES  
 75% OPEN SPACE



**Figure IV-1.** Cluster zoning regulations should be written to achieve at least 60-75% open space. There are usually several alternative ways to do this, as illustrated on this 60-acre parcel.

the lot area would be acceptable, a one-acre ending lot size (see Appendix A, "Definitions") would be required and, at a 5:1 lot reduction, a district requiring 5-acre lots would be needed as the beginning district.

Within such districts, cluster development could be permitted as a "by right" use or as a "conditional use." These two approaches differ in the degree of control

they give the municipality. A "by right" use (or "use by right") is permitted without requiring the developer to go through any special processing procedures, such as public hearings. If the proposal meets the stated regulations, the development can proceed. This is a useful approach when clustering is optional and a municipality desires to encourage it by saving the developer time and money by not requiring special approvals or hearings. Some



communities fear that permitting clustering by right will not provide adequate control over a proposed cluster development. However, clustering by right should not present problems to the municipality if the zoning and land subdivision control regulations are properly written. Typical plan processing procedures should provide ample opportunity for municipal influence on the site plan, including, but not limited to, street and lot layout, location of open space parcels, landscaping, pedestrian circulation, drainage, utilities, and sewerage and water systems. Site plan review of the street and lot layout and the open space network by a qualified professional planner would aid the municipality in determining whether good design principles have been followed.

If the municipality wants to exert more control over the plan than a by right use would permit, clustering could be permitted as a conditional use. Conditional uses are uses that are usually permitted provided they meet certain conditions that are specified in the ordinance. For example, a condition could be that a minimum tract of at least 50 acres is required for a cluster development to be permitted. Also, additional conditions may be required by the governing body prior to approval. Such additional conditions could include the provision of landscaping, buffers and screens, lighting, fencing, deed restrictions, appropriate open space ownership and management, and review of homeowners' association documents. All of these areas should be included in the regulations, but the governing body may prefer to reserve the option of imposing further conditions.

It is recommended that the basic conditions that conditional uses must meet be clearly listed in the ordinance, so that the developer is not surprised with a series of unexpected conditions that may increase costs unreasonably. Predictability is a key to the success of getting cluster development utilized in a nonmandatory district; if the developer fears the possibility of facing unpredictable conditions, cluster development will probably not be the option chosen.

#### *Creating a New District*

A municipality may choose not to utilize existing zoning districts, but rather to create an entirely new base district in which cluster development is made either mandatory or optional. When cluster development is

optional, the new district should permit at least one other type of residential development as well, in addition to open space, natural resource conservation, or agricultural uses. All new regulations for density, lot size, and open space, including design guidelines, would be written for the district.

When new districts are delineated, their boundaries may be defined by public or private property lines, former district boundary lines, natural boundaries, or a combination of these (see Figures IV-2c and d). Existing districts may have to be reduced in size to accommodate the new district. Efforts should be made to avoid drawing district boundaries that create parcels on which clustering is permitted in only one area, with the remaining area of the parcel zoned for other uses, so-called "split zoning."

Districts with new boundaries and new regulatory text are often used when a municipality is down-zoning an area (reducing the maximum permitted density) or when clustering is mandatory. Down-zoning is further described under "Density Bonuses and Penalties"; mandatory districts are further described under "Mandatory versus Optional Cluster Development."

#### *Using an Overlay Zoning District*

An overlay zoning district is a district that is superimposed on one existing district or more. Overlay districts are often used to permit uses that would otherwise be excluded in the underlying district, to impose additional regulations, or to implement some form of density bonus or incentive zoning program. Floodplain, shoreland, and shoreland-wetland zoning regulations are often imposed through the use of overlay districts. The boundaries of an overlay district may be defined by public or private property lines, natural features, district boundary lines, or a combination of these.

An overlay zoning district may also be used to identify certain parcels for special regulation without resorting to conditional uses. For example, a municipality may want to permit cluster development in several districts, but only if the tract is at least 35 acres in size (see Figures IV-2e and f). Also, a density bonus may be added, increasing the permitted number of units beyond what the underlying zoning district would permit, as an incentive for the developer to cluster.

IMPACTS OF VARIOUS METHODS OF ZONING FOR CLUSTER DEVELOPMENT

EXISTING ZONING DISTRICTS

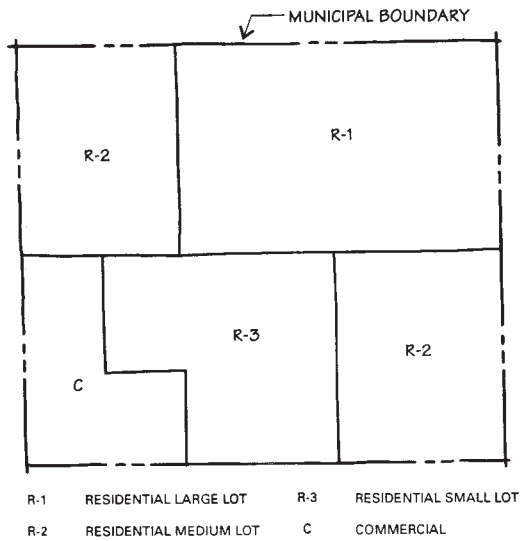


Figure IV-2a. Cluster development is not listed as a permitted use in any district.

CLUSTER DEVELOPMENT PERMITTED IN SELECTED EXISTING DISTRICTS

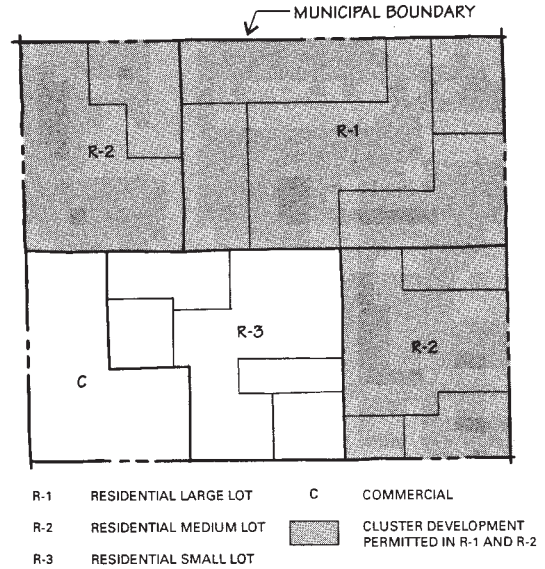


Figure IV-2b. Cluster development is added as a permitted use in the R-1 and R-2 districts. It may be permitted by right or conditional use.

CLUSTER DEVELOPMENT REQUIRED IN A NEW MAPPED DISTRICT

DEFINED BY PROPERTY LINES

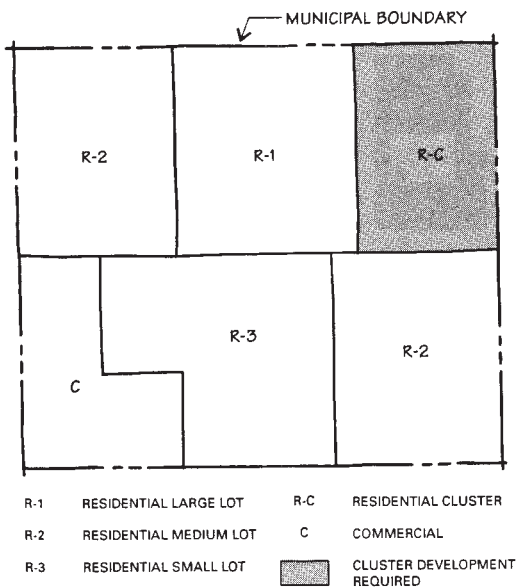


Figure IV-2c. Part of R-1 is replaced by a new mandatory cluster district.

DEFINED BY NATURAL BOUNDARIES

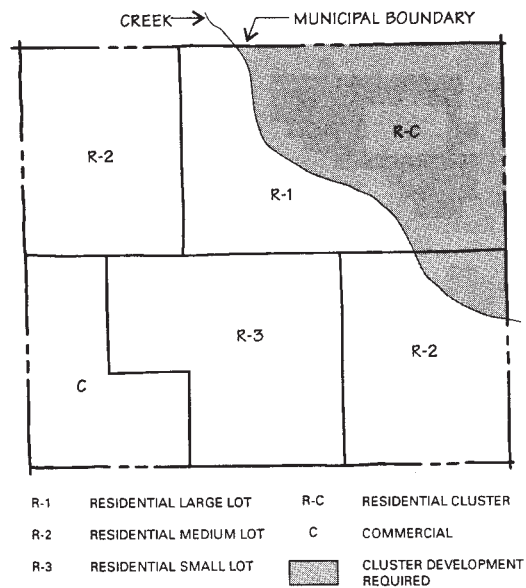
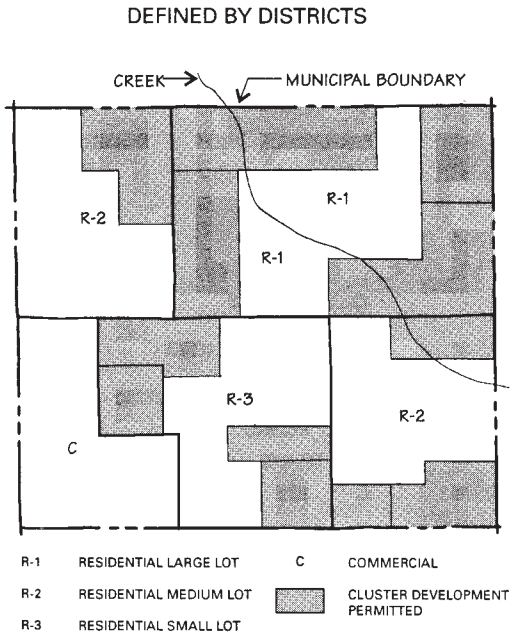
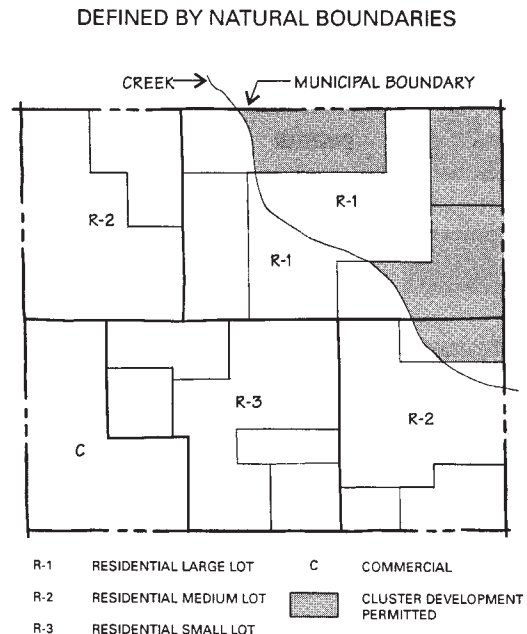


Figure IV-2d. Areas of R-1 and R-2 east of the creek are replaced by a new mandatory cluster district.

CLUSTER DEVELOPMENT PERMITTED IN AN OVERLAY DISTRICT



**Figure IV-2e.** Cluster development is permitted on tracts of land 35 acres or greater, in R-1, R-2, and R-3.



**Figure IV-2f.** Cluster development is permitted on tracts of land 35 acres or greater, east of the creek.

**Figure IV-2.** As shown in Figures IV-2a through IV-2f different methods of zoning for cluster development will vary the amount of land impacted within a municipality.

Overlay districts may be shown on a municipal zoning map in two ways. As in the case of floodplain overlays, they can be delineated on the basic zoning district map. They can also be mapped “after the fact,” that is, when a particular tract within the overlay district has been approved for cluster development. The zoning map would then be revised to reflect the designation of the tract for cluster development. PUDs are often mapped in this way.

**Optional versus Mandatory Cluster Development**

As already noted, zoning ordinances may be written to make cluster development optional or mandatory. That is, a zoning district may require residential development to be clustered or it may be left as an option for the developer. As a general rule, when the permitted number of units is to be no greater, or only slightly greater, than that permitted under conventional zoning, the district should be mandatory. When a significant density bonus can be granted, the district may be optional.

When deciding whether cluster development should be mandatory or optional, a municipality should keep in mind that the purpose of a cluster zoning district is to achieve the objectives set forth in the community’s comprehensive plan. For the valid application of rural cluster development, these objectives should include preservation of the rural character of the landscape. If the developer has a choice and finds conventional development easier, quicker, cheaper, and more profitable to accomplish than cluster development, the choice will be clear. Similarly, the financial institutions upon whom the developer may depend for financing will tend to favor use of the more familiar conventional subdivision design. Conventional development will then continue to be pursued and the municipality will not reach its objectives for open space and rural landscape preservation.

Developers are apt to build cluster developments under two scenarios: first, when cluster development is

required and the developer has no choice, and, second, when optional cluster development is made so advantageous that the developer will often choose it over conventional development. In an optional district, the way to create a preference for cluster development is to increase density and expedite the review and approval process. Processing is discussed later in this chapter.

#### *Density Bonuses in Optional Cluster Districts*

Experience has shown that optional cluster development will usually not be chosen over conventional development unless density is increased, giving the developer a bonus. Moreover, density bonuses will not achieve their objectives when they are either too small, thus tending not to be used by many developers, or when they are too large, defeating their purpose by reducing the amount of open space required to preserve the rural character of the landscape.

Density bonuses in the range of 15 to 20 percent are common; within this range, cluster development is often not the option chosen by developers. Into this range of small, ineffective density bonuses falls the so-called "hidden" bonus. Much is made of this bonus in some municipalities, because it is seen as free density, that is, extra dwelling units, giving to the developer something that is not always easy to recognize or calculate. Figure IV-3 illustrates what a hidden bonus is. The example shows a 100-acre tract of land zoned for three-acre lots, which would mathematically permit 33 lots. However, 33 units on three-acre lots would not actually fit on the tract because some land would be lost to streets and to lotting inefficiencies. Perhaps only 26 lots would fit on the tract. But in a simple gross density formula for cluster development, 100 acres would be divided by three acres to result in 33 permitted units. Since the lot area would be reduced, all 33 lots would fit on the tract. The seven lots gained by use of the gross density formula are considered a hidden bonus. However, this bonus rarely constitutes more than about 20 percent and is usually not enough to be the deciding factor as to whether or not to cluster.

Generally, for cluster development to become attractive to a developer, density should be increased by at least 30 percent; and doubling the density may not be extreme,

especially in very-low-density districts. One way to increase density without losing open space is to decrease lot size. Permitting attached housing is another way.

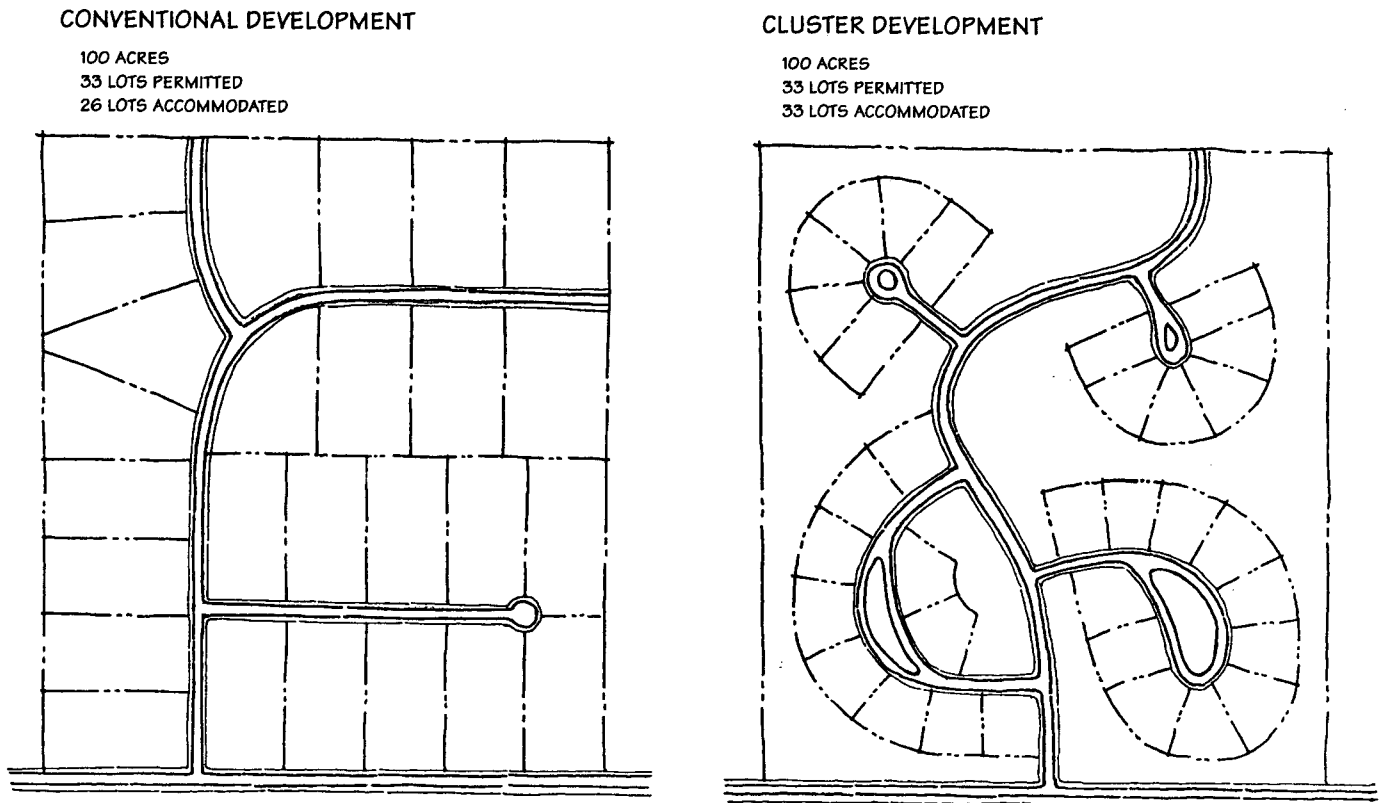
Density bonuses can be awarded on a sliding scale, rewarding developers with increased density as the amount of open space increases. This may seem contradictory, but Figure IV-4 illustrates how density and open space can increase simultaneously.

When a municipality is considering permitting a density bonus in a cluster district, it should consider the area-wide impacts of permitting additional dwelling units within the overall district. With a larger number of people in the area, the traffic impacts would increase, the demand for services such as police and fire protection would increase, and the potential school population would increase. When including a density bonus, the community should be making an informed decision and planning for the potential impacts in return for the open space benefits they will be gaining through cluster development.

#### *Down-Zoning*

When a municipality has made the decision to down-zone an area (see Appendix A, "Definitions"), that is, to reduce the permitted density from what was previously permitted, an opportunity for creating an incentive to cluster exists. Sometimes down-zoning can be a politically difficult task for municipal officials, even though the reasons for it may be very sound. Local residents may feel that their development rights have been reduced, although no such rights may exist under law. While requiring the reduced density for conventional development, local officials could choose to permit all or part of the original density if cluster development is used.

For example, on a 45-acre tract of land with three-acre zoning, 15 houses could theoretically be built. If this tract were down-zoned to five-acre lots, the permitted density would be reduced to nine lots, an apparent loss of six lots. However, a developer choosing to develop under a cluster option could be rewarded with the full density of 15 lots, while a developer who chooses to develop conventionally would be permitted only nine



**Figure IV-3.** A "hidden bonus" (additional dwelling units) often results when a density formula based on gross acreage is used. The total number of permitted lots will fit on a clustered tract, but not on a conventionally developed tract. The number of additional units is not known until the lot layouts are completed.

lots. This technique works best when the density difference between the existing and the proposed districts is significant, that is, at least 30 percent. If the difference is not large enough, the developer may not choose cluster development.

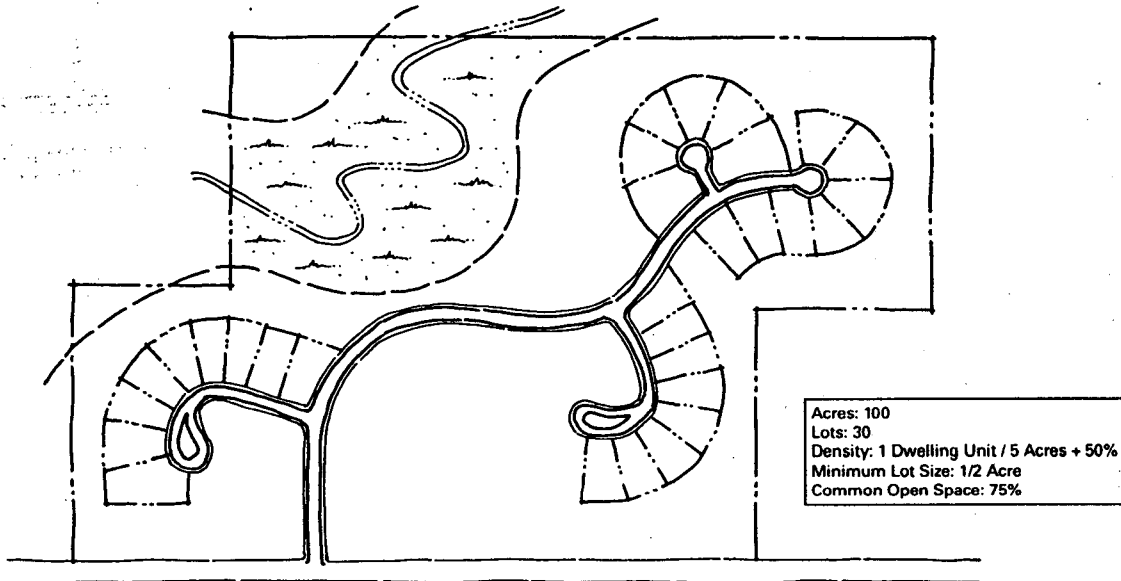
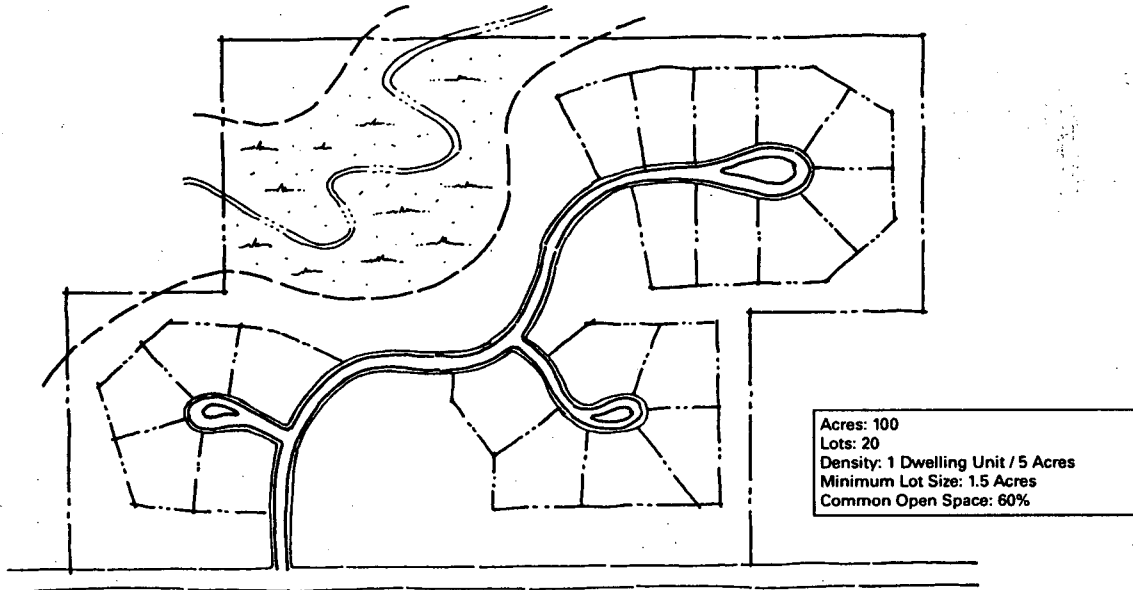
*Mandatory Cluster Districts*

If a municipality is not comfortable with down-zoning or increasing density as much as is needed to provide an incentive for developers to choose cluster development, mandatory clustering is then the best alternative.

Two advantages to mandatory clustering are that, first, it gives the municipality assurance that future residen-

tial development will be in clustered form; second, it permits the municipality to limit density to no more than what would be permitted under existing conventional development. Since density bonuses are not needed, the community can avoid the impacts that a greater population would bring.

A common criticism of mandatory districts is that conventional subdivisions are not permitted even under those circumstances in which they may be more desirable than cluster development. To deal with this, conventional development may be permitted as a conditional use, putting the burden on the developer to demonstrate that cluster development is either not



50% DENSITY BONUS

Figure IV-4. When a density bonus is given, density and open space can both increase at the same time when the minimum lot size is decreased enough.

feasible or is actually counterproductive to achieving the objectives stated in the legislative intent of the district. Acceptable reasons for not clustering should be based on environmental, not economic, grounds.

There is also a legitimate need to provide exceptions for farm families who may want to split off lots for family members. Provisions can be made for this in the zoning ordinance, but the number of such small subdivisions should be limited (see Figure IV-5). Lot size should be limited, with a maximum as well as a minimum area. With a minimum lot size of one acre, the lot would usually be large enough to accommodate an individual onsite sewage system; with a maximum of two acres the creation of five to ten-acre "farmettes" may be avoided.

In a mandatory cluster district, a threshold minimum tract area should be established, below which clustering would not be required. Tracts that are too small would not produce enough units for a viable homeowners' association. The tract area minimum will vary according to the density permitted. It is recommended that a tract area permitting at least five dwelling units be established. Thus, in a district permitting one dwelling unit per four acres, the minimum tract area would be 20 acres. The tract area minimum should apply only to parcels of record at the time of adoption of the ordinance. Such a requirement would preclude landowners from using a two-stage development scheme that would first split off parcels below the minimum size and then follow up with conventional development.

It is further recommended that, prior to permitting a conventional lot to be split from a larger tract, a sketch plan for development of the entire tract be submitted, demonstrating that the location and size of the lot does not interfere with the overall cluster design scheme. Such a plan could be required in rural residential areas, but need not be required in prime agricultural areas, where the land will remain in agricultural use.

Permitting limited conventional lotting in a mandatory cluster district requires accurate record keeping on the part of the municipality. Property owners may choose

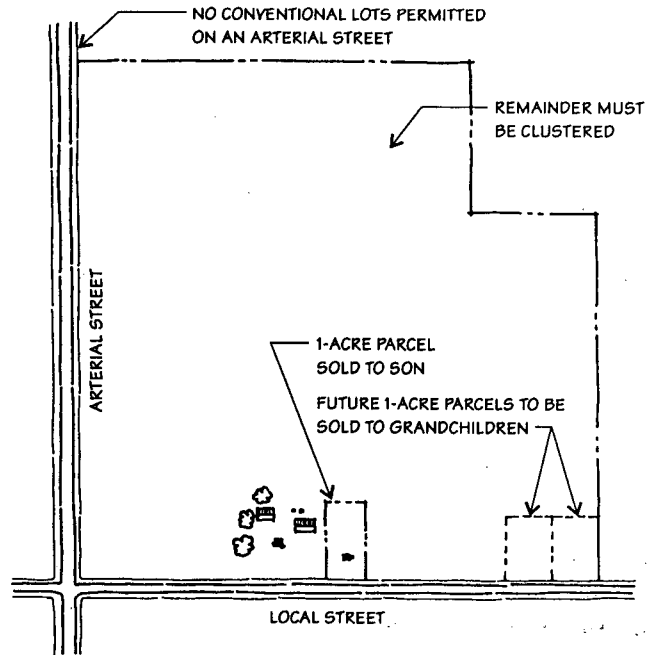


Figure IV-5. Limited conventional lotting may be permitted in a mandatory cluster district. Such splits should be tracked over time by the municipality.

to split off their allotted number of lots over a period of years, prior to selling their land to a developer who will cluster. The municipality will need, over time, to track the number of lots so that the permitted maximum number of conventional lots is not exceeded.

### Zoning Regulations

When the application of the district has been determined, the second part of implementing cluster ordinances consists of writing the zoning ordinance itself, the specific regulations that explain the intent of the district; list the permitted uses and any conditional uses; prescribe density, lot size, and open space requirements; describe the required inventory and analysis of the site; provide design standards for the

cluster groups and the open space; list options for ownership and maintenance of common facilities; and specify acceptable types of sewerage, water-supply, and drainage facilities.

The model zoning ordinance for cluster development in Appendix C is an example of an ordinance with regulations in each of these areas. There are alternative ways to draft an ordinance; however, the model presents a set of regulatory options that should be widely applicable throughout the Region. The model provides language for a new base district with mandatory clustering on tracts 35 acres or larger. A minimum of 60 percent common open space is required. Because the district requires clustering for residential development, any applicant who wishes to develop with conventional subdivision design would be required to apply for a rezoning to another district with the same or similar density that does not require clustering. Optional regulations for density exchange and lot averaging are also provided. These two options may be added to the district as additional sections. A third option for a density calculation based on net buildable area is also provided and, if used, would replace the regulations for density based on gross tract area. Since, in drafting a model ordinance, certain choices with respect to the regulations must be made, language is not provided for all situations. However, the regulations are annotated with explanations about other choices that could be made.

Chapter III presented a series of design guidelines that should be formalized in the zoning ordinance regulations. The following section describes how this should be done. The annotations in the model also provide further information about specific regulations.

#### ***Describing the Intent of the District***

The first section of any zoning district should be a Statement of Intent. This is a description of what the community intends as the purposes of the district and describes what the district regulation are intended to accomplish. Objectives of the district should be specific and should differentiate the district from the other dis-

tricts in the zoning ordinance. Typical objectives for rural cluster zoning would include the following:

1. To implement the goals of the municipal comprehensive plan;
2. To permit residential development located and designed in a form that preserves rural character and farmland for present and future residents;
3. To provide design flexibility and efficiency;
4. To preserve such unique and environmentally sensitive natural features as wetlands, floodplains, woodlands, and steep slopes, particularly those located in primary and secondary environmental corridors;
5. To preserve scenic views and rural character;
6. To minimize perceived density by the judicious use of good site planning and landscaping;
7. To reduce soil erosion and sedimentation by the retention of existing vegetation;
8. To preserve prime agricultural soils for continued and future agricultural operations; and
9. To permit various means of owning open space.

Not all these statements of intent may apply to every municipality adopting cluster regulations. Some may be deleted and others may be added.

The importance of statements of intent lies in the legal defensibility of the ordinance. Should a regulation in the ordinance be challenged because it contains ambiguous language or overly general text which may leave it open to several interpretations, it is often the statement of intent that is referred to in order to clarify exactly what the regulation is intended to accomplish. Also, some regulations that are difficult to quantify and which require some judgement as to compliance are written in terms of being "in compliance with the intent of



the district.” When the intent of a district is clearly explained, this section lends strength to the regulations in any section which refer to it.

#### ***Defining Permitted and Conditional Uses***

The uses permitted in a cluster district should not be limited to clustered dwellings. Open space, conservation, active and passive recreation uses, park, and agricultural uses should also be included. Residential uses may include a variety of housing types; the model ordinance, however, includes only standard single-family detached units for the sake of simplicity; although agricultural, open space, and conservation uses are included.

#### ***Requiring a Minimum Tract Size***

Some cluster advocates promote the idea that any tract size is suitable for cluster development. From a design perspective, this may be true. However, from the perspective of creating a viable group of homeowners to manage effectively an area of open space or other common facilities, seven units is probably the minimum that may be expected to be successful. Fewer units may not be able to provide the funding needed for maintenance or improvement of common facilities; and personal animosities between neighbors may be more likely to hamper a small group than a larger group.

The minimum number of units required for a cluster development will determine the minimum tract area; the minimum tract area will depend upon the density permitted. For example, in a cluster district that permits one dwelling unit per three acres, a tract size of 21 acres would be required to reach the minimum of seven units.

