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## 1. Introduction

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### 1.1 Purpose

The purpose of these design standards is to provide for harmonious and aesthetically pleasing development within the City of Rochester Hills. These design standards are intended to provide clear guidance to developers and architects working in the City as to the level of design expected for new and substantially renovated buildings.

*Whenever these guidelines use the term “style,” it refers specifically to the distinction between traditional and non-traditional architectural styles. Refer to the definitions section for further discussion.*

### 1.2 Style Neutrality

These standards are style-neutral, and explicitly allow for the expression of individual creativity in style. Modern styles are permitted, so long as they are true representatives of the style. Traditional styles are also permitted, but are subject to standards applicable to the conventions of traditional design.

### 1.3 Basis in Conventions of Traditional Design

These design standards include some basic standards for all buildings, with a larger number of standards for buildings that are designed based on the conventions of traditional design. While non-traditional styles garner a disproportionate amount of attention, the fact is that the vast majority of buildings (likely over 90%) constructed today incorporate traditional design features that are rooted in a building tradition developed over the course of thousands of years.

*Contemporary building methods eliminated the structural purpose of many traditional design details. While traditional details are today most often used as decoration without a structural purpose, those details should be accurately portrayed to signal solidity and value. Accurate details are easily distinguished from poor imitations. For this reason, if a building is going to be designed in a traditional style, it is important to get the details right.*

Traditional design elements evolved for one of two purposes: structural or decorative. Contemporary building practices have taken many elements which used to be structural and turned them into decorative elements. For example, structural masonry has been replaced by decorative masonry veneer, and steel lintels have replaced arches as load bearing structural elements that frame openings in building walls. This means that many traditional design elements are now merely decoration applied to the shell of a building in an attempt to mimic traditional styles.

Getting traditional design details right is important because those details provide a sense of *apparent structure* to a building. Apparent structure is created when design details accurately reproduce building elements that used to be structural elements. It is precisely these visible structural elements such as headers over building openings that provide a traditional building with an air of permanence and solidity. On the other hand, inauthentic or poorly executed decorative versions of traditional design elements clearly distinguish many contemporary buildings as a poor reproduction of traditional buildings. Finally, contemporary traditionally-styled buildings without apparent structure are perceived as being less permanent and of lower quality than a comparable building with authentic design details that provide apparent structure. Anything worth doing is worth doing properly.

It is the intent of these design standards to ensure that traditional design details are executed properly within the context of contemporary building practices to ensure a more authentic representation of traditional styles and design elements.

### 1.4 Minimum Standards for Non-Traditional Styles

Buildings that clearly and accurately use non-traditional styles (including Art Deco, Modernist, Mid-Century Modern, Contemporary, LEED, etc.) are not subject to the architectural design standards with the exception

of the building material standards in Section 3.4.2. Buildings that purport to use non-traditional styles but that, in the opinion of the reviewing authority, are simply utilitarian shall comply with these standards.

## 2. Administrative Procedures

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### 2.1 Basis

These architectural design standards are the “building design guidelines” referred to in Section 138-2.203(G) of the Zoning Ordinance, and are thereby adopted by reference as part of the Zoning Ordinance. These design standards were adopted by the Planning Commission on \_\_\_\_\_, 20\_\_, and may be updated from time to time by the Planning Commission.

### 2.2 Interrelation with Other Laws or Codes

In case of contradiction with applicable state or federal laws rules or regulations, including without limitation building codes or life safety codes, the applicable state and federal laws rules and regulations shall govern. In no way does compliance with the design standards exempt a structure from conformance with other applicable laws, rules or regulations.

### 2.3 Applicability of Standards

- 2.3.1. These design guidelines are the minimum standards that shall be applied. The reviewing authority may require higher standards depending on the character and context of the site to ensure a harmonious relationship with neighboring sites and to ensure a high level of aesthetic quality throughout the community.
- 2.3.2. Provisions herein are activated by the terms “shall” or “must” when required; “may” or “should” when recommended; and “may” when optional.
- 2.3.3. New non-residential buildings (excluding industrial buildings), or any residential building containing more than one dwelling unit shall comply with these design standards.
- 2.3.4. New single-family residential buildings are encouraged, but not required to comply with these design standards with the exception of the building materials standards, with which residential buildings must comply.
- 2.3.5. Improvements, changes, and alterations to existing buildings shall meet the design standards where feasible. Generally, this means that portions of a building that are being altered shall comply with the design standards.
- 2.3.6. Portions of a building that are not being altered may remain as-is.
- 2.3.7. Maintenance activities that are part of the normal upkeep of an existing building, and that are a direct replacement of existing elements of the building and that do not change the design of the building or a building element are exempt from the design standards.

