

Manual of Design Guidelines

West Bradford Township, Chester County, Pennsylvania



Village of Marshallton: TND-2 District

A companion document to Article 408: Traditional Neighborhood
Development of the West Bradford Township Zoning Ordinance

September 2, 2005

Adopted: December 13, 2005

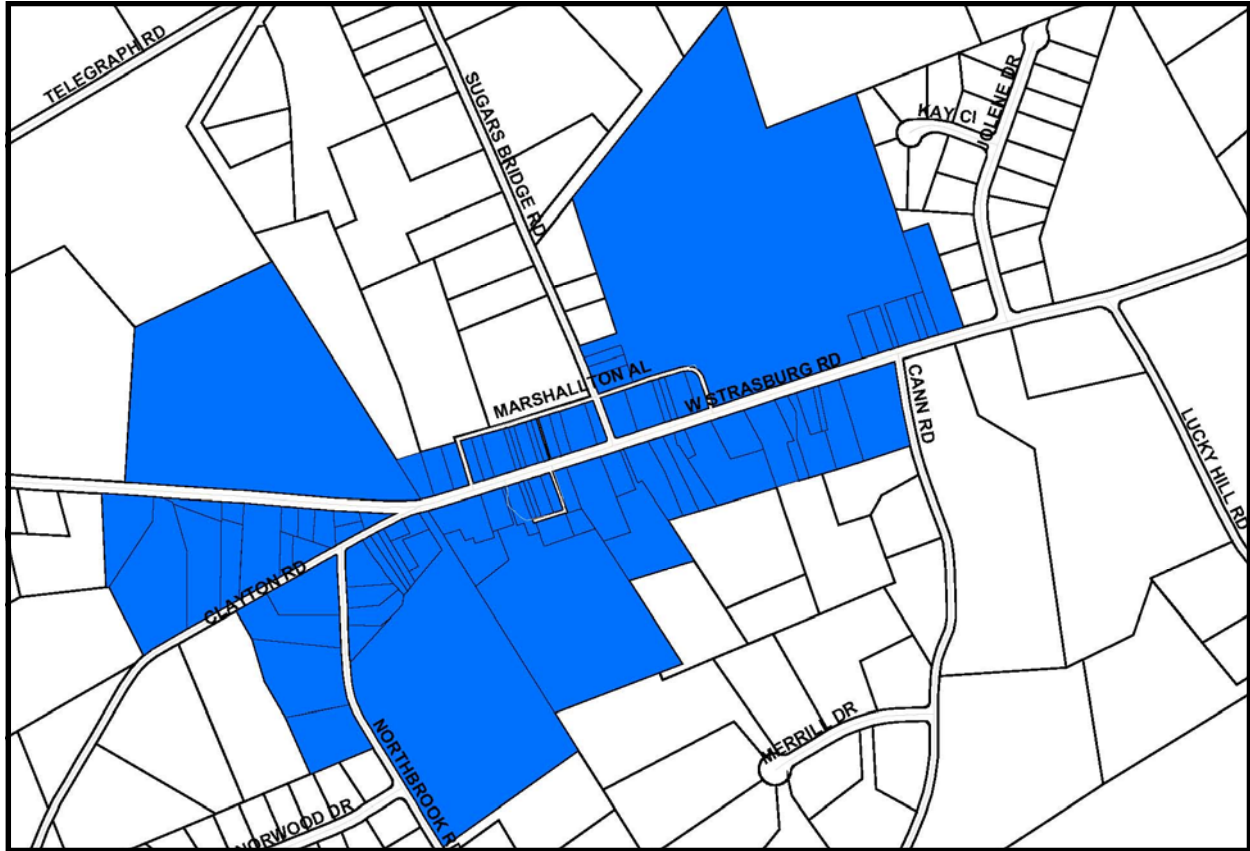
Proposed Amendments: November 26, 2008

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Adopted: November 24, 2009

Manual of General Design Guidelines

West Bradford Township, Chester County, Pennsylvania



Village of Marshallton: TND-2 District

Prepared by:

Thomas Comitta Associates, Inc.
Town Planners & Landscape Architects

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1.0 Introduction

This Manual of General Design Guidelines relates to the Zoning Ordinance Amendment adopted by the West Bradford Township Board of Supervisors on August 9, 2005 which created the Traditional Neighborhood Development-2 (TND-2) District in the Village of Marshallton. The Intended Purpose of the TND-2 District is as follows:



Village of Marshallton

- A. Encourage the continuation of the traditional character and land use pattern of the Village of Marshallton, as enabled by Article VII-A of the Pennsylvania Municipalities Planning Code entitled Traditional Neighborhood Development.
- B. Promote adaptive reuse of buildings in Marshallton, to the maximum extent possible.
- C. Discourage the demolition of existing viable buildings.
- D. Promote traditional neighborhood development that is compact and context sensitive, whenever new development or redevelopment takes place.
- E. Encourage development and redevelopment to be in keeping with the scale, height, and proportions of the traditional village setting.
- F. Help to ensure compliance with the goals of the Comprehensive Plan and promote innovative designs that contribute to the village character.
- G. Comply with "Creating Connections: Country Paths & Village Sidewalks – A Greenways, Trails, and Gateways Plan for West Bradford Township."
- H. Comply with the Open Space, Recreation, and Environmental Resources Plan complementing the village pattern and promoting pedestrian circulation to reinforce the community character.
- I. Preserve scenic and historic values of the village.
- J. Beautify and enhance the street-scape with sidewalks, street trees, street lights, and signage consistent with the village setting.
- K. Discourage larger footprint buildings that would be disruptive to the character and ambience of the village.

This Manual of General Design Guidelines is intended to be a general guide for development and redevelopment under Article 408, the TND-2 District. A more detailed, site specific "Manual of Specific Design Guidelines" shall be prepared by Applicants according to Section 408.9.C. of the TND-2 District Ordinance.

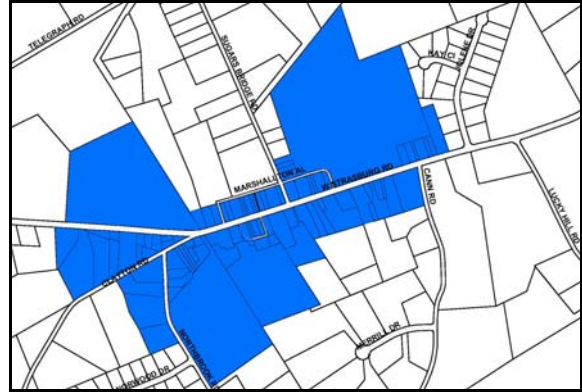
Applicability of General Design Guidelines

This Manual of General Design Guidelines applies to all properties shown on the Township Zoning District Map with the designation of TND-2. This Manual is a companion to Article 408 – Traditional Neighborhood Development TND-2 District.

This Manual of General Design Guidelines applies to all subdivision and land development applications within the TND-2 District. However, whenever one (1) or more non-residential buildings, and two (2) or more new residential buildings are proposed, a detailed, site-specific “Manual of Specific Design Guidelines” shall be prepared and submitted by the Applicant for the site.

The detailed Manual of Specific Design Guidelines, prepared by the applicant, shall describe and illustrate the specific Streetscape, Site Design, and Building Design Guidelines that will apply to a specific project, in accordance with Section 408.9.C of the TND-2 District Ordinance.

Throughout this document the word, “shall” is a requirement and the word, “should” is a preferred option desired by the Township.



TND-2 District Map

2.0 Streetscape Guidelines

The Streetscape of the Village of Marshallton is the public space within which buildings are placed close to the street and features such as facades, porches, shopfront, street trees, street lights, sidewalks, picket fences, and awnings contribute to a cohesive character. The Streetscape is one of the most important elements of the Village of Marshallton as it frames the view from the road.

The Streetscape is the most visible aspect of the public realm of the Village. Therefore, all elements that are added to the Streetscape shall enhance, not detract from, the charm and character of the Village.



Elements addressed in this Section include:

- 2.1 Alley
- 2.2 Curbs
- 2.3 Curb Cuts
- 2.4 Gateway Features
- 2.5 Parking On-Street
- 2.6 Sidewalks
- 2.7 Street Lights
- 2.8 Street Trees
- 2.9 Traffic Calming

Alley

Manual of General Design Guidelines

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Alley of old Grange.



Alley at old Grange.

Overview

- The Alley allows for the preservation of the frontage streetscape, by precluding the need for curb cuts along the frontage.
- The Alley provides vehicular access to parking in the rear of lots.

Guidelines and Best Practices

1. Create an interconnected network of streets and alleys, wherever new streets are constructed.
2. Construct and maintain an alley width of at least 16 feet.
3. Maintain all existing alleys in the Village.
4. New alleys shall be paved.



Alley at Eastern End of Village.



Alley Access to Parking.

Curbs

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Curb, sidewalk, and shoulder.



Curbs provides edge to sidewalk.

Overview

- Curbs help to contain the sidewalk above on- street parking lanes and shoulders, thereby providing pedestrians and vehicles distinct spaces.
- Curbs help to channel vehicular circulation.
- Curbs provide opportunities to divert and channelize drainage.

1. Provide and maintain curbs on Strasburg Road along all sidewalks.
2. Construct curbs of concrete with at least a 4.5" vertical reveal along all new streets.
3. Provide and maintain flush concrete curbs at all curb cuts.
4. Provide and maintain handicapped curb cuts at all street intersections.
5. Provide curbing to channel drainage.

Guidelines and Best Practices



Shoulder, uneven curb, and sidewalk.



Uneven curb.

Curb Cuts

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Curb cut for Alley

Overview

- Curb cuts trigger the need for left turn lanes across oncoming traffic flow.
- Mid- block curb cuts should be minimized to reduce conflicting vehicular traffic movements.
- Curb cuts are not needed when Alleys are constructed and maintained.



Curb cut for Residence.

Guidelines and Best Practices

1. Prohibit any new mid- block curb cut.
2. Access properties from existing curb cuts, driveways and streets.
3. Access corner properties from existing side streets and alleys.
4. Provide and maintain curb cuts for handicapped access at street intersections.
5. Construct and maintain new Alleys to minimize curb cuts along a frontage street.
6. Narrow excessively wide existing curb cuts to enhance vehicular access management.



Wide curb cut for Restaurant.

Gateway Features

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Eastern Gateway



Village Sign

Overview

- The gateway features in Marshallton help to provide orientation and enhance wayfinding.
- Gateway features can send the message that you are entering a special place.
- Gateways create a “sense of place” and beautify the streetscape.

Guidelines and Best Practices

1. Create and maintain features along Strasburg Road.
2. Utilize features such as signage, street lights, street trees, plantings, ballards, sculpture, and banners at gateways.



Western Gateway



Secondary Gateway Opportunity at Strasburg & Northbrook Roads

Parking: On- Street

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On- street parking along Strasburg Road.



On-street parallel parking opportunity along Strasburg Road providing buffer to pedestrians on sidewalk

Overview

- On- street parking is needed where homes and businesses are not served by driveways or alleys.
- On- street parking spaces help to buffer fast moving vehicles from pedestrians on the sidewalk.

Guidelines and Best Practices

1. Provide and maintain on-street parking along both sides of new streets to the maximum extent possible.
2. Line stripe "end lines" every 22 feet for parallel, on-street parking.
3. On-street parking bays shall be 7 feet in width.
4. Do not eliminate on-street parking with loading/unloading zones or new curb cuts.

Sidewalks

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Brick Sidewalk/Walkway



Brick Paving Detail

Overview

- Sidewalks add to the pedestrian vitality of the village.
- Sidewalks are critical on both sides of the street.

Guidelines and Best Practices

1. Maintain existing sidewalks on both sides of the street.
2. Construct and maintain new brick sidewalks at a minimum width of 4 feet, 6 inches (4'-6").
3. Continue sidewalk material across curb cuts to emphasize pedestrian continuity.
4. All sidewalks shall have positive drainage.
5. Vegetation shall be planted and maintained so as to not encroach on sidewalks



Concrete Sidewalk



Tree-lined sidewalk provides shade for pedestrians

Street Lights

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Street Lamp adds interest to the pedestrian environment



Street lamp along lane to Bradford Friends Meeting

Overview

- Pedestrian scaled street lights can provide an attractive accent to the nighttime streetscape.
- Street lights can accent gateways.
- Street lights can help to define the village at night.



Luminaire that could be used along new street

Guidelines and Best Practices

1. Install and maintain pedestrian scaled street lights on both sides of new streets.
2. Limit the height of ornamental street lights to 16 feet.
3. Utilize Spring City Electrical Manufacturing Company (610.948.4000) products (www.springcity.com)
4. The use of Lite Shield luminaire are required to limit light migration, glare and pollution
5. Sodium lamps that produce a yellow-orange light are discouraged.
6. The use of varied posts and luminaire styles are encouraged.



Existing street lamp along Strasburg Road

Street Trees

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Street Tree along sidewalk



Street Trees along Strasburg Road

Overview

- Street Trees provide shade, add a vertical scale element to the streetscape, and beautify the public realm.
- Deep-rooted, stress tolerant Street Trees have a longer survival rate.
- The village historically has had large deciduous Street Trees along its main thoroughfares.

Guidelines and Best Practices

1. Maintain existing Street Trees in the village.
2. Install and maintain Street Trees at an average interval of 35 feet on both sides of Strasburg Road, where there are no existing street trees.
3. Install and maintain Street Trees along all new streets.
4. Install and maintain species such as:
 - a. *Acer rubrum* - Red maple
 - b. *Platanus occidentalis* - Sycamore
 - c. *Quercus alba* - White Oak
5. Follow Section 529.B.3 of the Township SLDO regarding Street Trees.
6. Within the village, Street Trees may be placed within the right-of-way between the curb and sidewalk.



Street Tree in front yard



Street Tree at Marshalton Inn

3.0 Site Design Guidelines

The overall form of the Village of Marshallton is derived from three overarching elements:

1. The Streetscape (Section 2);
2. Site Design (this Section 3); and
3. Building Design (Section 4).

This Site Design section pertains to lots outside of the right-of-way of existing and proposed streets and roads.

The Site Design guidelines are intended to promote place-making and the continued sense of place of Marshallton.



Elements addressed in this Section include:

- 3.1 Building Location
- 3.2 Build-to-Line/Setbacks
- 3.3 Hedges, Fences and Walls
- 3.4 Landscaping
- 3.5 Parking: Off-Street
- 3.6 Signage
- 3.7 Street Furniture
- 3.8 Utilities

Building Location

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Mixed-Use building anchors corner and abuts sidewalk



Building and porch located close to sidewalk and street

Overview

- Existing buildings in the Village are located close to the street and sidewalks.
- Buildings located close to the street and sidewalk help to form the Streetscape character of the Village.

Guidelines and Best Practices

1. Locate buildings close to the sidewalk and street, in alignment with existing buildings.
2. Conform to the predominant existing building setbacks.
3. Build and maintain porches, porticos, colonnades, stoops, and the like, as a transition element from the principal building structure to the public realm.
4. Closed in porches, and the like, will not be allowed on the front porch of any structure.



Building with front porches located within 20 feet of sidewalk



Buildings along sidewalk define the edge of the Streetscape

Build-to-Line/Setbacks

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Normative Build-To Lines



Shallow front yard setback

Overview

- Many of the existing buildings in the Village are located within 10 to 20 feet of the sidewalk.
- Shallow setbacks help to provide the “outdoor room” character of Marshallton.

Guidelines and Best Practices

1. Maintain the historical setbacks of existing buildings.
2. Locate new buildings in alignment with existing buildings.
3. Strive to locate buildings along new streets within 10 to 20 feet from the sidewalk.



Traditional Build-To Line



Buildings in alignment

Hedges, Fences and Walls

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Fence in front yard landscape



Stone wall at Humphrey Marshal house

Overview

- Hedges, fences and walls provide attractive edges along the streetscape.
- These features can serve as a type of street wall edge, especially when buildings are not located close to the sidewalk.

Guidelines and Best Practices

1. Maintain the existing hedges, fences and walls in the Village of Marshallton.
2. Install and maintain additional hedges, fences and walls to strengthen the streetscape character, whenever buildings cannot be placed at a Build-to line.
3. Whenever off- street parking is provided, it shall be screened by a hedge, fence or wall of at least 36 inches in height.

(continued on page 3.3.1)



Picket fence in front yard



Stone wall in front yard

Hedges, Fences and Walls

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Guidelines and Best Practices

4. Masonry walls, whether stone, brick, stucco or a combination thereof, shall be designed to reflect patterns and styles of existing walls in the Village.
5. Walls should be appropriate to the architectural style of the building on the property.
6. When visible from a public right-of-way, retaining walls should be constructed of stone or brick.

Landscaping

Manual of General Design Guidelines

West Bradford Township: TND-2 District



Specimen maple tree in front yard



Simple front yard landscape

Overview

- Landscaping adds beauty to the streetscape and softens the appearance of the Village.
- Landscaping helps to define and articulate the yard.

Guidelines and Best Practices

1. Maintain existing landscaping to promote the beauty of Marshallton.
2. Install and maintain plants to further complement buildings, sidewalks, entry courts, parking areas, and pedestrian areas.
3. Provide a massing and layering of plants to create a unified appearance, and a variation in plant size and texture.



Hostas along sidewalk in front yard setback



Landscape sitting area

Parking: Off-Street

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Off-Street Parking located behind buildings



Off-Street Parking at Four Dogs Tavern

Overview

- Off-street parking is necessary to accommodate business patrons, shop and store owners, and restaurants.
- Off-street parking should be located to the side of or rear of buildings, to promote the traditional character of the Village.

Guidelines and Best Practices

1. Locate all new off-street parking to the side of or rear of buildings.
2. Do not create new off-street parking in front of buildings.
3. Screen off-street parking with hedges, fences, walls, and other landscaping of at least 36 inches in height.