When a minimum tract size is stipulated in a mandatory cluster zoning ordinance, some provision must be made for development on existing tracts under the minimum size. Conventional development at preexisting densities may be suitable. It should be noted that this should apply to tracts of land existing prior to adoption of the cluster ordinance only; otherwise, in an attempt to bypass the cluster requirements, repeated subdivisions of plats just under the minimum tract size could be used to create “farmettes” or rural estates.

#### ***Balancing Open Space, Density, and Lot Size***

The regulations governing density, lot size, and the amount of required open space may be considered the core of the cluster zoning regulations. It is through these regulations that the minimum amount of required open space is stipulated; the maximum density and minimum lot size are patterned accordingly. Understanding the relationship between these three regulatory elements is crucial to drafting a practical ordinance that will work “on the ground.” Too often communities find themselves in a dispute with developers if the ordinance has been written improperly and disagreements arise in such situations as when the permitted number of lots will not fit on the tract with the required amount of open space. This may create a dispute over which should be reduced: the number of lots or the amount of open space. An ordinance that creates such situations is one that both developers and the municipality will find difficult to work with. It eventually will be avoided by both, thus undermining the objective of preserving the rural character of the landscape. Therefore, the ordinance must be carefully drafted so that cluster development is readily “doable” under the ordinance regulations. A development tract must be able to accommodate the maximum number of permitted lots at the minimum lot size with the required amount of open space.

#### ***Determining the Required Amount of Common Open Space***

As has been consistently noted throughout this Guide, the objective of a rural cluster zoning district is to achieve preservation of the rural character of the landscape. The regulations should thus require at least 60 percent, and, desirably 75 percent common open space. The common open space should not include areas within individual residential platted lots. The minimum lot size requirement and maximum density should be adjusted to achieve this. The most important principle for balancing density, lot size, and open space is to establish the amount of open space first. The attainment of this open space should be the basic objective of any cluster subdivision design. The amount of required common open space should not be reduced below 60 percent in order to accommodate a larger

lot size or a greater density. If the lot size or density requirements must be such that only 40 or 50 percent open space would result, the community must realize that the ability to accomplish rural preservation within such a district would be diminished.

#### *Determining Density*

Density may be determined by using formulas for gross density or net density, or by using a yield plan. Density calculations may be ranked in the order in which they most closely permit the same number of lots as would be permitted under conventional development. In order of the consistency with the number of lots permitted under conventional development, the methods would be ranked as follows: the yield plan, the net density calculation, the gross density calculation, and finally, a gross density calculation with a bonus. The calculation difficulty is greatest under the yield plan method and least under the gross density calculation method. Each of these methods is described below.

#### 1. Gross Density

The easiest method for calculating density is by means of the following formula: divide the gross area of the development tract by a specified density factor. The resulting number is the permitted number of lots in the cluster development. Typical ordinance language would state "Density: One dwelling unit per two gross acres." Therefore, for example, a 50-acre tract zoned for one dwelling unit per two gross acres, 50 is divided by two to permit 25 lots in the development.

A formula based on gross density that is the same as that in the existing district is often seen as granting the developer the same number of units as permitted under existing zoning. However, as already noted, by using gross density, the developer would actually be given a small "hidden bonus", since this method ignores such factors as the area needed for public streets and inefficiencies in lotting.

The term "gross area" should be defined in the ordinance. It is recommended that the definition of gross area include the entire tract, including the existing and proposed rights-of-way of existing perimeter streets and highways.

The simplicity of gross density calculations is appealing to many communities, but the calculations are not sensitive to environmental site constraints. The same number of lots would be permitted on a tract of land with 30 percent wetlands as on a tract with no such constraint. The more constrained a development tract is, the greater the advantage of the method to the developer. Other zoning regulations in addition to, but separate from, the cluster district regulations, however, may be used to offset this shortcoming. Floodplain zoning is an example of such additional zoning regulations.

For the sake of simplicity, the model ordinance in Appendix C-2 uses gross density to determine the number of permitted dwellings. However, when the area of the municipality to which the cluster regulations will be applied contains extensive environmentally sensitive areas, it may be advisable to use net density, unless it is an objective to grant the developer a density bonus.

#### 2. Net Density

In a net density formula the density is based on net acreage. Net acreage is determined by deducting from the gross acreage the area of lands occupied by certain features stipulated in the ordinance. The deduction is made prior to applying a unit-per-acre factor to calculate the number of permitted lots. Such deductible features may include floodplains, wetlands, woodlands, steep slopes, utility rights-of-way, and existing or proposed street and highway rights-of-way. It is not necessary to deduct 100 percent of the acreage occupied by certain features. For example, a community may deduct 100 percent of the area of lowland environmental corridors, but only 50 percent of the area of upland corridors. Similarly, 100 percent of the area of floodplains and wetlands may be deducted, but only 50 percent of the area of steep slopes and 25 percent of the area of woodlands.

The term "net area" should be defined in the ordinance. It should be noted that net area for the purposes of calculating density is not necessarily the same as delineated buildable area. For

example, although only 25 percent of an area of woodlands may be deducted for the purpose of calculating density, 100 percent may be determined to be outside the acceptable buildable area. As a general guide for the purposes of determining net area, the following deductions from gross area are recommended:

<u>Feature</u>	<u>Deduction</u>
Existing and proposed rights-of-way of existing streets and highways	100 percent
Existing utility rights-of-way	100 percent
Floodplain	100 percent
Wetlands	100 percent
Ponds and lakes	100 percent
Steep slopes, 12 to 20 percent	50 percent
Steep slopes, 21 percent and greater	100 percent
Woodlands	25 percent

After the net area is established, the resulting acreage is multiplied by the density factor to determine the permitted number of units. The following is an example of a complete net density calculation for a 50-acre tract with a permitted density of one dwelling unit per two net acres.

<u>Features</u>	<u>Total Area</u>	<u>Deduction</u>	
	<u>Acres</u>	<u>Percent</u>	<u>Acres</u>
Existing and proposed rights-of-way of existing streets and highways	2.00 acres	100	2.00
Floodplain	5.00 acres	100	5.00
Woodlands	10.00 acres	25	2.50
Steep slopes, 12 to 20 percent	2.60 acres	50	<u>1.30</u>
Total acreage to be deducted			10.80
50 acres minus 10.8 acres divided by 2 acres equals 19 units permitted			

Because the method of calculating net density better reflects the development constraints on a tract than the gross density calculation method, the net density method usually provides a better estimate of the actual number of lots a developer could fit on a tract under conventional development than does the gross density method. The hidden bonus is eliminated. The more a tract is constrained by environmental or other features, the smaller the number of permitted units becomes. It should be remembered, however, that in cluster development, when the cluster lot size is small enough, even full gross density can be accommodated without encroaching harmfully on environmental features. Thus, the decision whether to use net density or gross density is directly related to the final lot size, as well as the environmental constraints, and whether or not it is desirable to grant the developer a density bonus.

At the end of the model ordinance in Appendix C-2, optional regulations for a net density calculation are provided. If the choice is made to use net density regulations, these would replace the regulations for gross density.

### 3. Yield Plan

An alternative to the net density calculation method is the use of a yield plan. A yield plan correlates the number of units permitted with the site-specific conditions through lot layout rather than calculation. Under this approach, it becomes unnecessary to compute the constrained area to reach net area; this eliminates some of the complexities encountered with net density calculations.

A yield plan requires preparation of a realistic sketch plan of a conventional lot layout that meets all the applicable zoning and land subdivision regulations, including those covering conventional lot size, frontage, and street standards. Evidence should be submitted that the lots would be able to support onsite sewage disposal systems. The resultant lot yield is then used as the number of lots that would be permitted in a cluster development.

The number of lots permitted under a yield plan will often be very similar to that permitted by a well-written net density formula. There is a difference in consistency, however, in that a net density formula will always produce the same number of lots for a particular tract of land; however, the number of lots in a yield plan may vary according to the skills of the designer. Also, the municipality will have to exercise some judgement as to the adequacy of the plan. Some disputes may arise with a developer who attempts to maximize the number of lots at the expense of good design.

#### *Determining Lot Size*

The minimum lot size in a cluster zoning district is a function of the amount of open space desired and the density permitted. In cases where the lot size is selected first, the density must be adjusted to yield the desired amount of open space. For example, in a community that prefers to limit the options for sewage disposal to individual onsite systems, the ending lot size should be no less than approximately one acre. If the desired amount of open space is to be 60 percent, the maximum density should be based on five-acre lots (see Appendix B).

Cluster developments may be built with a wide range of lot sizes. No one size is better than another. The lot size that should be selected is the one that works with the permitted density to achieve at least 60 to 75 percent open space.

Cluster developments may also mix lot sizes. Developments in districts permitting a variety of lot sizes may be more responsive to site constraints than those located in districts that do not. If the municipality has the administrative ability to deal with variable lot sizes in a somewhat more complicated ordinance, the results in development flexibility and, thus, improved design, are usually well worth it. Again, in determining the density and minimum lot sizes when a variety of lot sizes is to be permitted, the determining factor should be the ability to achieve at least 60 percent open space.

#### *Lot Averaging*

One method for increasing design flexibility without actually selecting a variety of specific permitted lot

sizes is to utilize lot averaging. With lot averaging, the area of a lot may be reduced below the minimum, provided that the area by which it is reduced is added to another lot. Lot averaging does not change permitted density or the amount of open space. For example, in a district that requires a minimum lot area of one and one-half acres, a lot of that size could be reduced to one acre if another lot of one and one-half acres were increased to two acres. In a district permitting lot averaging, three standards for lot area should be established: the standard minimum lot size, the average overall lot size, and the absolute minimum lot size. The standard minimum lot size and the average lot size are typically the same, but need not be. For example, a district may require a one and one-half acre minimum lot size, a one-acre average lot size and a three-quarter acre absolute minimum lot size. Such a district may permit all lots to be averaged or may limit lot averaging to a certain percentage of the total number of lots.

#### *Testing the Formula*

A cluster density formula should be "tested" in two ways. First, it should be determined that the maximum number of permitted lots at minimum lot size will fit on a tract with the maximum required amount of common open space. This can be done mathematically or with a sketch plan. Second, if the formula has been tested mathematically, it should nevertheless be illustrated on a sketch plan so that the community contemplating its adoption has a very clear idea of what development under the formula would be like.

Too often a community decides on density, lot size, and open space requirements without ever seeing a plan illustrating what a cluster development under the specified requirements might be like. Except for an experienced practitioner who has worked with cluster development extensively, it is almost impossible to visualize the differing impact of, for example, 40 percent and 65 percent open space. Usually the best way to visualize the cluster development that would result from a particular density formula is to develop a sketch plan. A community that can see a variety of formulas illustrated in this way will be able to make an informed decision about what is suitable for that community. It is recommended that no community make a decision on a cluster density formula without seeing it illustrated in a sketch plan. The planner or other professional working

with the community to develop the cluster ordinance should be experienced in the site planning needed for effective cluster development.

To determine mathematically whether a density formula will work "on the ground," four factors must be balanced. The first three, as noted earlier, are density expressed in dwelling units per acre, lot size, and the amount of required open space. These are the three factors that should appear in the ordinance. The goal is to make sure that the maximum number of permitted lots at the minimum lot size will fit on a tract with the required amount of open space. It is the fourth factor, which does not appear in the ordinance, that determines whether a tract can actually accommodate what the proposed ordinance permits. This may be called the "flexibility factor."

The flexibility factor may be defined as the minimum percentage of "extra land" that should be "left over" after all the required land is calculated for lots and common open space. This should be factored in to provide land for unpredictable lotting inefficiencies such as imperfectly shaped lots, extra street length that is "single loaded" (lots on one side only), or not "loaded" (no lots on either side), or problems caused by irregular tract configurations or site constraints. The flexibility factor should be about 15 to 25 percent of the total tract area.

The needed flexibility factor increases as the amount of required open space decreases. Generally, the flexibility factor should increase as shown in the following table:

<u>Flexibility Factor</u>	
When Required Open Space Is:	The Flexibility Factor Should Be Approximately:
60 to 75 percent	15 percent
50 percent	20 percent
30 to 40 percent	25 percent

The following is an example of the typical process that would be followed in finding a density formula that works. Since percentages are used, a tract size of 100 acres is the easiest with which to test the formula.

**Step 1**

*Proposed regulations:*

Gross density	One dwelling unit per 3 acres
Minimum lot size	One acre
Open space	70 percent

*Calculation:*

Permitted number of lots equals 100 acres divided by three acres or 33 lots

33 lots at one acre equals	33 acres
Open space at 70 percent equals	<u>70 acres</u>
<b>Total</b>	<b>103 acres</b>

The total exceeds the amount of land available and there is no land available for the flexibility factor. The formula must be adjusted by reducing density, lot size, or open space.

**Step 2** Reduce required open space from 70 percent to 60 percent.

*Proposed regulations:*

Gross density	One dwelling unit per three acres
Minimum lot size	One acre
Open space	60 percent

*Calculation:*

33 Lots at one acre	33 acres
Open space at 60 percent	<u>60 acres</u>
<b>Total</b>	<b>93 acres</b>

Flexibility factor 7 acres (7 percent)

The total no longer exceeds the amount of land available, but the flexibility factor is too low. The formula should be adjusted again. Since the open space requirement is as low as is recommended, either the lot size or the density should be adjusted.

**Step 3** Reduce density from one dwelling unit per three acres to one dwelling unit per four acres.

*Proposed regulations:*

Gross density	One dwelling unit per four acres
Minimum lot size	One acre
Open space	60 percent

*Calculation:*

Permitted number of lots equals 100 acres divided by four acres or 25 lots

25 Lots at one acre	25 acres
Open space at 60 percent	<u>60 acres</u>
Total	85 acres
Flexibility factor	15 acres (15 percent)

The flexibility factor is 15 percent, about what is needed for a formula with 60 percent open space. The formula will work most of the time, except when the area of constrained land exceeds 60 percent. When the area of constrained or unbuildable land exceeds the required amount of open space, the available land on which to fit all the lots is reduced even more; in that case, the permitted number of lots may not fit on the land that is actually buildable and the total number of lots must be reduced accordingly, on a case-by-case basis.

The foregoing example uses gross density. However, the same calculation can be made when the formula uses net density. The formula should be checked by using a "perfect" site, one with no site constraints. If it works on a nonconstrained site, it will also work on a more constrained site. In an extreme case, if the area of constraints greatly exceeds the required amount of open space, the developer may have to give up units if they do not all fit on the developable acreage. As a general rule, no units will have to be given up if the area needed for the permitted number of lots does not exceed 75 percent of the developable acreage, leaving 25 percent for flexibility.

***Transfer of Development******Rights and Density Exchanges***

The flexibility provided by cluster zoning in the specific location of dwelling units on a parcel-by-parcel basis may be increased even further by the transfer of development rights. Under a transfer of development

rights (TDR) program, density may be shifted from one parcel to another, whether under single or multiple ownership. This may occur within the same zoning district or between zoning districts.

TDR programs are useful at a multi-municipal or county level where density may be shifted from rural towns with low densities to cities and villages with higher existing densities and available services, such as central sewer and water systems, public transit services, and fire and police protection. Such programs are, however, complex and difficult to implement. They require areawide comprehensive planning and a vision for the preservation of open space in a mutually beneficial manner shared by several municipalities. Often a revenue sharing program between municipalities must accompany TDR, so that a municipality sending density to a receiving area in another municipality does not suffer losses of tax revenues and so that the receiving area does not suffer excessive costs of infrastructure provision.

"Density-exchange options" are a simplified type of TDR program. The difference between a simple density-exchange option and a full TDR program is that under TDR, development is usually transferred from a designated sending area to a designated receiving area, while density exchanges usually occur within the same area. Density exchanges do not "clear" an area of all development, as would occur under TDR, but rather rearrange the development between parcels in the same area. Further, density exchanges may take place between private parties and need not involve the local government in establishing and administering a complex program for tracking the use of development rights, as is often the case with TDR programs.

Because a TDR program usually involves a significant shift of density from one part of the community to another, it should be based on a proper land use plan, which plan should be part of an overall comprehensive plan for the development of the community. It is through the preparation of the land use plan that the community should make the decision as to where higher- and lower-density development should be located within the community. TDRs become a means of implementation of the land use plan, by facilitating the reduction in density in some districts, while accommodating increased density in others.

By contrast, in a zoning district permitting density exchange versus TDR, there is less predictability and more randomness in where higher-density development will occur, because specific receiving parcels are not designated on a plan. This may or may not be appropriate in certain zoning districts and the community should make this decision knowledgeably. When a municipality makes the choice to permit density exchanges within a district with no designated receiving parcels, it is simply making the decision that some randomness in density between parcels in that district is acceptable, because it is a means of achieving the overall open space objectives for the district. It should be remembered that, despite the higher density on some parcels, the overall density of the district would not be increased.

So that density exchanges do not result in the overdevelopment of any one parcel, a maximum density should be established. Also, either a reduced lot size or a reduced open space requirement may be necessary on the receiving parcel, so that the additional dwelling units can be accommodated.

Figure IV-6 illustrates the concept of density exchanges. Landowners may work together to preserve larger blocks of land than would be possible under cluster regulations alone. Density exchanges are particularly useful in areas which have been down-zoned. A landowner using the density-exchange option may be permitted the original, higher density, while one not using the option would be required to use the new, lower density. The community may permit the density-exchange option by right or, if more control is desired, by conditional use. For simplicity of administration and greater political ease, the density-exchange option is preferable to a full TDR program.

Cluster development may complement a TDR program, and a density-exchange option may improve a cluster district. Because TDR programs are much more complicated to design, more difficult to get popular support for, and more difficult to administer, it is recommended that communities who are initiating cluster zoning consider including a simplified density-exchange option, but not a full TDR program. The complexity of starting a TDR program may impede the adoption of a cluster zoning district, which could be in place and operational while TDR is being discussed.

#### ***Requiring a Site Inventory and Analysis***

The requirements for a site inventory and analysis should be clearly described in the zoning ordinance. Land features not required to be shown would probably be omitted by the applicant. It should be noted that the site inventory and analysis are not meant to be burdensome and, thus, an impediment to cluster development. Much of the required information is the same as what should be required for any preliminary plat: topography, drainage patterns, soil types, shoreland protection areas, floodplains, wetlands, lakes, ponds, streams, existing buildings and structures, functional classes of perimeter streets and highways, and existing utilities. Site information not typically required and unique to flexible, environmentally sensitive types of development, such as cluster development, includes a vegetation analysis identifying predominant species and the health status of vegetated areas, identification of important animal habitat, such visual resources as scenic views into and out from the site, and cultural and historic resources.

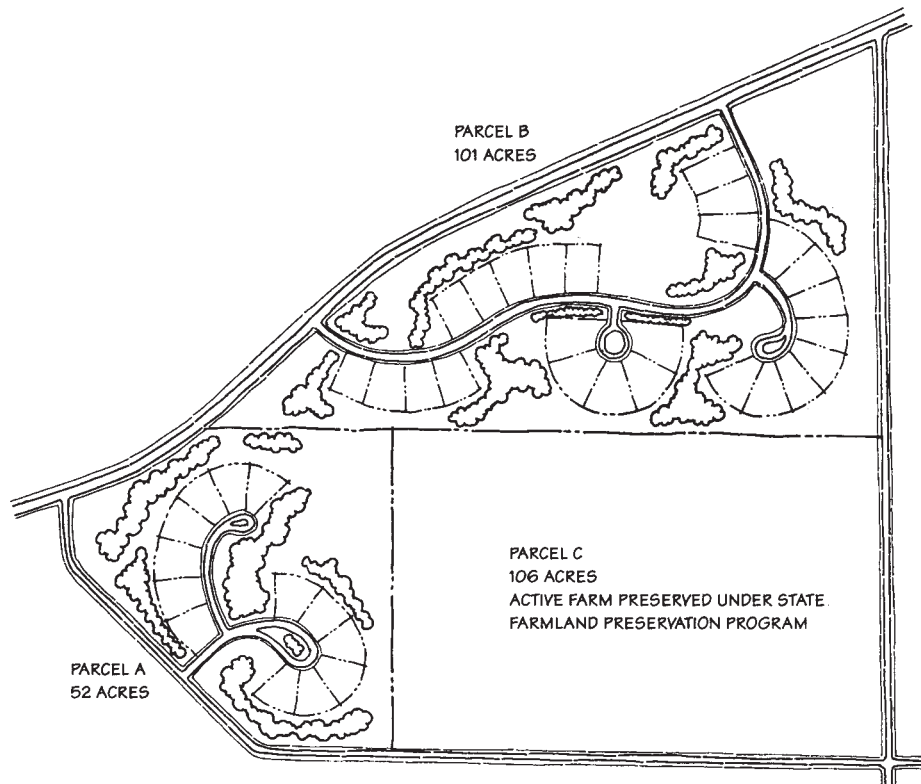
A proper site analysis and resultant appropriate design of cluster development requires the services of a team of professionals trained and experienced in design and development pointed toward environmental preservation and the recognition of landscape character. Such teams usually consist of a planner, a civil engineer, and a landscape architect or architect. Such teams can also produce well designed conventional development when their client, the developer, is interested in doing so.

It should be noted that this analysis stage of the development process leads to a sketch plan, not directly to a preliminary plat. It is not intended that, at this stage, all data be in a state of accuracy suitable for engineering purposes. Rather, the zoning ordinance should state that the site should be inventoried and mapped in sufficient detail to allow evaluation of the plan by municipal officials to determine its compliance with the intent of the district.

#### ***Zoning Regulations for Cluster Groups***

##### ***Limiting the Size of the Cluster Group***

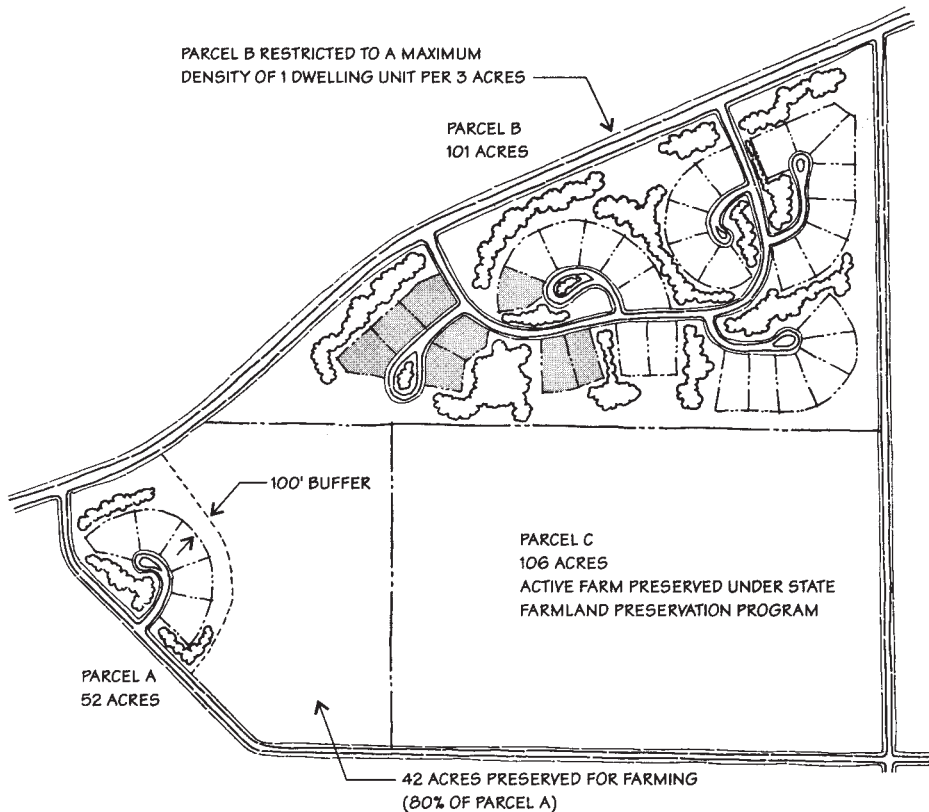
When cluster groups get too large, it becomes more difficult to design them in a way which preserves rural character for the residents, providing open space adjacent to at least one side of each lot. Also, the groups lose their cohesiveness and more physical characteris-



**CLUSTER DEVELOPMENT WITHOUT DENSITY EXCHANGE**

PERMITTED DENSITY: 1 DWELLING UNIT PER 4 ACRES

PERMITTED NUMBER OF UNITS:	PARCEL A	13
	B	25
	C	-0-



**CLUSTER DEVELOPMENT WITH DENSITY EXCHANGE**

PARCEL B ORIGINAL NUMBER OF UNITS	25
FROM PARCEL A TO PARCEL B	<u>8</u>
TOTAL	33

5 DWELLING UNITS REMAIN ON PARCEL A SINCE THE MAXIMUM DENSITY ON PARCEL B WAS REACHED

■ LOTS SENT FROM PARCEL A TO PARCEL B

**Figure IV-6.** By including a provision in the ordinance for optional density exchanges between parcels, the flexibility to keep dwelling units out of areas where they are not wanted is increased even further.



tics of conventional subdivision become evident. From a design perspective as well as a social one, the recommended size of cluster groups should be in the range of five to 12 dwelling units in a group, with the ideal in the range of five to nine units. In most cases, groups should not contain less than three nor more than 15 units. Most cluster developments will include more than one cluster group.

*Locating Open Space within Cluster Groups*

When the size of cluster groups reaches 10 units or more, open space should be included inside the cluster group to create a more open appearance and to avoid the appearance of a conventional subdivision (see Figure IV-7).

The amount of internal open space should be stipulated in the ordinance. It is recommended that a minimum of 2,000 square feet of internal open space be required for each dwelling unit in a group. For a group of 10 lots, 20,000 square feet, about one-half acre, of internal open space would be required. This open space should be in addition to the large open space surrounding the cluster group.

Even when not required, open space within cul-de-sac islands should be credited toward meeting the overall open space requirement.

*Separating Cluster Groups from Each Other*

A minimum separation of at least 100 feet between cluster groups is recommended. This dimension is a minimum and applies to all lot sizes. This distance should be measured between lot lines, not between houses. Thus, the distance between houses would be somewhat greater. Consistent proximity to neighbors should be avoided, since this is not typical of rural living. When there are no lots, as in condominium forms of ownership, this regulation should be adjusted accordingly to measure separation distances between houses rather than lot lines.

*Locating Open Space Adjacent to All Lots within Cluster Groups*

Ideally, some form of open space should be located to the rear of lots to give the image of a large, extended rear yard with the nearest rear neighbor some distance away. When this is not possible, open space located to the side or front of lots may also provide a sense of spa-

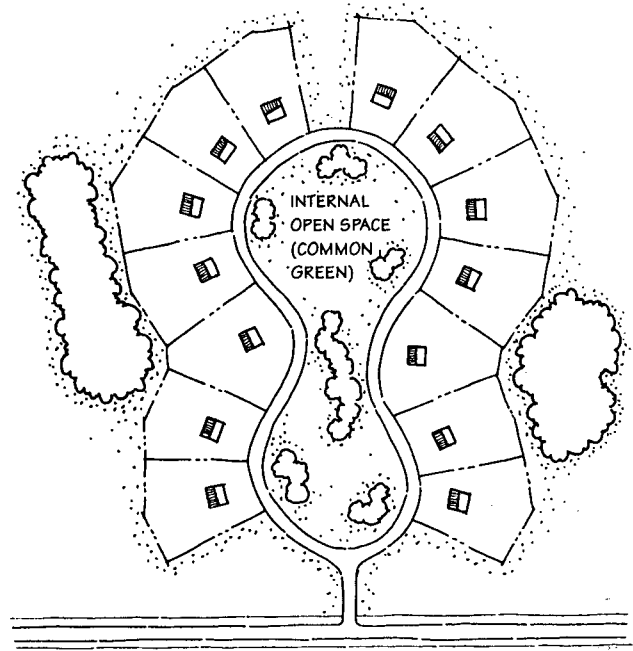


Figure IV-7. Internal open space should be required for cluster groups of 10 units or more.

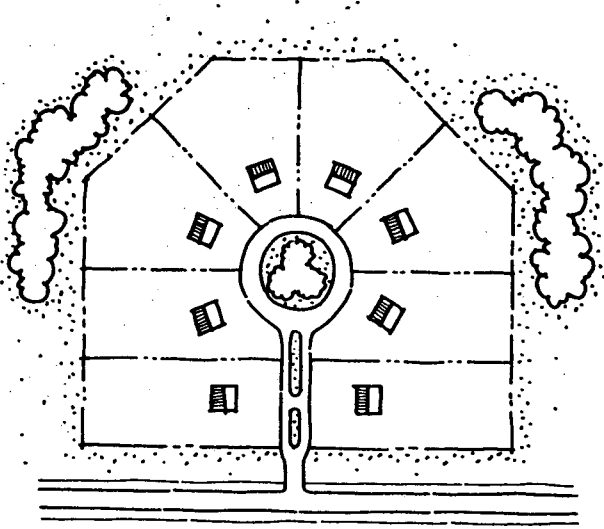
ciousness. Open space located to the front of lots should not consist of a deep front yard, but, rather of a common green fronted by the houses in the group. The landscaped island of a cul-de-sac street or the median of a boulevard may also provide the requisite open space.

**Zoning Regulations for Open Space Design**

Just as the design guidelines for cluster groups should be formalized in regulations, so should the design guidelines for open space.

*Ensuring That Open Space Is of Sufficient Size and Proper Shape*

The ordinance should specify minimum acceptable dimensions. These usually address length and width of open space parcels. It is recommended that open spaces less than 25 feet in width or 100 feet in length not be accepted toward meeting an open space requirement. Exceptions should be buffer strips along streets, landscaped cul-de-sac islands, and the medians of boulevards (see Figure IV-8).



**Figure IV-8.** Even when not required, open space in cul-de-sac islands should be credited toward meeting the overall open space requirement.

#### *Making Open Space Continuous*

“Continuous” should be defined. It is not always possible, or necessary, to provide 100 percent continuity; some flexibility in design is needed. Eighty percent continuity may be acceptable; however, emphasis should be placed on providing the connections where they are needed, rather than meeting an arbitrary quantified measure. It is recommended that open space continuity be stated as a design guideline, but that no attempt be made to quantify the degree of continuity. Acceptable breaks in continuity, however, can be specifically described. For example, connections across streets could be considered continuous if the open space areas are not separated by more than 50 to 100 feet and if it is possible to walk across the streets. Private open areas should not be considered common open space connections unless pedestrian-access easements are provided across them.

#### *Zoning Regulations for Buffers, Screens, and Separation Distances*

Buffers should consist of both separation distances and screening landscaping. Distance alone may not create an effective buffer. A separation 50 feet wide filled with trees and shrubs may be a more effective buffer than one

150 feet wide and only sparsely landscaped. Required buffers, particularly tract boundary setbacks, can occupy a great deal of open space and should be no wider than needed. Although the area contained in buffers should be counted toward meeting open space requirements, open space should not be wasted in buffers that are unnecessarily wide. Figure IV-9 illustrates the percentage of land that may be occupied by tract boundary setbacks.

Separation distances will vary depending upon the size of lots, the density, the required amount of open space, and the distance between houses. Districts with higher densities and less open space will have less flexibility to require wide separation distances than those with lower densities and more open space. Separation distances should not only be functionally effective, they should also contribute to the general “spatial feel” of a development. While buffers and separation distances should be tailored to a particular ordinance, a range of suggested minimum distances from the boundaries of cluster groups is listed below.