Exceptions: maintenance activities shall comply with the design standards if the maintenance activity will entirely remove an existing building element (example: a complete tear-off and replacement of a roof that involves removing eaves and soffits shall comply with the eave design standards), and substitutions of veneer building materials shall comply with the building material standards.

- 2.3.8. Buildings that are bona-fide examples of a non-traditional style are exempt from these architectural design standards. Buildings that wish to claim such exemption shall include a statement identifying the style and why an exemption is warranted to ensure that buildings that claim to be designed according to a non-traditional style are merely trying to avoid

compliance with these architectural design standards. The reviewing authority shall determine if an exemption is warranted.

#### 2.4 Review Procedure and Authority

Building design review shall occur simultaneously with site plan review when it is required, or simultaneously with building permit review when no site plan review is required. The review authority shall be the Planning Commission whenever building design review occurs in conjunction with an application requiring Planning Commission approval, and the Director of Planning and Economic Development in all other instances.

#### 2.5 References

These design guidelines are based on the application of traditional design conventions. These conventions are derived from a number of sources. Where approvals, interpretations and judgments are left to the discretion of the approving authority, he/she/the body may use the following texts for guidance as to best practices:

- a. Marianne Cusato, Get Your House Right: Architectural Elements to Use & Avoid (Sterling 2007);
- b. Werner Hegemann and Elbert Peets, The American Vitruvius: An Architects' Handbook of Civic Art (Princeton Architectural Press, 1988);
- c. Stephen Mouzon, Traditional Construction Patterns: Design and Detail Rules of Thumb (McGraw-Hill, Inc. 2004);
- d. William Ware, The American Vignola: A Guide to the Making of Classical Architecture (W.W. Norton and Company, 1977);
- e. American Planning Association, Planning and Urban Design Standards (John Wiley & Sons, Inc. 2005); and
- f. Local or regional examples on file with the Planning Department.

The above list is not exclusive; additional texts and illustrations may be used for reference and the list may be updated periodically. The above texts and illustrations will be available at the Planning department office for applicants to review. Applications for development in Rochester Hills are not required to comply with the design specifics of the recommended texts and illustrations; the texts and illustrations are for reference and guidance only.

Graphic illustrations of concepts used in this document are reproduced from Stephen Mouzon's Traditional Construction Patterns.



### 3. Architectural Design Standards

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**3.1 Principles.** These design standards are based in the following three principles:

- 3.1.1. Human Scale. Traditional design typically emphasizes symmetry and vertical orientation, both of which reflect the form of the human figure. Vertical openings also limit the width in relation to the area of an opening, which was important because it reduced the length and strength of the lintel required to span the opening. Vertically proportioned openings made both structural and economic sense.
- 3.1.2. Apparent Structure. Most elements of traditional building design originated from necessity. The width of openings, roof pitch, depth of eave projections, and details of drip moldings are all examples of details that have a practical basis. Traditional buildings were true to the limitations of their materials, but modern construction methods have freed us from many of the constraints that shaped traditional building elements in the past.

No longer bound by the structural limits of stone, masonry, or wood, we can span long distances with thin members or cantilever large platforms out from a wall using modern materials. This is good and appropriate for architectural styles that celebrate the possibilities of modern materials and construction methods, but when traditionally-styled buildings are built with modern structural elements it is still important to use accurate design details that reflect the structural capabilities of the traditional materials that decorate the outside of the structure.

