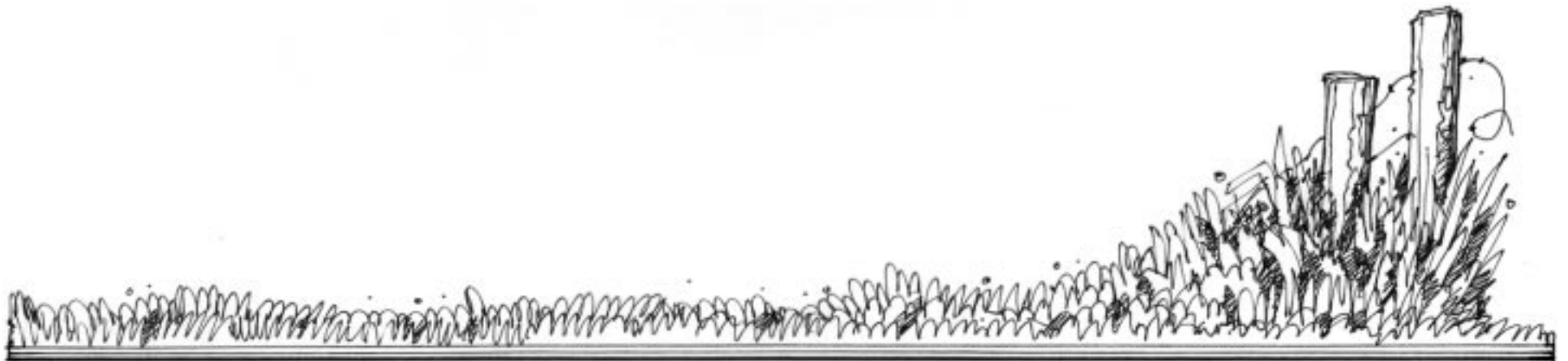


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Introduction

Muskego has a clear vision for its future. As elaborated in the City's Conservation Plan, this vision includes recommendations for low-density single-family development within the City. This handbook is designed to assist property owners, local officials, home buyers, and persons involved in development and real estate activities to understand that vision and to design residential projects that help make that vision come true.

This handbook is designed to help you understand Muskego's vision for rural residential development and to design residential projects that help make that vision come true.

Introduction

Muskego's Vision

Muskego is faced with increasing development pressures. Recognizing this, Muskego has developed a conservation plan for the City. The main recommendation of the Plan is to enhance the quality of life in Muskego by improving environmental quality and enhancing the balance of rural and urban character.

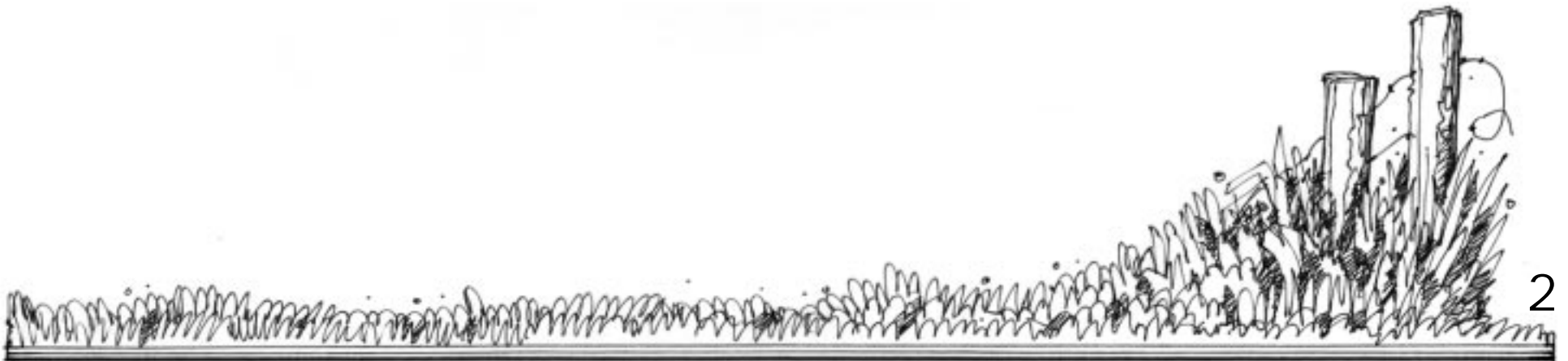
This vision will be accomplished through preserving the agricultural integrity of rural Muskego by focusing most development in and around the Villages. Carefully designed rural residential, or "exurban," developments are recommended for the growing parts of the City. The purpose of

this Handbook is to provide suggestions for addressing these important objectives.

The main recommendation of the Conservation Plan is to improve environmental quality and to enhance the balance of rural and urban character.

Goals of Muskego

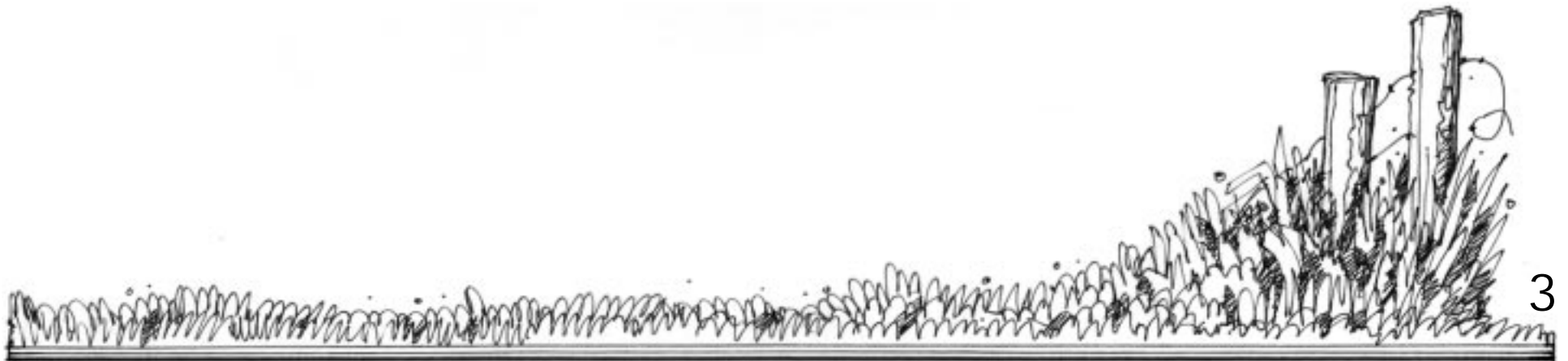
- Preserve the agricultural integrity of rural Muskego.
- Direct development to the village areas.
- Provide exurban development in the growing parts of the City.



Making the Vision Come True

It is challenging to allow low-density residential development while protecting the environment and preserving rural character. The first few projects in a rural area usually result in impacts on the community character or environment that are hard to notice. However, as the area continues to fill up, these adverse impacts become readily apparent, and they are often impossible to reverse.

This handbook is intended to work with Muskego's Conservation Plan. It should be used to guide the process and design of projects in areas of the County designated for *exurban residential* development in the Muskego Conservation Plan. By following these guidelines, the City can accommodate substantial development while enhancing environmental quality and maintaining a high-quality community character.