These separation distances should not be confused with building setbacks. Building setbacks, as used in most ordinances, are measured from buildings to such specified elements as streets or navigable waterways. The setbacks listed below, however, should be measured from the rear or side lot lines of lots within a cluster group, which together form the cluster group boundary. These separation distances serve a variety of purposes. In the case of perimeter streets, the cluster group is protected from the noise, dirt, and traffic of the streets, while from the street side the rural views are preserved. Tract boundary setbacks provide an open space buffer between cluster groups and lots that may be a different size on adjoining tracts. Cropland, pastureland, and barnyard separation distances help protect farming operations from possible intrusions by residents of the cluster development; the residents are protected from the noise, dust, and odors of the farming activities. Separation distances between cluster groups ensure that they are surrounded by open space, providing most lots with open space to the rear or side and precluding the concentration of too many lots, which would create an urban appearance. The separation distance from wetlands and floodplains helps to protect these environmental features from lawn chemicals and a gradual intrusion of residents’ mowing activities. And,

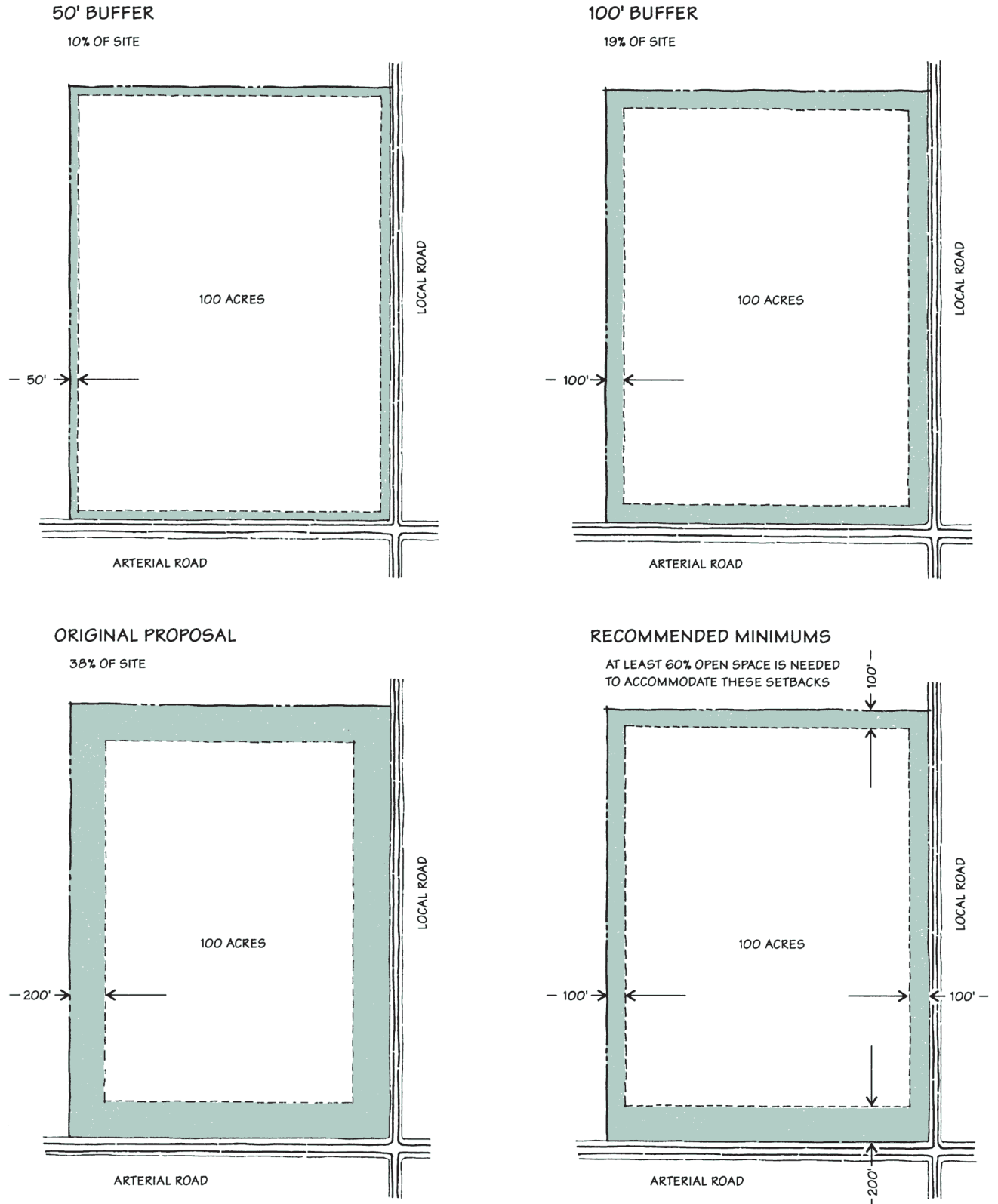


Figure IV-9. Tract boundary setbacks can occupy a great deal of land and should not be wider than necessary.

finally, by separating recreation areas and trails from cluster groups with an adequate distance, the privacy of residents is protected and the open space context through which the trails pass is preserved.

A minimum of at least 60 percent open space would be required to accommodate the following distances.

- |  |                 |
|--|-----------------|
| 1. From existing perimeter arterial streets      | 100 to 200 feet |
| 2. From all other existing perimeter streets     | 50 to 100 feet  |
| 3. From tract boundaries                         | 50 to 100 feet  |
| 4. From cropland or pastureland                  | 50 to 100 feet  |
| 5. From barnyards or buildings housing livestock | 200 to 300 feet |
| 6. From other cluster groups                     | 100 to 150 feet |
| 7. From wetlands and floodplains                 | 75 to 100 feet  |
| 8. From active recreation areas and trails       | 50 to 100 feet  |

Landscaping of mixed trees and shrubs should be required in buffer areas, where necessary, to screen new housing, to screen existing incompatible development, to preserve scenic views, or to otherwise to enhance the rural landscape as seen from existing perimeter roads and from within the development.

Landscaping is a critical part of making buffers work. It should not be seen as simply added beautification. And landscaping should not be interpreted as consisting only of trees and shrubs, it also includes herbaceous materials such as grasses, vines, aquatic plants, and wild flowers. Landscaping is an integral part of effective site planning. The location of plants, their height, width, density, and habit, are all important in forming the spatial definition and character of outdoor spaces, including the framing, screening, and creation of views, and the modification of the natural environment. The massing of new trees in the wrong location could block

a significant view. The removal of understory growth in woodlands along an existing road could significantly reduce its screening ability.

Preserving healthy existing vegetation should always take precedence over planting new vegetation and should be encouraged by crediting such preservation toward the landscaping requirement. A provision should be included in the ordinance permitting the reduction of a required separation distance if the applicant can demonstrate that either existing vegetation or topographic features form an effective screen where required.

Landscaping standards for new vegetation within buffers should be specific as to the quantity and size of plant material and the number of species required. The model zoning ordinance included in this Guide (see Appendix C-2, Section G) provides one example of such standards. Allowances should be made for substitutions, provided the applicant can demonstrate that they would be equally effective. Plantings should be arranged in informal, natural patterns.

***Regulations for Ownership and Maintenance of Common Facilities***

Regulations for ownership and maintenance of common facilities, such as open space, recreation areas, trails, and private roads, may be included in the zoning ordinance, the land subdivision control regulations, or elsewhere in the municipal code. If such regulations are stipulated outside the zoning ordinance, they should be referred to in the zoning ordinance text to alert the applicant to their existence. If cited in the zoning ordinance, they may either be included in the cluster district regulations or, if there are other districts in the ordinance which could generate common facilities, such as PUDs, they may be included in a separate section of the zoning ordinance devoted strictly to the management of common facilities. The basic regulations would be the same, regardless of where they appear in the municipal code.

Chapter V deals with the issues related to the ownership and maintenance of common facilities and should be referred to for more detailed information on the topic. As a general guide, however, the zoning ordinance should include regulations that govern various means of ownership, easements, deed restrictions, landowner budgets for operations and capital improvements, main-

tenance standards, and municipal authority to assume maintenance responsibility in case of default.

### ***Zoning Regulations for Sewerage and Water Supply Facilities***

Regulations governing sewerage and water-supply facilities may be included in both the zoning ordinance and the land subdivision control ordinance. Chapter III discusses the functional alternatives for these facilities. The role of the zoning ordinance is to state which types of facilities are acceptable within a cluster zoning district. For example, alternatives for sewage treatment and disposal facilities could include: public sewerage facilities, individual onsite systems wholly contained on individual lots, or individual onsite systems with disposal fields located in common open space areas. Alternatives for water-supply facilities could include public facilities or individual onsite wells. The zoning ordinance should not include engineering standards for any of the listed alternatives. Specific engineering standards are presented elsewhere in the municipal code, but general engineering guidelines may appear in the subdivision ordinance. For onsite sewage-disposal systems, engineering standards are stipulated in Chapter 85 of the Wisconsin Administrative Code.

## **THE SUBDIVISION CONTROL ORDINANCE**

The zoning ordinance and the land subdivision control ordinance work together to regulate the implementation of cluster development. While the zoning ordinance is the means by which cluster development is specifically permitted, the land subdivision control ordinance contains related important subdivision and land development regulations. The form and character of a community is determined by the quality of its subdivisions and the standards by which they are built. Once land has been divided into blocks and lots, streets established, and utilities installed, the development pattern is rather permanently established and unlikely to be changed. For generations, the entire community, as well as the residents who will occupy these subdivisions, will be influenced by the quality and character of the subdivision, including the rural character preserved in cluster developments.

Many of the subdivision control regulations that are typically found in local land subdivision control ordi-

nances in Southeastern Wisconsin are equally applicable to both cluster development and conventional development. Some provisions, however, may need to be modified or new provisions may need to be added to regulate cluster development properly. This section describes the key provisions that should be included in existing subdivision regulations in order to implement and achieve good subdivision design in cluster developments.

Land subdivision control ordinance regulations may be divided into four general categories: design standards, plat requirements, required improvements, and review procedures. The following text highlights the regulations relating to each of these categories that may differ substantially and necessarily from those typically applied to conventional developments in order to regulate cluster developments properly. Throughout the description of the design standards, plat requirements, and review procedures that are needed for the proper regulation of cluster development proposals, references are made to standard regulations. While some general guidance may be gained as to those standard regulations, these should not be assumed to be complete. For municipalities and towns which do not yet have a complete land subdivision control ordinance in place, it is recommended that such an ordinance be adopted, incorporating regulations for accommodating cluster development.<sup>7</sup>

### **Design Standards**

Typical, conventional design standards regulate streets, block and lot configurations, grades, and provision of utility and drainage easements, among other matters. Typical conventional improvement standards regulate construction of roadways, sidewalks, sanitary sewers, water mains, stormwater-management facilities, street

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<sup>7</sup>*If a community has not adopted its own land subdivision control ordinance containing basic subdivision control regulations and wishes to do so, a model land division ordinance is provided in SEWRPC Planning Guide No. 1, Land Development Guide, November 1963. Many of the basic provisions of the ordinance written at that time are still applicable today. Some of the provisions, however, need to be revised to include amendments after 1963 to Chapter 236 of the Wisconsin Statutes.*

lighting and signage, and the planting of trees, among other matters. All such standards normally found in subdivision control ordinances should apply to cluster development except as noted below.

### **Streets**

The street system is one of the most important considerations in the design of a cluster development, since that system must facilitate the movement of traffic, provide access to individual lots or building sites, provide a location for utilities, and function as a part of the community drainage system. No less important is the fact that regular contact with the common open space is gained by traversing the street system every day.

Streets in rural cluster subdivisions should not be required to meet urban design standards. Extensive pavement widths, curbs and gutters, and sidewalks are all street elements that suggest an urban environment; these should be avoided or be modified to be compatible with a rural environment.

Streets may be public or private; however, it is recommended that most streets be public for two reasons: first, residents along private streets that develop the need for costly repairs often request that the local jurisdiction take over ownership and, second, private streets do not receive State aid.

### ***Pavement Widths and Rights-of-Way***

Street pavement widths are a critical element in the preservation or creation of rural character. Wide pavements are very urban in character and are not needed where traffic volumes are low, as they should be in rural residential areas. Deeper building setbacks on lots and longer driveways should normally permit automobile parking to be accommodated on the lots; thus, street widths need not normally accommodate on-street parking. Travel lanes on rural minor or collector streets should be no wider than nine to 11 feet, with limited shoulder widths.

Overly wide shoulders can diminish the rural appearance of a street. Gravel shoulders six, eight, and 10 feet wide are common in rural areas for streets of various functional classifications. As illustrated in Figure IV-10, however, the construction of shoulders should be revised to improve their rural appearance while not significantly

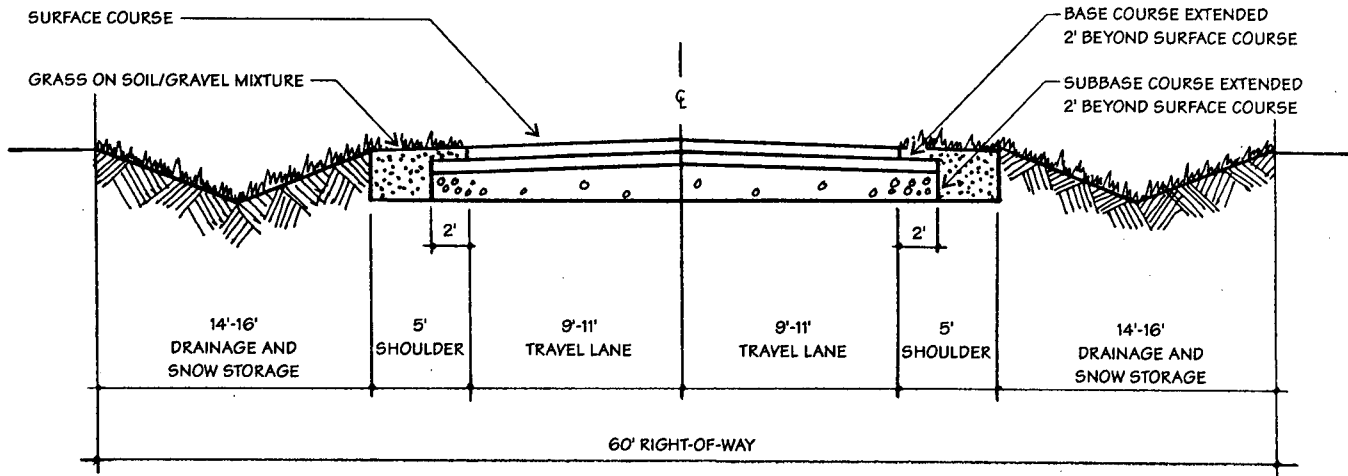
reducing their ability to fulfill their functions safely. Shoulders help stabilize the surface course, furnish a snow storage area, and provide an emergency pull-off area for vehicles. A stabilized pull-off area may be provided in a less urban fashion by extending the bituminous base and gravel sub-base courses of a street beyond the width of the surface course approximately two to three feet and surfacing the shoulder with a soil-gravel mixture planted with hardy grass. The occasional vehicle that may need to pull over in an emergency would occupy about six feet, leaving a remaining roadway width of 17 to 21 feet available for other vehicles on the street to pass by. Given the low volumes and low speeds on rural land-access and collector streets, this is enough width for two lanes of traffic. Snow may be stored in the streetside swales and front-yard setbacks of lots.

A minimum right-of-way width of 60 feet is adequate to accommodate two nine- to 11-foot travel lanes, two five-foot shoulders, and two 14- to 16-foot drainage swales. With maximum side slopes desirably no steeper than one on four, the swales may approximate two feet in depth. If deeper swales are needed, thus requiring greater width to maintain side slopes no steeper than one on four, the travel lanes may be reduced in width. They should, however, be no less than nine feet. Or, the overall right-of-way may be widened to 66 feet.

Section 236.16(2) of the Wisconsin Statutes requires cities and village to establish minimum street right-of-way widths of 60 feet unless a narrower right-of-way is permitted by local ordinance. Section 86.26 of the Wisconsin Statutes, however, requires towns to establish minimum street widths of 66 feet, except for streets carrying very low volumes of traffic, under 100 vehicles per average 24-hour day,<sup>8</sup> which may have right-of-way widths of 49.5 feet. It should be noted that town streets that are not consistent with Section 86.26 would not qualify for State aid.

When street trees are required, the right-of-way width should be at least 66 feet to permit plantings outside the drainage swales, but still inside the right-of-way. An alternative is to maintain a 60-foot right-of-way and

<sup>8</sup>A single-family detached dwelling will generate approximately 10 trips per average 24-hours.



**Figure IV-10.** Collector or minor streets in rural cluster developments should not be overly wide and should have either no shoulders, or shoulders constructed in a way that permits grass to grow to the edge of the surface course.

plant street trees in common open spaces or on private lots. Street trees planted on private lots must be protected by deed restriction or appropriate easements.

When public street standards exceed the widths noted above, exceptions should be made for cluster development, permitting roadway and shoulder widths narrower than the public standard, but in no case less than the minimums recommended above. While the pavement widths of streets may be reduced, it is not recommended that pavement construction standards be reduced, whether for public or private streets. Surface-course, base-course, and subbase-course depths and materials should remain the same as those normally required. Also, standards for vertical and horizontal alignment and radii of curvature should be applicable to cluster development without modification.

*Roadside Swales, Curbs, and Gutters*

Many communities have adopted a policy of permitting permanent rural street cross-sections in areas of new development. Rural cross-sections employ open drainage channels and roadside swales instead of the standard urban curbs and gutters with storm sewers. Although such rural sections generally have a lower initial cost

than the standard urban sections, they are not necessarily more economical in the long term and are in many respects less satisfactory than an urban section. Their use may be justified, however, in residential areas that have a relatively low density, that is, lot sizes of one-half acre or larger with widths of at least 100 feet, and where the preservation of a rural appearance is an objective.

Since the use of a rural section usually dictates that all stormwater must be carried away by means of surface drainage channels, the establishment of street grades becomes more critical than when curbs, gutters, and storm sewers are used. Further, it is essential that the street grades be established in accordance with an overall plan encompassing the entire drainage area.

Side slopes of streetside swales should not exceed one foot vertically to every three feet horizontally; they should preferably be one on four or less. Side slopes steeper than that are not only difficult to mow, but do not blend well with natural land forms.

Curbs and gutters should not be required except where needed for proper stormwater management. Where it is determined that curbs are needed, it is recommended that

roll-face curbs be used, which project a less rigid, harsh edge than vertical-faced curbs, which have a more urban appearance (see Appendix D).

#### *Cul-de-Sac Streets*

Cul-de-sac streets are particularly effective in making efficient use of buildable areas in pockets of land between preserved areas or in corners of irregularly shaped tracts. Loops and "eyebrows" may be equally effective and provide a design alternative to cul-de-sac streets. It is recommended that cul-de-sac streets, loops, and eyebrows all be permitted in cluster developments.

The length of cul-de-sac streets should be limited. This may be done by limiting the length, the number of dwelling units served by the cul-de-sac, the number of vehicular trips generated from the cul-de-sac, or a combination of these. A reasonable length limit may be approximately 750 feet, which may be waived up to a maximum of 1,000 feet. For any lengths beyond 1,000 feet, the developer should be required to show extraordinary circumstances forcing the use of such length. Additionally, on lengths over 750 feet, the number of dwelling units may be limited to approximately 15 or the traffic generated may be limited to approximately 150 trips per day.

#### *Cul-de-Sac Islands*

The design of the terminus of cul-de-sac streets in rural cluster development is very important to preserving rural character. The conventional circular or teardrop area of solid pavement with an outside curb radius of 45 to 48 feet, resulting in an overall pavement diameter of 90 to 96 feet, is very urban in appearance and should not be used. Such an expanse of pavement can be avoided, not by reducing the radius of the turnaround, but by increasing it and locating a large, landscaped island in the center. When it is not possible to increase the radius, an island should, nevertheless, be located within the bulb (see Appendix D). Such islands may contain new landscaping or attractive natural features, such as a stand of trees, a large single tree, or a rock outcrop. New landscaping should consist of low-maintenance, natural vegetation, prairie vegetation, or trees with native understory plants.

While the use of landscaped islands or loops is generally desirable, some municipalities discourage their use to avoid the maintenance costs associated with the

landscape plantings. In cluster developments, however, even though such islands may be within public street rights-of-way, their maintenance can be made the responsibility of the homeowners' association through an agreement with the municipality.

The travel lanes around the center islands of cul-de-sacs should be one-way, with pavement no wider than 15 feet. Shoulders should not exceed two to three feet and should be finished with a grassy surface, not gravel. One-way loops are effective only if the loops are not so large that residents on the far side of the loop are tempted to shortcut the wrong way to get to their homes. Loops with an inside diameter more than approximately 200 feet should be two-way.

The radius of completely paved cul-de-sac bulbs should not exceed 45 feet, an overall diameter of 90 feet, which provides sufficient maneuvering space for such service vehicles as fire trucks, snowplows, school buses, delivery trucks, and solid-waste-collection trucks.

#### *Street Lamps*

Street lamps should be not be routinely required at regular intervals along all streets, because these often convey an urban appearance. Lamps should, however, be required at each street intersection and at such interior block spacing as may be required by the local municipal engineer. Sometimes, in lieu of standard streetlamps, the developer may be permitted to require by covenant that residents install a lamppost of a certain design in the front yard of each residence. In any case, lampposts should not be required along sections of streets that cross common space.

#### *Street Signs*

Street signs should be permitted to be constructed of nonstandard materials which better reflect the rural character of the community, provided their design does not interfere with the proper interpretation of the signs, and subject to approval by the local municipal engineer.

#### *Paths and Trails*

Sidewalks along streets generally should not be required in rural cluster development. If the developer chooses to install pedestrian walks along some street segments, the walks should be surfaced with gravel or asphalt and should be meandering in alignment, as opposed to concrete sidewalks paralleling streets, as in urban devel-



opments. Paths or trails leading into, and through, common open space may consist of mowed turf, wood chips, shredded bark, gravel, or asphalt. Boardwalks may be used in areas of poor drainage or near wetlands. The construction of boardwalks through wetlands may require approval from Federal, State, and local government agencies. Such approval may or may not be granted, depending on the impact on the environment and whether alternative routes for the path exist.

Widths of paths may vary according to their intended use. Paths along streets or in common open space may be four to six feet wide, but paths serving both bicyclists and pedestrians should be 10 to 12 feet wide. Long paths may incorporate rest stops with benches.

All paths and trails should be constructed on a stable base course and properly drained in accordance with sound engineering practices. Where paths are located near dwellings units, within 25 feet of lot lines, they should be marked with rustic fencing or other means compatible with the landscape so that the private yard areas of the adjacent homes are not encroached upon by trail users and so that the potential buyers of such units are fully aware of the existence of the path near the homesite. Paths and their demarcations should be required to be constructed by the developer prior to the sale of dwelling units, so that all buyers will know what to expect as to the location and construction of the paths.

Paths located between dwelling units should be contained in common open space areas of sufficient width so that the units suffer little loss of privacy and so that views into the open space are attractive. It is recommended that open space areas accommodating paths and trails between units be no less than 50 feet wide and, preferably, the full width of a typical lot in the development.

### ***Landscaping***

Landscaping in cluster developments can be divided into two categories: first, the preservation of existing plant materials and, second, the addition of new plant materials. The first category is the most critical, since it takes many years for newly planted trees and shrubs to provide the landscape impact of existing, mature vegetation.

Requirements specifying locations and widths for buffers and screens should generally be provided in the

zoning ordinance, but requirements regarding quantity, spacing, and type of plant material should be provided in the land subdivision control ordinance. Such requirements must be flexible to meet the endless variety of specific conditions that can be found on different development sites. Greater procedural flexibility exists for regulations in the subdivision control ordinance than in the zoning ordinance. If the regulations are deemed to be inappropriate in certain applications, regulations in the subdivision control ordinance may be waived by the governing body, an action which does not require a public hearing. Deviations from regulations in the zoning ordinance, however, must be granted by a variance from the zoning board of appeals, which requires a public hearing in which the applicant must show that compliance with the regulation would result in hardship. Landscape design issues rarely involve hardships, but are rather an expression of aesthetic judgement.

Most of the landscaping requirements for cluster designs are related to the screening of groups of dwelling units from streets, open space, and other dwellings. It should not, however, be the sole intent of landscaping requirements to create screens of trees and shrubs where none existed before. To the contrary, a large part of the landscape heritage of the Southeastern Wisconsin Region includes open land, such as grasslands and wetlands and, later, farmlands, pasturelands, wild flower meadows, and fallow fields. These open land landscape elements should play an important role in the overall landscape design.

The landscaping requirements in a municipal ordinance do not replace the need for a land stewardship plan, which provides a long-term management, planting, and maintenance program for the common open space, which the residents of the cluster development can follow voluntarily and which is beyond the purview of the municipality. Such a plan is initially provided by the developer to the homeowners' association, but may be revised by the association. Land stewardship plans are described more thoroughly in Chapter V.

### ***Street Trees***

Trees along new interior streets should be required at a minimum rate of one tree per 50 feet of lot frontage. Regular spacing, however, can have a strong urban appearance; to avoid this, trees should be permitted to be grouped in irregular and informal patterns. Trees

should be planted along streets in front of dwelling units, but not necessarily along streets that pass through common open space. The latter could produce the appearance of an urban park, instead of a natural rural area. Existing healthy trees should be permitted to fulfill the street tree requirement. Trees should be planted outside drainage swales.

#### *Buffers and Screens*

Buffers should be required in the local zoning ordinance and consist of a dimensioned area which is to be kept natural or is required to contain new screening landscaping as specified in the subdivision control ordinance. Screens specified in the subdivision control ordinance are contained within buffer areas and consist of landscaping that, due to the quantity and spacing of plant material, blocks views that are deemed undesirable.

Within all required buffer areas between cluster groups and external streets, screening landscaping should be required to block or reduce the view of new homes from the existing streets. For example, a reasonable requirement may be three deciduous canopy trees, two ornamental trees, and six shrubs per 100 linear feet of street length. For more effective year-round screening, evergreen trees may be used in the place of the canopy trees.

It is recommended that understory trees and shrubs be planted or permitted to grow naturally over time within screening areas and that the area below screening vegetation not be mowed. Not only does such mowing reduce the effectiveness of the screen by removing plant material, it also tends to lend a "manicured" urban appearance and adds an unnecessary expense. The objective should be to create a low-maintenance, natural landscape.

Existing trees and shrubs should be retained as much as possible and should be permitted to fulfill landscape requirements. Clearing, grubbing, cutting, or regrading should be minimized within buffer areas.

Separation areas between cluster groups should be landscaped at the same rate as buffers along streets, unless there is an environmental reason not to do so. The developer should be encouraged to use existing hedges to fulfill this purpose throughout the development; when this is done effectively the requirement for new plant material in these areas may be reduced or waived.

#### *Plant Specifications*

The subdivision control ordinance should contain a recommended list of plants for street trees, buffers, and screens. The recommended plants should be primarily native. The list should be divided into major categories such as "Canopy trees suitable for street trees" and "Canopy trees and shrubs suitable for interior buffers." Plants should be listed by scientific name and common name. Height at maturity should also be indicated. Evergreens should be identified as such. Plants proposed on landscaping plans should meet the accepted standards of the American Association of Nurserymen.

#### *Protection of Existing Vegetation*

Mature trees, tree masses, or woodlands on a development site should be designated on a landscape plan either "To remain" or "To be removed." Existing vegetation designated to remain should be identified in the field before any clearing and should be physically protected throughout the construction process. The need for protecting trunks and branches should be clear, but more critical is the protection of roots, which can easily be crushed or destroyed by construction equipment, topsoil stockpiles, or grade changes. A snow fence is an acceptable temporary barrier for keeping construction activities away from tree roots, but it must be monitored regularly to ensure that the fence line is not encroached upon. As illustrated in Figure IV-11, the fence should be positioned outside the drip line of the trees. Tree roots extend beyond the drip line and protection at the drip line should be considered the absolute minimum to be preserved.

#### *Flag Lots*

Many local municipal subdivision control ordinances prohibit flag lots, because of problems involved in the provision of facilities and services to such lots. The use of flag lots, however, can be effective in providing flexibility in design, reducing the length of cul-de-sac streets, and avoiding preservation areas while permitting the construction of homes with minimal impact on the environment. The number of such lots should be minimized within any particular development, however.

#### *Sewage-Treatment Facilities*

The alternatives available for the provision of sewage-treatment and sewage-disposal facilities in cluster development are described in Chapter III.

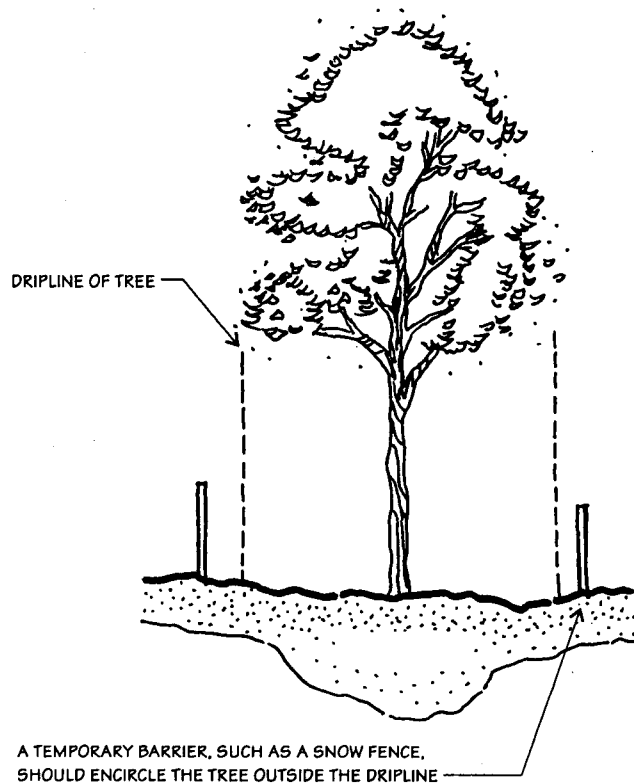


Figure IV-11. Tree protection during construction is critical for protecting tree roots as well as trunks and branches.

The ordinance should require that all community or cluster group sewage systems be designed, constructed, operated, and maintained in accordance with the requirements of Chapters ILHR 83 and NR 110 of the Wisconsin Administrative Code. Where a special-purpose unit of government, such as a sanitary or utility district, has been created to own, operate, and maintain the facilities, the construction plans and specifications should be subject to review and approval by the governing body of the district and its engineers. Otherwise, the plans and specifications should be subject to review and approval by the governing body of the general-purpose unit of government and its municipal engineer.

#### Water-Supply Facilities

The alternatives available for the provision of water-supply facilities are also described in Chapter III. The subdivision control ordinance should state which alternatives may be acceptable for cluster developments

within the municipality concerned. The ordinance should require that such facilities should be designed, constructed, operated, and maintained in accordance with the latest revisions of Chapter NR 811 and 812 of the Wisconsin Administrative Code. The facilities should be designed to good municipal engineering standards and should serve fire-protection as well as potable-water-supply purposes. Where a utility district has been created to own, operate, and maintain the system, the construction plans and specifications should be subject to review and approval by the governing body of the district and its engineers. Otherwise, the plans and specifications should be subject to review and approval by the governing body of the general-purpose unit of government and its municipal engineer.

#### Stormwater-Drainage Facilities

Where detention or retention basins are required for control of stormwater runoff, the construction plans and specifications should be subject to review and approval by the governing body of the general-purpose unit of government and its municipal engineer. The side slopes of basins should be gradual, preferably no steeper than one on four, and the general shape of the basins should blend into the natural surrounding topography. Curvilinear forms harmonize better with surrounding terrain than angular forms.

Regulations controlling the depth of basins may be included. Depths no greater than eight feet and the inclusion of islands may be useful in creating wildlife habitat in retention basins, where a permanent water level is maintained.

Basins should be landscaped to further help blend them into the surrounding landscape. Good landscaping design in, and around, basins can also reduce the overall maintenance requirements. The use of native grasses and shrubs should be encouraged. Plants that attract wildlife may be encouraged, but plants that could attract burrowing animals should be prohibited. Trees and shrubs should not be planted on the berm or dam of the basin. Specialized plantings suitable for wet conditions should be planted in portions of the basin that retain water or that contain soils that remain saturated.

Disturbed areas of the basin should be planted with cover vegetation, such as native grasses and appropriate

trees and shrubs. The choice of cover vegetation should be based upon the intended use of the basin, maintenance requirements, structural integrity of the berm area, and conformity with the surrounding landscaping. Planting guidelines should, preferably, be included in the subdivision control ordinance.