Parking in rear of lot



Off-Street Parking pre-empts sidewalk opportunity

Signage

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Historic marker sign



Well designed sign of Marshalton Inn

Overview

- Well designed signage provides a distinctive appearance and promotes the historic character of the Village.
- Signs should be designed to be in scale with buildings and the pedestrian environment.

Guidelines and Best Practices

1. Maintain existing signage that is in scale and character with the Village.
2. Minimize freestanding signs that could create visual clutter. Freestanding signs shall be at least 30 feet apart.
3. Signs shall be subordinate to the building. Wood and metal are the preferred materials for sign construction.

(continued on page 3.6.1)



Business sign



Civic Sign

Signage

Manual of General Design Guidelines

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Guidelines and Best Practices

4. Signs may be illuminated with soft, indirect light. Back lighting or neon shall not be used.
5. The shape of the sign shall relate to the architectural style of the building or incorporate elements of such style.
6. Lettering should combine easy readability with good visibility.
7. Colors used in sign should relate to and blend with colors on the building as well as with immediately adjacent buildings.
8. Signs shall not be attached to buildings in ways that interfere with or destroy important architectural details.
9. Signs that have a quaint, historical flair are preferred.

Street Furniture

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Planters at Porch of Marshalton Inn.



Bench at Marshalton Inn.

Overview

- Benches and other street furniture provide attractive pedestrian scaled streetscape elements.

Guidelines and Best Practices

1. Maintain existing outdoor benches and seating at business establishments.
2. Install and maintain benches wherever feasible.
3. Provide and maintain container plantings to beautify the Village, such as planters, urns, window boxes and the like.
4. Non-uniform street furniture is desirable.



Outdoor dining Area.



Planter with Flowers.

Utilities

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West Bradford Township: TND-2 District



Overhead electrical wires, western end of Village



Overhead wires outside Four Dogs Tavern

Overview

- Overhead utility wires degrade the visual quality of the Village.

Guidelines and Best Practices

1. Install all new utilities underground.
2. Buffer existing overhead wires and poles through the use of street trees and other landscaping to the extent possible.
3. Move existing overhead wires to alleys where feasible.



Utility poles with overhead wires along sidewalk

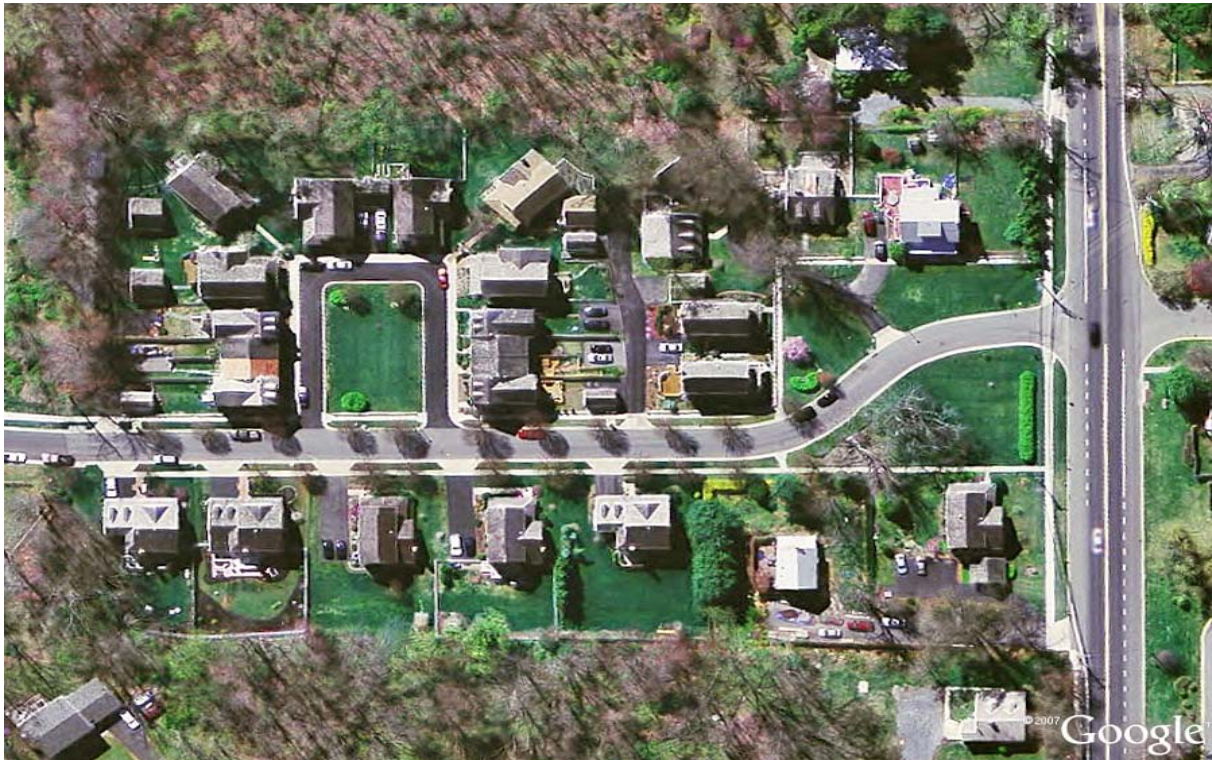


Existing overhead wires at Strasburg and Northbrook Roads

Green Areas: Village Green

Manual of Design Guidelines

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The Wyndcrest TND Neighborhood has two beautiful Village Greens, one at the Entrance, and one in the Center of Clustered Dwellings.

Overview

- The Village Green is intended to be an attractive Gateway feature of a TND.

Guidelines and Best Practices

1. The size of the Village Green is to be at least 5,000 square feet in area.



Single-Family Detached and Attached Homes Clustered Around the Village Green

Green Areas: Village Green

Manual of Design Guidelines

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Kentlands Village Green, Gaithersburg, MD



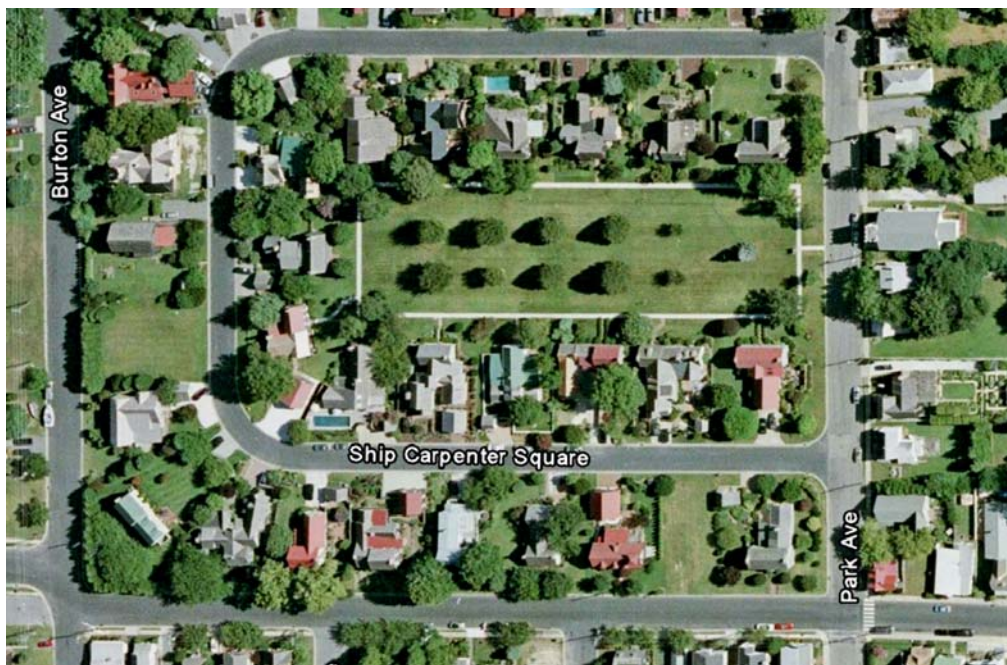
Village Green at Lantern Hill, Doylestown, PA

Overview

- The Village Green is intended to provide a viable space around which buildings can be grouped in a TND.

Guidelines and Best Practices

- Construct and maintain Village Greens as level areas, not to exceed 5% slope.
- Embellish Village Greens with benches, gazebos, pavilions, plantings, gardens and the



Village Green at Ship Carpenter Square - Lewes, Delaware

Green Areas: Civic Plazas & Squares

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Oglethorpe Square, Savannah, GA



Civic Plaza with Pergola at Georgetown Square, Cranberry Township, PA

Overview

- A Civic Plaza and Square is intended to be a primarily rectilinear or squared open space amenity within a TND.

Guidelines and Best Practices

1. Size Civic Plazas and Squares to be at least 1,000 square feet in area.
2. Construct and maintain Civic Plazas and Squares as predominantly level areas (less than 5% grade) with substantial landscaping.
3. Construct and maintain Civic Plazas and Squares as combined landscaped and



Civic Plaza at Legacy Village, Cleveland, OH



Civic Plaza, Cambridge, MA

Green Areas: Pocket Parks

Manual of Design Guidelines

West Bradford Township: TND-2 District



Bench and Landscaped Area, Wayne, PA



Sitting Area, State College, PA

Overview

- Pedestrian gathering places and “pocket parks” are intended to provide viable opportunities to celebrate the public realm of a TND.

Guidelines and Best Practices

1. Construct and maintain plazas, pavilions, gazebos, and sitting areas as viable “pocket parks”, at least 500 square feet in area.
2. Install and maintain benches, sitting walls, shade trees, plantings, lighting, and other landscape and hardscape features in pocket parks to enhance attractiveness and safety.



Sitting Wall, Newport, RI



Benches in Pocket Park, Haverford Township, PA

4.0 Building Design Guidelines

The Building Design Guidelines are intended to provide only a general directive for buildings.

Whenever one (1) or more non-residential buildings are proposed, two (2) or more new residential dwellings are proposed, or where a Subdivision or Land Development Plan is required, a more detailed, site specific "Manual of Specific Design Guidelines" shall be prepared and submitted by the Applicant, in accordance with Section 408.9.C. of the TND-2 Ordinance.



Traditional Marshallton building

Elements addressed in this Section include:

- 4.1 Accessory Buildings
- 4.2 Adaptive Reuse of Buildings
- 4.3 Alterations and Additions to Existing Buildings
- 4.4 Building Design
- 4.5 Building Facades
- 4.6 Building Heights
- 4.7 Building Materials
- 4.8 Building Scale/Size
- 4.9 Fenestration
- 4.10 Front Doors/Entryways
- 4.11 Porches and Stoops
- 4.12 New Buildings

Accessory Buildings

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Garage in Rear Yard



Garages off Alley

Overview

- Accessory buildings such as garages and sheds should be compatible with principal buildings.

Guidelines and Best Practices

1. Construct accessory buildings to be compatible with the architectural character of the principal building, in terms of design, scale, proportion and materials.
2. Prefabricated storage buildings made of wood may be used if they are not placed in the front or side yards (visible from the public right-of-way).
3. Garage doors shall be appropriate to the architectural style of the garage and the principal building.
4. Newly constructed garages shall provide a cohesive appearance for the property.



Garages off Alley



Accessory Building behind Marshalton Inn

Adaptive Reuse of Buildings

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Adaptive Reuse of Old Drovers Inn.



Adaptive Reuse and Mixed Use.

Overview

- The adaptive reuse of a building preserves its integrity and continues its lifespan.
- Adaptive reuse can more easily be accommodated with buildings that contain smaller square footages.

Guidelines and Best Practices

1. Continue to adaptively reuse buildings in Marshallton to extend their lifespan and utility.
2. Rehabilitate existing buildings to accommodate new uses.
3. Promote adaptive reuse at all times as an alternative to demolition.
4. Make use of existing building features in adaptive reuse.



Adaptive Reuse of Blacksmith shop.



Adaptive Reuse of former residence.

Alterations and Additions to Existing Buildings

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The complex of existing buildings

Overview

- Alterations and additions to existing buildings should be undertaken in the most sensitive manner as possible.
- Alterations, which may involve reconstruction and restoration, should be seamless.
- This section applies whenever there is a subdivision or land development, involving one (1) or more non-residential buildings or 2 or more residential buildings.

Guidelines and Best Practices

Foundations

1. When a foundation must be repaired or rebuilt, original bricks or stones shall be used or be replaced by bricks or stones that are similar in size, color and surface texture to the original.
2. Openings between brick piers may be filled in with matching masonry materials or lattice. The infill shall be noticeably recessed.
3. Painting and waterproofing of exposed parts of foundations are discouraged. Painting may be permitted if the exposed areas historically have been painted.
4. Underpinning shall consist of bricks and joint tooling that match the piers as closely as possible. Non-structural underpinning may consist of a single course of bricks, lattice brick walls, or even treated wooden lattice. Structural underpinning may be a veneer wall of brick covering a concrete block wall. This thickness may meet the minimum requirements for a foundation wall. Brick lattice may also be used as a veneer to cover the concrete block.
5. Openings for venting of the foundation area should be non-obtrusive and in non-character defining areas of the building.
6. An access door of pressure treated material should be located in a non-obtrusive area of a non-character-defining elevation.

Exterior Wall Materials

7. Resurfacing wooden buildings with wood materials unavailable when the structure was built is inappropriate.
8. Sandblasting wooden siding will compromise the structural integrity of the material and will accelerate decay and shall not be allowed.

(Continued on page 4.3.1)

Alterations and Additions to Existing Buildings

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Guidelines and Best Practices

9. Wood siding which cannot be repaired, should be replaced with duplicate siding. It is recommended that the use of synthetic siding materials be avoided. Examples include: asbestos siding, asphalt siding, aluminum siding, plastic siding, artificial cast stone, and brick veneer.
10. Sandblasting and other abrasive surface preparation methods, that can damage materials, are not allowed.
11. Materials, such as brick, stone, wood shingles, and certain metals, which have not historically been painted, shall remain unpainted.
12. Repairs and replacements of deteriorated masonry shall be done with products that duplicate the existing materials as closely as possible in appearance, texture and color.
13. It is recommended that the use of synthetic materials be avoided. Examples include: artificial brick siding, brick veneer, and artificial cast stone.
14. Sandblasting compromises the structural integrity of the masonry and accelerates deterioration and will not be permitted.

Chimneys

15. Original chimneys are significant features of old houses and shall be preserved. Chimney repairs may include re-laying loose bricks, careful repointing of deteriorated mortar joints, and proper installation of metal flashing.
16. The design of original chimney masonry shall be preserved.
17. Metal caps or other covers are acceptable as long as they are installed without altering the design of the chimney.
18. Brick corbelling, clay chimney pots, or other original features should be repaired rather than removed.
19. Chimneys and furnace stacks added after original construction may be removed if the appearance of the building will otherwise remain unchanged.

20. Original chimneys shall not be shortened or removed when they become deteriorated.
21. Parging is not an acceptable alternative to repointing deteriorated chimney masonry.
22. Metal vent pipes that protrude through the top of a chimney are not acceptable.
23. Chimneys made of materials that simulate brick or stone are not allowed.
24. Unpainted masonry shall not be painted.

Windows and Doors

Windows and doors are important architectural elements. Often, the entire character of a structure is destroyed by the alteration of these elements.

25. All existing window openings shall be retained.
26. Relevant elements pertaining to windows such as sashes, glass, lintels, sills, architraves, shutters, and hardware shall be retained.
27. Windows shall be repaired whenever feasible. If replacement is necessary, the new units should match the existing as closely as possible.
28. Shutters shall be retained.
29. The pattern, arrangements, and dimensions of doors and windows on the principal elevations of a building shall be retained.
30. Metal storm windows and doors with painted or baked enamel finishes are acceptable.
31. Double-glazed windows are acceptable if they match as closely as possible the material, scale, character, and appearance of the original window.
32. Introduction of new window and door openings into the principal elevations of a building is not recommended. If permitted, new openings should be proportionally the same as existing openings and shall have matching sash, glass, sills, frames, casings, and muntin patterns.

(Continued on page 4.3.2)

Alterations and Additions to Existing Buildings

Manual of General Design Guidelines

West Bradford Township: TND-2 District

Guidelines and Best Practices

33. Original window and door casings, sills, and trim shall not be destroyed when storm windows or doors are installed.
34. Sash, window panes, muntins, and rails shall not be replaced with those that are incompatible in size, configuration, and reflective qualities or which alter the setback relationship between window and wall.
35. Unpainted aluminum is not acceptable for storm doors and windows. They shall have a baked enamel finish matching the building's window trim or galvanized metal to be painted to match window trim color.
36. The use of existing doors and door hardware is recommended. If replacement is necessary, the new door shall match the old as closely as possible and be appropriate to the architectural style of the building.
37. Door hardware shall be repaired rather than replaced. If replacement is necessary, the new hardware shall match the old as closely as possible and be appropriate to the architectural style of the building.
38. Storm doors shall be full view glass doors and constructed of wood. If metal doors are permitted, they should be full view and have a baked enamel finish to match the trim color.

Architectural Components and Details

39. Architectural components, such as fascias, soffits, trim, columns, brackets, porch railings, and door/window casings, and architectural details, such as joinery and surface patterns, contribute significantly to the historic character of a building and shall be protected.
40. Original architectural components and details shall be retained whenever possible.
41. When architectural components and details must be repaired and replaced, the new components or details shall match the historic elements as closely as possible.

42. Architectural components and details that are not appropriate to the historic character of the building shall not be added.
43. Sandblasting and other abrasive treatments that can damage historic architectural components and details are not acceptable.
44. Architectural components such as fascias, soffits, and columns, shall not be replaced or covered by materials, such as plywood, vinyl, and aluminum, that would not have been used in the original construction.