Principles of Development

In order to coordinate and guide the design of rural residential development in the City of Muskego and to protect the area's natural resources and existing cultural character, planning and design should adhere to the following principles:

1. Protection of sensitive natural areas and features.
2. Maintenance of substantial open space and enhancement of their views.
3. Minimizing the visual impact of development through, clustering, and concealment.
4. Preservation of a distinct Muskego character.

Principles

Principal One: Protection of Natural Resources and Features

Natural areas and features include woodlands, steep slopes, native vegetation, wetlands, floodplains, and surface waters. These resources and strategies for their treatment are described on this and the following pages.

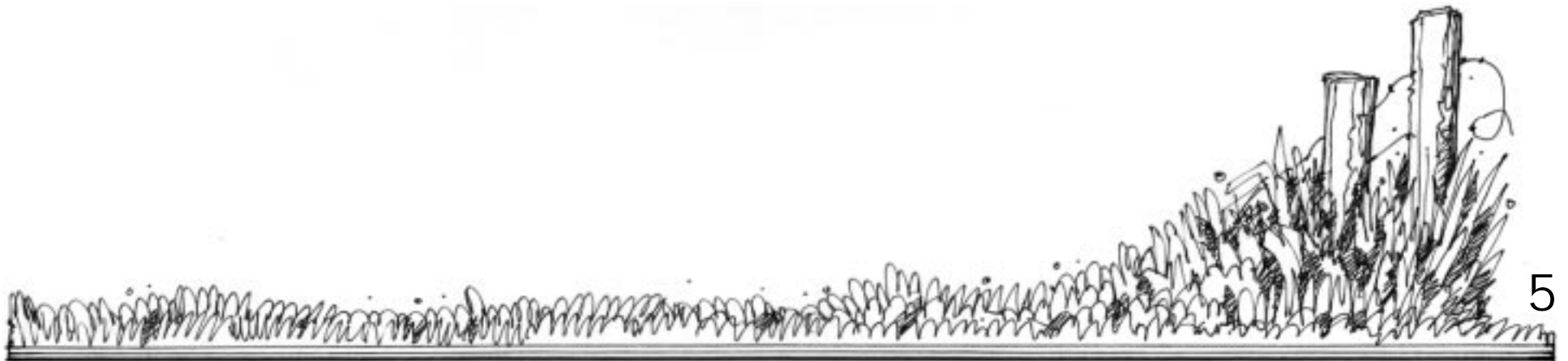
Woodlands constitute one type of natural feature that plays a key role in defining the character of the City of Muskego. Clustered mainly along waterways and steep slopes, woodlands stabilize erodeable soils, define views, and create habitat diversity.

Muskego's woodlands are currently being invaded by aggressive Eurasian species such as buckthorn and honeysuckle.

Protecting woodlands in sensitive areas such as floodplains, steep slopes, and native vegetation remnants is critical to the environmental health of the region. Limiting the development of other woodlands is critical to the preservation and enhancement of the desired community character of exurban Muskego.

Woodlands should be identified and protected.

- Woodlands play a key role in defining the character of Muskego.
- Non-native species are currently invading Muskego's woodlands.
- Protecting woodlands in sensitive areas and limiting the development of other woodlands are critical to the environmental health and desired community character of Muskego.



Protection of Steep Slopes

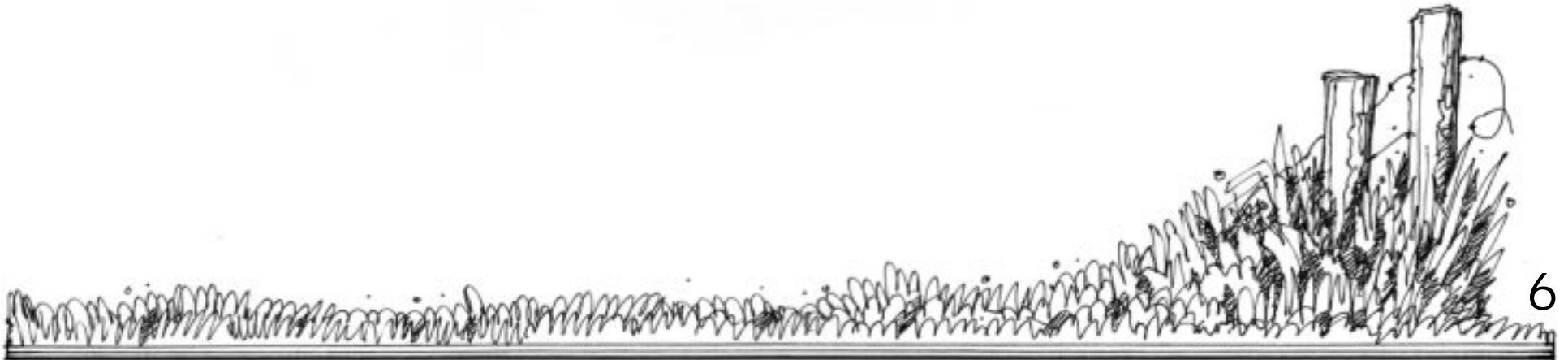
Steep slopes are very sensitive to erosion during development, and they remain sensitive for some time after development. The erosion of steep slopes dramatically lowers water quality and clarity, which in turn endangers fish and wildlife habitat

and harms the recreational and aesthetic qualities of Muskego's surface waters. Erosion and sediment have increased dramatically in the waterways of the City of Muskego with the corresponding increase in development activity.

Slopes over 12% should be identified and protected.

Erosion of steep slopes can have several adverse effects.

- Lowering water quality and clarity.
- Endangering fish and wildlife.
- Harming surface waters, which are currently important recreational and aesthetic Muskego assets.



Protection of Native Vegetation, Wetlands, Floodplains and Surface Waters

Areas of native vegetation are rare, particularly in upland areas. These areas should be preserved. Native plant species, arranged in appropriate habitat community groupings, should be selected when choosing plantings for a development project.

Developers should consider a strategy for the ongoing management of these original and introduced native vegetation for each development project.

Wetlands are essential for the protection of water quality, and they serve as primary recharge areas for groundwater systems. The presence of wetlands adds significantly to the diversity of habitat and character in Muskego.

Wetlands require direct protection, as well as a protective buffer around their edges. The width of an effective buffer varies according to the particular soils, vegetation, slopes, and drainage associated with a wetland area. Developers should consider management areas and strategies that are specific to each development site.

Floodplains serve as a buffer to protect

surface waterways from sedimentation and erosion. In flood events, floodplains store water volumes that exceed the conveyance capacity of drainageway, streams, and rivers, often by many magnitudes. The protection of floodplains from filling and site disruption ensures that both the quality and quantity of surface waters is properly managed for the protection of the public's health, safety, and welfare.

The streams and the creeks and drainageways that feed into the lakes are very susceptible to degradation from sedimentation and nutrient loading as a result of grading, construction and other development activities. They are also susceptible to disruption from the overapplication of herbicides, pesticides, and fertilizers from lawns and gardens.