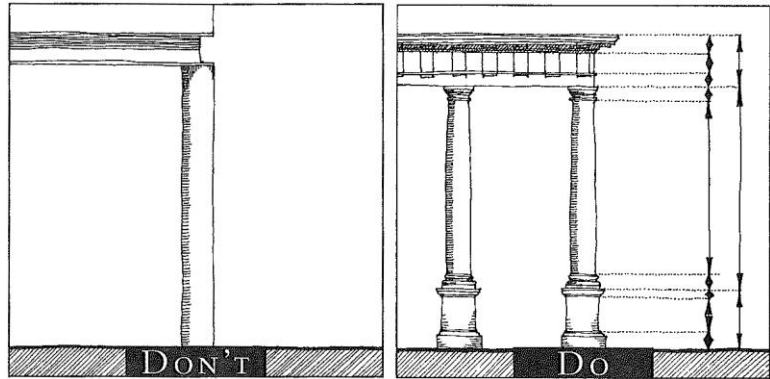
When modern buildings are given a traditional style without proper use of traditional details, buildings look fake and inauthentic. Inappropriately detailed traditional design elements make a building appear off, and it becomes clear that the building is inauthentic. The greatest test for a traditionally-styled building that uses modern construction methods is: is it believable? Does the building look like it would stand up if it were built using traditional materials and construction methods instead of modern underpinnings with traditional style draped over it?

- 3.1.3. Details. Traditional buildings rarely had architectural details that did not serve a purpose. Form follows function is not a new concept – it has been the basis for traditional building design for millennia. For this reason, many traditional building elements have a few very specific ways to be correctly built. Much of the architectural expression in traditional buildings comes from the details – for instance, the elaborate bracket forms that supported projections or the column capitals of the classical building orders. Traditional buildings were decorated with flourishes, as opposed to the unadorned nature of modernist buildings based on a machine aesthetic.

#### 3.2 Massing and Composition

- 3.2.1. Simplicity of Massing. Simple masses of one or a few boxes are recommended. Complicated forms that require complex roof forms and breaks are expensive to build and are not recommended unless specific to the style.
- 3.2.2. Hierarchy of Massing. The location of the main body of the house and the human entrance should be easily distinguished. The car entry shall not be the most notable element of the building massing.

- 3.2.3. **Base, Middle, Top.** Nearly every element of traditional architecture reflects the head/body/feet arrangement of the human body. For instance, traditional buildings are composed of a visible roof or entablature (head), wall (body), and foundation (feet). Traditional columns consist of the capital (head), shaft (body), and the base (feet).



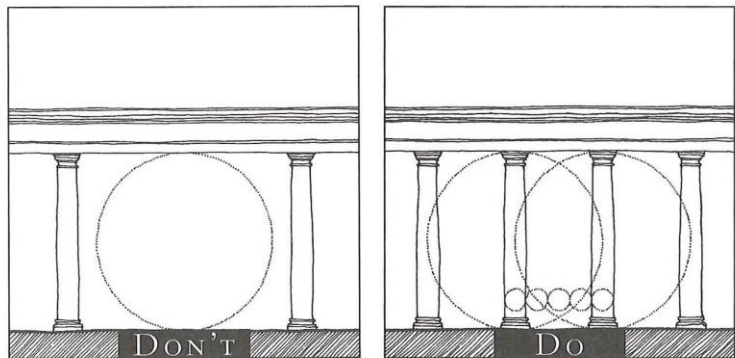
Buildings shall be appropriately detailed to follow the base/middle/top pattern throughout their composition.

- 3.2.4. **Large Wall Composition.** Large blank walls are discouraged. The mass of large building walls shall be reduced by the inclusion of windows, vertical elements with a plane change from the wall surface, shadow-casting elements, material changes, or other methods.

### 3.3 Columns and Column Spacing.

- 3.3.1. **Entablature.** Whenever columns are used to visually support an entablature, the entablature shall be equal to 25% of the height of the columns. The entablature shall consist of a cornice, frieze, and architrave. The cornice should project a dimension equal to its height, and the architrave should be a height equal to or less than the height of the frieze. The architrave and the frieze should be distinguished by a narrow band.

- 3.3.2. **Intercolumiation.** Columns shall not be horizontally separated a distance greater than their height unless appropriate to the style.



