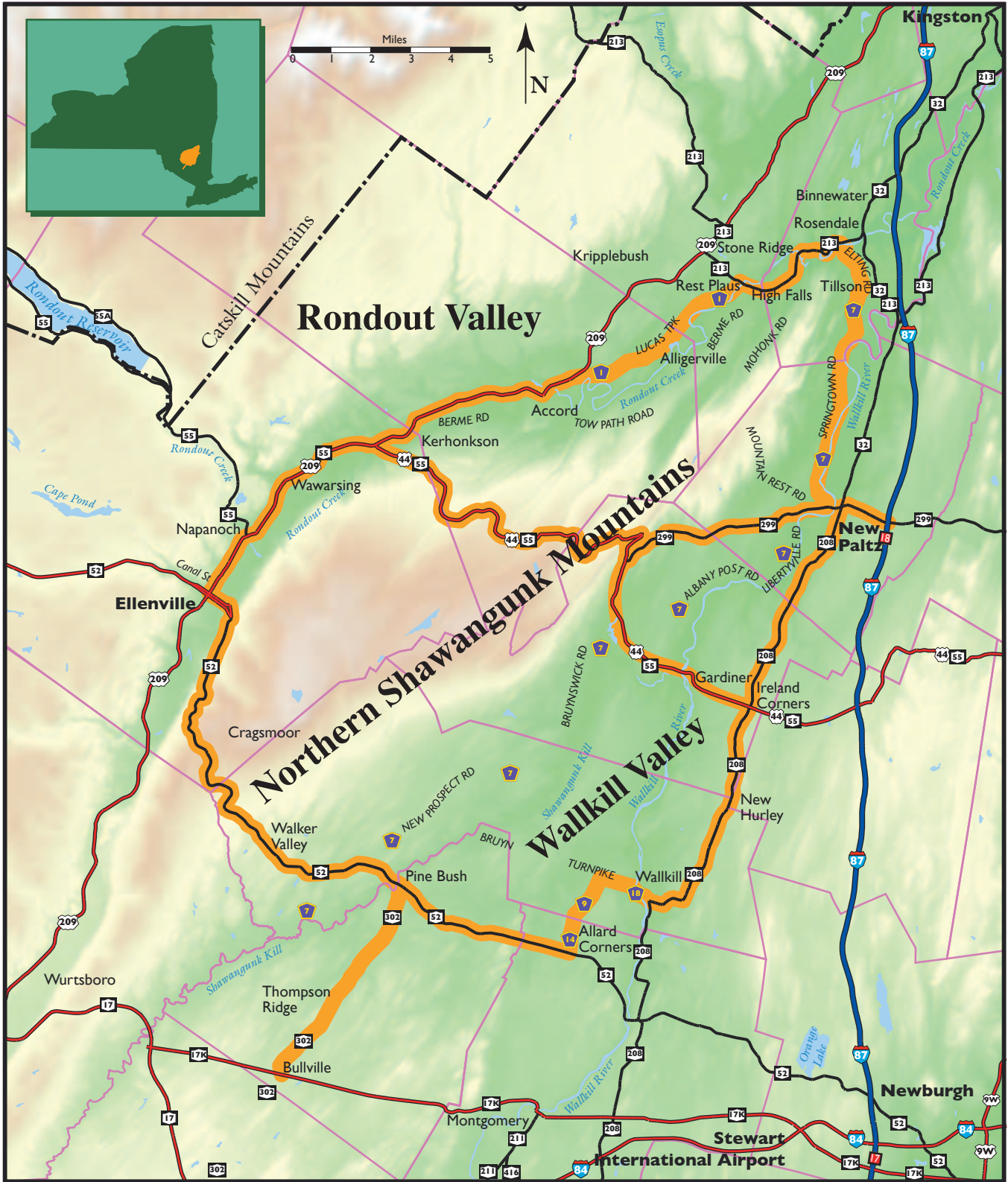


# Scenic Resources in the Shawangunk Mountains Region



A Guide for Planning Boards

# The Shawangunk Mountains Region



Shawangunk Mountains Scenic Byway

# Scenic Resources in the Shawangunk Mountains Region

## A Guide for Planning Boards



An intermunicipal partnership of the towns of Crawford, Gardiner, Marbletown, Montgomery, New Paltz, Rochester, Rosendale, Shawangunk, Wawarsing and the villages of Ellenville and New Paltz.



### **The Shawangunk Mountains Regional Partnership**

#### *Board of Representatives*

John Valk Jr., Shawangunk Supervisor, Chair  
Carl Chipman, Rochester Supervisor, Vice Chair  
Phil Jamison, Crawford Representative  
Jeff Kaplan, Village of Ellenville Mayor  
Carl Zatz, Gardiner Supervisor  
Brooke Pickering-Cole, Marbletown Deputy Supervisor  
Mike Hayes, Montgomery Supervisor  
Susan Zimet, New Paltz Town Supervisor  
Jason West, Village of New Paltz Mayor  
Jeanne Walsh, Rosendale Supervisor  
Scott Carlsen, Wawarsing Supervisor  
Ellen Sticker, Mohonk Preserve Administrative Projects  
Manager & Secretary

#### **Al Wegener, Executive Director**

*The board would like to acknowledge the help given to this project by the following people who served on the board during their term(s) of office: Gardiner Supervisor Joe Katz, New Paltz Mayor Terry Dungan, New Paltz Supervisor Toni Hokanson, Rosendale Supervisor Patrick McDonough, Wawarsing Supervisor Lenny Distel.*

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Inside front cover map by Linda Engler. All photos were taken in the region unless otherwise noted.

# TABLE OF CONTENTS

	<b>FOREWORD</b>	<b>6</b>
<b>1</b>	<b>INTRODUCTION</b>	<b>9</b>
<b>2</b>	<b>WHAT IS A SCENIC RESOURCE?</b>	<b>11</b>
<b>3</b>	<b>VISUALIZATION ASSESSMENT TOOLS</b>	<b>13</b>
<b>4</b>	<b>LANDSCAPE PATTERNS</b>	<b>19</b>
<b>5</b>	<b>PLANNING &amp; DESIGN PRACTICES</b>	<b>43</b>
<b>6</b>	<b>RESOURCES &amp; REFERENCES</b>	<b>93</b>



## FOREWORD

The purpose of the Guide is to present ideas which will help the planning boards to accommodate development and still preserve the scenic beauty and unique character of the Shawangunk Mountains Region.

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It is presented by the Shawangunk Mountains Regional Partnership, an intermunicipal partnership formed by the official boards of the nine towns and two villages in the region, which includes the Ridge and the Rondout and Wallkill valleys.

The partnership evolved out of the experiences of the municipalities in working together as a group to prepare the Corridor Management Plan required for the New York State designation of the 88-mile Shawangunk Mountains Scenic Byway. To do this, we had to consider our scenic, natural, recreational and historic resources on a regional rather than a town or village scale. I think it is fair to say that this led to an even greater appreciation of the regional dimension of all of these resources but particularly of our scenic views, which may extend for miles.

We also worked together to develop regional plans for preserving these resources, for improving our transportation systems and for growing our local economies by encouraging tourists to explore the valleys in our region and not just the Shawangunk Ridge.

These plans, and all byway projects, are decided by the members of our board of representatives, who are chosen by each municipality. This assures that our regional partnership consistently and fully respects home rule. That certainly holds true for this Guide. As you'll see, it presents ideas and suggestions for preserving our scenic resources, not rules and regulations.

One of the reasons we are able to enjoy these scenic resources at this point in time is because of the work our local planning board members have done in reviewing and influencing the development which has taken place here. Their diligence has helped our towns and villages to change and grow over the years while still preserving the beauty and rural character of the region. That's a wonderful achievement, and we are grateful to our planners for their key role in this.

Yes, it is still beautiful here. All over here. And it is this beauty that shapes the intrinsic character of all the towns and villages in the Shawangunk Mountains Region. It is why many of us are here, why a lot of our tourists come here, and why many people would love to develop more housing and businesses here.

The Guide, therefore, is designed to help planning boards in doing the work that lies ahead so that ... years from now, despite growth and change ... it will still be beautiful here.

We also thank our planners for helping to develop the Guide. They shared with us a lot of information, and examples of good practices they initiated, which we have included. Their insights, experiences and ideas about what is needed for the Guide have aided our work greatly.

Our partnership would also like to thank, in particular, Dennis Doyle, the Director of the Ulster County Department of Planning, for his review of the work in progress and for his many thoughtful suggestions.

DEC's Dan Whitehead, our Acting Regional Permit Administrator, was very helpful in guiding me through the SEQR process in regard to assessing and mitigating visual impacts. Thank you, Dan. And Laura Heady, our DEC-Cornell Biodiversity Outreach Coordinator with the Hudson River Estuary Program, gave us very helpful comments on the draft.

We also appreciate the ideas and various points-of-view shared with us by individuals involved in planning, engineering, development, law and architecture in the region: Bonnie Franson, AICP, Department Manager of Land Use/Environmental Planning at H2M; Dave Clouser

of David Clouser and Associates; Barry Medenbach of Medenbach and Eggers; David Weinberg of Meadow Creek Development; George Lithco and Larry Wolinsky of Jacobowitz and Gubits; and Rick Alfandre of Alfandre Architecture.

We would also like to express our thanks to our consultants, the landscape architecture and planning firm of LandWorks, for their expertise, creativity and tireless commitment to this project and for achieving what may well be a landmark in planning for scenic views protection in the state of New York.

Our partnership is grateful for the funding that made this project possible. Our thanks to Mark Woods of the NYSDOT for help in applying for and administering the funding of the grant awarded to our partnership by the Federal Highway Administration via the NYS Scenic Byways Program.

Municipal sponsorship of the project and administration of the federal funding was provided by the town of Shawangunk and we thank the Shawangunk Town Board, Supervisor John Valk and, especially, Bookkeeper Ellen Bistor for performing these duties on behalf of the partnership.

Our thanks also to NYS Senator John C. Bonacic for arranging the match funding through the NYS Department of Economic Development and to the Mohonk Preserve for administering these funds.

The Guide is on our web site [www.mtnscenicbyway.org](http://www.mtnscenicbyway.org) and can be downloaded.

**Al Wegener**, *Executive Director*

August, 2012

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# 1. Introduction

This is a Guide for Planning Boards to use in working with developers to minimize or eliminate the impact of a proposed project on scenic resources.

While the Guide will be very useful to others, such as official boards, zoning boards and, certainly, developers, it is designed to fulfill the needs in particular of our town and village planning board members, as they expressed in discussions with LandWorks, the regional partnership's board of representatives and its executive director.

In New York, the process planning boards follow is influenced greatly by the State Environmental Quality Review, and this Guide is organized to work in parallel with SEQR.

The Guide starts off with a discussion of what is a scenic resource, the three categories of resources and offers some thoughts on the exceptional quality of the scenery in the region.

“Visualization Assessment Tools” is the next section of the Guide, and this explains how various tools may be used by planning boards to determine visibility and visual impacts.

The Guide then introduces the concept of landscape patterns and presents 11 patterns of landscapes in the Shawangunk Mountains Region. Like Farmland, Forests, Historic Village Residential. And it lists issues and opportunities associated with each pattern for planning boards to consider.

Recognizing these patterns is useful because, for each of the patterns, the Guide lists the various planning and design concepts ... 32 in all ... which may be employed to help a project be in harmony with its surroundings.

The next section of the Guide goes into detail about each of the design practices and explains how each can be utilized to conserve the scenic quality of the appropriate landscape patterns. The graphic presentation enables this wealth of material to be a quick read.

At the back of the Guide is a list of resources and references which may be helpful to planners, and also a glossary.

The Guide is available via the partnership web site at [mtnscenicbyway.org/planningboardguide.pdf](http://mtnscenicbyway.org/planningboardguide.pdf)





## 2. What is a Scenic Resource?

For planning board purposes, the following definition is suggested:

**Scenic resources are public or publicly accessible areas, features, patterns and sites that are recognizable, visited and enjoyed by the public for their visual and aesthetically pleasing qualities and which contribute to a community's distinct character.**

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This definition is preferred because it is very broad, covering a range of scenic possibilities; it recognizes involvement by the public; and it references the concept of community character.

Scenic resources usually fall into one of three categories:

1. Federal and State designated resources. This includes all property on or eligible for inclusion in the National or State Register of Historic Places, including National Historic Landmarks; State Parks, such as Minnewaska State Park Preserve (and viewsheds from MSPP); the State Forest Preserve, such as Catskill Park and the Vernoy Kill; rivers designated as National or State Wild, Scenic or Recreational, such as a section of the Shawangunk Kill; a site or highway designated as scenic, such as the Shawangunk Mountains Scenic Byway, including the scenic overlooks along the route; and other resources designated by Federal or State agencies.
2. Town/village designated resources. That is, where the local government has, through its official processes, specified in its comprehensive plan,

zoning, open space plan or other government document, particular resources which are important to the community.

3. Non-designated resources. These are resources that a local government, for whatever reason, has not officially designated but which are important to the community. Even the less celebrated landscape components of signs, lighting, driveways, parking areas, fences, roofs and, of course, trees all add up to shape the overall aesthetic character of a community.

To consider whether a property or project is in itself a scenic resource, or will impact a scenic resource, it is necessary to think in terms of vantage points and viewsheds. Vantage points are the places from where the scenic resources can be observed...the viewing platforms, so to speak. And viewsheds are all the landscapes visible from a specific vantage point or points; that is, what people see.

One of the qualities that make the viewsheds in the region so awesome is that many extend for miles and miles, going well beyond municipal lines... especially views to the mountains or from the mountains, like from Byway scenic overlooks. Of course, the closer that objects are the greater the impact.

The resources here are exceptional also because so much of the scenery has not been spoiled. We don't have many viewsheds with what one person in our discussions called a "view breaker." That is, simply, where something in the view is not in harmony with the surroundings... it sticks out, interrupts, doesn't belong. The region has some but not many of these view breakers.

The big challenge for planning boards, of course, is to be able to anticipate the impacts of a proposed project on scenic resources and to work with the applicant to minimize or eliminate these ... which is what the rest of this Guide is all about.



# 3. Visualization Assessment Tools

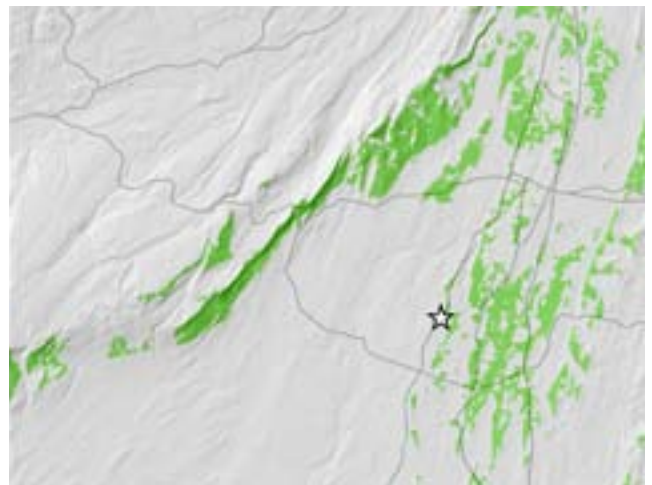
There are a number of tools and methodologies that can help the Planning Board understand the scope, extent and impact a project might have on scenic views. These include viewshed mapping and analysis, visual simulations, line of sight sections, photographic inventories and balloon tests and other height locators.

## VIEWSHED ANALYSIS

Viewshed mapping and analysis is a function of industry standard methodologies and software, such as ArcGIS, and is used to determine what areas in a specified region might be visible from an observation point. It is useful when you want to know how visible something might be in the landscape. A viewshed analysis is typically the first step in determining visibility and is used mainly as a point of departure. While it may not be 100% accurate, particularly along the edges of visibility, it can help you rule out, immediately, those areas that will NOT have visibility, and give you a starting point for identifying areas that MAY have visibility. Additional visual studies (e.g. visual simulations, line-of-sight sections) are necessary to understand the view from a specific location in greater detail (e.g. how much of a structure is visible and to what extent).

Viewshed maps are created using information specific to the project (e.g. building location) and the elevation values of the ground surface (e.g. National Elevation Dataset (NED) available from USGS). The accuracy of a viewshed is therefore dependent on the quality of the input data. Viewshed analyses based solely on ground surface values (elevation) do not account for other possible obstructions such as buildings and trees, overestimating what is actually visible. To improve the model, several variables can be included to account for possible obstructions. For example, if the analysis is to determine the visibility of a proposed 4-story building, the height of the building can be added to the elevation in the building's location. Land cover data (i.e. tree heights) can also be integrated into the model to account for vegetated areas that may block views.

In the Shawangunk region, viewshed analyses are a useful first step in determining how visible a project might be. For example, an analysis could be conducted to estimate the



The example above identifies the viewshed area from an observation point. Elevation data (top) stores the height of the land. The observation point is marked as a white star. Green areas calculated by the viewshed model (bottom) are visible from the observation point. Notice that steep areas along the high-elevation ridgeline are visible from the observation point.

visibility of a proposed 4-story building. Height and massing of new buildings in proximity to scenic areas may block views, impede access or introduce aesthetic components that are incompatible with the scenic area. The viewshed analysis would identify areas from which the building would be visible or not. If any of the visible areas conflict with a scenic resource or viewshed, further study could be conducted to determine if the impact is unacceptable (i.e. line-of-sight sections, visual simulations, field study, etc.).

# VISUALIZATION ASSESSMENT TOOLS

## VISUAL OR PHOTOREALISTIC SIMULATIONS

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Visual simulations provide a photorealistic perspective view of proposed project elements in the landscape, thereby allowing people to visualize how a project will probably look from a particular vantage point. Simply stated, visual simulations are photographs that are altered to represent what the view would look like if a project were constructed. Given that a photo simulation reflects what the human eye would actually see, it is a more informative visualization tool than a viewshed map, plan drawing, section/elevation drawing, or other conventional 2D graphic.

Visual simulations are especially valuable in terms of evaluating scale. A project element that may seem large compared to a human can actually look quite small when viewed in the landscape from a distance. A visual simulation of something like a sign could actually reveal that it is not large enough to command attention in the landscape and should be increased in scale accordingly. Visual simulations are also useful in terms of revealing potential visibility of a project from key vantage points. They often reveal how topography and vegetation can limit or block project views, sometimes in surprising ways. Visual simulations can serve as a design tool, allowing designers to adjust locations, scale, and form as needed to make the project components fit into the landscape in a desirable manner.

Visual simulations should represent views from sensitive viewing locations, such as residences and scenic areas as well as other typical viewing locations. The Planning Board should be involved in selecting key observation points for simulations. Other considerations that should be represented in a visual simulation include:

- A range of lighting conditions and sun angles.
- Accurate spatial information, particularly elevation data, and must account for screening vegetation and structures.



*Existing View*



*Simulated View*

- Enough of the surrounding landscape to show the project in the appropriate spatial context, and should be reproduced at a large enough size to be comfortably viewed from the appropriate specified distance to accurately depict the apparent size of the project in a real setting.

## VISUALIZATION ASSESSMENT TOOLS



**Visual Simulations** Example of a visual simulation showing the possible outcome of construction projects on Lake George, NY.

### PHOTOGRAPHIC INVENTORIES

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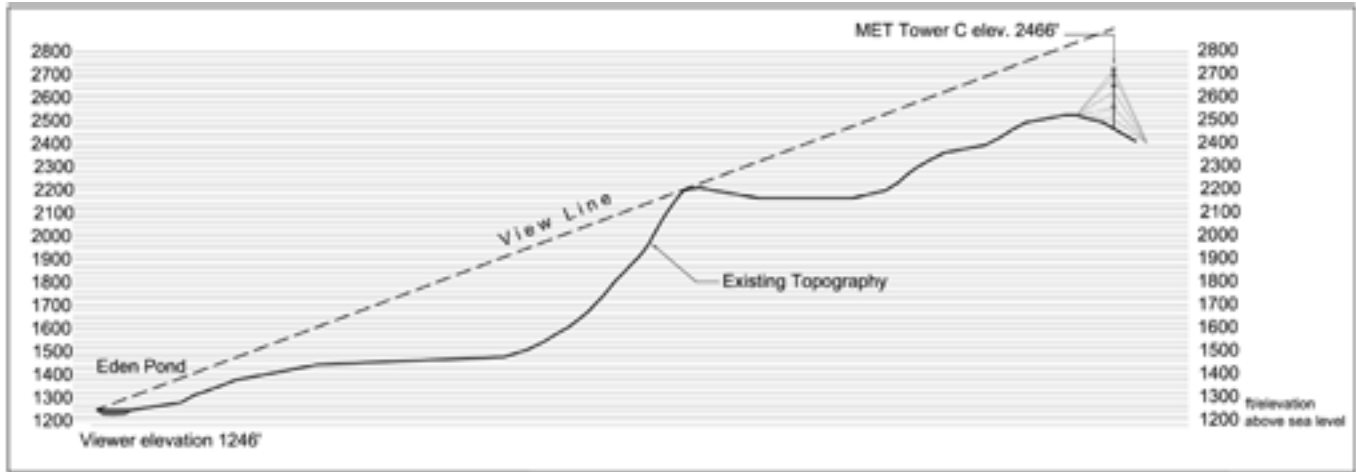
Photographic inventories of a project's site and environs are very useful tools when systematically conducted and presented. They are particularly useful when field visits to the site are not likely or feasible. Using digital color cameras with a 50 to 60 mm focal length that approximates what the human eye sees can accurately portray the site conditions and neighborhood characteristics that are present prior to project development. These photographs, properly identified and keyed to a photo location map, document existing conditions and provide a sense of site and local visual character, as well as land use and development patterns. Photographs documenting and presenting the elements of the local and adjacent community character help reviewers understand whether or not a project will be compatible with its surrounding environment.

### LINE OF SIGHT SECTIONS

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The line of sight section is a type of drawing technique that determines or confirms the visibility of a project from a specific point in the landscape. Line of sight sections can also be used to verify the accuracy of a views-hed analysis for key viewing locations. Using elevation/contour data, a section is cut through the landform between a particular vantage point and a particular structure. This allows one to determine if intervening topography, vegetation, or built forms will partially or completely obscure views of a project from a specific viewing location, and the extent of that visibility (how much of the building or tower or object is visible). Line of sight sections, with accurate topographic and vegetation information, are perhaps the most reliable means of testing the potential visibility of a project with tall elements (high rise buildings, cell towers, etc.) from critical and sensitive vantage points such as scenic overlooks, public parks and trails. They are most useful in revealing how much of a proposed structure would be visible from a particular point, which is essential in understand-

# VISUALIZATION ASSESSMENT TOOLS



*This simple line of sight section illustrates that a cell tower will not be visible from the boat launch due to intervening topography.*

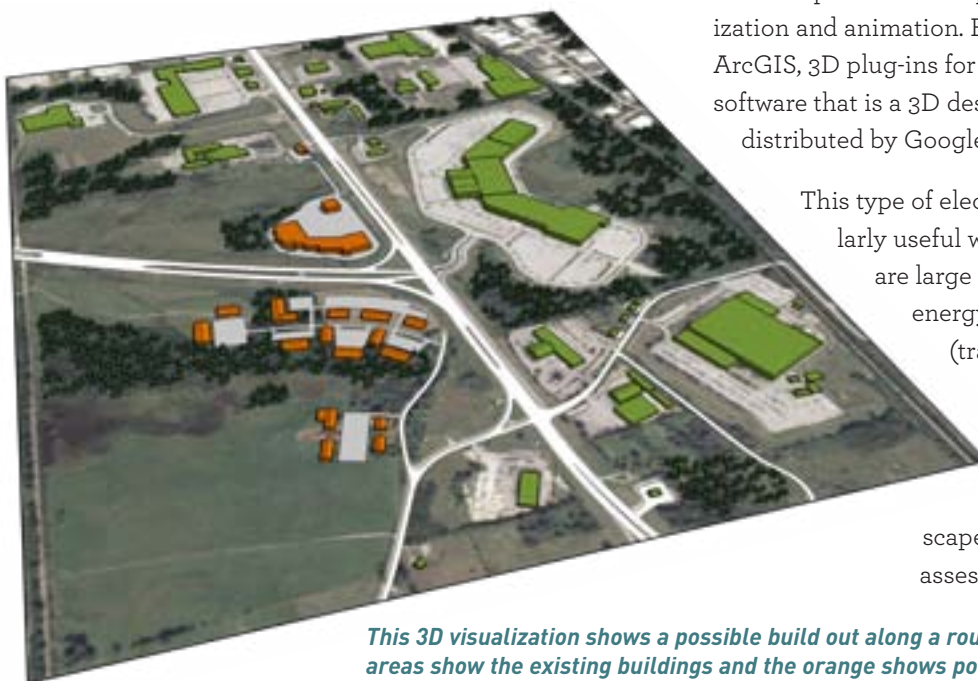
ing visual impacts. For example, seeing just the top of a roof has much less visual impact than seeing an entire building. Line of sight sections also take less time and less sophisticated software to develop than visual simulations, so they are a less costly means of verifying project visibility compared to visual simulations. However, they do little to convey the quality of the view as perceived by the human eye.