Roofs and Roofing Materials

45. Original roof forms, pitches, rafter tails, molding, trim, and soffit boards shall be retained.
46. Historic roofing materials, shall be preserved, if feasible.
47. Features such as dormers or balustrades may be added if they are appropriate for the style and scale of the building.
48. Composition shingles of asphalt and fiberglass are acceptable substitutes for most original roofing materials.
49. White or very light shingles are unacceptable.
50. Metal flashing shall be installed behind siding or roofing.
51. Roof ventilators, skylights, solar panels, and other mechanical items shall be installed on rear slopes or other locations not easily visible from the public right-of-way.
52. Built-in gutters that are important to the architecture of the structure shall be repaired rather than removed when they become deteriorated.
53. Raising or lowering the roof pitch, adding sheds, or removing original features such as dormers, turrets, chimneys, and balustrades is not allowed.
54. Roofing tar is not acceptable as a substitute for properly installed metal flashing.

(Continued on page 4.3.3)

Alterations and Additions to Existing Buildings

Manual of General Design Guidelines

West Bradford Township: TND-2 District

Guidelines and Best Practices

Building Systems

55. Installation, rehabilitation, or replacement of mechanical systems shall be planned to minimize changes to the appearance of a building. Building systems include mechanical and electrical equipment and distributions lines; plumbing pipes and vents; and communication systems, such as telephone and television.
56. Mechanical services shall be installed in areas and spaces that will require the least possible alteration to the plan, materials, and appearance of a building. If feasible, existing early mechanical systems, including plumbing and early lighting fixtures, shall be repaired.
57. Utility meters and heating and air-conditioning equipment shall be located at the rear of a structure if feasible. Mechanical equipment which can be seen from the street shall be screened with shrubbery or appropriate fencing.
58. Utility meters and panels that are visible from the street shall be configured and located as close to grade as utility company standards permit.
59. If feasible, mechanical supply lines and ductwork should be located inside buildings. Exterior mechanical supply lines and ductwork shall be disguised by architectural elements compatible with the character of the building and shall be located as inconspicuously as possible.
60. Exposed ductwork or piping that is visible from the street is not permitted.
61. Plumbing vents shall not be visible from the street.
62. Solar collectors shall not be visible from the street.
63. Mechanical equipment shall not be located in front of the midpoint of the side of the building.
64. Attaching exterior electrical, telephone, television, etc. cables to the principal elevations of the building shall not be permitted.

Safety and Code Elements

65. Fire escapes and access ramps shall be designed so there is minimal visual impact on the building. If feasible, they should not be visible from the public right-of-way.
66. Fire escapes and access ramps that are visible from the public right-of-way shall be constructed so that the scale, materials, and details are compatible with the building.
67. Fire escapes and access ramps which are visible from the public right-of-way shall be painted to match or complement the building.
68. Fire escapes and access ramps shall be constructed so that they can be built or removed with minimum damage to the building. If feasible, new doors for fire escapes should be located in existing openings.

Additions

69. An addition shall be located to the rear or in an inconspicuous location at the side of the building.
70. An addition shall be designed and constructed so that the character-defining features of the building are not radically changed, obscured, damaged or destroyed.
71. An addition shall be limited in size and scale in relationship with the existing building.
72. An addition shall be clearly defined by roof line, cornice height, wall plane, and materials so that it does not appear to be part of the original building.
73. A contemporary design that is compatible with the building is acceptable for a new addition.
74. Major landscape features, such as large trees and plantings, shall be retained and protected when an addition is constructed.
75. Using the same wall plane, roof plane, or materials to make an addition appear to be part of the original building is not allowed.

(Continued on page 4.3.4)

Alterations and Additions to Existing Buildings

Manual of General Design Guidelines

West Bradford Township: TND-2 District

Guidelines and Best Practices

76. Imitation of an earlier style or period of architecture other than that of the building is not allowed.
77. Alterations that change the character and scale of the existing building to accommodate an addition are not acceptable.
78. Removal of, or alterations to, important architectural details on the original building to accommodate an addition are not acceptable.
79. Additions, such as greenhouses, solariums, and balconies, shall not be placed on the primary elevation of the building.
80. All other relevant Sections of this Manual shall apply.

Building Design

Manual of General Design Guidelines

West Bradford Township: TND-2 District



Two-family building



One-family building

Overview

- Many of the buildings in Marshallton are architecturally diverse, ornate and built with materials that existed prior to 1950.
- The character of Marshallton is derived in large part due to the smaller scale, proportion and size of buildings.

Guidelines and Best Practices

1. Design buildings to take maximum advantage of potential adaptive reuse from residential to commercial, to office, back to residential. In so doing, design, build and maintain buildings with a similar size, scale and proportion to better enable multiple adaptations over time.
2. Design buildings that emulate the characteristics of existing buildings such as, the facades, heights, materials, scale/size, fenestration, porches and stoops.



Old Blacksmith Shop



Traditional Building

Building Facades

Manual of General Design Guidelines

West Bradford Township: TND-2 District



Existing building facade



Existing building facade

Overview

- Most of the building facades in the Village of Marshallton have vertical bays and proportions.
- Most of the building facades have a layering effect created by elements such as shutters, pilasters, porticoes, porches and pent eaves.
- Facades of existing buildings utilize similar materials.

Guidelines and Best Practices

1. Articulate facades of buildings through the use of such elements as pilasters, porticoes, porches, stoops and shutters. The creation of facades that are flat and without ornamentation is discouraged.
2. Porches and stoops are encouraged.
3. Articulate facades as vertical bays and proportions.
4. Emulate the traditional facades of the village to maintain a consistency of form, texture and scale.



Attractive façade materials



Vertical articulation of building façade

Building Heights

Manual of General Design Guidelines

West Bradford Township: TND-2 District



Three-story building



Two and three story buildings

Overview

- Most buildings in Marshallton are two and three stories in height.
- Two and three story buildings give stature and structure to the Streetscape.
- Two and three story buildings provide opportunities for the vertical mix of uses of a building.

Guidelines and Best Practices

1. Construct and maintain two and three story buildings in the Village of Marshallton.
2. One story buildings as primary structures are prohibited.



Two-story buildings



Two and three story buildings

Building Materials

Manual of General Design Guidelines

West Bradford Township: TND-2 District



Brick and Stone used as exterior building material



Martins Tavern 2005

Overview

- Brick, stone, stucco over stone, and clapboard siding are traditional building materials in Marshallton.
- The use of traditional materials provides a historic reference to the Village.
- Synthetic materials like vinyl siding are non-traditional.

Guidelines and Best Practices

1. Brick, stone, stucco over stone, or clapboard siding shall be used in all new construction.
2. Provide contrast with the primary building material, through the use of windows, doors, pilasters, columns, porticos, pent eaves, porches, stoops, and the like.
3. Incorporate the same building materials on all sides of a building.

(continued on page 4.7.1)



Stone building and stone walls



Stucco over stone as an alternative to brick or stone, as exterior surface finish

Building Materials

Manual of General Design Guidelines

West Bradford Township: TND-2 District

Guidelines and Best Practices

Masonry

4. Original or early masonry materials shall be retained as often as possible.
5. Repairs and replacements of deteriorated masonry shall be done with products that duplicate the existing materials as closely as possible in appearance, texture, and color.
6. New masonry materials which were not available when the structure was constructed are discouraged. Examples include: artificial brick siding, artificial cast stone, brick veneer, Portland cement, and fiberglass mixtures.
7. Existing bond patterns and mortar joints shall be duplicated.
8. Repointing shall match the design and color of original mortar joints as closely as possible.
9. Use of a high portland cement content is highly discouraged because this will often result in mortar joints stronger than the existing masonry. This is a source of potential deterioration due to the new mortar bonding too strongly to the masonry.
10. Sandblasting is prohibited. It compromises the structural integrity of the brick, accelerating the deterioration process.
11. Cleaning masonry is recommended only when it is determined that the "dirt" is actually accumulated and not the effects of weathering.
12. Masonry should be cleaned with the gentlest means possible, such as low pressure water and natural soft brushes.
13. Chemical cleaners should be used only after a spot test has determined that no adverse effects will occur to the masonry.
14. All masonry architectural features should be retained. Cornices, moldings, etc. are significant parts of structures and shall be retained as such.
15. Masonry should not be painted unless it has historically been painted.
16. Masonry should not be parged (covered with cement-like coating) unless it has historically been parged.

Wood

17. Existing wood siding should be retained when feasible.
18. Repairs and replacements to wood shall match, as closely as possible, the existing wood in size, shape, texture and composition.
19. The following materials are not recommended to replace wood: asbestos siding, asphalt siding, aluminum siding, vinyl siding, plastic siding, artificial stone, or brick veneer.
20. Wooden architectural features shall be retained whenever possible.
21. Paint and other coating, such as stucco, should not be applied to wood that has not historically been painted or coated.

Building Scale/Size

Manual of General Design Guidelines

West Bradford Township: TND-2 District



Marshallton Inn



Normative building scale

Overview

- The buildings in Marshallton maintain a traditional scale and size typically at two and three stories in height, and three to five bays in width.
- The traditional scale and size is also formed through a fenestration pattern that is typically vertical.

Guidelines and Best Practices

1. Construct and maintain buildings of predominantly three to five bays in width.
2. Buildings should not exceed 60 feet in width along the primary façades.



Five-bay building



Smaller scale buildings

Fenestration

Manual of General Design Guidelines

West Bradford Township: TND-2 District



Vertical articulation of doors and windows



Vertical fenestration along Strasburg Road

Overview

- All of the buildings in Marshallton are detailed with vertical window treatments.
- Windows, doors and dormers appear balanced in Marshallton with consistency of vertical proportions.

Guidelines and Best Practices

1. Maintain the primarily vertical orientation of windows for primary facades.
2. Primary facades should have at least 25% of the building walls pierced with windows and doors.



Horizontal format building, with vertical fenestration



Verticality of building emphasized by Fenestration

Front Doors/Entryways

Manual of General Design Guidelines

West Bradford Township: TND-2 District



Raised porch emphasizes entryway



Architectural elements define entryway for residential front door

Overview

- The front doors in Marshallton provide a graceful entryway treatment and appearance.
- Front doors that are enhanced with porticos, pent eaves, landscape treatment, and other ornamentation make a welcoming statement.

Guidelines and Best Practices

1. Enhance the front doors of the primary facades of buildings with pent eaves, porticos, porches, stoops and the like.
2. Size any columns in proportion to the entryway structure.



A portico provides weather protection, while also emphasizing the entrance into the building



Landscaping accentuates entryway

Porches and Stoops

Manual of General Design Guidelines

West Bradford Township: TND-2 District



Full front porch



Traditional Porch

Overview

- The Front Porch and the Stoop are important traditional architectural features in Marshallton.
- The Front Porch and Stoop provide a graceful transition from the height of the building to the front yard and streetscape.
- Porch details such as balustrades, columns, and steps are important in defining the front elevation of a building.

Guidelines and Best Practices

1. Maintain existing porches and stoops.
2. Existing and new porches and stoops shall not be enclosed.
3. Porch and stoop materials should not be made of pressure treated lumber. Where used these must be painted.
4. Size porch and stoop columns in proportion to porch roofs.
5. Size new porches to be at least 7 feet deep and 14 feet wide.



Twin Home with Porch



Porch with railing and lattice skirt

Porches and Stoops

Manual of Design Guidelines

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Guidelines and Best Practices

6. Porches and steps on primary facades shall be repaired rather than removed. Such elements shall be repaired with new materials that match the design and dimensions of the original materials as closely as possible.
7. Porch restorations that involve the replacement of missing details such as balustrades, steps, or brackets should be based on historic documentation.
8. Repairs to porches using materials incompatible with the original materials, such as metal supports, plywood or concrete is discouraged.

New Buildings

Manual of General Design Guidelines

West Bradford Township: TND-2 District



Martins Tavern Reconstruction

Overview

- New buildings should respect the character of historic buildings.
- Contemporary architectural expression is accepted as long as the design is harmonious with the historic aspects of the surrounding neighborhood.

Guidelines and Best Practices



Martins Tavern

1. Locate new buildings in accordance with the Building Location section.
2. The primary facade of a new building should face the street.
3. Buildings should not be sited at unusual angles or with side walls facing the street, except as structures situated on corner lots.
4. New construction projects should respect the existing topography and vegetation on the site.
5. Medium and large scale grading or fill to level a sloping site is not permitted.
6. Existing trees and historic landscape features, such as retaining walls and gardens, should be incorporated into the landscape plan for new construction projects.
7. Large trees that must be removed shall be replaced with trees similar in type.
8. During construction, trees that can be saved should be protected by using the following practices:
 - a. Protective fencing should be installed around tree protection areas prior to any land disturbance.
 - b. The protected area shall include all land within the canopy area. This will insure protection of the root area of the tree.
 - c. Construction site activities such as parking, material storage, dirt stockpiling, and concrete "wash-out" should take place outside tree protection areas.
9. New construction should incorporate architectural components that can be used to create scale, such as porches, trimwork, and details.
10. Oversized or monumental architecture shall be avoided in new construction.

(Continued on page 4.12.1)

New Buildings

Manual of General Design Guidelines

West Bradford Township: TND-2 District

Guidelines and Best Practices

11. The height of a new building should relate to the prevailing height along a street. The height should be within fifteen (15) percent of the average height of the buildings on the block hosting the new construction.
12. The general plan and form of a new building should relate to the form of nearby buildings along the street.
13. The roof of a new building should relate to the roofs of neighboring buildings in type, pitch and materials.
14. New residential buildings shall have porches, porticos, or stoops.
15. Flat roofs without cornices and pitched roofs without overhangs are inappropriate.
16. The pattern and arrangement of windows and doors of a new building should relate to nearby buildings.
17. The ratio of wall space to adjoining openings in a new building should be similar to that in nearby buildings.
18. The height and width of openings shall be similar in proportion to those of nearby buildings. Most windows have a vertical orientation.
19. New windows and doors should be similar in type, design, and materials to those in nearby buildings.
20. Openings in new buildings should be similar to those of existing buildings. Frames in masonry buildings should be recessed in openings. Frames in wood buildings should have raised casings with dimensions similar to those found in existing buildings.
21. Vinyl cladding and unfinished aluminum are discouraged as finish materials for windows in a new building.
22. Snap in muntins in windows in a new building are discouraged.
24. Materials, such as rough-sawn (clapboards or panels) and vinyl or aluminum siding, that are substantially different in character and appearance from historic materials, should not be used in new construction.
25. All other relevant Sections of this Manual apply to New Buildings.

Appendix of Specialized Subjects

Manual of General Design Guidelines

West Bradford Township: TND-2 District

This Appendix addresses specialized subjects in the Village of Marshallton.



The subjects included in this Appendix are:

- Context Sensitive Uses
- Demolition
- Secretary of the Interior's Standards for Rehabilitation.

Context Sensitive Uses

Manual of General Design Guidelines

West Bradford Township: TND-2 District



The Village: The public realm



Old Blacksmith Shop

Overview

- The Village of Marshallton has an assemblage of diverse uses that promote an attractive and peaceful place.
- The uses are housed in buildings that are smaller in scale and predominantly residential in proportion.

Guidelines and Best Practices

1. Promote context sensitive uses such as:
 - a. Antique Shops
 - b. Art Galleries
 - c. Bed and Breakfast Inns
 - d. Farmers Market/Growers Market
 - e. Florist
 - f. Gift shop
 - g. Humphrey Marshal House
 - h. Martins Tavern "park"
 - i. Museum
 - j. Professional Offices
 - k. Restaurant/Tavern
2. These context sensitive uses shall be located, designed, parked, landscaped, etc. in accordance with this Manual.



Professional office across from the Marshallton Inn



Small scale buildings

Demolition

Manual of General Design Guidelines

West Bradford Township: TND-2 District

Overview

- Demolition of a building is an action that can have far-reaching consequences for the Village of Marshallton.
- A demolished historic building can no longer communicate the importance of historical events, the life and work of historical figures, or the construction techniques of the past. It is a lost educational resource.
- Demolition of a building can have serious, negative psychological and social effects on village residents. Familiar landmarks are very meaningful. Their loss is disturbing, upsets the established sense of community, and decreases livability.
- Empty lots create a great physical loss for the streetscape. The “missing tooth” appearance is particularly troubling, as the village derives its character from the consistent appearance of equally spaced buildings along the street.

Guidelines and Best Practices

1. Seek alternatives to Demolition. (See “Adaptive Reuse of Buildings”)
2. Demolition should be the act of last resort if public safety and welfare requires the removal of a building; or structural instability of a building has been demonstrated by a certified engineer or architect.
3. Any demolition shall be conducted in accordance with the applicable Township Zoning and Building Code requirements.