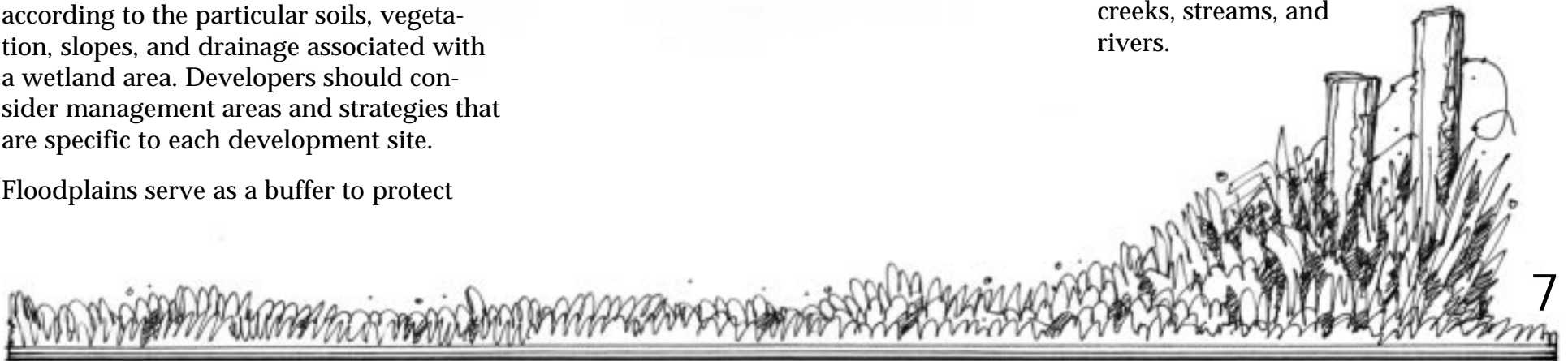
Areas of native vegetation, wetlands, floodplains, and surface waters should be identified and protected.

Native vegetation areas provide important environmental and aesthetic benefits:

- Diverse wildlife habitat.
- Diverse visual experience.
- Strengthening the region's resistance to disease and introduced pests.

It is particularly critical to preserve native vegetation in certain types of areas:

- There should be a 50' native vegetation setback from intermittent drainageways
- There should be a 75' native vegetation setback from perennial creeks, streams, and rivers.



Principle Two: Maintenance of Open Space Areas and Views

The character of an area is established by the relationship between development and open space areas. Typical rural residential subdivisions destroy rural character by converting natural and agricultural open spaces into homes and their surrounding lawns. Where large-lot “cookie-cutter” subdivision layouts are used, the rural character of the countryside gradually takes on suburban characteristics. This “stretched-out city subdivision” look becomes particularly evident as the subdivisions begin to fill in remaining open space areas and to abut one another.

Through the use of clustering homes and limiting the size of improved lawns to smaller *development pads*, developers can preserve substantial areas of space in each

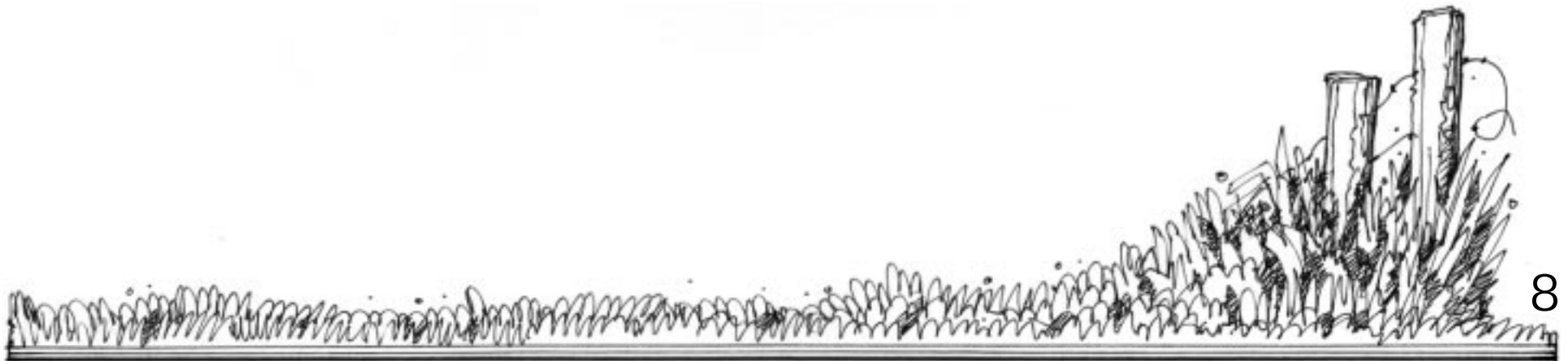
subdivision. Where possible, these preserved open space areas should be made visible from adjacent roads and properties.

Muskego has an enchanting landscape. Much of the character of the area comes from the frequent views that draw one’s eye to open spaces in the foreground adjacent to the road, in the mid-distance where individual trees can be seen, and into the far distance.

New development should be designed to protect a variety of vistas on every site. A detailed view analysis has been conducted and the available views inventoried so that development can be planned around them to the greatest possible extent.

Through the use of clustering homes and limiting the size of improved lawns, developers can preserve substantial areas of space.

- Avoid stretched-out city subdivision design.
- Limit exposure of suburban lawns.
- Preserve key views from the road into and across each site through open space corridors.



Principle Three: Minimizing the Visual Impact of Development

A third important technique for maintaining a country atmosphere is to hide development from adjacent roads and properties. Arranging lots and internal subdivision roads to use hills and ridges on the site is the most effective way to hide homes, outbuildings, and lawns. In a similar manner, existing hedgerows and woodlands may also make very effective screens.

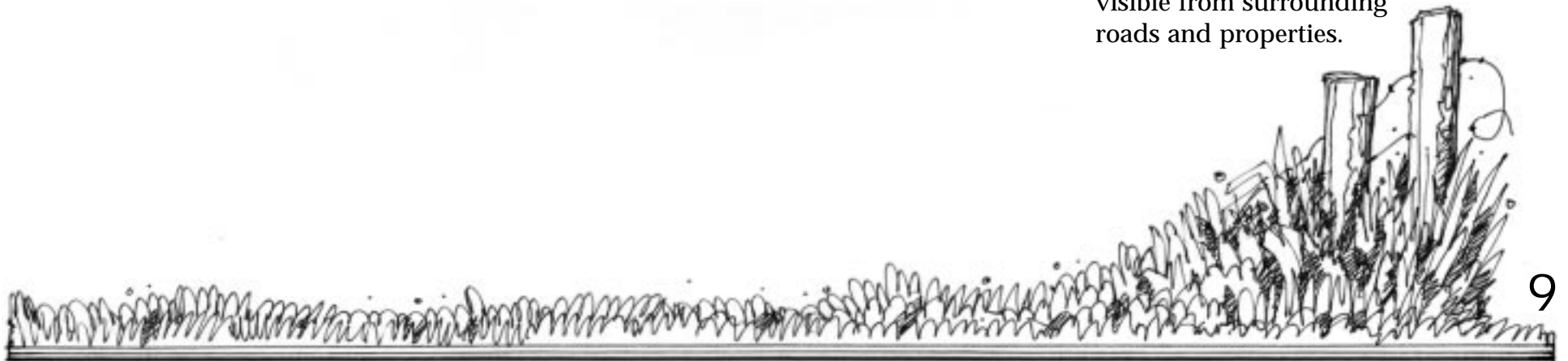
Where such features are absent, the use of naturalistic berms that undulate both

vertically and horizontally, towards and away from the viewer, and the use of use of natural plantings can be very effective.