## 3D VISUALIZATION

3D visualization refers to a variety of methods and technologies that are generally used to simply represent the built environment. The traditional means of developing scale models can still be a useful approach to visualize the mass and scale of a large project in the landscape or townscape. There are however a range of modern software platforms and products that support 3-D visualization and animation. Examples include 3D Analyst in ArcGIS, 3D plug-ins for AutoCad, or Sketchup, a popular software that is a 3D design and representational tool distributed by Google.

This type of electronic visualization is particularly useful when evaluating projects that are large scale (mixed use development, energy generation facilities) or linear (transmission lines, new highways).

Flyovers can also be used to help the viewer grasp the nature and the extent of a project within the landscape, but are not typically used for assessing visibility.



*This 3D visualization shows a possible build out along a route in Vermont. The green areas show the existing buildings and the orange shows potential development.*





### **BALLOON TESTS & OTHER HEIGHT LOCATORS**

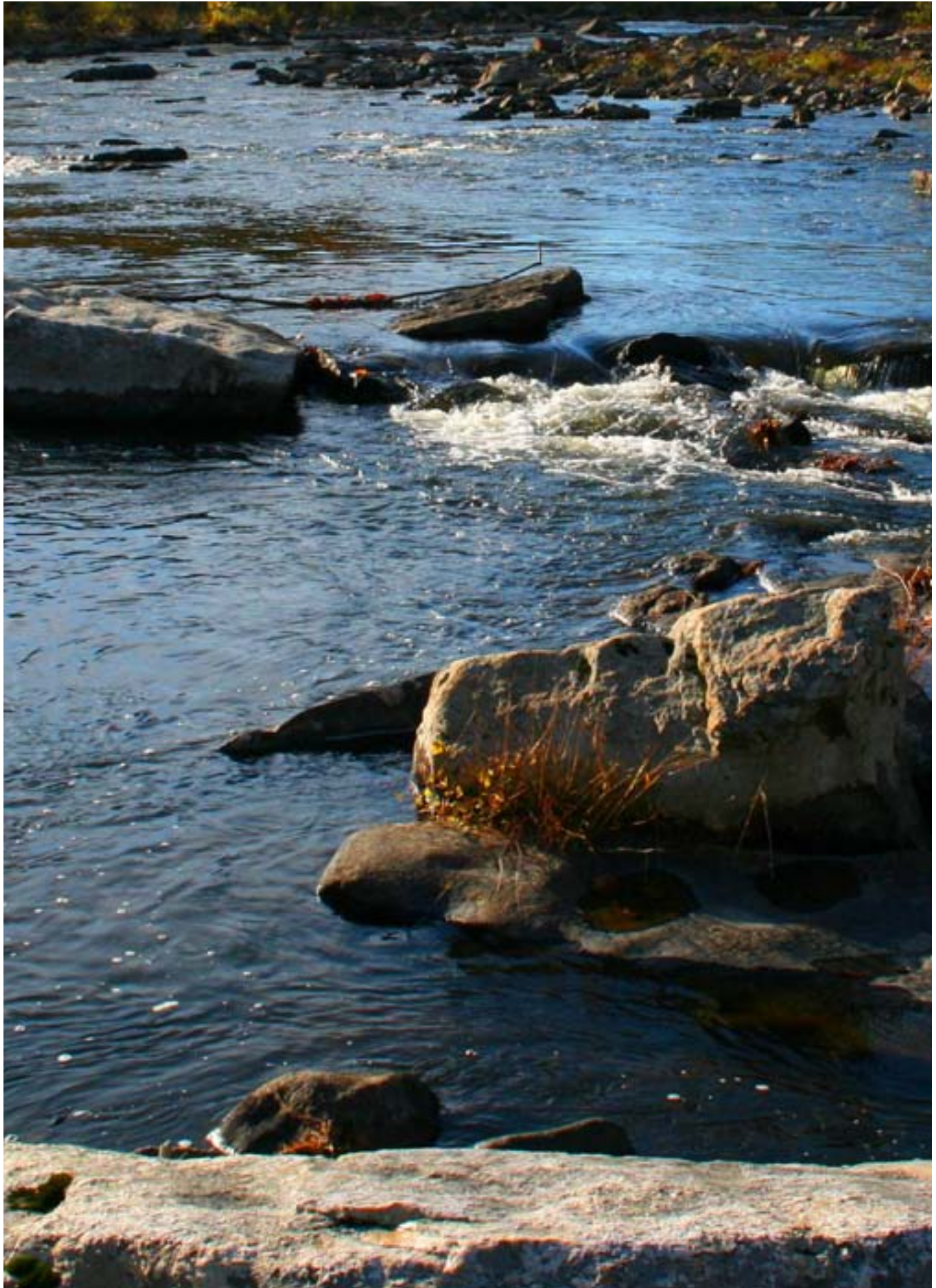
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The “balloon test” or “float” is a commonly employed method for ascertaining the visibility of a project in the landscape. Flying a brightly colored (typically orange) aeronautical or meteorological type balloon, tethered at the project site, allows people to visually locate a project within the landscape and assess: 1) how high that object may be, and 2) from where in the surrounding area it will be visible. Conducting balloon tests for cell tower permitting processes has become a widely accepted means of determining project visibility and potential visual impacts.

Another interesting but expensive methodology for understanding visibility and whether a project will be seen from a specific location (or height/point above ground) has been using remote control balloons or similar devices to provide photography or video from the air. In certain instances, where a project height can be suitably simulated if it is not too high above the ground but still may have visual impacts, is to use cranes to indicate the height of building or structure.

Balloon tests are subject to some qualifications:

- Atmospheric conditions can alter the efficacy of balloon tests. For reliable balloon flying, windless conditions are required and conditions should not be overcast or with low cloud cover which will compromise potential visibility of the balloon.
- Balloon tests should not be used to assess the specific visual qualities and characteristics of a project - an orange balloon shifting in the air cannot readily approximate the look and feel of a building, tower or turbine - all of which have distinct visual characteristics that are not represented by a small spherical, brightly colored object in the sky that simply approximates the proposed height of an object.
- The appropriate type of balloon needs to be used in order to ensure the utility of the test. Typically a minimum size weather type helium balloon is 2- 4 feet in diameter, but the 2 foot diameter size can be small when trying to assess visibility for projects over 2 miles in distance.



# 4. Landscape Patterns

## INTRODUCTION

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The use of patterns in this Guide recognizes that existing conditions in the Shawangunk Region are derived from both conventional approaches to development coupled with particular responses to the natural landscape and site. Some patterns are existing natural landscape conditions, others are based on historic settlements and the evolution of urban and suburban sites and archi-

tecture. This section of the Guide provides a base line for identifying and understanding landscape, existing land use and development patterns in the region and identifies issues and opportunities associated with these patterns. Also outlined are the applicable Planning and Design Practices, found in the following section of this Guide, that will inform good landuse development patterns for future development.

## TABLE OF CONTENTS

20	Wetlands & Surface Water
22	Forested Lands
24	Agricultural Lands
26	Rural Residential
28	Developed Highway Corridor   Linear Residential
30	Developed Highway Corridor   Commercial
32	Subdivisions
34	Institutional Lands
36	Historic Village Residential
38	Village   Mixed-use
40	Signs

## LANDSCAPE PATTERNS

### WETLANDS & SURFACE WATERS

#### LANDSCAPE DESCRIPTION

This landscape pattern encompasses lakes, rivers, wetlands, and other surface waters that exist in a relatively “natural” state. Some of these wetlands or surface waters are already conserved, such as those along the Wallkill River, and serve as critical components of the scenic viewshed. Wetlands, lakes, ponds, rivers and streams

play an important role in promoting both the biodiversity and livability of the region. They also provide critical ecological services to the region by offering essential wildlife habitat, water filtration and water storage capabilities (during storm events), multiple recreational uses and visual qualities that contribute to the scenic beauty of the Shawangunk Region.



This extensive area of wetlands off of Route 299 west of New Paltz, which is surrounded by forests and fields, represents a critically important landscape type both aesthetically and ecologically.

## WETLANDS & SURFACE WATER



Existing wetland along a highway provides an open view to a nearby hillside, and may provide a pocket of habitat.



Insufficient stream buffers can result in water pollution from agricultural areas and suburban development.

### ISSUES

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- Wetlands are vulnerable to fragmentation, filling, draining, and other forms of degradation, particularly those that are too small or too isolated to be protected by State and Federal wetland regulations.
- Road improvements and utilities can impact landscape character, and landscape buffers adjacent to these types of infrastructure must be maintained or established.
- Without sufficient buffers of natural vegetation, our streams, wetlands, and lakes can be negatively impacted by agricultural practices and development in surrounding areas.

### OPPORTUNITIES

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- Wetlands and water bodies near developed areas should be protected with landscape buffers of sufficient size to maintain the wildlife habitats and to ensure hydrological systems continue to function effectively.
- Link wetland systems by adding additional parcels contiguous to conserved lands either through conservation easements or as part of open space set asides incorporated into development.
- Promote development that creates the least amount of visual and environmental impact by retaining intact natural areas and incorporating setbacks.

- When considering new development, employ effective inventory and natural resource-based site planning methods to link sensitive habitats, connect new open space to existing open space, and protect fragile landscapes.
- Trail networks and access points for fishing and hunting can promote access to and understanding of recreational, scenic and natural resource assets at both the neighborhood and regional scale.

### PLANNING AND DESIGN PRACTICES

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- 5.3 Conservation Design
- 5.4 Build Along Natural Edges
- 5.6 Limit Clearing
- 5.10 Buffer Disparate Uses
- 5.12 Employ Lawn Alternatives
- 5.14 Maintain Habitat Integrity
- 5.27 Protect Site Assets
- 5.32 Stormwater Management

# LANDSCAPE PATTERNS

## FORESTED LANDS

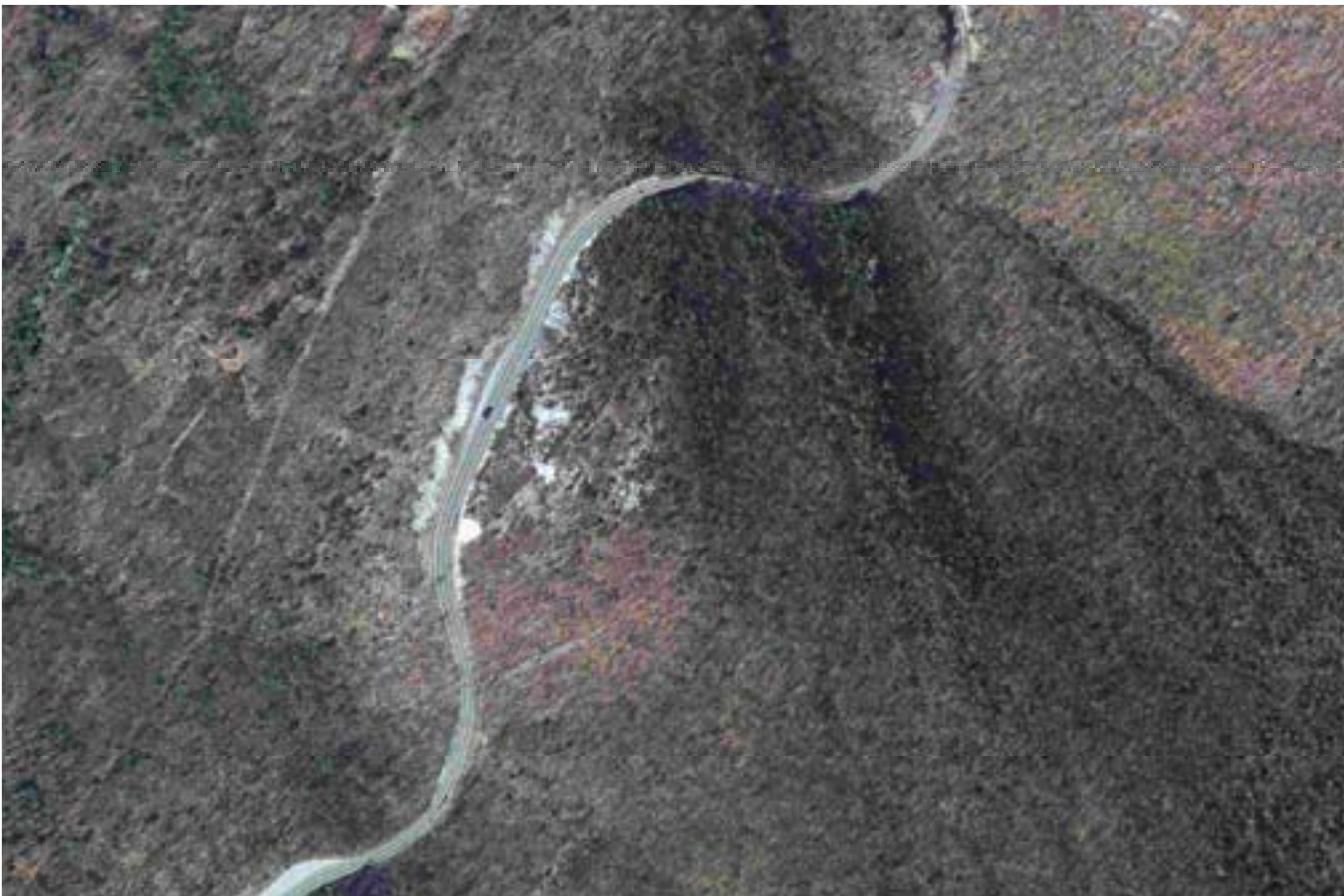
### LANDSCAPE DESCRIPTION

The predominant landscape type or pattern in the Shawangunk region is forestland. There are approximately 74,000 acres of forest in the region, with the largest intact segment draping the ridges and slopes of the Shawangunk Mountains. Land Trusts and the State of New York have preserved some of these lands, but at least half of the forested landscapes of the region are privately owned.

Forest lands are critical environmental and aesthetic resources. These landscapes support the biodiversity of the region, provide watershed services and offer a wide range of recreational opportunities

that attract visitors. Forested areas cool the atmosphere, provide a backdrop for many of the region's spectacular views, and help demarcate the seasons with brilliant Fall colors. The forests are our local source for timber, wood heat and maple syrup. Yet woodlands are often cut and cleared to make way for new homes, highways and utility corridors.

New development that is sensitively planned can be sited within or adjacent to woodlands - areas with extensive forest cover have an exceptional ability to visually "absorb" and physically accommodate new development. Intact forestlands provide adjacent open spaces to new neighborhoods and also may serve as buffers between different land uses.



Intact forestland along the Rt. 52 portion of the Byway



Forested land with intermittent clearings define the character of the Shawungunks Mountain Region.



Forested ridge lines provide a scenic backdrop for this view.

### ISSUES

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- Clearing for homes on ridges creates notches on treeline/ridgeline.
- Developing forestland on slopes may require severe grading of the site, creating water management problems, depleting topsoil and creating wide-scale landscape disturbance.
- Road widening and utilities can impact woodlands and roadside character.
- Fragmentation of forestland via uncoordinated development can result in cumulative impacts that affect wildlife habitats and corridors and overall biodiversity.

### OPPORTUNITIES

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- Preserve sufficient stretches of undeveloped forested landscapes as buffers and separation for already developed areas.
- Add additional open space parcels contiguous to conserved forest lands either through conservation easements or as part of open space set asides incorporated into development.
- Encourage municipalities and property owners to retain sections of roadside woodlands and tree groves to reduce the potential for continuous, unbroken strips of highway development.

- Manage existing woodlands and forests for multiple uses and benefits, including the production of forest products, energy and food resources, habitat and recreation.

### PLANNING AND DESIGN PRACTICES

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- 5.3 Conservation Design
- 5.4 Build Along Natural Edges
- 5.5 Follow Natural Contours
- 5.6 Limit Clearing
- 5.10 Buffer Disparate Uses
- 5.14 Maintain Habitat Integrity
- 5.15 Slopes: Limit Hillside Clearing
- 5.16 Slopes: Preserve Steep Slopes
- 5.17 Slopes: Build Below Line of Sight
- 5.18 Slopes: Build Below Skyline
- 5.27 Protect Site Assets
- 5.31 Design & Layout of Roads
- 5.32 Stormwater Management

## LANDSCAPE PATTERNS

### AGRICULTURAL LANDS

#### LANDSCAPE DESCRIPTION

Cultivated fields, croplands, and fallow or former agricultural fields within the Shawangunk Region characterize Agricultural Lands and represent a key pattern in the region. These agricultural lands not only provide open vistas to the ridgeline and surrounding hillsides,

but are themselves picturesque. The low-density, vernacular quality of the agricultural architecture is a natural extension of the agricultural purpose and as such, complements the scenic quality of agricultural landscape. These landscapes are part of what make the Shawangunk Mountains Region engaging, visually attractive and vibrant.



Running North South along the right margin of the aerial this section of Route 208 south of New Paltz, has vast open vistas across a wide expanse of cultivated fields and farmsteads toward the ridge.



## AGRICULTURAL LANDS



A farmstead complex with surrounding hay fields and croplands in a grand scenic open space.



A farm market/garden center complex along the Byway that employs architecture that references the agricultural vernacular style and has a discretely located parking lot.

### ISSUES

- Erosion of agricultural viability through incremental, single lot development
- Loss of productive farmland and open space to suburban style residential and commercial development.
- Loss of or encroachment on vernacular agricultural structures, landscapes and land uses
- Deterioration of farm buildings often with historic qualities.
- Maintaining former agricultural lands as open space is challenging when such lands require ongoing maintenance to keep woody pioneer species out and are taxed at higher rate based on development potential.
- Lack of contextual appropriateness in design/layout of farm markets.

### OPPORTUNITIES

- Maintain agricultural lands in support of scenic views, local agriculture and food production.
- Support agricultural enterprises through creative, contextual land planning.
- Encourage agricultural diversification and land based local enterprise that maintains open space and scenic qualities while strengthening the local economy.

- Adaptive reuse of existing barns and farmsteads.
- Conservation easements and purchase of development rights through various federal, state and local programs.
- Design farm markets to respond to rural/agrarian context with appropriate architectural style and site plan.

### PLANNING AND DESIGN PRACTICES

- 5.1 Agricultural Lands: Open Space and Farmlands
- 5.2 Maintain Agricultural Lands
- 5.3 Conservation Design
- 5.4 Build Along Natural Edges
- 5.10 Buffer Disparate Uses
- 5.13 Maintain Street Trees and Hedgerows
- 5.14 Maintain Habitat Integrity
- 5.21 Follow Precedent: Scale and Massing
- 5.23 Site Utilities Out of View: Rural Setting
- 5.24 Use Color from the Landscape
- 5.27 Protect Site Assets
- 5.31 Design & Layout of Roads
- 5.32 Stormwater Management

# LANDSCAPE PATTERNS

## RURAL RESIDENTIAL

### LANDSCAPE DESCRIPTION

The Rural Residential landscape pattern is characterized by low-density residential construction, typically constructed off the highway. The scenic quality of these landscapes can vary, but typically the buildings and lands are sited and developed in such a way as to maximize the scenic surroundings and privacy of the owner.

In some cases these sites may include remnants of historic farmsteads such as fieldstone walls. Incremental, unrelated single family housing development scattered throughout the region, however, may eventually undermine the landscape and ecological integrity, as well as scenic quality.



Set amongst farm fields, orchards and forest, these homes are typical of Rural Residential land use. This use is commonly found on large parcels, but vary as to the lands use which may range from conserved forest, to hobby farm, to wide expanses of lawn.



This homesite is situated off the highway and surrounded by open space and a forested backdrop. The siting of the house is keeping with the rural agricultural aesthetic, and thus this residence is visually absorbed by its surroundings.

### ISSUES

- Incremental single family development can dilute landscape character by reducing the extent of perceived if not actual open space, and clutter the viewshed.
- Development can create “holes” in the ecological fabric of a habitat and landscape.
- Potential exists to slowly dilute scenic quality without guidance.
- Loss of historic homesteads and alterations that undermine historic character of surroundings (including disturbance/destruction of historic fieldstone walls and fences).

### OPPORTUNITIES

- Cluster, conservation and carefully sited single family development can continue development without altering the scenic character of the region.
- Infill development in or adjacent to towns, villages, and settled areas can accommodate new development without affecting scenic views or resources.
- Maintain historic remnants of farmsteads such as fieldstone walls and fences, incorporate into new developments.



This home situated at the top of a knoll is visually prominent and includes an extensive lawn area that requires constant maintenance.

### PLANNING AND DESIGN PRACTICES

- 5.1 Agricultural Lands: Open Space and Farmlands
- 5.2 Maintain Agricultural Lands
- 5.3 Conservation Design
- 5.4 Build Along Natural Edges
- 5.5 Follow Natural Contours
- 5.6 Limit Clearing
- 5.7 Orientation: Limit Visible Building Facade
- 5.10 Buffer Disparate Uses
- 5.12 Employ Lawn Alternatives
- 5.13 Maintain Street Trees and Hedgerows
- 5.14 Maintain Habitat Integrity
- 5.15 Slopes: Limit Hillside Clearing
- 5.16 Slopes: Preserve Steep Slopes
- 5.17 Slopes: Build Below Line of Sight
- 5.18 Slopes: Build Below Skyline
- 5.21 Follow Precedent: Scale and Massing
- 5.23 Site Utilities Out of View: Rural Setting
- 5.24 Use Color from the Landscape
- 5.27 Protect Site Assets

## LANDSCAPE PATTERNS

### DEVELOPED HIGHWAY CORRIDOR | LINEAR RESIDENTIAL

#### LANDSCAPE DESCRIPTION

One pattern of developed road corridor prevalent in the region is Linear Residential: those stretches of highway where continuous residential development occurs. This land use classification is characterized by low density, single family housing which fronts on the highway. The scenic quality of this landscape pattern varies with the pattern of development. The focus for site develop-

ment in these areas is on driveway location, views from the residence and the landscaping of the yard. When residential lots are sited along local roads, maintenance of the existing views from the roadway should be considered. Architectural styles vary widely from generic to highly individualized designs and do not typically conform to natural surroundings or existing historic, residential architecture.



Stretches of linear Residential development can block views of the mountains and undermine scenic qualities. This development pattern can also fragment agriculture areas or undeveloped land.

## LINEAR RESIDENTIAL | DEVELOPED HIGHWAY CORRIDOR



Houses face the highway, each with a separate access and wide expanses of open lawn.



Older linear residential; front lawns are narrower and trees have more presence, creating a more intimate, village-like corridor.

### ISSUES

- Development patterns and architectural styles vary widely.
- Scenic qualities along residential road corridors vary widely.
- Views to the ridge are often blocked.
- Pre-development landscape patterns and functions, such as forests, wetlands and agriculture are fragmented.

### OPPORTUNITIES

- New construction can employ siting methods and site plans that maintain ridge views and roadside open space.
- Street tree planting can provide order and connectivity along road corridors.
- Shared access, smaller lots and consistent site patterns promote more pleasing landscapes.
- Contextual and regional architecture can enhance visual quality.

