

CHAPTER 4

A. WOOD

The flexibility of wood has made it the most common building material throughout much of America's building history. Because it can be shaped easily by sawing, planing, carving, and gouging, wood is used for a broad range of decorative elements, such as cornices, brackets, shutters, columns, storefronts, and trim on windows and doors. In addition, wood is used in major elements, such as framing, siding, and shingles.

Maintenance Tips

Wood requires regular maintenance and will last for a very long time, if it is well-maintained. The main objective is to keep it free from water infiltration and wood-boring pests.

Inspect wood surface for signs of water damage, rot, and pest infestation.

To test for rotted wood, jab an ice pick into the wetted wood surface at an angle and pry up a small section.

- Sound wood will separate in long fibrous splinters, while decayed wood will separate in short irregular pieces.
- Alternatively, insert the ice pick perpendicular to the wood. If it penetrates less than 1/2" the wood is solid; if it is more than 1/2", it may have dry rot.
- Even when wood looks deteriorated, it may be strong enough to repair with epoxy products.

Keep all surfaces primed and painted in order to prevent water infiltration.

Identify sources of moisture problems and take appropriate measures to remediate them, including:

- Remove vegetation that grows too closely to wood.
- Repair leaking roofs, gutters, downspouts, and flashing.
- Ensure proper ventilation.
- Maintain proper drainage around the foundation to prevent standing water.
- Re-caulk joints where moisture might penetrate a building.

****Note: Do not caulk under individual siding boards or window sills as this action seals the building too tightly and can lead to moisture problems within the frame walls and paint failure.***

As necessary, use appropriate pest poisons, following product instructions carefully.



Beaded weatherboard siding

Wood Guidelines

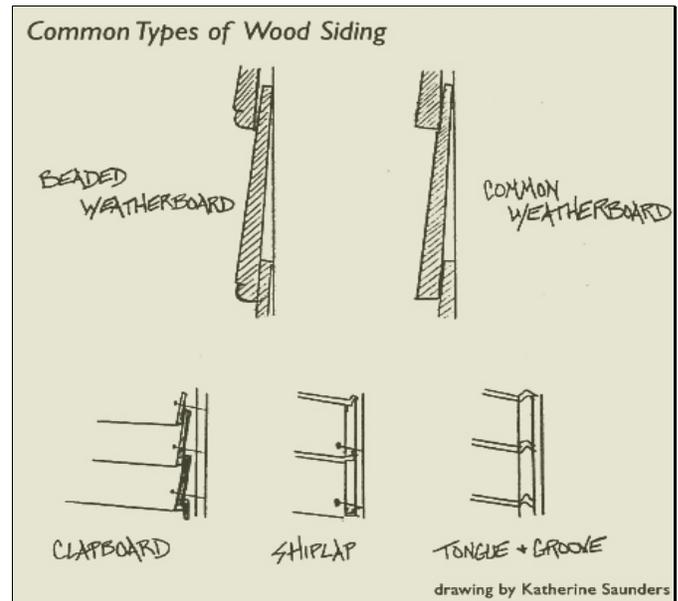
1. Retain wood as the dominant framing, cladding and decorative material for City Point's historic buildings.
2. Retain wood features that define the overall character of the buildings.
3. Repair rotted or missing sections, rather than replace the entire element.
 - Use new wood, epoxy consolidates or fillers to patch pieces or consolidate parts.
 - Match existing materials and details.
4. Replace wood elements only when they are rotted beyond repair.
 - Match the original in material and design that convey the same visual appearance or by using surviving material.
 - Base the design of reconstructed elements on pictorial or physical evidence from the actual building rather than from similar buildings.
5. Asbestos siding is a material present within the historic district. The material is considered a "historic" siding and should be treated in a similar manner to wood siding.

See *Preservation Brief #9*
The Repair of Historic Wooden Windows

See *Preservation Brief #10*
Exterior Paint Problems on Historic Woodwork

See *Preservation Brief #19*
The Repair and Replacement of Historic Wooden Shingle Roofs

See *Preservation Brief #45*
Preserving Historic Wooden Porches



B. MASONRY

Masonry includes brick, stone, terra cotta, concrete, stucco, tile, and mortar. Masonry is used on cornices, pediments, lintels, sills, and decorative features, as well as for wall surfaces. Color, texture, mortar joint type, and patterns of masonry help to define the overall character of a building.

