SECTION

7

STANDARDS AND GUIDELINES FOR **ROOFING**

INTRODUCTION

Roofs are one of the most important components of a structure. They are the first line of defense against the elements and are a major architectural feature. This chapter will address its many components. In this chapter you will find the following sections:

ROOF FORMS AND PITCHES

ROOF MATERIALS

VENTILATION SYSTEMS

EAVES, OVERHANGS AND GUTTERS

DORMERS AND SKYLIGHTS

CHIMNEYS

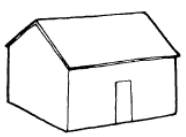
MECHANICAL EQUIPMENT

FORM AND PITCH

There are three basic roof forms gable, hipped and flat. These forms combined with each other and pitch create dominant and character defining features on a structure. Altering the roof form and pitch can negatively impact a historic structure and neighborhood. **Therefore, existing roof lines and the architectural features that give the roof its essential character shall be preserved.** The following roof forms are most commonly found in the Fairmount Historic District.

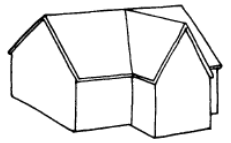
REMINDER: *All exterior work requiring a building permit requires a Certificate of Appropriateness and must conform with all of City of Fort Worth ordinances. It is helpful when using these guidelines to be familiar with your architectural style.*

COMMON ROOF FORMS

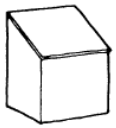


SIDE– GABLED

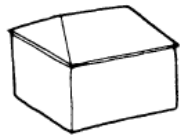
FRONT– GABLED



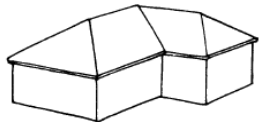
CROSS– GABLED



SHED (HALF– GABLED)



HIPPED

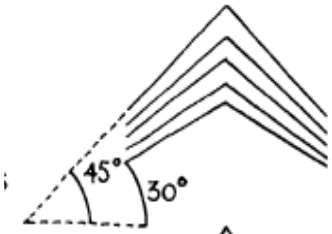


CROSS- HIPPED

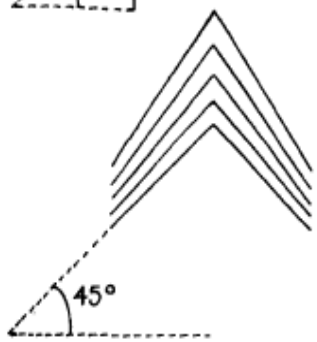
LOW SLOPES
LESS THAN 30˚
FLAT TO 4/12

HALF- HIPPED

NORMAL SLOPES
30˚- 45˚
5/12 TO 8/12



STEEP SLOPES
MORE THAN 45˚
ABOVE 9/12



ABOVE AND LEFT: Low sloped roofs are categorized as flat to 4/12. Normal sloped roofs are categorized as 5/12 to 8/12 and steep sloped roofs are generally above 9/12. The images are from A Field Guide to American Houses by Virginia and Lee McAlester.

Roof Materials

Roof materials are important because not only do they create a water-tight covering, protecting and helping to preserve your structure, they also add color and texture to the slope. Often the pitch of the roof slope will dictate the type of material used. Low-pitched to flat roofs depend upon an almost continuous roof surface that lacks breaks and seams to prevent moisture intrusion. Typically, low-pitched to flat roof materials include built–up hot tar roofing, roll roofing and flat seam metal roofing. Low-pitched to flat roofs are unusual in the Fairmount Historic District and therefore, **metal roofs, unless installed on an accessory structures or secondary roof structure (such as porch or addition), are not permitted.** Most of the roofs in the Fairmount Historic District have moderately sloped roofs and would have been clad in asphalt/ fiberglass roof shingles.

Asphalt Shingles

Introduced in 1903 asphalt shingles were a by-product in the manufacturing of the tar and asphalt felt paper (commonly know as tar paper) used on flat roofs. For shingles, the felt was saturated with asphalt and then covered with crushed limestone, slate or another types of rock. The addition of the rock added color, protected the felt from the sun and increased the fire resistance. The shingles were typically sold as individual shingles measuring 12'"x 16" or 12" x 36" (standard measurement for 3-tab shingles). The square cut tabs were the most popular, but there were other shapes including hexagons, diamonds, dog-eared, and t-shaped. The colors were limited to red, green and black. It was not until the 1930's that asphalt shingles acquired the blended colors they have now. Today asphalt shingles are made with fiberglass and generally have a lifespan of 15 to 25 years. Architectural or dimensional shingles typically last longer.