Rehabilitation of Buildings

Manual of General Design Guidelines

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The Secretary of the Interior's Standards for Rehabilitation

The Township shall use these standards as a guide to future development/rehabilitation in the village:

- The Secretary of the Interior's Standards for Rehabilitation are 10 basic principles created to help preserve the distinctive character of a historic building and its site, while allowing for reasonable change to meet new needs.
- The Standards (36 CFR Part 67) apply to historic buildings of all periods, styles, types, materials and sizes. They apply to both the exterior and the interior of buildings. The Standards also encompass related landscape features and the building site and environment as well as attached, adjacent or related new construction.
- The 10 Standards for Rehabilitation are:
 1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
 2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
 3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
 4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
 5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.
 6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of features shall be substantiated by documentary, physical, or pictorial evidence.
 7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
 8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
 9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
 10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Definitions

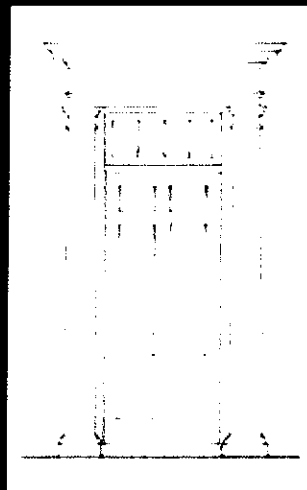
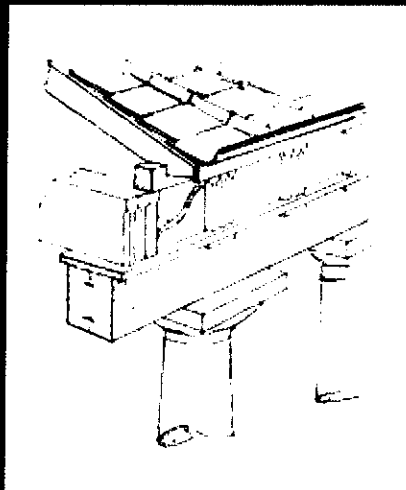
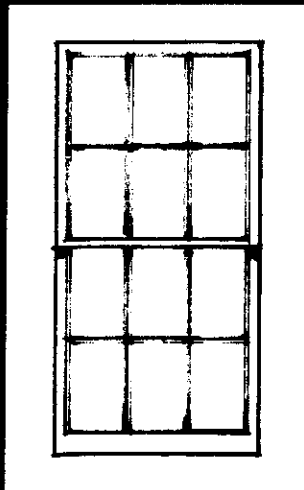
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- Architrave—Molded frame surrounding a door or window
- Balustrade—A short post or pillar supporting a railing
- Bollard— A post preventing vehicles from entering an area
- Corbelling—A series of projecting blocks supporting a beam or arch
- Colonnade—A row of columns
- Dormer—A window placed vertically in a sloping roof having a roof of its own
- Eave—The under part of a sloping roof overhanging a wall
- Fascia—A plain horizontal band usually in an architrave
- Fenestration—The arrangement of windows/doors in a building
- Lintel—A horizontal beam or stone bridging an opening
- Mullin—A vertical upright dividing a window into 2 or more panes
- Muntin—The vertical part in the framing of a door or panel that butts into the horizontal rails
- Pent Eave—A confined, continuation of a sloping roofline past an exterior wall
- Pilaster—A shallow pier/column projecting slightly from a wall
- Portico—A roofed space forming the entrance to a structure
- Soffit— The underside of an architectural element
- Stoop—A small porch, platform, or staircase leading to the entrance to a building
- Underpinning—Masonry foundation used to support a wall, porch, or deck from below
- Vertical Bay—A vertical division of the exterior of a building marked by a particular fenestration

Get Your House Right

Architectural Elements to Use & Avoid



MARIANNE CUSATO
& BEN PENTREATH
with Richard Sammons
& Leon Krier

Manual of Design Guidelines, Village of Marshallton
TND-2 District

Get Your House Right

Architectural Elements to Use & Avoid

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Foreword by H.R.H. The Prince of Wales

IN ASSOCIATION WITH
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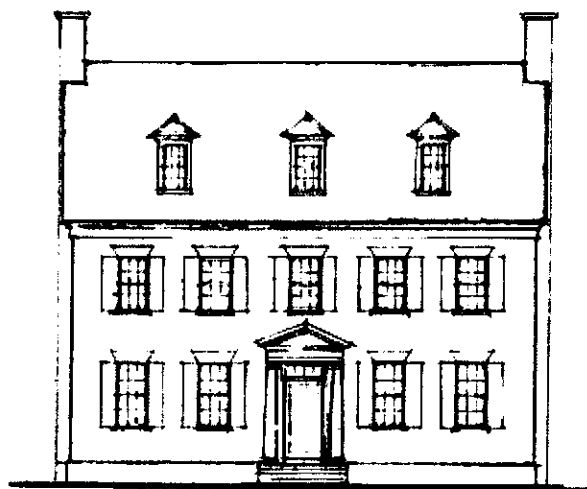
TND-2 District

1.3 Does Your Design Add Up?



AVOID

Don't use a design in which the individual elements don't relate to each other. Successful building design is more than randomly assembling pieces and parts.



USE

A design is successful when the whole is greater than the sum of its parts, with each element sized, scaled, and located in relation to the other elements of the building.

(1) MAKE THE WHOLE GREATER THAN THE SUM OF ITS PARTS

Thinking about the building as a whole is very important. The most beautiful design element—a finely detailed door surround, well executed eave return, or elegant bay window—will look out of place if it is not integrated with the rest of the building.

Everything should add up to create a harmonious composition where nothing can be changed without spoiling the design. It's about achieving balance and harmony visible from a distance, so that nothing dominates the building unnecessarily—no huge dormers, no ridiculous columns, no giant garage doors.

Figure 1.3 shows two similar houses: both have five bays with a gable roof, pediment porticoes and gable dormers. From down the street, 1.3 (top) is going to look unbalanced, because the elements bear little relation to one another. The windows are poorly spaced, the dormers overpower the windows below, and the portico overpowers the entire house.

By contrast, 1.3 (bottom) shows a house that has a balanced composition. The windows are rationally spaced, away from the building's corners. The dormers are modest and scaled in relation to the windows below. The entry surround contributes to the design without overpowering it. A pair of chimneys terminates the composition. Even from a distance, these details and relationships will be apparent.

The chapters ahead will discuss fine details one by one, from windows to chimneys. But first, think of your building as a *whole composition*. Don't let the individual elements or planning requirements take over and throw the composition out of balance.

The Squint Test

How will your design look from across the street? Stand back from your drawing and squint your eyes. What stands out? Where does your eye go?

In a balanced composition the hierarchy of elements is clear. Generally, the focus should be on the front door. If the design is unbalanced, the eye is confused and does not know what to look at first.

(2) KEEP IT SIMPLE: LESS IS MORE

Don't do everything at once. It was the modernist architect Mies van der Rohe who coined the phrase "less is more." When it comes to 1970s glass office towers, some may agree with Robert Venturi's brilliant counter-attack—"less is a bore"—but in traditional housebuilding, we can actually learn lessons from this idea.

Much beauty in traditional architecture arises from balance: emphasizing some elements while simplifying others. This creates a *hierarchy* within the house, focusing energy on the most important parts. The goal is to create a building that is interesting but not overwhelming and confused. Of course, many traditional buildings *do* have wonderful decoration. But it is all placed within a context that respects the hierarchy of the building—its importance within the town, and the importance of each elevation, and the importance of each element in the façade. The key to achieving this balance comes from knowing when to pull back and when to add more.

Most traditional architecture is surprisingly simple. A Nantucket saltbox or Southern Greek Revival farmhouse rarely has many specifically "architectural" elements. Its success is derived from *proportion, scale, harmony, and good detailing*. Simple buildings allow the builder to spend money where it is required: a generous eave, better quality brick, a substantial masonry chimney, and a simple, well-designed door surround.

Today, very often people mistakenly think that a house needs a lot of "detail" to make it "traditional." A bunch of expensive and vacuous bits of vaguely classical trim are ordered, ready to be tacked on here and there. This is a total waste of time and money.

It is not necessary, or even practical, to put every element on every building. Save the budget and spend it where it counts. Remember that good *proportion* does not cost more and use this to your advantage.

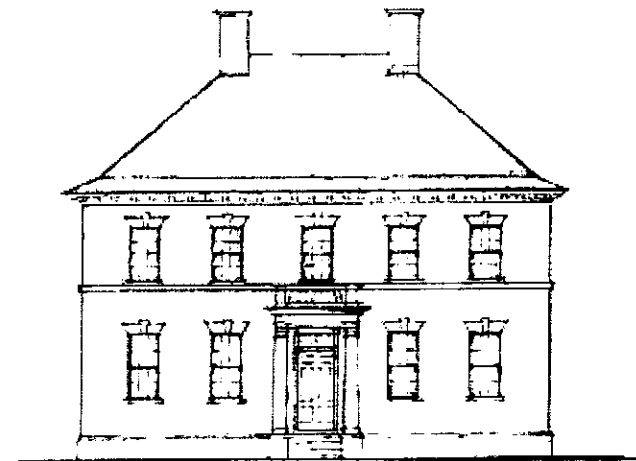
Make a commitment to yourself to do only what you can afford to do well. Doing less, but doing it really well, is always better than trying everything and doing none of it well enough.

1.4 Less Is More



AVOID

Don't use every element you can think of in a single building. Even if each element is well detailed, it can be too much for the composition.

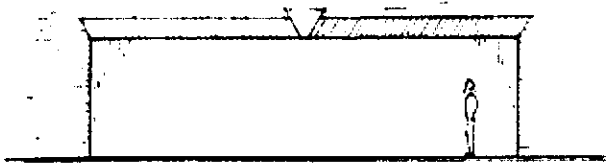


USE

The beauty of traditional architecture comes from simplicity and hierarchy. Focusing your energy (and budget) on the most important elements of the house will create a calm composition that feels right.

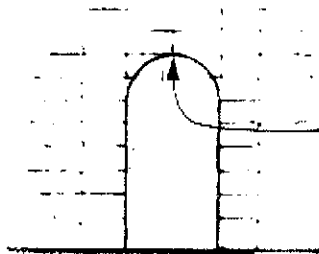
1.5 Structural Common Sense

Does your design stay true to traditional materials? Could it stand on its own? Are post and beam in balance?



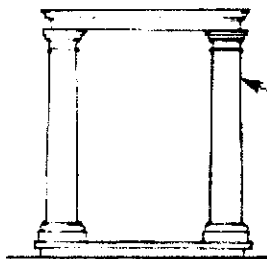
AVOID

Avoid long spans that could not stand without hidden structure. The eye recognizes that this brick lintel would fall down.



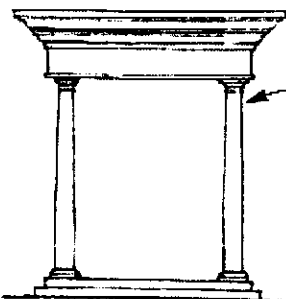
Avoid faux rustication patterns that would collapse if the wall were actually made of stone

AVOID



Avoid too much support; these columns are oversized for the beam

AVOID



Avoid too little support; toothpick columns under a heavy entablature look like they could snap at any moment

AVOID

(3) DESIGN WITH COMMON SENSE: STRUCTURE CHECK

Modern construction methods have freed us from many of the constraints that shaped traditional building elements in the past. No longer bound by the limits of wood and stone, we can span long distances with thin members or cantilever large platforms out from a wall.

This is all very well for a skyscraper or airport terminal, but not appropriate for a traditional house. If you want an authentic design, remember the structural capacities of traditional materials, even when you're using hidden structural elements to support them.

Stay True to Materials

Wood spans further than masonry and requires less support. Masonry is stronger, but its openings are narrower because it is more difficult and expensive to span long distances in stone construction. You can avoid many mistakes by remembering the practical reasons behind traditional designs and staying true to your materials.

Size Posts and Beams Correctly

Are your columns sized correctly to carry their loads? Figure 1.5 (second from bottom) illustrates columns that are unnecessarily large for the beam that they are carrying. The outsized columns make the composition look like a cartoon. In the drawing below it, the columns are *undersized* for the entablature above, giving the feeling that at any moment they might snap in two from the weight that they are carrying. In both cases the imbalance between post and beam creates a design that is unconvincing, because it lacks structural common sense.

Not-So-Common Sense

Using common sense in design has become not so common. This is one reason why so many new traditional buildings look like cartoons. A detail will be disruptive to your design if it doesn't make sense and at least *look* like it could work.

(4) DESIGN WITH COMMON SENSE: PRACTICALITY CHECK

Most elements of a traditional building originate from necessity. The width of an opening, roof pitch, depth of the eave projection, or detail of a drip molding: all have a good practical basis.

Today, many of these once functional elements have become largely ornamental. Plastic weather-proofing, for example, protects exterior walls from water as well as a deep eave projection. With function no longer an issue, design has often lost sight of a basic tenet of good traditional building—that it should be fit for purpose.

Could It Really Work?

Always think of the practical requirements of and reasons for the elements you are using, and then ask yourself, could it really work? Is it *believable*? If you are unconvinced, the chances are anyone else judging your house will be unconvinced as well.

Shutters were historically used for security and to provide protection from weather. Today, they are frequently installed too small to cover the windows and glued onto the wall several inches from the jamb (1.6 top). Why bother? If you are going to use shutters, at least make them *look* as if they could work.

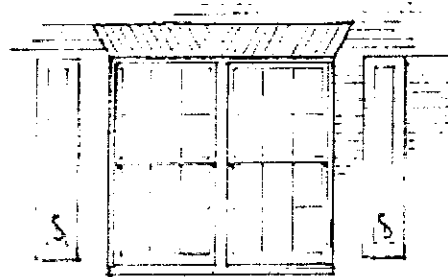
Is It Really Necessary?

Figure 1.6 (center) shows a small gable “pop-up” above a window. But note that the head of the window is *below* the eaves line. If the window doesn’t ride above the eaves line, why go to the trouble and expense of making the mini-gable? It’s clearly not required for a good practical purpose, such as making room for a window within a sloping roof.

When it comes to balconies, canopies, or other projections, be sure the loads are visually transferred to the ground. Don’t use anything that looks like it needs to be held up by the proverbial “sky-hook” (1.6 bottom). It doesn’t matter if an element is engineered to the highest standards—it’s perception that counts.

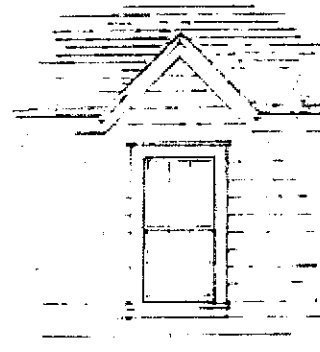
1.6 Practical Common Sense

Could your design really work? Is it necessary? Does it feel right?



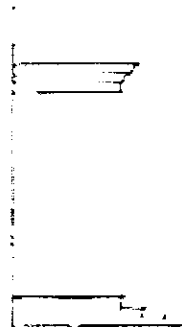
AVOID

Avoid shutters that could never close. These are obviously vinyl planks nailed to the wall. Why bother?

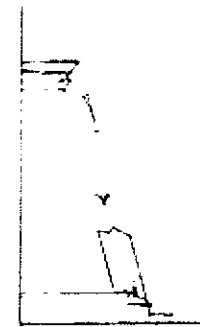


AVOID

Avoid gratuitous pop-ups. A traditional building rarely has architectural details that don’t serve a purpose.



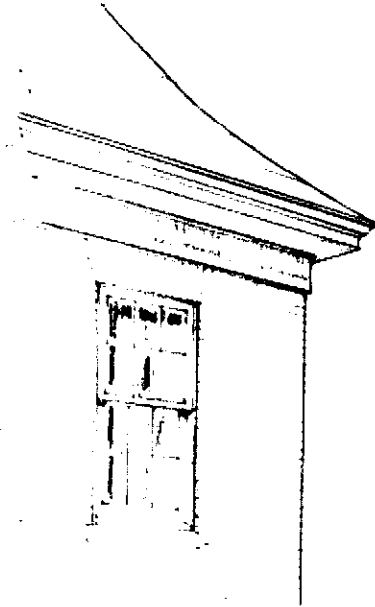
AVOID



AVOID

Avoid cantilevered door surrounds held up by a “sky-hook.” Always use brackets to support projecting details and visually transfer the load back to the ground.

1.7 Shadow and Texture



AVOID

Avoid wire cut brick and flush mounted windows (along with the absence of planting) give the wall the appearance of a thin veneer.



USE

Create rich texture by choosing materials such as handmade brick, setting the window back to create a reveal, and using sensitive landscaping.

(5) DESIGN WITH TEXTURE: SHADOW AND LANDSCAPE

Why do so many new buildings appear flat and static while older buildings are rich and interesting? Old buildings come alive in the texture of a brick, the shadow from a window reveal, or the softening of a creeping vine. Two buildings that look identical on paper can feel completely different once built, depending on the selection of materials, the detailing of elements, and the landscaping.

Shade and Shadow

A house's striking patterns of light and shade arise in part from practical requirements. Traditional load-bearing walls were thick, so the jambs at an opening were deep, throwing a longer shadow. Likewise, substantial eaves were used to throw water far from the walls and foundation. Among more formal elements, even a simple door surround, chimney cap, or any projection from the wall plane gives texture to a façade.

Many new buildings look bland by comparison. The most obvious difference is seen at the windows. Setting the window back even a few inches gives the house depth and makes it feel substantial. Projecting muntins, to separate panes of glass, give the building scale and add more shadow. New windows, by contrast, are typically placed flush with the exterior, their muntins flat and clipped on to one side only. To the eye, this makes the difference between seeing the exterior walls as substantial construction and seeing them as a thin, inauthentic veneer. Ensure that your moldings have enough depth and structure to work convincingly, with clear definition between highlights and shadow lines.

Landscape and Hardscape

Even a well-built house will look absurd if it is marooned in a sea of asphalt or bright red concrete pavers. Think carefully when specifying hardscape: consider using rolled gravel instead of asphalt, bricks rather than concrete pavers. Avoid brightly colored materials—natural, stone-colored materials always look more sympathetic. *Always* specify materials that will age well.

**(6) DESIGN FOR PLACE:
APPROPRIATE MATERIALS AND
DETAILS**

Traditional architecture has developed over time in response to specific climatic and environmental conditions as well as regional trends. While all traditional buildings share common approaches to design, their appearance and detailing can change considerably from region to region. A Georgian building in New England has the same proportional system and design elements as a Georgian building in the South. Yet the buildings are very different. For example, the eaves projection in the New England house would be greatly reduced to let in as much light as possible during darker winter months. The Southern house would need deeper eaves to block the hot sun and cast away water from summer storms.