- 3.3.3. **Roof or overhang Projection.**

- a. **Beam.** When columns are used to support a porch roof or overhang, the beam at the top of the porch columns should be visible to visually support the mass of the building.
- b. **Support where a projection meets a wall.** When a canopy or porch overhang projects from the building, it should be visually supported where it meets the wall by a pilaster or engaged column. Pilasters shall project away from the building a depth of 1/5 to 1/4 of their width, while engaged columns shall project 5/8 to 3/4 of its diameter from the wall.



- 3.3.4. Column Proportion. Columns used to support one-story loads should have the following dimensions:

Column Height	Width at Base	Width at Neck
8 feet	10 inches	8 inches
9 feet	11 inches	9 inches
10 feet	12 inches	10 inches

- 3.3.5. Posts. Posts, which are square columns, shall also have base and capital elements. Generally, the base and capital should have a height roughly equal to the width of the post. Base and capital elements for a post may simply consist of casing moldings, with a cove molding used to connect the capital to the beam the post is supporting.

### 3.4 Walls

- 3.4.1. Entrances. The street facing façade of any building shall be detailed as the front façade and should contain an operable entrance. If an operable entrance does not exist, design elements that replicate the form and mass of a front entrance and that could be converted to an operable entrance shall be provided.

#### 3.4.2. Building Materials

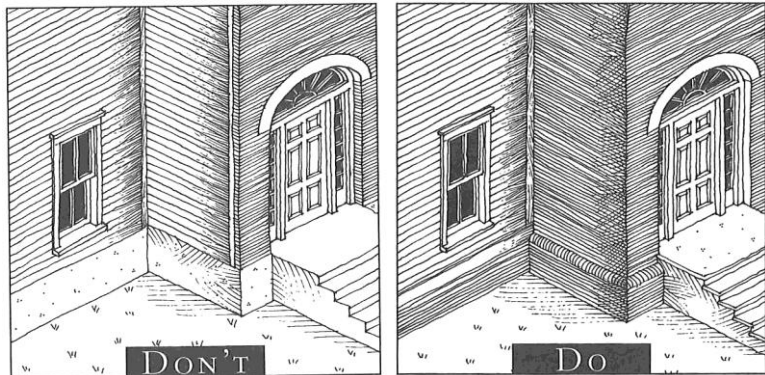
- a. *Number of materials.* No more than two building materials should be used on any façade to avoid a cluttered or overly complex appearance, not including foundation walls or piers.
- b. *Building materials on non-street facing facades.* Higher-quality cladding materials should be used in consistent proportions on all visible facades and not just on the street face to avoid creating a false-front image. Any material used on a front façade shall be continued in equal proportions no less than 3 feet along adjacent side walls.
- c. *Building Materials.* Building materials for all buildings shall be durable, natural materials or synthetic materials that realistically reproduce the look and feel of natural materials. Building materials for non-traditionally styled may be synthetic materials as long as they are durable.
- d. *EIFS.* No more than 20% of any façade on any building style may be covered by EIFS systems (EIFS used for cornices shall not be counted towards the 20% maximum), and EIFS may not be used on the first floor of a building. Stone-dash, pebble-dash, and maximum textured stucco with adequate detailing such as recessed bands or integral half-timbering are not subject to the 20% EIFS maximum.
- e. *Vinyl Siding.* No more than 20% of a front façade or 50% of any other façade shall be covered by vinyl siding.
- f. *Façade Percentage Calculation.* For the purposes of calculating façade coverage, the percentage of façade area shall be determined by the area covered by the material divided by the total wall surface area of the façade. Openings such as doors and windows and gable ends shall be included in the total wall surface area.

#### 3.4.3. Arrangement and Transition of Multiple Building Materials.

- a. *Horizontal Arrangement.* When multiple materials are used on a façade, the heavier or heavier appearing material shall be located under the lighter or lighter appearing

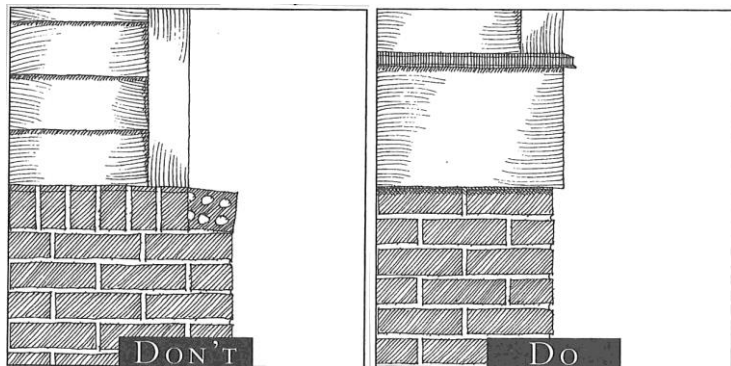
material. For instance, masonry or stone elements should not be located above wood elements.