Brick is the most common type of masonry used in City Point. It can be used for the construction of building walls, retaining walls, fencing, and chimneys.

Masonry Guidelines

1. Retain masonry features such as walls, cornices, window surrounds, steps, and columns, which are important in defining the overall character of the building.
2. Generally, leave unpainted masonry unpainted, except in cases of severe spalling of the masonry.
3. When repairing or replacing a masonry feature, respect the size, texture, color and pattern of masonry units, as well as mortar joint size and tooling.
4. When bricks need to be replaced due to deterioration that has caused spalling, they should be replaced with bricks of the same size, color and texture.



1100 Pecan Avenue – Miami Lodge



1015 Pecan Avenue – The Bonaccord House

Chapter 4: REHABILITATION OF BUILDING MATERIALS

Maintenance

- Most of the major masonry problems can be avoided with monitoring and prevention.
- Prevent water from causing deterioration by ensuring proper drainage, removing vegetation too close to the building, repairing leaking roof and gutter systems, securing loose flashing around chimneys, and caulking joints between masonry and wood.
- Repair cracks and unsound mortar with mortar and masonry that matches the historic material.
- Ensure that cracks do not indicate structural settling or deterioration.
- Carefully remove deteriorated mortar and masonry in a way that does not damage the masonry piece, such as brick, or the masonry surrounding the area.
- Patch stone in small areas with a cementitious material which, like mortar, should be weaker than the masonry being repaired and should be mixed accordingly. Skilled craftsmen should do this type of work.
- Repair broken stone or carved details with epoxies. Skilled craftsmen should undertake application of such materials.
- Discourage the use of waterproof, water-repellent, or non-historic coatings on masonry. They often aggravate, rather than solve, moisture problems. Exceptions to this may include:
 - Use of water-repellent coating on selected areas of porous, soft, incompletely fired brick, to prevent further deterioration after all necessary re-pointing and repair has been completed.
 - The use of an anti-graffiti coating on masonry areas that have seen repeated vandalism and where improved lighting and other security measures have not been successful.