### **Deed Restrictions and Easements**

Deed restrictions and easements that supplement the zoning regulations should be noted on the subdivision plat. The areas concerned should be delineated on the plat and provided in the text describing the nature of the restriction. Although home buyers are usually made aware of the private covenants that are associated with buying into a community association, they may not be aware of the restrictions imposed by zoning regulations or by supplementary deed restrictions and easements noted on the plat. For example, lots that back on an adjacent street with an existing hedgerow may have a deed restriction prohibiting the cutting of any plant material inside the hedgerow. Sometimes the only notification, before the sale, to the home buyer of the existence of such a deed restriction is a note on the subdivision plat. After the sale, the restriction is noted in the deed.

Notes identifying deed restrictions are important for the municipality, as well as for the homebuyer. Checking compliance with deed restrictions is accomplished more easily when the areas they affect are clearly indicated on a plat.

### **Plat Requirements, Required Improvements, and Review Procedures**

Land subdivision review usually takes place in three steps. These same three steps would apply to the review of both conventional and cluster developments:

1. Review of sketch plan, informal discussion at pre-application meetings;
2. Preliminary plan review, first formal submittal; may take several meetings;
3. Final plan review, final formal submittal; may take several meetings.

Chapter 236 of the Wisconsin Statutes sets forth requirements for the content of final plats and for the procedures which must be followed for review and approval or rejection. The Statutes do not require preliminary plats, but authorize the approving body to require them if it so wishes. The Statutes are silent on sketch plans; they are not mentioned nor required. It is recommended, however, that all three steps be followed in the review of proposed land subdivisions, particularly of subdivision plats involving design flexibility, such as planned unit developments or cluster developments. Each of these steps is necessary if poorly planned and executed land development is to be avoided and if the development process is to be a smooth and expeditious one, satisfactory to both the governmental officials and the private developers.

Generally, the review of the sketch plan and the pre-application meetings are most useful for resolving overall issues of site design, the general layout of open space preservation areas, streets, and lots prior to the completion of costly engineering drawings. The preliminary plat review is most useful for resolving engineering issues and refining the street and lot layout to accommodate good engineering practices. The final plat review is most useful for determining final refinements necessary to both layout and engineering and for defining the developer's agreement, including the phasing of construction improvements.

The basic process for the review and approval of land division plats for cluster developments is the same as for conventional developments, except that additional information or review is required in seven important areas:

1. Site analysis;
2. Environmental review of preservation areas;
3. Design review of cluster groups and common open space;
4. Review of land stewardship plan for the common open space;
5. Review of provisions for ownership of common open space and other common facilities, conservation easements, deed restrictions, and

other mechanisms for protection of the common open space;

6. Review of legal documents and initial budget of the community association; and
7. Review of community sewerage or water-supply facilities.

It is recommended that the aid of professionals qualified in these areas be enlisted to help the municipality in the review of these aspects of cluster development. Such professionals may include planners, landscape architects, architects, civil engineers, surveyors, and attorneys.

### **Sketch Plans**

#### ***Preapplication Meeting***

Many local ordinances require a preapplication meeting between the developer and the local plan commission, its staff, or a planning professional retained by the plan commission for the purpose of reviewing proposed development plans, in order to obtain advice and assistance and to gain the initial reaction of the public agency to a sketch plan of the proposed development. A preapplication meeting is useful for any proposed development, but it is particularly important for proposed cluster developments. The developer needs to be aware of any long-range plans of the community as they might affect the proposed development and any specific objectives the municipality may have concerning a particular development tract. The developer can apprise the municipality of his own objectives for the site and the reasoning behind aspects of the design that are important from his perspective. The design flexibility that is provided by large areas of common open space should usually enable the developer to accommodate both his own objectives and those of the municipality.

The pre-application meeting also provides the local plan commission or its staff an opportunity to advise the developer as to the procedures and regulations governing the platting process in the community. At this time, the planning agency may furnish the developer with a checklist of requirements relating to the preliminary and final plat in order to facilitate the platting procedure. The checklist should include requirements for a site analysis as described in Chapter III; a land stewardship plan for common open space, including

methods of ownership as described in Chapter V; and community association documents with an initial budget, also as described in Chapter V.

More than one preapplication meeting may be needed to resolve design issues before proceeding to the preliminary plat. Additional time and effort devoted to these issues, however, should avoid unnecessary costs later in the approval process, when engineering is undertaken. By the time a preliminary plat is submitted, the developer and the municipality should have generally agreed on the objectives for the development and how those objectives are to be achieved.

The sketch plan and preapplication meeting should in all respects be an informal one. No legally specified time period governing approval procedures should begin with a preapplication meeting or the discussion of a sketch plan.

#### ***Information to Be Shown on Sketch Plans***

To make the preapplication meetings as mutually beneficial as possible, the developer should provide a sketch site analysis in addition to a sketch layout of open spaces, streets, and lots. The site analysis should indicate areas of floodplains, wetlands, lakes, streams, ponds, steep slopes, woodlands, and any other significant features that may impact the design. Since cluster development should be shaped around significant natural, cultural, and historic features, a sketch layout of open spaces, streets, and lots cannot be evaluated without knowing where such features are located on the site. The sketch plan should highlight open space preservation areas and note the significant features they contain.

A sketch landscape plan should be included at the preapplication meeting, showing general areas of preserved vegetation and approximate locations of proposed areas of new vegetation with general categories indicated.

The sketch plan should be drawn to scale and represented graphically in a manner that is easily understood.

#### ***Preliminary Plats***

The submission for approval of a preliminary plat is the first official step in the subdivision process. It begins a legally defined period of time for the review of the plat, which should not exceed 90 days, as set forth in Section

236 of the Wisconsin Statutes. At this stage, the developer obtains approval, approval with conditions, or rejection with explanations of the preliminary plat in accordance with reviews completed by all affected governmental agencies listed in the local subdivision control ordinance. State, regional, county, and local agencies may be involved in the review, as well as utilities and local school and park boards. A full list of agencies involved should be provided in the local subdivision control ordinance. Any planning professionals that the municipality may have retained for the purpose of reviewing proposed cluster development should also be involved in the review of the preliminary plat.

Preliminary engineering is considered and completed at this stage of the review process and, for cluster subdivisions, plans for community sewerage and water-supply facilities should be presented, if applicable. The open space, street, and lot layout will be refined on the basis of information received at the pre-application meetings. Detailed design review should be comprehensive at this stage, with careful attention paid to the design principles for open space and cluster groups, as described in Chapter III.

#### *Information to Be Shown on Preliminary Plats*

The information typically required to be shown on preliminary plats includes: general information, such as title of project, property location, general location sketch, date, graphic scale and north point, names and addresses of owner, subdivider, and surveyor. Also, plat data, such as length and bearing of exterior boundaries, existing and proposed contours, water elevations of adjoining lakes and streams, floodplain limits, rights-of-way of existing and proposed streets, location and size of existing and proposed utilities. In addition, approximate dimensions and area of all proposed lots; location and approximate dimensions of any sites to be dedicated for public use; approximate radii of all curves; existing zoning on, and adjacent to, the site; proposed lake and stream access; soil types; and the location of soil tests should be noted. Municipalities may also require street plans and profiles; borings to ascertain subsurface soil, rock, and water conditions; and soil-erosion and sedimentation-control plans.

Preliminary plats for cluster development should show all the information required by the municipality for conventional development, with the additional infor-

mation needed for a site analysis for cluster purposes described in Chapter III. Such information may be included on a plan of existing conditions or shown on a separate site analysis. The information required is more completely described in Chapter III. A summary listing includes:

1. Location of steep slopes, hilltops, and ridge lines.
2. Drainage patterns;
3. Vegetation analysis, with predominant species identified. A narrative should be included, if necessary;
4. Soil types and identification of characteristics;
5. Shoreland protection areas;
6. Boundaries and characteristics of primary and secondary environmental corridors and isolated natural resource areas;
7. Wildlife habitat, with predominant species identified. A narrative should be included, if necessary;
8. Historic or cultural features. A narrative should be included, if necessary;
9. Buildings and structures, including ruins and stone fencerows;
10. Scenic vistas into, and out from, the site;
11. Classifications of existing streets;
12. Conditions surrounding the development parcel; and
13. Plans for the surrounding area that may affect the development parcel.

In the review of the preliminary open space preservation areas and the street and lot layout, it should be determined that all the elements shown on the site analysis are accommodated in an appropriate manner.

In addition to the information on the site analysis and the open space, street, and lot layout, the preliminary plat should include data describing the open space, such as

the total open space area in acres and percent of entire tract. Also, it would be useful to list the amount of open space located in boulevards, medians, and cul-de-sac islands, to determine how much of the open space is actually in large versus small areas. Deed-restricted open space located on private lots should be listed separately. If the open space is to be owned by several entities, each area should be separately delineated and tabulated, with proposed owners identified. Also, areas of conservation easements should be delineated, quantified, and holders of the easements identified.

The preliminary landscape plan should be drawn on the preliminary street and lot layout, including topography, preliminary utility locations, stormwater-management facilities, significant areas of vegetation as identified on the site analysis described previously, as well as all proposed landscaping identified as to species and quantity. Existing vegetation tagged "To be removed" or "To remain" should be indicated. A plant schedule should be shown on the plan listing the scientific and common name, size, quantity, and root condition of all proposed plant material. Planting details should be included showing the method of planting and the method of protection of existing vegetation. The plan should contain information in the form of notes or specifications concerning seeding, sodding, ground-cover, and mulching.

A draft of applicable protective covenants should be submitted with the preliminary plans. These should be subject to the review and approval of the governing body of the local general-purpose unit of government and municipal attorney concerned.

#### ***Final Plats***

The final plat should be a refinement of the open space, street, and lot layout and all engineering data shown on the preliminary plat. It should incorporate revisions responsive to conditions of approval as requested by the municipality or town and agreed to by the developer. The Wisconsin Statutes provide a maximum of 60 days for the review of final plats, which may be approved or rejected with explanations of the reasons for the rejection.

The final plat may be approved before or after site improvements are in place. Such improvements may consist of sewerage, water-supply, and drainage facilities and streets, sidewalks, and any other public

improvements required by the municipality. If the final plat is approved before construction of improvements, an agreement between the developer and the municipality should be executed at the time of final plat approval, ensuring that required improvements will be constructed in accordance with a time schedule mutually agreed upon. The municipality should prohibit building permit issuance and occupancy until all improvements are installed.

As a part of the developer's agreement, a surety bond should be submitted with the final plat, guaranteeing construction of all improvements through forfeiture of the bond if all construction is not completed as required within the specified time period. The agreement should also include reimbursement provisions for any work the municipality may perform on the project, such as installation of street signs or streetlamps.

One stipulation of the developers's agreement for cluster development should be that trails in common open space should be constructed before the sale of lots located adjacent to the trails. Further, common open space areas and facilities should be identified on the site in an appropriate manner, to inform homebuyers of their existence.

The final landscape plan should be provided before approval of the final plat. The plan should be drawn to professional standards, showing the location of each proposed plant and identifying it with either its common or scientific name or both. A schedule of proposed plants should be shown on the plan, listing both the common and the scientific name, quantity of each plant, size of each plant, and its root condition. Landscape architects, arborists, urban foresters, horticulturalists, and nurserymen may all be qualified to prepare such a plan. It is recommended that a qualified professional review such a landscape plan on behalf of the municipality and that such a professional inspect new plantings and the preservation of existing vegetation during construction to ensure compliance with regulations.

A landscape guarantee should be provided by the developer, guaranteeing the new plant material for a period of 18 months. The guarantee may be in the form of cash, certified check, letter of credit, or bond equal in amount to a minimum of 10 to 20 percent of the total landscaping costs to cover the costs of replacing, by purchase, planting, and maintenance all dead, dying, defective, or diseased new plant material.

Final plat requirements for cluster development should also include the submittal of the final legal documents for formation of the community association and for establishing its initial budget, for ownership of the common open space, and for recording deed restrictions and conservation easements.

In all other respects, final plat requirements for cluster development should be the same as for conventional developments.

#### ***Minor Land Subdivisions***

Section 236.34 of the Wisconsin Statutes permits a reduced level of plat information and a limited review process for minor land subdivisions not qualifying as a "subdivision." A subdivision is defined as a division of land creating five or more parcels of one and one-half acres or less in area, or the creation of five or more such parcels within a five-year period. Certified survey maps are the instrument commonly used for recording minor land subdivisions not meeting the foregoing definition of a subdivision. Minor land subdivisions do not require State review and are subject to a simplified local review process, which often exempts such subdivisions from preliminary plat review.

Under State law, cluster developments not meeting the definition of a subdivision, for example, a proposal consisting of 20 two-acre lots, could be reviewed as minor land subdivisions, but this is not advisable. The sketch plan and preliminary plat review stage is important to the proper preparation and review of the site analysis and to the proper detailing of the open space, street, and lot layout of cluster developments. Section 236.45 (2)(a) of the Wisconsin Statutes permits local ordinances to regulate minor land subdivisions with provisions that are more restrictive than the regulations in the Statutes if the municipalities concerned choose to do so. It is recommended that local subdivision control ordinances include provisions that preclude cluster developments from being reviewed as minor land subdivisions.

#### ***Condominium Plats***

It should be noted that condominium plats prepared pursuant to Section 703.11 of the Wisconsin Statutes are not subject to the regulations of any local subdivi-

sion control ordinance unless the ordinance expressly specifies that it is applicable to condominium plats. It is recommended that a subdivision control ordinance governing cluster developments include in its provisions a statement that the ordinance is applicable to condominium plats.

#### **Public Hearings and Expeditious Processing**

In zoning districts that permit cluster development as an option but do not make it mandatory, expeditious processing is an important factor for the developer, since unnecessary delays can be costly. In nonmandatory districts, clustering must be encouraged in order to achieve the objective of preserving rural character. If developers are faced with an uncertain time frame and possibly lengthy or contentious review periods, they may not choose cluster development over conventional development, despite density bonuses or other incentives that may exist in the zoning ordinance.

One important factor in the expeditious processing of a plan is the informal approval of a sketch plan. The developer should be able to rely on such an approval, even though it may not be legally binding. After sketch plan approval, there should be little delay regarding the basic design layout, except for adjustments needed to meet engineering requirements.

Also important for timely processing is the review, at final-plan stage, of the community association documents, the open space ownership arrangements, the land stewardship plan, and other documents unique to cluster developments. These should be reviewed by knowledgeable professionals so that the time frame is not unreasonably extended.

The successful application of cluster development depends, not only on regulatory mechanisms imposed by the local unit of government, such as zoning and subdivision control ordinances, but also on nonregulatory methods that may be used by the developer to gain acceptance for a proposed cluster development. In this respect, the developer should compile a good graphic presentation of the proposal to aid in gaining public support for the proposed development. This is



particularly important when public hearings are required for approval of the proposed development as a conditional use. Residents of a community are often unfamiliar with the concept of cluster development; they sometimes misunderstand the intended objectives and may distrust the mechanisms by which the common open space is to be protected. Sometimes meetings with the neighbors of a project will help them understand better the concept and the specific impacts and benefits of the proposal. Unless the graphic presentation of the project clearly illustrates the benefits to be gained as to the preservation of rural landscape character, public sentiment may sometimes turn against a project.

A useful technique for helping local officials, neighbors, and the general public envision the impacts and benefits of a cluster development on a given site is to provide three graphics, one illustrating the analysis of existing site conditions, a second showing the site under conventional development, and a third showing the site under cluster development. Perspective drawings or photographs may also be used to demonstrate how proposed design features will mitigate the impacts of development as compared to conventional development that may provide no such mitigating design features.

## **SUMMARY**

Implementation of the cluster development concept may be guided and shaped in the public interest through the application of sound public land use controls. The three key regulatory methods identified in this chapter are the official map, the zoning ordinance, and the land subdivision control ordinance. These three types of regulations are specifically authorized in the Wisconsin Statutes. Moreover, Section 62.23(7)(b) of the Wisconsin Statutes authorizing "planned development districts" is often cited as specifically authorizing cluster development.

Regulations imposed by government are a means of establishing minimum standards to be met to produce acceptable development. Cluster development differs from conventional development in a significant way in that, in addition to meeting such minimum standards,

cluster development should meet good site design guidelines expressed both in the form of regulations and good principles of practice. Design guidelines that are advisory rather than prescriptive may be discussed with the developer throughout the review process; their use may be further encouraged with incentives described in either the zoning or subdivision control ordinance.

## **Official Map**

Official maps are intended to help implement community comprehensive plans, including those incorporating the cluster development concept. The basic purpose of an official map is to prohibit the construction of buildings and associated improvements on land which is identified on the map for future public use. This is particularly important in cluster developments which, too often, are considered in isolation, by both the developer and the municipality, as private enclaves separate from adjacent parcels, surrounding street systems, and open space networks. The designation on the official map of streets and highways, drainageways, and parks and parkways on property adjacent to proposed cluster developments presents a unique opportunity to network these systems between adjoining tracts. The design flexibility inherent in cluster development makes this an easier task than it may be with conventional development.

## **Zoning Ordinance**

A cluster zoning district may be applied in a number of ways to areas of a municipality: cluster provisions may be added to existing zoning districts with no change in the boundaries of the districts on the zoning map; a new district may be created specifically for cluster development, changing the boundaries of existing districts; or an overlay district may be created, permitting cluster development in only certain areas of one or more districts.

Cluster development may be optional or mandatory. In the case of a mandatory district, the community may be assured that its objectives for preserving rural landscape character will most likely be achieved, since conventional development is not an option for developers. To encourage cluster development in a district

that leaves such development as an option, density bonuses may be included in the zoning ordinance and other types of incentives may be included in the subdivision control ordinance, such as waiving certain improvements or streamlining the approval process.

Recommendations for effective cluster zoning regulations include:

1. A clearly written statement of intent;
2. A list of all permitted uses, including not only clustered dwellings, but also all of the uses permitted in the common open space areas, such as conservation, preservation, active and passive recreation, park, and agricultural uses;
3. A minimum tract size large enough for at least seven dwellings;
4. Open space, density, and lot size regulations that work together to gain the maximum amount of open space, while permitting full density with units at the minimum lot size;
5. Regulations permitting densities based on formulas that include a "flexibility factor" that allows for inefficiencies in lotting and street layouts;
6. Regulations for cluster groups, such as limiting the number of dwelling units in a cluster group, requiring common open space within cluster groups, separating cluster groups from each other, and locating some form of open space adjacent to all lots within cluster groups;
7. Regulations for open space design, such as ensuring that open space is of sufficient size and shape and requiring that open space be made continuous to the greatest extent possible;
8. Regulations for governing the design of buffers, screens, and separations between cluster groups and other elements such as perimeter streets, tract boundaries, cropland or pastureland, wetlands and floodplains, and other cluster groups;
9. Regulations governing ownership and maintenance of common facilities and open space, such as permitting community associations, conserva-

tion easements, deed restrictions, and municipal authority to assume maintenance responsibility, if needed; and

10. Regulations permitting alternative methods of sewage-treatment and sewage-disposal, including use of collection and conveyance facilities to on-site sewage-treatment and sewage-disposal facilities sited in common open space. Alternative water-supply facilities should also be permitted, including systems utilizing common wells. Cluster zoning regulations may also include provisions for density exchange and lot averaging.

#### **Subdivision Control Ordinance**

Regulations in the land subdivision control ordinance may be divided into four general categories: design standards, plat requirements, required improvements, and review procedures.

Typical design standards that may need modification for cluster development include those regulating street pavement widths, the use of curbs and gutters, streetside drainage swales, cul-de-sac streets, paths and trails, street trees and landscaping, flag lots, sewage-treatment and sewage-disposal facilities, water-supply facilities, stormwater-drainage facilities, and deed restrictions and covenants.

The land subdivision review process should occur in three steps: sketch plan review at preapplication meetings, preliminary plat review, and final plat review. The basic process for the approval of subdivision plats for cluster developments is the same as for conventional developments, except that additional information or review is required in several important areas, including:

1. Site analysis;
2. Environmental review of preservation areas;
3. Design review of cluster groups and common open space;
4. Review of landscape plans;
5. Review of the land stewardship plan for the common open space;

6. Review of provisions for ownership of common open space and other common facilities, conservation easements, deed restrictions, covenants, and other mechanisms for protection of the common open space;
7. Review of legal documents and initial budget of the community association; and
8. Review of community sewerage or water-supply facilities.

In processing cluster proposals through the review procedures, municipalities should place emphasis on avoiding unreasonable or unnecessary delays, which

may discourage developers from submitting cluster development proposals. To aid the municipalities in completing reviews in a timely manner, knowledgeable professionals should review the proposal, particularly with respect to the elements listed above.

In communities that are not familiar with cluster development, the developer should make an effort to present graphic drawings that clearly convey the benefits of a proposed cluster development, so as to aid the local officials and interested members of the public in understanding the proposal. An important aspect of the review process is to avoid misunderstanding of the cluster concept and prevent misconceptions as to the impacts of the proposal.

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## MANAGING THE OPEN SPACE IN A CLUSTER DEVELOPMENT

The success of a cluster development depends, not only on good physical design and site planning, but also on the decisions that are made regarding the ownership and management of the open space. The management of the open space in a cluster development depends, first, upon who owns the land and, second, upon the policies toward stewardship of the land.

### LAND OWNERSHIP CONSIDERATIONS

The open space created by a cluster development may be owned by one or by a combination of the following:

1. A community association
  - a. A homeowners' association
  - b. A condominium association
2. The local municipality
3. A private conservation organization
4. The original landowner

### Community Associations

Homeowners' associations and condominium associations are both types of community associations whose membership consists of owners of property within a development that includes common-interest facilities. The purpose of an association is to manage and maintain the common facilities, to provide services, and to raise the funds for doing so, usually through association fees. Community associations are private, nonprofit organi-

zations which may either be incorporated or unincorporated. Through legal documents created during the development process, each owner of a dwelling unit in a cluster development is automatically a member of the association; each unit is automatically subject to a charge for a proportionate share of the expenses entailed in operating the organization and maintaining the property. Through the development review and approval process, local government at least tacitly approves the administrative and organizational details of incorporation, bylaws, declarations of covenants, and deed restrictions.

Community associations have three basic characteristics. First, all unit owners are automatically members. Second, governing documents bind all unit owners to a governing association and impose mutual obligations. And, third, mandatory fees, assessments in effect, are levied against unit owners for the operation of the association and the maintenance of the common open space areas concerned.

According to the Community Associations Institute (CAI<sup>1</sup>), the two most common forms of community

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<sup>1</sup>CAI was formed in 1973 with the support of the Urban Land Institute (ULI), the National Association of Home Builders (NAHB), the U. S. League of Savings and Loan Associations, the Federal Veterans Administration (VA), the Federal Department of Housing and Urban Development (HUD), and numerous interested private individuals for the purpose of developing and distributing guidance for the creation, financing, operation, and maintenance of common facilities and services in condominium, townhouse, planned unit development (PUD), and open space communities.

associations are homeowners' associations and condominium associations. Each of these has distinct characteristics:

#### ***Homeowners' Associations***

In a homeowners' association, the homeowner owns a lot with attendant on-lot open space in the form of front, side, and rear yards and the interior and exterior of the individual home, while the association owns and maintains the common property, primarily the common open space areas. The association may also be given responsibility for maintaining some private property, such as lawns on the lots. Membership is automatic and obtained by purchasing a lot in the cluster development. The Federal Housing Administration (FHA) and the Veterans Administration (VA) have issued Federal guidelines for the creation, management, and financing of homeowners' associations.

Membership in a homeowners' association carries basic rights and obligations. Rights include members' perpetual access to common property, which is established by the enabling declaration, the articles of incorporation, and the subdivision plat. Obligations include conformance to the provisions of the covenants concerned and the payment of an annual assessment to finance the association's functions.

Title to the common areas may be held by the homeowners' association or, preferably, by the residents in the form of fractional, undivided interests as "tenants in common." Each individual deed requires membership in the association; each owner is bound by the governing documents. When the homeowners' association is incorporated, the governing documents include the articles of incorporation, the bylaws, and the declaration of covenants, conditions, and restrictions.

#### ***Condominium Associations***

A condominium association is similar to a homeowners' association, but a key difference exists in the ownerships concerned. The owner of a condominium unit may own all or part of a building, often just the interior space, while all the land around and under the buildings is owned "in common" with the other owners. In addition to the residence, each owner has an individual percentage interest in the entire condominium project

that is not specifically individually owned, commonly referred to as an undivided interest. The condominium association is responsible for maintaining the property and delivering common services, but does not own the common property. This type of community association is often associated with developments in which homeowners do not own typical lots and the common ground begins at, or very near, the exterior walls of the dwelling units.

Pursuant to a set of governing documents, title to the common areas is held by the unit owners as tenants in common. Each individual deed requires that the owner be bound by the governing documents, which include the articles of incorporation, the bylaws, the declaration, and the master deed.

The organization, structure, and responsibilities of a condominium association are governed by the Federal "Uniform Condominium Act" of 1979 and Chapter 703 of the Wisconsin Statutes, known as the "Condominium Ownership Act."

Because rural cluster development will normally include individual lots or areas in addition to common open space, the homeowners' association would be more commonly applicable than the condominium association.

The first homeowners' association in the United States was Louisburg Square in Boston, built in 1828, consisting of 28 townhouse lots around a common square. The association was not actually formed until 16 years later, when the need for a mechanism to maintain the common open space became clear. But most of the growth in homeowners' and other types of community associations has occurred since 1960, promoted by the decision in 1961 by the Federal Housing Administration to provide mortgage insurance for condominiums. The first condominium association in the United States was The Greystoke, formed in Salt Lake City, Utah, in 1962. By 1967 every state had adopted a condominium property act. A major factor contributing to the growth of community associations was the Veteran's Administration decision to make condominium loans eligible under the Administration's loan programs in 1974. In addition, the Federal National Mortgage Association (Fannie Mae) began buying mortgages in condominium

development and PUDs in 1975. Today, financing a condominium unit is no more difficult than financing a single-family home.

The CAI estimates that in the 15 years from 1975 through 1990 the number of community associations nationwide increased from about 20,000 to about 130,000. The 1980 Federal Census of Population and Housing found that there were over 25,000 community associations in Wisconsin at that time. The 1990 Federal Census found that approximately one out of eight persons in the United States lived in housing governed by a community association and approximately 5 percent of all housing units were condominium units (over 4,800,000). In Wisconsin approximately 2 percent of all housing units were condominium units. Approximately 18 percent of all community associations across the nation were associated with single-family, detached-housing developments.

Developments with community associations may range in size from just two units to thousands of units. Data provided by the CAI indicates that the median size of such developments is 95 units, but 26 percent of such developments have less than 50 units and 25 percent have more than 250.

Community associations have been likened by some to "mini-governments." Under a community association, homeowners elect a board of directors to administer the affairs of the association on behalf of the unit owners. The average board consists of five to seven resident homeowners. The primary responsibilities of the board include:

1. *To ensure satisfactory operation and maintenance of common facilities and provide necessary services.* Most rural cluster developments would probably not include common amenities requiring expensive maintenance, such as swimming pools or clubhouses. However, they could include community sewerage and water-supply facilities, which would require regular professional monitoring and maintenance. Other services that may be needed or desired in rural cluster developments include landscaping and maintenance of common areas, off-street parking area maintenance, solid-

waste collection and disposal, private outdoor lighting, and, in condominium developments, painting and exterior building maintenance.

2. *To adopt and administer operating budgets.* Associations must have operating budgets for ongoing expenses. About 70 percent of most association finances are devoted to the provision of services. The remaining 30 percent are allocated to such fixed expenses as taxes, insurance, and such administrative expenses as management fees and salaries and legal and audit expenses.
3. *To provide for future capital improvements.* Associations should make long-range plans for providing capital reserves for future major repairs. Properly funded reserves provide assurance that major renewal of landscape plantings and repairs to utilities and buildings will be financed and completed when needed without requiring large special assessments. The failure of community associations to provide adequate reserves for future capital costs has historically been a common problem. Properly managed community associations set individual assessments high enough to provide a reserve fund for capital improvements and thereby ensure a financially stable situation over the long term.

One example of an element of capital improvement programming would be a five to 10 year plan for open space management and improvement. For example, if regular major tree planting is proposed over a period of five years in order to convert an open field to a future woodland, funds would need to be allocated for such a project.

4. *To enforce rules.* The community association board of directors has authority to enforce rules and regulations duly adopted by the association. One of these enforcement powers is the power to file a lien against the property of a unit owner who does not pay the requisite annual assessment.

By fulfilling these responsibilities, the community association can protect the investment and enhance the value of the property owned by its members, create a com-

munity of lasting credit to the municipality, and promote continued marketability. It also provides an efficient mechanism for people of diverse backgrounds to share common property with a minimum of inconvenience and loss of personal rights.

### **The Legal Framework of a Community Association**

The legal structure of an incorporated community association is comprised of five major elements:

1. *The enabling declaration.* The enabling declaration sets forth the developer's intent to form an association as a corporation with specified responsibilities and also sets forth the covenants, conditions, and restrictions which are the obligations and responsibilities of the homeowners in the association. The enabling declaration also includes a general description of common elements, percentage interests, voting rights, and amendment procedures. The enabling declaration is recorded with the subdivision plat and should contain a reference to it. The plat and covenants identify individual residential lots; common land and facilities; and property to be dedicated to the public, such as streets.
2. *The articles of incorporation.* The articles of incorporation actually establish the association. This document is required to be filed with the State. The purpose and powers of the association are described and are related to the enabling declaration and the subdivision plat. The articles also create the initial board of directors and set forth terms of membership, voting rights, and procedures for amendment and dissolution.
3. *The bylaws.* The bylaws are the set of rules in accordance with which the association conducts its business. The original bylaws are prepared by the developer, not the first board of directors. Bylaws set forth the terms of office for the board of directors, the method of election, the handling of resignations, removals, vacancies and compensation, the conduct of board meetings, and the powers and duties of the board. The fiscal year is established and indemnification of officers is provided.
4. *The deeds for the individual parcels.* The individual deeds for each parcel should contain a reference to the declaration and clearly provide title to common property, as well as to the individual parcels or units.
5. *The subdivision plat.* The subdivision plat is the map delineating the location and legal description of individual lots, the common spaces, street rights-of-way, and easements. Reference should be made on the plat to the enabling declaration and its provisions regarding title to the common property, the granting of common use easements, areas for use by the general public, and the intent to convey common areas to the association. The need for the subdivision plat and the declaration to be mutually referenced is created by the fact that too often the potential buyer sees only the subdivision plat without seeing the declaration.

The developer may dedicate commonly held land and facilities to the association and recover the cost of these from the sales of individual units. The dedication is made either directly on the recorded subdivision plat or by reference to a dedication in a separate recorded document.

In an association that is unincorporated, the enabling declaration, articles of incorporation, and separate corporate bylaws would not be applicable. Organizational rules may be included as a section in the "Declaration of Covenants, Conditions, and Restrictions."

### **Transition from Developer to Association**

The transition from full control by the developer to full control by the association is a critical process which should be properly planned and understood by all parties concerned, including the municipality. The developer is most concerned about maintaining control during the early stages of development, since the developer must be assured of being able to achieve his development objectives. The primary concerns of the developer will relate to control of design features, including the location, orientation, and architectural design of individual housing units, the ability to develop according to plan, the ability to make modifications to the plan to meet new market conditions, and the high levels of main-



tenance needed in the common areas during the marketing period.

Until the developer turns control of the common facilities over to the association, those facilities are operated and maintained by the developer. The developer should be sure to establish his right to continue use of the common facilities for marketing purposes, even after the association has assumed majority control. The developer will usually use his own crews for maintenance, but the expenses for this should be tracked separately from ongoing construction work on the project site. It is important that the developer keep accurate records of the actual maintenance expenses, since these will determine the initial assessments or dues. Excessive maintenance for marketing purposes, however, should be discounted; assessments should be realistic in terms of the future expenses of the association. It is helpful if the accounting records of the developer are structured in a manner similar to that to be used by the association for operation, maintenance, and capital cost budgeting, so that at the time the association assumes full control, the accounting procedures will not be unfamiliar.