- b. **Vertical Arrangement.** Vertical joints between different materials shall not occur at outside corners, and should occur at inside corners. At a minimum, vertical material transitions shall wrap at least 3 feet around an outside corner (see 3.4.2.b).



3.4.4. **Height.** Exterior walls should have a minimum height of at least 9 feet on the first floor.

- 3.4.5. **Frame Wall/Masonry Base Alignment.** The face of stud of the frame wall should align with the face of the masonry or stone foundation wall below. A horizontal masonry ledge should not be used.



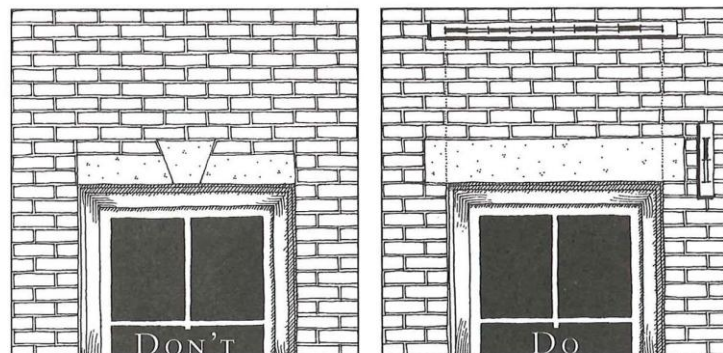
3.4.6. **Retail Storefront Design.** First floor storefront window systems shall be provided with a masonry, stone, or wood base with a height of at least one foot. The base should be continuous across the entire length of the façade except for entrance doors.

**3.5 Header Elements for Openings in Masonry Walls**

3.5.1. **Header Required.** Masonry veneer walls shall be detailed as if they were structural masonry walls. This means that openings in masonry or stone veneer walls shall have a stone header, masonry arch, or other visually self-supporting element to visually carry the weight of the wall above the opening. Wood window or door heads may be used to decoratively cap an opening in a masonry wall.

- 3.5.2. **Masonry or Stone Lintel Proportion.**

- a. The height of the lintel or header should be equal to 1/5 of the width of the opening it spans.
- b. The header element shall be wider than the



opening to accurately portray that it is supported by the masonry or stone on either side of the opening. The header element should extend beyond the opening a distance equal to  $\frac{1}{2}$  of the height of the lintel. If an 8 inch tall lintel is used, it should extend 4 inches on either side of the opening.

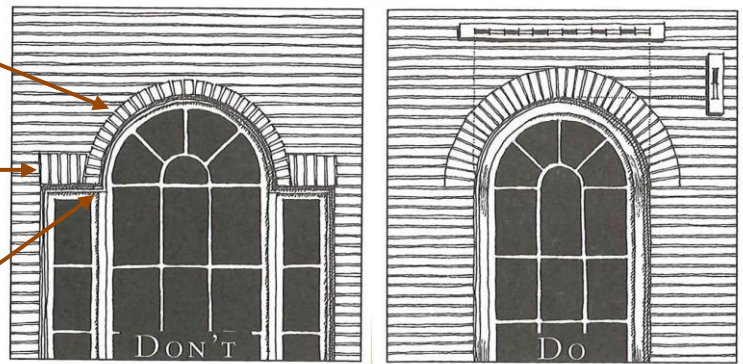
3.5.3. Arches. Arches work for one reason: their parts, whether brick or stone, are tapered like wedges toward a radius point. Without this characteristic they would collapse, and it is this characteristic that veneer arches must realistically portray.

