

Contextual Design on Cape Cod

Design Guidelines for Large-scale Development



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An Addendum to “Designing the Future to Honor the Past: Design Guidelines for Cape Cod”

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Maintaining Cape Cod's character is essential to the continued economic health of Barnstable County and to the quality of life of its residents. Therefore, as the region's population and popularity continue to grow, towns will increasingly need to pay attention to the design of projects within their borders. According to the Barnstable County Nexus Study, prepared in 2005 for the Cape Cod Commission, over 1,000 commercial and office developments totaling 6 million square feet have been built on Cape Cod since 1990. While a substantial portion of this development is similar in size and scale to traditional development patterns on the Cape, the number of developments with buildings over 15,000 square feet has steadily increased in recent years, which has begun to alter the character of the region. This has prompted requests for specific guidance on the design of larger buildings. If the pattern of new development and building design is guided carefully, Cape communities and the region as a whole will succeed in retaining their distinctive and unique character.

Introduction

For several hundred years, development on Cape Cod followed a distinctive pattern, scale and collection of forms. Changes in technology, construction techniques, and market forces have introduced greater variety in the pattern and form of development in recent decades. Large-scale commercial development often has the greatest negative visual impact on Cape community character when it is designed without consideration for the context of the site. While the presence of large-scale commercial development on the Cape has already altered the region's character in some areas, a great deal more development and redevelopment potential exists.

Guiding new development into appropriate growth center locations and adapting the design of new development and redevelopment to patterns and forms that complement those traditionally found in the region, ensures the harmonious integration of the new with the old and allows the Cape to continue to be able to showcase its unique and special character. Sensitive design that responds to and respects its surroundings promotes continued vitality for the region and reinforces the Cape's strong 'sense of place.'

The Cape Cod Commission first published design guidelines in 1994 in response to the development community's need for guidance on how to comply with the Community Character section of the Regional Policy Plan (RPP), as well as to assist local officials in development of locally appropriate design requirements. The original Cape Cod Commission design manual, "Designing the Future to Honor the Past" (1994), has been successfully used to meet these goals. The design manual includes design guidance and illustrative case studies that are applicable to many development projects proposed in the region. Although the design manual included case studies for large-scale development and redevelopment of strip commercial development, it did not include a detailed discussion of architectural design and siting issues relevant to large individual or stand-alone buildings. This addendum is intended to address this need and provide guidance on these issues specifically and is intended to be used by architects, designers, developers, and those guiding the form of development in their communities.

Contextual Development on Cape Cod

Cape Cod is a unique and special place in terms of both its natural and built environments. The diverse landscape includes historic villages and distinctive architecture that combine traditional forms and materials in a variety of different

styles. The region's history and natural environment have shaped development into a regional pattern of dense village centers surrounded by less-developed outlying areas. (For a more-detailed description of the region's development, see the introduction to the Cape Cod Commission design manual, "Designing the Future to Honor the Past" [1994]).

Inappropriate development that is inconsistent with this scale and established pattern potentially threatens this regional character and results in adverse impacts to natural, cultural and economic resources. Development that follows a more-compact land use pattern can help to preserve Cape Cod's distinctive regional character.

Siting New Development on Cape Cod

The Regional Policy Plan (RPP) for Barnstable County states a preference for locating new development and redevelopment in existing village centers, economic centers, or concentrated development areas because of the efficiencies of providing infrastructure in more densely developed areas and because it supports the regional development pattern of dense village centers and outlying rural areas. The Commission's design manual supports this pattern in its opening pages, stating: "Locate



Figure 1: Downtown Chatham.

new development in or immediately adjacent to town, village, and growth centers to reinforce such centers and to preserve surrounding rural areas.” Recognizing that all development cannot be directed to these locations, even with significant incentives at both the town and regional level, this addendum to the design manual presents ways to accommodate new development both in developed centers and in outlying areas.



Figure 2: Centerville Village.

Although different solutions are suggested for the two locations, all recommendations focus on designs that best support the Cape’s regional development forms, scale, and patterns. It is important to note, however, that different locations within the region may warrant a different design response.

In general, within village centers and developed areas, new development should reflect traditional siting, scale, and massing by continuing existing character and streetscape patterns, breaking down the massing of large buildings into smaller elements, and by successfully screening portions of large buildings. In outlying areas, designs should protect the more rural, wooded nature of outlying areas through vegetated screening and buffers, while still designing in a form that respects the region’s traditional small scale and massing. New development in outlying areas should also be designed to be consistent with the density of existing development and to follow the established relationship and proximity of existing buildings to the roadway.



Figure 3: Less densely developed areas that are more rural in character surround the Cape’s denser village centers, as shown in Dennis.

Redevelopment Projects

Through its standards and policies, the RPP strongly encourages redevelopment of existing buildings rather than development of open or wooded lands. Redevelopment takes advantage of existing infrastructure, reduces environmental impacts by focusing growth in already developed areas, and reinforces regional development patterns. Redevelopment can be an important component of new retail and office developments, improving the viability and character of an existing property through rehabilitated facades, additions, frontage buildings, and enhanced landscaping. It can also provide a good opportunity to encourage mixed-use development in locations where it does not currently exist. The design concepts presented here are intended to guide and inform redevelopment, though it is understood that redevelopment projects do not always have the flexibility of new construction and thus may require alternative solutions to best fit within the regional context.

Influence of Existing Zoning on Site and Building Design

For both new development and redevelopment, designers and developers are working within the constraints imposed by local zoning, which mandates the potential uses, dimensions, and parking requirements of a proposed development. In many

cases, zoning for commercial uses requires large setbacks from roadways and excessive parking requirements. These requirements in turn make it difficult for development to respect the regional development patterns of the Cape's village centers. In some cases, concepts presented in this document may require changes to local zoning in order to be implemented. Towns are encouraged to evaluate their existing zoning regulations to ensure that they promote the type and form of development that is desired and facilitate contextual design within their community.

How to Use this Addendum

This addendum is divided into two sections:

A. Siting Strategies

This section presents different approaches for development based on whether the project is located in a village center, economic center, or concentrated development area; or an outlying area. The character of these areas varies greatly, and therefore the design goals in each situation may be different depending on the surrounding context. Strategies for the site discussed in this first section are intrinsically related to building design and should be considered concurrently with the building strategies in Part B.

B. Building Strategies

This section is intended to promote buildings that are compatible with established regional building forms. The design strategies in this section apply to buildings proposed in village centers, economic centers, and concentrated development areas, as well as to buildings proposed in outlying areas. In both cases, the goal is to introduce new construction with a form and scale that is compatible with the Cape's regional building traditions.

Photographs and sketches are provided to help illustrate the concepts presented and are intended to assist in communicating these concepts to project designers. In addition, each design strategy is accompanied by an icon that identifies whether the strategy is most appropriate within centers, or outlying areas, or both.



Centers

Look for the "Centers" icon to identify those guidelines that apply to development in village centers and concentrated development areas.



Outlying Areas

Look for the "Outlying Areas" icon to identify those guidelines that apply to development in outlying areas.