### PLANNING AND DESIGN PRACTICES

- 5.1 Agricultural Lands: Open Space and Farmlands
- 5.2 Maintain Agricultural Lands
- 5.3 Conservation Design
- 5.4 Build Along Natural Edges
- 5.5 Follow Natural Contours
- 5.6 Limit Clearing
- 5.7 Orientation: Limit Visible Building Facade
- 5.10 Buffer Disparate Uses
- 5.11 Consolidate Curb cuts
- 5.12 Employ Lawn Alternatives
- 5.13 Maintain Street Trees and Hedgerows
- 5.14 Maintain Habitat Integrity
- 5.17 Slopes: Build Below Line of Sight
- 5.18 Slopes: Build Below Skyline
- 5.21 Follow Precedent: Scale and Massing
- 5.23 Site Utilities Out of View: Rural Setting
- 5.27 Protect Site Assets

## LANDSCAPE PATTERNS

### DEVELOPED HIGHWAY CORRIDOR | COMMERCIAL

#### LANDSCAPE DESCRIPTION

The sections of Commercial Developed Highway Corridor in the region typically contain highway-oriented site development patterns with some light industry/wholesale businesses. The uses may involve outdoor activities and/or storage areas like car and fuel sales, retail/service establishments, and general office facilities. The Commercial Developed Highway Corridor areas in the region range in density but are often medium to low density

with large lots and sizeable parking and/or paved areas. This use is typically found adjacent to more densely developed areas such as villages and at crossroads, but can be found in more rural areas as in the case of nurseries, tractor supply stores and other agriculturally oriented retail enterprises. Building design and placement are generally inconsistent between adjacent properties. Multiple curb cuts, excessive pavement, varying setbacks, limited vegetation and discordant signs are the typical landscape pattern. Single story buildings with medium



Extensive parking, uncoordinated curb cuts, little landscaping, and varied building footprints and front-ages are typical of commercial highway development in the Shawangunk region. This area is along Route 32 north of New Paltz Village.

## COMMERCIAL | DEVELOPED HIGHWAY CORRIDOR



Outdoor storage, expanses of pavement and vehicular circulation along with the building architecture define the aesthetic of this commercial space.

to large footprints predominate. The businesses present in this area typically serve local residents, as well as motorists passing through the Region. Often these areas are unattractive to visitors traveling to the scenic and recreational areas on the ridge and do not encourage or support the qualities that attract tourism, or encourage tourists to return.

### ISSUES

- Roadside character and scenic qualities can be compromised by sprawling development.
- Number of curbcuts, roadside parking and extensive paved areas can undermine function of street and visual quality and increase stormwater runoff.
- Traffic and pedestrian safety can be compromised.
- Loss of street trees and visual impact of utilities.

### OPPORTUNITIES

- Promote pedestrian scale and village vitality through coordinated streetscape plans.
- Coordinated development can be more cost effective and enhance visual quality and property values, as well as reduce curb cuts and traffic conflicts.
- Infill and redevelopment opportunities reduce pres-



Wide curb cuts and pavement dominated spaces that abut the road speak to the vehicular orientation of these commercial developments.

sures to build on open land.

- Support for appropriate architectural designs that reinforce history and aesthetics.
- Adaptive reuse of existing barns and farmsteads in rural commercial settings.
- Planting trees along corridor can provide a visual focus and buffer/screen roadside development.

### PLANNING AND DESIGN PRACTICES

- 5.7 Orientation: Limit Visible Building Facade
- 5.8 Orientation: Limit Visible Parking
- 5.9 Screen Parking from Road
- 5.10 Buffer Disparate Uses
- 5.11 Consolidate Curb cuts
- 5.13 Maintain Street Trees and Hedgerows
- 5.19 Infill
- 5.20 Follow Precedent: Development Pattern
- 5.23 Site Utilities Out of View: Rural Setting
- 5.25 Sign design
- 5.26 Lighting design
- 5.32 Stormwater Management

# LANDSCAPE PATTERNS

## SUBDIVISIONS

### LANDSCAPE DESCRIPTION

Subdivisions are a typical landscape pattern within the Shawangunk Mountain Region. Subdivisions typically fall into one of two categories: conventional/suburban or conservation subdivisions. Often built in existing farm fields, typical suburban subdivisions include long individual driveways, wide, open front lawns, and lots

arranged along an access road, often ending in a cul-de-sac. They are often laid out to maximize the number of building lots on a property, without contiguous conserved lands or meaningful open space. Conservation subdivisions, on the other hand, allow for the incorporation of effectively conserved land into the subdivision master plan. As with conventional subdivisions, conservation subdivisions divide a large tract of land into



This suburban subdivision has been built on a large, former farm field. Lying between a road that is part of the Byway corridor and the Shawangunk ridge, it is visible by travelers and does not contribute to scenic quality.





Often developed in old farm fields, houses in conventional suburban subdivisions typically include similar sized lots with large expanses of lawn.

smaller plots, yet infrastructure is typically consolidated with many houses sited well off of the road, near to or within existing forest cover. This pattern of development thereby preserves meaningful open space and views, while allowing for necessary development and growth.

Subdivisions have historically been one of the primary development patterns in the region and can be designed better to address their impact on open space, aesthetics and natural resources.

### ISSUES

- Loss of productive farmland and forest.
- Potential to promote sprawl and the incremental loss of scenic views and visual qualities
- No internal or external relationships to promote neighborhood context and residential values
- Lots and roads are laid out without respect to landscape patterns, topography or scenic views and limit the retention of usable agricultural soils and fields.



Houses grouped in trees or against wooded backdrops are barely visible from the highway at the Duchess Farm subdivision. This development conserves a large tract of open land adjacent to the highway, maintaining pastures, meadows and cropland.

### OPPORTUNITIES

- Promote inter-neighborhood connections.
- Promote alternative subdivision designs including conservation or neo-traditional type developments.
- Encourage village residential options.
- Create linkages among conserved lands.
- Reduce impacts to scenic resources and open space with careful, effective siting.
- Add landscaping to soften or screen visual impact.

### PLANNING AND DESIGN PRACTICES

- 5.10 Buffer Disparate Uses
- 5.11 Consolidate Curb cuts
- 5.12 Employ Lawn Alternatives
- 5.13 Maintain Street Trees and Hedgerows
- 5.14 Maintain Habitat Integrity
- 5.23 Site Utilities Out of View: Rural Setting
- 5.24 Use Color from the Landscape
- 5.27 Protect Site Assets
- 5.31 Design & Layout of Roads
- 5.32 Stormwater Management

# LANDSCAPE PATTERNS

## INSTITUTIONAL LANDS

### LANDSCAPE DESCRIPTION

Institutional landscapes vary in purpose, scale and design but are generally characterized as landscapes developed for specific uses by non profit organizations or governmental institutions. They are comprised of buildings and programmatic surroundings that reflect and support the institution's primary function.

Within the Shawangunk Region, institutional lands include schools and colleges, churches, correctional facilities, and government buildings and complexes. These

landscapes may or may not contain open space, and their scenic quality varies from utilitarian to historic landmark status. Some of the buildings associated with institutional uses such as churches and visitor centers can have scenic or architectural value. Additionally, some types of institutional land uses, such as correction centers, include large tracts of undeveloped open space.



This correctional center complex in Wawarsing is surrounded by vast expanses of undeveloped open space.



A view of Colony Farm, a discontinued state prison farm facility in Wawarsing, now being rented out to local farmers.



Historic churches are often picturesque landmarks in the region.

### ISSUES

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- Future use of lands associated with correctional facilities, and the facilities themselves.
- Challenge of maintaining and developing new facilities, such as town halls, recreation centers and fields.
- Developed landscapes within some institutional areas are not scenic, and can often detract from or impact the visual quality of surrounding areas.
- Institutional lands often have extensive paving and structures without sufficient thought given to landscape quality.

### OPPORTUNITIES

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- Redevelopment and strengthening of institutional land uses in a manner compatible with regional needs and values.
- Conservation and/or preservation of open lands and open spaces.
- Effective and sustainable resource management of natural and agrarian landscapes

### PLANNING AND DESIGN PRACTICES

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- 5.5 Follow Natural Contours
- 5.6 Limit Clearing
- 5.7 Orientation: Limit Visible Building Facade
- 5.8 Orientation: Limit Visible Parking
- 5.9 Screen Parking from Road
- 5.10 Buffer Disparate Uses
- 5.11 Consolidate Curb cuts
- 5.12 Employ Lawn Alternatives
- 5.13 Maintain Street Trees and Hedgerows
- 5.14 Maintain Habitat Integrity
- 5.15 Slopes: Limit Hillside Clearing
- 5.17 Slopes: Build Below Line of Sight
- 5.18 Slopes: Build Below Skyline
- 5.19 Infill
- 5.21 Follow Precedent: Scale and Massing
- 5.24 Use Color from the Landscape
- 5.25 Sign design
- 5.26 Lighting design

# LANDSCAPE PATTERNS

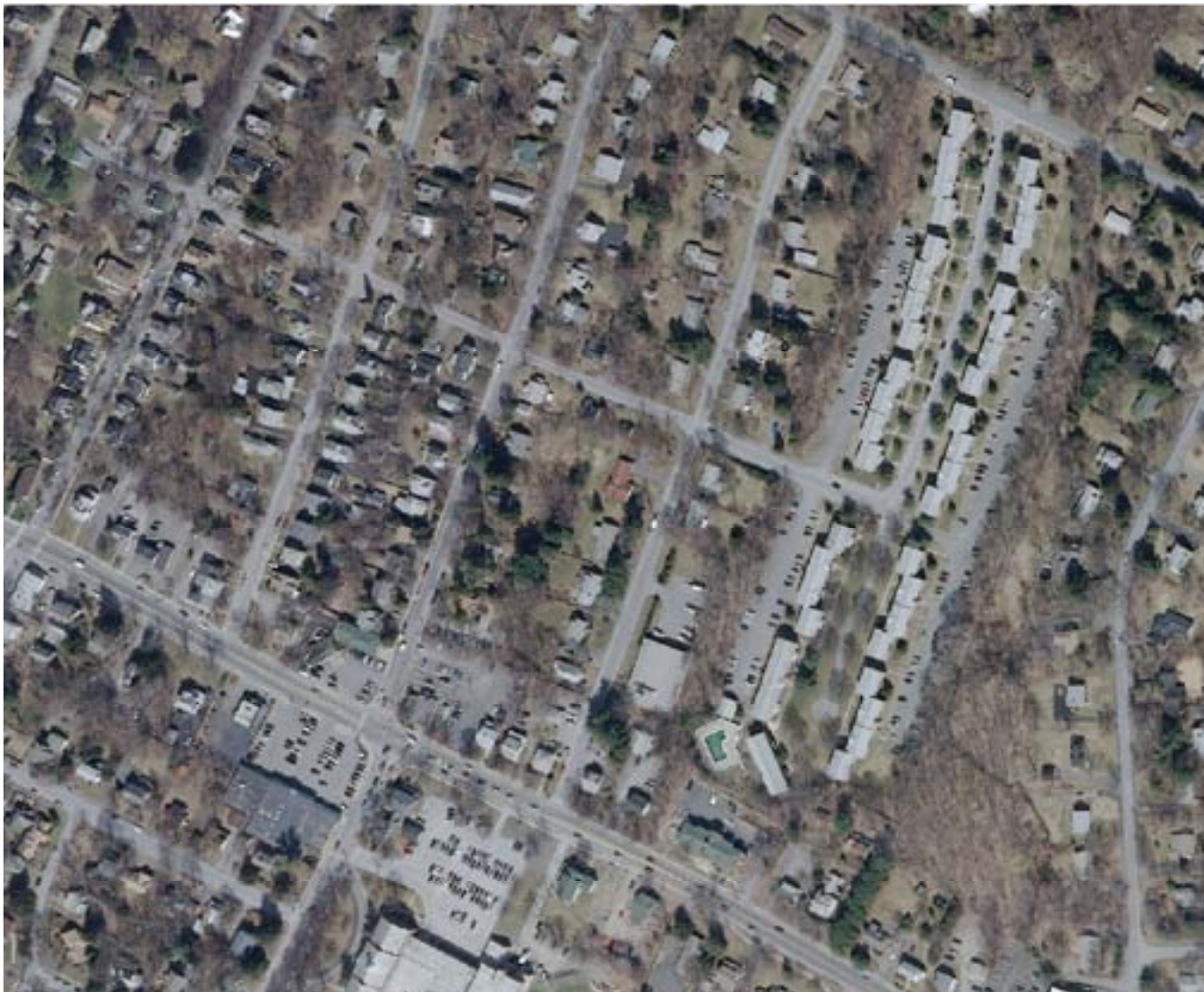
## HISTORIC VILLAGE RESIDENTIAL

### LANDSCAPE DESCRIPTION

Established settlement patterns with intact architecture characterize the Historic Village-Residential landscape pattern. These neighborhoods were established when rail, horse, boat and foot were the primary modes of travel and resources and trade were concentrated in the town center. In these locations, houses were built closely

together, often close to the street, with sidewalks and trees lining streets. Having evolved over the 18th, 19th, and early 20th century, these areas contribute to the region’s quality of life and scenic quality with a variety of historic architectural styles, comfortable scale and mature landscapes.

One key element of older residential neighborhoods is the presence and performance of the “urban forest”. As



An older neighborhood in New Paltz with consistent site patterns and mature landscape in contrast with larger residential development, conventional suburban development and the institutional use of the University campus.

## HISTORIC VILLAGE RESIDENTIAL



This historic village house, with architectural details, mature trees and stone wall in a walkable neighborhood, is exemplary of the Historic Village Residential landscape pattern.



The stone construction and settlement pattern of this Huguenot neighborhood are a signature attraction in the area. Additionally mature street trees add to the visual qualities of these areas.

one looks back to New Paltz from the Wallkill Valley, the continuous canopy of the mature landscape clothes the village in a leafy green cover that accommodates most of the development, leaving an impression of a “green town” out of which rise only the tallest buildings of the University. This adds, rather than distracts, from the regional viewshed.

### ISSUES

- New development that is out of scale and interrupts historic development patterns.
- Ongoing degradation of historic landscape character and streetscapes.
- The challenge of maintaining historic character and retaining historic buildings.
- Vacant buildings and under-utilized or vacant lots represent lost opportunities and can deteriorate quickly.
- Another important resource in historic neighborhoods and along established village streetscapes are the mature street trees. Sugar maples, for example, which replaced the original elm trees in many locations, are being lost to old age and structural defects. Some of these magnificent trees are being lost to new utility lines. Additionally, newer Right of Ways limit the space for new replacement plantings.

Loss of these trees can dramatically reduce scenic qualities along the region’s historic streetscapes.

### OPPORTUNITIES

- Infill developments that respect historic patterns or reflect and relate to desired contextual elements.
- Streetscape enhancements and maintenance of the urban forest.

### PLANNING AND DESIGN PRACTICES

- 5.10 Buffer Disparate Uses
- 5.11 Consolidate Curb cuts
- 5.13 Maintain Street Trees and Hedgerows
- 5.19 Infill
- 5.20 Follow Precedent: Development Pattern
- 5.21 Follow Precedent: Scale and Massing
- 5.22 Site Utilities Out of view: Village Setting
- 5.25 Sign design
- 5.26 Lighting design
- 5.32 Stormwater Management

# LANDSCAPE PATTERNS

## VILLAGE | MIXED-USE

### LANDSCAPE DESCRIPTION

Densely settled core areas characterize the Village Mixed-Use pattern. These village Mixed-Use sections in the region incorporate residential, retail, and commercial uses with walkable streets that provide easy access to services and amenities such as schools, libraries,

parks, and restaurants. These settings are typically high density with generally consistent building placement. Architectural styles run the gamut from Greek Revival and Victorian style buildings to modern day contemporary designs. A more diverse population in these locales is supported by a variety of housing types, which in turn foster a sense of connectivity and vitality. The business-



Downtown Rosendale shows the density of historic development patterns and mix of uses all centered around the important landscape feature of the river.



This historic village of Rosendale incorporates a mix of uses, architecture, and pedestrian scale elements.



In Ellenville, historic architecture coexists with modern, and a mix of uses and circulation patterns

es present in this area typically serve local and regional residents, but also attract visitors and tourists.

The threat to these mixed use villages is from large scale retail shopping complexes and discount centers developed outside of the village core. To be competitive, mixed use village shopping districts need to provide sufficient parking that is well signed, and ideally located on the street, in dedicated municipal lots or behind buildings.

### ISSUES

- Building quality and condition
- The requirements of vehicular access, circulation and deliveries create conflict with historic streets and site development patterns.
- Utility poles and components impact village aesthetics.
- Need for visible, accessible and sufficient parking.

### OPPORTUNITIES

- Promote infill development and contextual architecture, building on desirable existing conditions.
- Restoration of historic buildings and identification

and interpretation of, as well as access to historic and cultural resources.

- Develop parking areas behind buildings.

### PLANNING AND DESIGN PRACTICES

- 5.8 Orientation: Limit Visible Parking
- 5.9 Screen Parking from Road
- 5.10 Buffer Disparate Uses
- 5.11 Consolidate Curb cuts
- 5.13 Maintain Street Trees and Hedgerows
- 5.19 Infill
- 5.20 Follow Precedent: Development Pattern
- 5.21 Follow Precedent: Scale and Massing
- 5.22 Site Utilities Out of view: Village Setting
- 5.25 Sign design
- 5.26 Lighting design
- 5.32 Stormwater Management

# LANDSCAPE PATTERNS

## SIGNS

### LANDSCAPE DESCRIPTION

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Signs are essential components of human communication and commerce. Businesses rely on effective signing to advertise their services and products and visitors use signs to guide them to their destinations or to inform them as to where they are or what they are looking at. There are many different types of signs, including traffic and regulatory signs, typically governed by the provisions of the Manual on Uniform Traffic Control Devices (MUTCD) as administered by the Federal Highway Administration and as adopted by New York State and local communities. There are also interpretive signs designed to provide information about historic sites and buildings, building identification and business signs, and “wayfinding” signs that guide travelers and visitors to their destinations.

There is a rich variety of sign types and designs in the Shawangunk Region, many of which are well designed, effective, and complement the buildings, businesses or uses they are intended to serve. Some of the signs can be considered artistic and culturally significant, such as classic examples of traditional downtown signs. Some of the signage in the region, however, is inconsistent, poorly sited or designed, contains too much information or is simply hard to read. Another typical problem with signing in most locales, not just this region, is the method of night-time lighting. Poorly lit signs can be hard to read, create glare and consequently have traffic safety impacts. As signs are part of the Shawangunk environment, their design and siting can either contribute to, or detract from, desirable visual conditions or scenic qualities.

### ISSUES

- Signs that do not have legible, easy to read messaging.
- Signs that contain too much information make it hard for the viewer to read and respond.
- Poorly lit or sited signs that create glare or off site light pollution.
- Signs that include generic elements that are not consistent with local conditions or aesthetics.
- Too many signs in some locations can create a traffic safety issue.
- Signs with interior illumination that light the entire sign box, rather than just the messaging.

### OPPORTUNITIES

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- Signs with interior illumination can be developed with an opaque background and only the lettering lit to create a desirable design that does not result in too much light, light trespass or glare.
- Creative and contextual approaches to the graphic design and lighting of signs.
- Promotion of historic sign types and well crafted sign structures.
- Improved sign legibility with high contrast graphics and the reduction of sign clutter in certain locations.

### PLANNING AND DESIGN PRACTICES

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- 5.21 Follow Precedent: Scale and Massing
- 5.24 Use Color from the Landscape
- 5.25 Sign design



# LANDSCAPE PATTERNS



**1** Highway trailblazer signs are fantastic to guide visitors along the Shawangunk Mountain Scenic Byway. **2** A New York State interpretive sign at the historic Huguenot Village in New Paltz. A classic shape and recognizable design. **3** Typical real estate sales and development sign seen throughout the region. These signs can unfortunately become more of a permanent visual element in the landscape. **4** An old (right) and new (left) sign at a retail complex in New Paltz. The new sign is an improvement with consistent font sign but there are still too many messages for a traveling motorist to possibly read. **5** A wayfinding sign as part of the Mohonk Mountain House complex successfully fits within the unique landscape and historic resort environment nestled in the Shawangunk Mountains. **6** Not your typical gas station sign. A smaller size, low key, low profile "national" gas station sign fits better along the roadside in Marbletown. **7** A new sign in Marbletown for a planned conservation subdivision oriented around equestrian activities is elegant and easy to read. **8** An old style neon sign still hangs from a storefront in the village of Rosendale is part of the historic village fabric. **9** In Ellenville an historic building and storefront has been revitalized to restore the original sign "band". In this manner the sign contributes to the facade and overall design of the building front. **10** Eye catching, custom crafted signs, situated along Main Street in Rosendale. The creativity and interest provided by the signs enhance the village character.



# 5. Planning & Design Practices

## INTRODUCTION

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This section provides a range of planning and design practices for the Shawangunk Region that will help to maintain landscape character and architectural qualities that are valued by residents and visitors. The development of appropriate site, landscape and architectural solutions that may be applied to a range of applications and considerations is intended to preserve scenic and

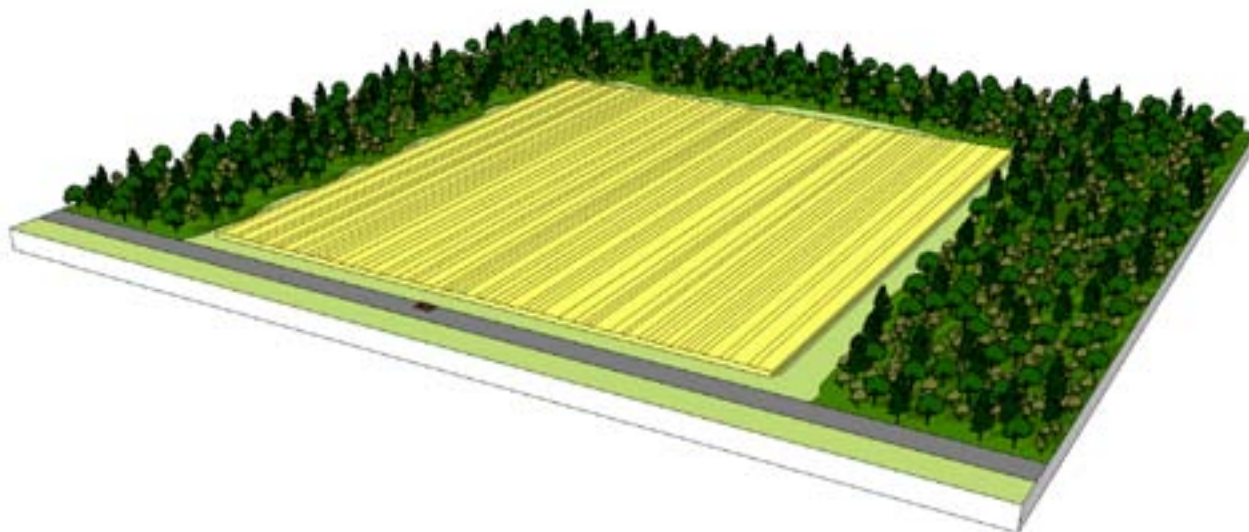
aesthetic values, and guide future development in a manner that is sensitive to those values. The overall approach is based on the goal of preserving as much of the natural and traditional landscape patterns and elements as possible, as well as building on or relating to the desired historic residential and commercial architecture of the region.