- a. The thickness of the arch should not be less than  $\frac{1}{6}$  of the width of the opening it spans.
- b. All arches must be supported by masonry or other building element that convincingly appears as if it could carry the weight of the arch.

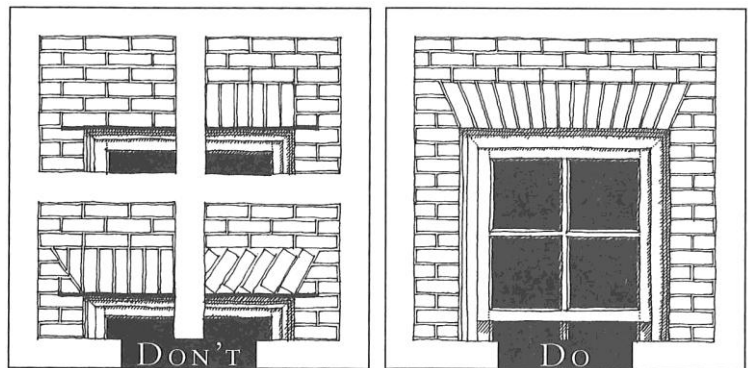
*Arch is not thick enough to visually carry the weight of the wall above*

*Guillotine header without vertical support*

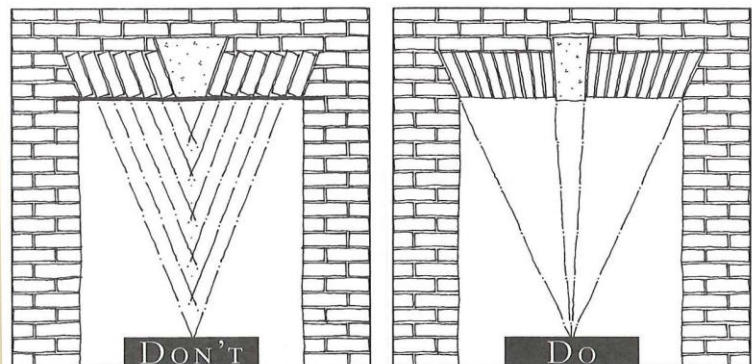
*No vertical support for arch – window is carrying the visual weight of the arch*



3.5.4. Jack Arches. Jack arches should be constructed of gauged (tapered, non-rectangular) brick, rather than simply leaning the bricks to either side at the same angle. Brick or masonry jack arch details should be constructed in a manner that they could carry their own weight, with all joints converging on a single radius point.



3.5.5. Keystones. Keystones should not be used as part of a picture-framed window casing, and keystones should only be used in lintels with tapered (not square) ends.

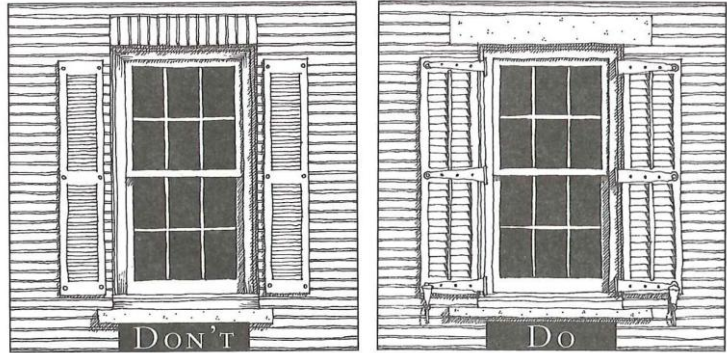


### 3.6 Windows

3.6.1. Window Proportion. Windows and individual window panes should be square or vertically proportioned. It is acceptable to mull individual vertically-proportioned windows together to create an overall opening with a horizontal proportion if there are vertical divisions within the overall horizontal span.

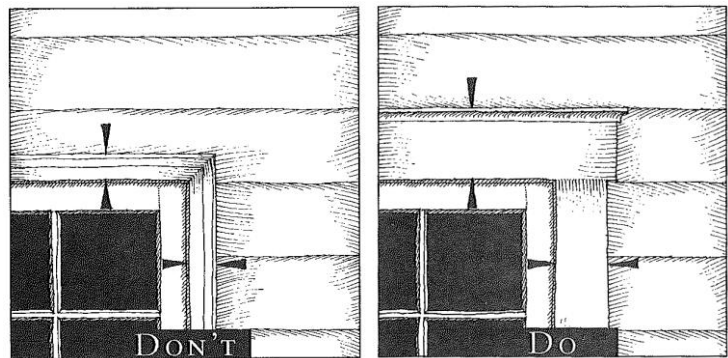
3.6.2. Shutters.