The principles discussed here should guide the design of large-scale buildings proposed on Cape Cod, however, many of the strategies articulated are also appropriate for smaller developments. For projects subject to review by the Commission, we strongly encourage applicants to meet with Commission staff early in the design process in order to receive input on the site plan and possible approaches to siting and building design for a specific location. We also encourage Cape communities to incorporate these strategies into their local permitting process.

Siting Strategies



1. Contribute to the village streetscape/follow established patterns

Historically, the pattern of development within the Cape's village centers consisted of buildings that were close to the road and oriented with their narrower facade facing the street, as exhibited in the dominant Greek Revival styles seen throughout the region. This pattern of development produced a strong sense of enclosure to the street and established a setback pattern that helps define the region's character.

Siting Strategy 1a: Follow established setbacks

Design new buildings to front on the street and to maintain established setback patterns, consistent with traditional village design. Include a street-oriented entrance and principal windows on the street elevation to reinforce the building's primary relationship to the street. Incorporate window and architectural detailing on all street-facing elevations as well as pedestrian amenities where appropriate. False fronts should not be allowed. The form and scale of the buildings should be consistent with their surroundings and should incorporate pedestrian-scaled amenities (such as porches and stoops) and doors and windows that are consistent with the pedestrian nature of the building.



Figure A1: In Woods Hole, the relationship of the buildings to the street and the repetition of roof forms establish a strong village pattern.



Figure A2: In this Harwichport example, the structure is oriented to the street establishing the street edge and "anchoring" the corner.



Figure A3: These traditional village center buildings in downtown Hyannis are close to the sidewalk and varied in form and are typical of the pattern of development in village centers.

Siting Strategy 1b: Orient narrow facade to street

Where possible, orient the narrower facade to the street to be consistent with existing facade widths. For long front facades, vary the setback, height, and roof form of the building within the range provided by existing buildings to continue the established rhythm of facades on the street.



Figure A4: In this Yarmouthport example, these historic buildings are oriented so their narrow facades face the street.



Figure A5: This recent development in Falmouth follows established setbacks and incorporates pedestrian amenities. The long street facade also uses changes in height and roof form to create a rhythm to the front elevation that echoes traditional village patterns.

Siting Strategy 1c: Vary long facades

In most cases, long facades should be avoided, extending no more than 75 feet without a change in the wall plane. Setbacks and projections of at least 10 feet in depth are most effective at visually breaking up large facades, as illustrated in Figure A7. The RPP calls for a minimum of 10 feet of variation for every 50 feet of facade. Setbacks under two feet are not sufficient to provide the variation needed to provide relief under this guideline; however, smaller setbacks used in conjunction with larger setbacks can be effective. In densely developed locations, variation and architectural detailing that provides a rhythm to the building facade and emphasizes the grouping of units in a manner consistent with the surroundings should be established. This is particularly important in historic areas and neighborhoods, where the bulk and mass of the building should be broken down to a scale that reflects the context of the surrounding neighborhood.



Figure A6: Variation in height, orientation, and setbacks create interest and continue the rhythm of facades along the streetscape, as illustrated in this sketch.

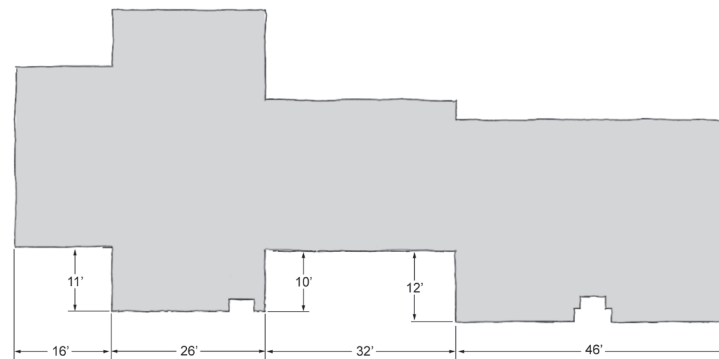


Figure A7: Creating variety in the building footprint helps break up long building facades and provides space for pedestrian amenities, as illustrated in this plan.

Siting Strategy 1d: Accommodate public areas

Increased setbacks may be provided to accommodate a small park, pedestrian plaza, or public area if appropriate. These areas provide relief, soften the street edge, and provide an opportunity for gathering and interaction that contributes to the vitality of centers.



Figure A8: At the Orleans Community Center, the increased building setback provides space for a small pocket-park that provides shade and a place to meet or rest in Orleans village.



2. Incorporate smaller tenant spaces in the front of a large building

The scale of development seen in the region’s villages is defined by pedestrian-oriented uses placed close to the street. To maintain that level of density and activity in villages, large tenant spaces should incorporate smaller spaces for other uses within their long facades.

Siting Strategy 2a: Add small tenant spaces

Create several smaller tenant spaces in the front of a large building to replicate the Cape’s development pattern of smaller uses fronting the roadway. Large facades can be designed to incorporate several “storefronts,” thus adding to the amount of variety on the building facade and repeating the setback, scale, and massing pattern of development in the surrounding streetscape. Each use should include separate display windows and outside entrances.

Small tenant spaces can be used to screen larger, unadorned buildings behind. This is particularly useful for large businesses that do not typically incorporate display windows or other pedestrian-oriented features on their own facades. Encourage a variety of uses in the smaller tenant spaces to create a mixed-use development, increasing the potential vitality of the area.



Figure A9: This movie theater in Mashpee has been constructed with small tenant spaces lining the sidewalk in front of the building to create interest and vitality at a pedestrian scale.

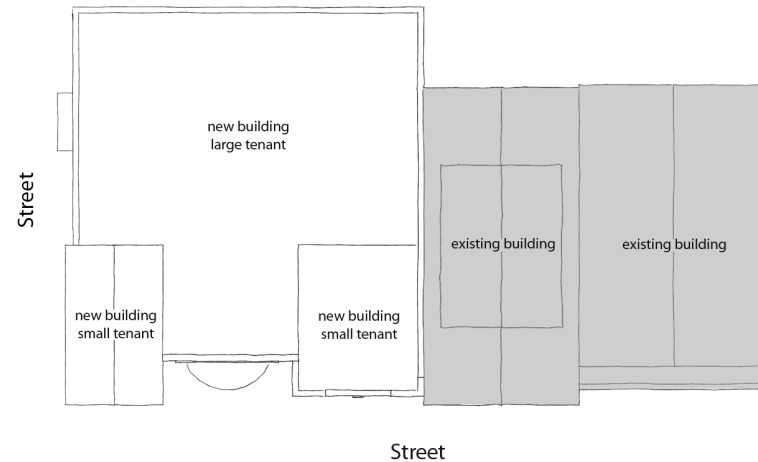
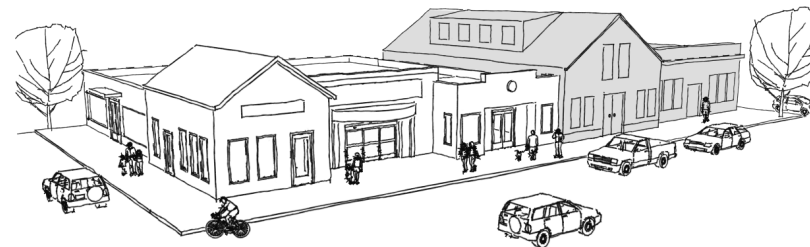


Figure A10: The above plan illustrates how a large building (on the left, unshaded) could be designed with smaller tenant spaces fronting on the street. The proportions of these smaller tenant facades match those of the existing buildings on the street (on the right, shaded). The perspective sketch below shows how the smaller tenant spaces screen the bulk of the larger tenant space behind and contribute to the village streetscape.