The need for owner participation as the development proceeds is important. The developer usually maintains control of a condominium association until approximately 75 percent of the units are sold. Up to that point, however, as units are sold, the developer should increasingly include unit owners on the board of directors and should involve them in managing the operations and maintenance. The Wisconsin Condominium Ownership Act requires that, at certain stages of development, the unit owners elect increasing percentages of the members of the board. Early participation and training of association members in the purposes of the association and the proper methods of management and operations should make the transition from developer to resident control a trouble-free process.

Typical phases in the development of an association are as follows:<sup>2</sup>

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<sup>2</sup>Urban Land Institute, *Residential Development Handbook*, p. 290.

*Phase I, Design.* The developer structures the community association by producing its legal documents, operating manual, and initial budget.

*Phase II, Start-Up.* The developer incorporates the association, conveys the common facilities to it, and begins to market the individual units. The association begins its operation as a separate entity. The developer has a majority of the association votes; the association depends on the developer to provide most of its operating income and to establish the operational pattern.

*Phase III, Transition.* The developer coaches the homeowners in association operations through membership on the board and committees. The developer gradually turns control of the association over to the homeowners.

*Phase IV, Maturation.* The developer no longer holds a majority of the association votes when approximately 75 percent of the units are sold. Independent of developer control, the association grows to full control by the membership as the developer sells out the development.

*Phase V, Governance.* The developer has sold all the individual units. The association with a full membership of homeowners performs the ongoing functions of operating the common facilities, administering the covenants, and providing self-governance for the community.

## Management

Most rural cluster developments with individual onsite sewage-disposal systems and public streets will probably not have extensive common facilities to manage, other than large areas of common open space. Management of the open space may entail occasional mowing of meadows, removal of dead or diseased vegetation from woodlands, removal of noxious weeds, monitoring of any farming activities permitted, and maintaining trail systems. Keeping common facilities simple is a desirable objective in that association fees can be kept low, which aids in maintaining long-term stability and increasing the continued affordability of individual units. Developments can vary in management responsibilities, how-

ever, and the actual day-to-day management of the administrative and service functions of an association can be challenging and time-consuming for volunteers.

Management may include some or all of the following responsibilities:<sup>3</sup>

- Operation and maintenance of common facilities and services;
- Collecting assessments and preparing financial statements;
- Preparing annual operating and reserve budgets;
- Maintaining records;
- Overseeing and supervising all contractors;
- Hiring, firing, and supervising employees;
- Receiving and handling complaints;
- Planning and organizing association activities; and
- Reporting to the board of directors on all activities.

Many associations retain professional managers or contract for professional management services. More than two-thirds of all associations engage the services of a professional manager. Such management works at the direction of the board of directors, relieving them of the routine, day-to-day aspects of managing the association's affairs. According to the CAI, contract management is typically used in associations having 50 to 200 units; when hired, onsite managers are typically used in associations having 200 or more units. In smaller associations, where management is provided entirely by volunteers, committees of unit owners not on the board may be formed to deal with a variety of responsibilities and activities such as maintenance, budget, insurance, and architectural controls.

#### **Local Government Involvement and Oversight**

Community associations are essentially private communities within public communities. As such, property

regulated by a community association is subject to a dual system of land use control, the usual public controls and additional private controls, the latter to which the resident voluntarily agrees. If the private covenants concerned are more restrictive than the local municipal ordinance, which is usually the case, then the private covenants prevail over the local ordinance. If the private covenants are less restrictive than the local municipal ordinance, however, the local government can enforce its regulations and the public ordinance prevails over the private covenants.

There are several functional similarities between municipal governments and community associations. The power of community associations to assess fees is similar to the municipal power to tax. The power of the associations to control the use and facade of buildings may be likened to the municipal zoning power. Both can be responsible for services such as operation and maintenance of utilities and maintenance of open space areas. Both are governed by elected officials. Both are responsible for programming and budgeting. And, finally, both may penalize those who do not follow the regulations concerned; in an association this would most commonly be through the use of fines and liens. The authority to impose fines and liens must be established in the association documents. Importantly, the ability for the private covenants entailed in a community association to enforce regulations that public governance may not, can provide an amenity level not possible under public controls alone.

The local government interest in the community association is to ensure that the development project concerned is completed as proposed and, thereafter, to ensure that the development, once fully occupied, is properly maintained. Stability of the development is paramount to protecting the local tax base that was assumed would be created when approval of the project was granted. The private covenants concerned should be drawn so that they may be enforced by the local unit of government if the association fails to do so.

Local governments are not required to be involved in the creation of associations or in their operation; many governments may feel that such matters are the private purview of the developer. It is, however, to the benefit of both the local government and the future residents of the development concerned that local governmental oversight be established over certain critical aspects of

<sup>3</sup>*Community Associations Factbook*, p. 13.

proposed community associations so that future problems may be averted. If a community association fails, the residents may feel justified in demanding help from the local government or even a full assumption of all facilities by the municipality.

The areas in which local government involvement is recommended and the types of regulations needed are described below.

1. *Maintenance of common facilities.* At a minimum, local government regulation should include the right to step in and maintain the common facilities if the community association fails to do so. The regulations should state that any expenses incurred in the maintenance of such facilities shall be billed to the community association. If the association itself fails, regulations should state that such expenses would be collected, if necessary, through liens against the property of the individual homeowners.
2. *Community association financial arrangements.* If community associations develop financial difficulties they typically do so through assessment of inadequate fees, underestimation of costs, inability to allow for rising costs due to inflation, and the lack of sufficient reserves.

An important aspect of determining the financial strength of a community association is to ensure that assessment fees are set properly to adequately fund annual expenses as well as provide reserves for future capital expenses. One of the most important areas of financial regulation is the review and approval of the original assessment fee for unit owners. If the initial assessment is too low, the association faces immediate financial shortages and future increases in fees are related to initial fees which were set too low; thus, the budget will constantly fall short of needs. Some developers intentionally set low beginning assessment fees to enhance the marketability of a project. New residents may like the lower assessment while the development is being built, but may not be prepared to assume the full costs once the development is completed. Also, the developer's subsidy of the community association during initial stages of development can lead to misconceptions about the actual cost of operating

the association. In efforts to forestall these problems, some condominium associations require the initial purchaser of a unit to pay a one-time fee to the association in addition to their regular assessment, in order to create added working capital or reserves.

Allowances should be made for annual increases to offset the effects of inflation. Association documents should permit increases in annual assessments up to a specified maximum rate as an administrative decision not requiring a vote by members. Special assessments should also be provided for, but in the aggregate they should not exceed a specified maximum rate of the budgeted gross expenses for the year. Any increases beyond the maximums would usually require a majority vote by members.

One of the most important financial responsibilities of a community association is the provision of reserve funds to replace capital assets. Local government cannot legislate how a reserve account should be created or maintained; this is an internal financial matter properly beyond the scope of public regulation. Local government may, however, require the establishment of a reserve account in the covenants and deed restrictions of the association. This becomes binding on the management of the association and can be enforced by any member of the association, making management liable if a reserve account is not established and properly funded.

Prospective buyers of units in community associations should take it upon themselves, with assistance from a qualified attorney, to review carefully the association financial arrangements, including assessment fees, annual budgets, and reserve funds.

3. *Consumer disclosure.* It is important for potential homebuyers in a cluster development to understand what they are purchasing. Developers may advertise "maintenance-free living" and downplay the costs and responsibilities associated with belonging to a community association. Buyers need to understand what they will own personally, what they will own in common with other residents of the development, what their

financial obligations will be beyond the costs associated with their own dwelling, and what their role in the community association will be. If they do not understand the importance of their support of the community association, they may fail to take an active role in it; a lack of interest by homeowners could cause an association to be mismanaged and perhaps to fail.

Buyers may not understand the extent or limits of community association responsibility versus that of local government. Further, they may not understand the connection between their active participation in the association and the level of services they will receive, services which they may expect to be “automatically” provided.

To ensure that potential homebuyers in a cluster development are fully informed about the rights and responsibilities involved in belonging to a community association, it is recommended that an informational brochure be provided by the developer to a potential buyer early in the marketing process. An informational brochure is required by the Federal Housing and Veterans Administration for projects financed through these agencies. Section 703.33 in the Wisconsin Statutes, the Condominium Ownership Act, requires full disclosures no later than 15 days prior to the closing on the sale of unit. However, by that time the buyer has made a down payment with an offer to buy, the process for purchase is well under way, and the buyer is usually fully committed to the purchase.

It is recommended that, in addition to the disclosures required 15 days prior to sale, informational packets be provided to interested parties during marketing phases, so that home seekers may decide early in their search for a home or home-site whether buying into a community association is suitable for them. New homeowners who understand their own obligations and privileges and the purposes of the association of which they will automatically become members will be more responsible members of that community. The informational material should state in laymen’s language the relationship between the developer, the homebuyer, and the association. It should explain the structure of the association, dues, and

liens. It should clearly explain the applicable covenants, conditions, and restrictions, including architectural controls. It should identify the major elements of the common areas, their ownership and use.

In addition to the developers making informational materials available during marketing, the municipality may ask the University of Wisconsin Extension to prepare information regarding community associations in general and make such information publicly available to interested parties.

4. *Requirements for early homeowner involvement in the community association.* The early involvement of homeowners in the community association in managing the operations and maintenance of the development is crucial to making the transition from developer to resident control a smooth one. Governmental review of association documents should ensure that provisions for early homeowner involvement on the board of directors are included in accordance with State law.
5. *Phasing.* Problems associated with phasing may occur with large projects that may take several years to complete. The two most common problems are, first, that all amenities are provided but not all units are built and, second, not all amenities are provided. In the first case, a small membership in the association concerned must carry a large financial burden and the per-unit cost may become excessive. In the second case, the residents are buying into incomplete projects, with the danger that the developer may not complete the amenities. This may, in turn, commit the association to do so at an unanticipated cost.

A variety of situations may cause such problems in phased projects. For example, an amenity package, such as a man-made lake with a boat dock, beach, and trail system, may be used as a sales feature, but with inadequate plans for ongoing maintenance; or the sale of units may not be as good as is expected; or the developer becomes bankrupt and full amenities may not be provided.

While the municipality can do little to forestall financial difficulties on the part of a developer, it

should, at a minimum, through the review and plat approval process, ensure that an appropriate amount of open space is included in each phase of a development project. Then, if future phases are not built because of unforeseen circumstances, each phase that is built will at least have the open space needed to function as an effective cluster development individually.

### **Open Space Ownership by the Local Unit of Government**

Although ownership by a community association would be the most likely form of ownership for the open space preserved in a cluster development, all of it or part of it may also be dedicated to the local unit of government. The municipality may be interested in assuming ownership of the open space if it helps meet the objectives of the open space element of the local comprehensive plan. The open space may be an important link in an areawide trail system or it may be located in an area that was previously considered as a possible extension of a public park or parkway.

When a unit of government assumes ownership, it also assumes the maintenance and liability responsibilities for the open space and the land becomes accessible to the public. From the perspective of the residents of the cluster development, this may be a drawback. While it may be advantageous for the community association to own less open space, and thereby reduce maintenance costs, the municipality may not maintain the open space in a manner envisioned by the members of the association and public access may be seen as undesirable. A maintenance plan agreed to by all parties prior to dedication to the municipality would help in this regard. But the perceived disadvantage of public access to facilities near private homes may be a strong enough disincentive to potential home buyers for the developer to decide against dedicating the open space. Although it has been shown that homes located near permanent open space, public or private, escalate in value faster than comparable homes not near such open space, the public may nevertheless have a negative perception of such proximity.

A municipality which assumes ownership of open space may not in the future use the open space parcel or parcels for development, since the development rights associated with the land in the open space have

already been used in the cluster development. However, zoning is an expression of political policy and, with a change in elected officials, open space lands could be rezoned to a higher density. This would be unfortunate, since both the residents of the cluster development and the community at large, who originally agreed to the inclusion of a cluster form of development in the local zoning ordinance, had the right to assume that any open space created in this way would be permanently preserved. Further, the continued value of their homes would depend on the open space remaining open. To preclude development of the open space, the community association should hold a conservation easement on any open space lands owned by the municipality. Any change in use of the open space would have to meet the approval of all the unit owners in the association, an unlikely event, since such a vote would directly affect the value of their own homes.

It is further recommended that if dedication to a local unit of government is being considered, not all the open space be so dedicated. Some privately owned open space should be retained for the sole use and enjoyment of the unit owners in the development concerned.

From a site planning perspective, when the local unit of government is to own part of the open space, it is advantageous if an obvious natural feature can be used to mark the limits of the area to be dedicated, such as a stream, hedgerow, or edge of woodland. This helps to maintain the privacy of the nonpublic area and reduces the need for otherwise unnatural demarcations, such as fences, which may detract from the natural landscape character.

### **Open Space Ownership by a Private Conservation Organization**

Private, nonprofit, conservation organizations, such as local land trusts, are often interested in and willing to take ownership of common open space in cluster developments if it furthers the environmental causes of the organization. According to the Land Trust Alliance, a national organization, there are currently over 1,100 land trusts in the United States protecting over 4 million acres nation wide through both fee title ownership and conservation easements. In 1995, there were 28 land trusts in Wisconsin, of which 15 were active in the Southeastern Wisconsin Region. Those active in the Region are listed in Appendix G.

Most land trusts will be interested in acquiring ownership of a parcel of common open space only if it promotes their stated mission. Many land trusts are focused on particular geographic areas, such as a watershed, or particular types of environmental features, such as prairie lands or mature woodlands. Due to the costs of outright ownership, land trusts may prefer the use of conservation easements. Cost is always a concern in the management of open space; even when the land is donated, there are costs associated with the monitoring, liability, and maintenance of the land, which may deter the land trust from accepting the donation.

When a local land trust or other type of private conservation organization owns the common open space, the residents of the cluster development should have a clear understanding of the land stewardship agreement controlling the management of the open space and the residents' rights to use it. The management plan and the rights of use should be formalized in a recorded agreement between the community association and the land trust.

#### **Open Space Ownership Retained by the Original Landowner**

In some cases, it may make sense for the original landowner to retain ownership of the open space. For example, a farmer could retain ownership of a large part of the open space, with the community association holding a conservation easement over the part owned by the farmer. While the easement agreement would restrict the cluster residents from actively using the land, it would be preserved in farm use and protected from development. The farmer will have used the development potential of the preserved land in the development of the clustered lots and the farmland could not, in the future, be developed for urban use.

In another example, the developer could retain ownership of part of the open space if it contains such recreation facilities as a golf course or swimming pool with a clubhouse. This is usually the case in "golf course communities," in which the developer may want to open the club membership to persons not residing in the cluster development. The residents of the cluster development would be given certain rights to membership and the community association or the municipality

would own easements on the land precluding it from being used in the future for development.

Generally, unless there are very specific interests the original landowner might have in the open space, it should be owned by the community association, not the original landowner.

#### **CONSERVATION EASEMENTS AND DEED RESTRICTIONS**

Whether the common open space is owned by a community association, the local municipality, a private conservation organization, or the original landowner, it is sometimes useful to extend partial, limited legal ownership to an outside party to strengthen the permanence of the protection of the open space. This can be done through the use of conservation easements.

Conservation easements have been successfully used across the country for decades to protect permanently open space within developments, secure land for future parks, establish community trail corridors, preserve unique habitat for plants and animals, and safeguard vital groundwater aquifers and recharge areas. Easements may be affirmative or negative. Affirmative easements grant limited rights to use land for public purposes, such as hiking, fishing, or horseback riding. Negative easements restrict the owner in the use of his own land; for example, a scenic easement would require the owner to preserve the openness or natural beauty of an area adjacent to a rural highway.

A conservation easement is a type of negative easement which restricts the use of land owned by another person to specified conservancy, open space, uses. The easement area and its restrictions are described in an easement agreement between the landowner and the holder of the easement. The landowner retains title to the property and continues to use it, subject only to the specific restrictions set forth in the easement agreement. The landowner and subsequent owners may retain, sell, lease, or bequeath land covered by a conservation easement at any time, subject to the provisions of the easement. The easement is granted in perpetuity and is binding on all future owners of the land.

While the objective is to preserve open space in perpetuity, it is sometimes agreed that conditions may change sufficiently over time to prompt a need or desire to change the conditions of the easements or deed restrictions and that provisions should be made for such change. Any such provisions, however, should make it difficult to subvert or negate the original objective. If changes warrant consideration, the municipality, the members of the association, and any third-party holders of easements or restrictions should all agree that it is in the best interests of everyone to revise or modify the easements or restrictions. Accordingly, a provision may be included in the documents concerned providing a procedure for making amendments or revisions. For example, conservation easements might state that they are valid for 50 years, at the end of which time they shall automatically renew for another 50 years unless all parties concerned agree to amend or revise them.

The land under the protection of a conservation easement remains on the tax rolls, although its value as a parcel separate from the value of the homes is diminished. The municipality should not suffer a loss of tax revenue, however, because the value of the homes is enhanced by their location adjacent to permanent open space and thus reflects the value of the open space.

Whether a community association, the local unit of government, or the original landowner owns the common open space in a cluster development, it is recommended that a conservation easement be held by at least one other of these parties. A concern related to the use of cluster development is that, at some time in the future, the zoning of a parcel developed as a cluster subdivision or the open space areas of such subdivision, may be changed, and the open space may once again be susceptible to development. Although experience indicates that this is not likely to occur, an added protection against development under such a rezoning is for another interested party to hold a conservation easement on the land.

The local unit of government can support the use of voluntary conservation easements by adopting a local conservation policy, which identifies the types of features which it deems important to protect, such as

wetlands, woodlands, agricultural lands, environmental corridors, and steep slopes, and by enacting a resolution that specifically states its support for conservation easements as a means of implementing its planning goals. A municipality may also require that, in the case of open space owned by a community association or retained by the original landowner, a conservation easement be granted to either a conservation organization or, if one cannot be found to accept the easement, to the municipality itself.

Probably the most effective way to assure preservation of the common open space in a cluster subdivision in perpetuity is to have each lot owner in the subdivision also own an undivided interest in the common open space. This would require that all lot owners concerned would have to agree for the open space to be sold and developed. When a community association owns the open space, however, the bylaws may permit such a decision to be made by a simple majority of the lot owners. For this reason, it is recommended that common open space be owned by the lot owners in the form of an undivided interest, as tenants in common, not by the community association.

## **TAXATION**

Real property in a cluster development consists of privately owned land with dwelling units and commonly owned open space. The open space is not usually taxed separately from the dwelling units. Rather, the value of the open space is reflected in the value of the dwelling units, which is enhanced because of the existence of the open space. If the open space is taxed separately, the assessment should be quite low. In such a case, the open space, as properly identified on the subdivision plat, should be assigned a separate tax key number.

When the common open space is owned by the homeowners' association and is taxed separately from the dwelling units, problems may occur if the association refuses, or is otherwise unable, to pay taxes on the open space. Also, by separating the tax on the individual units from the tax on the common holdings, individuals with financial difficulties or those who may not have understood their obligations to the community association when they purchased their lot may attempt to

avoid paying taxes on the commonly held land by not including such tax payments in their association fees. The community association would then not be able to pay to the municipality the taxes due on the open space. The usual method municipalities use for collecting delinquent taxes is to place a lien on the property and eventually collect the taxes when the property is sold. But placing a lien on common open space that cannot be sold would be a fruitless exercise and would place the municipality in the position of losing tax revenues.

To avoid such problems, current practice in those communities within Southeastern Wisconsin that permit cluster developments is to include the taxation of the common open space with the taxation of the individual lots, or in the case of condominiums, the dwellings. The tax obligation for the common open space is divided between the lot owners, although the real interest in the open space is not divided. Thus, for example, in a 90-acre development containing 30 one-acre lots with 60 acres of common open space, an individual lot owner would pay taxes on his one-acre lot plus one thirtieth of the taxes due on the common open space. The taxes are paid directly to the municipality, not to the community association.

A common concern among units of government contemplating the adoption of a cluster zoning ordinance is whether the tax base, as compared to conventional development, is reduced because of the amount of land occupied by open space rather than by residential lots. This is not the case, however, because the development rights of the land in open space have, in fact, been used, the density is not reduced by cluster development as opposed to conventional development. Further, the presence of the open space enhances the value of the lots which should be reflected in the purchase price of the lots and later in the resale value of the homes and thereby reflected in the assessed values.

Another issue regarding taxes that can arise in a community association development is that the residents sometimes feel they are being taxed twice for the same services, once by the municipality through their real estate taxes and again by the association through assessment fees. The services provided by community associations may be the same as those provided by the municipality, such as street maintenance, landscaping, outdoor lighting, and solid-waste collection and

disposal. The association residents fund those services through their assessments, but they also pay local government taxes for similar services received by other homeowners outside their development. Since street maintenance is perhaps the costliest of ongoing expenses, this issue may be avoided by ensuring that all streets in a cluster development are public, not private. Although many residents of community association developments feel that the assessment fee they pay is worth the benefits of living in an open space community, community associations are increasingly voicing concern about this seeming "double taxation" and, in areas where cluster development is common, some local units of government are coming to recognize the need to address this issue.

#### **STEWARDSHIP AND MANAGEMENT OF COMMON OPEN SPACE**

The primary objective of permitting or requiring cluster development in rural areas is to preserve rural landscape character through the preservation of large areas of common open space, which may contain environmentally sensitive natural areas. How the common open space is used and managed over time determines how successfully the primary objective is reached. The open space should not be viewed as idle, purposeless, or useless land. And it is not the same as "vacant" or "unused land." It is land that is consciously protected from development and land that should be cared for. An attitude of "stewardship" should be adopted toward the land. An attitude of stewardship implies an understanding of the conditions existing on the land; a vision of its intended condition years into the future; an understanding of how that condition is to be reached; and, no less importantly, a willingness to perform the management and maintenance tasks needed to provide the appropriate stewardship. The residents of a cluster development, as members of its community association, are charged with the responsibility for that stewardship.

Common open space may be left alone, unaltered in any way, and essentially uncared for. In this situation, natural processes will simply take their course, which may or may not be desirable. Natural processes do not always produce the end result desired. For example, nonnative, invasive plants may take over and crowd out desirable native plants; or erosion may occur or worsen,



if already existing. Natural succession may eventually convert a meadow to a woodland, but this may not necessarily be the desired "end state" for the area concerned. To guide the natural processes that take place in protected common open space, a "land stewardship plan" is needed. Such a plan identifies the existing conditions, states what the desired end state of an area of open space should be, and describes the steps needed to reach and maintain that state.

Few new residents of a cluster development, however, will fully understand the existing conditions in the common open space. Additionally, residents will tend to make their own assumptions about the future appearance of the common open space, which may be at variance with the assumptions their neighbors may have made. Municipalities and residents of the cluster developments both have a significant stake in the long-term implementation of good land stewardship plans for the open space provided by cluster developments. The residents' interest will be in protecting their investment in the value of their homes, as well as the quality of their living environment. The municipality's interest will be in seeing that the objectives of the local land use plan and cluster zoning ordinance are fulfilled. The municipality and the homebuyers need to have a shared vision for and understanding of the intended long-term character of the open space. Because the plan may be revised by vote of the membership of the community association, however, the municipality should hold a conservation easement over those areas of the plan which it does not want to see changed.

When the municipality approves a plat for a cluster development, it should, through the review process, have carefully examined the configuration, character, and conservation features of the proposed open space and should have essentially agreed with the developer about the desired landscape character of the open space. By approving a land stewardship plan, the municipality is further supporting the open space objectives of the cluster development. This agreement and support should be based upon a good understanding of how the development's open space fits into the overall open space plan for the municipality and how the objectives in that plan as well as the plan for the development will be reached. The land stewardship plan for the cluster development should implement the objectives of the municipality's open space plan as those objectives apply

to the development tract, while addressing the environmental and recreational needs of the development.

A land stewardship plan should be based on the first two steps in the site design process, the site analysis and the delineation of preservation areas, described in Chapter III. The plan may consist of a written report accompanied by a duplicate of the plat prepared for the delineation of the preservation areas concerned. The preservation areas may be detailed in the land stewardship plan, giving greater guidance to the locations of specific plant or animal resources or areas receiving different types of management. The written report should consist of four main sections, each of which is briefly described as follows:

a. *Description of Existing Conditions*

A description of existing conditions, as previously documented in the site analysis, should focus on the landscape elements found in the common open space areas, but may also include a site history. All elements present should be discussed: natural, cultural, historic, and scenic. Site resources important in their larger, areawide context should be described as to the potential for protecting or enhancing the larger resource by action on the particular site. Any special resource features should be clearly identified and described, along with their necessary supporting elements; for example, the need to preserve a closed or open tree canopy to preserve the natural vegetation at shrub and understory levels of a woodland.

b. *Objectives for the Common Open Space Areas*

The overall objectives for each common open space area should be listed, as well as the specific actions proposed to achieve those objectives. These objectives may be defined as "land stewardship options," which are described further below. Land stewardship may be as simple as preserving land as it is, or as complex as active shrub control and implementation of controlled burn-management practices.

c. *Proposed Restoration Measures*

Needed restoration measures should be described. Some existing landscapes may need restorative action to bring them back to a healthier state. Correcting erosion problems or removing inva-

sive shrubs or exotic nonnative plants are typical restorative measures. The concept of land stewardship does not include permitting destructive conditions to remain unchecked.

d. *Maintenance and Operations Plan*

Recommended annual maintenance activities should be described, specifically identifying the operations needed for maintaining the stability of the resources concerned. Mowing schedules, removal of unwanted plants, control of noxious weeds, upkeep of structures, maintenance of trails and paths, and any maintenance activities related to ponds, lakes, and streams should be identified as necessary.

The land stewardship plan need not include a budget, although such inclusion may be helpful. If a budget is included, it should be used as the basis for the budget for open space management listed as an item in the community association's overall annual budget.

### Land Stewardship Options

Landscape elements may be managed in a variety of ways; they may be preserved as is, restored to a healthier state if degraded, their existing character may be enhanced, or their character may be substantially changed. Which land stewardship option is chosen depends upon numerous considerations, such as site conditions, including existing plant communities and present and historical uses, existing resources on adjacent properties, the financial resources available, and the need to make the property functional and aesthetically pleasing for the residents of the development.

Typical landscape elements found in primary and secondary environmental corridors and isolated natural resource areas of the Southeastern Wisconsin Region include: 1) lakes, rivers, and streams, and associated shorelands and floodlands, 2) wetlands, 3) woodlands, 4) prairies, 5) wildlife habitat areas, 6) wet, poorly drained, and organic soils, and 7) rugged terrain and high-relief topography. In addition, the landscapes of the Region include hedgerows, farm fields, meadows, and pastures, which in some cluster developments may form most of the open space.

Table V-1 lists these landscape elements and indicates the land stewardship options that may be appropriate for each element, ranging from preserving the element in its existing condition to converting it to a totally different landscape element. It should be noted that this section is not intended to be a complete guide to environmental management. It is intended as an introduction to the concept of land stewardship and the options available for managing various types of landscape elements. If an area of common open space is to be left in its existing state, the management plan for that area is not complex. If, however, any improvement, enhancement, restoration, or conversion of a landscape element is contemplated, it is recommended that the assistance of professionals experienced in environmental management be sought for plan implementation. Such professionals may include foresters, biologists, landscape architects, wetland and prairie specialists, and wildlife managers.

### *Management of Natural Areas and Critical Species Habitat*

The first two land stewardship options listed in Table V-1 are to preserve an area as is or to restore it to a healthier state. Merely leaving a site undisturbed, however, may not be sufficient to ensure the long-term survival of the species and communities that exist there. The basic ecological processes that have helped shape these areas often have been disrupted by human activity. These processes, from a human perspective, may seem destructive, but are, in fact, vital forces in the formation and continuation of natural communities. Prairies, for example, developed under such natural forces as fires and occasional grazing. To preserve or enhance such fire-adapted communities successfully, natural forces must be reintroduced, such as controlled burning, or replicated, such as periodic mowing simulating grazing. When preserving an area as is or restoring it to a healthier state, the goal is to allow natural processes to function as fully as possible and to minimize the impacts of human-induced changes. The large number of natural areas and critical species habitats which exist in Southeastern Wisconsin makes it impractical to address specifically the management needs of individual natural areas in a report such as this. Table V-1, however, provides general guidelines for managing generalized landscape elements.

Table V-1

LAND STEWARDSHIP OPTIONS

Existing Landscape Element	Preserve as Is	Restore to a Healthier State	Convert to Woodland	Convert to Prairie or Meadow	Convert to Lawn
Lakes, rivers, streams and associated shorelands and floodlands <sup>a</sup>	✓	✓	✓ (shorelands in Ozaukee, Washington, and northern Milwaukee Counties)	✓ (shorelands in Waukesha, Racine, Kenosha, Walworth, and southern Milwaukee Counties)	
Wetlands <sup>a</sup>	✓	✓			
Woodlands and Hedgerows <sup>a</sup>	✓	✓			
Prairies <sup>a</sup>	✓	✓			
Meadows	✓	✓	✓	✓	✓
Pastures	✓	✓	✓	✓	✓
Farm Fields	✓	✓	✓	✓	✓
Wildlife Habitat Areas <sup>a</sup>	✓	✓			
Wet, Poorly Drained and Organic Soils <sup>a</sup>	✓	✓	✓	✓	✓
Rugged Terrain and High Relief Topography <sup>a</sup>	✓	✓	✓ (exposed soil areas)	✓ (exposed soil areas)	
Historic Resources	✓	✓			

<sup>a</sup>Significant elements in primary and secondary environmental corridors and isolated natural resource areas.

Source: SEWRPC.

**Lakes, Rivers, Streams and Associated Shorelands and Floodlands**

Lakes, rivers, streams, and their associated shorelands and floodlands are regulated by a number of Federal, State, and local regulations mentioned previously in this

report. In accordance with these regulations, lakes, rivers, streams, and floodlands in cluster developments should be left primarily unaltered and preserved as is. Depending on the characteristics of floodlands, however, they may be used for grazing of animals and non-

structural agricultural use, although such use should be discontinued if plowing these lands contributes to water quality problems.

#### *Shorelands*

Land stewardship options for shoreland areas in common open space include preserving them as is, restoring them to a healthier state if they are degraded, or converting them to prairie. Conversion to woodland is also an option, if the shorelands are open. At a minimum, cutting of existing trees and shrubs should be limited and natural vegetative shore cover should not be removed within a buffer 35 feet inland of the ordinary high-water mark of navigable waters. No filling, grading, lagooning, dredging, and excavating should take place within shorelands, except for the purpose of installing limited recreational facilities, such as piers, boat hoists, and boathouses, which should be of limited size; providing water quality and quantity control facilities in accordance with a comprehensive watershed plan; or providing mitigation for wetlands lost elsewhere in the watershed.

When open shorelands are to be converted to prairie or woodland, hardy native species suitable to specific site conditions should be used. Planting procedures, spacing, and schedules should be specified by landscape architects in consultation with other qualified professionals such as foresters, or wetland or prairie ecologists, and wildlife managers.

#### *Stream Buffers*

Land areas that are located immediately adjacent to, and along, streams fulfill a vital function in the protection of stream water quality by acting as filters of any pollutants that may be moving toward the stream. This buffering function should be maximized by maintaining such areas in woodland, prairie, meadow, or wetland cover. Generally, the buffer should be no less than 35 feet wide on each side of the stream, measured from the ordinary high-water mark; this width may, however, be expanded to include areas of floodplain or wetland.

#### *Wetlands*

Wetlands provide many important environmental benefits, including floodwater storage, wildlife habitat, and the buffering of streams against nonpoint source

pollution, such as from soil erosion, sedimentation, and chemical herbicides and fertilizers. Wetlands may exist as marshes or swamps and, in some cases, as bogs and fens.

Wetlands should be preserved in a natural state. If the wetlands are used as pasture, pasturing activities should be curtailed so that animals do not pollute the water or disturb the vegetation that permits the wetlands to fulfill the functions listed above. Although pasturing of livestock is a permitted use in shoreland-wetlands under the Wisconsin Administrative Code, local municipalities may be more restrictive. It is recommended that if a municipality does not prohibit animals in wetlands, the land stewardship plan for a cluster development should. When left undisturbed, degraded wetlands often restore themselves to a healthier natural state. To accelerate this process, controlled burn-management may be helpful.