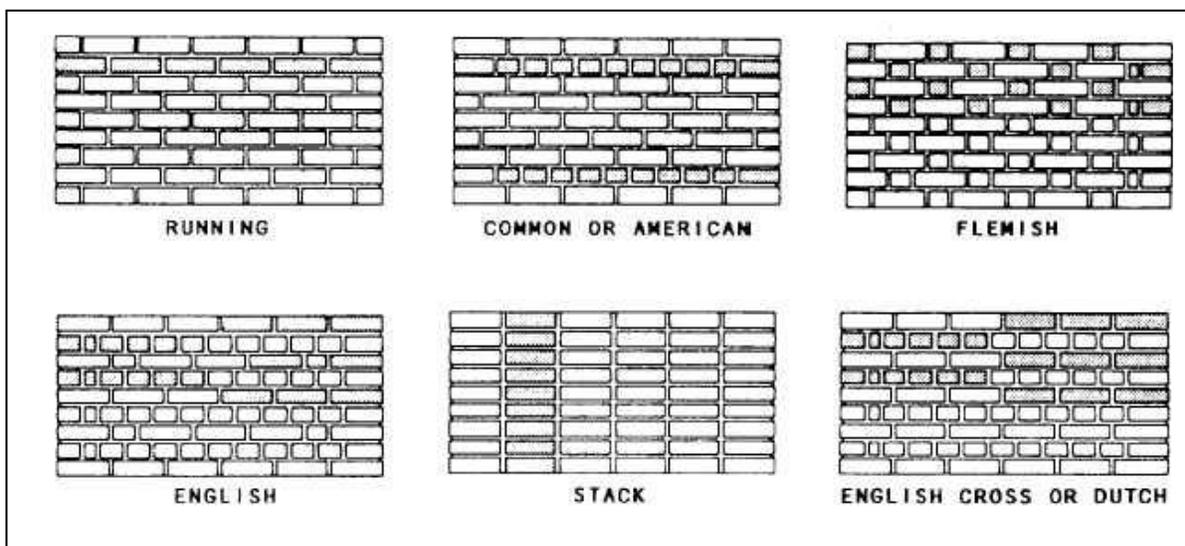


Illustration of Different Brick Patterns/Bonds

Cleaning

- Clean masonry only when necessary to remove heavy paint buildup, halt deterioration, or remove heavy soiling.
- Use caution when using chemical paint and dirt remover formulated for masonry. Do not leave chemical cleaners on the masonry longer than recommended.
- The best method for cleaning unpainted brick is low-pressure wash with detergents.
- Test the cleaner on a small, inconspicuous part of the building.
- Older brick may be too soft to clean and can be damaged by detergents and the pressure of the water.
- Use a low-pressure wash of no more than 200 psi, equivalent to the pressure in a garden hose, to remove detergents when cleaning buildings.
- High pressure water-blasting or chemical cleaning with an inappropriate cleanser can do irreparable damage.
- Do not sandblast any masonry.
- Use knowledgeable cleaning contractors:
 - Check their references and method.
 - Have test patches of cleaning performance on the building, and observe the effects on the masonry.
 - Look for damage caused by improper cleaning, such as chipped or pitted brick, washed out mortar, rounded edges of brick, or a residue or film.

**See *Preservation Brief #1*
Assessing Cleaning and Water-Repellent
Treatments for Historic Masonry Buildings**

**See *Preservation Brief #6*
Dangers of Abrasive Cleaning to Historic
Buildings**

**See *Preservation Brief #38*
Removing Graffiti from Historic Masonry**



Example of spalling brick

Repointing

- When repointing, only repair areas where mortar has deteriorated. Sound mortar should be left intact.
- Remove deteriorated mortar by carefully hand-raking the joints.
- Do not remove mortar with electric saws or hammers that damage the surrounding masonry.
- Old bricks are different from new bricks and the mortar (the material that makes the joints) has to be different as well. Appearance is not the only issue. An improper mortar mix can damage historic brick. Professionals experienced in working with old masonry can guide you in appropriate repointing methods.

Strength

- Brick expands and contracts with freezing and heating conditions. Old mortar moves to relieve the stress.
- Do not repoint with mortar that is stronger than the original mortar and the masonry itself.
- If a hard, Portland cement mortar is used, such as is typical of new construction, the mortar does not flex as much, and the brick can crack, break, or spall.

Composition

- Mortar of older brick buildings has a high lime and sand content.
- Replacement mortar should match the original in composition, including lime and sand ratio.

- It is also possible to have the original mortar analyzed and replicated.

Appearance

- Duplicate old mortar joints in width and profile. See drawing on page 4-4.
- Cut out old mortar to a depth of one inch and repoint to match original joints, retaining the original joint width. It is important to note the following attributes of early mortar:
 - Most early historic mortars were either white or a very light sand color.
 - Late 19th and early 20th – century mortars were sometimes pigmented.
 - Do not use dark brown or grey mortars unless following a historic precedent.
- Do not use a “scrub” coating in which a thinned, low-aggregate coat of mortar is brushed over the entire masonry surface and then scrubbed off the bricks after drying, as a substitute for traditional repointing.
- Do not repoint with a synthetic caulking compound or Portland cement.
- Consultation with a professional brick mason experienced in historic brickwork is advised.

**See *Preservation Brief #2*
Repointing Mortar Joints in Historic
Masonry Buildings**

**See *Preservation Brief #39*
Holding the Line: Controlling Unwanted
Moisture in Historic Buildings**

C. STUCCO

Stucco is a type of exterior plaster applied over wood or metal lath on a wood structure. Stucco can also be finished in numerous surface textures dictated by the style of the building including smooth, roughcast, sponge, and scored to resemble masonry units.