3. Define and enhance the street edge

At many locations on the Cape, the edge of the street is very well defined by either buildings, walls, fences, or trees. Linear commercial areas are often oriented to the automobile and typically characterized as having poorly defined road edges with parking close to the street and buildings far from the street edge. This is in stark contrast to the traditional village pattern of development seen in the region.

Siting Strategy 3a: Move closer to the street

In strip commercial areas particularly, focus on reducing the vast spaces between the roadway and buildings by bringing mature trees, landscaped areas, and structures closer to the road edge. New buildings should be sited near the roadway to re-establish the street edge and relate the building to the street, or to shield larger elements of the development to the rear. Buildings should also be sited in clusters to the greatest extent possible to establish a cohesive grouping or node that more closely relates to the region's village patterns, with parking to the sides or rear.



Figure A11: This recent building fronting on Route 28 in Falmouth has a small setback from the street, is oriented to the street, and places associated parking to the side and rear, rather than in front.



Figure A12: Traditional Cape Cod villages are typically characterized by buildings close to the street, with parking located to the side or rear. This creates a well-defined street edge and sense of enclosure to the roadway.

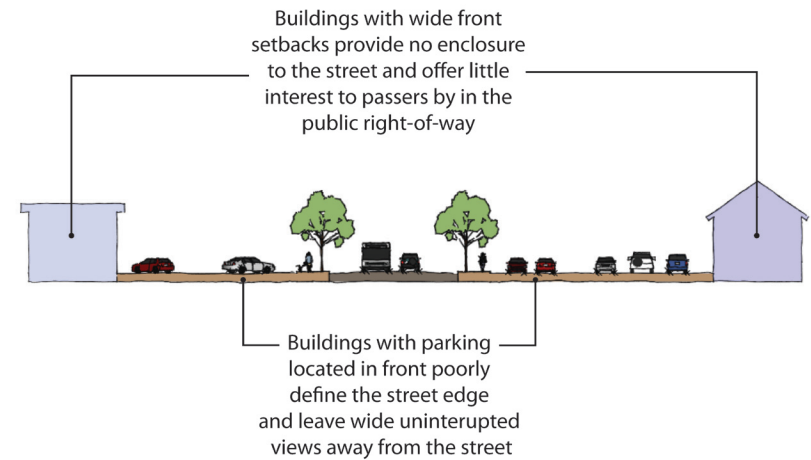
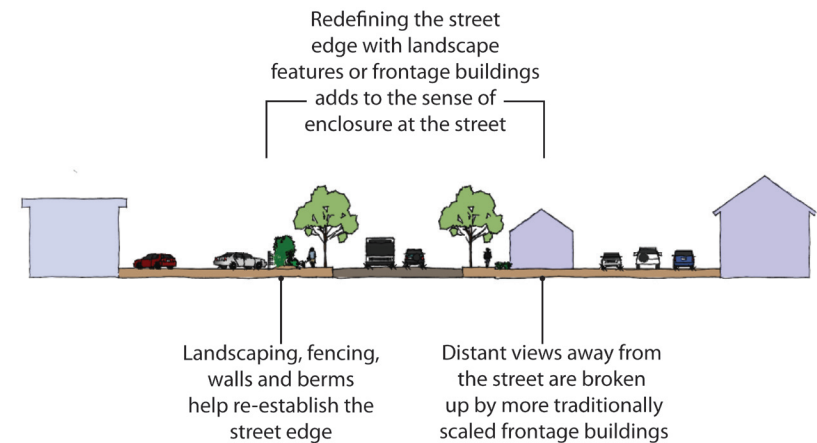


Figure A13: Strip development in particular results in poorly defined road edges and leaves wide open views from the street (above). Establishing the street edge by either providing landscape elements (plants, walls, fences, etc.) or frontage buildings creates the enclosure more in keeping with that seen in Cape Cod villages (below).



Siting Strategy 3b: Use landscape features to continue the building line

Fences, low walls, arbors, and plantings should be used to continue the building line close to the road edge and maintain a sense of enclosure along the roadway. Break up the wide vistas of buildings and parking lots with mature trees and plantings, landscape structures and small buildings placed near the roadway to help bring the scale of development closer to that found in traditional village areas. These elements can also effectively separate pedestrian walkways from traffic areas, improving the pedestrian experience and safety.



Figure A14: The trees and shrubs along the street edge provide a sense of enclosure along Route 6A in Orleans (left photo) and break open vistas of the parking lot and shopping plaza beyond (right photo).



Figure A15: In this example in East Harwich, a small commercial building placed up at the street (left foreground) and landscaping help reinforce the street edge and shield the large parking lot and supermarket behind (right) from the roadway.

Siting Strategy 3c: Use street trees to further define the street edge

Use street trees to maintain the sense of enclosure found along roads in the Cape's villages and wooded areas. Trees can be helpful in defining the street edge, contributing to a comfortable pedestrian environment and providing a continuous overhead canopy. In village centers and other densely developed areas with sidewalks, street trees should be planted between the sidewalk and the curb with a uniform spacing between trees. In some situations, street tree plantings may be combined with other features such as fences, walls, and pedestrian amenities to shield parking areas and define the street edge where buildings are set farther back from the road.

Species selected for roadside planting must be able to tolerate difficult growing conditions such as road salt spray, road salt runoff, drought, poor soil, and wind, in order to have the best potential for success. Tree wardens should be consulted for tree locations and species selection.

On roads with a narrow right-of-way or where overhead utility lines are present, trees with a mature height of less than 30 feet should be selected. Although not as effective visually, small or columnar trees may have the advantage of meeting design constraints while providing height, color, and texture to help define the streetscape. Where room permits, trees should be set back from the roadway to avoid conflicts with overhead utilities.



Figure A16: Low walls and trees in Harwichport obscure these parking lots from view and define the roadway edge.



Figure A17: Street trees and landscaping can also be used to screen parking lots from view and define the roadway edge, as shown in this Mashpee example.



4. Shield large buildings with smaller frontage buildings

Most of the region’s older buildings are modest in scale. Large structures placed at the street edge overwhelm the streetscape unless they are designed carefully.

Siting Strategy 4a: Place larger structures behind frontage buildings

As an alternative to siting a large building on the street, place structures with more modest forms at the street edge to shield the larger building behind. Placing larger buildings behind existing structures or newly constructed, traditionally scaled buildings will screen the larger buildings and associated parking areas to the rear but also assure that the traditional streetscape pattern is continued.

Building on back lots behind existing buildings takes advantage of established infrastructure and promotes increased density within already developed areas. By effectively screening new development behind traditional structures, a more contemporary design for the larger building may also be more easily accommodated.