#### *Woodlands and Hedgerows*

The preferred management option for woodlands and hedgerows is to preserve them as is, except for the removal of exotic, dead or diseased vegetation. Caution should be observed, however, in the removal of dead trees and shrubs, since these provide animal and bird habitat and add to the biodiversity, especially in old-growth wooded areas. Woodlands should be monitored on a regular basis to determine any sources of potential degradation, such as the presence of such invasive nonnative plants as buckthorn or honeysuckle, which may create a woodland that is less diverse in structure, species richness, and wildlife food than the native woodland. Insect damage, such as defoliation by gypsy moth caterpillars, may also degrade a woodland. The result could be a decline in native animal species, particularly songbirds. Other sources of degradation include human actions, for example, the use of secluded woodlands as dumping sites for construction debris and such large unwanted items as mattresses or appliances. Trails may sometimes lead to erosion problems if overused or located on steep slopes; this can lead to gullying and the sedimentation of nearby streams and ponds.

The preferred management option for degraded woodlands and hedgerows is to restore them to a healthy natural state. Soil erosion should be abated by rerouting

trails, controlling the water source, regrading, and replanting. Dump sites should be cleaned up and further access to the site for such use prevented. Hedgerows may be thickened and their screening potential improved by planting gaps with native trees and shrubs.

### ***Prairies, Meadows, and Pastures***

Prairies, meadows, and pastures are all open areas of grasses, forbs, and wild flowers. Prairies, however, have a unique combination of plant communities particular to the prairie landscape. Meadows are open areas maintained in high grasses and wild flowers, but do not contain a preponderance of the species unique to prairies. Pastures are areas of short grasses and forbs used for livestock grazing. A variety of land stewardship options may apply to each of these, depending upon whether their condition is healthy or degraded.

#### *Prairies*

Few prairie areas in the Region are not degraded in some way. Since prairies that are in substantially healthy condition are becoming rare, the preferred land stewardship option should be to preserve them as is. Severely degraded prairie areas may often be restored to a healthier condition, providing needed grassland habitat or creating a wildlife corridor. Hardy native species should be used for the plantings with appropriate protective measures. Conversion of a prairie to woodland is generally an inappropriate action, even on sites that have few or no woodlands. Although they are not natural in a prairie landscape, hedgerow-type screen plantings may be added to block views of dwellings in cluster groups.

Conversion of an open area to lawn should not be considered unless the area is needed for intensive recreational activities. A lawn is the most expensive and labor-intensive type of landscape to prepare and maintain and is environmentally the least productive. Conversion to lawn may involve regrading and seeding the entire area. Fertilizer and organic matter may be applied as needed. Mowing should take place on an as-needed basis, keeping the grass at about three to six inches in height. Herbicides and pesticides generally should not be applied to lawn areas in the common open space, but spot applications may be necessary.

Conversion to lawn is not appropriate for wetland areas or prairies.

#### *Meadows*

Management options for meadows include preservation as is, restoration to a healthier natural state if degraded, or conversion to woodland or lawn. All that is required to preserve meadows is to mow them periodically, once or twice a year, to a height of four to six inches. Mowing of meadows should be timed to avoid prime springtime nesting times for the species concerned. Occasional spot applications of herbicide may also be needed to eliminate invasive plants. Conversion of a meadow to a woodland would be appropriate if a new landscape screen is needed or to create a wooded wildlife corridor. Converting a degraded meadow to lawn should not be considered unless it is located adjacent to other existing lawn areas or unless a lawn area is needed for recreational activities. Restoring a degraded meadow to a healthier condition is preferred to converting it to lawn and is environmentally more sound. This would involve regrading and seeding of any eroded areas, augmenting existing meadow species with native species; removal of trash and debris; elimination of invasive shrubs and nonnative plants by spot application of herbicide, if necessary; and mowing twice a year.

#### *Pastures*

Pastures are open areas of short grasses and forbs used for grazing livestock. Land stewardship options for pastures that are not wetlands include continued use as a pasture or conversion to woodland, meadow, prairie, or lawn. To continue use as a pasture, the area should be mowed two to three times per year to stimulate forage growth and to cut such undesirable vegetation as woody growth, thistle, and multiflora rose. Permanent cover should be established over the entire pasture. Areas of bare soil indicate overgrazing, in which case the number of animals per acre should be reduced accordingly. Streams and ponds should be buffered from pasture areas on each side by woodland, prairie, or meadow at least 35 feet wide. Fencing should be installed to keep animals out of streams, ponds, and buffer zones, except in limited areas.

Meadows provide more environmental benefits than do pastures and are less costly to maintain; thus, they are

the preferred option in nongrazing situations. If grazing animals are no longer to use a pasture, it may be converted to a meadow by reducing the mowing schedule to once or twice a year, augmenting existing species with native species through overseeding or planting of plugs, and spot applications of herbicide to eliminate invasive nonnative plants if needed. Mowing should be timed to avoid cutting wild flowers at peak blooming times and to keep disturbances of nesting birds to a minimum.

Converting a pasture to lawn would be an option only if the adjacent lawn does not exist near surface water or if lawn is needed for intensive recreational activities. Stewardship would be the same as described earlier for conversion of a meadow to a lawn.

Pastureland becomes degraded when it is overgrazed or not mowed on a timely basis. This can lead to the establishment of invasive plants, soil erosion, and a generally unattractive landscape. To restore a degraded pasture to a healthy state, invasive plants should be eliminated, fertilizer and organic matter should be applied, exposed areas should be regraded and seeded, and a proper density of animals per acre should be established.

Conversion of pasture to woodland or hedgerow would be appropriate if the planted area were needed to provide a screen or wildlife corridor.

#### ***Farm Fields***

Land stewardship options for open croplands include continuing their use for crops or, if degraded by previous poor farming practices, restoring them to a healthier state by implementing best management practices. A farm conservation plan should be prepared for the fields in cooperation with the U. S. Natural Resource Conservation Service. Farm fields may also be converted to woodland, prairie, meadow, or lawn, as described previously for pastures.

#### ***Wildlife Habitat Areas***

Areas of wildlife habitat should be preserved as is or, if degraded, restored to a healthier state if they appear salvageable. Whether the habitat consists of woodland, wetland, prairie, meadow, or stream corridor, wildlife adds to the biodiversity of common open space areas,

improves ecological balance, and enhances the recreational enjoyment of the open space. A balanced natural community of indigenous plants and animals will add aesthetic and recreational value to the open space and preserve its long-term health and viability.

#### ***Wet, Poorly Drained, and Organic Soils***

Areas of wet, poorly drained, and organic soils are often previous wetlands that were drained for agricultural use through the installation of field drainage tiles and construction of drainage ditches. The drainage tiles may become broken or otherwise inoperable over time and wetland conditions return. When such drained fields are no longer farmed, they should be allowed to return to a natural wetland condition. The natural hydrology may be restored by reducing any remaining constructed drainage facilities. Drain tiles may be purposefully broken, wetland plant species may be planted, and the area may be managed as a wetland. Restoring an area to a wetland would be particularly important if it is located next to surface water.

#### ***Rugged Terrain and Steep Slopes***

Areas of rugged terrain and steep slopes, over 12 percent, should be preserved as is, with existing vegetative cover undisturbed. Areas of erosion should be corrected as quickly as possible and restored to a healthy state, so that they do not increase in area, depth, sedimentation, loss of topsoil, loss of vegetative cover, and other environmental degradation.

#### ***Historic Resources***

Historic resources may include dwellings, barns, churches, civic structures, commercial buildings, bridges, walls, springhouses, Indian mounds, and cemeteries. Very old trees may also be considered historic resources. Management options for historic resources include preservation as is or restoration to a healthier state. The option selected will depend upon the condition and historic integrity of the resource and the available budget. A high degree of historic integrity may be defined as having an authentic historic or architectural identity evident through surviving physical characteristics such as location, setting, design, materials, and or workmanship. A documented association with an historical event or person would also contribute to a high level of integrity.

A historic resource with a high level of integrity should, at a minimum, be sustained in its existing form. Preservation may include initial stabilization and pursuant ongoing restoration. If it exists in a state of disrepair, every effort should be made, funds permitting, to restore it to an appropriate form and condition for its period in history. If restoration is not feasible for financial or other reasons, the resource should, if possible, at least be stabilized to prevent further damage and deterioration.

Professional expertise is often needed to determine the appropriate form of preservation. Such professionals may include architects specializing in historic architecture, archeologists, or landscape historians.

#### **Approval of the Land Stewardship Plan**

It is recommended that the municipality require the submittal of an initial land stewardship plan for approval with the final plat. The plan should substantially agree with the delineation of preservation areas identified in the sketch plan described in Chapter III, since it is at that stage that the municipality conceptually agrees to the common open space areas and what their landscape character should be. The submittal of a land stewardship plan should be required by the local zoning ordinance; the specific requirements for the plan itself should be described in the local subdivision control ordinance.

By reviewing the plan, the municipality can ensure that it is complete, that all common open space areas are included, and that the long-term objectives for each area of open space meets the objectives of the municipality. The plan should describe any areas over which conservation easements are to be held by the municipality or other persons or organizations. Any inadequacies, such as incompleteness or improper management practices, should be corrected in the plan prior to approval. It is recommended that the municipality retain one or more professionals to determine the adequacy of the plan. Such professionals may include the State District forester or other foresters, the District Wildlife Manager or other wildlife managers, the State shoreland wetland management specialist, arborists, biologists, and landscape architects. These professionals may be found in agencies such as the University of Wisconsin-Extension, U. S. Natural Resource Conservation Service, and the Southeastern Wisconsin Regional Planning Commission.

#### **SUMMARY**

This chapter has dealt primarily with the various methods by which common open space in a cluster development may be owned, the need for local government oversight over certain aspects of proposed community associations, various issues regarding taxation of common open space, and the concept of land stewardship for the management of common open space areas.

The management of the open space in a cluster development depends upon who owns the land and the policies toward stewardship of the land.

Open space may be owned by one or a combination of the following: a community association, either a homeowners' association or a condominium association; the local municipality; a private conservation organization; or the original landowner.

A community association may be formed whether or not it owns the open space. Preferably the open space should be owned as tenants in common by the residents of the community in the form of an undivided fractional interest per unit.

Local government oversight should be established over certain critical aspects of proposed community associations to ensure their long-term viability. These aspects include:

1. *Maintenance of common facilities.* Local government regulation should include the right to step in and maintain the common facilities if the community association fails to do so; this should be coupled with the right to collect incurred expenses through liens against individual properties.
2. *Formation of the community association.* Regulations should require local government approval of the association legal documents, including the articles of incorporation, bylaws, deed restrictions, and other covenants and conditions.
3. *Community association financial arrangements.* The local government should require review and approval of the initial community association

financial arrangements, such as assessment fees, annual budgets, and reserve funds, at the time of final plan approval.

4. *Consumer disclosure.* To ensure that potential buyers in a cluster development understand what they are purchasing, local government should require that an informational brochure be provided by the developer to a prospective homebuyer early in the marketing process.
5. *Early homeowner involvement in the community association.* Governmental review of association documents should ensure that provisions for early homeowner involvement on the board of directors are included in accordance with state law.

If some or all of the common open space is to be dedicated to the local unit of government, the community association should hold a conservation easement on the land concerned, to ensure that it will not be converted to a more intensive use in the future.

Private conservation organizations, such as local land trusts, may be interested in taking ownership of common open space in cluster developments if it furthers the environmental causes of the organization. The management plan and rights of use for the open space should be formalized in a recorded agreement between the community association and the conservation organization.

Some or all of the common open space may be retained by the original landowner who may be a farmer planning to continue farming, or the developer planning to use the open space for a commercial recreational facility such as a golf course.

As an alternative to ownership, or as an adjunct to it, conservation easements and deed restrictions are useful mechanisms for protecting the common open space from future conversion to other more intense uses or to actual development, if local zoning regulations are changed. Conservation easements on open space owned by any other entity may be held by any outside interested party.

Three tax-related issues are commonly raised concerning common open space:

1. *Collection of taxes.* To avoid any potential problems with the collection of taxes on common open space, local governments should include the taxation of the common open space with the taxation of individual units. The tax obligation for the common open space is proportionately divided between the unit owners, although the real estate in the open space is not divided. Taxes are paid by the individual residents directly to the local municipality, not to the community association.
2. *Value of common open space.* Although the tax value of the common open space itself is reduced, the overall tax value of the development is not. The value of the open space is reflected in value added to the individual homes; thus, no municipal tax revenues should be lost due to cluster development.
3. *Double taxation.* Residents in cluster development sometimes feel that they are being taxed twice for the same services, once by the municipality through their real estate taxes and again by the association through assessment fees. Although many residents of community associations feel that the assessment fee they pay is worth the benefits of living in an open space community, some units of government in areas where cluster development is common are addressing this issue.

Areas of common open space consist of landscape elements that may be managed in a variety of ways. Such management should take place with a spirit of "stewardship," or caring, for the land. For any landscape element, several land stewardship options may exist. Typical options include: preservation as is, restoration to a healthy state, conversion to a woodland, conversion to a meadow, or conversion to a lawn. Conversion to a lawn is not usually a preferred option, but may be appropriate in areas where additional lawn area is needed for recreational purposes.

The local unit of government should require that land stewardship plans be submitted with the final plat for review and approval as a final assurance that the intended management of the open space will fulfill municipal objectives as conceptually agreed to at preliminary plat stage.



## **APPENDICES**

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**APPENDIX A**  
**ANNOTATED DEFINITIONS OF TERMS**

These definitions are intended as a reference to help clarify the text in the body of the Guide. They are not intended for use within a zoning ordinance, which may require more concise definitions without the annotations included here. Definitions for use within a zoning ordinance are included in the model zoning ordinance in Appendix C.

*Italicized* words within definitions are further defined in this appendix.

*By-Right Use*

A use permitted by the applicable land use control ordinances with no special conditions or hearings. When cluster development is permitted as a by-right use, the approval process is facilitated and may be more attractive to developers.

*Cluster Development*

A form of residential development that groups buildings or lots to provide common open space and, often, more cost-effective development. Grouping of lots is facilitated by a reduction in lot size from the standard minimum. A cluster development will consist of one or more *Cluster Groups* surrounded by common open space.

*Cluster Group*

A group of dwellings, detached or attached, within a *Cluster Development*, surrounded by common open space. The outer boundary of a cluster group shall be defined by the rear lot lines of the lots within the group.

*Common Element*

The *Common Facilities* in a *Condominium*.

*Common Facilities*

All the real property and improvements set aside for the common use and enjoyment of the residents of a cluster development, including, but not limited to, buildings, open space, parking areas, walkways, recreation areas, drainage easements, and any utilities that serve more than one unit, such as sewerage and water-supply facilities.

*Common Open Space*

Undeveloped land within a cluster development that is set aside and protected in perpetuity from further development and is visually and physically available for use by the residents of the development. Common open space does not usually include land on individual platted, residential lots, but it may be included if that land is protected by a *Conservation Easement* or *Deed Restriction* and is at least visible to all residents. Common open space is usually privately owned, but may be publicly owned. Part of *Common Facilities* and, in a condominium, *Common Element*.

*Community Association*

An organization created for the purpose of owning, maintaining, and operating common facilities within a development. Community associations may be condominium associations or homeowners' associations, both with a membership consisting of all unit owners in the development. A condominium association is incorporated and the exterior of the buildings and common facilities are owned by all unit owners on a proportional, undivided basis, in accordance with the "Condominium Ownership Act," Section 703 of the Wisconsin Statutes. A homeowners' association may be incorporated or unincorporated and the common facilities may be owned by the association or, as recommended, by all the unit owners on a proportional, undivided basis. In the latter case, the buildings are not included in the common facilities. Generally, condominium ownership is most applicable in the case of attached or multi-family dwellings, when the buildings are owned by the association.

*Conditional Use*

A use permitted in a particular zoning district only if the applicant can show that such use meets certain conditions specified in the zoning ordinance. Conditional uses may be permitted in any district and are usually reserved for uses that have a greater community impact, such as high traffic generation, than other uses. Conditional uses require a public hearing and are approved by the local governing body or plan commission, if so designated. Cluster development permitted

as a conditional use gives the governing body more control over the final site plan than if permitted as a by-right use.

*Condominium*

See *Community Association*.

*Conservation Easement*

The grant of a property right or interest from the property owner to another person, agency, unit of government, or other organization stipulating that the described land shall remain in its natural, scenic, open, or wooded state, precluding future or additional development.

*Deed Restriction*

A restriction upon the use of a property set forth in the deed.

*Density*

Density refers to the number of dwelling units per acre that are permitted on a site. It is expressed in terms of dwelling units per acre (du/ac), for example, 2 du/ac. When more than one acre is required per dwelling unit, in the case of two-acre lots for example, density may be expressed as 1 du/2 ac rather than 0.5 du/ac. Density should not be confused with *Yield* or *Lot Size*.

*Density Bonus*

In cluster zoning this usually refers to an additional number of lots or dwelling units permitted beyond what the base zoning permits. Density bonuses are sometimes used in nonmandatory cluster districts to provide an incentive to developers to cluster or provide certain amenities. For example, if the permitted density in the base zoning district is 1 du/ac, a density bonus of 0.30 du/ac might be granted if the developer chooses the cluster option for his development. Thus, with the bonus, the density would be 1.30 du/ac.

*Density Exchange Option*

An optional transfer of density between parcels within the same zoning district.

*Density, Net and Gross*

Net and gross density are determined by net and gross tract area. Gross density is calculated on the gross area of a tract with no deductions. For example, on a 50-acre tract with a permitted density of 1 du/2ac, 25 lots would be allowed on the tract. A net density calculation on

this 50-acre tract would deduct from gross acreage the acreage occupied by certain features stipulated in the zoning ordinance, such as floodplains, wetlands, steep slopes, and street and utility rights-of-way. If these features occupied 10 acres, the permitted density of 1 du/2 ac would be calculated on only 40 acres, thus permitting only 20 lots.

Net and gross density are also used to distinguish between the number of lots related to the tract as a whole versus the number of lots related to the area of the tract on which the lots are located. For example, on a 50-acre tract with 25 lots clustered on 15 acres, the gross density would be 1 du/2 ac.; however, the net density within the 15-acre area of development would be 1.7 du/ac.

*Density Transfer*

See *Density Exchange Option*.

*Development Rights*

A broad range of less than fee-simple ownership interests. An owner may keep some rights, such as possession, to his land and sell other rights, such as the development rights, to another. The owner keeps possession, but agrees to keep the land natural and undeveloped, with the right to develop resting with the holder of the development rights. See *Transfer of Development Rights*.

*District, Basic*

A part or parts of the municipality for which the regulations of the zoning ordinance governing the use and location of land and buildings are uniform (such as Residential, Commercial, and Industrial District classifications).

*District, Overlay*

A zoning district that is superimposed on one or more existing basic districts. Overlay districts are commonly used to either permit or exclude uses that are otherwise not permitted or excluded or to impose additional regulations on the basic district. Cluster development may be permitted through the use of overlay districts.

*Down-Zoning*

Down-zoning occurs when a zoning district is revised to permit fewer lots than previously permitted or to permit uses which command a lower site value than uses previously permitted. For example, if a district

that requires a minimum lot size of three acres is revised to require a minimum lot size of five acres, the district is said to be down-zoned because the number of lots that could be accommodated on a development tract within the district was reduced. Or, for example, if the zoning of an area is changed from commercial to agricultural, the area is said to be down-zoned.

#### *Flexible Zoning*

An open space preservation technique similar to cluster zoning, except that flexible zoning would permit any lot size, within wide parameters, as long as a maximum density is not exceeded and a specified amount of open space is preserved, which can be fairly high, up to 70 or 80 percent. Lot sizes need not be consistent within one development; a single development could contain quarter-acre lots and 10-acre lots. Not to be confused with *Cluster Development*, which usually has a more consistent lot size. Density would be determined by a *Yield Plan* or by calculation. As with cluster development, the street and lot layout would be designed around identified conservation areas.

#### *Hidden Bonus*

The additional number of dwelling units permitted on a tract when the calculated number of permitted lots exceeds the *Yield* produced by an actual street and lot layout. For example, on a 50-acre tract which requires a minimum lot size of two acres, a developer is theoretically permitted 25 lots. However, in reality not all 25 lots would fit on the tract because inefficiencies in street layout and lot configurations would occupy some of the land, thus yielding perhaps only 22 lots. But, in a cluster district which bases density calculations on gross tract area, the full 25 lots would be permitted and they would all fit on the tract because the minimum lot size would be reduced. This is termed a "hidden" bonus because it is not noticed unless a yield plan under base zoning is drawn as a comparison to a cluster layout. When a tract contains environmentally constrained land, the hidden bonus may become even greater. For this reason, if the objective is to maintain the same number of permitted lots under cluster zoning as under the base zoning, that number should be calculated by using either a *Net Density* formula or a *Yield Plan*.

#### *Homeowners Association*

See *Community Association*.

#### *Incentive Zoning*

Zoning districts that create incentives to the developer for developing a parcel in certain ways. A common type of incentive in a zoning ordinance is a *Density Bonus*. Incentives may also be used in subdivision control ordinances and can take the form of reduced or waived construction standards, such as permitting reduced road widths or the elimination of sidewalks in return for providing such public amenities as a public trail, recreational area, or landscaping. Incentives are useful for gaining public amenities that may not otherwise be attainable.

#### *Lot Size*

Lot size refers to the minimum required area of a house lot as specified in the zoning ordinance and should not be confused with *Density*. For example, in a district that requires a minimum 12,000 square foot lot area, it is common, but incorrect, to say that the district has a 12,000-square-foot density. That lot size would translate to a density of 3.6 du/ac. Thus, it is more correct to say that the district has a density of 3.6 du/ac, with a minimum lot size of 12,000 square feet.

#### *Lot Size, Beginning and Ending*

In cluster zoning, the beginning lot size refers to the minimum lot area required in the base zoning district and the ending lot size refers to the minimum lot area under the lot-reduction provisions of the cluster zoning regulations within that district. For example, in a district requiring a minimum lot size of five acres and permitting a lot size reduction to one acre in cluster development, the beginning and ending lot sizes are five acres and one acre.

#### *Performance Standards*

A set of criteria or limits relating to certain characteristics that a particular use or process may not exceed. Performance standards have, in the past, been used primarily in industrial districts, to regulate noise, vibration, glare, and heat, but are now used more widely for other uses and to control such impacts as traffic generation.

#### *Planned Unit Development (PUD)*

An area of minimum contiguous size, as specified by ordinance, to be planned, developed, operated, and maintained as a single entity and containing one or more

residential clusters or planned unit residential developments and one or more public, commercial, or industrial areas in such ranges or ratios of nonresidential uses to residential uses as may be specified in the zoning ordinance.

*Restrictive Covenant*  
See *Deed Restriction*.

*Separation Distance*

The required dimensional distance between the outer boundary of a cluster group and another specified feature of the development. Not to be confused with setback distance, which refers to setbacks of buildings from street and lot lines.

*Transfer of Development Rights*

A concept in which the development rights are separated from the fee-simple ownership of land in an area in which a community wishes to limit development and

permits them to be sold for use in another area of the community which is planned for higher density development. An expanded form of *Density Transfer*.

*Yield*

Yield refers to the total number of dwelling units or lots that can be fitted on a particular site by the preparation of a street and lot layout, i.e., a *Yield Plan*, taking into consideration all the natural and man-made constraints on the site. A 50-acre tract with environmental constraints and one-acre zoning may yield only 40 lots.

*Yield Plan*

A means of determining the permitted number of lots on a tract by preparing an actual sketch plan layout of streets and lots, following all applicable zoning and subdivision regulations. A yield plan is seen as one way of determining the permitted number of lots when the objective is not to give a *Density Bonus*.

## APPENDIX B

### RURAL CLUSTER DEVELOPMENT

#### LOT REDUCTION RATIOS AND ACHIEVABLE OPEN SPACE

(Applicable only when density remains constant between base zoning and cluster zoning.)

Reduction Ratio	Beginning Lot Size	Ending Lot Size <sup>a</sup>	Achievable Open Space <sup>b</sup>	Flexibility Factor <sup>c</sup>
8:1	10 AC	1.25 AC	75%	12.5%
	5 AC	27,200 SF	75%	12.5%
	2 AC	10,900 SF	75%	12.6%
7:1	10 AC	1.43 AC	70%	15.7%
	5 AC	31,100 SF	70%	15.7%
	2 AC	12,400 SF	70%	15.8%
6:1	10 AC	1.67 AC	65%	18.3%
	5 AC	36,300 SF	65%	18.3%
	2 AC	14,500 SF	65%	18.4%
5:1	10 AC	2.00 AC	60%	20.0%
	5 AC	1.00 AC	60%	20.0%
	2 AC	17,400 SF	60%	20.0%
4:1	10 AC	2.50 AC	55%	20.0%
	5 AC	1.25 AC	55%	20.0%
	2 AC	21,800 SF	55%	20.0%
3:1 <sup>d</sup>	10 AC	3.33 AC	45%	21.7%
	5 AC	1.67 AC	45%	21.6%
	2 AC	29,000 SF	45%	21.7%
2:1 <sup>d</sup>	10 AC	5.00 AC	25%	25.0%
	5 AC	2.50 AC	25%	25.0%
	2 AC	1.00 AC	25%	25.0%

When open space is:  
 less than 40%  
 40-60%  
 greater than 60%

The flexibility factor should be:  
 about 25%.  
 about 20%.  
 about 15%.

NOTE: AC = acre(s), SF = square feet.

<sup>a</sup>Any lot sizes under one acre are expressed as square feet. One acre = 43,560 SF.

<sup>b</sup>All achievable open space figures assume no increase or decrease in the number of permitted lots between base zoning and cluster zoning. The number of permitted lots equals gross tract area divided by beginning lot size.

<sup>c</sup>A flexibility factor is needed to account for land used for roads and lotting inefficiencies.

<sup>d</sup>Lot reductions less than 4:1 are not recommended.

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**APPENDIX C**

**Appendix C-1**

**Typical Table of Contents for a Town Zoning Ordinance  
with Accommodations for Rural Cluster Development**

The following is a typical table of contents for a town zoning ordinance. The subsections shown in **bold** type are those that may need revision in order to accommodate rural cluster zoning regulations. While the specific language refers to a town unit of government, the language may be readily adapted for use by a city, village, or county.

TOWN OF \_\_\_\_\_  
ZONING ORDINANCE

**TABLE OF CONTENTS**

SECTION 1.00 INTRODUCTION

- 1.01 Authority
- 1.02 Purpose
- 1.03 Intent**

*This section should be revised to include rural cluster development objectives. The following statement should be added:*

- A. To preserve the rural landscape character of the *Town*, where appropriate.

- 1.04 Abrogation and Greater Restrictions
- 1.05 Interpretation
- 1.06 Severability
- 1.07 Repeal
- 1.08 Title

SECTION 2.00 GENERAL PROVISIONS

*Revisions are typically not needed in this section to accommodate cluster development.*

- 2.01 Jurisdiction
- 2.02 Compliance
- 2.03 Zoning Permit Required
- 2.04 Certificate of Compliance Required
- 2.05 Conditional-Use Permit Required
- 2.06 Sign Permit Required
- 2.07 Other Permits
- 2.08 Site Restrictions
- 2.09 Use Restrictions
- 2.10 Reduction and Joint Use
- 2.11 Permit Fees

- 2.12 Double Fee
- 2.13 Violations
- 2.14 Remedial Action
- 2.15 Penalties

**SECTION 3.00 ZONING DISTRICTS**

**3.01 Establishment**

*The RC Rural Cluster Zoning District should be added to the list of zoning districts.*

**3.02 Zoning Map**

*The zoning map should be revised to delineate the RC Rural Cluster District, but the text of this section need not be revised.*

**3.03 Residential Districts**

*If the Rural Cluster Zoning District is implemented either as a separately mapped district (as in the case of the model provided) or if cluster development is added as a permitted use to existing residential districts, revisions in this section will be necessary. Appendix C-2 consists of the model cluster zoning ordinance that may be inserted here.*

3.04 Commercial/Business Districts

3.05 Industrial Districts

3.06 Institutional Districts

3.07 Conservancy Districts

**3.08 Overlay Districts**

*If the Rural Cluster Zoning District is implemented as an overlay district, it should be inserted in this section.*

**SECTION 4.00 CONDITIONAL USES**

- 4.01 Permits
- 4.02 Application
- 4.03 Review and Approval
- 4.04 Public and Semipublic Uses
- 4.05 Agricultural Uses**

*The following statement should be added:*

- A. Agricultural uses requiring the installation of new buildings or other structures in the common open space of a cluster development in the RC Rural Cluster District. The building coverage of such new agricultural buildings in total shall not exceed 10,000 square feet.

4.06 Residential Uses

**4.07 Commercial or Business Uses**

*The following statement should be added:*

- A. Commercial storage or other adaptive reuse of barns in the RC Rural Cluster District, provided they have existed at least 20 years on the effective date of this ordinance, in order to provide for an adaptive and compatible reuse and promote the preservation of such structures.

4.08 Industrial Uses

**4.09 Recreational Uses**

*The following statement should be added:*

- A. Recreational uses requiring the installation of new buildings or other structures in the common open space of a cluster development in the RC Rural Cluster District. The building coverage of such new buildings in total shall not exceed 10,000 square feet.

4.10 Energy-Conservation Uses

4.11 Temporary Uses

**SECTION 5.00 PARKING, LOADING, DRIVEWAYS, AND ACCESS**

*Revisions are typically not needed in this section to accommodate cluster development.*

- 5.01 Traffic Visibility
- 5.02 Loading Requirements
- 5.03 Parking Requirements
- 5.04 Restrictions on Parking of Equipment
- 5.05 Parking of Recreational Vehicles
- 5.06 Driveways
- 5.07 Highway Access

**SECTION 6.00 SIGNS**

*Revisions are typically not needed in this section to accommodate cluster development.*

- 6.01 Purpose and Intent
- 6.02 Compliance
- 6.03 Signs Permitted in All Districts without a Permit
- 6.04 Signs Permitted in All Residential Districts with a Permit
- 6.05 Signs Permitted in All Agricultural Districts with a Permit
- 6.06 Signs Permitted in All Business and Manufacturing Districts with a Permit
- 6.07 Signs Permitted in Institutional and Park Districts with a Permit
- 6.08 Portable Signs
- 6.09 Facing
- 6.10 Lighting and Color
- 6.11 Construction and Maintenance Standards
- 6.12 Existing Signs
- 6.13 Sign Permit
- 6.14 Measuring Signs

**SECTION 7.00 MODIFICATIONS**

*Revisions are typically not needed in this section to accommodate cluster development.*

- 7.01 Height
- 7.02 Yards
- 7.03 Additions
- 7.04 Average Setbacks
- 7.05 Corner Lots
- 7.06 Existing Substandard Lots

**SECTION 8.00 NONCONFORMING USES AND STRUCTURES**

*Revisions are typically not needed in this section to accommodate cluster development.*

- 8.01 Existing Nonconforming Uses
- 8.02 Abolishment and Replacement
- 8.03 Existing Nonconforming Structures
- 8.04 Changes and Substitutions

**SECTION 9.00 SITE PLAN REVIEW AND ARCHITECTURAL CONTROL**

*All cluster developments will consist of subdivisions and will, thus, be reviewed through the subdivision review process regulated by the Subdivision Control Ordinance. Therefore, revisions are typically not needed in this section to accommodate cluster development.*

- 9.01 Purpose and Intent
- 9.02 Principles
- 9.03 Administration
- 9.04 Review and Findings
- 9.05 Sureties
- 9.06 Appeals

**SECTION 10.00 PERFORMANCE STANDARDS**

*Revisions are typically not needed in this section to accommodate cluster development.*

- 10.01 Compliance
- 10.02 Air Pollution
- 10.03 Fire and Explosive Hazards
- 10.04 Glare and Heat
- 10.05 Water Quality Protection
- 10.06 Noise
- 10.07 Odors
- 10.08 Radioactivity and Electrical Disturbances
- 10.09 Vibration

**SECTION 11.00 ZONING BOARD OF APPEALS**

*Revisions are typically not needed in this section to accommodate cluster development.*

- 11.01 Establishment
- 11.02 Membership
- 11.03 Organization
- 11.04 Powers
- 11.05 Appeals and Application
- 11.06 Hearings
- 11.07 Findings
- 11.08 Decision
- 11.09 Review by Court of Record

**SECTION 12.00 CHANGES AND AMENDMENTS**

*Revisions are typically not needed in this section to accommodate cluster development.*

- 12.01 Authority
- 12.02 Initiation
- 12.03 Petitions
- 12.04 Recommendations
- 12.05 Hearings
- 12.06 Town Board's Action
- 12.07 Protest

**SECTION 13.00 PUBLIC HEARINGS**

*Revisions are typically not needed in this section to accommodate cluster development.*

- 13.01 Hearings

**SECTION 14.00 DEFINITIONS**

- 14.01 General Definitions
- 14.02 Specific Words and Phrases**

*The definitions listed in Appendix C-3 should be inserted in this section.*

**SECTION 15.00 ADOPTION AND EFFECTIVE DATE**

*Revisions are typically not needed in this section to accommodate cluster development.*

- 15.01 Town Powers
- 15.02 Plan Commission Recommendation
- 15.03 Public Hearing
- 15.04 Town Board Approval
- 15.05 Effective Date

**APPENDICES**

- Appendix A Table of Area, Yard, and Height Requirements

*If a table for area, yard, and height requirements is included as an appendix, it should be revised to reference the requirements for cluster lots.*

A table of contents is not usually provided for individual zoning districts; however, a table of contents is provided below for the model RC Rural Cluster District for the purpose of helping the reader find sections of specific interest.