## TABLE OF CONTENTS

<b>44</b>	5.1 Agricultural Lands   Open Space & Farmlands	<b>62</b>	5.17 Slopes   Build Below Line of Sight
<b>46</b>	5.2 Maintain Agricultural Lands	<b>63</b>	5.18 Slopes   Build Below Skyline
<b>48</b>	5.3 Conservation Design	<b>64</b>	5.19 Infill
<b>49</b>	5.4 Build Along Natural Edges	<b>65</b>	5.20 Follow Precedent   Development Pattern
<b>50</b>	5.5 Follow Natural Contours	<b>66</b>	5.21 Follow Precedent   Scale & Massing
<b>51</b>	5.6 Limit Clearing	<b>67</b>	5.22 Site Utilities Out of View   Village Setting
<b>52</b>	5.7 Orientation   Limit Visible Building Facade	<b>68</b>	5.23 Site Utilities Out of View   Rural Setting
<b>53</b>	5.8 Orientation   Limit Visible Parking	<b>70</b>	5.24 Use Color from the Landscape
<b>54</b>	5.9 Screen Parking from Road	<b>72</b>	5.25 Sign Design
<b>55</b>	5.10 Buffer Disparate Uses	<b>74</b>	5.26 Lighting Design
<b>56</b>	5.11 Consolidate Curb Cuts	<b>76</b>	5.27 Protect Site Assets
<b>57</b>	5.12 Employ Lawn Alternatives	<b>78</b>	5.28 Clear Trees Selectively
<b>58</b>	5.13 Maintain Street Trees & Hedgerows	<b>80</b>	5.29 Planting & Maintaining Landscaping
<b>59</b>	5.14 Maintain Habitat Integrity	<b>81</b>	5.30 Hedgerows
<b>60</b>	5.15 Slopes   Limit Hillside Clearing	<b>82</b>	5.31 Design & Layout of Roads
<b>61</b>	5.16 Slopes   Preserve Steep Slopes	<b>84</b>	5.32 Stormwater Management

## PLANNING & DESIGN PRACTICES

### 5.1 AGRICULTURAL LANDS | OPEN SPACE & FARMLANDS



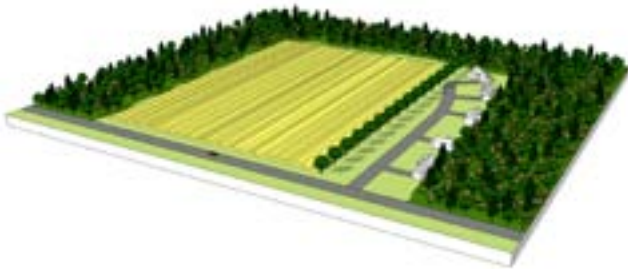
#### Existing Conditions: Agricultural lands in the Shawangunk region are a quintessential component of the landuse pattern of the region.

The Shawangunk Mountain Region is rich in agricultural history and continues to support working farms, vineyards, orchards, nurseries and garden markets. Nonetheless there are many areas where fields lie fallow or farms await potential subdivision. Thus it is essential to consider methods and techniques to mitigate the loss of valuable agricultural open space. The key practice is to maintain as much agricultural land as possible and to ensure that new development in agricultural areas does not affect those lands for farming. Once paved over or developed, it is very hard to return farms to active agricultural use, and their value as scenic lands has been lost. The Regional Open Space Plan prepared for the Shawangunk Mountains Regional Partnership provides an overview of the current status of agriculture in the region: in 2008 there were 320 active farms covering 28,000 acres - and most of that acreage was mostly open lands in cultivation or use of some sort related to farming. The Plan also indicates the ongoing loss of agricultural lands in both Orange and Ulster county at approximately 200,000 acres between 1940 and 2003. (1) These factors indicate how important it is to preserve agriculture as well as address the future of lands which were once in agricultural use but are now destined for

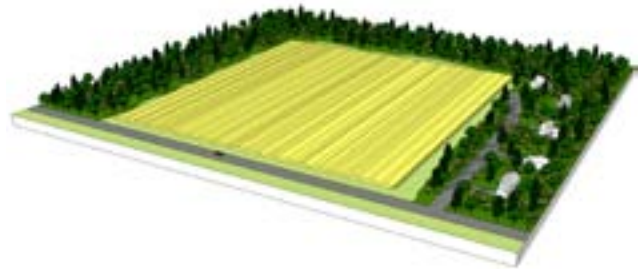
development. A common sight throughout the region are subdivisions developed on former farmlands. New subdivisions and other development projects need to be carefully sited on these lands so as to preserve their agricultural qualities for future use or to ensure that these lands are maintained as open spaces as part of the scenic character of the region and to support recreational and other open space type uses for the local population.

There are a number of “best practices” in this Guide that address the maintenance of agricultural open space while still supporting development opportunities. These include practices entitled “Conservation Design”; “Build Along Natural Edges”; “Limit Visible Building Facade”; “Employ Lawn Alternatives”; “Build Below Line of Sight” and “Build Below the Skyline”. The practices presented here are specific ways in which as much open, undeveloped land as possible can be protected while still creating new home or development sites. Conservation easements, outright purchase through New York State and Federal Government funding programs, Transfer of Development Rights or open space set-asides as part of permit approval processes are methods currently used for landscape conservation. It is important to note that many of these practices not only help to protect scenic views and landscape character, as well as the integrity of natural resources on site, but also reduce development costs by reducing the extent of infrastructure required—shorter roads, reduced distances for utilities, etc.

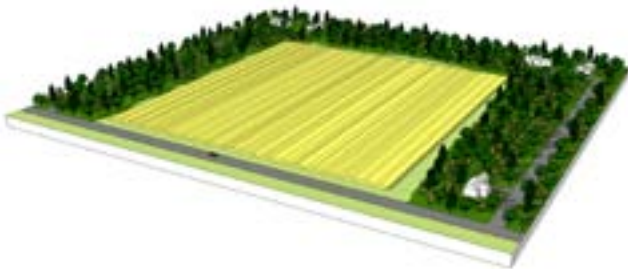
## PLANNING & DESIGN PRACTICES



**Option 1:** If the parcel is entirely open, homes are located along one edge and buffered from the remaining area with a natural hedgerow or landscaping. In this way the remaining lands may be left open for community gardens, or continued agricultural use by a neighboring farmer. The open land can be held in common, or by an individual landowner in the development, or deeded to the municipality.



**Option 2:** When agricultural properties also include wooded lands, it is recommended that development occur within the woodlands to eliminate visual and physical impacts to the open space. This option shows homesites located in a manner that conserves all of the agricultural lands.



**Option 3:** This practice locates homesites in the most suitable locations for development and is an alternative approach to be considered when locating homes in close proximity is not desirable or possible.



**Option 4:** There are a number of excellent examples in the region and elsewhere of adaptive reuse of existing farmsteads for commercial or residential purposes. This practice should be explored when existing farm structures are present and can be redeveloped or as an effective design option to provide affordable housing or unique condominium options. There are also examples of recreated farmhouse and barn complexes in agricultural settings that provide anywhere from 8 to 16 units or more in a limited footprint that is contextually appropriate.



Bristol Family Housing, Bristol, Vermont. With conservation design by LandWorks, this affordable housing complex has been modeled after a nearby farm complex. It provides 16 units within a farmhouse and barn, while preserving surrounding open space and blending seamlessly with its rural surroundings.

## PLANNING & DESIGN PRACTICES

### 5.2 MAINTAIN AGRICULTURAL LANDS



**Best Practice:** The layout of this development reduces conflicts between farm and non-farm uses through the use of buffers, contained street layout, and the location of parkland away from the agricultural edge.

Agricultural lands in the Shawangunk region are seen by many as visual and cultural assets. However, where there is close proximity between farms and their non-farm neighbors, conflicts can arise. From the perspective of the non-farm neighbor, farms may be sources of noise, odors, chemical spray, dust, farm traffic, wandering farm animals, and drifting debris. From the farmer's perspective, non-farm neighbors can cause increased complaints, liability, trespassing, theft of crops and vandalism of equipment, limitations to farming practices, or changes to water availability such as reduced groundwater recharge due to impervious surfaces in development, or increased erosion from urban runoff.

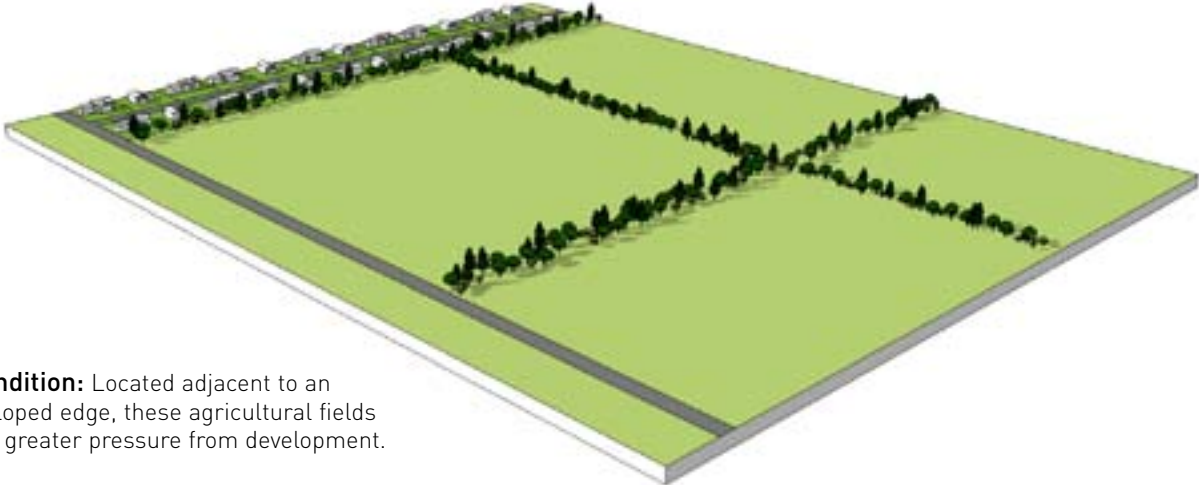
To protect farmlands and reduce conflicts between farms and non-farm uses, the following steps can be taken when planning and developing a site:

- Establish buffers around development. These buffers will screen out potential conflicts such as light

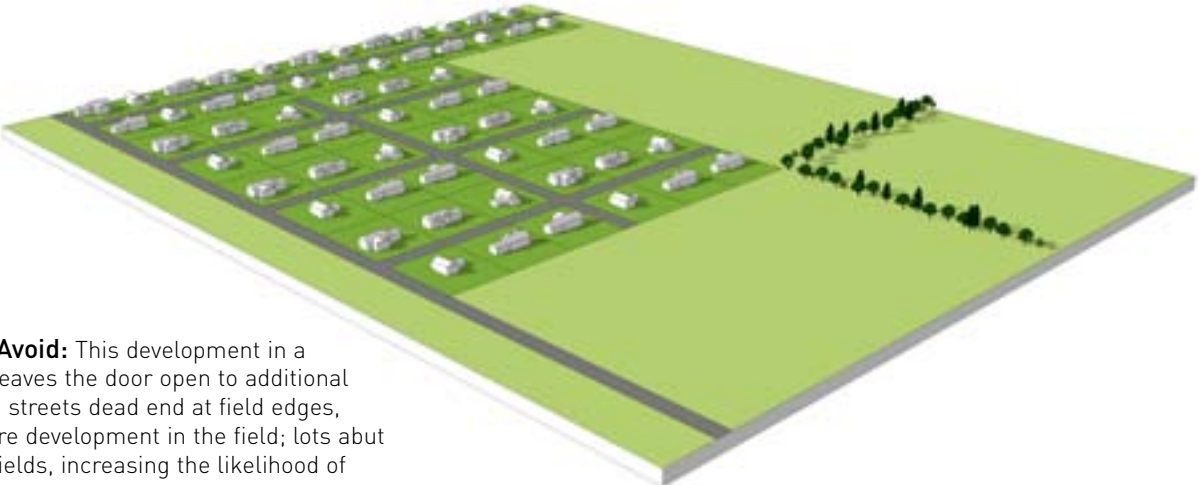
spill, excess noise, and drifting odors, spray, or possible debris. They will also serve as a physical and psychological barrier for wandering pets or farm animals, trespassers or children who would otherwise wander onto farmland.

- Layout subdivisions in a way that respects the adjacent farm use. Delineate larger lots near to farm lands to reduce density at farm border. Locate any recreational spaces away from field edges to ensure that the uses remain separate, and to avoid agricultural lands becoming encroached upon or viewed as an extension of the parkland.
- Layout streets to contain development. Avoid dead ending streets in adjacent farmland as this implies the farmland will be developed in the near future and increases development pressure on this land.
- Avoid extending services and utilities through or adjacent to farmland. Water and sewer lines that run along farmlands imply that these lands will be developed in the future. Furthermore, water, sewer and gas lines through farm lands pose a safety hazard to farmers as they perform routine farm practices such as tilling that may conflict with utilities underground.
- Ensure traffic patterns to do not hinder or cause safety issues for farm uses. Provide traffic signs where farms are adjacent to developed areas to alert vehicles to the presence of farm vehicles.





**Existing Condition:** Located adjacent to an existing developed edge, these agricultural fields will be under greater pressure from development.



**Practice to Avoid:** This development in a former field leaves the door open to additional development: streets dead end at field edges, implying future development in the field; lots abut agricultural fields, increasing the likelihood of conflicting uses.



This photo from the Natural Resources Conservation Service shows how the layout of subdivisions affects the pattern of future development. The roads of this subdivision literally dead-end at the edges of farm fields, with temporary barriers as the only deterrent to encroachment. The lack of landscaped buffers will result in more incidence of conflicts and as a result, create pressure to limit or abandon the agricultural use.

# PLANNING & DESIGN PRACTICES

## 5.3 CONSERVATION DESIGN

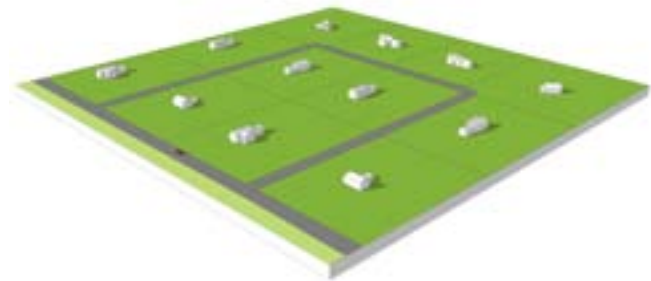


**Best Practice: Conservation Design** maintains valuable open space by employing resource-sensitive site design.

Typical large lot subdivisions have reduced open space in the Shawangunk Mountain region. Conservation design is an alternative site planning strategy for residential subdivisions that locates home sites and lots in areas that avoid or reduce potential impacts on sensitive resources, such as steep slopes, working farmland, or mature forests. This approach to lot layout does not reduce the number of lots or their inherent value. In fact, some communities offer density bonuses (additional home sites or units) when projects are sited in this manner. Conservation subdivisions are less expensive to develop, enhance property values by keeping natural landscapes intact and provide scenic and recreational amenities that would otherwise be lost in a conventional subdivision.



**Existing Condition:** Wide expanses of open space are typical of the rural character of the Shawangunk region, but are also highly desirable areas for development.



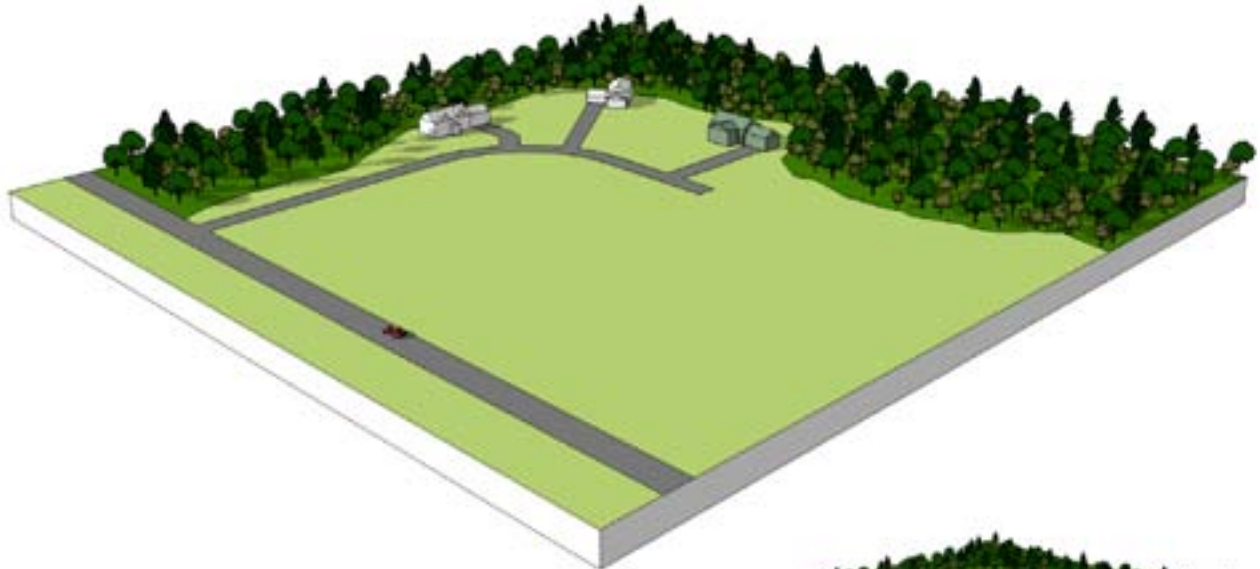
**Practice to Avoid:** The typical subdivision pattern consumes large expanses of open space in order to maximize the tract to be subdivided, often eliminating valuable open space or natural resource assets.



With homes tucked away amongst the trees, this conservation subdivision at Johnson Farms in Montgomery preserves 23 of 46 acres as open space.

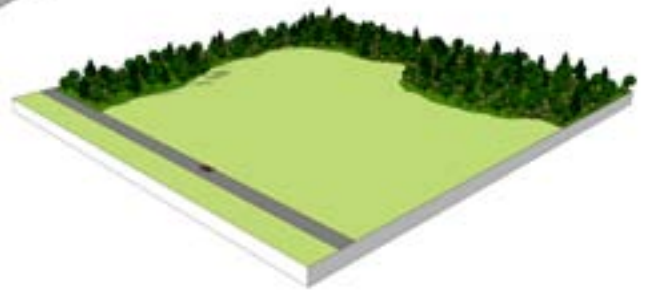


5.4 BUILD ALONG NATURAL EDGES



**Best Practice:** Sited against a forested backdrop, the visual presence of the structures is greatly reduced. Choosing appropriate colors and materials as shown in the building on the right, further reduces the visual impact.

One of the best ways to limit the aesthetic and environmental impact of development is building in relation to natural edges. Structures that are built along or into the natural wooded edges of the landscape fit more effectively within the landscape, rather than standing out. Building in this manner allows structures to blend in with, or even augment the existing landscape character of the Shawangunk Region. Building along the forested edges or hedgerows, allows the majority of open space to be maintained.



**Existing Condition:** Existing open fields with a forested edge are typical of the rural character of the Shawangunk Region.

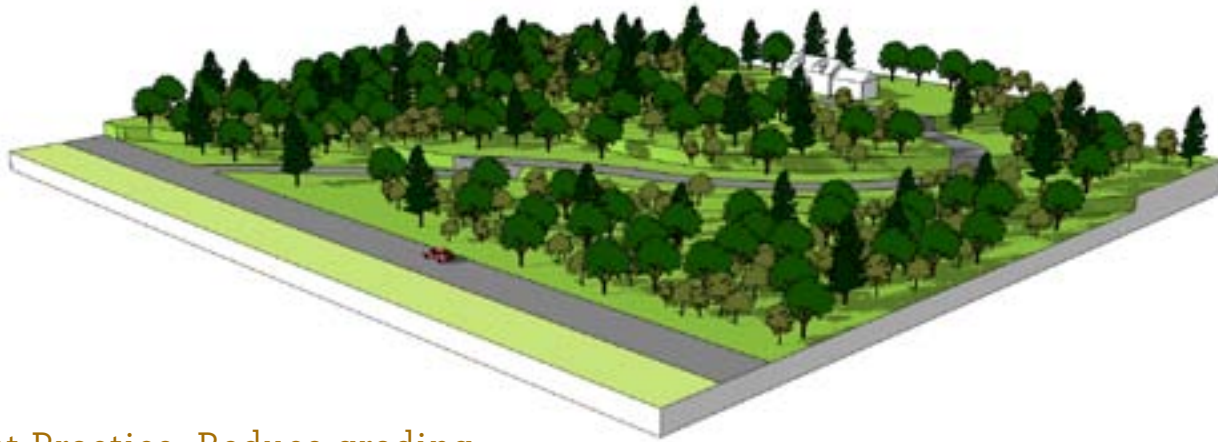


**Practice to Avoid:** Typical development that stands out against the landscapes: the structures appear as objects in space rather than in relation to their surroundings.

Conserved hayfields and forest have been set aside for this subdivision in Jericho, Vermont. Trails encircle the common areas and connect to a nearby network of mountain bike and ski trails.

## PLANNING & DESIGN PRACTICES

### 5.5 FOLLOW NATURAL CONTOURS



**Best Practice:** Reduce grading and resulting land alterations by laying out driveways along natural contours. This allows existing forest lands to remain intact while visually absorbing the building in the surrounding woodlands.

Forestlands in the Shawangunk region are most often found on slopes along the ridges and hillsides. When building on forested slopes, the tendency is to build a driveway that connects the road and the building in the least possible distance, often a straight line. This method involves an increased amount of clearing in order to grade the driveway. When the driveway follows the natural contours of the land, much less grading and clearing is required, which reduces visual and environmental impacts. This preserves the uninterrupted forested character of the landscape by setting the buildings and driveway within the wooded landscape.



**Existing Condition:** Forested slopes are a common landscape type throughout the Shawangunk region.

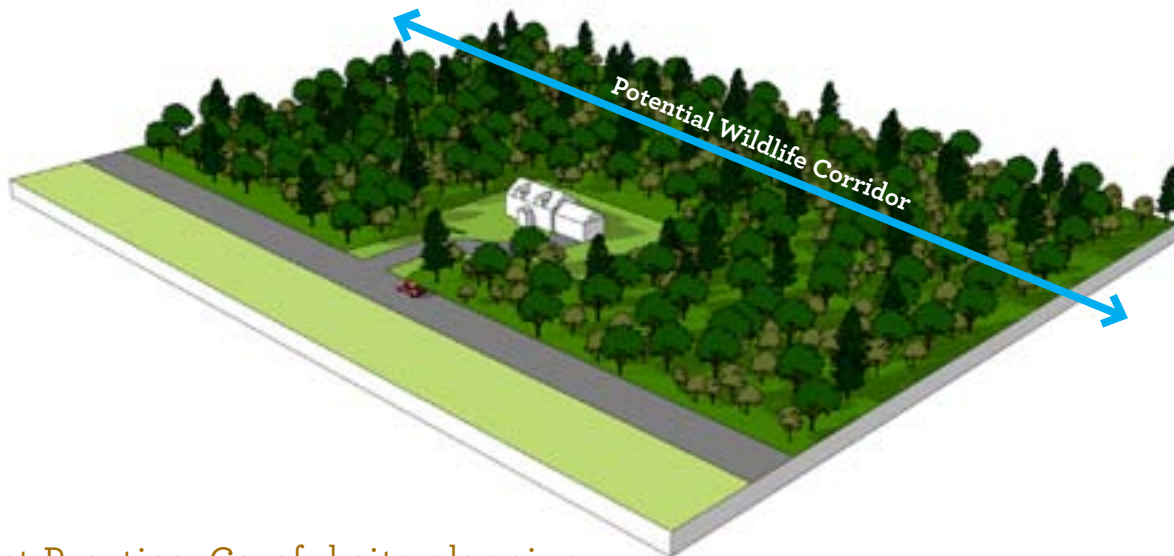


**Practice to Avoid:** Laying out driveways that fight or ignore the natural contours of the land results in increased clearing, stormwater runoff issues and gaps in the forest.



This driveway in New Paltz follows the natural contours of the land and maintains the integrity of the forested landscape and character of the area.

5.6 LIMIT CLEARING



**Best Practice: Careful site planning can limit clearing, and greatly reduce negative aesthetic and ecological impacts.**

Forestland throughout the Shawangunk Region represents one of the dominant landscape patterns, and is also one of the most valuable aesthetic and natural assets. Typical development that clears large areas of land for building sites can dramatically diminish both the scenic and ecological value of these lands, and leave holes or gaps in an otherwise continuous land use type. Limiting clearing through careful site planning allows the integrity and scenic quality of the forests to be maintained.



**Practice to Avoid:** Typical development in forestland clears large areas of vegetation for building sites and fragments these previously undeveloped lands.