- a. Shutters should be one-half of the width of the sash they are covering to replicate the appearance of functional shutters.
- b. Shutters should have apparent hinges and dogs to accurately portray functional shutters.



3.6.3. Window Casing.

- a. Door and window casing should be at least 3.5 inches wide except on brick walls.
- b. Head casing should be equal to or wider than jamb casing, and should be not less than 1/6<sup>th</sup> the width of the opening. Head casing should not be used if there is no jamb casing to match to it.
- c. When windows are mull together, mullion casing should have a minimum width of 3.5 inches.

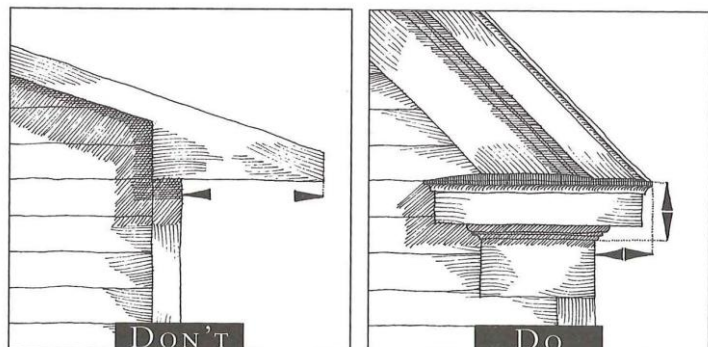


### 3.7 Eaves and Gable Ends

3.7.1. Eave Lines. Eaves should be as continuous as possible, both horizontally and vertically.

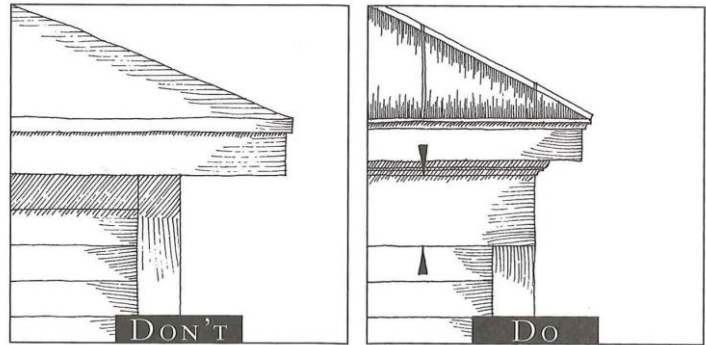
3.7.2. Eave Return. Eaves should be trimmed in such a manner that the fascia returns around the corner and dies into the wall without the excess triangle attached to the raking cornice. The projection of the eave away from the wall should equal the height of the cornice.

Vernacular eaves constructed



without a return should not be detailed with a pork chop eave.

- 3.7.3. Friezes. A frieze board of some sort should occur below almost every eave, regardless of wall material. The frieze should never be picture-framed around an eave return.