Pages 140-164 of this report consisted of a Model Zoning Ordinance for Rural Cluster Development and Definitions Relating to Cluster Development. For more current information, see the [“Model Ordinances”](#) page at the SEWRPC website.

## APPENDIX D

### MODEL SUBDIVISION CONTROL PROVISIONS FOR RURAL CLUSTER DEVELOPMENT

This appendix identifies key provisions that should be included in properly prepared subdivision control ordinances regulating rural cluster development. Most communities in the Southeastern Wisconsin Region already have basic subdivision control regulations in place.<sup>1</sup> Because some provisions recommended for cluster development may also be applicable to conventional development, some existing ordinances may already include certain provisions indicated below, but others may not. Therefore, all key provisions are identified.

Below is a typical format for a town subdivision control ordinance. The subsections shown in **bold** are those that may need revision to accommodate rural cluster subdivision. Under such sections, provisions that may apply to both conventional and cluster development are described in italicized *NOTES*. For those that apply primarily to cluster development, suggested ordinance language is provided.

Throughout the ordinance, where the word *Town* appears in italics, the word *City*, *Village*, or *County* may be

substituted; where the word *Town Chairman* appears, the words *Mayor*, *Village President*, or *County Board Chairman* may be substituted; and where the term *Town Board* appears, the term *Common Council*, *Village Board*, or *County Board* may be substituted. Competent legal, planning, and engineering assistance should be sought in conjunction with the use of these model provisions by communities developing local ordinances.

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<sup>1</sup>*If a community does not have a subdivision control ordinance, a model ordinance, which could be used as a basis for the preparation of such a local ordinance, is provided in SEWRPC Planning Guide No. 1, Land Development Guide, November 1963. Most of the basic provisions in the model ordinance are still valid; however, some of the provisions need to be revised to include amendments after 1963 to Chapter 236 of the Wisconsin Statutes.*

SUBDIVISION CONTROL ORDINANCE

FOR THE TOWN OF \_\_\_\_\_, \_\_\_\_\_ COUNTY, WISCONSIN

SECTION 1.00 INTRODUCTION

1.01 AUTHORITY

1.02 PURPOSE

1.03 INTENT

*This section should be revised to include rural cluster development objectives. The following statement should be added:*

A. Preserve the rural landscape character of the Town, where appropriate.

1.04 ABROGATION AND GREATER RESTRICTIONS

1.05 INTERPRETATION

1.06 SEVERABILITY

1.07 DISCLAIMER OF LIABILITY

1.08 REPEAL

1.09 TITLE

SECTION 2.00 GENERAL PROVISIONS

2.01 JURISDICTION

2.02 COMPLIANCE

2.03 DEDICATION AND RESERVATION OF LANDS

*NOTE: A properly prepared subdivision control ordinance should include provisions for the dedication or reservation of lands for streets, highways, drainageways, parks, playgrounds, and other public sites and open spaces designated on a duly adopted comprehensive plan or element of such a plan and said public areas should be made a part of the plat or certified survey map. If not so designated, consideration should be given in the design of the subdivision plat to the preservation of scenic and historic sites, woodlands, marshes, lakes and ponds, watercourses, watersheds, and ravines.*

*The following statement should be added to this subsection:*



- A. Open Space. Whenever a tract of land to be divided within the jurisdiction of this chapter encompasses all or any part of open space lands, as defined in Section 11.00 DEFINITIONS of this Ordinance, said open space land shall be protected. Acceptable means of protection shall include, but not be limited to, the following:
1. Reservation or dedication to the *Town*
  2. Conservation easement
  3. Deed restriction. Common open space to be permanently preserved shall be protected by providing a deed restriction that prohibits any land division or development of said open space.
  4. Rezoning to a conservancy district

2.04 IMPROVEMENTS

2.05 VARIANCES

2.06 LAND SUITABILITY

2.07 VIOLATIONS

2.08 PENALTIES AND REMEDIES

2.09 APPEALS

## SECTION 3.00 LAND DIVISION PROCEDURES

### **3.01 PRELIMINARY PLAT REVIEW AND APPROVAL**

*NOTE: A properly prepared subdivision control ordinance should include provisions that recommend a "sketch" plan and attendant site analysis information be presented at preapplication meetings, held prior to preliminary plat review, between the developer and the Town. The submittal and review of such plans and information, especially for proposed rural cluster developments, may prevent expensive redesign cost, reduce formal plat review and approval processing time, avoid costly development problems, and help achieve a better design.*

3.02 FINAL PLAT REVIEW AND APPROVAL

3.03 MINOR LAND DIVISION (CERTIFIED SURVEY MAP)

3.04 MINOR LAND DIVISIONS NOT REQUIRING A CERTIFIED SURVEY MAP

3.05 REPLAT

### **3.06 CONDOMINIUM PLATS**

*NOTE: A properly prepared subdivision control ordinance should include provisions that require the review and approval by the Town of proposed condominium plats in the same manner as for a subdivision plat. If this*

*provision is not incorporated, proposed condominium plats may be recorded without Town review and approval. Rural cluster developments may consist of condominiums, and, accordingly, this provision would ensure that such plats are reviewed and approved by the Town prior to recording.*

### **3.07 RURAL CLUSTER DEVELOPMENT PLATS**

*This subsection should be added to indicate clearly that subdivision plats are required for cluster developments. Certified Survey Maps should not be used for cluster development.*

- A. All proposed rural cluster developments shall be required to submit a preliminary and final subdivision plat in accordance with the requirements of this Ordinance.

## **SECTION 4.00 PRELIMINARY PLAT**

### **4.01 GENERAL**

### **4.02 PLAT DATA**

*With the list of data to be shown on preliminary plats, a requirement for the submittal of site analysis information for cluster development should be added as follows:*

- A. Site Analysis Information used to prepare a preliminary plat for rural cluster developments shall be included with the submittal of said plats. The following site elements shall be inventoried and mapped at a scale no smaller than one inch equals 100 feet in sufficient detail and with brief descriptions, if necessary, to allow for the proper evaluation of the preliminary plat. The site analysis map or map(s) shall include:
  - 1. Topographic Features, with contours at two-foot intervals for slopes less than 10 percent and at no more than five-foot intervals for slopes 12 percent and greater. Any rock outcrops, slopes 12 percent or greater, ridge lines, and hilltops shall be highlighted. Slopes on sketch plans prepared for preapplication meetings may be derived from soil survey maps prepared by the U. S. Natural Resource Conservation Service (formerly the U. S. Soil Conservation Service), but slopes on preliminary plats should be based on actual surface elevation contour lines taken from large-scale topographic maps (at a scale of 1 inch equals 100 feet or 1 inch equals 200 feet, with a two-foot contour interval) meeting Regional Planning Commission standards or determined by photogrammetric mapping or field survey techniques.
  - 2. Soil Types and Characteristics, with interpretations of their suitability for crops, pasture, woodland, wildlife habitat, recreation, building foundations, roadways, and onsite sewage-disposal facilities as identified by the U. S. Natural Resource Conservation Service (previously called the U. S. Soil Conservation Service). Prime agricultural soils and alluvial floodplain soils shall also be noted.
  - 3. Hydrologic Characteristics, including lakes, ponds, rivers, streams, creeks, wetlands, floodplains, surficial drainage patterns, and shoreland-protection areas.
  - 4. Vegetation of the site, including the boundaries and characteristics of woodlands, grasslands, hedgerows, lone specimen trees, meadows, prairies, and fallow farm fields. Predominant species

of plants in hedgerows and woodlands shall be identified and shall include comments on the health and condition of the plants. Specimen trees and unique or endangered plant species shall be identified by species, size, and health.

5. Wildlife Habitat Areas, including identification of the predominant species of birds, mammals, amphibians, fish, and reptiles present. The presence of rare and endangered species shall be noted.
6. Existing Land Uses, including cultivated and uncultivated fields, paved areas, buildings, structures, and all encumbrances, such as easements or covenants. All buildings in a farm complex shall be located and their proposed retention and use described. The location of associated wells and onsite sewage-disposal systems shall be included.
7. Historic and Cultural Features, including a brief description of the historic character of buildings, structures, ruins, old burial sites, and fencerows.
8. Scenic Vistas, both into the tract from adjacent roads and public areas and out of the tract, as well as views within the interior of the tract.
9. Classifications of Existing Streets and Highways within, or adjacent to, the development parcel and desirable or undesirable entry points into the parcel.
10. Existing Adjacent Pertinent Physical Conditions surrounding the tract within 200 feet. The size and extent of existing adjacent open space areas should be noted as well as any potential open space connections. General outlines of adjacent buildings, land uses, natural features, street classifications, and property boundaries within 200 feet of the tract shall be shown.
11. Delineations of Classified Natural Resource Areas, such as the boundaries of primary and secondary environmental corridors and isolated natural resource areas identified by the Southeastern Wisconsin Regional Planning Commission.
12. Adopted Pertinent Areawide and Local Comprehensive Plan Elements as related to the development parcel, including plans for agricultural land preservation, park and open space preservation, trail and bikeway systems, stormwater-management and flood-control systems, including flood-hazard areas, plans for utilities, and arterial street and highway systems, as well as planned general land use patterns. Public site dedication or reservation required by the local Official Map, including street rights-of-way and connections, shall be noted. This information may be presented on an aerial photograph at a scale no smaller than one inch equals 400 feet.

#### 4.03 STREET PLANS AND PROFILES

#### 4.04 TESTING

#### 4.05 SOIL AND WATER CONSERVATION

#### 4.06 COVENANTS AND COMMUNITY ASSOCIATION DOCUMENTS

*NOTE: A properly prepared subdivision control ordinance should contain provisions requiring submittal for record to the Town of proposed covenants and community association documents. These should be available at*

*final plat review and should include the final legal documents for formation of the community association, for establishing its initial budget, for ownership of the common open space, and for recording deed restrictions and conservation easements. Specific to cluster development, the documents should include a land stewardship plan for the common open space. The Town may request revisions in such documents to ensure the proper protection of the common open space. The following statement should be added:*

- A. A land stewardship plan for the common open space in cluster developments shall be included in the submittal of community association documents.

4.07 AFFIDAVIT

SECTION 5.00 FINAL PLAT

5.01 GENERAL

5.02 ADDITIONAL INFORMATION

5.03 DEED AND PLAT RESTRICTIONS

*NOTE: A properly prepared subdivision control ordinance should include provisions that allow the Town Plan Commission to require deed restrictions to be recorded with approved final plats such as, but not limited to, those for protecting environmentally significant areas consisting of wetlands, woodlands, steep topography, floodplains, or other significant open space elements. The deed restriction should prohibit or limit any further land division or development of said area. The Town Plan Commission may also require deed restrictions and related easements, such as nonaccess reservation easements or conservation easements, to be noted on the face of the final plat.*

5.04 SURVEY ACCURACY

5.05 SURVEYING AND MONUMENTING

5.06 STATE PLANE COORDINATE SYSTEM

5.07 CERTIFICATES

5.08 RECORDATION

SECTION 6.00 CERTIFIED SURVEY MAP

*Revisions are typically not needed in this section to accommodate rural cluster development.*

6.01 GENERAL

6.02 REQUIRED INFORMATION

6.03 ADDITIONAL INFORMATION

6.04 STATE PLANE COORDINATE SYSTEM

6.05 CERTIFICATES

6.06 RECORDATION

**SECTION 7.00 DESIGN STANDARDS**

7.01 STREET ARRANGEMENT

7.02 LIMITED-ACCESS HIGHWAY AND RAILROAD RIGHT-OF-WAY TREATMENT

**7.03 STREET AND PEDESTRIAN WAY DESIGN STANDARDS**

*The following design standards for minor land-access streets and pedestrian paths for proposed rural cluster developments should be added in this subsection. The street standards should meet, but not exceed, the town street standards set forth in Section 86.26 of the Wisconsin State Statutes and in the following table. The following standards should be added:*

A. For cluster development, the following street standards shall be met, but shall not be exceeded.

Type of Street or Public Way	Rural Street Section	
	Minimum Right-of-Way to be Dedicated	Minimum Dimensions
Minor Street: Under 100 ADT <sup>a</sup>	60	18-foot pavement with three-foot shoulders <sup>b</sup> Variable width for roadside swales <sup>c</sup>
101 to 250 ADT <sup>a</sup>	66	20-foot pavement with three-foot shoulders Variable width for roadside swales <sup>c</sup>
251 to 400 ADT <sup>a</sup>	66	22-foot pavement with five-foot shoulders Variable width for roadside swales <sup>c</sup>
401 to 1,000ADT <sup>a</sup>	66	22-foot pavement with six-foot shoulders Variable width for roadside swales <sup>c</sup>

<sup>a</sup>ADT refers to average daily (24-hour) traffic. A typical single-family detached dwelling may be expected to generate about 10 vehicle trips during a 24-hour weekday period, or 10 ADT.

<sup>b</sup>Minor streets with local-service, intermittent traffic may contain shoulder widths of two feet.

<sup>c</sup>The width of roadside swales may vary with regard to a number of considerations, including topography, existing vegetation, street trees, the accommodation of pedestrian paths, and the peak stormwater discharge to be accommodated.

*The following statements should also be added:*

B. Looped Streets and traffic lanes around center islands of cul-de-sac turnarounds may be one-way travel lanes as approved by the *Town Board*, provided the inside diameter or length of loops does not exceed 200 feet. The pavement width of a one-way traffic lane shall be at least 15 feet. Appropriate traffic signs, such as One-Way Only with directional arrows and Do Not Enter signs, shall be provided in the proper locations.

- C. Cul-de-Sac Streets, designed to have one end permanently closed, shall not exceed 750 feet in length, measured from the point of intersection of the cul-de-sac centerline with the centerline of the intersecting street to the furthest point on the outside radius of the bulb of the cul-de-sac street right-of-way. This limitation may be waived by the *Town Board*, with a recommendation from *Town Plan Commission*, up to a maximum of 1,000 feet, provided said street shall not serve more than 15 dwelling units. For any length proposed beyond 1,000, the developer shall be required to show extraordinary circumstances forcing the use of such length due to exceptional environmental constraints, irregular tract shape, or other limiting factors. Cul-de-sac streets shall typically terminate in circular turnarounds with a right-of-way radius of at least 60 feet and an outside curb or pavement radius of 45 feet. If a center landscape island is provided, the right-of-way radius shall be at least 65 feet with an outside curb or pavement radius of 48 feet. The outside pavement radius of cul-de-sac turnarounds without center islands shall not exceed the dimension set forth herein. The *Town Board* may approve a one-way traffic lane around islands in accordance with the provisions set forth herein for looped streets and as shown in Appendix B-1. In no case shall the minimum dimensions for the outside pavement radius of cul-de-sac turnarounds, as set forth herein, be reduced.

*NOTE: Surface pavement for streets and cul-de sac turnarounds should be held to a minimum in order to retain open space. The minimum outside pavement radius for cul-de-sac turnarounds, however, should not be reduced in order to ensure adequate maneuvering space for service vehicles such as fire trucks, snowplows, and solid-waste-disposal trucks.*

- D. Pedestrian Paths required in accordance with Section 8.06 of this Ordinance for proposed cluster developments may, in order to retain a rural character, be meandering and constructed of asphalt or other equivalent materials in place of linear concrete sidewalks, upon approval of the *Town Board*. The *Town Board* may require the paths in rural cluster developments and their demarcations to be constructed by the developer prior to the sale of dwelling units, so that all buyers are aware of their location.

#### 7.04 STREET INTERSECTIONS

#### 7.05 BUFFERS

*NOTE: Landscaping within buffers for residential cluster developments is essential not only to buffer dissimilar land uses, but also to help retain the rural character of the area. Such landscaping should be provided by the developer and not left to the individual property owners after lots have been sold.*

*The following statement should be added for buffer areas containing required landscape screening in rural cluster developments:*

- A. When a proposed rural cluster development includes a required buffer with landscape screening, the screening shall contain sufficient landscape treatments, consisting of trees, shrubs, and berms, or any combination thereof, to adequately restrict the view of dwelling units from existing streets and from each other. A landscape plan showing the provision of such screening shall be submitted for review and approval by the *Town* in accordance with Section 9.03 of this Ordinance. In addition:
- I. Plantings for required screening buffers shall be provided at a rate of one deciduous canopy tree at least two (2) inches in diameter at chest height, two ornamental trees at least one and one-half (1 1/2) inches in diameter at chest height, two evergreen trees at least six (6) feet in height, and six shrubs at least three (3) feet in height for each 100 feet in length of required screening. One

deciduous canopy tree may be substituted for two evergreen or ornamental trees. The *Town Plan Commission* may permit alternative landscape treatments, which shall have a buffering or screening capacity equal to, or greater than, the requirements set forth herein.

2. Existing Healthy Trees and Shrubs should be used whenever possible to meet the requirements of this section upon approval by the *Town Plan Commission*. Said existing vegetation shall be clearly denoted "To Remain" on the landscape plan and shall be properly protected from construction activities in accordance with sound conservation practices.
3. Requirements for a buffer with landscape screening may be waived or modified by the *Town Plan Commission* when the existence of unusually wide open areas, significant grade separations, or other unusual situations make the additional landscaping treatment unnecessary to achieve the objective of rural landscape preservation.
4. Berms may be permitted to supplement or replace some of the planting requirements specified herein provided the width of the buffer area is adequate to accommodate the size of the berm, based on the berm slope, crown, height, and form. Berms shall contain side slopes not exceeding four feet of horizontal distance to one foot of vertical distance (4:1) and shall be undulating, whenever possible. The developer shall demonstrate that any reduction in required new plantings shall not reduce the effectiveness of the screen.
5. Fences and Walls may be used for buffering or screening purposes and shall comply with the fencing requirements of the *Town Zoning Ordinance*. Fencing or walls shall not replace required plantings in buffers unless the *Town Board* determines a reduction in plantings does not reduce the visual effectiveness of the screen.
6. Openings, where appropriate, shall be provided for pedestrian or recreation trail access.
7. Vision-Clearance Triangles at street intersections, as required in accordance with the *Town Zoning Ordinance*, shall not be obstructed by plant materials, berms, fences, or walls.

#### 7.06 BLOCKS

#### 7.07 LOTS

#### 7.08 BUILDING AND SETBACK LINES

#### 7.09 SPECIAL RESTRICTIONS

#### 7.10 EASEMENTS

*NOTE: A properly prepared subdivision control ordinance would require, along with provisions for drainage and utility easements, provisions for pedestrian-access easements for any required sidewalks or pedestrian paths proposed outside dedicated rights-of-way. In addition to such typical easements, the following easement provision related to rural cluster developments should be added:*

- A. The *Town Plan Commission* may require conservation easements to be provided to ensure protection of environmentally sensitive areas and common open space in rural cluster developments. Such

conservation easements may be held by the *Town* itself, a conservation organization, or another entity as approved by the *Town*, in accordance with the *Town Zoning Ordinance*.

#### 7.11 PUBLIC SITES AND OPEN SPACES

### SECTION 8.00 REQUIRED IMPROVEMENTS

#### 8.01 SURVEY MONUMENTS

#### 8.02 GRADING

#### 8.03 SURFACING

#### 8.04 CURB AND GUTTER

*NOTE: A properly prepared subdivision control ordinance may require the subdivider to construct concrete curb and gutter in a subdivision of, for example, lot sizes smaller than one-half (1/2) acre in size. The Town Board may, upon recommendation of the Town Engineer, also require curb and gutter for other subdivisions with lots one-half (1/2) acre and larger in size for proper stormwater management, for enhancement of the structural strength of street pavements, for erosion control, or for the avoidance of excessive earthwork in street construction. The following statement should be added where curb and gutter may be required for rural cluster developments:*

- A. Where curbs are needed in rural cluster developments, they shall be constructed as mountable curbs, sometimes referred to as roll-face curbs. (See Appendix B of this Ordinance).

#### 8.05 RURAL STREET SECTIONS

#### 8.06 SIDEWALKS AND PEDESTRIAN PATHS

*NOTE: A properly prepared subdivision control ordinance should contain provisions that specify when a sidewalk or pedestrian path shall be constructed, for example, by requiring that in all proposed subdivisions with lots smaller than one-quarter (1/4) acre in size, sidewalks be constructed by the subdivider on one or both sides of the street in accordance with plans and standard specifications approved by the Town Plan Commission. Also, provisions should be included that allow the Town Board to require sidewalks for lots one-quarter (1/4) acre and larger, including those in rural cluster developments and in certain other locations, for pedestrian circulation and safety purposes. In addition, sidewalks and pedestrian paths wider than standard may be required by the Town Board in the vicinity of schools, parks, churches, commercial areas, and other places of public assembly.*

#### 8.07 PUBLIC SANITARY SEWERAGE AND INDIVIDUAL SEWAGE DISPOSAL SYSTEMS

*Provisions for community or cluster group sewage systems should be added to the other regulations typically included in properly prepared subdivision control ordinances that address the provision of public sanitary-sewerage facilities and individual sewage-disposal systems. The following statement should be added:*

- A. Any proposed community or cluster group sewage systems shall be owned, operated, and maintained by the *Town* or a special-purpose unit of government, such as a sanitary or utility district. Community systems shall be designed to municipal engineering standards with respect to pipe materials, sizes and grades, manhole designs and spacings, and pumping station configurations and designed



to facilitate connection to a public sanitary-sewerage system when connection to such a system becomes available.

#### 8.08 STORMWATER DRAINAGE FACILITIES

#### 8.09 WATER-SUPPLY FACILITIES

*The following provision addressing community well systems for rural cluster developments should be added to the other provisions for public water-supply services and private individual wells typically included in properly prepared subdivision control ordinance:*

- A. Any proposed community well systems shall be owned, operated, and maintained by the *Town* or a special-purpose unit of government, such as a utility district. Community well systems shall be designed to municipal engineering standards, with adequate pumping and storage facilities and proper main sizing and valving to allow for ready connection to a public water-supply system when connection to such a system becomes available and with the provision of hydrants for fire protection.

#### 8.10 OTHER UTILITIES

#### 8.11 STREETLAMPS

*The following provision should be included to allow flexibility in the type of streetlamps to be provided in order to retain the rural character of cluster developments, when applicable:*

- A. The subdivider shall install streetlamps of a design compatible with the neighborhood and type of development proposed along all streets proposed to be dedicated. Such lamps shall be placed at each street intersection and at such interior block spacing as may be required by the *Town Engineer*.

#### 8.12 STREET SIGNS

*The following requirement should be included to allow flexibility in the type of street signs to be provided in order to retain the rural character of cluster developments, when applicable:*

- A. The subdivider shall install street signs of a design compatible with the neighborhood and type of development proposed and as approved by the *Town Engineer* at the intersection of all streets to be dedicated.

#### 8.13 STREET TREES

*NOTE: A properly prepared subdivision control ordinance should require street trees to be provided along public streets for subdivisions proposing lots under a certain size. Provisions may also be included for the developer to pay a fee in lieu of installation, or a planting schedule may be specified in a subdivider's agreement and appropriate sureties provided for trees that are not installed prior to final plat or certified survey map approval. Subdividers should be encourage to use existing trees that are properly protected to meet such street tree requirements. The following provision should be added to address street tree provisions for rural cluster developments:*

- A. In all subdivisions with lots one (1) acre and smaller in size, the *Town Board* shall, and in other subdivisions may, require the developer to plant at least one (1) tree of an approved species and at

least two (2) inches in diameter at chest height (approximately five feet above ground) for each 50 feet of lot frontage in both conventional and rural cluster developments. The trees shall be distributed along the entire frontage of the lot within the curb lawns or, if there are no curb lawns, within the street right-of-way but outside roadside swales. In rural cluster development, street trees need not be evenly spaced but may be planted in common open spaces and on private lots abutting streets, upon approval by the *Town Board*, provided said trees are protected by deed restrictions or appropriate easements.

*NOTE: The requirement of one street tree per 50 feet of lot frontage should not be construed to imply that such trees shall be planted every 50 feet on-center nor that all trees may be planted on one side of the street. Street trees for rural cluster developments should be planted in front of dwellings and, preferably, in an informal, natural, staggered pattern. Town Boards may wish to waive street trees in cluster developments in areas where the streets pass through common open space that is primarily field, meadow, pasture, or prairie.*

#### 8.14 LANDSCAPED BUFFERS

*A new section on landscaped buffers should be added to address requirements for landscape screening within buffer areas in rural cluster developments:*

- A. When required by this Ordinance, the *Town Zoning Ordinance*, or the *Town Plan Commission*, landscape screening within buffer areas in rural cluster developments shall be installed in accordance with approved landscape plans and specifications as required in Section 9.03 of this Ordinance. The landscape plan and specifications shall be approved by the *Town Board*, upon recommendation of the *Town Plan Commission*. If plantings are not installed prior to approval of a final plat, a landscaping schedule shall be specified in the subdividers' agreement and appropriate sureties shall be provided.

*NOTE: A landscape guarantee should be required in which the developer or subdivider should deposit with the Town Treasurer a sum of money, in the form of cash, certified check, letter of credit, or bond, equal to a minimum of 10-20 percent of the total landscaping costs to cover the potential cost of replacing all dead, dying, defective, or diseased plant material for a period of 18 months.*

#### 8.15 SEDIMENT CONTROL

### SECTION 9.00 CONSTRUCTION

#### 9.01 COMMENCEMENT

#### 9.02 BUILDING PERMITS

#### 9.03 PLANS

*NOTE: A properly prepared subdivision control ordinance would authorize, in this section, the Town Plan Commission to require landscape plans and specifications to be submitted for review and approval, showing the location of plantings and providing a plant schedule that lists the common name, botanical name, quantity, size, and root condition of proposed plants, as well as specify the planting method and maintenance procedures for new plants and the preservation methods for existing vegetation. Such existing vegetation should be required to be clearly denoted "To Remain" on the landscape plan; those to be removed should be clearly denoted "To*

*Be Removed.” For rural cluster developments, a landscape plan should be required; the following statement should be added:*

- A. For rural cluster development, a landscape plan shall be submitted for review and approval, showing the location of plantings and providing a plant schedule that lists the common name, botanical name including genus, species and variety, quantity, size, and root condition of proposed plants, as well as specifying the planting method and maintenance procedures for new plants, and the preservation methods for existing vegetation.

#### **9.04 STORMWATER RUNOFF PLANS**

*The following design provisions for detention and retention basins located in rural cluster developments should be added to the typical stormwater-management regulations:*

- A. Detention or other facilities may be required for control of stormwater runoff in excess of the available capacity of downstream engineered and natural facilities. Stormwater-detention or other facilities may be provided by the landowner or developer on site or adjacent to the site. Detention and retention basins for residential cluster developments shall have side slopes not exceeding one foot vertical on four feet horizontal and the grading shall blend in with the natural topography of the land. The depth of detention or retention basins should be between three to eight feet, with an average of five feet. The disturbed perimeter of basins shall be landscaped with grass, shrubs, or trees to blend in with the surrounding natural landscape; however, the dam of a basin shall not be planted with trees and shrubs.

#### **9.05 EROSION CONTROL**

#### **9.06 EXISTING FLORA**

*NOTE: A properly prepared subdivision control ordinance would include this subsection to ensure that the subdivider makes every effort to retain all existing, healthy vegetation not actually lying within public roadways, drainageways, building foundation sites, private driveways, soil-absorption waste- disposal areas, paths, and trails. In addition, such vegetation should be required to be protected and preserved during construction in accordance with sound conservation practices, such as the installation of snow fencing outside the dripline of trees and woodland edges. In addition, existing trees should be preserved, when necessary, by well islands or retaining walls whenever abutting grades are altered.*

#### **9.07 INSPECTION**

### **SECTION 10.00 FEES**

*Revisions in this section are typically not needed to accommodate cluster development.*

#### **10.01 GENERAL**

#### **10.02 PRELIMINARY PLAT OR CERTIFIED SURVEY MAP REVIEW FEE**

#### **10.03 IMPROVEMENT REVIEW FEE**

- 10.04 INSPECTION FEE
- 10.05 FINAL PLAT REVIEW FEE
- 10.06 PUBLIC SITE FEE
- 10.07 ENGINEERING FEE
- 10.08 ADMINISTRATIVE FEE

**SECTION 11.00 DEFINITIONS**

- 11.01 GENERAL DEFINITIONS
- 11.02 SPECIFIC WORDS AND PHRASES

*The following definitions relating to cluster development should be added. The definitions should be the same as those used in the Town Zoning Ordinance. Italicized words within definitions are further defined in this section.*

**Buffer**

An area separating land uses that may consist of open areas, existing natural vegetation, or new landscaping, such as trees, shrubs and berms.

**Cluster Development**

A form of residential development that concentrates buildings or lots on a part of the site to allow the remaining land to be used for common open space, recreation, and preservation of environmentally sensitive features. The concentration of lots is facilitated by a reduction in lot size. A cluster development will consist of one or more *Cluster Groups* surrounded by common open space.

**Cluster Group**

A group of single-family detached dwellings within a *Cluster Development*, surrounded by common open space that comprises at least 60 percent of the gross tract area. The outer boundary of a cluster group shall be defined by the rear lot lines of the lots within the group.

**Community Association**

*A Condominium Association or Homeowners' Association.*

**Condominium**

A community association combining individual unit ownership with shared use or ownership of common property or facilities, established in accordance with the requirements of the "Condominium Ownership Act," Section 703 of the Wisconsin Statutes. Condominium is a legal form of ownership of real estate and not a specific building type or style.

**Condominium Association**

An incorporated community association whose membership consists of owners of dwelling units in condominium. The association is responsible for maintaining the common facilities and delivering services, but does not own the common facilities.

Conservation Easement

The grant of a property right or interest from the property owner to another person, agency, unit of government, or other organization stipulating that the described land shall remain in its natural, scenic, open, or wooded state, precluding future or additional development.

Deed Restriction

A restriction upon the use of a property set forth in the deed.

Homeowners' Association (HOA)

A community association, incorporated or not incorporated, combining individual home ownership with shared use or ownership of common property or facilities.

Open Space, Common

Undeveloped land that has been designated, dedicated, reserved, or restricted in perpetuity from further development and is set aside for the use and enjoyment by residents of the development. Common open space shall not be part of individual residential lots, and shall be substantially free of structures, but may contain such recreational facilities for residents as are shown on the approved development plan.

Sketch Plan

A conceptual plan of a proposed development that is submitted for informal review.