When new frontage buildings are constructed, the scale and setback should be determined based on the range found in existing village streetscapes. Frontage buildings should be sited to provide optimal screening of larger developments when viewed from key locations.



Figure A18: In this Yarmouth example, frontage buildings that are located close to the roadway (left photo) continue the pattern of development at the street and screen the larger development to the rear from view (right photo).



Figure A19: This photo illustrates how a large retail/office building was accommodated on the back portion of a lot in Chatham.



Figure A20: The Community of Jesus chapel in Orleans is screened with small frontage buildings that are of a scale typical of those found in the region.



Centers



Outlying Areas

5. Design a second story

Past development in the region was often accommodated on multiple floors, with functional second and third stories. In many cases, modern development practices result in single-story buildings that occupy a large footprint.

Siting Strategy 5a: Add a second story to reduce footprint

New development should be designed with a usable second or third story, consistent with the region's traditional forms of development. Building a second story, rather than placing the entire floor area on the ground level, can reduce the overall footprint of the proposed use and result in a building with a scale that more closely matches regional forms.



Figure A21: Historic commercial buildings in Falmouth (left) and Orleans (right) with second and third stories.

Siting Strategy 5b: Add a second story to accommodate a mix of uses

A second story can accommodate different uses from the first floor, such as residential or office space above retail, creating a mixed-use development and allowing for more varied architectural features. Alternatively, a second story may be designed without added floor area, but simply to allow natural light to pass more freely into the interior of the building through an atrium space.



Figure A22: This reconstructed two-story commercial building in Provincetown incorporates large upper-level windows to allow light into the building.



Figure A23: An example of a contemporary two-story commercial building in Mashpee that provides a mix of retail and office space within a two-story structure.



Outlying Areas

6. Use existing topography to screen new development

In the region's outlying areas, smaller-scaled buildings that are less densely arranged define much of the Cape's character. Larger buildings that are located in outlying areas, particularly for industrial, storage, and warehouse uses, have the potential to overwhelm the street and alter the area's character unless screened from view.

Siting Strategy 6a: Use landscaped berms to screen buildings

Use existing site contours or enhance site topography to shield views of new structures and parking areas from adjacent roadways and significant landscapes. If earthen berms are constructed to provide a greater visual barrier, they should be designed to be consistent with the local topography so that the general character of the area is maintained. Appropriate landscaping can also be combined with the berm to effectively screen buildings that are out of context with their more rural surroundings.



Figure A24: Landscaped berms screen parking and development from major roadways, as shown in these Mashpee (left) and Hyannis (right) examples.



Figure A25: A landscaped berm helps to shield this warehouse building in Mashpee from the roadway.

Siting Strategy 6b: Build structures into a slope

Where site topography is suitable, structures may be partially built into a slope or hillside to reduce their apparent bulk and to limit views from certain vantage points. This not only significantly decreases the bulk of the structure from uphill vantage points, but also can serve to reduce energy costs.

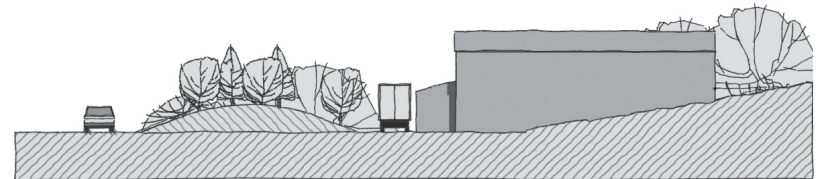


Figure A26: As shown in this sketch, partially burying a structure and/or using an appropriately landscaped berm helps reduce the visibility of larger industrial/warehouse buildings.



Figure A27: On the site of an old gravel pit, the visibility and mass of this commercial building in Orleans is reduced through earth-sheltering techniques.



Figure A28: The natural slope reduces the visual impact of this storage building in Falmouth.



7. Create effective landscape buffers/full screening

Natural vegetation often defines the character of areas outside the region's centers and these outlying areas can be altered significantly by new development. Screening of new development in these areas is necessary to maintain the region's historic pattern of dense centers and more-rural outlying areas.

Siting Strategy 7a: Use buffers to screen development that is out of context

Use substantial landscape buffers to screen new development in areas outside village centers. The predominant woodlands found on Cape Cod consist of oak and pitch pine, with a low deciduous understory. These woodlands tend to lack lower branching, and pitch pines, in particular, do not provide effective screening due to their irregular form. This type of natural buffer is an ineffective visual barrier for a proposed development unless it is of substantial depth. Therefore, natural, undisturbed vegetated buffers of at least 200 feet in depth should be provided by development in outlying areas, particularly in cases where the building form is non-traditional, such as industrial and warehouse buildings.

Maintain as many mature trees on site as possible and design the project around existing vegetation so that the existing maintained buffer serves to screen the project. In cases where existing vegetated buffers are less than 200 feet in depth or have been degraded, disturbed, removed, or otherwise altered, plantings should be provided to augment or reestablish a buffer of sufficient density to provide screening of the new development. New plantings should consist of mixed hardwood and evergreen trees, with associated shrubs and groundcovers, planted to provide full screening within three years of planting. A sense of visual depth may be created through massed plantings that include vegetation of various textures, sizes, and colors. Existing forested areas adjacent to the site may be used as reference in determining appropriate species for new buffer planting.



Figure A29: This planted vegetated buffer at a commercial plaza in Harwich uses plant materials of different size, species, and textures to give depth to the screen.



Figure A30: At this Mashpee storage facility, a wide natural buffer has been retained to reduce views into the project.



Figure A31: At the Woods Hole Oceanographic Institution's Quissett Campus in Falmouth (seen here at the driveway entrance) the existing vegetation around the campus core has been retained and provides a very effective buffer between the regional roadway and the large buildings on the site.

Siting Strategy 7b: Buffer access points

Entrance roads or site accesses should be designed to meander through the buffer to limit views into the site. Trees are especially important along access roads to large commercial/office sites to limit broad views of the development and provide enclosure in context with outlying areas. This strategy is particularly important where the use of the building does not easily lend itself to architectural means of breaking down the building mass (such as warehouse and industrial buildings).

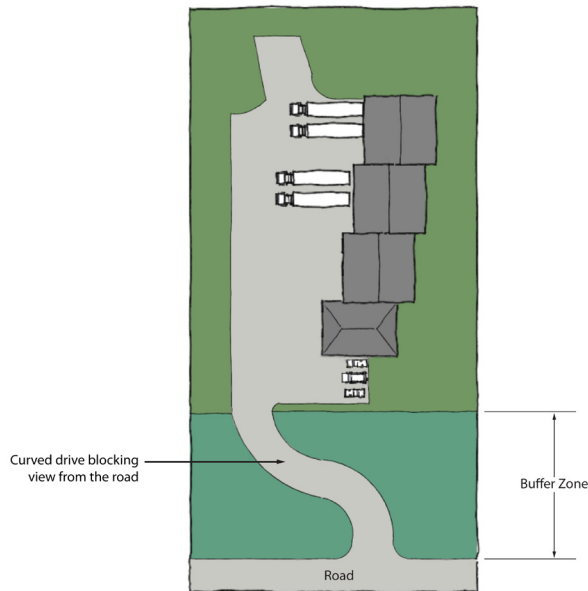


Figure A32: Illustration of how access to a development can meander through a wide landscape buffer to reduce visibility from the street.