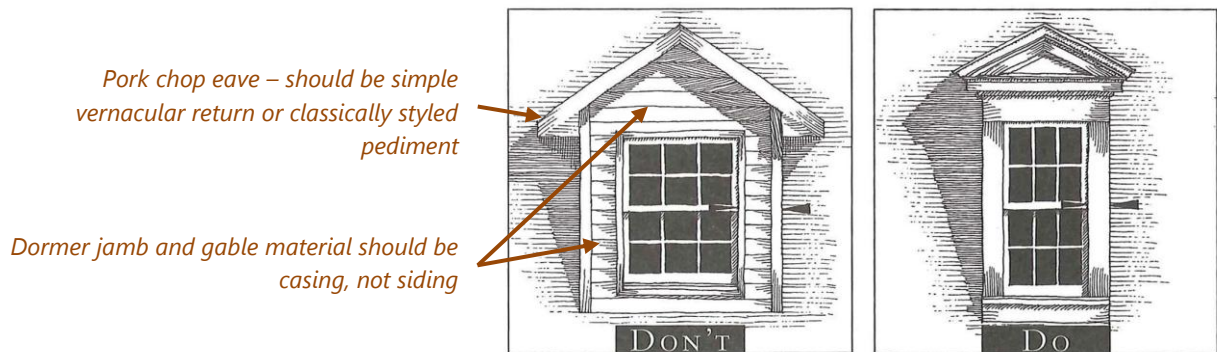


### 3.8 Roofs

- 3.8.1. Overlapping Gables. Overlapping gables should only be used if they are appropriate to the style, or when the smaller gable is part of a balcony, porch, or entrance.

### 3.9 Dormers

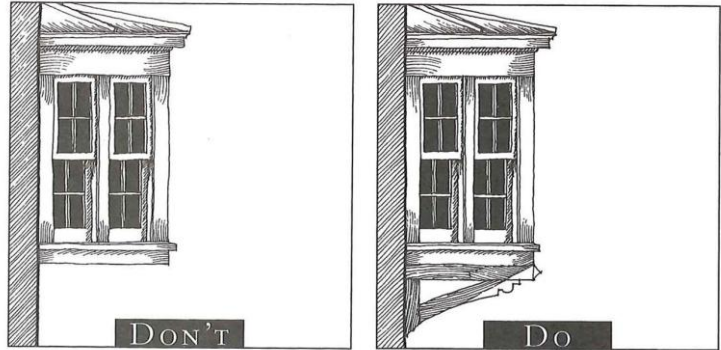
- 3.9.1. Dormer Jamb Material. Dormer jamb materials should not include siding, but rather should be a solid casing assembly from the window to the corner of the dormer wall.
- 3.9.2. Dormer Body Proportion. The body of a single-window dormer should be vertically proportioned or square. Dormer windows should be proportioned similarly to or slightly shorter than windows in the floor below.
- 3.9.3. Dormer Body/Roof Proportion. Dormer roofs should be between 25 and 40 percent larger than the width of the dormer body. Classical eaves will be closer to 25%, while vernacular open eaves are the only ones that should approach the 40% limit.
- 3.9.4. Brick Dormer Face. Brick should be used for a dormer face only when the brick forms a parapet at the top of the dormer.



### 3.10 Attachments

#### 3.10.1. Visible Support for Projections.

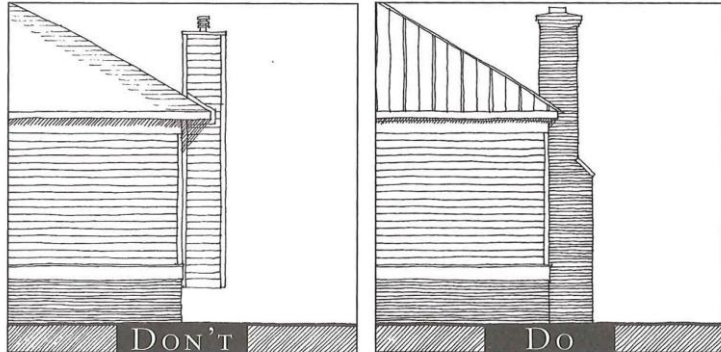
Balconies, bay windows, and deep roof overhangs shall extend to the ground, or be visually supported by brackets or corbels of an appropriate size.



#### 3.10.2. Chimneys.

- a. *Materials.* When visible, chimneys should be sheathed in brick, stone, or stucco and must have a base that extends to the ground. Where a masonry chimney is not feasible, gas vents should simply be extended out through the wall or through the roof like a plumbing vent.
- b. *Chimney Configuration.* Box detailed chimney structures or protrusions that are not brick and/or do not extend to the ground are not permitted.

Chimneys should include a projecting cap that may be as simple as a stone or concrete cap or projecting header course.



## 4. Definitions

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All terms herein shall have their common and accepted meaning. When the meaning of an architectural term is disputed or unclear, it shall be as defined in Traditional Construction Patterns: Design and Detail Rules of Thumb by Stephen A. Mouzon. A reference copy is available at the City of Rochester Hills Planning Department.