Scalloped red asphalt shingle

Architectural Grade green asphalt shingle

Three-tab black asphalt shingle

Roof Ventilation Systems

Ventilation systems greatly reduce the amount of heat in an attic or home during the summer months. They can be installed in three locations: the roof ridge, slope or at the gable end.

Ridge vents are appropriate for most structures.

Low profile vents are not appropriate on front facing roof slopes and should be placed in a location minimally visible from the public right of way.

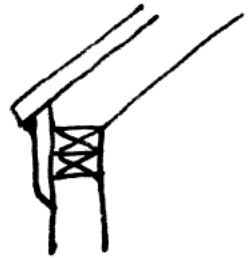
Turbine vents are only appropriate in locations not visible from the public right of way

Gable vents are appropriate for structures that have gable roof forms. They come in a variety of shapes and sizes. They should be louvered and in a wood frame. Gable vents are inappropriate as a replacement for gables that feature decorative windows or stained glass.

Eaves and Overhangs

Where your roof meets the wall, also known as an eave, is important both aesthetically and structurally. The roof and wall must meet, and the materials used to clad each element must create a watertight juncture, protecting the structure below. Overhangs and gutters help to create the watertight seal.

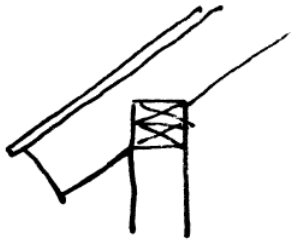
Types of Eaves and Overhangs



Closed eave, no overhang

Appropriate for:

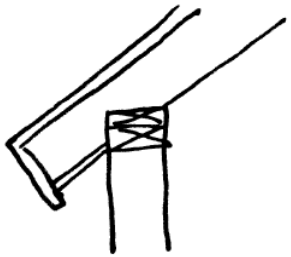
- *Minimal Traditional*



Open eave, exposed rafter

Appropriate for:

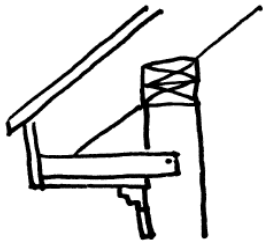
- *Craftsman*
- *Tudor*



Open eave, enclosed rafter

Appropriate for:

- *Prairie*
- *Tudor*
- *Queen Anne*



Closed (boxed) eave

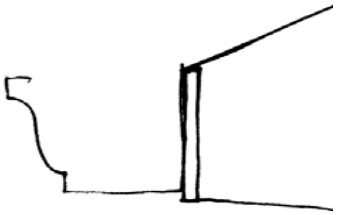
Appropriate for:

- *Minimal Traditional*
- *Prairie*

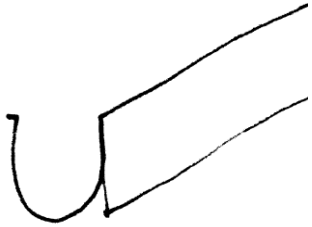
Gutters

Gutters and downspouts help shed water away from your structure; protecting the walls and foundation system of your home.

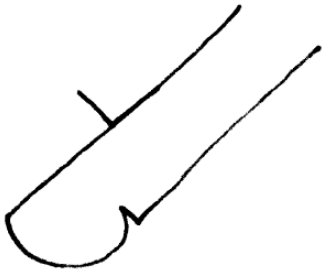
Types of Gutters



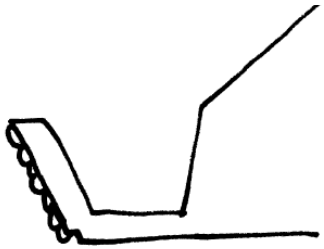
K-style gutters are appropriate for closed eaves and open eaves with a closed rafter. They are not appropriate when fascia board is not present.



1/2 round gutters are appropriate for all types of eaves, especially where the fascia board is absent.