Figure A33: Vegetation acts as a screen at the Cape Cod Community College, Barnstable, and in combination with a curved access driveway, the larger structures are successfully screened from the roadway.



8. Reduce the visibility of parking areas

Parking located in front of buildings and next to the street is inconsistent with the region's traditional patterns. It diminishes the sense of enclosure of the roadway and is not compatible with pedestrian activity.

Siting Strategy 8a: Place parking to side or rear

Locate new parking lots behind or to the side of buildings to effectively screen them and maintain the character of the streetscape. Alternatively, take advantage of existing on-street parking and parking lots that can be shared in village centers and developed areas. Churches, offices, restaurants, and other uses that operate at different times may be willing to enter into agreements to share parking areas, reducing costs as well as the amount of land devoted to impervious parking. Parking lots may also be screened from the street by the use of a low wall, fence, hedge, or landscaping (as noted in Siting Strategy 3: Define and Enhance the Street Edge).



Figure A34: The shared parking for this Falmouth commercial site is located to the rear of the property and behind the street fronting buildings (diagram above left); the parking is accessed via narrow driveways between buildings that shield the parking from view.



Figure A35: In this downtown Hyannis example, parking located to the side of commercial buildings is screened by a modest, but effective, landscaped berm. In addition to screening open views to the parked vehicles, the landscaping helps define the street edge and create a more pedestrian-oriented environment.

Siting Strategy 8b: Place parking underneath a structure

In some situations, incorporating a parking structure into the design of proposed buildings may be desirable to limit the amount of land area devoted to parking. Parking structures are preferably designed to the rear of a structure or under the building. If they are visible from the street, they should be incorporated into the design of the building, with a similar level of architectural detail.



Figure A36: First-floor parking garage within residential multi-family building in Chatham.



9. Break up large parking lots

Large surface parking lots negatively impact character, reduce recharge of rainwater to the ground, increase stormwater flow, and function as a heat island in warmer weather. These large parking areas also interrupt the regional streetscape patterns when located near the street edge.

Siting Strategy 9a: Incorporate landscaped islands

Reduce the visual impact of wide expanses of parking with large landscaped islands and planting strips. Islands should include a variety of trees, shrubs, and groundcover to provide vegetation at varied heights and to achieve a visual buffer within the parking area. The use of canopy trees, in particular, is effective as a visual break and also provides shade for vehicles and pedestrians.

Plant species appropriate for parking lot landscaping may include a mix of native and non-native vegetation, so long as the non-native vegetation is not invasive and does not cause excessive fruit drop or leaf litter. Proposed plantings should be carefully selected to withstand difficult parking lot conditions and may also be selected to function as part of a low-impact stormwater design for the site. Trees should be a minimum of 3-inch caliper when planted and should consist of deciduous canopy-type hardwoods and evergreens. Shrubs should not exceed a mature height of 4 feet to allow visibility for drivers, should be a mix of evergreen and deciduous species, and possibly should include some with groundcover growth habit.

Individual planting strips and islands should contain an area of at least 100 square feet per tree, with the narrowest dimension being at least 12 feet wide. Combining planting strips to create greenbelts of at least 20-30 feet in width is most effective and allows pedestrian amenities such as sidewalks and benches to be incorporated into the planting area.



Figure A37: Vegetation of varied heights makes an effective screen in this Hyannis parking lot.



Figure A38: Wide landscaped islands with sidewalks provide a visual break, a pedestrian refuge, and an opportunity to allow direct recharge of stormwater at this plaza in Sandwich.



Figure A39: Traditionally scaled buildings were used to break up the large parking lot area, and also provide screening to the larger buildings behind, at this commercial plaza in Marstons Mills.



Centers



Outlying Areas

10. Locate utilities underground

Overhead utilities have a negative impact on the character of an area by presenting clutter and conflicting with other amenities on the street.

Siting Strategy 10a: Relocate overhead utilities

Relocate overhead utility lines underground or to the rear of buildings in village centers and developed areas to improve the visual quality of the streetscape and to reduce conflicts between sidewalks, plantings, and utility poles. Undergrounding utilities can open up scenic vistas or may allow trees with a mature height of 40 feet or more to be planted along major roadways. Trees that reach this size at maturity are more successful in creating a sense of pedestrian scale and continuity than trees with a small mature height.

When designing projects in village centers or developed areas, it is important to plan for street tree planting by locating underground utilities or structures in areas where street trees will not be planted, or by locating them at least 4 feet below grade. When underground utilities are placed in below-ground vaults, the top of the vault should be located at least 4 feet below grade to allow ample room for tree roots. Tree roots will not damage properly installed utility lines that are more than 3 feet below grade if tree species are selected properly; for ease of maintenance, however, these structures should be located in areas that will be easy to access without damaging tree roots.



Figure A40: Relocating utility lines has reduced the visual clutter and improved the appearance of this portion of Falmouth Village (the top photo shows the area before the utility lines were relocated; the same area after utilities were relocated is shown above).



11. Shield loading and delivery areas

Delivery and loading areas are an essential part of most commercial/industrial uses, but due to their function they are not areas that contribute to the character of their surroundings.

Siting Strategy 11a: Screen delivery/loading areas

Loading areas should be sited outside primary visual corridors or shielded from view by separate structures, projecting building wings, or distinctive landscaping and fencing. Loading and delivery areas may also be located on low points on the site to minimize visibility and noise. Plan for loading and delivery areas in the overall site and building design phase of a project to limit their visibility and to reduce noise.

Trash collection and outdoor storage areas should be incorporated into the overall design of the building and landscaping, and screened from visual corridors. Design these areas in a recess in the building wall to help contain the visual and noise impacts associated with them. Alternatively, use extended building walls or densely landscaped areas to shield these areas from public ways and entrances. Site design and building design techniques should also be used to conceal compressors, generators, and other utility equipment from view.



Figure A41: The combination of plantings and fencing effectively screens this delivery area at a plaza in Mashpee.



Figure A42: The loading/garage area of this building in Yarmouth is hidden behind a narrow landscaped buffer at street level that screens views to the building (left); the loading area/garage is also located below grade to further reduce the bulk of the building and minimize the visibility of the loading area (right).



Figure A43: At a medical center in Harwich, the delivery area (right) is shielded from the public entrance to the building (left) by a narrow, but dense screen of trees (center right).

Building Strategies



1. Break down the building mass into multiple buildings

Separating the building mass into various structures that more closely approximate the size of the traditional buildings in the region allows the development to better fit into the surrounding neighborhood. Buildings should be oriented around a central space or linear pattern that follows the Cape’s historic pattern of clustering along a roadway or around a common.

Building Strategy 1a: Separate structures into massings of 15,000 square feet or less

Break down the building mass into separate structures of 15,000 square feet or less. Organize the separate buildings either in a varied line, around a central space, or clustered within the site in order to more closely follow regional patterns.