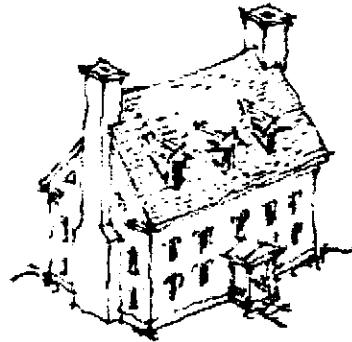
Historically, choice of material, likewise, varied from region to region. Twentieth-century industrial production, together with a general decline in attention to the uniqueness of local environments, turned design in a catastrophically different direction. Now buildings from Texas to Alaska are assembled using the same pre-packaged components, the same flat roofs, and requiring the same extensive mechanical systems to keep them cool in summer and warm in winter.

The traditional building should be designed to work with the local climate, not to combat it with mechanical engineering and synthetic materials. Specify local materials wherever possible, instead of shipping (for thousands of miles) generic products that bear no regional relevance.

Respect for the local environment, climate, and geology is integral to traditional architecture. We need to create new buildings that respond as beautifully today as in the past to a local "sense of place". It is these variations that make a building feel authentic and appropriate. Without them it can look like it has landed from outer space.

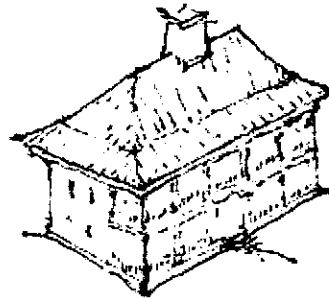
1.8 Using Appropriate Materials

Use materials and designs appropriate for your climate and region.



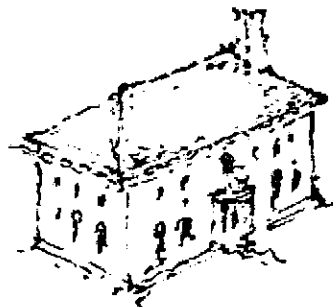
Colonial

Large central chimneys kept New England Colonials warm; in Mid-Atlantic Colonials, the chimneys moved to the outside walls.



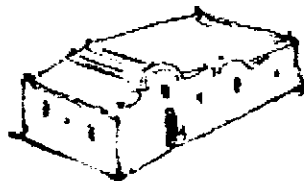
**Deep South
or Caribbean**

Hipped roofs allow for broad eaves to shade four sides of the house; deep verandas capture breezes.



Mediterranean

Less humid climates deal with heat through massive construction and blinds to regulate sunlight; tile roofs require a low pitch, good for climates that do not have heavy rainfall.

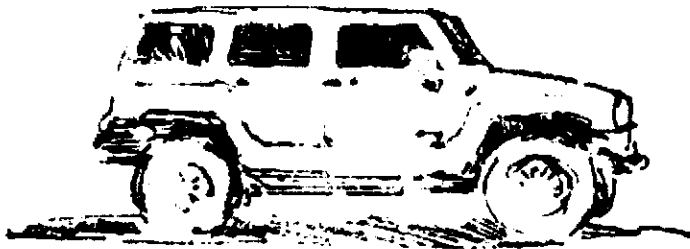


Arid

In very hot climates with low rainfall, flat-roofed adobe buildings with small windows work with local weather and materials.

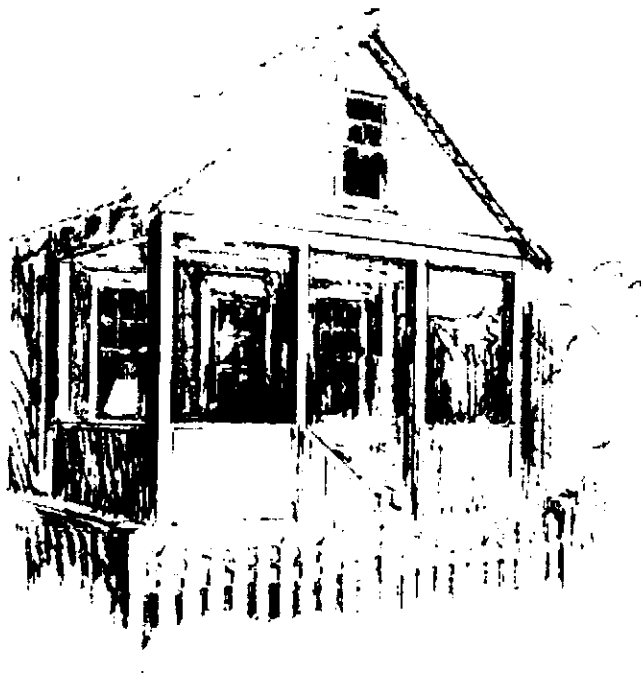
1.9 SUVs and Urbanism

The building industry has more impact on the environment than the automobile industry. Cars may contribute to global warming, but only because roads are planned in a way that requires people to drive several hours a day. Building compact communities with connected roads and a mix of uses will not only improve our quality of life, but also greatly reduce our dependence on fossil fuels and combat global warming.



1.10 Sustainable Building Design

The most sustainable design is one that people love and want to maintain over time. This extends beyond individual buildings or materials. It speaks to the communities that we build.



(7) BUILD SUSTAINABLE DESIGNS

We are coming to a new awareness of the impact we humans are making on the environment and the planet as a whole. Disturbing reports of global warming and its long-term implications have become commonplace in the mainstream media. The only things more depressing than the constant deluge of news on the topic is our ability to ignore the issue, first, because we can't see the literal effects in our day-to-day lives, and second, because most of us feel helpless to do anything to effect change.

But it is within our means, in our own lifetime, to implement a change in society that will reduce if not reverse the damage that we are doing to our planet. In large part, we can make this change through the building industry, in the designs of our cities and towns and in the way we build our houses.

Planning for Sustainability

Today when we hear about "green" or sustainable architecture, we think of specific building products such as green roofs or solar panels. These are important elements of sustainable design, but they are not enough. Green design needs to start at the level of city planning. We need compact, walkable, mixed-use communities that reduce our dependence on the automobile and fossil fuels. This is not to say that we should eliminate cars, but simply that it should not be necessary for the average American living in a new suburban home to get on the freeway to get coffee in the morning.

But to be truly sustainable, we need to do more than look at our cities. We need to think about the individual design of each building. All too often in recent years, "green" architecture has turned into a showcase for products—but as we mentioned on the first page of this book, the most sustainable building of all is one that people love and don't want to tear down.

To make a building sustainable in this way, we need to start with a timeless design. And achieving a timeless design means looking at the details and understanding the principles of traditional architecture. Timeless may not always mean traditional, but it finds its roots there: as with most things in life, you have to know the rules before you can break them.

(8) LEARN THE VOCABULARY

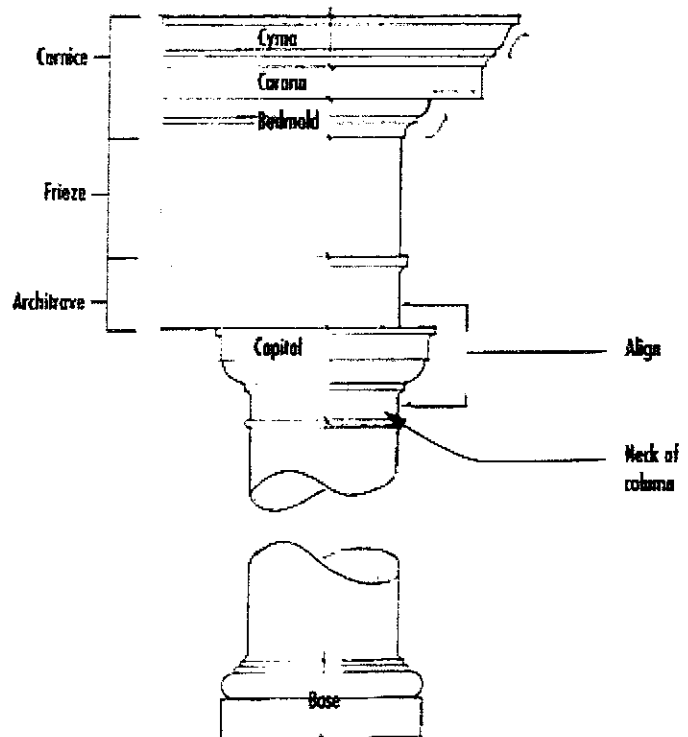
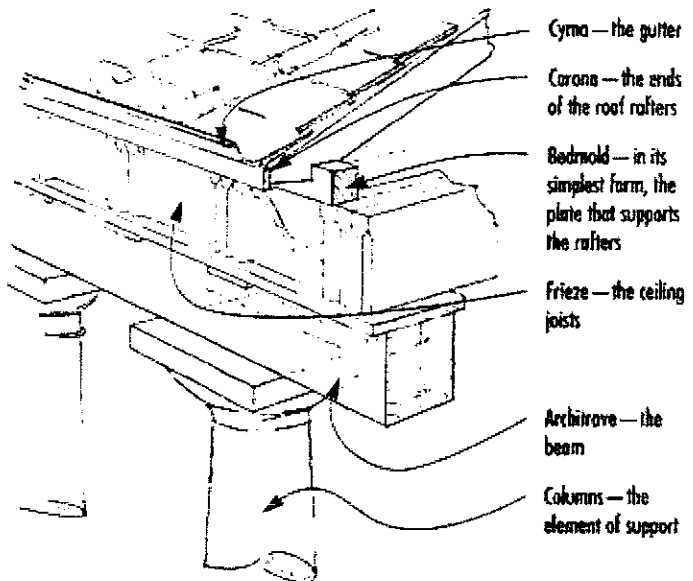
The elements we've looked at so far are pieces of the big picture, and they are all important—not only for traditional architects but for *all* designers. We think that traditional design comes up with the best solutions to a lot of these problems. And we certainly believe that unless they have been considered you can't really call your building traditional.

Chapter 3 will delve deep into the foundation of traditional architecture: the classical Orders, from Tuscan to Corinthian. Although most people think it refers only to a column, an Order is actually a complete set of integrated elements: pedestal, column, and entablature. These parts give a building its system of proportion, setting the cornice height and determining the design of most elements, such as door surrounds, window lintels, and eaves. If classical architecture is a language, the Orders are the grammar that makes it coherent. Every element within the Order has a name, from the column to the smallest moldings—the real vocabulary of authentic design—and it's difficult to design a traditional building competently without knowing these basic definitions. Before you can use and apply the elements, you need to know what they are called.

You'll find a glossary at the end of this book, and we will define less common terms as we go along. But for now, there are several definitions that are critical to our discussions. Take time to study the relationships of the parts. Commit them to memory, because it is in the application of these elements that most—if not all—of the common mistakes are made.

1.11 Learn the Definitions

In an age before hidden structural solutions and modern synthetic materials, each element of a building had to serve a specific and crucial function. Every element of classical architecture derives from those rigorous requirements, serving the building's most basic need: to stand up and shed water.



(9) DO ALL OF THIS BECAUSE IT MATTERS

You might be asking yourself, what on earth are these people talking about? The size of a shutter, shade and shadow, city planning, and now the vocabulary of the Doric Order? What is going on? Why does all of this matter?

It matters because design matters. Design makes a difference. Design principles, from the big-picture issues of the planet to the details of the Orders, work together to create the places we call home. What's more, the value of a place grows exponentially when the design is more than functional. Design cannot be quantified on a spreadsheet, but it absolutely can help the bottom line.

Many of the points that we have made in this chapter and will make throughout this book may seem minor, but they matter nonetheless. They matter because these are the details that transform the dialogue around the sale of a house: instead of selling square footage and a tick list of "features," we are creating communities with social capital.

The Vitruvian Triad

Architecture, the art of building, has the power to transform a shelter into a home. But architecture requires balance—a mix of function, economy, and aesthetic, or, as the Roman architect Vitruvius put it, "firmness, commodity, and delight." This timeless premise, first written in A.D. 20, remains today at the heart of good design.

Firmness

Good design must work well and last long. It must be sustainable in its construction, in its location, and in its ability to remain in service over time as its uses change.

Commodity

Many beautiful designs have been drawn on paper over the years. But architecture is about building, not just drawing. A good design must also be a design that can be built. Traditional details may cost more to get right; this is why it is important to carefully choose the elements in your building and use only designs that you can do well. Be smart about where you use expensive elements and simplify other areas of your design.

Delight

Vitruvius knew it. Design matters. Beauty may be in the eye of the beholder, but authentic details and materials, appropriate to place and based on fundamental principles of structure and proportion, resonate with every eye.

Where to Go from Here

In this chapter, we have covered the whole spectrum— everything it takes to get your house right. Keep these principles in mind as you read the rest of the book. Think about the big picture and think about the details; in the balance of the two you will find good design.

CHECKLIST

Secrets of a Successful Design

1. Make the Whole Greater than the Sum of its Parts

- ☐ Is everything balanced?
- ☐ Is the building organized under one roof?
- ☐ Does anything dominate (dormers, portico, garage doors)?

2. Keep It Simple: Less Is More

- ☐ Can you find the front door?
- ☐ Is there meaning, hierarchy and focus to your design?
- ☐ Are the important areas emphasized?
- ☐ Does it pass the 'Squint Test'?

3. Design with Common Sense: Structure Check

- ☐ Is the design true to traditional materials?
- ☐ Are posts and beams correctly sized in relation to each other?
- ☐ Could it work without hidden structure?
- ☐ Are loads transferred to the ground or are you employing the "sky hook"?

4. Design with Common Sense: Practicality Check

- ☐ Is it believable?
- ☐ Could the shutters work?
- ☐ Are elements necessary or are they gratuitous?

5. Design with Texture: Shadow and Landscape

- ☐ Does the selection of materials enrich the texture of the building?
- ☐ Do windows and eaves help to define the building by creating shadows?
- ☐ Is there landscaping to soften the building?
- ☐ Does the landscape palette make sense for your region?

6. Design for Place: Appropriate Materials and Details

- ☐ Does it respond to local climate?
- ☐ Does it use local materials?
- ☐ Does it enhance sense of place?

7. Build Sustainable Designs

- ☐ Is the urbanism around the house sustainable?
- ☐ Is the design timeless in nature?
- ☐ It is built for long term?

8. Learn the Vocabulary

- ☐ Do you know the names of the elements you are using?
(If you don't know the name, you're probably not using it correctly.)

9. Do All of This Because It Matters

- ☐ Does your design balance Firmness, Commodity, and Delight?
- ☐ Have you created mere shelter or real architecture?

How does your building score?

Chapter 2

SCHEMATIC DESIGN

“Schematic Design” is the first phase of any architectural project. This is the stage where we start with a blank sheet of paper and begin the process of developing the basic composition of the house. In this phase of the project, special emphasis is given to balancing aesthetic goals such as massing, architectural style, and layout of the plan with practical constraints such as site and budget.

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SCHEMATIC DESIGN

SEVERAL BASIC DESIGN IDEAS need to be thought about from the start. Get them right, and everything else (from selecting the right materials to working up the details) tends to fall into place. Get them wrong – and however much effort you put in later, the house will still feel wrong. This part of Schematic Design really has to do with what we call “composition.” Its importance cannot be overemphasized. It is the difference between creating mere shelter and a building of real beauty.

The goal of composition is to find unity in design; to create a work in which nothing can be added or subtracted without affecting the integrity of the whole. This is what is meant by the phrase “the whole is more than the sum of the parts.” Designing, in plan and elevation, needs to be more than putting together a collection of elements. By combining the elements in thoughtful ways, so that each contributes to a bigger picture, we can create buildings that are often very simple in their details but where everything works together to make a beautiful whole.

Beauty in building comes from five elements: Order, Proportion, Hierarchy, Balance and Scale. These are words deep in meaning, yet difficult to define. However, to give ourselves a common frame of reference, we will try to define them.

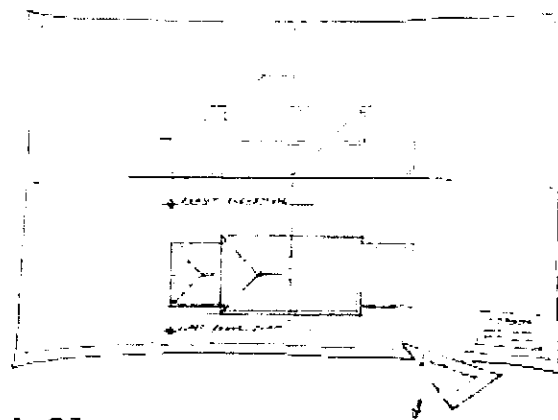
- **Order:** The rationale behind the design; the sequence of space; the way in which the building is read and how it is experienced.
- **Proportion:** A system for the arrangement of parts that relates all the elements of the design to one another.
- **Hierarchy:** Placing the emphasis on the most important elements of the building through primary, secondary and tertiary elements. Hierarchy guides the eye and helps us understand the building—for example, allowing us to find the front door or recognize the primary rooms without even thinking.
- **Balance:** The relationship between parts of the building, making sure that the “weight” of each part is evenly distributed. Balance is most obvious in a symmetrical façade, but is perhaps even more important in asymmetrical design.
- **Scale:** The relationship between the sizes of different elements. Scale lets us read how large a building is, as well as the individual elements that compose that building. Scale is not to be mistaken for size. Elements of completely different sizes can share the same scale, if they are detailed consistently.

A successful design thinks about these elements in parallel with the program (requirements for the plan such as number and type of rooms and proposed square footage), the budget, and the site constraints. Good architecture is about balancing the practical and the ideal—which is the reason why so much traditional architecture is so satisfying. In its essence, traditional architecture is simply this combination of beautiful and practical.