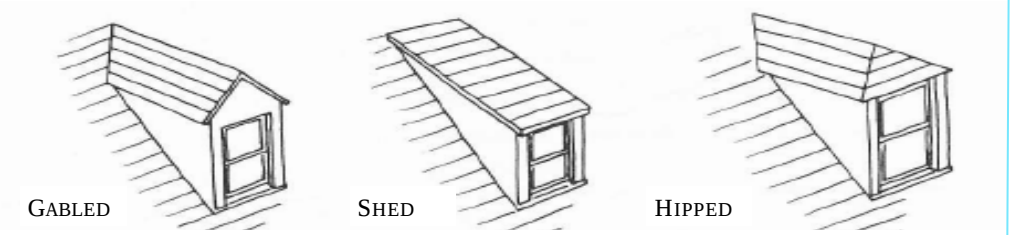
Roof mounted gutters are appropriate for all types of eaves.



Built-in gutters are appropriate for open eaves and boxed eaves.

DORMERS

Dormer comes from the French word meaning "sleeping room". They are small rooms that protrude from the main roof surface allowing light and air into the attic area. Dormers can have a variety of different roof shapes with gable, hip and shed being the most popular, other types of dormers such as an eyebrow dormer can also be found in the Fairmount Historic District.



ABOVE: The dormer type images are from A Field Guide to American Houses by Virginia and Lee McAlester.

RESTORATION OF EXISTING DORMERS

Original dormers should be retained and maintained. Property owners are encouraged to reconstruct dormers based on photographic evidence or ghosts within the roof framing.

CONSTRUCTION OF NEW DORMERS

When considering construction of a new dormer property owners are encouraged to use a comparable structure in style and period as a guide for the location, form, spacing and detailing of a new dormer. The most crucial aspect of a dormer is having the correct proportions. The size of a window in a dormer should correspond in proportion to the windows on the uppermost floor of the main structure. Should they vary in proportion then they should be slightly shorter. Window proportion should determine the proportion of the body of the dormer. The window and trim should fill the dormer face. The less cheek wall cladding that is visible, the closer the dormer will be to having the correct proportions. For more information about correct dormer proportion refer to the do and don't dormer guide.

A DO AND DON'T VISUAL GUIDE TO DORMERS

Do use modest proportions for both the roof and body. This dormer's eaves mimic the width of the main structure's eave but are proportional to the body of the dormer.

Do fill the face of the dormer with window and trim, leaving little to no room for siding on the front of the dormer.

Don't replicate the main structure's eave line on the dormer or oversize the roof . It makes the dormer top heavy. The dormer roof proportion is typically 125% to 140% of the dormer body.

Don't use a window that is too small. Use the floor below windows as a guide for determining the size of the window in the dormer. Should the window size need to be decreased, shorten the window or use only the top sash. The windows and trim should fill the majority of the dormer's face.

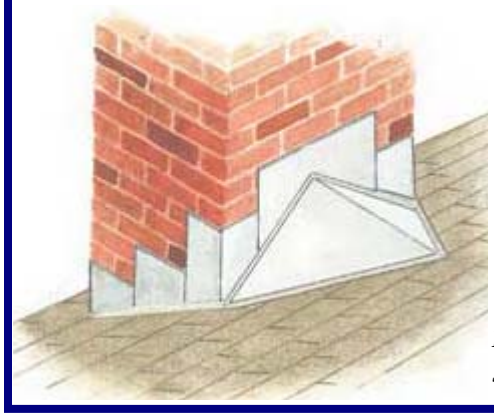
CHIMNEYS

Chimneys are a standard feature on American structures. Often referred to as the soul of a home, chimneys were used for heating and cooking. The rhythm and placement of chimneys often reflect the internal layout, while the detailing helps indicate the period and architectural style of a structure. During the Arts and Crafts era (c. 1900-1930) the chimney was a place for the mason to show his/her craft, and for most architectural styles, and is considered a prominent architectural feature. **Because of their importance, historic chimneys shall be maintained and preserved.**

TIPS FOR MAINTAINING YOUR HISTORIC CHIMNEY

1. REPOINTING: Often chimneys need repointing which is the act of removing deteriorated mortar and replacing it. When replacing the historic mortar be sure to use a mortar that has little to no Portland cement. A high concentration of Portland cement in mortar can cause damage to historic brick. For more information on repointing historic brick, check out *#2 Preservation Brief: Repointing Mortar Joints in Historic Masonry Buildings* made available by The National Park Service.