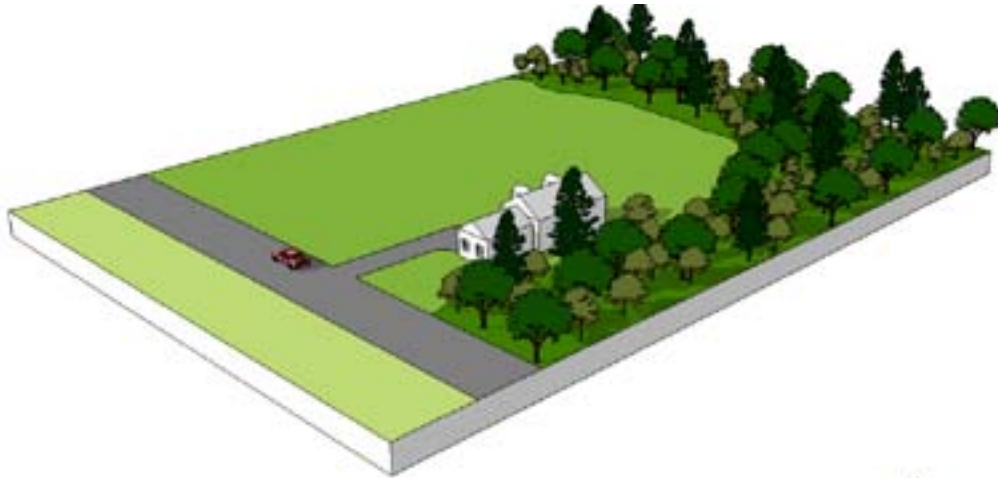
The forest around this house has been maintained. The addition of a dark earth tone paint has further lessened the visual prominence of the house on the landscape.



Existing mature trees were maintained to provide a buffer between the home and the road, illustrating how this practice can allow new construction to blend with the environment.

# PLANNING & DESIGN PRACTICES

## 5.7 ORIENTATION | LIMIT VISIBLE BUILDING FACADE



**Best Practice:** Built along a natural forest edge with the narrow, or gabled, end of the building facing the road, the visual presence of this small residence is reduced.

A simple way to reduce the visual impact of development is by orienting buildings in a manner that reduces their visual presence by reducing the surface area that faces the road. In typical Linear Residential, Commercial Developed Highway, and Rural Residential land use patterns, buildings are oriented with the broad facade toward the road. By orienting buildings so that the narrow facade is toward the road, the amount of structure or mass that a passerby sees is greatly reduced. By combining this practice with others such as “Building Along Natural Edges”, the visual impact on otherwise open landscapes can be further reduced. Note that buildings should have a “friendly face” oriented toward the road, preferably with an entry, porch and/or windows.



**Existing Condition:** Small open fields are numerous along the roadways in the Shawangunk region and contribute to the overall aesthetic quality.

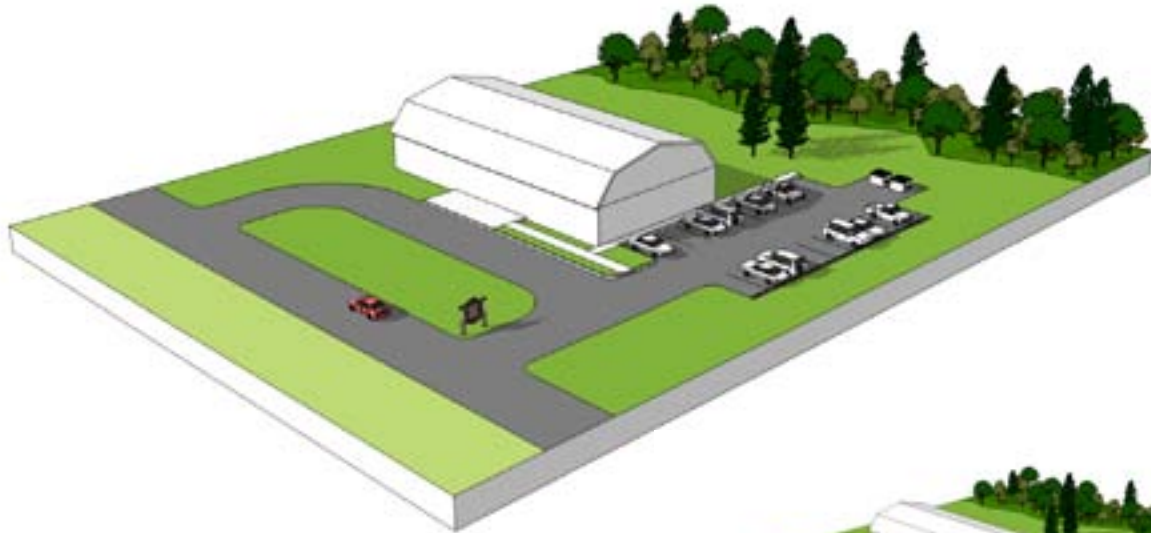


**Practice to Avoid:** This building has its broad side oriented toward the road and is sited in the middle of the lot. The result of this practice is that the small residence now dominates a formerly open landscape.



Although the visible building facade has been minimized by orienting this home perpendicular to the road, the large blank facade and garage doors do not invoke a feeling of community in this neighborhood.

## 5.8 ORIENTATION | LIMIT VISIBLE PARKING



**Best Practice:** Parking is sited off to the side of the building with storage at the back. Sidewalks provide safe pedestrian access to the building while a drop off area helps with the flow of traffic.

In typical commercial development, the tendency is to put the parking in the most visible location, usually in front of the building along the road. Vehicular access is the priority, and often the curb cuts are as wide as the parking lots with the pavement extending up to the edge of the road. Alternative site designs promote parking areas that can be used more efficiently, with more of the site that can be devoted to pedestrian amenities, signage and landscaping. This approach minimizes the visual impact of the parking and storage areas, while promoting better visibility for the building or business.



**Existing Condition:** In the typical parking arrangement, the pavement abuts the road and there is little room left for pedestrian circulation, signage or landscaping.

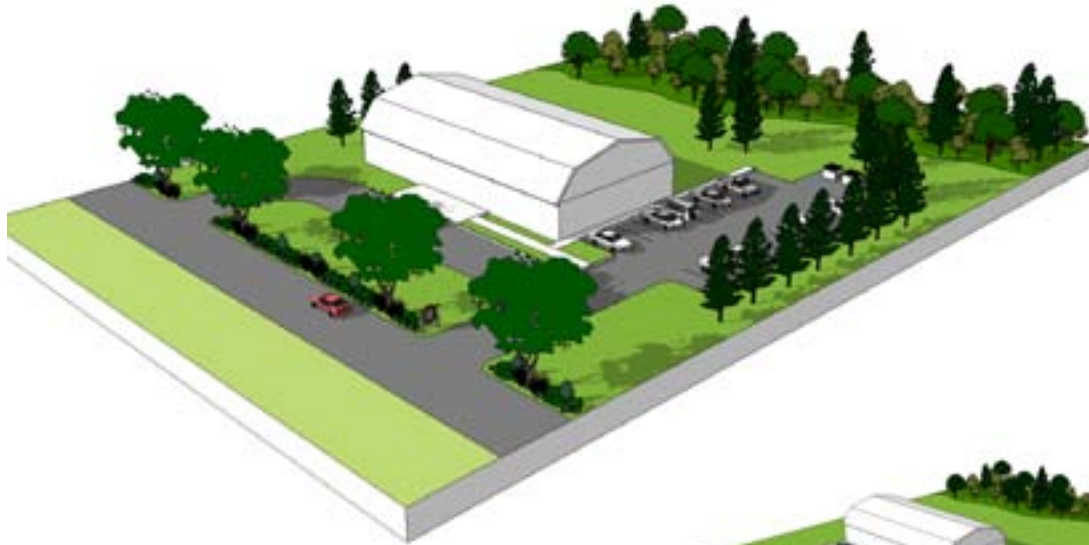


**Improved Practice:** The same parking area, laid out more efficiently, allows room for pedestrian circulation as well as vehicular, signage and separates the road from the parking area.

A gas station in Rhinebeck, New York. Set in the village, this gas station mimics the village character in its architecture, setback and landscaping, as well as by its arrangement with parking and pumps at the rear of the building.

# PLANNING & DESIGN PRACTICES

## 5.9 SCREEN PARKING FROM ROAD



**Best Practice:** Combining the practice of orienting parking to the side or behind roadside development with the addition of screening along the roadway reduces the visual impact of parking and storage areas.



**Existing Condition:** Parking and storage are sited along the road and undermine the visual qualities of the highway corridor.

Typical Commercial/Industrial development places parking and storage at the front of the building along the road without screening. This adds visual clutter and intrusions into otherwise scenic surroundings. Employing screening, can maintain visual quality. Screening can consist of ornamental planting beds or simple hedges, but should be substantial enough to block views of parking and storage while providing framed views to the business or signage to draw in customers.



**Improved Practice:** Screening of the same parking area diminishes the visual impact of this use.



A combination of tall shrubs and street trees buffer the view of this parking lot in New Paltz.

## 5.10 BUFFER DISPARATE USES



**Best Practice:** Where disparate or incompatible uses exist adjacent to one another, wider buffers of woodland can be planted or preserved as effective screening that allows the different uses to coexist.

Forest buffers with a mix of coniferous, broadleaf and understory plants are the most effective landscape buffers between disparate land uses, such as commercial/residential, or agricultural/residential. Through a mix of different species, and range in heights of plants, the forest buffer screens light, noise and traffic between the two uses by providing a substantial, physical delineation between uses. These landscape screens can be incorporated into a site plan either by preserving existing forest on site, augmenting existing hedgerows, or by planting areas with a mix of forest species.



**Practice to Avoid:** Without a buffer in place, the negative affects of incompatible uses which include light spill, noise and traffic impact adjacent properties and land uses.

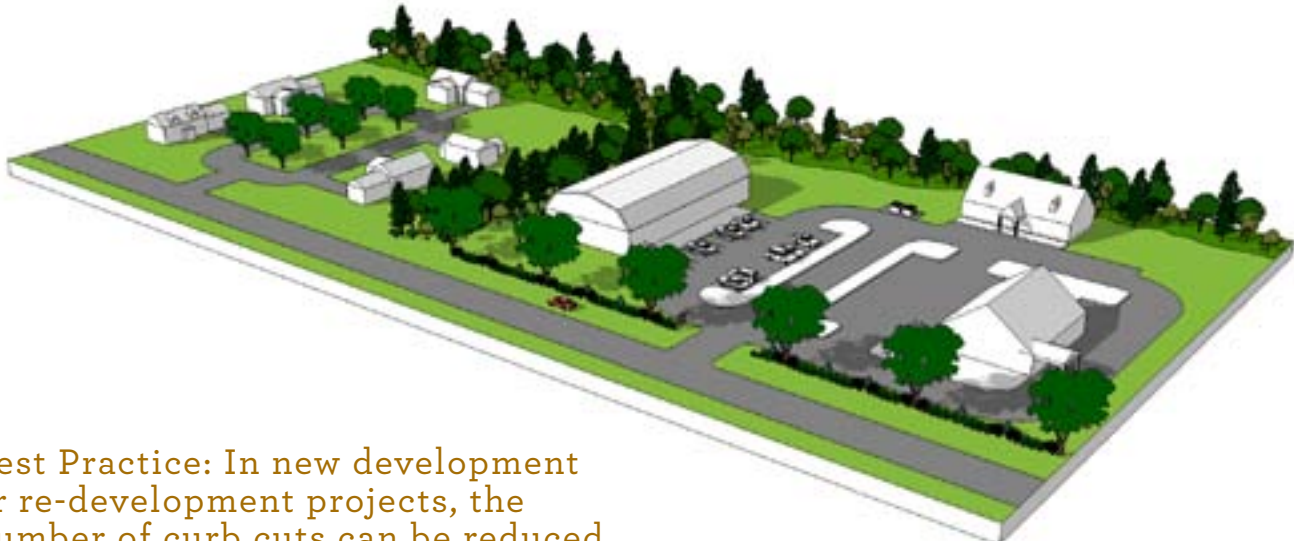


**Improved Practice:** The thin buffer employed here will partially diminish the negative affects of light spill, noise and traffic, but cannot eliminate these affects.

A mixture of evergreen and deciduous trees and shrubs form a buffer between different uses within this shopping area.

## PLANNING & DESIGN PRACTICES

### 5.11 CONSOLIDATE CURB CUTS



**Best Practice:** In new development or re-development projects, the number of curb cuts can be reduced by re-orientating the buildings, creating a shared parking lot, and by designing shared access to a neighborhood. As a result, the quality of the developed highway environment has been improved, traffic conflicts reduced, and a more attractive neighborhood and commercial center created.



**Practice to Avoid:** Linear commercial and residential development has set the precedent of multiple curb cuts along the highway. This practice adds to the visual clutter, as well as increases traffic conflicts, leading to the potential for more accidents.

The Historic development pattern along highways in the Shawangunk region has been linear, continuous and with each building or lot having its own access with a dedicated curb cut. This type of pattern creates traffic safety issues with too many vehicles entering and exiting individual lots and commercial sites, and contributes to visual clutter along the road.

When businesses or residences share access drives many benefits accrue to both the public and the property owner. Shared access reduces development and maintenance costs. Multiple businesses that share entry roads can improve internal traffic circulation, consolidate parking lots and reduce their overall footprint of impervious pavement and development area, thereby increasing the areas devoted to landscaping and open space.



A commercial district set off the main road in Canton, Connecticut- avoids typical linear development pattern, consolidates curb cuts, and creates a pedestrian scaled and pedestrian friendly environment.



## 5.12 EMPLOY LAWN ALTERNATIVES



**Best Practice:** Eliminating lawns by maintaining meadows and cultivating alternative ground covers through careful site layout allows for increased screening and lawn alternatives that fit with the surrounding landscape.

Lawns are a dominant part of the American residential environment, but often are an unnatural element that stands out against natural landscapes or agricultural surroundings. Furthermore, they require a high level of maintenance that naturalized landscapes do not require. With careful site design, areas that might otherwise be lawn are exchanged for meadows or other naturalized, low-maintenance landscapes. Areas of lawn should be reverted to match their surroundings; meadow where it abuts pasture land, forest where it abuts existing forest. Care does need to be taken to maintain these lands and prevent invasive species from taking root. This often can be accomplished with annual mowing of the meadow or removing non-desirable species in a regenerating forest. Reducing lawn areas along roadways can help maintain the rural aesthetic of the landscape.



**Existing Condition:** Forestlands, meadows and croplands abut a large portion of roadways in the Region.



**Practice to Avoid:** Large areas of lawn require increased maintenance and are out of character with their surroundings, representing visual gaps in otherwise cohesive landscapes, and promoting suburban patterns in rural areas.

Meadows present a low-maintenance and attractive alternative to large lawn areas, while providing important habitat.

source: <http://www.ia.nrcs.usda.gov/features/urbanphotos.html>

## PLANNING & DESIGN PRACTICES

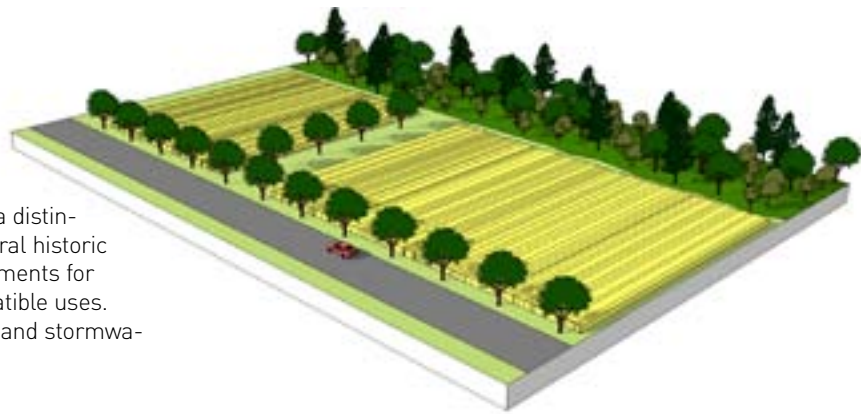
### 5.13 MAINTAIN STREET TREES & HEDGEROWS

Hedgerows and street trees are an important part of the overall landscape pattern of the Shawangunk Region and add aesthetic and ecological value.

Hedgerows and street trees screen development, organize landuse activities and add landscape interest. Ecologically they act as mini habitats and cover for various species and serve as stormwater management tools. Maintaining historic hedgerows and street trees in the region preserves a valuable asset that enhances scenic quality and promotes livability.

#### Hedges:

Hedgerows along fields and rural roadways are a distinguishing feature of the Region and part of the rural historic heritage. New hedgerows provide organizing elements for new developments and screen or buffer incompatible uses. Hedgerows can also provide habitat connectivity and stormwater management functions.



#### Street Trees:

Street trees add immeasurable value to village streets, as shade, visual softening of built edges, and as pedestrian scale elements. New street tree plantings should be employed when development projects and roadside utilities need to be screened from the traveling public or adjacent uses. Street trees should be selected for hardiness and site suitability. Native species are most desirable and monocultural plantings should be avoided. Columnar trees are appropriate when the planting space is tighter and trees of limited height can be employed under utility lines. Spacing of trees may vary depending on tree canopy spread and desired effect, but typically 30 to 40 foot spacing between trees is desirable.

5.14 MAINTAIN HABITAT INTEGRITY



**Best Practice:** Preserve the integrity of habitat and meaningful open space by designing development that responds to natural conditions on the site and in surrounding lands.

Habitat integrity can be easily degraded by development. While some measures are in place to protect habitats, most are vulnerable, as are the natural buffers around them and the linkages between them. Species typically require more than one type of habitat, such as forest and wetland. Poorly-planned development often prevents movement between habitats. By considering the natural areas of the site first, development projects can be shaped to maintain the functional integrity of natural systems and wildlife habitat. The addition of landscaping can provide effective buffering between protected areas and new development.



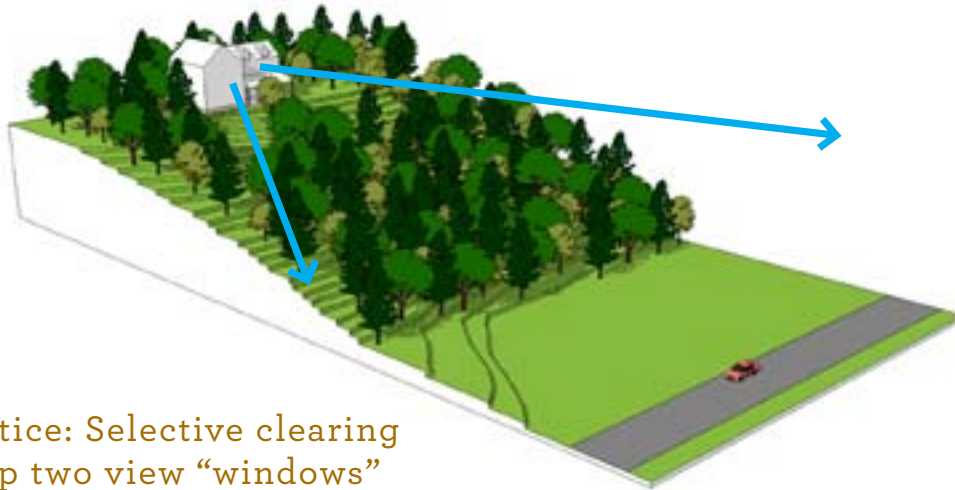
**Existing Condition:** Seemingly distinct habitats are often connected by the subtle activity of the species that live in and between them, as well as by dynamics such as underground water movement.



**Practice to Avoid:** Developing around existing wetlands preserves the wetlands themselves, but impacts the integrity of the connected habitat as a whole, as well as undermines the potential for meaningful open space.

# PLANNING & DESIGN PRACTICES

## 5.15 SLOPES | LIMIT HILLSIDE CLEARING



**Best Practice:** Selective clearing to open up two view “windows” from the building or residence eliminates clear-cut area or “holes” in the canopy while providing views out from the property.

When clearing to obtain views from building sites on ridgelines and hillsides, the tendency is to clear large swathes of forest to maximize views out from the structure. This amount of clearing is not necessary to achieve the desired views, and has the negative result of opening up gaps in the hillside that appear as incongruous clear-cuts or “holes” in the forest cover when viewed from afar. To obtain views and limit negative effects to the overall scenic quality of the region, clearing should be carried out selectively, opening up “windows” in the tree canopy near the structure. This will help to maintain the integrity of the forest cover that is part of the scenic quality of the Shawangunk Region, and that limits views into the site from afar.



**Existing Condition:** Much of the steep slopes along the ridgelines remain forested.

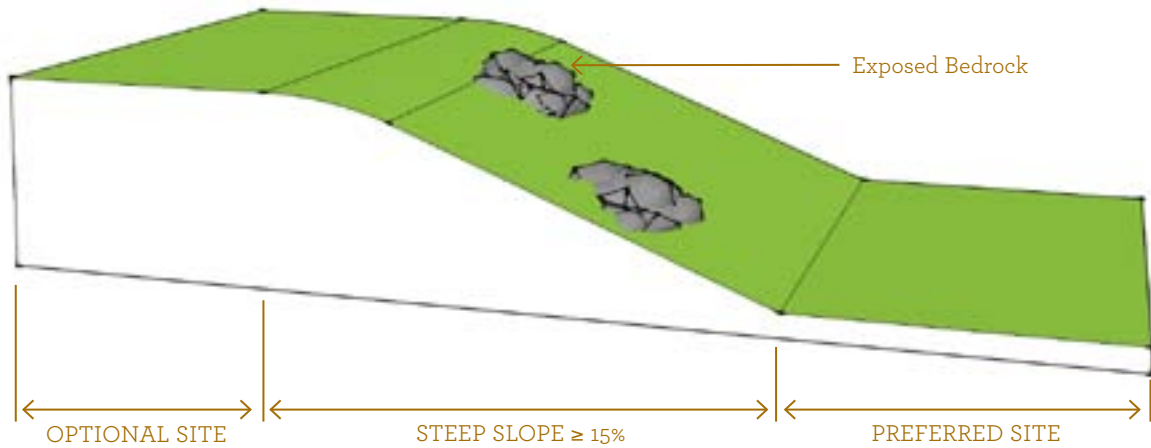


**Practice to Avoid:** Clearing of these slopes creates gaps in the forest canopy and views to structures that are incongruous with the surrounding scenic landscape.

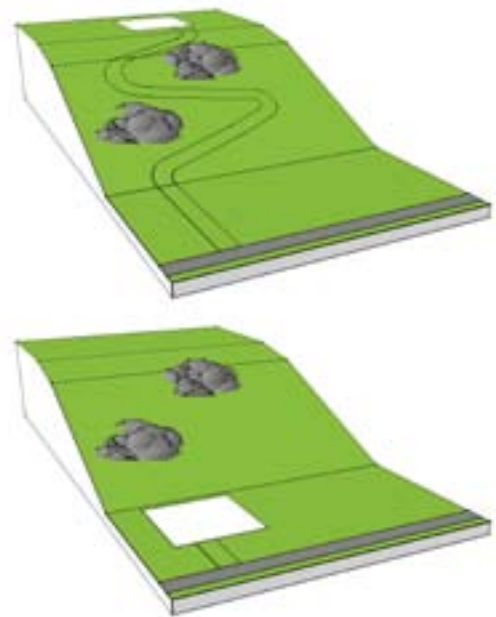


Located in Pantown, Vermont, this house employs quintessential view windows through a hedgerow in front of their property. Set on the knoll, the house enjoys long distance views through these windows, while maintaining privacy and views of the hay field in the foreground from the road.

5.16 SLOPES | PRESERVE STEEP SLOPES



Steep slopes are abundant in the Shawangunk region. Historically, these lands have not been developed due to the expense of clearing, grading and building upon them, and in large part have remained forested. This has resulted in the majority of these slopes being preserved. However, as development pressures increase, as well as the demand for building sites with views, more and more of these slopes are being developed. Steep slopes represent particularly fragile locations for building, both ecologically and aesthetically. Clearing of these slopes for driveways, building sites and lawns results in increased erosion as there is no longer vegetation present to hold the soil on these steep grades. Once this thin layer of soil is lost, it is impossible to regain. Furthermore, these slopes are already prominent in the landscape. Any clearing or building that occurs upon them will be that much more apparent and incongruous with what currently exists. Bedrock areas should also be avoided to eliminate the need for blasting and the consequent environmental impacts.