When located within a village center, the arrangement of the buildings and the range of building height, scale, and setbacks should directly relate to the center’s existing development pattern. Outside of village centers, the scale of existing buildings and the ability of surrounding vegetation to shield views of the development should determine the appropriate scale and orientation of the buildings.



Figure B1: Rather than constructing a single, large building mass (left), consider breaking the building area into several small building masses clustered around a focal point (right).



Figure B2: Separate structures help maintain a traditional scale at this office park near the Orleans and Brewster town line.



Figure B3: In this Chatham example, the building masses are organized around a central space.



Figure B4: In this Yarmouth office example, the floor plan is divided among multiple connected buildings, creating a more pedestrian-oriented scale.



2. Break down the building mass with smaller sub-masses

The region's unique local traditions and history have resulted in a strong regional vernacular architecture and a traditional pattern of development where buildings were expanded through a series of smaller additions.

Building Strategy 2a: Create a main building mass with attached sub-masses

Reduce the apparent size of a large building by designing a main mass with several smaller, attached components. Smaller masses projecting forward from the primary mass help to reduce the scale and bulk of the building.

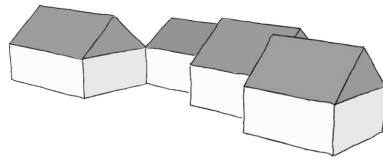


Figure B5: As illustrated in the sketch above (left) and in the Barnstable example (right), development in the region typically evolved through a series of additions that resulted in the massing of buildings being spread out and divided into smaller sub-masses.



Figure B6: This commercial plaza in Chatham shows how more recent development can follow the historic patterns of the region with a series of attached and varied masses.

Building Strategy 2b: Use functional roof forms and features

When pitched roofs are used, sub-masses should be attached to the main mass at right angles, with either parallel roof lines or intersecting cross gables. The sub-masses should be cohesive, but should vary from unit to unit, with each measuring 10,000 square feet or less. These roofed sub-masses should have sufficient depth to appear as a functional roof. Raised parapets and false-fronted gable ends are strongly discouraged and should be avoided. Non-functioning dormer windows, cupolas, and similar details are strongly discouraged as they do not serve to break down the building mass, but instead give the impression of unrealistic appendages that detract from, rather than improve, the design. Functioning dormers and architectural features are appropriate to establish variety between building sub-masses.

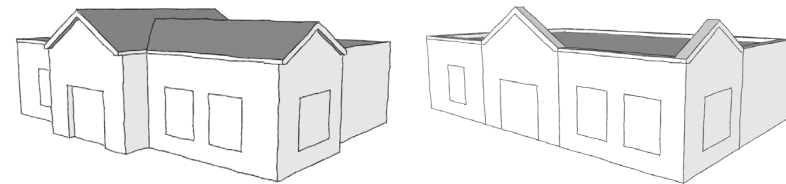


Figure B7: Attached sub-masses incorporate intersecting cross gables that have sufficient depth to appear functional (left); avoid including false gable-ended features with no depth (right).

Building Strategy 2c: Create a subordinate entry

The entry to any building is an important functional element that needs to be clearly articulated through a variety of means. Landscaping, signage, and architecture can all play a role in ensuring that the entry is easily found and navigated. Although the entry should generally be within the primary building mass element, the entrance is traditionally highlighted architecturally by a subordinate mass or canopy. Therefore, the height of the entrance mass or element should be at or below the height of the primary mass to which it is attached.

Figure B8: The entrance to this retail clothing store, located in a large commercial plaza in Hyannis, is defined by projecting the building mass forward, with the entrance element below the height of the main building.





3. Vary the facade line

Village streetscapes have a consistent range of facade lengths and spacing between buildings. This variation can be mirrored by incorporating recesses or projections in the building footprint so that the dimensions of segments of the facade mimic the length of traditional building facades.

Building Strategy 3a: Create variation in setback of facade

New development should vary the building footprint so that there are pronounced changes in the wall planes and building mass. For example, for every 50 linear feet of facade, at least 10 feet projection or setback in the facade should be accommodated. The recess or projection can be split into several components, but changes in the facade line of 10 feet or greater are most likely to reduce the visual impact of the building mass. In most cases, straight walls in the same plane should be no longer than 75 feet.



Figure B9: Setbacks in the facade line and corresponding variations in height help to break down the building mass.



Figure B10: The massing and variation in the facade create a rhythm to the building that is consistent with traditional patterns at this independent living facility in Harwich.

Building Strategy 3b: Incorporate open wall elements

Covered arcades and porches should be used to accentuate variations in the footprint of the building, but should not take the place of changes in the exterior building walls. A varied rhythm of elements, rather than a strict repetition of the same feature, is most effective for breaking down the building mass into smaller components and providing visual interest to a design. Adjacent wall sections should be varied in length, setback, and height.



Figure B11: Varied facades create interest and enhance these buildings in Woods Hole (left) and Provincetown (right).



4. Vary wall heights

Village streetscapes do not generally have a common wall height, but instead exhibit a great deal of diversity in style and a range in both overall height and wall height. This variation can be mirrored by incorporating changes in height that echo the surrounding architectural context. Traditionally, buildings in centers present a pedestrian-scaled facade of mostly one and two stories, with floors over the second story incorporated within a traditional roof form.

Building Strategy 4a: Create variety in wall height along facades

Provide changes in the building wall height to reduce the overall bulk of the structure and to increase variety along the facades. Portions of the building above 20 feet in height should be roof forms unless the established development pattern in the area includes higher building walls. If a third floor is created it should be setback so as to maintain a pedestrian and traditional scale to the building.

As discussed in the Siting Strategies section, designing a second story for a portion of the building is an effective way of varying both the building design and the wall height consistent with traditional development patterns in the region.



Figure B12: In downtown Chatham, pedestrian-scaled features are presented at the street while second and third stories are incorporated within traditional roof forms.



Figure B13: Varied wall heights define multiple uses in one structure in Mashpee.



Figure B14: A combination of one- and two-story wall heights reduce the overall building volume in Mashpee.



5. Vary the roof line

The historical pattern of development in the region has resulted in large buildings characterized by varied roof heights and a variety of roof forms. Continuing this pattern of varied roof forms helps to reduce the mass of the buildings to be more consistent with the scale of existing development.

Building Strategy 5a: Alter roof forms to break down large roof masses

Vary the height of the roof line at both the roof peak and the eaves to break down large roof masses into smaller elements and to vary its relationship to the ground. Incorporate several different roof forms on different parts of a large building. Gable, shed, and hip roofs are compatible with regional styles and forms and can be effectively combined on a single building.

Flat roofs are discouraged but not prohibited, as they may be appropriate in some areas where existing development includes flat-roofed, row-house style structures, or on some portions of a building. Roof forms should be designed to read as a functional roof over the building, not as a decorative feature added to the facade.



Figure B15: The varied rooflines of this Harwich building add visual interest.



Figure B16: Roof peaks of various heights help to break down the building mass and effectively screen the flat roof in this Sandwich commercial building.