Old stone walls, barns, and other remnants of the rural landscape are wonderful features that can also serve as screens. New wood fences with a stockade, basketweave, board and batten, or similar solid pattern are not effective for minimizing the intrusion of development, because they are themselves intrusions of development.

There are several techniques you can use to hide development from adjacent roads and properties.

- Arranging lots and roads to use natural hills and ridges.
- Building behind existing hedgerows and woodlands.
- Creating naturalistic, undulating berms.
- Building behind existing structures with rural character, such as stone walls and barns.
- Using architectural themes, building materials, and home forms that reflect rural character, particularly when visible from surrounding roads and properties.

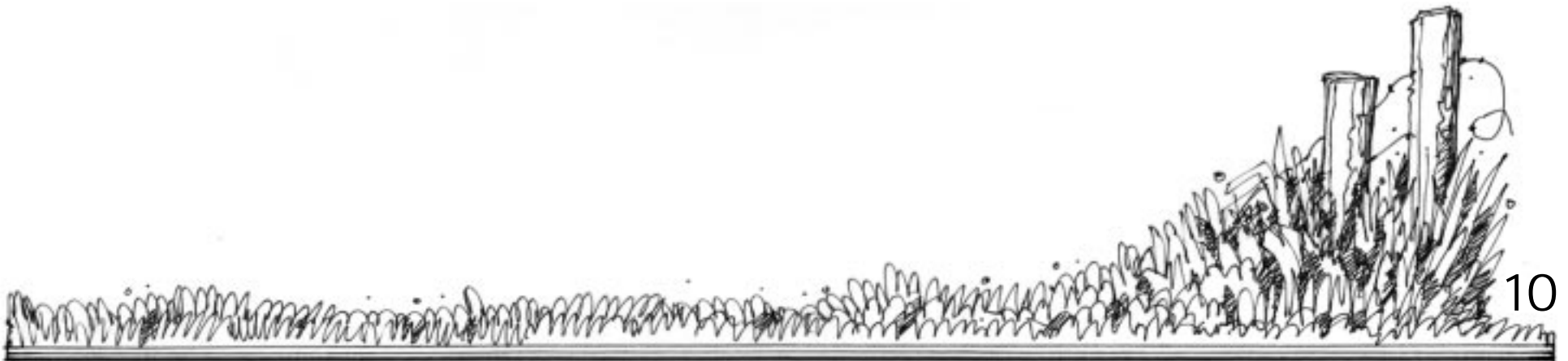


Principle Four: Preservation of Muskego's Character

Protecting and enhancing the land forms, the open spaces, the network of roads, and the individual rural elements of this area will ensure preservation of its unique character, even as development occurs throughout Muskego.

The desired character of the landscape of Muskego is *rural*, and it consists of a combination of agricultural and natural influences. Open spaces are defined by clusters of trees and hillsides. Rural roads are typically aligned in the cardinal directions and sometimes bent to accommodate a hillside or pond. The elements of the landscape include agricultural fields, stream beds, woodlots, hillsides, farmstead structures, and fence roads.

The character of Muskego's landscape consists of a combination of agricultural and natural influences.



Techniques for Development

In order to adhere to the principles for development in the City of Muskego, the following techniques are recommended:

Technique One: Preserve Natural Resource Amenities

Technique Two: Preserve Open Space Views

Technique Three: Preserve Roadside Character

Technique Four: Minimize the Impact of Development

Technique Five: Enhance Site Features



Techniques

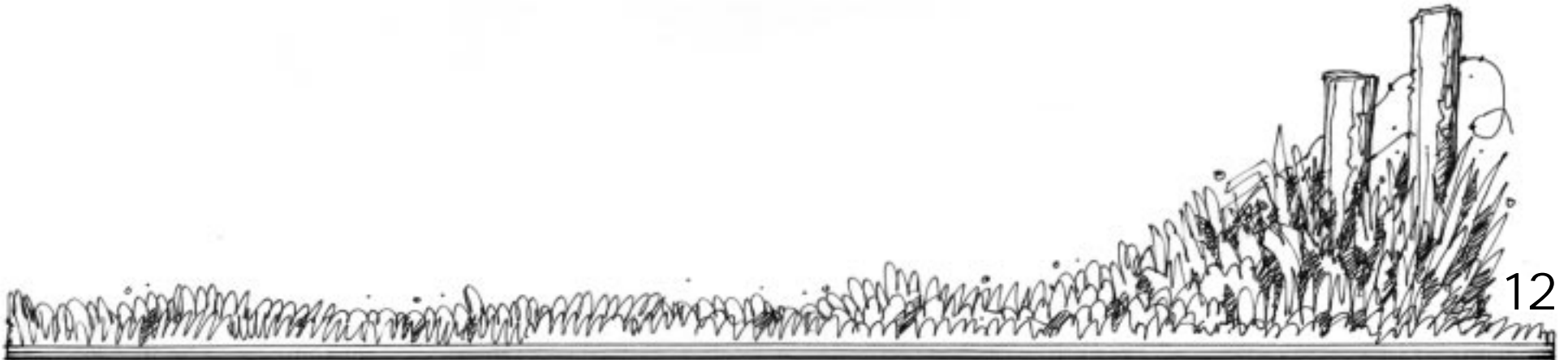
Technique One: Preserve Natural Resource Amenities

Sensitive natural resource areas should be preserved for both environmental and aesthetic benefits.

Delineate wetlands, floodplains, sensitive soils, woodlands, and steep slopes through an inventory process. Designate these areas undevelopable. Then, arrange development of the site in order to protect these sensitive natural features and to utilize them as site amenities.

Proceed to Technique Two.

- Identify general locations of sensitive natural areas:
 - Woodlands
 - Steep slopes over 10% (slopes with a one foot elevation change in ten feet, or a ten foot elevation change in one hundred feet)
 - Native vegetation areas
 - Wetlands
 - Floodplains
 - Surface waters
- Survey precise location
- Incorporate permanent protection of these features into the design of the project



Technique Two: Preserve Open Space Views

As the exurban areas of Muskego develop, long views of the landscape vistas are lost.

This loss of wide-open agricultural and natural landscapes to development can result in a complete shift in the visual character of the region. While it is impossible to maintain all “view corridors,” their preservation is the key for maintaining the “rural” character of Muskego.

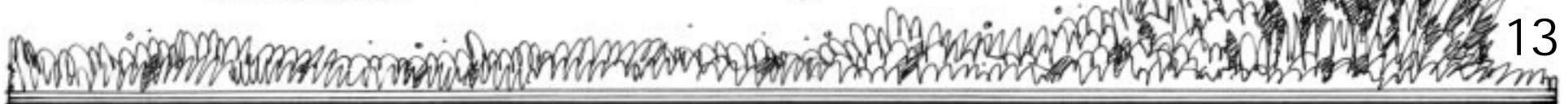
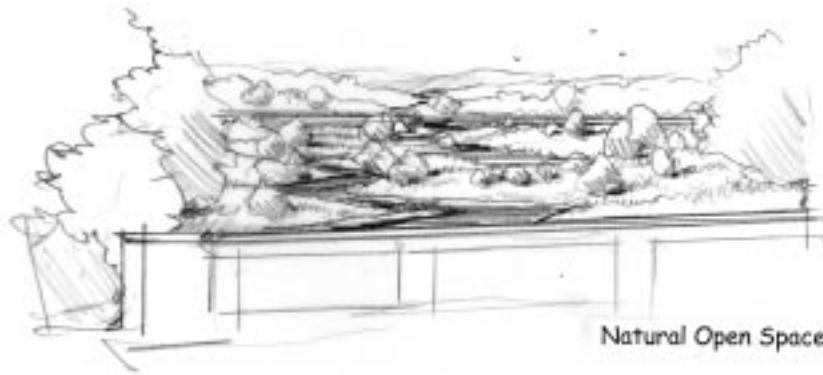
The preservation of these corridors often goes beyond a specific site and will require regional coordination to be successful.