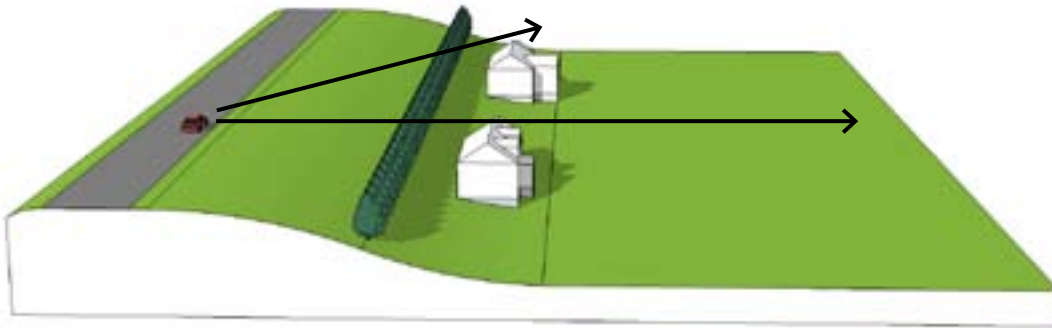
**Practice Comparison:** While building on the top of the slope is better than within the area of steep grade, it still requires an increased amount of grading, and resulting clearing of the slope to reach the higher building site. Building on the flat site at the base of the hill, completely preserves the slope and the scenic and environmental value it provides.



**What not to do:** This development on a steep slope detracts from a scenic view in an otherwise picturesque landscape. The driveway approach from the road cuts too sharply across the topography and has resulted in the need for increased clearing. This coupled with expansive lawn areas creates a large visual gap in the forest cover.

# PLANNING & DESIGN PRACTICES

## 5.17 SLOPES | BUILD BELOW LINE OF SIGHT



**Best Practice:** Building below the line of sight from the roadway allows views out over the valley to be preserved. The addition of low screening buffers the homes from the road, reducing noise, preserving the road continuity, and providing privacy to the home owners.

The tendency when building in a viewshed is to maximize views from the structure. This goal is often carried out at the expense of scenic views from the roadway or other vantage points, as buildings are usually built along the road or at the top of the slope. By building just below the line of sight from the roadway, views from the road can be preserved, while still allowing for views from the structures.



**Practice to Avoid:** Built near to or at the top of a slope, the buildings block long distance views out over the valley.



**Improved Practice:** Screening the buildings at the top of the slope preserves the continuity of the road corridor, but cut off views of the valley entirely.



Housing development in the Shawangunk region- set below the line of sight from the road, and below the forest-line beyond, this development leaves the majority of the view to the ridge open, while screening the portions of development that are still visible.



**Best Practice:** Sited below the hill, the roof line of this house is below the skyline, leaving the skyline intact and visible as a backdrop for scenic views.

Skylines, whether of the Shawangunk ridge itself, or of hillsides throughout the region, represent an important element in the visual wealth of the Region. By limiting development along skylines, the integrity of this landscape feature can be maintained. The alternative to skyline development is to be build in such a way that the roof lines do not break the skyline. This may mean building in the valleys below a hillside, or building low profile buildings on the side slope of a hill or ridge.



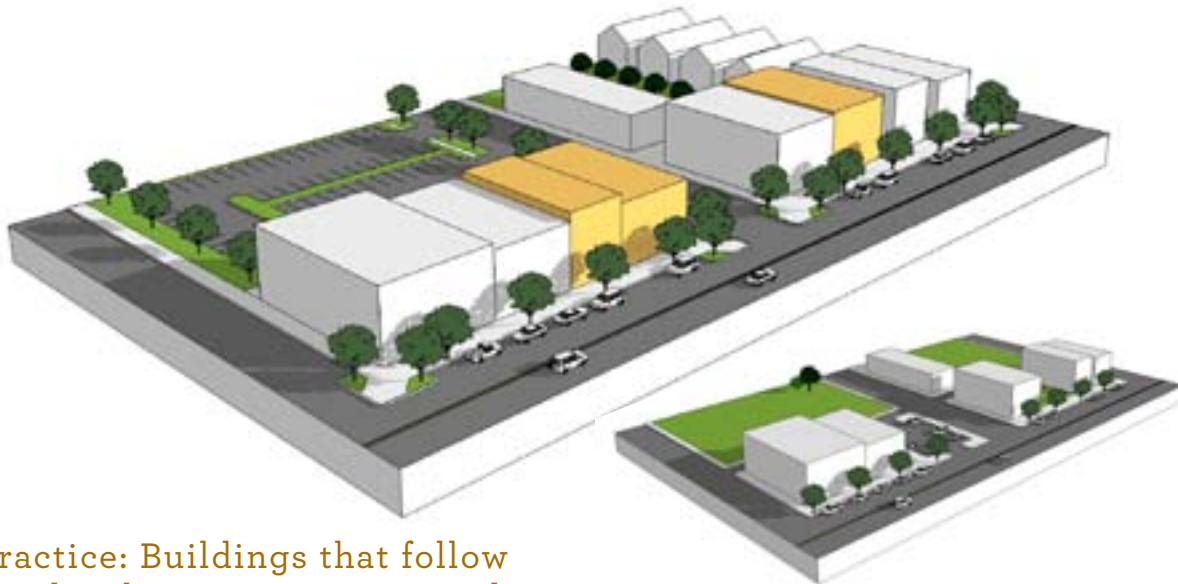
**Practice to Avoid:** Built on top of a hill, this house breaks the skyline, interrupting a natural landscape feature characteristic of the region.



This home has been appropriately sited in such a way to maintain an uninterrupted view of the scenic skyline beyond.

# PLANNING & DESIGN PRACTICES

## 5.19 INFILL



**Best Practice:** Buildings that follow existing development patterns and respect the current setback, scale and massing of their surroundings result in a more appropriate infill pattern. Consolidated parking and increased pedestrian scale elements such as lighting, trees and landscaping further reinforce the village center.

**Existing Condition:** Vacant lots, undeveloped parcels, and unconsolidated parking offer opportunities for infill.



**Improved Practice:** Infill development that employs setbacks, scale and massing that do reflect the historic patterns and the contextual characteristics undermines the visual quality and ambience of the village or town center.

Infill in areas that have already been developed is one of the best tools to prevent sprawl outside of cities and village centers, which in turn protects the surrounding rural character. Infill development puts new buildings on vacant lots surrounded by development and/or sites where buildings have been lost to fire or demolition. Many historic villages, urban areas and commercial districts on the edge of cities and villages offer ample opportunities for infill. The key to successful infill is to respect the site context and to follow historic or pre-existing development patterns. This includes building setbacks, circulation patterns, scale and massing.



Infill building in Saratoga Springs, New York- follows setback, scale and massing of other nearby downtown buildings and includes pedestrian amenities such as landscaping and pedestrian scale lighting. Note that parking has been partially screened and is placed beside, not in front of the building.



5.20 FOLLOW PRECEDENT | DEVELOPMENT PATTERN



**Best Practice:** New development in this neighborhood fits within its surroundings by respecting existing and desirable architectural patterns.

Throughout the region there are several residential areas of historic significance, and still others whose development patterns are aesthetically and culturally significant. New development needs to be planned and designed in such a way that the character of these districts is maintained. Typical development patterns create an suburban landscape that does not coincide with historic settlement patterns. Lawns are larger, sidewalks and street trees typically do not exist, and the style, scale and massing of the structures are incongruous with their surroundings. New development can be made to adhere to and sustain the visual quality and established pattern of existing neighborhoods by following existing and historic development patterns regarding setbacks, scale and massing and including pedestrian amenities.



**Existing Condition:** The edge of an existing neighborhood presents an opportunity for development.



**Practice to Avoid:** Disregarding the current development pattern, this suburban style property does not fit within its surroundings.

New housing development in the village of Hinesburg, Vermont. The houses in this subdivision are set close together with sidewalks and street trees along the frontage to reflect the adjacent village aesthetic.

# PLANNING & DESIGN PRACTICES

## 5.21 FOLLOW PRECEDENT | SCALE AND MASSING

The architecture of the Shawangunk Region contributes substantially to the visual character and quality of the area.

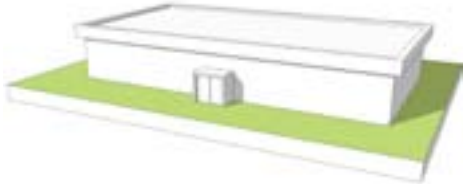
From the Huguenot settlements to the historic downtowns, to the traditional forms of agrarian architecture, there are numerous architectural assets throughout the region that should be preserved and enhanced. Future development needs to complement the existing patterns and designs. The elements of scale, massing and detail can be used to plan new buildings in such a way that melds them effectively with the existing architecture of the Region's towns and villages.



**Recommended Practice:** Commercial buildings should borrow from the existing architectural context. In this example a commercial building that borrows from the existing agricultural architecture of the region would suit the rural landscape.



**Recommended Practice:** Infill buildings should be designed with the same proportions of scale and massing to what currently exists on the village street. They can be contemporary in design but need to be contextually connected in some manner.



**Practice to Avoid:** Commercial Box type architecture, often found lining highways, lacks character and detracts from the aesthetic that exists in the Region.

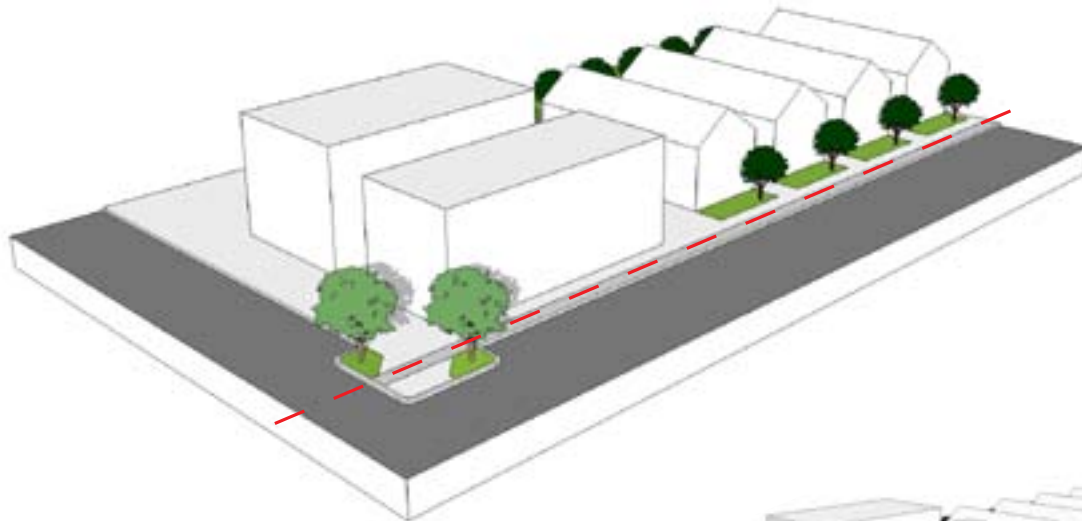


**Practice to Avoid:** Buildings that infill vacant lots in villages, yet do not match the massing, scale or design pattern of what exists, detract from the streetscape and create gaps and incompatible design patterns.

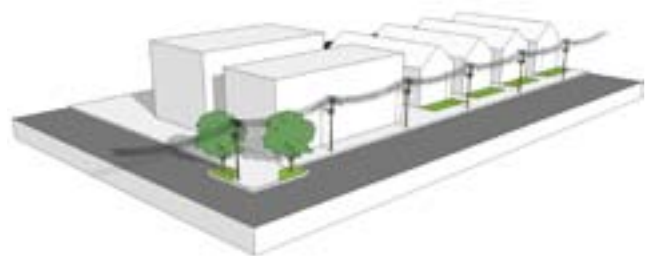


Commercial shopping center in Waitfield, Vermont- follows rural village architectural precedent of the region, has shared parking, pedestrian features and appropriate architectural scale and massing.

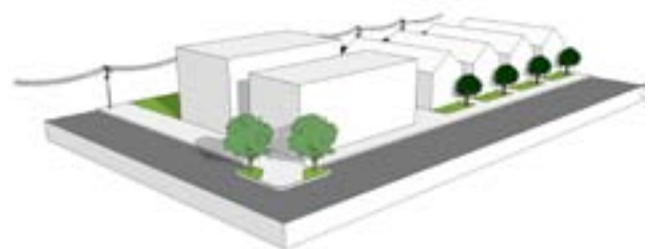
5.22 SITE UTILITIES OUT OF VIEW | VILLAGE SETTING



**Best Practice:** Wherever possible, utility lines should be buried underground, completely eliminating the visual clutter they add to the landscape. The utilities shown here by the red dotted line would run under a paving strip in the sidewalk, and be accessible for necessary servicing.



**Typical Practice:** Utility lines along village streets and country roads add visual clutter to otherwise appealing surroundings.



**Improved Practice:** Siting utility lines behind buildings can remove visual clutter from the streetscape.

Utility lines are necessary, but often add unnecessarily to the visual clutter that undermines the aesthetic qualities of a landscape. Two simple methods, can greatly reduce or eliminate this visual clutter. The first strategy is to place utility lines behind buildings or homes, perhaps behind a line of trees or against a natural edge such as a forest. This method removes the poles and wires from their typical, prominent position along a road to a less obtrusive location. The second strategy is to put the lines underground. This method can be more costly, but where employed, can completely remove the utilities from the visual landscape. This approach is highly recommended in valued public landscapes, such as villages or in historic districts.

Concrete “brick” paving strip installed along sidewalk. This paving provides a great solution to access issues for underground utilities where lawn is not appropriate.



## PLANNING & DESIGN PRACTICES

### 5.23 SITE UTILITIES OUT OF VIEW | RURAL SETTING

The transmission lines and structures for utilities are typically developed as above ground elements supported by structures that can range anywhere from 35 to over 100 feet or more in height. Often these facilities undermine scenic qualities when present in the landscape. Typically sited along or near roads, they can impact scenic views and create unwanted clutter.

Effective siting and screening can reduce the visual impact of these facilities. Some techniques to consider are burying power and phone lines, and housing facilities such as substations in sunken sites or behind berms. Co-location of utilities also reduces the need for support structures by consolidating additional lines on existing structures.

**A Note about Siting Solar Energy Facilities, Wind Turbines and Telecommunication Towers:** Other utilities to consider are energy generation and telecommunications facilities. Solar energy developments typically include extensive arrays of photo-voltaic panels which are typically up to 15 feet in height. These developments can be screened effectively behind landscaping.

Residential scale wind turbines and telecommunication towers are not readily screened as they must be above the treelines to operate effectively. They need to be sited and reviewed on a case by case basis in order to find or approve locations where visual and noise impacts are reduced by topography and vegetation.

Communities typically cannot ban cell towers and telecommunication facilities, but do have input as to where and how they should be sited. One typical requirement is to limit the height of above treeline for a tower to 30 to 50 feet in order to reduce visibility. Co-location and locating facilities within silos or steeples is another option, as is disguising towers to look like trees (not a universally accepted option and one that has to be carefully considered so as to not stand out alone and look awkward). Communities may consider establishing specific areas where cell towers are not permitted, or require visual impact assessments to gauge visual impact.

#### Siting Distribution Lines



**Typical Practice:** Utility lines are typically strung along roadways, directly within the line-of-sight.

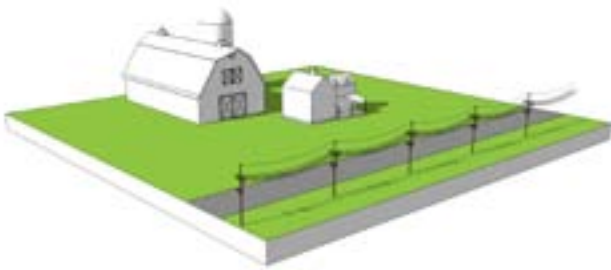


**Improved Practices:** One desirable option for locating utilities is to place them within existing corridors, or within other infrastructural corridors such as rail road rights-of-way, or to locate them against a forested backdrop so that they blend in.

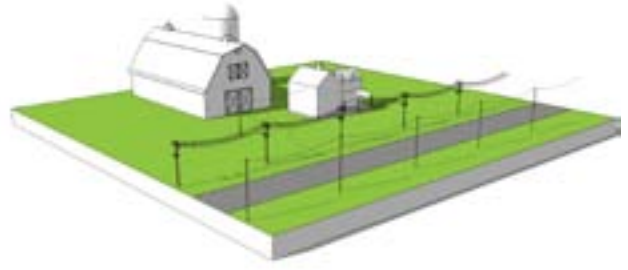


Transmission lines run along the edge of a forest are visually absorbed by the dark vegetation. These lines have further been designed to reduce visual impacts by collocating utilities on the same poles, as shown by the double arms.

## Colocation



**Best Practice:** Coordination among utility companies can result in the more desirable co-location of utilities and can eliminate a whole set of structures and a corridor.



**Typical Practice:** Utility lines are placed on both sides of road with each utility type on its own pole.

## Utility Corridors on Hillside



Typical Practice

**Typical Practice:** Straight line utility corridor cuts result in long distance views of the right-of-way and lines.



Better Practice

**Better Practice:** Avoiding straight line cuts through wooded areas also reduces visual impacts when viewed from afar. Some shifting of corridor direction in certain locations, coupled with the "feathering" of the treeline avoids what is referred to as a "box cut" and allows the



Best Practice

corridor to be softened and consequent visual impacts reduced.

**Best Practice:** Locating a transmission or distribution corridor mid-slope on a hillside can result in little visibility when viewed from the ground plane. The interruption in the forest cover caused by the right-of-way clearing often appears as merely a shadow on the hillside.



Where there is no other option but to run transmission corridors perpendicular to a hillside, creating jogs in the right-of-way helps to diminish the visual impact of the clearing. Rather than seeing a broad swath of clearing, portions of the clearing appear as shadow.



This cell tower incorporated into a silo in South Burlington, Vermont is an example of a creative means of incorporating a necessary utility in a visually unobtrusive manner.

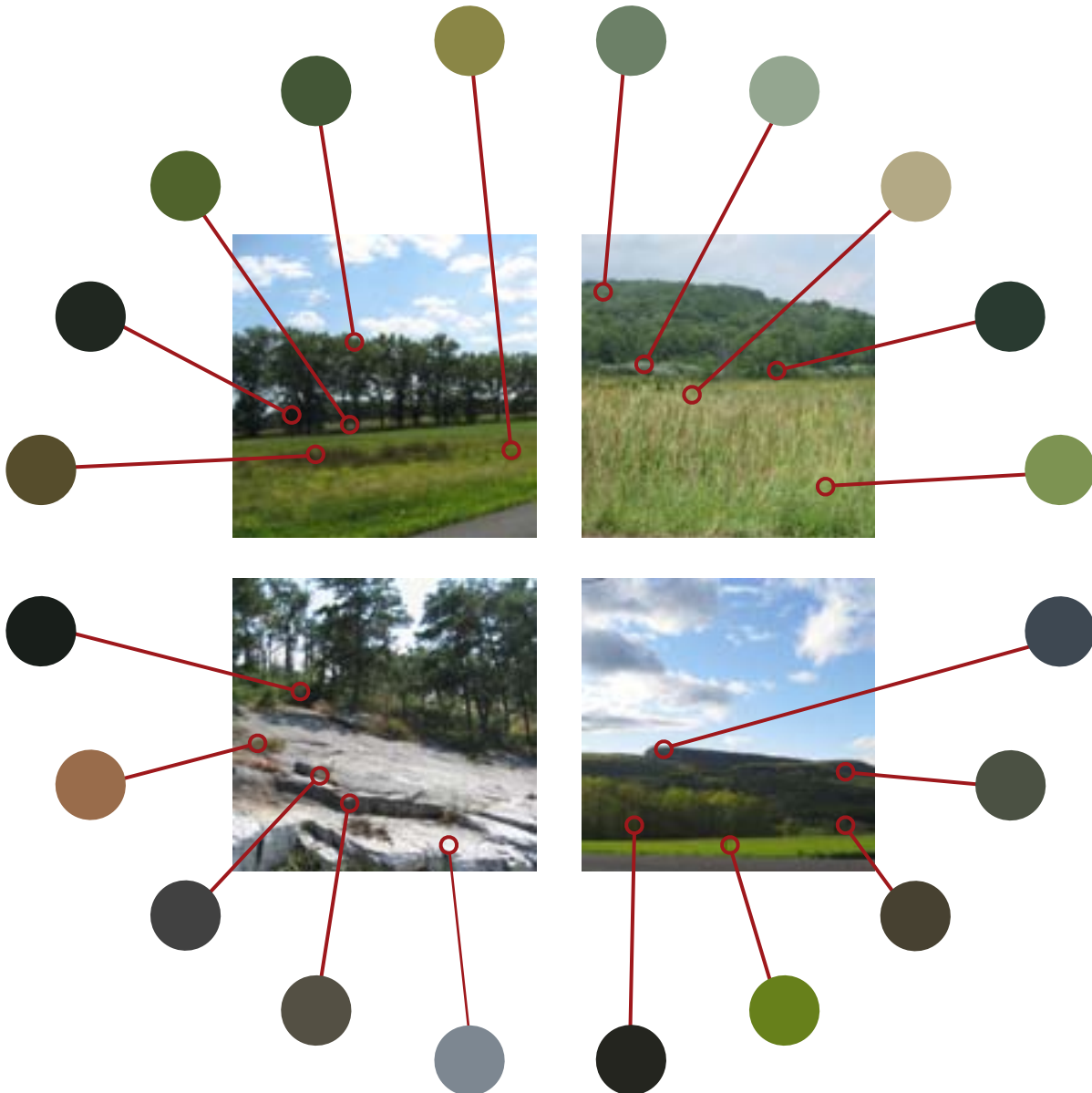
# PLANNING & DESIGN PRACTICES

## 5.24 USE COLOR FROM THE LANDSCAPE

Employing appropriate colors and materials for building finishes can help blend development effectively with its natural surroundings. All landscapes have their own unique color palette that humans consciously or unconsciously understand to be part of their aesthetic character. A contextual approach to color can be an important consideration when planning new construction. It is desirable to work within an existing natural palette to decrease the visual impact development will have on an existing scenic landscape.

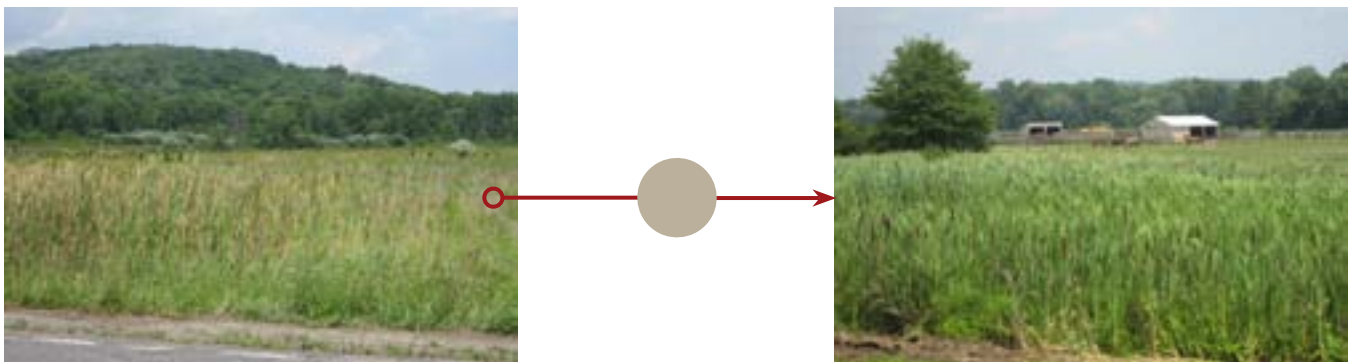
### Selecting Color

Shown below is a selection of photos taken along the byway. The colors shown surrounding the images below are colors derived from the natural landscape. Colors selected from the landscape are sometimes referred to as earth tones. Typically, the darker the tone used for cladding, the more the building will recede in the view. For bright, open landscapes, such as a meadow, lighter, brighter colors may be more appropriate.