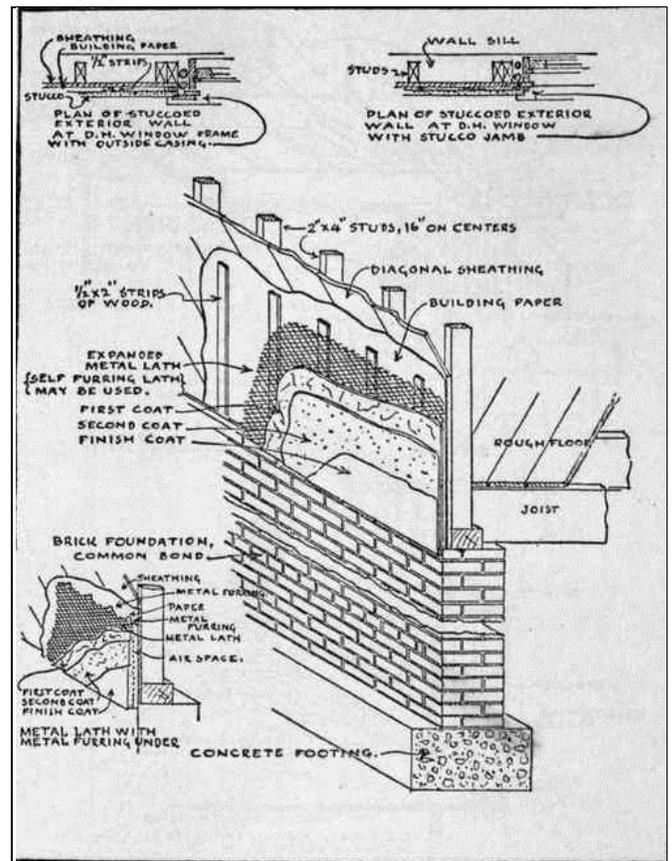
While stucco is considered a protective coating, it is highly susceptible to water damage, particularly if the structure underneath the stucco is damaged. Historic stucco needs regular maintenance in order to keep it in good condition. Historically the materials under the stucco were not usually intended to be shown. Therefore, complete removal of stucco in these instances is considered inappropriate.

Stucco Guidelines

1. Clean a stucco building using the gentlest means possible, preferably a low-pressure water wash and soft bristle brush. Take care not to damage the surface texture.
2. Repair any water damage to the underlying structure to provide a sound base for necessary stucco repairs.
3. Repair stucco or plastering by removing loose material and patching with a new material that is similar in composition, color, and texture.
4. Use a professional plasterer for stucco repair. A qualified tradesperson will assess the damage and perform an analysis to match the new stucco to the existing material.
5. Do not use commercial caulks or other compounds to patch the stucco. Because

of the difference in consistency and texture, repairs made with caulk will be highly visible and may cause more damage than good.

6. Stucco may be tinted or pigmented and was sometimes whitewashed or color-washed. When replacing or repairing stucco, have a professional match the color or tint of the existing material.
7. After repairs have been made, many stucco buildings will require repainting. Consult a professional to determine the appropriate compatible paint for the existing surface coating.



See *Preservation Brief #22*
**The Preservation and Repair of
Historic Stucco**

D. METAL

Various architectural metals are used on buildings in Hopewell's historic district. Cast iron, steel, pressed tin, copper, aluminum, bronze, galvanized sheet metal and zinc are some of the metals that occur mainly in cornices, light fixtures and decorative elements such as porch columns and fences.

Metal Guidelines

1. Architectural metals should be retained as they provide a distinct quality to the City Point Historic District.
2. Repair or replace these metals as necessary, using identical or compatible materials. Some metals are incompatible and should not be placed together without a separation material, such as nonporous, neoprene gaskets or butyl rubber caulking.
3. Substitute materials, such as certain composite products, or wood, may be considered for reconstructing missing metal elements if it is not technically or financially feasible to replace them with the original material.
4. Do not remove the patina of metals, such as bronze or copper, since it provides a protective coating and is a historically significant finish.
5. Clean with the gentlest means possible.

Cleaning

- When cleaning metal is necessary, use the gentlest means possible. Do not sandblast copper, lead or tin.
- Prepare for repainting by hand-scraping or brushing with natural bristle brushes to remove loose and peeling paint.
- Removing paint down to the bare metal is not necessary, but removal of all corrosion is essential.
- Clean cast iron and iron alloys (hard metal) with a low-pressure, dry-grit blasting (90-100 pounds per square inch) if gentle means do not remove old paint properly. Protect adjacent wood or masonry surfaces from the grit. Copper, lead, and tin should be cleaned with chemicals or heat.