It is true that in some cases getting the details of traditional architecture right can increase the cost of a building. But good proportions and order in the design don’t cost more; in fact, they are often more economical than the alternatives. They simply require knowing a few rules of thumb and designing with the intent to create beauty.

2.1 Schematic Design

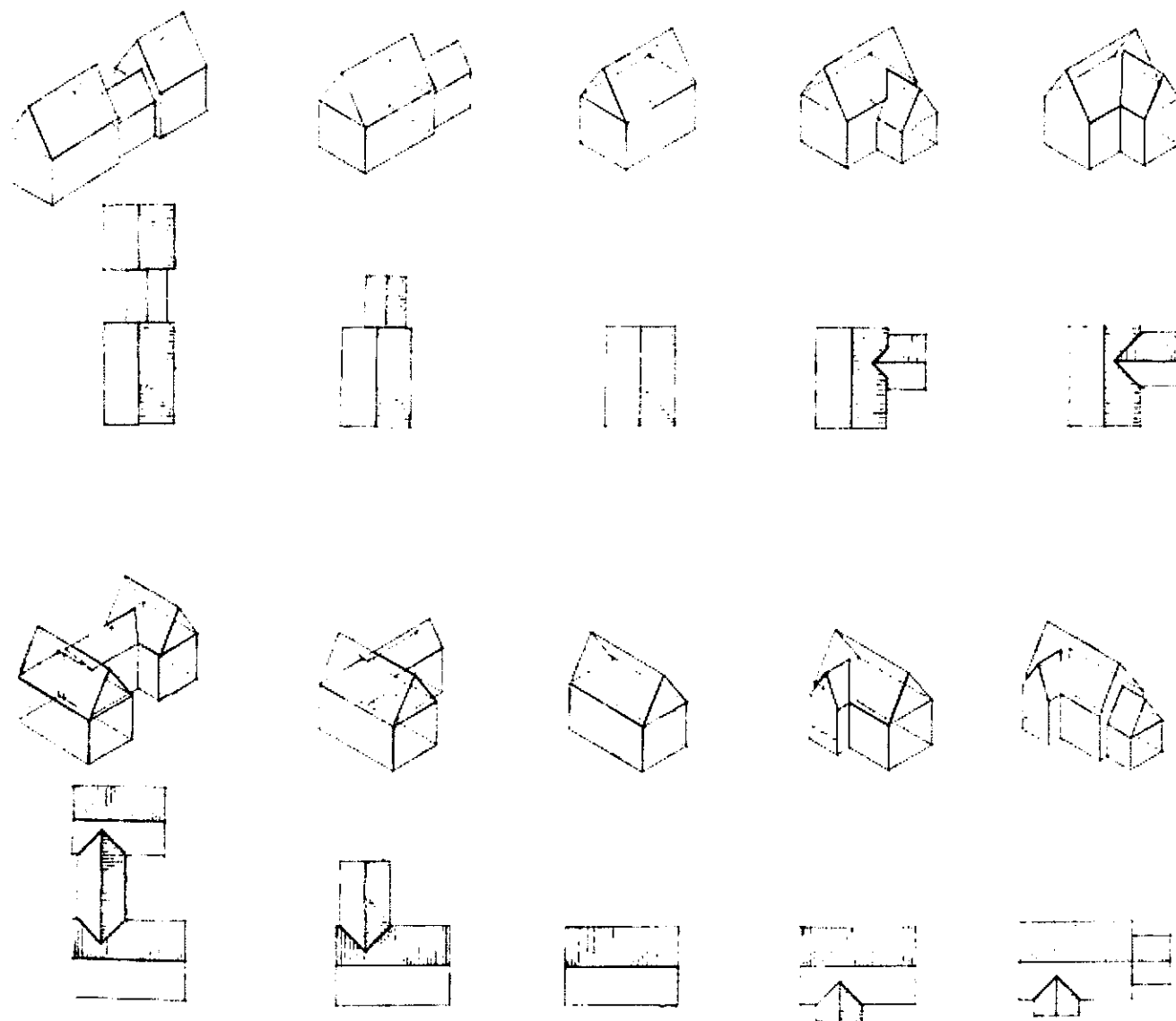
In this stage of the project, all the constraints—material, financial, and site—are resolved, together with architectural composition, to result in a building that is both fit for purpose and beautiful in itself.



A-21

22 Massing to Use

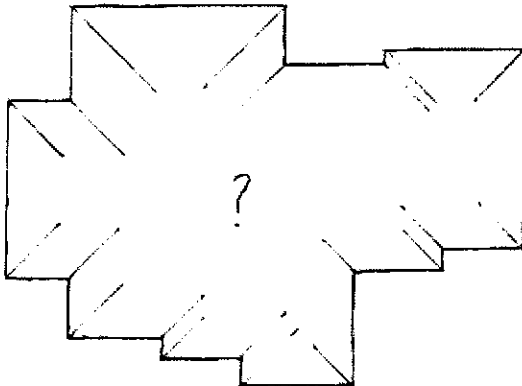
A simple plan is not only practical, but also has its own innate repose and beauty. These diagrams show examples of how to work your extensions and additions sympathetically. The top row shows narrow-front houses, the bottom shows wide-front houses; both types show extensions off the back and to the side. In all examples the houses have a clearly defined main structure and smaller wings that work in harmony with the primary mass of the house.



2.3 Massing to Avoid

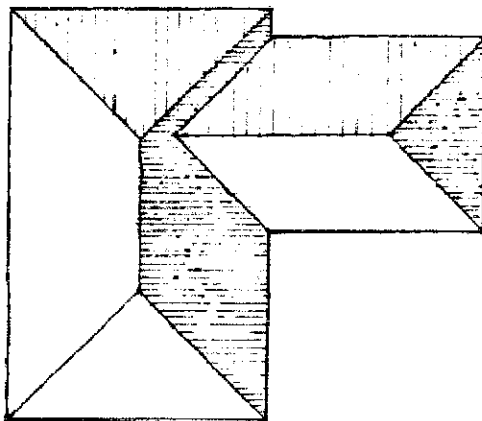
Avoid a relentless number of extensions and gables that swell from every corner of the building and designs where no thought has been given to organizing the masses under a simple, coherent roof form.

McMansion massing



AVOID

Avoid a floor plan that results in a complicated roof plan; it will be difficult to build and create a chaotic streetscape.



USE

Think about the roof when you are arranging your floor plan. Assemble the rooms coherently in a way that that can easily be covered without complicated hips and valleys. The house will be easier to build and will contribute to the streetscape.

MASSING AND THE STREETScape

The first step in designing a building is to determine the massing: the way its volumes are put together. Simple forms are easier to understand; a house with complicated massing that generates endless hips and gables will lack focus and have a confused hierarchy. The best details in the world cannot save a building that has lost control of its form.

Design from the Roof Plan Down

To start, determine the primary mass of the building. At its simplest, a traditional house is often a square or rectangular box, more interior space, add regular volumes that resolve into the primary mass. Don't let the secondary masses get larger than the primary volume of the building.

The massing of a building is determined in the first stages of design, while the floor plans are still being resolved. The fatal flaw of the McMansion is that the floor plan is usually a jumbled combination of rooms—with little or no thought given to the roof plan above. These complicated forms become a framer's nightmare, but still worse, from the point of view of the streetscape, they are an aesthetic mess.

A helpful design strategy is to work back and forth between the floor plan and the roof plan. As rooms are added, make sure that the combination of spaces can be easily resolved under one roof.

Think about the Neighborhood and Streetscape

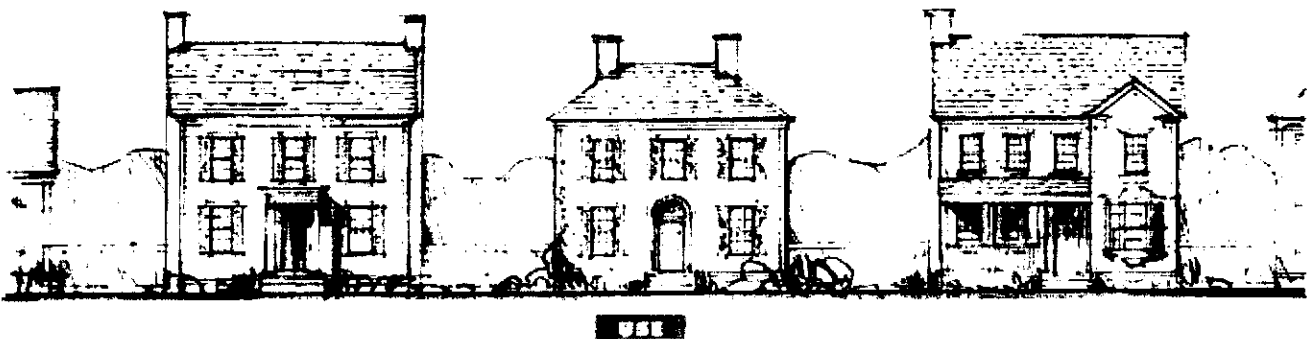
In the same way that a successful building design is more than a collection of individual elements, a successful neighborhood design is more than a collection of buildings.

In a traditional neighborhood, houses work together to create streetscapes. Rather than each building generating all its own interest, traditional buildings work together to create outdoor rooms. Every building doesn't need to be a focal point. In fact, if you try to make each building a focal point, the opposite occurs, and nothing stands out. Suppress the urge to add extra steps and complicated massing; the only thing that it will add to your building is cost.

2.4 The Streetscape



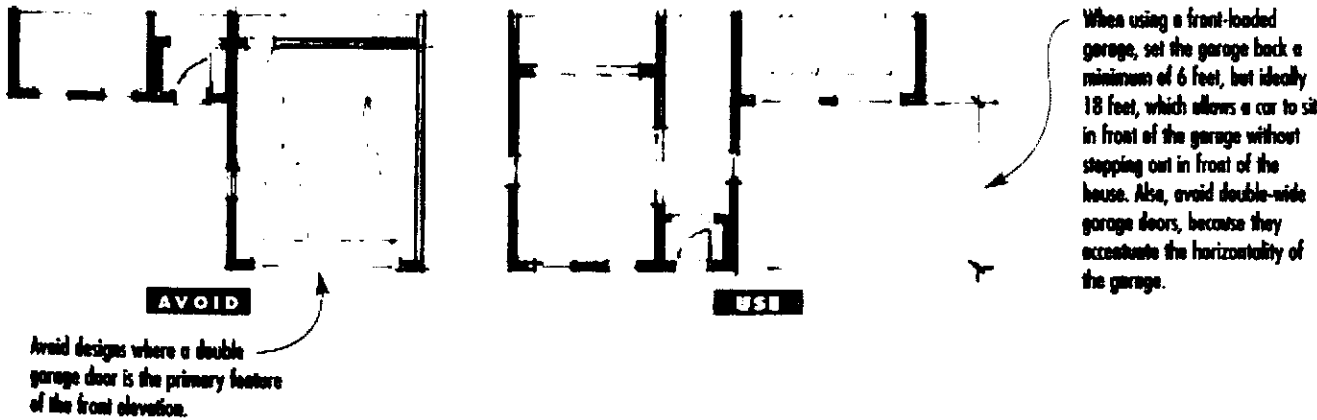
Avoid houses that attempt to contain an entire streetscape in a single building elevation through complicated massing and by treating materials like wallpaper. McMansions compete with each other and take away from the street as a whole. Each house attempts to be the center of attention, making it impossible for any one of them to be noticed.



Think about how your house looks in a streetscape. Every house does not need to have every element or be the center of attention. Successful streets have buildings that work together to create a larger composition, which gives the feeling of being in a graceful outdoor “room”.

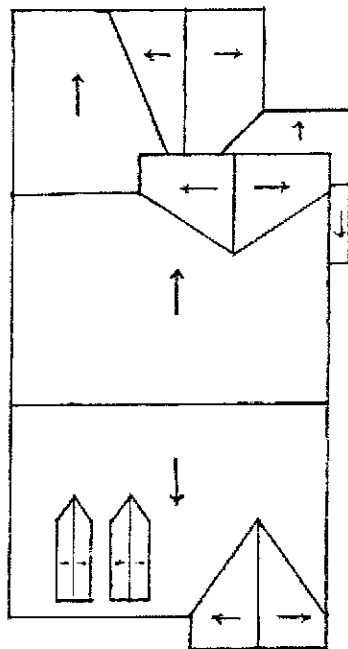
2.5 Front-Loaded Garages

In some cases the site plan requires the house to have a front-loaded garage. If this is the case, mitigate the presence of the garage on the street by pushing the front of the garage back behind the front of the house.

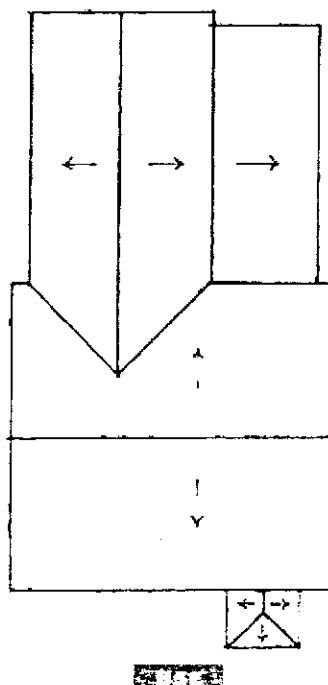


2.6 Start with the Roof Plan

Design from the roof plan down, not from the floor plan up. Think about the volumes of the house before you get locked into a floor plan that cannot be covered with simple forms.



Avoid roof plans with complex geometry and an awkward combination of slopes.



Use simple volumes that are easy to cover with a roof; limit the number of roof slopes.

DESIGNING THE ENTIRE BUILDING

A common mistake in contemporary traditional architecture is to simplify the massing, yet still cover the building with every conceivable building element. Remember, **KEEP IT SIMPLE—LESS IS MORE!** Use restraint. Use fewer elements, but do the ones that you are doing really well. Spend money on material, rather than wasting it trying to add interest everywhere.

Massing and Style

The massing of a building relates closely to its architectural style. Georgian and Federal houses are simple symmetrical boxes with varying details by style. On the other hand, more organic or informal styles of architecture (such as Tudor or Arts and Crafts) derive from a very different type of volumetric organization. Be true to the style that you are using by studying historical precedent and existing examples. Avoid attempting to create a Tudor manor around a Georgian box, or a Federal house out of a Craftsman cottage. They won't look right, however well detailed or whatever the materials specification.

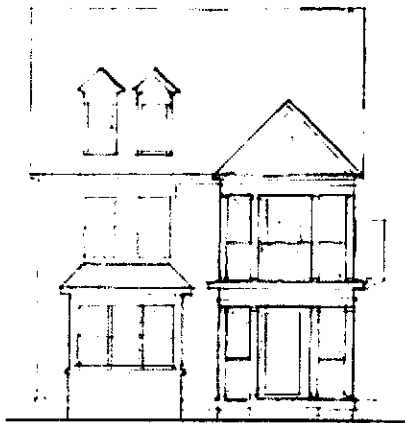
Laying out the Roof Plan

In Chapter 9 we will go into more detail about laying out a roof plan. For now, the important idea to note is, as we say again and again, keep it simple. Avoid using multiple slopes within a single roof volume. A simple adjustment in a drawing to make your building read well in elevation on paper will not translate well into three dimensions in the field. If the roof is too high in elevation, then perhaps it is too deep in plan.

Another common misstep in laying out the massing is ignoring the secondary masses once the primary mass is set. Figure 2.6 (top) illustrates a building that makes this mistake. The primary volume of space works well, but little thought has been given to how the roof fits over the rooms in the back of the house. The result is complicated spaces that awkwardly crash into each other. A building must work in three dimensions. It is easy to forget that every line on paper represents a three-dimensional object that has to be built.

Keep the Elevations Simple

Don't try to fit a McMansion in the space of a small traditional home. Limit the number of elements; spend more time and money on the elements that you do use. Don't forget the side and rear elevations, but think of the building as a whole; be aware of the connection to the backyard as well as light and ventilation to interior rooms.



AVOID

Front elevation

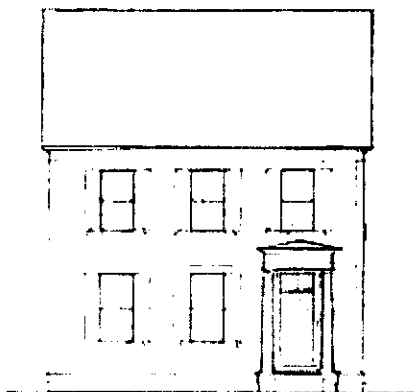
Avoid too many elements in a single elevation, which throw off the scale of the building.



AVOID

Side and rear elevations

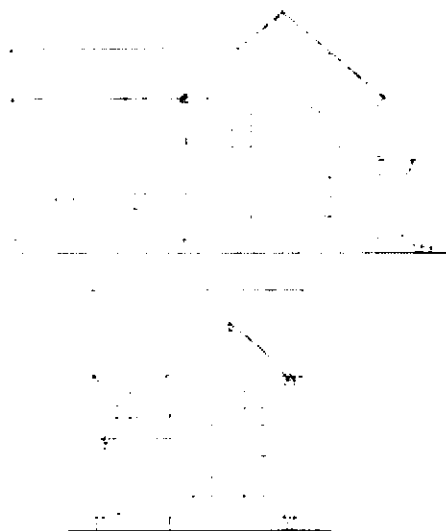
Avoid complicated massing, with too few windows.



USE

Front elevation

Use a small number of well built elements.



USE

Side and rear elevations

Use simple volumes that make the building a whole.

Side elevation

Avoid long blank side elevations without windows.