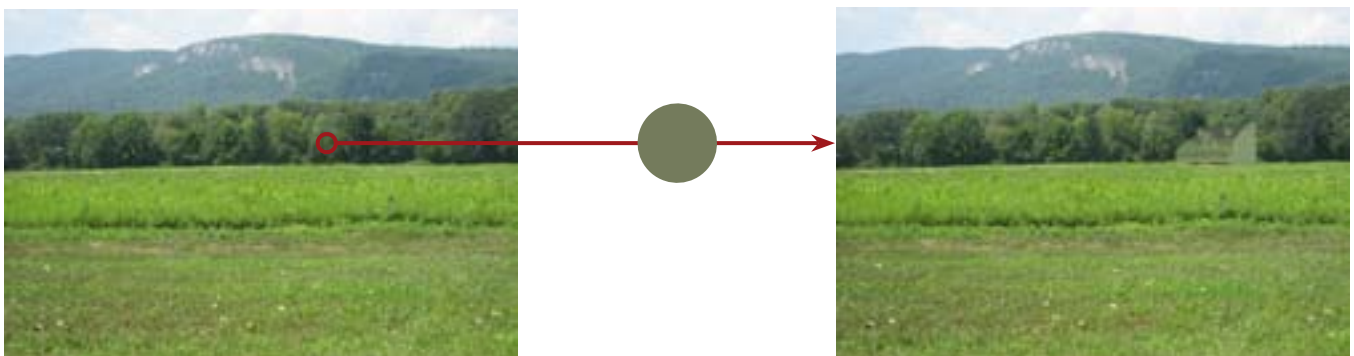


### Shown below are two scenarios for selecting colors from the landscape and applying them to new construction that best enable the buildings to blend in with their surroundings.

The color selected depends primarily on the colors present in the specific landscape to be developed. More precisely, the color used should be appropriate to the placement of the structures in the landscape. For example, typical areas of development are meadows with a forested backdrop. If the structure to be built is along the forested backdrop, a darker earth tone that matches or relates to the forest coloration would be most appropriate. If the structure is built within the meadow with a meadow backdrop, a lighter earth tone that matches or is harmonious with the meadow color ranges would be most appropriate.



The horse stable pictured on the right is an existing structure along the Shawangunk Mountain Scenic Byway. Set in a meadow with a wetland in the foreground and a forested backdrop, the light earth tone structures blend well with the surrounding landscape. The degree to which it blends with the surrounding could be improved further by using a darker roofing material.



The existing field above is not currently developed and affords a beautiful open vista to the Ridge. By selecting an earth tone color for the exterior, even a sizeable home can be made to blend with its surroundings and the forested backdrop, and, thus, does not overly impact the scenic view.

# PLANNING & DESIGN PRACTICES

## 5.25 SIGN DESIGN

In the design and development of effective and appropriate signs, attention must be paid to design, messaging, legibility, placement and lighting. One opportunity for communities, downtowns and the Byway as a whole is to consider coordinated wayfinding systems to assist travelers in reaching their desired destinations in a timely and safe manner. While the onus is often on individual business owners, organizations and institutions to ensure that their properties, buildings or businesses are effectively signed, the individual municipality has the purview of sign approval and the potential to guide (and/or require) effective and appropriate sign design. Several basic design practices for good signage are provided herein.



**Recommended Practice:**

Mounting spotlights directly on freestanding signs reduces the amount of light that escapes the sign boundaries and can eliminate excess light spill. Lighting fixtures and the housing for the lights can be designed in a manner that provides uniform illumination for the sign surface.



**Practice to Avoid:**

Lighting signs with ground mounted spotlights results in excess light which can escape outside the sign boundary and cause unnecessary glare on roadways.



**Recommended Practice:**

Internally lit signs which only illuminate the lettering is most effective and highly legible both in nighttime and daytime conditions. These signs are highly legible, without creating undo glare.



**Practice to Avoid:**

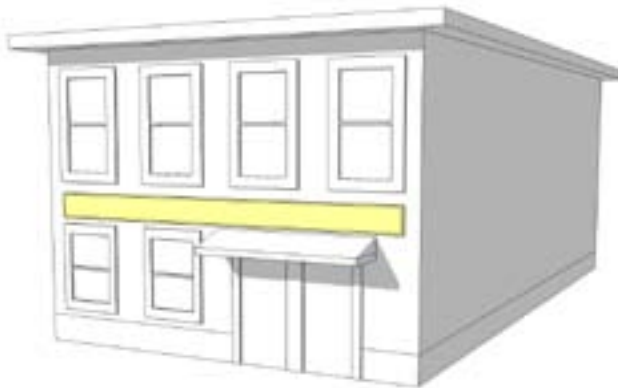
Internally illuminated signs that have predominately light colored backgrounds overwhelm the dark colored lettering and making the sign less legible. This lighting approach creates unnecessary glare along roadways.



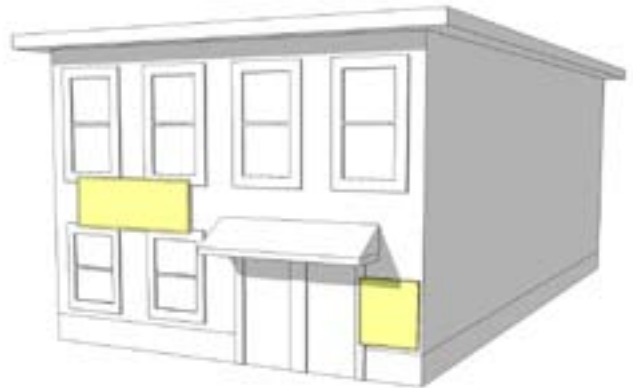
This understated sign is constructed of the same quality materials utilized on the buildings and is contextually appropriate. This is an example of how a regional chain can fit its sign to match the local character.



**Best Practice:** When creating directory type signage the tendency is to list every store that is present in the plaza or park. Text on directory signs should be limited to the address, and 3-4 anchor stores.



**Recommended Practice:** By placing signage on buildings in a way that complements the architecture creates a more aesthetically pleasing affect. Sign bands that accommodate all signs for a building work best.

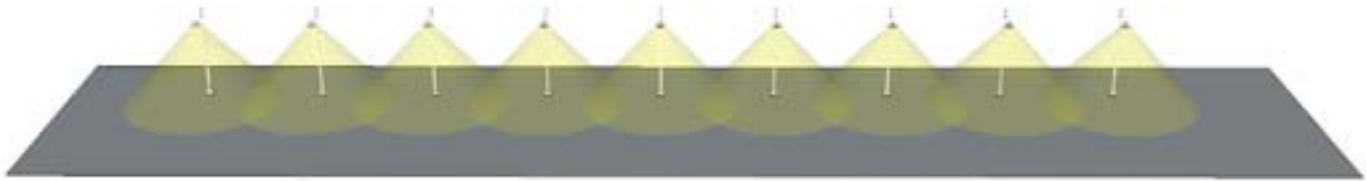


**Practice to Avoid:** Signs on buildings that interfere with the architectural patterns of fenestration and facade design appear visually discordant.



A Rite Aid pharmacy sign in Camden, Maine. This new sign was designed to fit the historic building on which it is placed. The aesthetic harkens to historic, gilded signs, and the size and details compliment rather than detract from the architecture of the building.

## 5.26 LIGHTING DESIGN



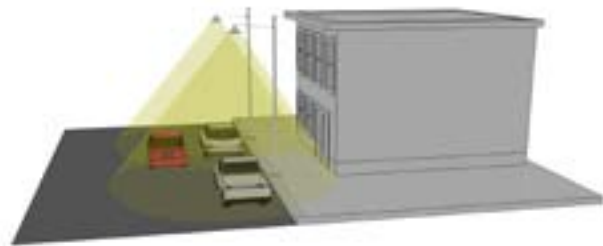
Lighting along village streets and in parking lots should use a pedestrian scale light fixture, no more than 20' in height, with an even, overlapping lighting arrangement.

Light pollution in rural and scenic areas is a growing problem. As development increases, so too does the amount of light used. This light often escapes its intended target, spilling out into the sky and detracting from the visibility of stars, while increasing glare along roadways and in residential areas. By employing good lighting design techniques, the amount of unnecessary light entering the sky can be decreased, while still allowing for adequate lighting where it is needed.

- Light should be glare free and shielded from the sky, and adjacent properties using cut-off technology that controls light spread.
- Light should be aimed to reduce undue glare and light trespass onto other properties.
- Parking area and village street lighting should be designed with concealed or recessed light sources that shield light downward and confine light spread. Light fixtures mounted on gasoline station or convenience store canopies should be recessed so that fixtures are flush with the canopy.
- Street lighting in rural areas should be limited to only those areas where it is necessary, such as at intersections.
- Wherever possible, exterior lighting installations should include dimmers, sensors or photocell controllers that turn lights off during daylight hour or

when light is not needed.

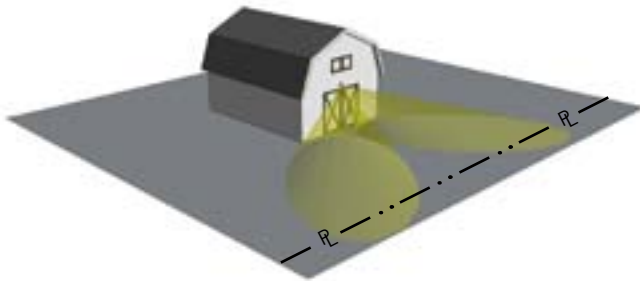
- Light screening by means of landscaping should be used between commercial areas and adjacent, non-compatible uses.
- The same type of pole and fixture should be used throughout a multi-building project site and be compatible in size with adjoining properties. Where more than 20 parking spaces are proposed, photometric plans showing isolumen or footcandle patterns demonstrating no light trespass to other properties should be provided.
- A table should be adopted with maximum brightness (measured in footcandles) for each outdoor lighting use, such as 10 footcandles in a parking lot. In addition to this table, a ratio of maximum brightness to minimum brightness should be specified, such as 4:1, such that a parking lot with a maximum light output of 10 footcandles will have a minimum light output of 2.5 footcandles. This will preserve uniformity of lighting throughout.



**Recommended Practice:** Appropriate cut-off technologies allow adequate lighting of the sidewalk and street, while reducing light spill into the adjacent building and surrounding areas.



**Best Practice:** Lighting, whether on buildings, along streets or on signs, should always be designed in such a way as to minimize light spilling outside the intended area, especially across vistas or directly into driver's eyes. By encasing the light elements within a fixture, the light is directed to where it is needed, rather than in any direction the bare bulb will shine.



**Practice to Avoid:** Typical flood light type fixtures have no shield and spill bright pools of light and glare outside the intended area, potentially onto adjacent properties.



**Recommended Practice:** Outdoor lights, such as those found on a garage or barn, can use simple fixtures to encase the light element, reducing light spill, and motion sensors or timers to turn lights off when not needed.



Flood lights can create result in undue glare to neighbors and undermine the nighttime character of a neighborhood.

## PLANNING & DESIGN PRACTICES

### 5.27 PROTECT SITE ASSETS



A Site Protection and Soil Management zone around this proposed house is fenced in to prevent encroachment. The topsoil has been stockpiled to prevent compaction, and to conserve it for later use in site restoration.

When preparing a new site for construction, it is important to take measures before site work begins to protect its natural assets. The top soil on the site will be critically important to the future quality of a site's landscape. Healthy soils are easily degraded by construction activities, such as compaction of soils by heavy machinery which in turn limits the ability of vegetation to grow, increases erosion due to lack erosion control measures, and contamination due to spills of paint, oil or fuels. Trees and vegetation are often damaged by machinery, and awkwardly pruned to provide vehicle access, and roots severed in the excavation and grading process.



**Existing Condition:** A forested parcel has a high amount of natural assets in the trees and native soils that can add to the value of the developed site if protected, and poorly managed.

To limit disturbance and protect site assets, a Site Protection and Soil Management Plan should be established and communicated to all construction and maintenance personnel prior to construction. A Site Protection and Soil Management Plan establishes zones of protection for vegetation and soils, areas of restoration, and methods for site restoration after construction is completed.

Key Consideration for Site Protection and Soil Management Plan:

- 1) The Soil Management Plan should encompass the to-

tal site area and indicate management zones including:

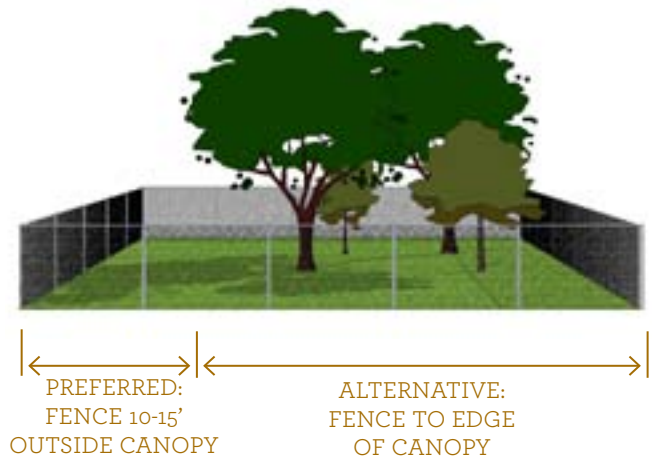
- Soils and vegetation that will be maintained in place as designated soil protection zones. In these areas, no construction activities shall take place and all soil protection zones will be fenced off, or otherwise delineated with a physical barrier that cannot be easily moved or encroached upon.
- Soils and vegetation that will be disturbed during construction. All topsoil in these areas shall be stripped prior to the commencement of construction activities, and stock piled in a protected location, and shall be replaced on site and re-vegetated with native species after the completion of construction activities. Wherever possible, soil protection zones should be employed over stockpiling, as soil that is disturbed through the process of removing and storing soils can decrease the ecological integrity of the soil as populations of microorganism
- Soils and vegetation disturbed by previous development on site that will be restored in place and re-vegetated. These areas include those that have previously been stripped of topsoil, eroded, or compacted by construction or other activities. Restoration should include replacement of topsoil where necessary and/or the incorporation of compost and aeration of the soil through tilling.

2) Include in the site plan locations of all laydown and storage areas, haul roads and construction vehicle access, temporary utilities and construction trailers, and parking, all of which must be located outside of soil protection zones, and areas for stockpiling topsoil.

3) Describe how areas for soil protection zones and topsoil storage will be protected from compaction, erosion, and contamination until project completion.

4) Describe the treatment details for soil restoration zones including type, source, expected volume and nutrient profile of restoration materials (compost amendments, mulch, topsoil, etc.) and method of restoration (topdressing, mechanical tilling, etc.).

5) Communicate the Site Protection and Soil Management Plan to site contractors in site drawings and written specifications and ensure that all construction and maintenance personnel are educated about the soil management plan and protection zones.



It is important to note that when developing forested sites, trees that grow up in a forest typically do not do well when isolated as single specimens in the landscape. They need the support of surrounding trees to withstand wind shears that cause blow-downs, and can suffer sun scald when suddenly isolated. By protecting trees in clumps, they will have the best chance of survival. Their neighboring trees will help support them in bad weather, and they will experience a more gradual change to increased sun exposure.



This area of protection is delineated by both a chain link around the entire area, as well as additional wooden fences around trees of significance. A silt fence prevents soil from eroding and migrating off site and into waterways.

## PLANNING & DESIGN PRACTICES

### 5.28 CLEAR TREES SELECTIVELY

Selectively clear trees to maintain the forest continuity, improve neighborhood aesthetics, and retain site privacy for the homeowner.

Selective clearing of site trees provides several benefits. In a forested landscape it allows for the continuity of the forest to be retained, thus maintaining a more aesthetically cohesive landscape as a whole. Selective clearing allows the privacy of the site to be retained for the benefit of the homeowner, as views into the site are restricted.



**0-10% Clearing:** Houses are screened from view behind existing or naturalized landscaping, preserving the forested quality of the landscape and providing privacy for the homeowner.



**50% Clearing:** Some trees are retained to screen houses from road, and to improve the landscape aesthetic for the homeowner, but large areas of cleared land exist.

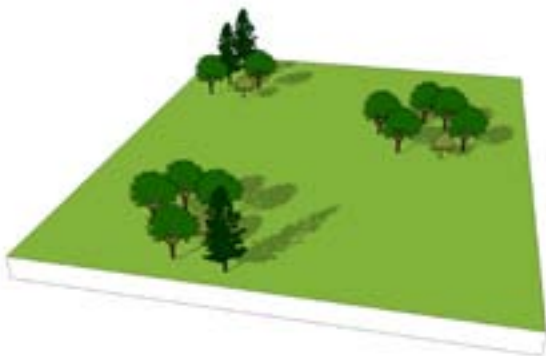


**90% Clearing:** The majority of the site is cleared with only a couple of isolated mature trees retained. The health of these isolated trees will be impeded by their sudden isolation in the landscape.

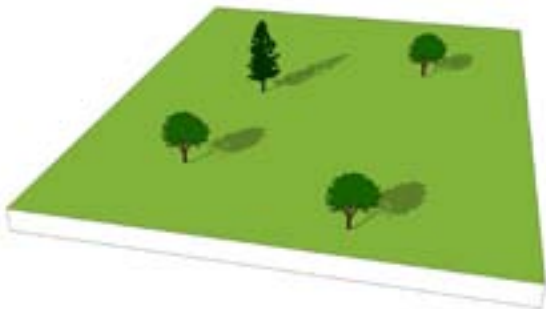


**100% Clearing:** No trees in the lot are retained, leaving views to the residences open.

# PLANNING & DESIGN PRACTICES



**Recommended Practice:** Preserve existing forest trees in clusters. This helps the trees better withstand wind shears, and increased sun exposure.



**Practice to Avoid:** When suddenly isolated in the landscape the health of former forest trees often declines. Having grown up in the shelter of other trees, the newly isolated trees often cannot adapt to the new conditions of full sun and full force winds.



**Recommended Practice:** An example of trees well preserved: these trees have good branching structure and are in good health.



**Practice to Avoid:** This tree was preserved during the construction of this house, but it is unlikely that it will survive isolated in the landscape. A better approach would have been to preserve this tree as part of a cluster of trees, or to preserve a tree with fuller branching structure.

## PLANNING & DESIGN PRACTICES

### 5.29 PLANTING & MAINTAINING LANDSCAPING

Landscaping and trees provide various visual and functional benefits in the landscape. Not only can they add color and variety to the landscape, but properly designed landscapes can reduce maintenance costs and improve energy conservation.

Landscaping provides a variety of benefits to the builder, homeowner and community alike. Attractive landscaping increases the value of properties, and improves the overall aesthetic and feel of a community.

When establishing plants in the landscape it is important to take steps that encourage the best possible growth. Plants require specific amenable conditions to reach maturity and provide the aesthetic benefits such as screening that they were intended to. The following guidelines outline the steps that can be taken to encourage this growth.

#### *Before Planting:*

- Follow the guidelines for Protecting Site Assets on p. 88 of this guide. Preserving the arability of native soils will go a long way toward promoting growth.
- Complete a site assessment checklist, such as that found in *Recommended Urban Trees: Site Selection for Stress Tolerance* from the Urban Horticulture Institute at Cornell University. Select species that can tolerate the site conditions of soil pH, water availability, sun/shade, salt exposure and hardiness zone.
- Provide adequate soil volume in planting pits. The typical soil volume needed for medium sized trees is 5 square meters. The soil needs to be amenable to plant growth and cannot include soils that are compacted such as those under sidewalks and streets. Use engineered soil or structural soil matrixes to provide additional soil volume under pavement.
- Add soil amendments such as compost to improve soil texture and provide nutrients.
- Select high-quality nursery stock. Inspect the roots, trunk or stem, and crown. Shoots should show good

vigor and growth. Branches should be well spaced, symmetrical, and have good branch attachment. Rootballs should be of a size appropriate to the specimen according to the American Nurseryman Standards. Container plants should not have roots circling the container. Avoid plants with obvious wounds to the crown or trunk, or that show significant insect damage or scorch on the leaves.

#### *When Planting:*

- Always move plants by the rootball or container. Never carry by the trunk of stems alone.
- Remove trunk and branch packaging to prevent rotting of the bark. Use trunk wrappings only in winter to prevent animal damage. Remove wrappings each spring.
- Do not cover the top of the rootball with soil. The tops of the main roots should be exposed.
- Dig a hole that is only as deep as the rootball. The hole should be 3x wider than the rootball.
- Remove rootball packaging after placing plant in hole. Cut all twine that encircles the trunk or stems, and pull burlap wrapping down off the rootball. Packaging can remain under the rootball in the bottom of the planting pit to avoid disturbing the plant after it has been placed in the tree pit.
- Backfill with native soil, breaking up clods as you go.
- Mulch around tree to extent of the tree pit or planting bed, pulling mulch back away from the trunk



Mature deciduous trees with sufficient root space combined with shrub and perennial foundation plantings enhance the aesthetics of this housing development.



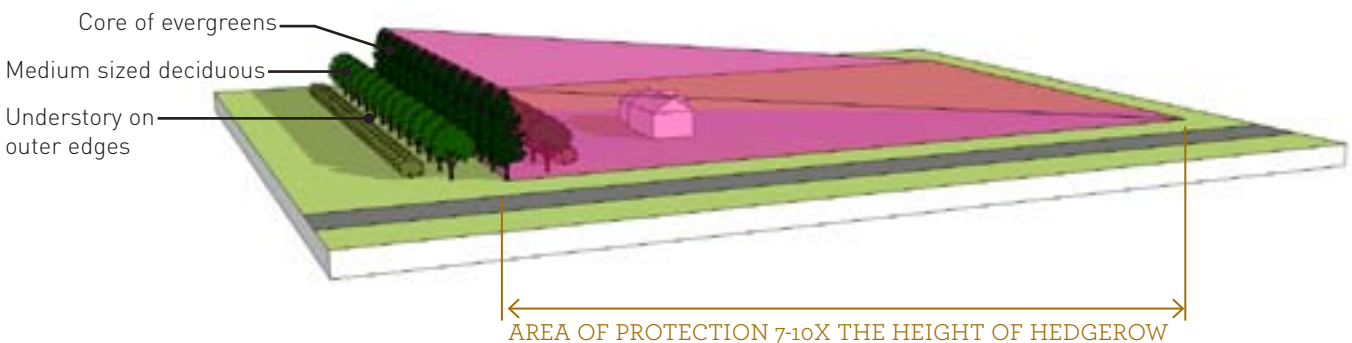
## 5.30 HEDGEROWS

Hedgerows, when sited properly and maintained at optimal density can reduce soil erosion on croplands and also reduce home heating costs up to 30%. A hedgerow of mixed species will provide year round protection.

Hedgerows have become an integral part of the Shawangunk landscape. Once solely a part of the agrarian landscape, their value is being translated to all land uses. Not only do hedgerows provide immeasurable benefit for reducing soil erosion on croplands, and delineating

property, but they provide many other benefits. They provide continuity and habitat between ecosystems. They can help reduce snow drifts and reduce home heating costs by diverting winter winds. They buffer disparate uses and filter out pollutants, noise and glare. The density of the hedgerow will depend on the purpose it is intended to serve. For windbreaks and buffers, a multi-row of mixed evergreen and deciduous trees with understory species is best for optimal, year round protection.

- Single row of deciduous trees in leaf: 25-35% density
- Single row of deciduous trees, dormant: 5% density
- Single row of evergreen trees: 40-60% density
- Multi-row of evergreen trees: 60-80% density



**Recommended Practice:** Windbreak height and density determine the area of protection on the leeward side of a windbreak. The greater the height, the greater the area of protection. Aim for a density of about 40-60% for the maximum area of protection with the least leeward turbulence. Hedgerows with an evergreen core sandwiched between medium size deciduous trees and an outer layer of understory species can provide good protection year round.



This dense hedgerow of evergreen trees provides an effective windbreak and reinforces the agrarian land-use patterns.

## PLANNING & DESIGN PRACTICES

### 5.31 DESIGN & LAYOUT OF ROADS



**Recommended Practice:** A curvilinear road layout works with the topography and allows larger clumps of trees and shrubs to be maintained on a wooded site, thus improving the visual quality of the neighborhood and reducing stormwater impacts.