See Preservation Brief #7
The Preservation of Historic Glazed Architectural Terra-Cotta

See Preservation Brief #15
Preservation of Historic Concrete: Problems and General Approaches

See Preservation Brief #27
The Maintenance and Repair of Architectural Cast Iron

See Preservation Brief #42
The Maintenance, Repair and Replacement of Historic Cast Stone

E. SUBSTITUTE MATERIALS

The use of substitute materials on buildings in the City Point Historic District is subject to review by the ARB. **The decision to use substitute materials should be made only after careful consideration of the consequences of such a choice, and after all other preservation options have been carefully considered.**

A building's historic character is a combination of its design, age, setting, and materials. Almost without exception, the exterior walls of a building are its most visible characteristic. Wood clapboards, wood shingles, wood board-and-batten, brick, stone, stucco, or a combination of the above, are all significant factors in the definition of a building's architectural character. A wide variety of synthetic materials have been introduced over the last fifty years, touted by many as a "cure-all" for home maintenance problems. These materials include asbestos, asphalt, aluminum, and vinyl.

The use of synthetic materials that will alter the appearance, proportion and/or details of a historic property is strongly discouraged.

Substitute Material Guidelines

However, there are three generally accepted circumstances under which substitute materials may be appropriate and economical replacements:

1. **The unavailability of historic materials.** For example, the lack of a suitable operating quarry may limit the availability of stone or slate. Likewise, asbestos shingle siding is no longer made. If available sources cannot produce an appropriate match for a historic building material, there are

materials such as pre-cast concrete, fire-clay imitation slate shingles, and similar materials that may be appropriate substitutes. The detail, color, dimension, and texture of the substitute must match that of the original material.

2. **The unavailability of skilled craftsmen.** For example, when working with ornamental features (such as carved stone, carved wood, wrought or cast iron, or molded terra cotta), it may be difficult to find craftsmen who can produce such items. Certain substitute materials, such as aluminum, cast stone, fiberglass, polymer concrete, reinforced concrete, and similar materials may provide an appropriate match to the detail, color dimensions, and texture of original materials.
3. **Replacement of poor quality original materials.** Problems associated with poor quality of original materials may create situations where newer materials may be a more appropriate choice. For example, historic tin or terne iron roofing material is no longer available. Modern tern-coated stainless steel or lead-coated copper roofing is a visually compatible roof material that is also extremely durable. The difficulty of substituting materials is that the long-term weathering impact of many new materials is not yet known. The rates of expansion and contraction of substitute materials may also be different than original materials, possibly creating situations where damage inadvertently results from the use of new materials. As a result the use of substitute materials must be carefully considered.

Some Commonly Used Substitute Materials

Fiber Cement Siding

Fiber cement siding shall be exclusively used for new additions. It is often advertised as an alternative to vinyl siding (it will trap moisture within and accelerate damage to any wood siding that may be encapsulated beneath.)

Polyvinyl Chloride Trim

Painted polyvinyl chloride (PVC) trim is an option that has limited application on historic properties. Painted PVC trim may be used on **new**, free-standing buildings, secondary elevations with limited visibility from the public right-of-way, **new** additions with limited visibility and **new** outbuildings. Painted PVC decorative features such as balusters, balustrades, columns, capitals, cornice brackets, etc. may, in some circumstances, be used as a substitute material for deteriorated wood and metal features. If a feature is missing, the applicant must provide physical or photographic evidence before approval of PVC replacements will be granted.

Tongue-and-Groove Decking

Traditionally, tongue-and-groove porch decking was milled from old growth timber; i.e. trees that grew slowly and produced lumber with a very tight grain. With its tight grain patterns, old growth timber resists moisture and is a very durable material. Modern, commercially farmed wood is grown much more rapidly. The resulting grain is much more open, and the lumber is less durable. As a result, some new tongue-and-groove porch decking is much less durable than its historic counterpart. Synthetic tongue-and-groove porch decking is

intended as a wood substitute. **In some applications, some of these products, when painted, provide an acceptable and durable substitute for wood. Substitute tongue-and-groove porch deck material is subject to approval by the ARB.**

**See Preservation Brief #8
Aluminum and Vinyl Siding on Historic Buildings: The Appropriateness of Substitute Materials for Resurfacing Historic Wood Frame Buildings**

**See Preservation Brief #14
New Exterior Additions to Historic Buildings: Preservation Concerns**

**See Preservation Brief #16
The Use of Substitute Materials on Historic Building Exteriors**

**See Preservation Brief #47
Maintaining the Exterior of Small and Medium Size Historic Buildings**



Example of Tongue and Groove Porch Decking

F. PAINT

A properly painted building accentuates its character-defining details. Painting may be one of the least expensive ways to maintain historic fabric and make a building an attractive addition to the historic district.