Figure B17: The Harwich Community Center incorporates varied roof heights and forms to break down the overall scale of the building.



6. Bring down the building edges

Single-story, roofed masses appended to a larger structure create a more pedestrian-scaled environment. They provide a transition from high eave lines to the ground level, better connecting the overall large mass to its site and reducing its apparent mass.

Building Strategy 6a: Bring down the edges with smaller, attached masses

Bring the edges of the building down with smaller attached masses such as arcades, entrances, or lower additions. The use of arcades (a series of arches supported by columns) that are not physically attached to the building, but are stepped forward and essentially act as a frontage building, can be particularly effective in breaking up the apparent massing of a large building.



Figure B18: As shown in this sketch, lower roof heights on attached masses reduce the apparent scale of the building.



Figure B19: This medical facility in Harwich uses arcades, varied eave lines, and ridge heights to reduce the apparent mass of the building.



Figure B20: This building in Sandwich uses a pergola, varied eave lines, and multiple ridge heights to give the building a pedestrian scale.



Figure B21: The substantial size and bulk of “value” retail structures present their own design challenges and often have pre-determined interior layouts that make it difficult to break down the mass of the structure into smaller components. However, as seen in this Hyannis example, incorporating a covered pedestrian-scaled walkway and entry at the edges (in combination with changes in roof height and materials) helps to reduce the apparent mass of the structure.



7. Vary building materials to add depth to the facade

The Cape's villages present a variety of building materials and architectural styles, working within a palette of wood and brick. Using a combination of materials is an effective way of breaking up a large facade.

Building Strategy 7a: Use a variety of materials to add depth

Use a variety of building materials with different colors, textures, and patterns to add depth and interest to the building facade. In prominent areas with entrances, display windows, and other pedestrian amenities, the use of high-quality, traditional building materials and greater architectural detail is strongly recommended. Non-traditional materials may be used if they accomplish the overall goal of adding interest and depth to the facade. In areas that should receive less attention, such as service areas and unbroken expanses of wall, use less-formal materials and simpler detailing to make those parts of the facade recede into the background.

With large building facades, the design should take a cue from the surrounding traditional forms. Vary the detailing, materials, and colors in adjacent sub-masses to resemble the traditional variety found in the region's village centers.



Figure B22: Simple changes in the pattern of the exterior materials and the use of bands of different materials can create interest in the facade, as shown in these Harwich examples.



Figure B23: Different materials (clapboard and brick) and simple changes in the mortar colors (for brick cladding) in combination help break the plane of the facade into smaller components in Mashpee (left). Use of higher quality materials, display windows and varying architectural details creates a more-inviting pedestrian experience, also in Mashpee (right).



Figure B24: Varied materials and roof forms are in keeping with traditional patterns in Mashpee.



Figure B25: In areas not in village centers, the use of non-traditional materials may be appropriate. At the Wellfleet Harbor Actors Theater in Wellfleet, the use of non-traditional materials in combination with changes in color and mass are consistent with the more-contemporary style of the building.



8. Use traditional and natural building materials

The Cape's traditional building materials are wood shingle and wood clapboard, though brick and stone were also used. One distinctive feature of the region is the preponderance of naturally weathered wood on building exteriors.

Building Strategy 8a: Use traditional materials that weather naturally

Use high quality, traditional materials that weather naturally on the exterior of the building to reflect regional building traditions.

Alternatively, incorporate low-reflective, neutral, and earth tones to retain the subtle character of the region's traditional materials. Earth tones recede into their surroundings much more effectively than others and, as such, are particularly appropriate for development outside of village centers and behind natural buffers. Renewable and sustainable materials with similar color tones and textures are also appropriate. High-intensity, reflective, and metallic colors and materials are strongly discouraged.



Figure B26: Wood shingle siding relates this contemporary design in Hyannis to regional traditions.



Figure B27: This laboratory building in Falmouth incorporates natural materials and earth tones that blend into the landscape and reflect the regional character.



Figure B28: The addition to the Cape Cod Hospital (background center in the left photo) relates to the scale of the existing hospital buildings when viewed from the rear but presents a contemporary facade on the other side (right). The use of traditional materials and a complementary color palette tie the overall design together.



Figure B29: This building in Yarmouth uses a mix of traditional materials on the most visible facades and low-reflective siding in neutral tones on the remaining facades.



9. Incorporate pedestrian-scaled features

To retain the character of the region’s early villages, new buildings must relate to the pedestrian environment. Incorporating pedestrian features both continues the region’s small scale traditions and also invites greater activity in front of the building.

Building Strategy 9a: Incorporate pedestrian scaled features

Include alcoves, covered walkways, awnings, windows, public seating, bicycle amenities, architectural details, and other small-scale features that relate to pedestrians, including a clearly defined customer entrance. While visually identifying the entrance of a building is essential to any good design, the mass of the entry should generally be subordinate to the primary building mass. For example, the ridge of an entry should be at or below the primary roof height. The design should provide a visual distinction between primary and secondary entrances, which also helps to incorporate asymmetry into the building facade. In areas with pedestrian interaction, a significant portion of the building facade should be devoted to windows and doors to maintain the pedestrian relationship.



Figure B30: Windows and awnings oriented to pedestrians lend a human scale to larger buildings at the Cape Cod Mall in Hyannis.



Figure B31: A partial arcade creates a lower, pedestrian-scaled facade in Mashpee.

Building Strategy 9b: Incorporate pedestrian-scaled structures

Smaller structures such as gazebos, bicycle shelters, and other pedestrian shelters can act as frontage buildings to help shield larger structures. Such structures should be located to screen views to the main building from prime viewing areas where they will be most effective.

Figure B32: This bicycle shelter at a commercial plaza in Marstons Mills provides an inviting pedestrian environment and helps to screen the large supermarket from the regional roadway.





10. Incorporate landscaped areas to break up large facades

Along with other strategies, landscaping is a useful tool for softening large building facades.

Building Strategy 10a: Add depth to facades with landscaping

Use pedestrian-oriented landscape areas adjacent to the building to add variety and depth to a large building facade. Arbors or pergolas can be combined with landscaping to effectively break up a large flat facade, adding different materials, depth, and vegetation.

Within large projections or setbacks in the facade, incorporate landscaped areas to provide relief and provide interest while also softening the building exterior and mass.



Figure B33: At this supermarket in Marstons Mills, arbors have been used to soften the long building facades with climbing plants.



Figure B34: Landscaping and a small park area provides relief from large building facades in Woods Hole.



Figure B35: Landscaping at the entry to Falmouth Town Hall provides relief from a long building facade.



11. Incorporate energy-efficient or “green” architecture in the design

As noted in the Commission’s Design Manual, contemporary architectural forms and materials are welcome. In particular, contemporary designs that incorporate aspects of “green architecture” and “sustainable design” and take advantage of alternative energy sources and renewable materials are encouraged. These contemporary designs should pay careful attention to reinterpret and echo the region’s traditional design forms and materials.