Road layout design should be approached in a manner that maximizes safety for multiple road users, responds to terrain and natural features, and enhances aesthetics.



**Practice to Avoid:** When developing a forested site, linear roads can result in unattractive grading and loss of valuable mature trees, undermining the visual integrity and natural character of the site.

Although design approach varies based on traffic volume and speed, land-use context, and the level of pedestrian traffic, the following design considerations should always be taken into account:

#### *General design considerations for rural landscapes:*

- Using an interdisciplinary team, design/plan roads as part of an integrated process in conjunction with the development plan and stormwater management plan.
- Follow the existing topography to minimize site disturbance to existing soils and natural drainage systems. Minimize cuts and fills. See Section 3.5 - Follow Natural Contours.
- Protect the existing hydrology by minimizing the use of impervious paving (minimum road width based on applicable standard)

- Construct roads with grades of 12% or less, using short sections of 15% where necessary.
- Protect existing vegetation to maintain natural visual buffers for surrounding development.
- Avoid problematic locations such as springs, wet areas, landslides, steep slopes, massive rock outcrops, flood plains, and highly erosive soils. Minimize stream crossings.
- When designing measures for collection of stormwater runoff from roads, avoid or minimize the use of structural drainage systems such as standard curb and gutters and underground piping. Alternatively, incorporate “day-lighted” or unconcealed col-

lection, conveyance and infiltration measures such as bioretention and vegetated swales. See Section 3.32 Stormwater Management for natural stormwater management recommendations.

- Although the use of curbs for controlling drainage should be limited, they can serve an important role in deterring vehicles from leaving the pavement at hazardous points. Curbs (including flush curbs) can also present a more finished appearance and help stabilize the road edge in flexible pavements.
- Design roads to preserve and accentuate the best qualities of the landscape, providing for a variety of visual experiences.
- Locate roads with a consideration for its effect on adjacent properties in terms of noise and fumes.
- In forested landscapes, utilize curvilinear road design in order to respond to existing natural features and preserve the visual integrity of the forest.

***Design considerations for neighborhoods and higher density areas:***

- Incorporate traffic calming devices such as planted median islands and vegetated bump outs to ensure pedestrian and bicycle safety.
- Address access management through clearly delineated shared entrance drives to commercial properties- see 3.11 - Consolidate Curb Cuts.
- Incorporate bike lanes, strategic pedestrian crosswalk areas and sidewalks where appropriate.
- Layout of street patterns should be designed to provide well-connected streets that support multiple transportation modes.
- Where applicable, plan for snow storage by designating infiltration strips or park areas for the handling and eventual release of collected snow from streets.



In order to increase safety for pedestrian and bicyclists, this road would benefit from delineation of entrance drives and the addition of sidewalks and bike lanes. A landscaped “green strip” between the road and sidewalk would enhance aesthetics and provide traffic-calming.



The design of this road could have been improved by curving up the hill, reducing the amount of cut required. Drainage could have been handled with vegetated swales, instead of curbs and catch basins in the road, both of which require additional cost and maintenance.

## PLANNING & DESIGN PRACTICES

### 5.32 STORMWATER MANAGEMENT



**Best Practice: Design stormwater management features in unison with ecologically and context sensitive site planning and development. Employ green infrastructure strategies, as appropriate, to maintain preconstruction natural hydrologic conditions of the site. An integrative approach to stormwater management can result in an improvement of the project's aesthetic and ecological qualities.**

Green infrastructure employs natural systems and sustainable design to address stormwater management and reduces a development's impacts on the aquatic ecosystem and stream and lake water quality through the use of site and landscape planning techniques, runoff reduction, and certain standard Stormwater Management Practices (SMP's). The objective is to replicate pre-development hydrology by maintaining pre-construction infiltration, peak runoff flow, discharge volume, as well as minimizing concentrated flow by using runoff control techniques to provide treatment in a distributed manner before runoff reaches the collection

system. This approach offers a distinct advantage over conventional "hard" or structural stormwater infrastructure by reducing the volume of runoff and the need for collection, storage, and treatment.

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On developed sites, green infrastructure can retrofit or replace existing stormwater structures or systems with more effective and sustainable methodologies.

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Green infrastructure techniques are highly effective when used to address stormwater runoff from smaller, more frequent storms. As precipitation size and intensity increase, pervious surfaces become less capable of infiltrating runoff and their peak flow reduction "benefits" diminish. Thus, runoff reduction is not generally applied to larger storms.

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**Green infrastructure techniques for runoff reduction include the following:**

- Conservation of natural areas
- Sheetflow to riparian buffers or filter strips
- Vegetated swales
- Disconnection of rooftop runoff (directed to designated pervious areas)
- Stream daylighting (previously culverted streams)
- Rain gardens
- Green roofs, stormwater planters, and rain barrels
- Porous pavement

**Standard Stormwater Management Practices are subsequently employed to treat the remaining water quality volume. These practices, whose applicability vary based on the site/land use, include the following:**

- Stormwater ponds
- Stormwater wetlands
- Infiltration practices (e.g. infiltration basin)
- Filtering practices (e.g. bioretention basin)
- Open channel practices (e.g. swales)

### Aesthetic + Ecological Considerations for Stormwater Basins:

- Basins/ponds should be designed to have attractive natural forms that fit in the landscape, avoiding long straight lines and right angles.
- Stormwater treatment areas can be accessible (recreational) features if properly designed.
- If fencing is required, its design should be in keeping with the land use and character of the site.
- Hardy native or naturalized plant species should be specified over exotic or foreign species.
- Appropriate vegetation should be selected based on the zone of hydric tolerance. Planting layout should generally be random and natural, rather than ordered and symmetrical.
- A canopy should be established with an understory of shrubs and herbaceous plant materials.
- Trees should be planted primarily along the perimeter of the bioretention area.

Note: All Stormwater Management Plans should be in compliance with New York stormwater performance standards and necessary permits shall be obtained. See New York State Stormwater Management Design Manual, which provided the framework for this Practice overview.



**Recommended Practice:** Wide bioretention basins allow for stormwater infiltration/filtration and a reduced stormwater pond size. Stormwater ponds should be designed to have a natural appearance, with a variety of native plants.



**Practice to Avoid:** Curbed islands miss an opportunity for stormwater infiltration prior to conveyance. This stormwater pond has an engineered appearance and no plantings, contributing little in terms of aesthetics or habitat.

This vegetated swale and porous parking lot allows for stormwater infiltration, reducing stormwater volume in need of treatment.

## PLANNING & DESIGN PRACTICES

### CONTEXTUALLY APPROPRIATE ARCHITECTURE



This house and garage were designed to mimic a traditional farmhouse and barn in keeping with the regional character.



Barn in the Shawangunk region- has been re-purposed from its former agricultural use and is now utilized as an education center.



Architectural features such as a sloped roof, tower structure, and natural color palette make this marketplace much more aesthetically harmonious than typical strip developments.



Stowe Self Storage, Stowe, Vermont. This self storage facility in Stowe Vermont is modeled after the rural vernacular architecture of the region of barns, sawmills and sugar houses. While it is a fairly large complex, it is set down from the road with an evergreen screen as a buffer.



Incorporating existing stone walls into developments, or rebuilding them where necessary, helps to maintain the historical agrarian character of the region.



This new building is a great example of village infill. Built on a formerly vacant lot, it follows the scale, massing and setback of the adjacent historic buildings.



Subaru Dealership in Rhinebeck, New York- follows historic village residential pattern of adjacent architecture.



The traditional detailing of this sign is in keeping with the architectural style of the building, and it is tastefully landscaped.



Multiple businesses are effectively displayed on this sign without clutter.



This highly legible sign is perfectly designed to match the character of the building facade, and downlighting prevents glare and light pollution.



This vehicular directional sign is nicely detailed and easy to read.



What to avoid- sign clutter prevents effective communication to drivers and is a blight to the landscape.

# PLANNING & DESIGN PRACTICES

## SITE DEVELOPMENT



House in Shawangunk region- set back behind a line of trees, this house recedes in the landscape and leaves a field open along the road corridor.



This cell tower made to look like a pine tree employs a common method for blending a necessary utility into the landscape. While it is still noticeable from this angle, its low profile helps to blend it further into the landscape.



Proper siting of utilitarian functions on a site are essential. It would be preferable to locate this trash area at a back corner of the parking lot and screen it with a trash enclosure.



Scenic quality is preserved with the construction of a massive berm that screens views of a 3 story building. Vegetation to be added.



The high-profile siting and contrasting color of this building creates a visual disruption in the landscape.



The siting of this home below the ridge line maintains the visual integrity of this scenic view.





Shrub plantings in this median greatly reduce the visibility of parked cars, while street trees provide shade and an attractive canopy.



Evergreen trees help to ground this new building, screen parking, and break up the otherwise large expanse of lawn.



The combination of a split rail fence and sycamore trees provides an attractive and regionally appropriate roadside border to this property.



Deciduous trees planted in large islands provide welcome shade for cars in the summer and soften the building massing.



This planting bed will provide sufficient root space to allow this honey locust tree to grow to maturity.



Evergreen trees provide a buffer from winter winds and enhance aesthetics.

# PLANNING & DESIGN PRACTICES

## GLOSSARY OF TERMS

**Agrarian-** Relating to agricultural or rural matters.

**Buffer-** A vegetated area of varying width designed exclusively to provide screening between adjoining properties, rights-of-way, parking lots and structures. The use of properly planted and maintained buffer areas may reduce and ease potential incompatibility between and among different uses of land in proximity to each other.

**Building setbacks-** Two definitions: 1) The distance from the curb or other established line within which no buildings may be erected. 2) In historic districts, the distance buildings are setback from the road which can be used as a guide to determine the distance buildings for future infill should be setback to continue the established historic pattern.

**Cluster/ Conservation Development-** Cluster or conservation development is a technique allowing flexible zoning to group residences together allowing for more open space preservation than might otherwise be permitted. Conservation developments are characterized by common open space and clustered compact lots. The purpose of a conservation development is to protect farmland and/or natural resources while allowing for the maximum number of residences under current community zoning and subdivision regulations. In some cases a greater density (density bonus) may be offered in the local ordinance to encourage this approach to residential development planning.

**Cladding-** Exterior layer of materials used on the roof and walls to enclose a house, providing protection against weather.

**Curb cut-** A depression in the curb for the purpose of accommodating a driveway, which provides vehicular access between private property and the street or easement. Where there is no curb, a curb cut is the point at which the driveway meets the roadway pavement.

**Cut-off technology-** In lighting, a light housing designed to eliminate light escaping above the horizontal plane. Full cut-off allows for no light escape above the horizontal plane, while semi cut-off fixtures vary in the percentage of light they allow to escape above the horizontal plane.

**Facade-** The principal face of a building.

**Fenestration-** The design and placement of windows and doors in a building.

**Footcandle-** Illuminance produced on a surface one foot from a uniform point source of one candela

**Fragmentation-** The process of dividing into incomplete or isolated portions.

**Gable-** The triangular wall section at the ends of a pitched roof bounded by the two roof slopes. The gable is the vertical wall section.

**Hedgerows-** A hedge or hedgerow is: 1) a line of closely spaced shrubs and tree species, planted and trained in such a way as to form a barrier or to mark the boundary of an area.; or 2) A natural or semi-natural row of bushes, shrubs and/or trees forming a boundary. Hedgerows help define places, act as shelterbelts, and add to biodiversity. They can also offer significant wildlife habitat, including wildlife corridors, which allow animals to move across open countryside, and provide food, nesting and roosting places.

**Infill-** The use of vacant land and property within a built-up area for further construction or development, especially as part of a neighborhood preservation or limited growth program.

**Land use-** The way land is developed and used in terms of the types of activities allowed (agriculture, residences, indus-

tries, etc.) and the size of buildings and structures permitted.

**Light spill-** Light emitted by a lighting installation that falls outside the boundaries of the property on which the installation is sited, or the element it is intended to light.

**Light pollution-** Any adverse effect of artificial light including sky glow, glare, light trespass, light clutter, decreased visibility at night, and energy waste.

**Line-of-sight-** An imaginary line from the eye to a perceived object.

**Lumen-** Unit of luminous flux; the flux emitted within a unit solid angle by a point source with a uniform luminous intensity of one candela. One footcandle is one lumen per square foot. One lux is one lumen per square meter.

**Open space-** An area of land that in a predominantly open and undeveloped condition that is suitable for any of the following purposes wildlife habitat, agricultural and sylvan production, active and passive recreation, or for providing other public benefits such as scenic views.

**Massing-** Expanse, spatial enclosure having form or bulk; the resultant shape or form of buildings or a building group.

**Mitigate-** To act in such a way as to lessen the negative effect of.

**Monoculture-** The use of land for growing only one type of plant, or the plant culture that results from such use. The practice of monoculture on a landscape thus has an effect that is the opposite of biodiversity, and can sometimes be responsible for the spread of plant diseases. However, the planting of bedding plants en masse is a widely encountered example of intentional monoculture. Sometimes monoculture is unintentional, as when an invasive plant crowds out all competition and dominates an area of the landscape.

**Pedestrian amenities-** Site furnishings and landscape elements that serve as visual and functional supporting elements of a roadway design, provides aesthetic interest and comfort to the pedestrian. Pedestrian amenities may include benches, lighting, wayfinding, street trees, etc.

**Photometric plans-** A plan showing the location of light fixtures, and the quantitative measurement of light level and distribution through the site.

**Scale-** The size of a building or structure in relation to a human, varying from small intimate to monumental.

**Screening-** A visual buffer consisting of plant material, masonry, wood, other material.

**Signage-** Signs collectively, especially street signs or signs giving directions.

**Skyline-** The line along which the surface of the earth and the sky appear to meet; the horizon. The line along a landscape feature, such as a mountain range.

**Stormwater-** Water that accumulates on land as a result of storms, and can include runoff from urban areas such as roads and roofs.

**Subdivision-** A subdivision is the division of a lot, tract, or parcel of land into two or more lots, plats, sites, or other divisions of land for the purpose of sale or of building development. It also refers to the process of subdividing or to the land subdivided.



# 6. Resources & References

This section includes 1) An annotated bibliography of 10 key publications and resources that were relied on extensively in the preparation of this Plan and are recommended as resources; 2) Specific publications of the Shawangunk Mountains Partnership; 3) A bibliography of other books and publications reviewed or referenced; and 4) A listing of useful websites that provide information or are of relevance to the project.

## 1. ANNOTATED BIBLIOGRAPHY

1. LandWorks. 2005. *Lake George: Planning, Permitting & Management of Growth & Development for Sensitive Shoreland & Upland Areas*. Fund for Lake George, Bolton Landing, NY, 2008. Available from the Fund for Lake George

This Manual includes an inventory and analysis of current conditions in the Lake George Basin, viewshed and scenic resource assessments, and land planning design guidelines. A set of specific principles, standards and specifications for site, landscape and building development is set forth to guide sustainable growth and development in the Basin. Available from the Planners Press, APA

2. The Champlain Valley Greenbelt Alliance. 2006. *The Roadscape Guide: Tools to Preserve Scenic Road Corridors*. Burlington, VT Available from the Planners Press, APA

The Guide provides a wide range of tools for conserving and managing scenic roadscapes based on the Vermont experience. Case studies are included along with a comprehensive set of guidelines and resources.

3. USDA Forest Service and Columbia River Gorge Commission. 2005. *Building in the Scenic Area: Scenic Resources Implementation Handbook*. Hood River, OR

The subtitle of this useful and well illustrated booklet highlights the focus of the work, which is designed to help the reader address visual qualities and resources in the highly scenic area of the Columbia Gorge in Oregon. The handbook provides straightforward guidelines related to building siting, grading, landscaping, architectural form and fenestration and color selections for building exteriors.

4. Vermont Agency of Natural Resources. *Vermont's Scenic*

*Landscapes: A Guide for Growth and Protection*, Vermont Agency of Natural Resources, Waterbury, VT.

This beautifully illustrated guide to the scenic landscapes of Vermont provides an understanding of landscape character and qualities to better inform planning and design decisions. Designed to support the use of the "Quechee Test" as the aesthetic evaluation criterion in the state's landmark land use law, Act 250, the book includes photography of the Vermont landscape and case study examples of how best to develop within that landscape to maintain its integrity and consequent scenic and cultural values.

5. Landscape Aesthetics (1995). Available online at: [http://www.fs.fed.us/cdt/carrying\\_capacity/landscape\\_aesthetics\\_handbook\\_701\\_no\\_append.pdf](http://www.fs.fed.us/cdt/carrying_capacity/landscape_aesthetics_handbook_701_no_append.pdf)

This is the most recent Handbook developed by the United States Forest Service as part of the original Visual Management System, which has been in place for over 25 years. Provides a comprehensive basis for understanding the dynamics of visual perception of the landscape and classification systems used a means of describing those landscapes and assessing change within them. The handbook provides a basis for understanding concepts in scenic integrity, visual absorption capabilities for landscapes, viewer expectations and perceptions, and overall scenery management.

6. *Impact of Aesthetics on the Economy and Quality of Life in Virginia and its Localities* (2000)

This report commissioned for the Governor and General Assembly of Virginia, creates one of the more compelling arguments for the value of aesthetics, scenic resources, and cultural heritage as a basis for a strong and vibrant economy and a high quality of life. It provides a detailed study of the relationship between aesthetics and the economy and establishes corresponding costs and benefits associated with public policy and local decision making.

7. *Conserving Our Treasured Places* (2003)

This publication, issued by Scenic America and America's Byways Resource Center, is a comprehensive guide and catalog of scenic resource management tools, techniques and strategies. The manual highlights key issues in visual quality management, provides a framework for community participation in visual resource management, and highlights challenges such as signs, lighting, cell towers and other components of the built environment that affect scenic and visual qualities.

8. *Orange County Design Manual* (2010)

## REFERENCES

This is a highly detailed design manual with templates for design solutions on a community, neighborhood, street and site scale. Based on the principles of Smart Growth, this comprehensive set of design guidelines provides technical guidance for a range of development types and land use categories and focuses on community design, land use connectivity, and green infrastructure.

### 9. *Hudson River Valley Rural Design Guidebook* (1992)

This guidebook is based on well illustrated land use planning and development scenarios in “representative landscapes” as a means of communicating the consequences of different land development approaches. The guidebook includes a summary of rural landscape planning principles and conservation strategies.

### 10. *Revitalizing Hudson Riverfronts* (2010) Downloadable electronic version at [www.revitalizinghudsonriverfronts.org](http://www.revitalizinghudsonriverfronts.org)

The focus of this book is on “creating healthy, prosperous communities” by means of appropriate conservation and development strategies, many of which can be applied to scenic landscapes or aesthetically pleasing settlements and development. The well organized and beautifully illustrated guide includes a number of tools and case studies and forwards 6 primary principles for revitalizing the riverfronts of the Hudson River.

## 2. SHAWANGUNK PARTNERSHIP PUBLICATIONS

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1. The Champlain Valley Greenbelt Alliance. 2006. *The Roadscape Guide: Tools to Preserve Scenic Road Corridors.*, Burlington, VT
2. Shawangunk Mountains Regional Partnership. 2008. *Shawangunk Mountains Regional Open Space Plan.* New Paltz, NY
3. Shawangunk Mountains Scenic Byway Steering Committee. 2005. *Shawangunk Mountains Scenic Byway Corridor Management Plan.* New Paltz, NY

## 3. DESIGN GUIDELINES, GROWTH MANAGEMENT VISUAL ASSESSMENT & SCENIC PROTECTION PUBLICATIONS

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1. ADL II Architecture PC. *Design Guidelines: Lake Ronkonkoma.* Northport, NY
2. American Society of Landscape Architects. *Visual Impact Assessment for Highway Projects.* Washington, D.C.
3. *An Overview of the 2010 Vermont Forest Resources Plan.* Waterbury: Vermont Agency of Natural Resources, 2010.
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5. Arendt, Randall. *Growing Greener, Putting Conservation into Local Plans and Ordinances.* Washington, DC: Island Press. 1999.
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21. *Conserving our Treasured Places: Managing Visual Quality on Scenic Byways*. CD-ROM. Duluth, MN: Scenic America and America's Byways Resource Center. 2004.
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## 4. WEBSITE RESOURCES

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### 1. [www.byways.org](http://www.byways.org)

This website provides information about the National Scenic Byways Program, part of the U.S. Department of Transportation, Federal Highway Administration. The program is a grass-roots collaborative effort established to help recognize, preserve and enhance selected roads throughout the United States.

### 2. [www.dec.ny.gov](http://www.dec.ny.gov)

This website provides information on the State Environmental Quality Review Act (SEQRA): [www.dec.ny.gov/permits/357.html](http://www.dec.ny.gov/permits/357.html)

### 3. [www.dutchessland.org](http://www.dutchessland.org)

The Dutchess Land Conservancy is a non-profit organization dedicated to preserving the rural character and open lands of Dutchess County, New York.

### 4. [www.fundforlakegeorge.org](http://www.fundforlakegeorge.org)

This website provides information about the FUND for Lake George and the Lake George Waterkeeper. The FUND for Lake George was established by area activists in 1977 to assure support for water quality preservation and for prevention of pollution of Lake George. The Lake George Waterkeeper, an affiliate of the national Waterkeeper Alliance, is a resource for concerned citizens in the Lake George Basin who are concerned about land use and water quality.

### 5. [www.mohonkpreserve.org](http://www.mohonkpreserve.org)

This website provides information on the Mohonk Preserve - an organization that manages nearly 7,000 acres of land and whose mission is "to protect the Shawangunk Mountains of New York by inspiring people to care for, enjoy, and explore the natural world."

### 6. [www.mohonk.com](http://www.mohonk.com)

Located on the Shawangunk Ridge in the heart of the Hudson Valley, the Mohonk Mountain House is a grand 267-room Victorian castle that is one of America's oldest family-owned resorts.

### 7. <http://www.nature.org/wherewework/northamerica/states/newyork/preserves/art12373.html>

This website provides information on how The Nature Conservancy is working to preserve land in the Shawagunk Mountains and states that it "recognizes that the Shawangunk ridge's scenic cliffs, plateaus and talus fields make it one of the Earth's "Last Great Places."

### 8. [www.nypf.org](http://www.nypf.org)

The New York Planning Federation is an organization of planning practitioners representing the nine regions that encompass New York State. The Board is a working, grass roots group that understands the

needs of the communities it serves and seeks to fulfill its mission of providing training and education to the planning and zoning community.

### 9. [www.osiny.org](http://www.osiny.org)

This website provides information on the Open Space Institute, a New York based organization that protects scenic, natural, and historic landscapes through land acquisition, conservation easements, regional loan programs, fiscal sponsorship, creative partnerships, and analytical research. To date, OSI has protected more than 100,000 acres through their New York Land Program.

### 10. <http://web.pace.edu>

The Pace University Land Use Law Center is dedicated to fostering the development of sustainable communities and regions through the promotion of innovative land use strategies and dispute resolution techniques.

### 11. [www.pattern-for-progress.org](http://www.pattern-for-progress.org)

The Hudson Valley Pattern for Progress is a non-profit, public policy research and planning institute founded in 1965 and now serves a nine-county region in New York. The mission of the organization is to "preserve and promote the social, economic and natural environments of the Hudson Valley region by building consensus for a pattern of growth that will insure a high quality of life."

### 12. [www.scenic.org](http://www.scenic.org)

This website provides information from Scenic America, the only national 501(c)(3) nonprofit organization dedicated solely to preserving and enhancing the visual character of America's communities and countryside.

### 13. [www.scenichudson.org](http://www.scenichudson.org)

This website provides information about Scenic Hudson, an organization dedicated to protecting and restoring the Hudson River, its riverfront and majestic vistas and working landscapes beyond as an irreplaceable national treasure for America and a vital resource for residents and visitors.

### 14. [www.smartgrowthvermont.org](http://www.smartgrowthvermont.org)

This website provides information from Smart Growth Vermont, a state-wide 501 (c) (3) non-profit organization dedicated to forging innovative solutions to the challenges facing Vermont.

### 15. [www.mtnscenicbyway.org](http://www.mtnscenicbyway.org)

This website provides information on the Shawangunk Mountains Scenic Byway.