Paint Guidelines

1. Keep existing painted materials well painted.
2. Do not paint masonry that is unpainted, unless there is spalling.
3. Paint unpainted aluminum-frame storm window and doors to match other trim.
4. Use high quality paint and follow the manufacturer's specifications for preparation and application.
5. The use of liquid vinyl coatings (commonly known as "liquid siding") is prohibited due to the following product attributes:
 - **Permeability:** These coatings may not allow historic structures to properly disperse moisture, causing an accelerated rate of structural decay, hidden by the coating.
 - **Diminishment of Details:** The thickness of these coatings may obscure character-defining details of historic woodwork and masonry.
 - **Reversibility:** This product has not been shown to be easily removable. Therefore it would be difficult to return the historic material to its original appearance.

See Preservation Brief #10
Exterior Paint Problems on Historic Woodwork

See Preservation Brief #28
Painting Historic Interiors



St. Dennis Chapel on Brown Avenue

Preparation for Paint

Special Precautions

Lead is a highly toxic metal that was used for many years in paints. Lead paint was used on both the interiors and exteriors of buildings through the middle of the twentieth century; therefore, it is likely that any house that is more than fifty years old will contain some lead paint.

Common renovation activities like sanding, cutting, and demolition can create hazardous lead dust and chips by disturbing the lead-based paint. This can be harmful to adults and children. *To protect against this risk, the EPA issued the [Renovation, Repair and Painting Rule \(RRP Rule\)](#) on April 22, 2008. The rule was further refined on April 22, 2010 and requires that contractors performing renovation, repair and painting projects that disturb more than six square feet of paint in homes, childcare facilities, and schools built before 1978 must be certified and trained to follow specific work practices to prevent lead contamination; i.e. ALL contractors must be “Lead Safe Certified.”*

If you are a homeowner performing renovation, repair, or painting work in your own home, you are not required to follow the EPA's RRP rule. However, you have the ultimate responsibility for the safety of your family or children in your care.

If you are living in a pre-1978 home and planning to do painting or repairs, visit the EPA website and please read a copy of EPA's [Renovate Right: Important Lead Hazard Information for Families, Child Care Providers, and Schools \(PDF\)](#) lead hazard information pamphlet. You may also want to call the National Lead Information Center at 1-800-424-LEAD (5323) and ask for more information on how to work safely in a home with lead-based paint.

It is important to note that there are special provisions relating to property owners of rental housing and/or child-occupied facilities.

Individuals can become certified renovators by taking an eight-hour training course from an EPA-approved training provider. You are encouraged to contact the

EPA for specific training locations.

For more information on the EPA's Renovation, Repair and Painting Rule, please visit their website: www.epa.gov

See *Preservation Brief #37*
Appropriate Methods for
Reducing Lead-Paint
Hazards in Historic
Housing

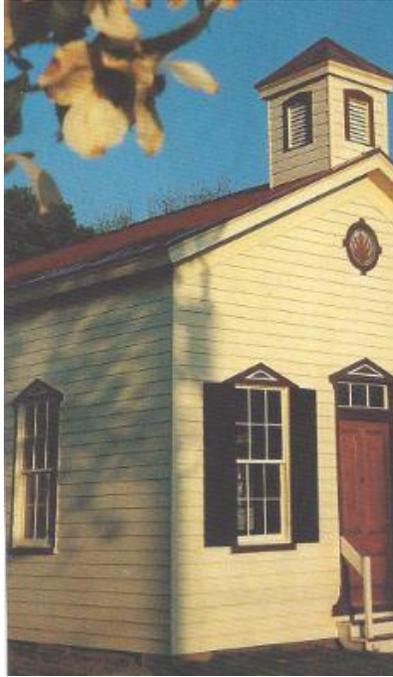
Paint Preparation

- Remove loose and peeling paint down to the next sound layer, using the gentlest means possible, such as hand-scraping and

hand-sanding for wood and masonry, and wire brushes for metal.

- Professional chemical removal of paint may be acceptable in certain situations, if performed by a contractor experienced in working on historic buildings.
- Burning off old paint is discouraged, as it is a fire hazard and can permanently damage the surface of the wood.
- Do not use sandblasting, open flames, or high-pressure wash to remove paint from masonry, soft metal or wood.
- Prime surfaces if bare wood or metal is exposed, or if you are changing types of paint, to allow new paint to adhere properly.
- Do not apply latex paint directly over oil-based paint, as it might not bond properly and may pull of the old oil-based paint.
- Be sure to use metal primers when painting metal.