Areas where existing peripheral roads come close to ridgelines, hill tops, breaks in dense vegetation corridors, and natural vista points must be identified on the site inventory and considered for preservation.

Proceed to Technique Three.

The preservation of open space corridors will require regional coordination to be successful. This requires a strong role for City planning.

- Ridgelines, hill tops, vegetation corridors, natural vistas identified
- Viewshed corridors identified
- Existing screening conditions identified and preserved
- Roadside character zones identified
- Incorporate the permanent protection of these site features into the design of the project.



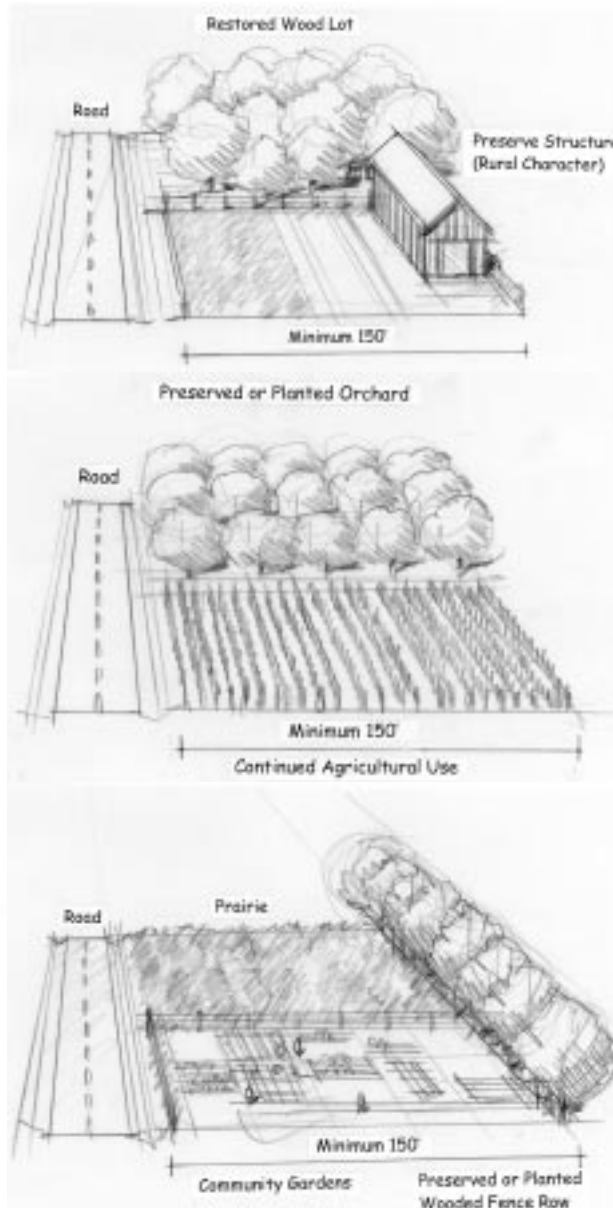
Technique Three: Preserve Roadside Character

For both residents of and visitors to Muskego, the rural landscape is experienced from the network of roads. Preservation of this “rural roadside character” of the region is one of the prominent goals of Rural Development Guidelines.

A 150’ roadside setback for development is recommended. This setback creates a “roadside character zone” that preserves and creates rural character. When coupled with cluster development, it will create opportunities for development without detracting from the rural character that makes this development type popular.

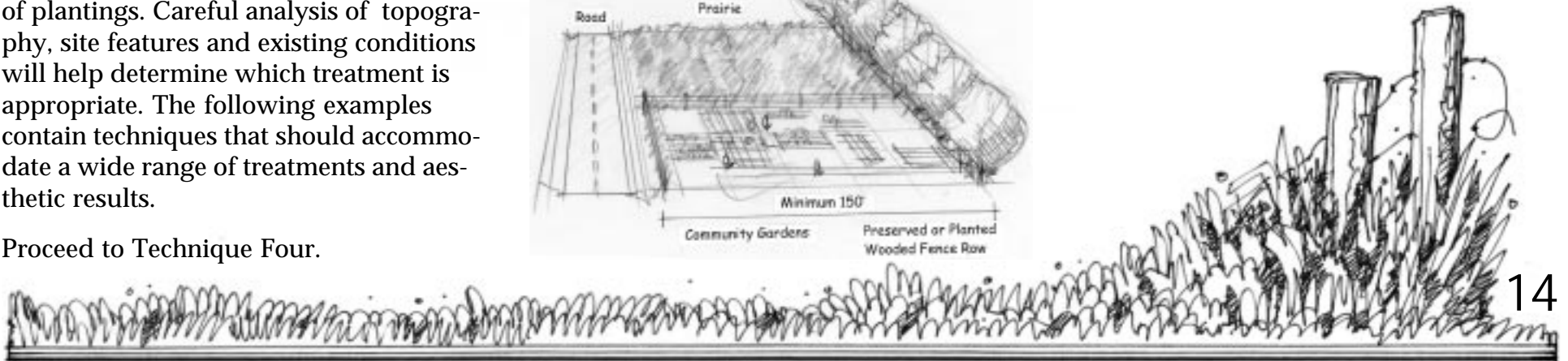
Plantings and screening should contain a mixture of applications that compliment and enhance each site in different ways. Some techniques may be more appropriate in some areas, while over-use of one specific technique would create a monotonous and undesirable landscape. It is not the intent of the guidebook to create “tunnels” of plantings. Careful analysis of topography, site features and existing conditions will help determine which treatment is appropriate. The following examples contain techniques that should accommodate a wide range of treatments and aesthetic results.

Proceed to Technique Four.



One of the prominent goals of rural development guidelines is to preserve the “rural roadside character” of the region.

- Identify roadside character areas
- Identify what techniques will create a unique and visually enhancing roadside treatment
- Incorporate the permanent protection of these site features into the design of the project.



Technique Four: Minimize Impact of Development

Development in rural Muskego should maximize open space preservation while maintaining the opportunities for development. One of the best techniques for achieving these goals is through cluster development.

Cluster development identifies what natural features are present on site, how many lots would be developable with standard development techniques, and what areas can be set aside for preservation. The resulting development takes the same number of housing sites and arranges them on smaller lots. This smaller “cluster” of

housing sites helps preserve the rural character by reserving a smaller amount of the site for development, maximizing the preserved openspace, and carefully placing the development so as to not dominate the visual character of the site.

The resulting development helps minimize the impacts of the housing, and creates unique opportunities for preservation of views, and the creation of regional open space systems.

Proceed to Technique Five.