SECTION 12.00 ADOPTION AND EFFECTIVE DATE

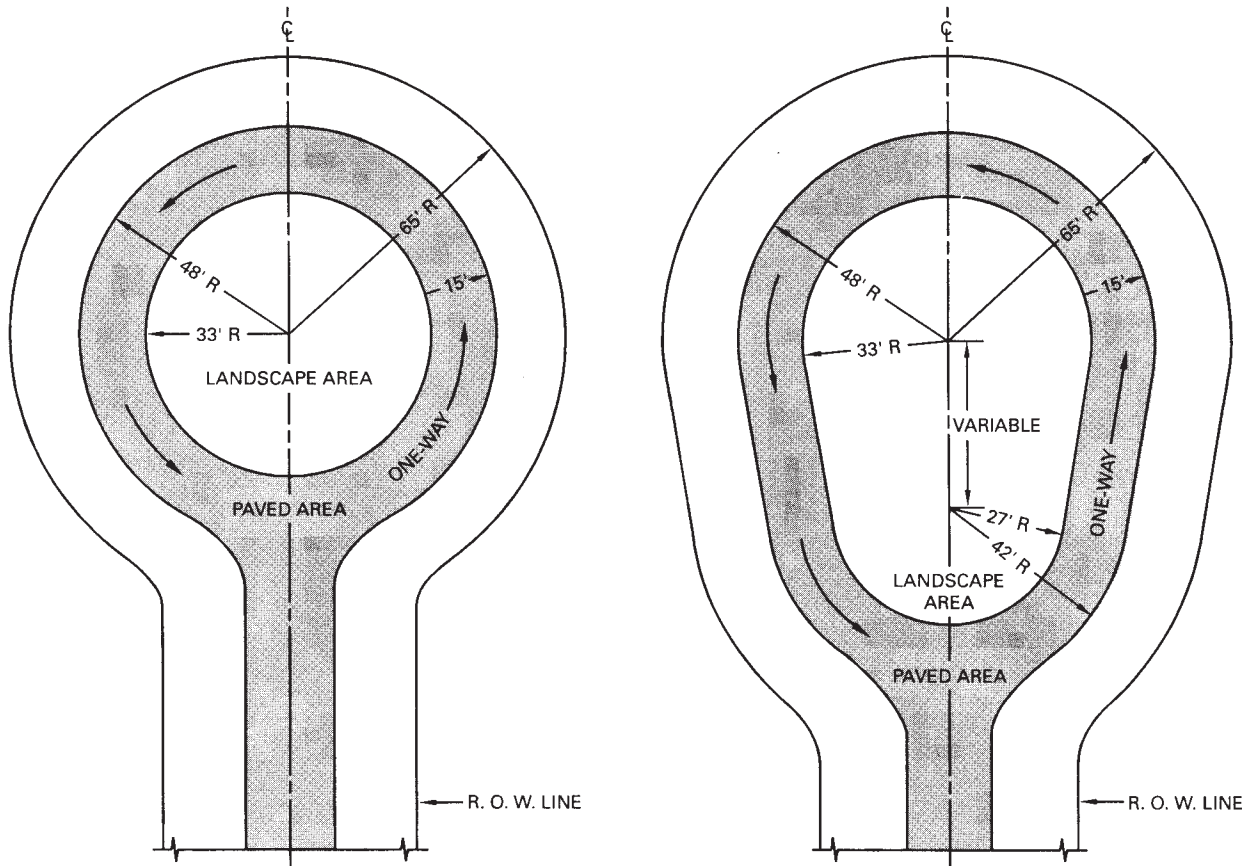
*Revisions in this section are typically not needed to accommodate cluster development.*

- 12.01 PUBLIC HEARINGS
- 12.02 PLAN COMMISSION RECOMMENDATION
- 12.03 TOWN BOARD APPROVAL
- 12.04 EFFECTIVE DATE

APPENDICES

- A-1 LAND PLATTING PROCEDURES AND TIME SCHEDULE FOR PRELIMINARY PLATS AND FINAL PLATS IN THE TOWN OF \_\_\_\_\_, \_\_\_\_\_ COUNTY, WISCONSIN
- A-2 LAND PLATTING PROCEDURES FOR MINOR LAND DIVISIONS IN THE TOWN OF \_\_\_\_\_, \_\_\_\_\_ COUNTY, WISCONSIN
- B-1 TYPICAL CUL-DE-SAC DESIGNS

The following cul-de-sac designs as related to rural cluster development should be included.





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## **APPENDIX E**

### **TYPICAL DECLARATION OF RESTRICTIONS FOR A HOMEOWNERS ASSOCIATION**

The following Declaration of Restrictions is for an unincorporated homeowners association in which the owner of each lot is an automatic member and is subject to an annual assessment equal to a pro rata share of the costs incurred by the Association in the performance of its duties and obligations. Each lot owner has an undivided, fractional interest in the common area outlots.

This Declaration of Restrictions is representative of the typical form such documents may take and is based on a document that has been used for several years by a local developer, the Siepmann Development Company, who has completed several low-density, residential cluster projects in Waukesha County.

The following is a summary of the main elements of the document:

The introduction establishes the existence of the developer and the development project.

Section A describes all building restrictions and the requirement for the developer's approval of building materials, grading, and other basic site features.

Section B establishes the creation of the Homeowners Association and describes its duties and powers, lists bylaws for its operation, describes the common area and ownership of the common area, and authorizes the Town to take over the duties of the Association if it fails to carry them out adequately.

Section C authorizes future development stages of the project to be included in the provisions of the Declaration.

Section D provides for amendments, waivers, or annulment of the Declaration.

Section E establishes the right of the developer to grant easements to the Town or a utility company for the purpose of providing drainage or utility services in the development.

Section F states that the Declaration shall be effective for 30 years, at which time it will be automatically renewed unless the owners of 90 percent of the lots choose to terminate it.

DECLARATION OF RESTRICTIONS

FOR

(Name of Subdivision)

KNOW ALL PERSONS BY THESE PRESENTS; that (name of developer) is a (type of company) duly organized and existing under and by virtue of the laws of the State of Wisconsin, located at (address), Wisconsin (herein referred to as "Developer," which term shall also include the duly authorized agent of Developer). Developer is the owner of (name of subdivision), being a subdivision of part of the (land description), of \_\_\_\_\_ County, Wisconsin, (herein referred to as "(name of subdivision)") and intending to establish a general plan for the use, occupancy, and enjoyment of (name of subdivision), does hereby declare for the mutual benefit of present and future owners of lands in (name of subdivision) and any future stages of development added as provided in Section C, below (herein referred to individually as "Owner" and collectively as "Owners"), that (name of subdivision) shall be subject to the following restrictions:

**A. BUILDING RESTRICTIONS**

1. All lots in (name of subdivision) are restricted to the erection of a one-story, story-and-one-half, or two-story single-family residence building with a minimum square footage of living space (without regard for basement level areas) of two thousand five hundred (2,500) square feet and with an attached garage which will accommodate at least two cars.

2. The garage must be attached to the residence directly or by breezeway or built into the basement of the residence and must be constructed with the residence. The maximum size of the garage shall conform to (town) (hereinafter referred to as "Town") ordinances. Garage entrances must be on the side of the home.

3. The exterior walls of the residence and attached garage must be constructed of brick, stone, stucco, wood siding, (which includes only solid wood or wood waferboard products of the type and quality of the innerseal lap siding product manufactured by \_\_\_\_\_ on the date hereof) or other natural materials. Siding materials such as aluminum, vinyl, steel, pressed board, masonite, or plywood will not be permitted. All roof areas having an appropriate pitch shall be covered with wood shakes or textured shingles of a minimum \_\_\_-lb. weight. Textured shingles must be in a "weatherwood" color. Developer shall have the right to approve other roofing materials if they are of comparable quality or better suited to the approved building design.

4. All two-story and story-and-one-half residence roofs shall have a minimum pitch of eight feet in height for each 12 feet in length (8/12), except for rear dormers on a story-and-one-half residence. All one-story residence roofs shall have a minimum pitch of ten feet in height for each twelve feet in length (10/12). A lower minimum roof pitch may be allowed in special circumstances if approved in writing by Developer.

5. The residence and attached garage and a sodded or seeded lawn and a paved driveway must be completed within one year of the start of construction.

6. Only one residence may be erected on a lot.

7. The minimum setback from any abutting street right-of-way is \_\_\_ feet. Side yard and rear yard setbacks shall conform to the Town ordinances.

8. There shall be no outside storage of boats, trailers, buses, commercial trucks, recreational vehicles, or other vehicles or items deemed to be unsightly by the Developer or the (name of subdivision) Homeowners Association, created pursuant to Section B.

9. All building plans and the exterior design of each building to be constructed and all yard grades and stakeout surveys must be approved by Developer in writing prior to application for a building permit. In addition, basic site features such as fences, decks, in-ground swimming pools, additions, and other temporary or permanent structures or elements contributing significantly to the total environmental effect of (name of subdivision) are subject to the prior written approval of Developer. Developer's approval shall be based upon the building and use restrictions contained in this Section A and the Guidelines for Plan Approval for (name of subdivision), which Owner shall obtain from Developer prior to submitting plans to Developer for approval. Developer may withhold exterior design approval if the design is too similar in appearance to others in close proximity. Following such time that a principal residence has been constructed upon each lot in (name of subdivision), Developer may, but shall not be obligated to, delegate to the (name of subdivision) Homeowners Association Committee the approval authority contained in this Paragraph 9. To be effective, notice of such delegation shall be recorded in the office of the Register of Deeds for \_\_\_\_\_ County, Wisconsin.

10. At the time of construction of a residence the Owner shall install, at a location designated by Developer, one outdoor electric postlamp with a photo-electric control. The design of the postlamp shall be subject to the approval of the Developer. The postlamp shall be maintained by the Owner in a proper operating manner. If the postlamp is not so maintained, maintenance shall be performed by the (name of subdivision) Homeowners Association and the cost of such maintenance shall be an assessment against the Owner, payable within 10 days after the date of the assessment.

11. The design and location of each mailbox and newspaper box shall be subject of approval of the Developer.

12. There shall be no satellite-dish antennas with a diameter in excess of 24 inches, no outbuildings, and no above-ground swimming pools. No antenna or satellite dish shall be visible from any roadway or neighboring lot. All swimming pool-related pump, heater, and filter equipment must be concealed in an enclosure to minimize noise and visibility.

13. Each Owner, at the time of home construction, shall be responsible for grading his lot so as to direct drainage toward the street or other established drainageway and to prevent an increase in drainage on to neighboring property. In addition, at the time of construction, erosion-control measures shall be installed and maintained according to the standards and specifications set forth in the Wisconsin Construction Site Best Management Practices Handbook and local ordinances.

14. The Developer, and no other, shall have the right and authority to modify the Building and Use Restrictions or to permit variances from application thereof if, in his opinion, the modification or variance is consistent and compatible with the overall scheme of development of (name of subdivision), provided that no such modification shall be in violation of local ordinances or have the effect of revoking an approval previously granted in writing hereunder. Notwithstanding the foregoing, any such modifications or variances shall be at the sole and absolute discretion, aesthetic interpretation, and business judgment of the Developer; this paragraph and any modifications or variances granted hereunder shall not in any way be interpreted (i) as preventing the Developer from requiring at anytime, and from time to time, strict compliance with the Building and Use Restrictions or (ii) as entitling any person to a modification or variance not approved and granted in writing by the developer.

15. Any Owner violating the restrictions contained herein shall be personally liable for and shall reimburse Developer and the Association for all costs and expenses, including attorney's fees, incurred by Developer or the Association in enforcing the restrictions contained in this Section A. The foregoing shall be in addition to any other rights or remedies which may be available to Developer and the Association.

## **B. OWNERS ASSOCIATION**

1. An unincorporated association (herein referred to as the "Association") of the Owners of land in (name of subdivision) and all future stages of development as provided in Section C below (herein referred to individually as "Owner" and collectively as "Owners"), is hereby created for purposes of managing and controlling subdivision Common Areas (as defined below) and performing other duties as set forth herein for the common benefit of the Owners. The Association shall be known as "(name of subdivision) Home-owners Association."

2. The term "Common Area" shall include the following areas, plus any additional areas which may be added in accordance with Section C.

(a) (Outlots) of (name of subdivision);

(b) The area of easements granted to the Association by Developer for purposes of installing entryway monuments, fencing, and landscaping;

(c) All landscaped islands, circles and squares contained within the dedicated streets in (name of subdivision). Any portion of the Common Area within a public street right-of-way may only be improved with the consent of the Town and other appropriate public authorities. Consent to any such improvement shall not be considered or construed as an assumption of liability or responsibility for maintenance, nor shall such consent relieve the Association and the Owners of duties to maintain such improvements.

3. Each lot shall have an appurtenant undivided fractional interest in the common area outlots (including added future stages), the numerator of which shall be one and the denominator of which shall be the total number of lots subject to this Declaration (including added future stages). All deeds and any other conveyances of any lot in (name of subdivision) shall be deemed to include such undivided interest in the common area outlots, whether or not so specifically stated in any such deed or other conveyance.

4. The Association shall be governed by a three member Committee, hereinafter referred to as the "Committee," which shall be solely responsible for the activities of the Association. The initial members of the Committee shall be (names of three persons).

5. To qualify as a member of the Committee, a person must be either an Owner or a duly designated officer or representative of an Owner.

6. As long as fifty percent (50%) or more of the lots in (name of subdivision) are owned by Developer, all three members of the Committee shall be appointed by Developer. As long as twenty percent (20%) or more but less than fifty percent (50%) of the lots in (name of subdivision) are owned by Developer, two members of the Committee shall be appointed by Developer and one member shall be elected as provided herein. As long as five percent (5%) or more but less than twenty percent (20%) of the lots in (name of subdivision) are owned by Developer, one member of the Committee shall be appointed by Developer and two members shall be elected as provided herein. If less than five percent (5%) of the lots in (name of subdivision) are owned by Developer, all of the members of the Committee shall be elected as provided herein. The provisions of this paragraph shall also apply in the event of any future stages of development in accordance with Section C, below, but the lots contained therein shall not be considered in determining the above percentages.

7. Each Owner shall be entitled to vote in person or by proxy in elections for selecting members of the Committee. Owners shall have one vote for each lot owned.

8. The term of office of the initial members of the Committee shall commence upon the execution hereof and shall continue until (date). Thereafter, the term of office of members of the Committee shall be for two calendar years. If any member of the Committee shall die, resign, be unable to act or cease to be qualified to be a member, the unexpired term of such member shall be filled by a special election, (or appointment by Developer, if applicable, pursuant to the terms of Paragraph B.6, above).

9. All meetings of the Committee shall be open to Owners. The annual meeting shall be held upon not less than three days prior written notice to all of the Owners. Meetings of the Committee for the purpose of carrying out its duties and powers as set forth herein may be held from time to time without notice. Two members of the Committee shall constitute a quorum. Actions of the Committee shall be taken by majority vote.

10. The Committee shall have the following duties:

- (a) To provide for the maintenance of improvements in common area;
- (b) To establish dates and procedures for the election of members of the Committee.

11. The Committee shall have the following powers:

- (a) To take such action as may be necessary to cause the common area to be maintained, repaired, landscaped (where appropriate), and kept in good, clean, and attractive condition;

(b) To take such action as may be necessary to enforce the provisions of Paragraphs A.8 and A.10, above;

(c) To enter into contracts and to employ agents, attorneys, or others for purposes of discharging its duties and responsibilities hereunder; and

(d) To levy and collect assessments in accordance with the provisions of Paragraph B.12, below.

12. The Committee shall levy and collect assessments in accordance with the following:

(a) The Owner of each lot shall be subject to a general annual charge or assessment equal to his pro rata share of the costs incurred or anticipated to be incurred by the Association in performing its duties and discharging its obligations. The pro rata share of an Owner of a lot shall be a fraction, the numerator of which shall be one and the denominator of which shall be the total number of lots subject to this Declaration (including added future stages) at the time of the assessment. Said costs shall include, but not be limited to: taxes, insurance, repair, replacement, and additions to the improvements made to the common area; equipment, materials, labor, management, and supervision thereof; and all costs for the Association reasonably incurred in conducting its affairs and enforcing the provisions of this Section B. \_\_\_\_\_ County shall not be liable for any fees or special assessments in the event that it should become the owner of any lots in the subdivision by reason of tax delinquency;

(b) Assessments shall be approved at the duly convened annual meeting of the Committee;

(c) Written notice of an assessment shall be personally delivered to each Owner subject to the assessment or delivered by regular mail addressed to the last known address of such owner;

(d) Assessments shall become due and payable 30 days after the mailing or personal delivery of the notice, as the case may be;

(e) Assessments not paid when due shall bear interest at the rate of twelve percent (12%) per annum from the date due until paid; such unpaid assessments and the interest thereon shall constitute a continuing lien on the real estate against which it was assessed until they have been paid in full. The assessments and interest thereon shall also be the personal obligation of any current or subsequent Owner of the lot against which the assessment was made;

(f) The Committee may record a document with the Register of Deeds in \_\_\_\_\_ County, Wisconsin, giving notice of a lien for any such unpaid assessment and upon payment or satisfaction of the amount due, record a document canceling or releasing any such lien. The failure to file any such notice shall not impair the validity of the lien. All recording and attorney fees relating to any such document shall be borne by the affected Owner;

(g) Upon application by any Owner, any member of the Committee may, without calling a meeting of the Committee, provide to such Owner a statement in recordable form certifying (1) that the signer is a duly elected or appointed member of the Committee and (2) as to the existence of any unpaid assess-

ments or other amounts due to the Association. Such statement shall be binding upon the Committee and shall be conclusive evidence to any party relying thereon of the payment of any and all outstanding assessments or other amounts due to the Association;

(h) Any lien for assessment may be foreclosed by a suit brought by the Committee, acting on behalf of the Association, in a like manner as the foreclosure of a mortgage on real property.

13. Members of the Committee shall not be liable for any action taken by them in good faith in discharging their duties hereunder, even if such action involved a mistaken judgment or negligence by the members or agents or employees of the Committee. The Association shall indemnify and hold the members of the Committee harmless from and against any and all costs or expenses, including reasonable attorney's fees, in connection with any suit or other action relating to the performance of their duties hereunder.

14. Failure of the Association or the Committee to enforce any provisions contained in this Section B, upon the violation thereof, shall not be deemed to be a waiver of the rights to do so, or an acquiescence in any subsequent violation.

15. If the Committee shall fail to discharge its duties under this Section B within 60 days of written demand by the Town, the Town may discharge the duties of the Committee. The costs of the Town incurred in connection therewith shall be charged to the Owners of the properties affected by such actions of the Town by adding to each Owner's real estate tax statement a charge equal to such Owner's pro rata share (the same as such Owner's share of annual assessments as provided in subparagraph B.12(a) above of such costs.

**C. FUTURE STAGES OF DEVELOPMENT OF (name of subdivision)**

The Developer, its successors, and assigns shall have the right to bring within this Declaration future stages of the development of (name of subdivision), provided such future stages are or become adjacent to the real estate which is or becomes subject to this Declaration or any supplement declaration. The future stages authorized under this Section shall be added by recording a Supplemental Declaration of Restrictions with respect to the future stages which shall extend the provisions of this Declaration to such future stages and indicate any provisions which differ from the provisions of this Declaration or any prior Supplemental Declaration. Except with respect to increasing the number of Owners and adding to the common area, such Supplemental Declarations shall not revoke, modify, or add to the Covenants established by this Declaration or any prior Supplemental Declaration.

**D. AMENDMENT PROVISIONS**

Any of the provisions of this Declaration may be annulled, waived, changed, modified, or amended at any time by written document setting forth such annulment, waiver, change, modification, or amendment, executed by the Owners of lands having at least sixty percent (60%) of the votes in the Association; provided, however, that any such action must also be approved in writing by (i) the Town, (ii) \_\_\_\_\_ County and (iii) the Developer so long as it shall be an Owner. This Declaration and all amendments shall be executed as required by law so as to entitle it to be recorded, and shall be effective upon recording, in the office of the Register of Deeds for \_\_\_\_\_ County, Wisconsin.

**E. RESERVATION BY DEVELOPER OF RIGHT TO GRANT EASEMENTS**

Developer hereby reserves the right to grant and convey easements to the Town and/or to any public or private utility company, upon, over, through, or across those portions of any Lot in (name of subdivision) within 10 feet of any lot line for purposes of allowing the Town or utility company to furnish gas, electric, water, sewer, cable television or other utility service to any Lot(s) or through any portions of (name of subdivision) or for purposes of facilitating drainage of storm or surface water within or through (name of subdivision). Such easements may be granted by Developer, in its own name and without the consent or approval of any lot Owner, until such time as Developer has conveyed legal title to all Lots platted or to be platted in (name of subdivision) to persons other than a Successor-Developer.

**F. DURATION OF RESTRICTIONS**

These restrictions and any amendments thereto shall be in force for a term of thirty (30) years from the date this Declaration is recorded; upon the expiration of such initial 30-year term or any extended term as provided herein, this Declaration shall be automatically extended for successive terms of 10 years each, unless prior to the end of the then-current term a notice of termination is executed by the owners of at least ninety percent (90%) of all lots subject to this Declaration (and their mortgagees) and is recorded in the office of the Register of Deeds of \_\_\_\_\_ County. These Restrictions shall be deemed to run with the land and shall bind the owners and their heirs, successors and assigns and be enforceable by any owner, and to the extent permitted by paragraph B.15, above, the Town of \_\_\_\_\_, \_\_\_\_\_ County, Wisconsin.

IN WITNESS WHEREOF, the undersigned, being the authorized (owner, partner, etc.) of (name of development company), has executed this Declaration of Restrictions this \_\_\_ day of \_\_\_\_\_, 1997.

(NAME OF DEVELOPMENT COMPANY)

BY: \_\_\_\_\_  
(Name),  
Authorized Signatory



STATE OF WISCONSIN )  
                                  ) SS  
\_\_\_\_\_ COUNTY)

Personally came before me this \_\_\_ day of \_\_\_\_\_, 1997, the above-named \_\_\_\_\_,  
to me known to be the person who executed the foregoing instrument and acknowledged the same.

\_\_\_\_\_  
Notary Public, County of \_\_\_\_\_  
State of Wisconsin  
My Commission Expires \_\_\_\_\_

This Instrument Was Drafted By:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**CONSENT OF MORTGAGEE**

\_\_\_\_\_ Bank, as mortgagee of any present or future mortgage on the lands subject to the foregoing Declaration of Restrictions, hereby consents to and agrees that its mortgages shall be subject to the foregoing Declaration of Restrictions.

NAME OF BANK

By: \_\_\_\_\_

By: \_\_\_\_\_

STATE OF WISCONSIN    )  
  ) SS  
COUNTY OF \_\_\_\_\_)

Personally came before me this \_\_ day of \_\_\_\_\_, 1997, the above-named \_\_\_\_\_ and \_\_\_\_\_, to me known to be the \_\_\_\_\_ and \_\_\_\_\_, respectively, of \_\_\_\_\_ Bank and to me known to be the persons who executed the foregoing instrument and acknowledged the same.

\_\_\_\_\_  
Notary Public, County of \_\_\_\_\_  
State of Wisconsin  
My Commission Expires: \_\_\_\_\_

## APPENDIX F

### RURAL CLUSTER DEVELOPMENTS

Although cluster development has been used for decades in other parts of the country, the concept is just beginning to be promoted by local officials and residents in the Southeastern Wisconsin Region. While interest in the concept is growing, not many projects have been built within the Region so far. A few do exist, however,

and these are described below. Although most of the listed projects are built at densities higher than the rural density recommended in this Guide, one dwelling unit per five acres, each contains certain features that exemplify some of the cluster design standards described herein. *Italicized* annotations describe these features.

#### **Preserve at Hunters Lake (1994)**

*This development is the best example in the Region of the application of the rural cluster development principles described in this Guide. Density is low; cluster groups are small, no more than six units in a group; each cluster group is surrounded by significant open space; mature hardwood forests, wetlands, and floodplains are preserved, but accessible through trails; trailheads are marked with rustic fencing; lake access is shared by all residents; scenic views into the property are preserved along existing perimeter streets; only two lots front on the main street through the development and the main street passes through substantial areas of open space, maintaining rural character along most of its length; streets are narrow and curbed only where necessary for aiding drainage; streets are designed as loops and cul-de-sacs with landscaped bulbs; sidewalks are absent; and, finally, an existing barn, silo, and caretaker's cottage with stone wall have been preserved.*

Location:           STH 67, north of Highway D, Town of Ottawa, Waukesha County  
Developer:         Siepmann Realty Corporation, Waukesha, WI  
Tract Size:         271 acres  
Number of Lots:    41  
Gross Density:     One dwelling unit per 6.6 acres  
Lot Size:           Range 1.2 acres to 2.7 acres, average 1.6 acres  
Open Space:        180 acres (66%)  
                      Frontage on Hunters Lake, secluded pond, trails, preserved segment of Ice Age Trail

#### **Hawksnest (1990-1996)**

*A loop street encircles a large, centrally located common area with a wild flower meadow and recreational amenities; stormwater-management facilities include permanent ponds that function as landscape features; mature upland woodlands are preserved, but accessible through trails; trailheads are marked with rustic fencing; hedgerows are preserved; a segment of the Ice Age Trail is accommodated; wide buffers are maintained along existing perimeter streets and enhanced with additional new trees; streets are narrow and curbed only where necessary for aiding drainage; each cul-de-sac street ends in a landscaped loop; two existing farmsteads were accommodated on large outparcels.*

Location:           Highway E (Maple Avenue), two miles north of Golf Road, Town of Delafield, Waukesha County  
Developer:         Siepmann Realty Corporation, Waukesha, WI  
Tract Size:         180 acres  
Number of Lots:    71  
Gross Density:     One dwelling unit per 2.5 acres  
Lot Size:           Range 0.92 acres to 1.4 acres, average 0.97 acres

Open Space: 80 acres (44%)  
Neighborhood trails, 3,000 foot long segment of Ice Age Trail, 15-acre common area with two tennis courts, soccer field, softball diamond, two-acre pond, two stormwater-detention basins.

#### Lac du Cours (1963)

*A wide buffer area along the perimeter street has been permitted to grow up in natural vegetation, consisting of trees, shrubs, and meadow grasses, conserving a very rural appearance; woodlands are preserved along a second existing street; cluster groups are small and centered on loop streets with landscaping and small parking areas inside the loops; lake access is available to all residents.*

Location: River Road and Donges Bay Road, City of Mequon, Ozaukee County  
Developer: Harry Forman  
Tract Size: 236 acres  
Number of Lots: 170  
Gross Density: One dwelling unit per 1.4 acres  
Lot Size: Range 0.22 acres to 1.62 acres, average 0.24 acres (10,454 square feet)  
Open Space: 60 acres (25 %)  
Lake, woodlands

#### Lost Creek (1996)

*Woodlands and hedgerows are preserved along existing streets; trails extend throughout the open space; a pond is accessible to all residents.*

Location: North Shore Drive (Highway KE), between W. Lakeside Road and Hillcrest Drive,  
Town of Delafield, Waukesha County  
Developer: Siepmann Realty Corporation, Waukesha, WI  
Tract Size: 60 acres  
Number of Lots: 26  
Gross Density: One dwelling unit per 2.3 acres  
Lot Size: Range 0.5 acres to 1.1 acres, average 1.6 acres  
Open Space: 30 acres (50%)  
Pond, woods, trails

#### Stillmeadow

*Hedgerows are preserved and used as breaks between cluster groups; trailheads are marked; scenic views are preserved; wide buffers along the perimeter street conserve a rural appearance; a farm complex is accommodated on a large lot.*

Location: North Shore Drive (Highway KE), east of Highway E, Town of Delafield, Waukesha County  
Developer: Siepmann Realty Corporation, Waukesha, WI  
Tract Size: 177 acres  
Number of Lots: 84  
Gross Density: One dwelling unit per 2.1 acres  
Lot Size: Range 0.69 acres to 3.4 acres, average 0.81 acres (35,280 square feet)  
Open Space: 80 acres (45%)  
Two ponds, trails

**Woodfield and South Woodfield Villages (1972-1980)**

*An existing barn is preserved and serves as a community stable; woodlands are preserved and made accessible through trails; an open field was planted in pine trees which were being permitted to grow in meadow conditions, these are now maturing and screen the houses from the existing street; wetlands and floodplain along the Bark River are left open and accessible to all residents; most lots back onto woodlands; cluster groups are small; a wide, unmowed buffer and an orchard along existing streets hide the houses and maintain a rural appearance.*

Location: Rybeck Road, east of CTH E, Town of Merton, Waukesha County  
 Developer: Siepmann Reality Corporation, Waukesha, WI  
 Tract Size: 160 acres (both sites)  
 Number of Lots: 65 (both sites)  
 Gross Density: One dwelling unit per 2.5 acres  
 Lot Size: One-half acre to one acre, with three 3-acre lots, and one 14-acre lot with barns  
 Open Space: 75 acres, both sites (47%)  
 Two tennis courts, baseball diamond, two tot lots, riding ring, trails, historic hop house. Field, successional woodland, and mature forest. Bark River access and wading creek.

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## APPENDIX G

### LAND TRUSTS IN THE SOUTHEASTERN WISCONSIN REGION

Land trusts are mentioned in Chapter V as possible willing holders of conservation easements granted on the common open space in cluster developments. Land trusts may also buy conserved land and receive fee-title donations of such land. Since ownership of a conservation easement implies monitoring and enforcement responsibilities and expenses, land trusts usually will be interested only in lands which promote their stated missions.

In 1995 there were 28 local land preservation groups in Wisconsin, which have preserved over 10,500 acres of prime scenic and natural resources both by ownership and through conservation easements. Below are listed land trusts and other conservation organizations active in the Southeastern Wisconsin Region. This list is provided for reference only. Many of these have specific and limited interests; no implication is made herein as to whether the listed organizations would be interested in acquiring conservation easements on the open space in cluster developments. Any person interested in investigating such a possibility should contact the applicable organization personally to discuss the specifics of the case.

When no existing local land trust can be found with an interest in holding conservation easements on common open space, a new land trust may be formed, whose mission includes furthering its purposes through the acquisition of common open space in cluster developments, whether as an easement or in the form of ownership. Municipalities can be instrumental in forming such a land trust by working with conservation minded groups to do so.

Cedar Lakes Conservation Foundation  
555 N. Port Washington Road  
Milwaukee, WI 53217

Hawthorne Hollow  
800 Green Bay Road  
Kenosha, WI 53144

Chiwaukee Prairie Preservation Fund  
810 Sycamore  
Racine, WI 53406

Ice Age Park and Trail Foundation, Inc.  
P.O. Box 423  
Pewaukee, WI 53072

Des Plaines Wetland Conservancy  
9629 113th Street  
Kenosha, WI 53142

Kenosha/Racine Land Conservation Fund  
4007 First Street  
Kenosha, WI 53144

Faye Carney Gehl Conservation Trust  
N64 W31111 Beaver Lake Road  
Hartland, WI 53029

Kinnickinnic River Land Trust  
N8203 1130th Street  
River Falls, WI 54022

Friends of the Menomonee River  
1970 Ludington Avenue  
Wauwatosa, WI 53226

Lac LaBelle Environmental Foundation  
516 Lac LaBelle Drive  
Oconomowoc, WI 53066

Geneva Lake Conservancy  
P.O. Box 356  
Fontana, WI 53125

Muskego Lakes Land Conservancy  
South 64, West 18431 Topaz  
Muskego, WI 53150

Ozaukee Land Trust  
P.O. Box 786  
Cedarburg, WI 53012

Wisconsin Farmland Conservancy  
500 Main Street, Suite 307  
Menomonie, WI 54751

Waukesha Land Conservancy  
P.O. Box 2572  
Brookfield, WI 53008

Further information about land trusts in Wisconsin can be acquired from Gathering Waters, 633 W. Main Street, Madison, WI 53703, telephone 608-251-9131. This is an information clearinghouse and technical assistance center for land trusts in Wisconsin.



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