Side elevation

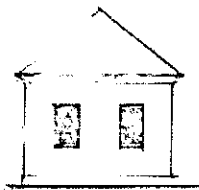
Don't forget the windows!

2.8 Unity and Duality

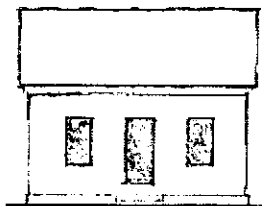
The relationship between opening and solid is crucial to the character of your building. Duality leaves the eye uncertain where to rest; unity creates harmony and a sense of natural repose.



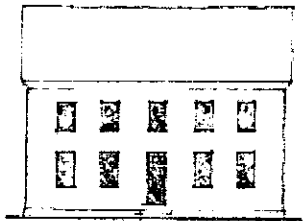
1 bay: single opening, center void



2 bays: paired openings, center occupied by a wall, and each window of equal importance so the eye has nowhere to rest



3 bays: symmetrical openings with windows balanced on either side, making the door clearly the most important element in the façade



5 bays: evenly balanced, symmetrical façade directs the eye very clearly to the center

THE CANON OF THE NUMBER

Composition, at its most essential, is concerned with the organization of *solid* (walls) and *void* (openings, doors or windows). The number of openings and the way they are arranged establish the character of the building at an early stage. In traditional architecture, this relationship is called the *canon of the number*. It depends on three key concepts: symmetry, unity and duality.

Symmetry

Symmetry is a well-known term for the exact reflection of shapes around a central (or "mirror") line. Much that's created in nature is symmetrical; and at a deep level, symmetry can be equated with beauty—not least, with regard to the human body or face. Symmetry, like proportion, is a unifying agent. It adds order and repose—or perfect balance—to a composition. For this reason, symmetry is a guiding principle of much classical architecture.

Unity and Duality

In any symmetrical building, there are two possible types of design. In one, the center is a void (often a door); in the other, the center is occupied by a solid (a wall or column).

The first type of design sets up what is called a *unity*. Unity always has an odd number of openings. The eye is led directly to the center, because this is the pivotal part of the composition. The second sets up what is called *duality*. Duality always has an even number of openings in a façade that create equal and competing centers. Because no opening is more important than its neighbor, the eye doesn't quite know where to rest.

Applying Unity and Duality

Harmonious composition seeks unity and avoids duality. For this reason, most classical façades have an odd number of bays. An even number of bays, reserved for secondary or side façades, help to emphasize the primary façade (2.8).

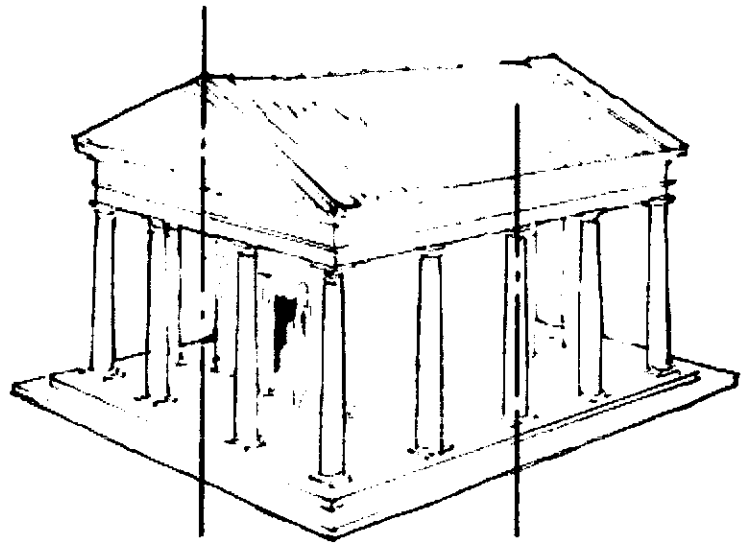
Prime numbers—numbers that can only be divided by themselves and 1—go one step further

toward creating harmonious composition. Many classical buildings have 3, 5 or 7 bays. (13 is the next prime number, but that would be quite a large house!)

Larger buildings are often broken into a series of smaller bays. Avoid a rhythm of bays that sets up multiple centers across the façade. Instead use a duality on the side wings to focus attention on the center.

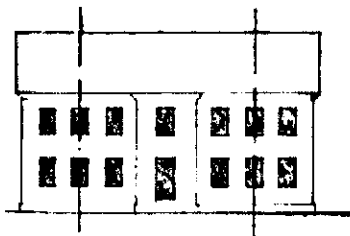
2.9 Combining Unity and Duality

The classical temple front has a clear centerline on the front door, making for a harmonious composition that clearly directs the eye. The side elevation has a central column, setting up duality on this façade. The eye doesn't know where to rest when looking at the side, so it quickly finds the front of the temple. This has the effect of further emphasizing the importance of the front door on the main elevation.



2.10 Applying Unity and Duality

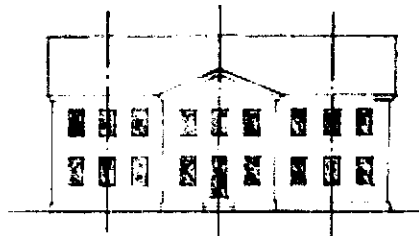
On façades with seven or more bays, it is common to set a central bay forward, but be careful not to set up competing centers.



AVOID

7-bay, 1-bay center

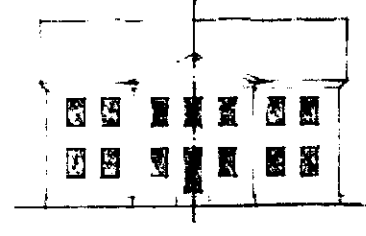
Three-bay side wings with centers that compete with the front door



AVOID

9-bay, evenly divided

Side wings the same size as central bay, with their own centers, creating a double layer of competition for the eye

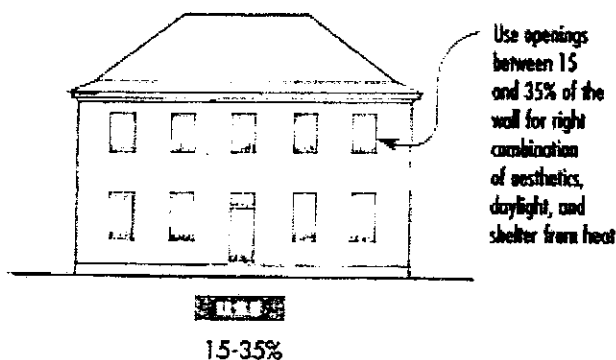
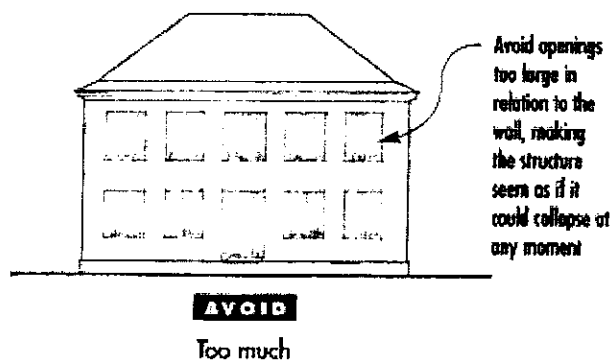
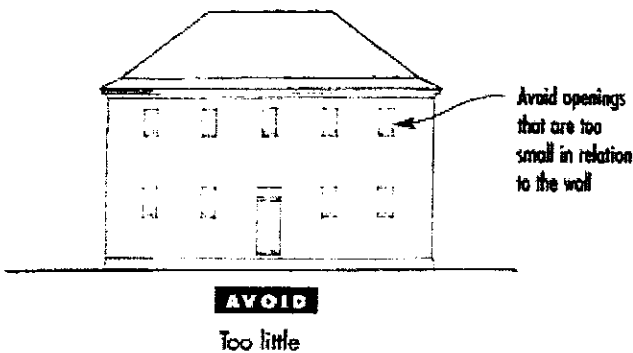


USE

7 bay, 3-bay center

Paired bays on the side wings, clearly subsidiary to the front door

2.11 Percentage of Opening



THE OPENING AND THE WALL

Maintain the Structural Integrity

Consider the relationship of wall to opening (solid to void). Always try to maintain the feeling of a substantial wall structure. Traditional buildings did not have reinforced concrete or steel posts and lintels that could span long distances. Load-bearing walls required a structural integrity running from foundation to roof, with special consideration given to the strength of vulnerable areas such as the corner of a building. Openings punched in the wall presented the biggest threat to that integrity and their location within the façade was considered carefully.

Architects like Le Corbusier or Mies knew this. In fact, this is why their buildings appear just so revolutionary, with long strips of windows wrapping a corner or running floor to ceiling with no flanking masonry support. But the traditional building needs to follow rules of structural integrity and common sense based on traditional materials and methods.

Consider the Climate

Climatic considerations are very important when determining the size of your openings. As we will see time and again in this book, traditional design responds to not just a single concern but a variety of different requirements: practical, structural and aesthetic. It is interesting to see how regional variations inform the balance of wall to window.

In a Northern European city like Amsterdam, which has a temperate year-round climate but where daylight is at a premium, the canal houses have huge windows that take up as much of the wall as possible without compromising the structure. In Northern Africa, windows are kept deliberately tiny, so that buildings act like caves, staying cool in the summer heat and warm in cold winters. In America, such regional extremes are less distinct and are more dependent on the architectural style.

The 15-35 Percent Rule

Setting the percentage of wall openings to between 15 and 35 percent of the total wall area will balance good light quality in the house with visible structure,

while leaving enough room for shutters if desired. As with all rules, there are exceptions: a sunroom or a large south-facing living room may have a larger percentage of openings, while windows on the north side of a building tend to be smaller. Figure 2.11 illustrates the progression of too little, too much and just right percentage of opening.

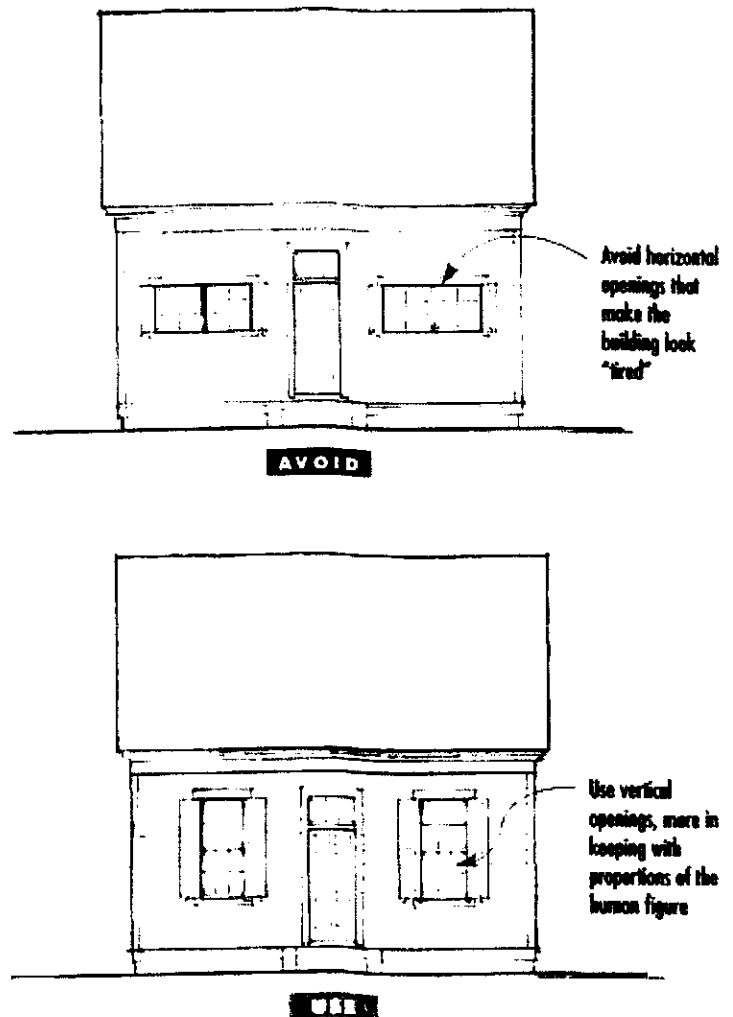
Vertical or Horizontal Windows?

The proportion of openings in traditional architecture varies, and it is difficult to provide hard-and-fast rules. More vernacular houses might have long, low openings, in contrast to the more formal, classical spirit provided by vertical sashes. But in general, traditional buildings have vertical openings. Horizontal openings can appear awkward on a house (2.12). Vertical proportions, by contrast, relate directly to the human figure, which was a vital design concern for the ancient and Renaissance architects who developed the patterns of classical architecture that we still use today (2.13).

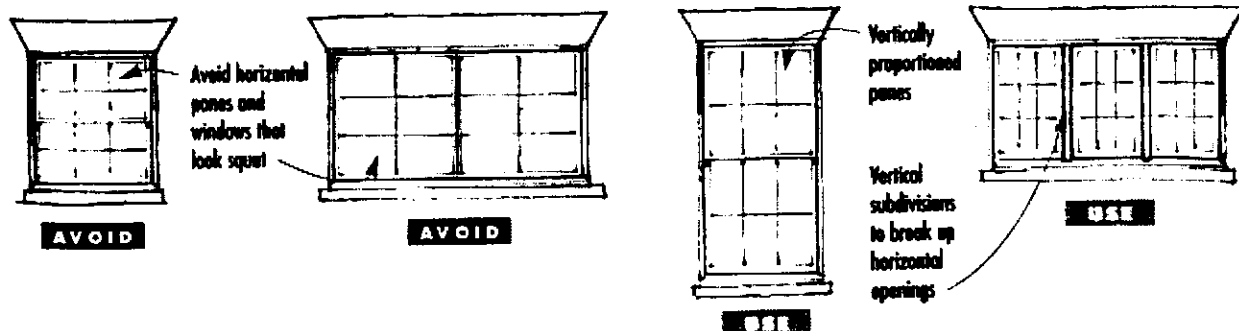
Taking a common-sense approach provides a useful rule of thumb. A vertically proportioned window provides maximum light in relation to the width of the opening. The narrower the opening, the more economical the lintel required to span it—but the opening height can be whatever you like. Vertically proportioned openings tend, therefore, to make structural and economic sense.

Horizontal openings can be successfully used if there are vertical divisions within the overall span. This type of opening is commonly found in Arts and Crafts work and other less formal styles.

2.12 Proportion of Opening

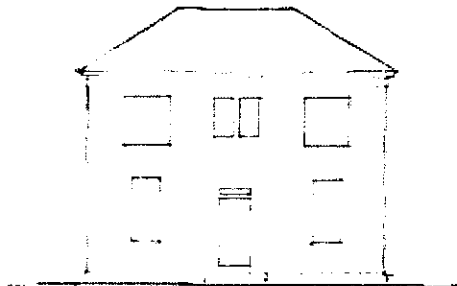


2.13 Window Proportions



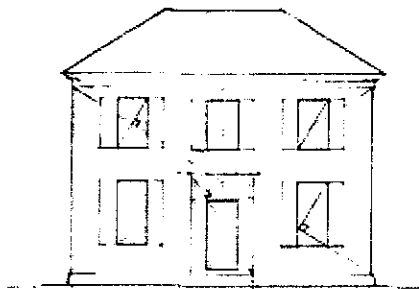
2.14 Arrangement of Openings

Use a system of regulating lines to tie the composition together. In the lower design, window heads and sills align, and there is a coherent relationship between the proportions of the building and those of the window openings. The building appears harmonious; the whole is greater than the sum of the parts.



AVOID

Designs that lack a coherent relationship between openings

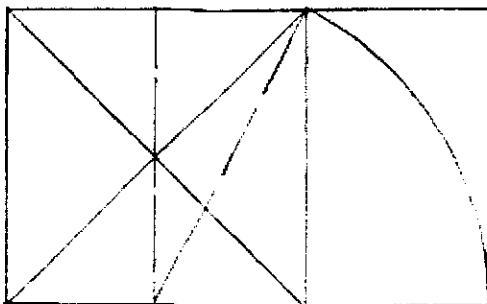


USE

Proportion of façade related to window openings within it

2.15 Golden Section Rectangle

In this classically pleasing proportion, the ratio of the whole to the larger part is the same as that of the larger part to the smaller.



THE ARRANGEMENT OF OPENINGS

Regulating Lines

Applying a system of regulating lines across all of the openings and façade as a whole helps to create a harmonious composition. This ensures that all the elements of the elevation look coherent and relate to one another.

Figure 2.14 (top) shows a building with a random assembly of opening sizes and proportions. Even before the windows are divided, we can see that this building has a weak composition. Figure 2.14 (bottom), on the other hand, is tied together by a series of regulating lines. These diagonals relate the proportion and location of the windows to the door and its surround, as well as to the overall building.

The Golden Section

The Golden Section is a perfectly balanced asymmetrical division of a line in which the ratio of the smaller segment to the larger segment is equal to the ratio of the larger segment to the whole (the sum of the larger and smaller segments). Like pi, it is an irrational number that cannot be expressed in whole numbers, being approximately 1 to 1.618; that is, about 3 to 5 or 5 to 8. The Golden Section was first discovered and used in antiquity during the Golden Age of Greece. The numerical approximation of the ratio was embodied in the architecture and theory of the Italian Renaissance and rediscovered in the nineteenth century.

The ratio of the Golden Section creates a rectangle of universal beauty, which recurs throughout both natural and built environments (2.15). It can be a useful tool when laying out regulating lines on a building. Understanding and applying proportional systems is a complicated subject beyond the scope of this book; for now, the important lesson is that openings need to relate to the whole building, as well as each other.