- Ensure that all surfaces are free of dirt, grease, and grime before painting.



St. Dennis Chapel – 609 Brown Avenue

Paint Color Selection and Schemes

A homeowner in the City Point Historic District must apply for a Certificate of Appropriateness (COA) prior to making ANY exterior color changes.

The Importance of Color

Color has been shown to have the single greatest impact of anything in our environment and is clearly a critical component of architectural style. People have always used color as symbols, and when color is melded with architectural detail it can vividly reflect

the cultural history of a particular era. Within the City Point Historic District we are fortunate to have a diverse collection of architectural styles and potential color palettes that reflect the rich history of the region.

Paint Color

It is not the intent of the Architectural Review Board to dictate color palettes, realizing that color preference is very personal. However, the ARB is responsible for maintaining the architectural integrity of each structure within the district, as well as promoting a harmonious composition of the diverse styles/colors. The following criteria are applied during the approval process:

- **Paint colors should reflect the historic age and style of the house.**
- The paint scheme should accentuate the architectural details of the building; i.e. show the best features of the design.
- Paint colors should reflect an appreciation for the relationship of the structure to surrounding buildings.

- Paint colors should represent the current owner's taste.

Color and Historical Age and Style

In the City Point Historic District most structures fall into one of five different styles:

- Georgian and Federal
- Greek Revival
- Vernacular Cottage
- Colonial Revival
- Craftsman/Bungalow

It is important to be familiar with your home's age and style so that you can choose the appropriate palette. Appendix B provides homeowners with a detailed description of their property and references the architectural style of each dwelling in the district. The following section provides a brief description of the color palettes that characterize buildings of the five most prevalent historical styles in the City Point Historic District.



1014 Pecan Avenue

Georgian and Federal

Shades of white and ivory are appropriate on the trim and cornice. The body of the structure can be white or shades of gray or beige. Doors and shutters should be darker. Black, dark green or bottle green, gray, or blue. Hardwood doors may also have been varnished or grained instead of painted.

- Various shades of white, grey, or beige are appropriate body colors for the main structure.
- Doors and shutters should be darker. Hardwood doors may also have been varnished or grained instead of painted.
- Federal high-style examples might

have used a second color to accent trim on the main house.

- Secondary buildings were often painted Spanish-brown (reddish-brown), whitewashed, left unpainted, or possibly painted white.

Greek Revival

Made from wood, these buildings are often painted white. Recent Paint research has documented the body of Greek Revival houses in colors of yellow, cream, brown, variegated and even bright pink. Trim could be cream or white, with dark green or brown sashes, bright green shutters, faux wood grain front doors and clay-colored porch flooring.

Vernacular Cottage

Although white may still be employed, the majority of buildings show a greater use of color, even on relatively simple structures.

- Natural earth tones became popular.

- Window sash was often painted a dark color, such as deep red, chocolate brown, dark green, olive, dark gray, or black, to give it an appearance of receding into the facade.
- Shutters were painted a dark color, lighter than the sash.
- White also became a popular sash color.
- Appropriate color for tin roofs include Spanish-brown, red, silver, dark green, dark grey, and black.
- Wood shingle roofs should be left natural or painted Spanish-brown.
- Iron work can be painted black or dark green.

For more information consult: Century of Color: Exterior Decoration for American Buildings, 1820-1920, by Roger Moss

Colonial Revival

Body colors moved towards the pastels. White again became the most popular trim color and was even used for sash. For stucco or clapboard, frame colonial, yellow was the most popular body color, although gray or blue was used. Normally these were then trimmed with white or ivory on the cornice, cornerboards, window frames, sash, etc. Brick Colonial Revival would utilize the same white or ivory trim and sash color.

- The Colonial Revival style dictated softer pastels, such as white, light grey, and yellow, for the main body of the house.

Craftsman/Bungalows

Most Bungalows followed a trend toward the lighter colors introduced later in the century; however, Bungalow houses permit a wide range of choices.

- Bungalows trended toward the lighter colors of the Colonial Revival, although they permit a wide range of choices.
- Appropriate color for tin roofs include Spanish-brown, red, silver, dark green, dark grey, and black.
- Wood shingle roofs should be left natural or painted Spanish-brown