A small cluster of housing sites helps preserve rural character.

- Viewsheds and existing natural features preserved
- Existing screening conditions identified and preserved
- Woodlots, buffers, drainageways, steep slopes, and tree lines preserved
- Roadside character zones identified and preserved
- Incorporate the permanent protection of these site features into the design of the project.



Technique Five: Enhance Site Features

Most every site possesses desirable, character-enhancing features and qualities. These features may be natural or cultural; they may be tangible, or they may simply possess a certain Muskego or rural quality.

These features and qualities should be

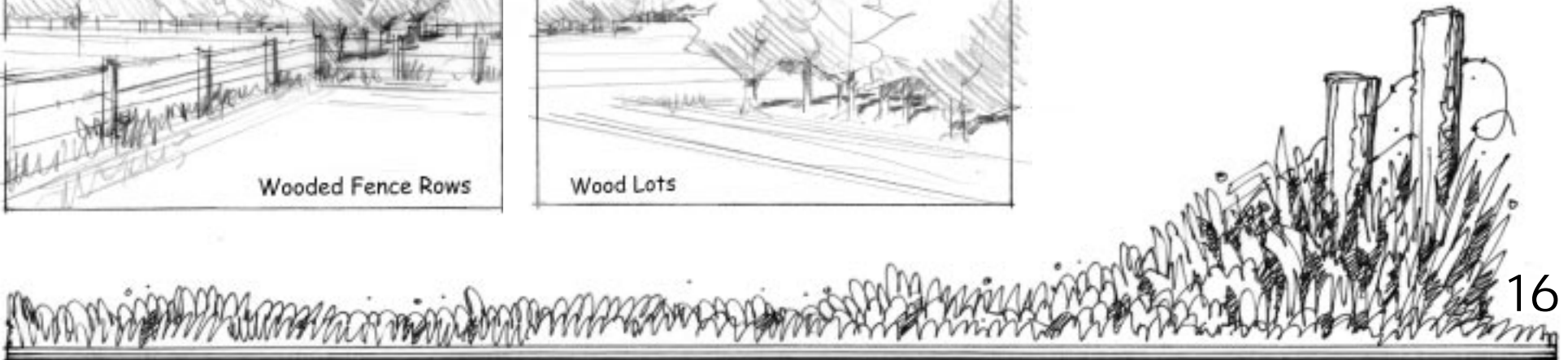
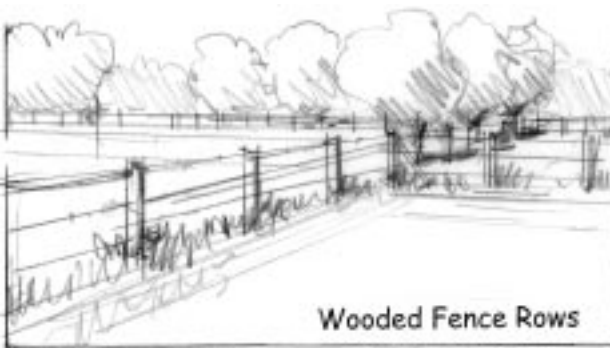
preserved, enhanced, and integrated into the site plan. They may offer unique character to a project, may be used to develop thematic concepts for the project, and can help to preserve the site's Muskego spirit.

Identify desirable character enhancing

Desirable features may be natural or cultural, tangible or intangible.

features.

- Prepare plans to preserve, enhance, and integrate the features into the site.
- Incorporate the permanent protection of these site features into the design of the project.



Site Planning Process

Site Planning

Site Planning Process

The following process will help you to “bring together” a realistic and sensitive development plan that preserves Muskego’s rural character and creates your desired level of development.

The process starts with an inventory of your site, continues through the development of design concepts and application of design techniques, and finishes with the creation of a final development plan.

Step One: Site Inventory

Step Two: Site Analysis

Step Three: Conceptual Development Plan

Step Four: Yield Plan

Step Five: Refined Site Plan

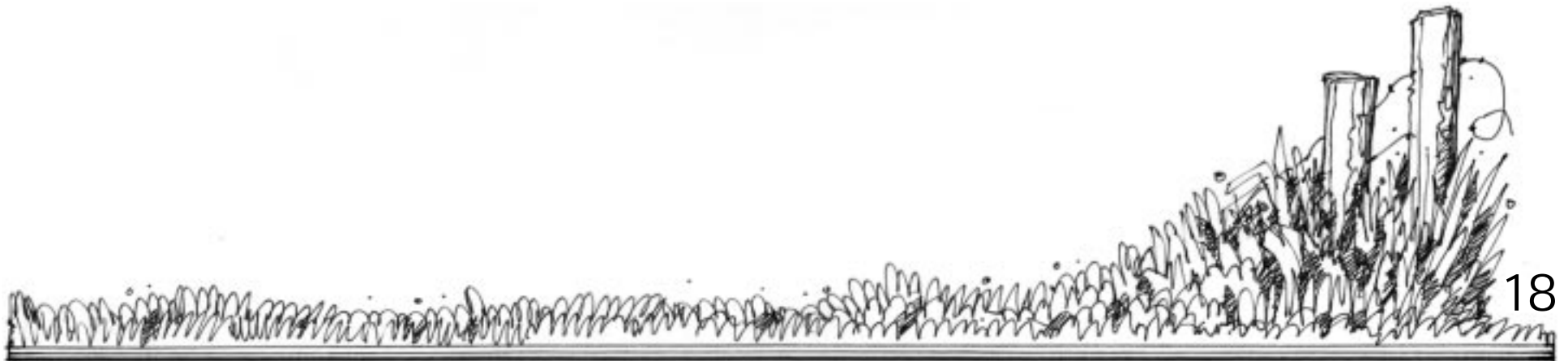
Step Six: Implementation Plan

Before the process begins, it is important to clarify the objectives of your planning and design efforts. Use the list on the right-hand side of this page to guide your decision-making and to evaluate your site plan and design.

This list stresses not the particular technique but the performance of your plan and design. You may use the techniques recommended in this handbook or develop creative solutions of your own.

Does your development plan...

- ...maintain & enhance the natural features of the site?
- ...maintain the open space view corridors?
- ...help conceal development from adjacent properties and roads?
- ...preserve the rural roadside character?
- ...preserve minimum 150' roadside setbacks?
- ...and overall, preserves the rural character of Muskego?



Step One: Site Inventory

The first step is take “inventory” of your site. This inventory will be very helpful in determining how to plan and design your development.

The site inventory is necessary to determine which areas, features and qualities

are to be preserved and enhanced, and which areas are to be changed and developed. The site inventory will help to discover “constraints” (such as legally protected natural features) and “opportunities” (such as character-enhancing natural and cultural features).