Head and Sill Heights

Unless you've made a conscious design decision not to do so, all window heads and sills typically line through on a façade. Doors are unlikely to be as tall as a sash window, so their head heights can drop

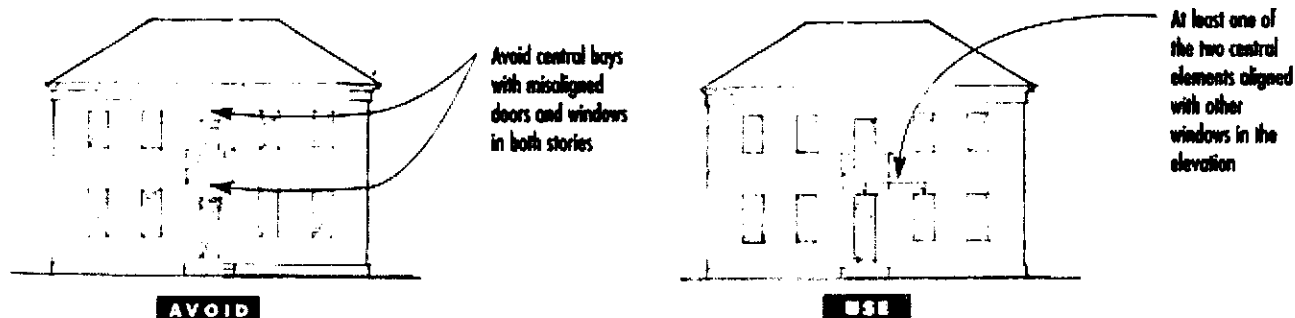
slightly from the windows, or the difference can be made up with a transom above the door. If the center bay has doors, one over the other, it can be nice to drop one of the door heights to keep the composition from becoming static. Be careful not to drop both doors, or the house will look like a sunken cake (2.16.)

As you work with window alignment in the elevation, watch that the windowsills don't get too high inside the rooms. On the first floor the typical distance from the floor is around 24"–30". Second floor windows can ride a little higher, ranging from 30"–36." If the primary windowsills in a room are more than 36" they will feel too tall (2.17).

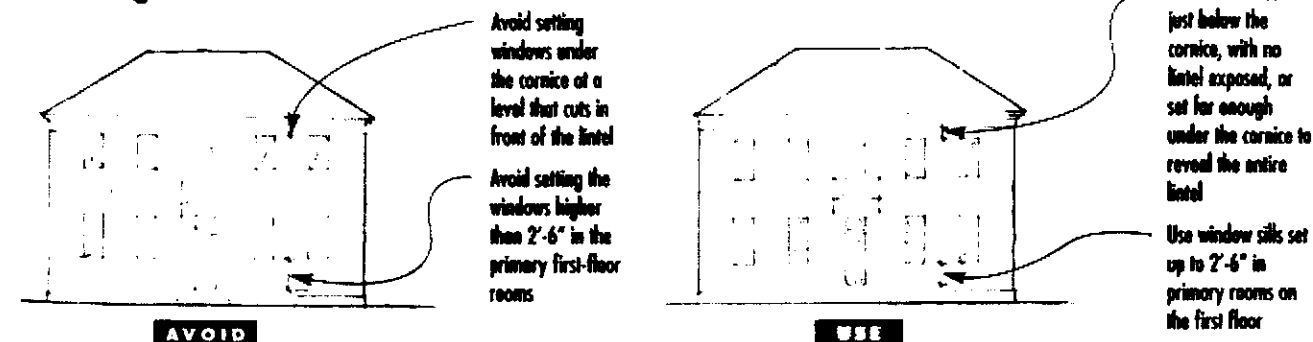
Take the cornice into consideration when setting the heights of the windows. Ideally the second floor window heads will be set a minimum of 12" below the bottom of the cornice or eave. This will allow the lintel or casing to be fully expressed and not cut short. If there is no room to do this, set the windows directly under the cornice. Avoid setting the windows more than 2" or less than 8" below the cornice, as this will visually cut the lintel short and make it look weak.

2.16 Head Heights

In general, align the head heights of doors and windows on elevations. In some cases, you may need to place doors at different heights; do so with care to avoid the "sunken cake" look.

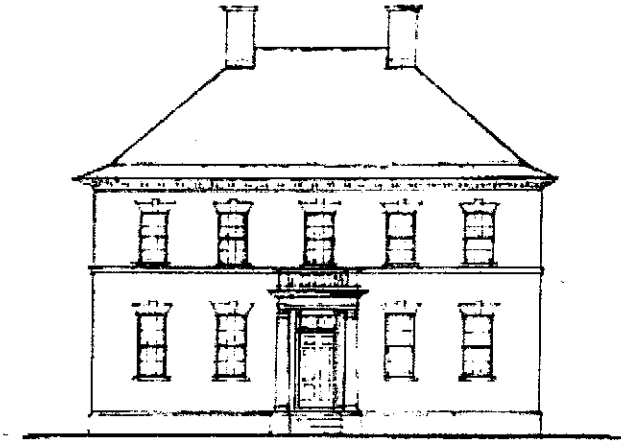


2.17 Sill Heights



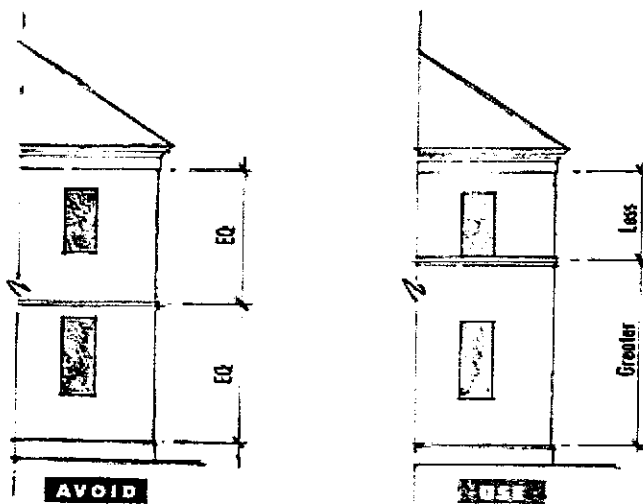
2.18 Punctuation

Every element of a building has a beginning, middle, and end. The end, or termination, is called a punctuation. The cornice punctuates the wall, the cyma punctuates the cornice, and a fillet punctuates the cyma. This layer of refinement is found in every element of the building as well as in nature.



2.19 Differentiation

Differentiation keeps elements from becoming dualities. Differentiated elements are similar in size and/or dimension, yet set apart by an emphasis in one direction or the other.



Avoid expressing a stringcourse equally between the base and cornice of a building, creating a duality that is static.

A stringcourse pushed up under the second-floor windows enlivens the façade and focuses attention on the more important floor.

PUNCTUATION, DIFFERENTIATION AND INFLECTION

Symmetry alone may make a façade feel a bit dull. The best façades have a combination of repose and movement. To keep the composition from becoming static, we add punctuation, differentiation, and inflection.

Punctuation

Few things in nature come to an abrupt end. They are almost always terminated in some way. In design (as in English grammar), we call this termination a *punctuation*. In nature, an arm is punctuated by a hand; the hand is punctuated by a finger; a finger is punctuated by the finger nail; and this in turn has its own small punctuation. Buildings have the same layers of refinement and punctuation (2.18).

Differentiation and Inflection

Differentiation and *inflection* introduce movement into the composition by creating hierarchy in some elements while deemphasizing others. Figure 2.19 (left) shows a two-story house with a stringcourse (horizontal band) equidistant from the cornice and the foundation. This design creates a duality because it is unclear which floor is more important. By differentiating between the two floors and inflecting the stringcourse up to just under the second-floor windows, we see that the primary focus of the building is on the first floor (2.19 right).

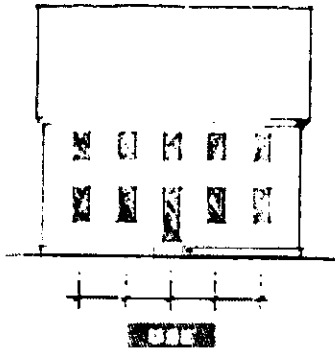
Window Inflection

Figure 2.20 shows the effect of inflection in window composition. This shifting of openings slightly off center creates subtle but enriching compositional relationships. In a five-bay house, the paired windows are inflected towards one another to create a less static rhythm across the façade. The largest space is left between the end window and the corner of the building. The second largest space is between the central bay and the first row of windows. The narrowest spacing is between the windows themselves.

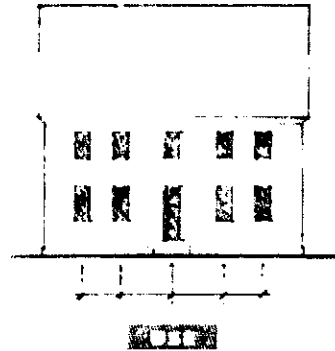
Inflected windows have practical as well as aesthetic advantages. Often windows are inflected just enough to offset the exterior wall thickness, so they can be equally spaced in the room (2.21).

2.20 Inflection

A simple house will have even spacing between bays (below left). But inflecting the spacing slightly, giving a bit more breathing room to the center, makes the façade more interesting and emphasizes the front door (below right).



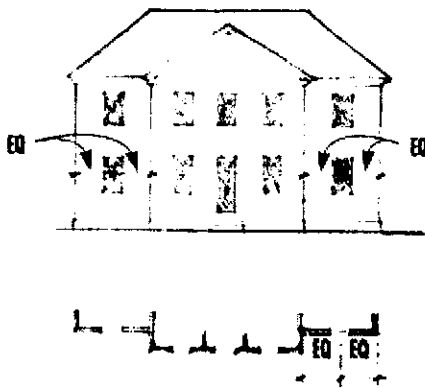
Equally spaced bays are fine, but can feel static.



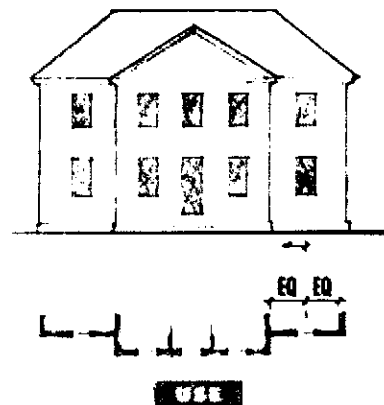
Inflecting windows places emphasis on the important elements of the façade.

2.21 Inflection with Side Wings

The windows on the left have been located in the center of the outside wall. Inflecting them slightly inwards reinforces the center of the house (and ensures that the windows will be correctly located inside the room).



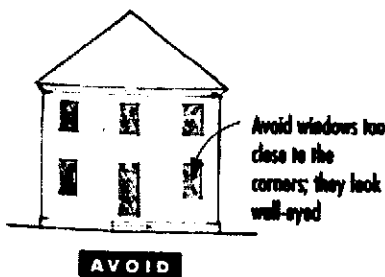
Side windows centered on exterior



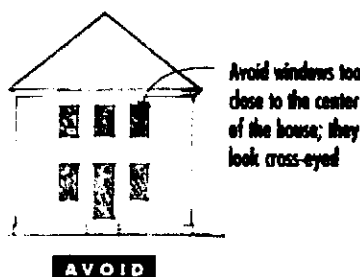
Side windows centered in room

2.22 Setting the Window Spacing

To achieve harmonious spacing of windows, do the invisible-shutter test: Even if you are not using shutters, dot them on the elevation. If they overlap, the windows are too close; if there is a huge space between them, the windows are too far apart.



Avoid windows too close to the corners; they look wall-eyed



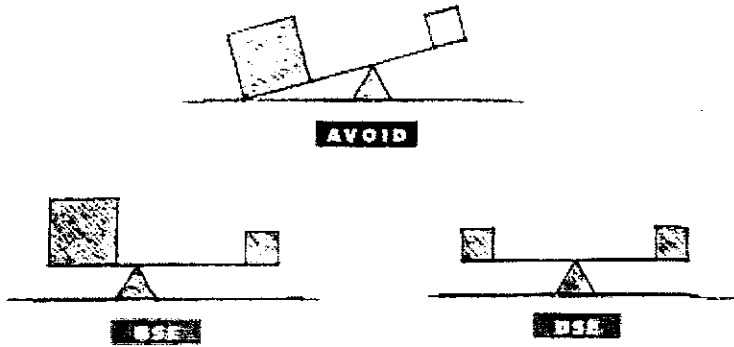
Avoid windows too close to the center of the house; they look cross-eyed



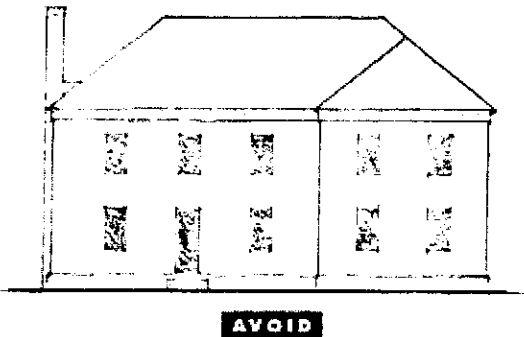
Windows evenly spaced correctly feel harmonious

2.23 Balancing the Fulcrum

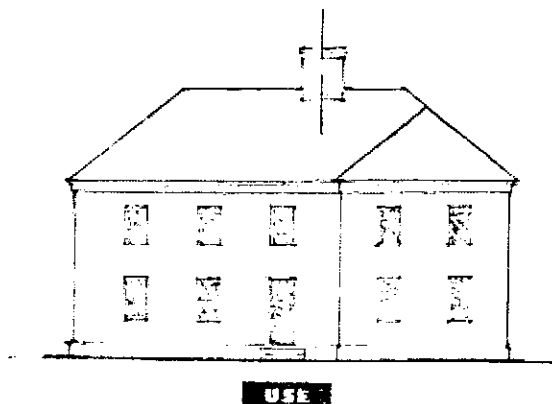
Find the center of balance for your building. In an asymmetrical design, the center of balance is usually not in the center of the composition.



2.24 Asymmetrical Composition



Avoid a symmetrical façade superimposed on asymmetrical massing, making the façade feel off balance (a problem compounded by the location of the chimney).



Repositioned front door and central chimney restore balance.

ASYMMETRICAL COMPOSITION

Asymmetrical buildings need to be composed just as carefully as symmetrical ones—perhaps more so, given that the asymmetry sets up complex compositional possibilities from the start. It is impossible to give too many hard-and-fast rules, because so much depends on the details of your design. But as you work, always remember to balance the visual weight of the composition.

Think of that simple experiment from school physics lab, using a fulcrum with a lever on it. A large weight near the fulcrum can be balanced by a smaller weight proportionally further away (2.23). Similar rules apply for architectural composition. Always consider the location of your “fulcrum”, the center of the building, and keep the massing in balance around it.

The Two Layers of Asymmetrical Design

Asymmetrical compositions have two layers of design. The first layer is the massing and combination of volumes. The second layer is the arrangement of elements within each volume. A mistake that many make in this type of composition is to lay out asymmetrical volumes and fill them with symmetrically placed elements (2.24 top). This results in individual elements that are balanced, but an overall composition that feels weak. Instead, reinforce asymmetrical massing with an asymmetrical arrangement of elements (2.24 bottom). An asymmetrical arrangement of elements within each volume ties the composition together, each volume depending on the others to make sense. It is this interconnection that creates a whole greater than the sum of its parts.

Avoiding McMansions

McMansions are a prime example of asymmetrical composition gone wrong. They fail because the compositions are cluttered with volumes and elements attempting to create interest, rather than working together. Figure 2.25 illustrates two asymmetrical houses, one a McMansion, the other a small cottage. In the McMansion, several gables could be subtracted or 20 more added without an effect on the balance of

the design. The cottage, on the other hand, feels balanced. Adding or taking away would need to be done skillfully or it would disrupt the composition.

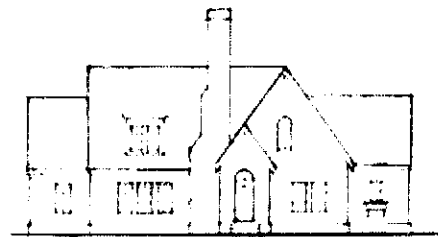
Figure 2.26 illustrates another common type of McMansion, a series of classical design elements and volumes arranged asymmetrically. Avoid this type of design. It will never look like more than a cut-and-paste project. If you want an asymmetrical design, go all the way and design a building with asymmetrical volumes and elements. If you want a symmetrical building with classical details, design a symmetrical building with classical details. Do not attempt to merge these two types of building; the results are rarely good.

2.25 Asymmetrical Composition in Practice

The McMansion effect (top) has gables and extensions sprawling everywhere, but there is no logic or balance to the design; it could be added to indefinitely without making any difference. In the cottage (bottom), on the other hand, the asymmetrical elements are carefully weighted around the chimney to create a feeling of balance. Real skill would be needed to add to or take away from this composition without spoiling the design.



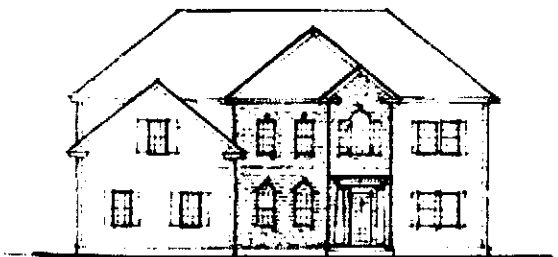
AVOID



USE

2.26 Symmetry or Not?

Another common McMansion effect is an asymmetrical volume with symmetrical, in this case "Georgian," details imposed on it. The composition of the house and its architectural details are fighting one another. If you want Georgian doors, windows, and details, use them—on a simple, symmetrical volume. This is intelligent use of traditional architecture, where the basic composition, the style, and the smallest details are related to one another to create a sensible, harmonious whole.



AVOID



USE