Building Strategy 11a: Incorporate energy-saving features

Promote sustainable development in the region by incorporating energy-saving features and by using building materials from recycled or renewable sources. The use of non-traditional building materials and contemporary designs to reduce a development’s environmental impacts are encouraged, especially when they are used in combination with traditional forms and materials.



Figure B36: The Massachusetts Audubon Society building in Wellfleet is a Leadership in Energy and Environmental Design (LEED)-certified building and incorporates a number of energy efficient and green technologies into its contemporary design, while the use of traditional materials and forms echoes the region’s vernacular architecture.



Figure B37: Additions and renovations to an historic structure use sustainable design in Falmouth.



Figure B38: This residential home and studio in Brewster incorporates a “green” or “living” roof that supports soil and plant material that insulate the building and reduce heat absorption.



12. Design industrial and warehouse buildings in context

Industrial and warehouse buildings are typically designed to create large volume spaces with open floor plans to accommodate their manufacturing, assembly, and storage functions and are generally not designed with pedestrian use in mind. Consequently, industrial and warehouse buildings are typically large, have little or no architectural detail, and are built at a scale that is in sharp contrast to the regional development forms of the Cape. Screening and appropriate siting as discussed in previous sections are the best solutions for fitting them into the Cape landscape.

Building Strategy 12a: Orient narrow facade to street

Orient the short axis of the building parallel to the street to maintain a building profile that is more consistent with the region's traditional scale (see Figure B39 below).

Building Strategy 12b: Offset modular buildings to break down the mass

In cases where the building has a modular form, try to create smaller building masses by off-setting adjacent portions of the building to reduce the bulk of the structure (see Figure B39 below).

Building Strategy 12c: Maintain wide buffer

Establish a wide landscaped buffer between the street and the building, and design a meandering entrance drive to limit views into the site.

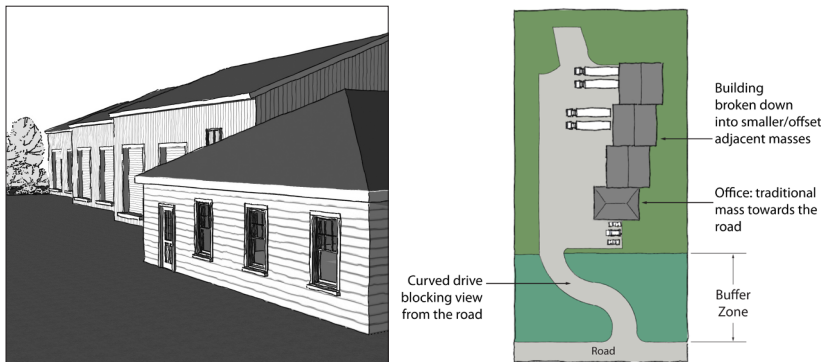


Figure B39: These illustrations show how orienting the narrow facade toward the street, offsetting modular buildings to break down the mass of the building, and maintaining a deep buffer with meandering driveway can be effectively used to reduce the visual impact of industrial/warehouse buildings.

Building Strategy 12d: Incorporate traditionally scaled masses

Design a small portion of the facility, such as the office or a small retail/showcase area, using traditional architectural forms and materials. Locate this portion of the facility in the most-visible portion of the site, where it can function as a frontage building that provides a more-traditional facade to the public and partially screens other parts of the facility from view. Alternatively, combine the warehouse with other uses and shield the warehouse behind the other structures on the site.



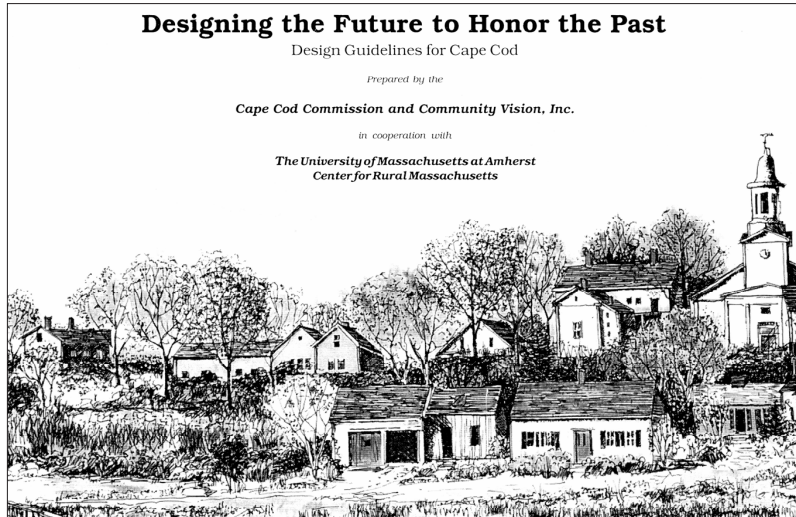
Figure B40: This building in Orleans uses traditional materials and incorporates traditionally scaled masses and roof forms close to the street to partially screen the larger building to the rear.



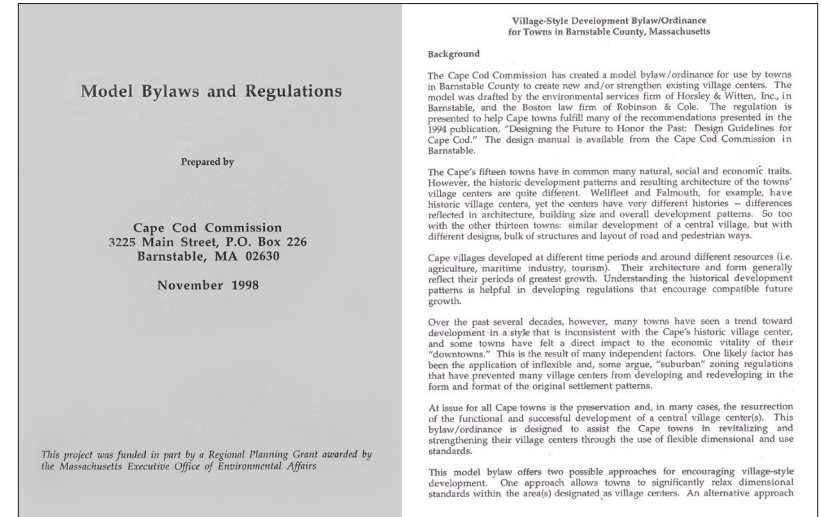
Figure B41: At this marine-supply retailer in Mashpee, a metal warehouse structure has been attached to the rear of a building with a more-traditional form.

Related Documents and Tools

Copies of the following documents may be found on the Cape Cod Commission's website (www.capecodcommission.org).



Designing the Future to Honor the Past: Design Guidelines for Cape Cod, originally adopted in September 1994. "Contextual Design on Cape Cod" is an addendum to the Cape Cod Commission's design guidelines.



Prepared by the Cape Cod Commission in 1998, this model bylaw is intended to assist towns seeking to adopt village-style zoning regulations. The model provides suggested elements for a bylaw and a discussion of issues to consider as town's tailor the regulations to their specific needs.





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A Department of Barnstable County Regional Government, Massachusetts

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An Addendum to "Designing the Future to Honor the Past: Design Guidelines for Cape Cod"

Contextual Design on Cape Cod