Your site inventory list should include the following items:

Natural Features

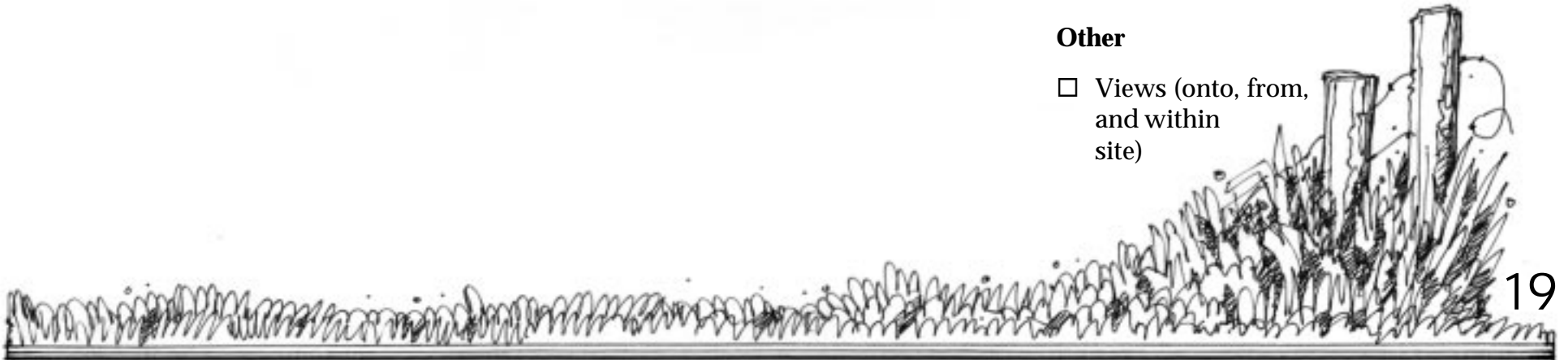
- Wetlands
- Floodplains
- Drainageways and surface waters
- Steep slopes
- Woodlots
- Wooded rows

Cultural Features

- Historic community structures
- Existing farm structures (houses, barns, and so forth)
- Fences and walls

Other

- Views (onto, from, and within site)



Step Two: Site Analysis

The site analysis stage involves processing the raw information collected in the site inventory stage and beginning to formulate how the site should be developed.

By organizing the site into areas that are unbuildable, areas most suited for development, and features and areas that can be used to enhance the desired character, development concepts begin to emerge.

Areas which are unbuildable

- Wetlands
- Floodplain
- Steep slopes
- Surface water bodies
- Native vegetation areas

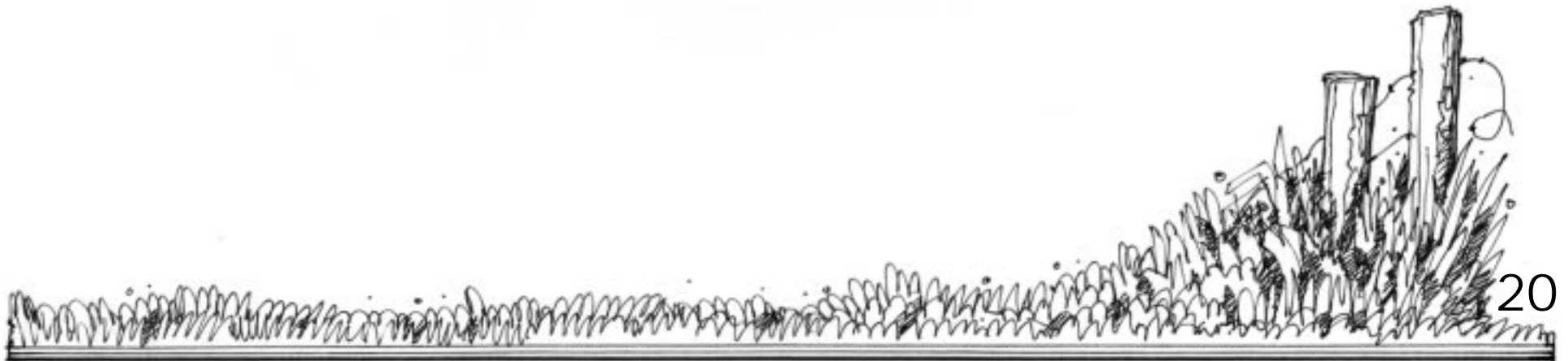
Areas which possess desirable characteristics and should be preserved

- Woodlots
- Buffers
- View corridors
- Drainageways
- Historic features
- Tree lines
- Roadside character zones

Developable areas

- Areas with minimal visual impact
- Areas economical for construction

By organizing the site into different areas, development concepts begin to emerge.



Step Three: Conceptual Development Plan

The concept for a project includes an organizing strategy for the site plan (Conceptual Development Plan) and a desired “character” or “image” for the project.

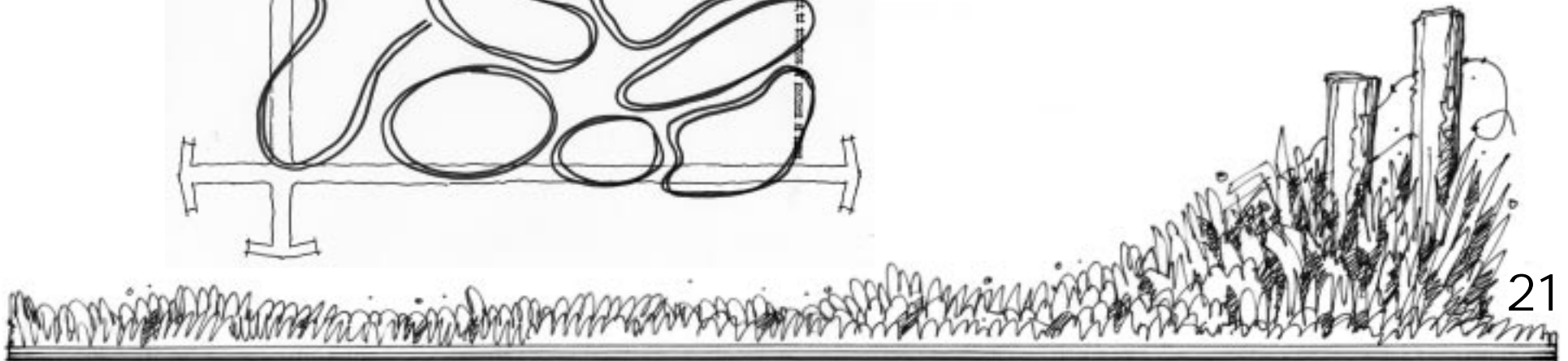
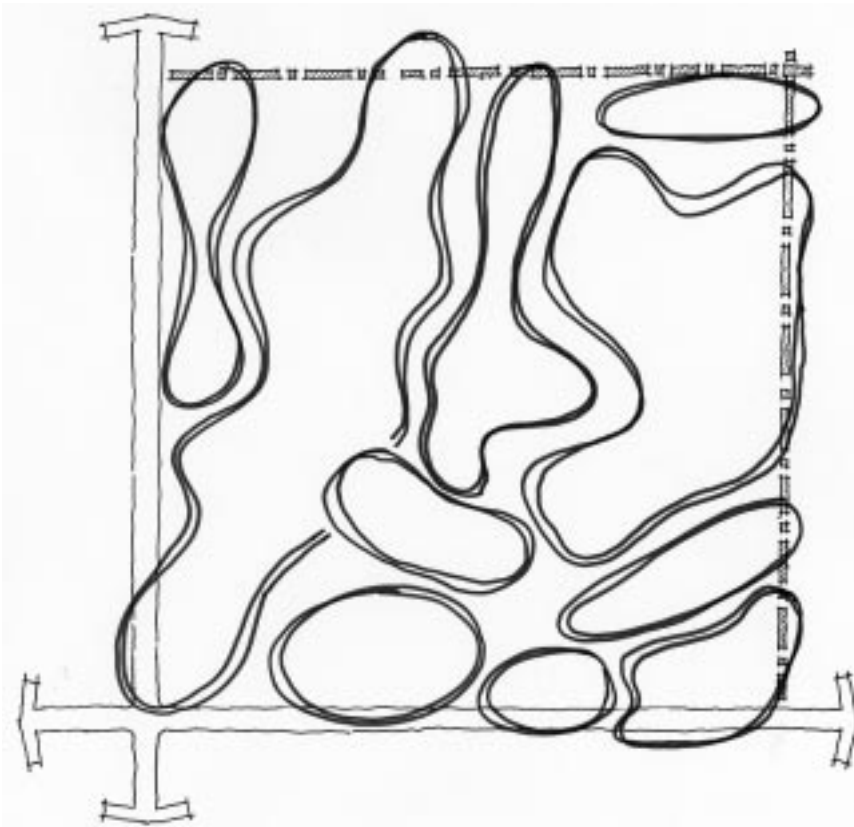
The Concept Plan is developed from the analysis and initial “assignment” of the site. The Conceptual Design Plan should include delineation of unbuildable areas,