2. FLASHING: Where the chimney interacts with the roofline of a structure is the most likely place for a leak. Metal z -flashing or step-flashing are recommended to ensure that there is no water intrusion. Often roofing cement is applied to the joint to create a water- tight juncture; however, the cement will eventually crack, thus allowing water in.



LEFT: A properly flashed chimney. Image Source: www.oldhouseonline.com

ROOF TOP MECHANICAL EQUIPMENT

Rooftop equipment such as satellite dishes should be located in non-visible locations or minimally visible location. Location on a primary roof slope is inappropriate. Rooftop equipment located on secondary roof slopes should be at least 15 feet back from the front facing wall of the structure.

The installation of other roof top mechanical equipment such as air conditioning units and telecommunications equipment is not appropriate and can only be installed in non-visible locations.

Property owners are encouraged to locate solar collectors on secondary and non-visible roof slopes. For more information on the installation of solar panels on historic structures refer to the section on sustainability.

SKYLIGHTS

Skylights are typically found in commercial structures. They are rare on residential structures; however, occasionally they can be found on Bungalows, typically on a secondary roof slope in a minimally visible location. This rule should still be followed today. They should rise off the roof surface no more than eight (8) inches and be flat. Bubble and round skylights are inappropriate. If multiple skylights are desired, they should be arranged in an orderly fashion.

ROOFING STANDARDS
(REQUIRED)

1. Original roof shape, form, design, eave depth, and other architectural elements shall be maintained.
2. Original tile and slate roofs shall be maintained.
3. Asphalt/fiberglass (composite) roof shingles as an in kind replacement is allowed.
4. Metal roof shingles are permitted only if the shingle accurately replicates original shingle materials in appearance, scale, and texture.
5. Standing seam metal roofs can be installed on secondary roof slopes with roof pitches of less than four and twelve (4/12) and on accessory roof structures.
6. Metal roof profiles such as R-panel and rib panel are prohibited on residential structures.
7. Appropriate metal profiles, tile, slate and asphalt/ fiberglass roofs shall be considered an appropriate or compatible replacement material for asbestos roof shingles provided that the new material is appropriate for the period and style of the structure.
8. Exposed rafter tails may not be boxed in, concealed and/or removed.
9. Original gutter profile shall be maintained.
10. New gutters shall not damage or conceal rafter tails or other significant details of the structure.
11. Vinyl and plastic gutters are prohibited.
12. The exterior portion of chimneys shall be maintained even if the fireplace is not functional and/or the interior portion has been removed.
13. New chimneys shall be of a style, proportion and materials compatible with the period and style of the structure .
14. New dormers shall be appropriate in mass, scale, fenestration pattern and detail to the period and style of the structure.
15. Roof-mounted satellite dishes, skylights, alarms, air-conditioning units and all roof- or wall-mounted accessories shall be located where its view from the public right of way is minimized.
    - If a non-visible location is not feasible for rooftop equipment then it can be installed at least 15 feet back from the primary wall of the structure.

ROOFING GUIDELINES
(RECOMMENDED NOT REQUIRED)

1. The primary roof colors should be:
    - Asphalt /fiberglass: red, green and black. Brown should be used to imitate the color of wood shingles.
    - Metal roofs: white, galvanized or neutral.
2. The primary gutter profile should be half round or box gutter.
3. Interior chimneys below the roofline should be maintained.

ADDITIONAL RESOURCES

- NPS Preservation Brief #2: Repointing Mortar Joints in Historic Masonry Buildings
- NPS Preservation Brief #4: Roofing for Historic Buildings
- NPS Preservation Brief #19: The Repair and Replacement of Historic Wooden Shingle Roofs
- NPS Preservation Brief #29: The Repair, Replacement and Maintenance of Historic Slate Roofs
- NPS Preservation Brief #30: The Preservation and Repair of Historic Clay Tile Roofs
- Bungalow Details: Exterior by Jane Powell and Linda Svedsen
- NPS Technical Preservation Services: From Asbestos to Zinc: Roofing for Historic Buildings
- Old House Journal: Amazing Asphalt by Gordon Bock