prime development lands, project entry location, a 150’ roadside character zone, specific site features to be preserved and enhanced, and view corridors to be enhanced and preserved.

Refer to the Principles for Development and Techniques for Development sections for more information.

The concept for a project includes an organizing strategy for the site plan and a desired character or image for the project.

- Delineate unbuildable lands
- Delineate prime development areas
- Identify project entry location
- Identify roadside character zones
- Identify existing features to be preserved and enhanced

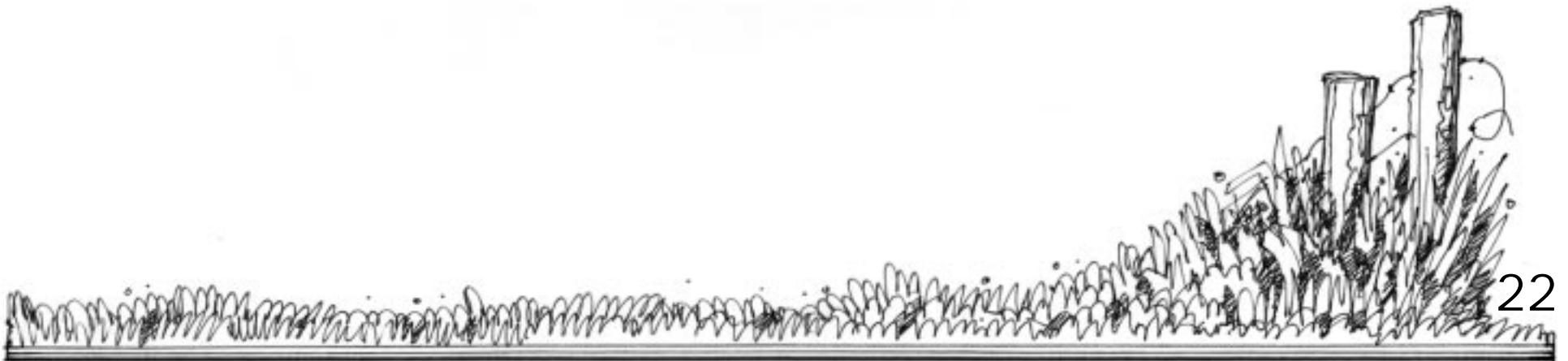


Step Four: Yield Plan

A yield plan is completed to determine the capacity of the site using traditional residential design parameters. Designing a typical “suburban” style layout that maximizes the number of lots that could be constructed on the site completes this step. This yield plan is useful in identifying the number of lots that should be planned for in the cluster development plan.

Designing a typical suburban style layout completes this step.

- Identify the number of lots that could be built utilizing all of the “buildable” areas in a cookie-cutter pattern.
- Cul-de-sacs should not be used in the yield plan except where required to access narrow development areas.
- Flag lots, easements, and other lot stacking techniques should also not be used in the yield plan.

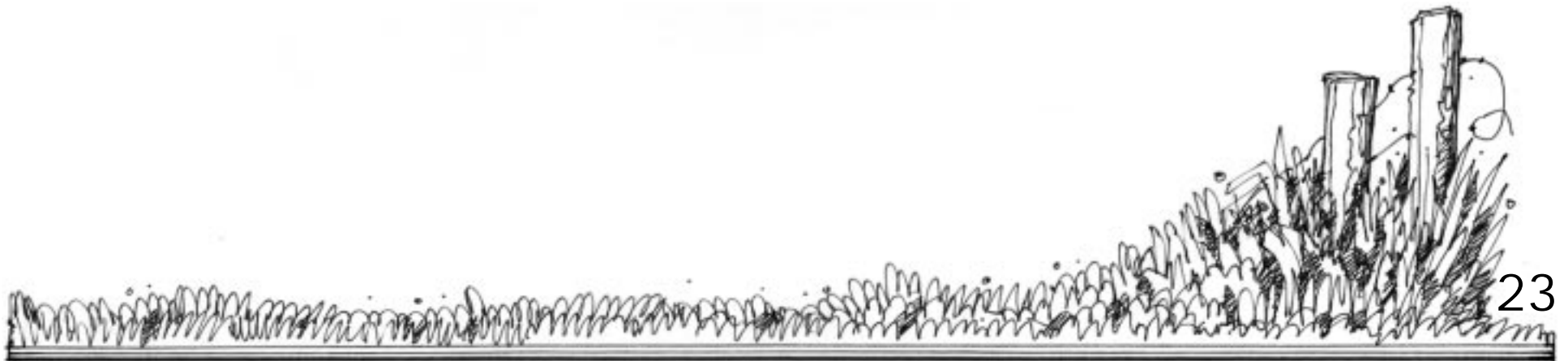


Step Five: Refined Site Plan

A refined site plan translates the general organizational concepts of the concept plan into specific design recommendations.

It includes the specific delineation of protected areas and features, proposed roads, delineation of proposed lots, and descriptions of landscaping treatments. The plan should also describe desired functions of portions of the site, such as common open spaces and screening.

- Preserve viewsheds and existing natural features
- Identify and preserve existing screening conditions
- Preserve woodlots, buffers, drainageways, wetlands, surface waters, native vegetation areas, steep slopes, and tree lines
- Identify and preserve roadside character zones
- Identify roadside character areas
- Identify what techniques will create a unique and visually enhancing roadside treatment
- Identify desirable character enhancing features
- Prepare plans to preserve, enhance and integrate the features into the site



Step Six: Implementation Plan

An implementation plan identifies building setbacks and their locations within building lots and specifies plant species for landscaping recommendations. It also includes the development of management plans, covenants, and impact fees and exaction.

The final product is a site plan that translates the general area recommendations of the concept plan into specific design layouts for roads, lots, preserved structures, preserved site features (such as fence rows), new roadside treatments, and preserved areas and their management recommendations.

The final product is a site plan that translates the recommendations of the concept plan into specific design layouts.

- Building envelopes
- Easements identified
- Open space management and plan specifics
- Detailed landscaping plans
- Entry signage
- Covenants provided
- Impact fees and exactions identified

