

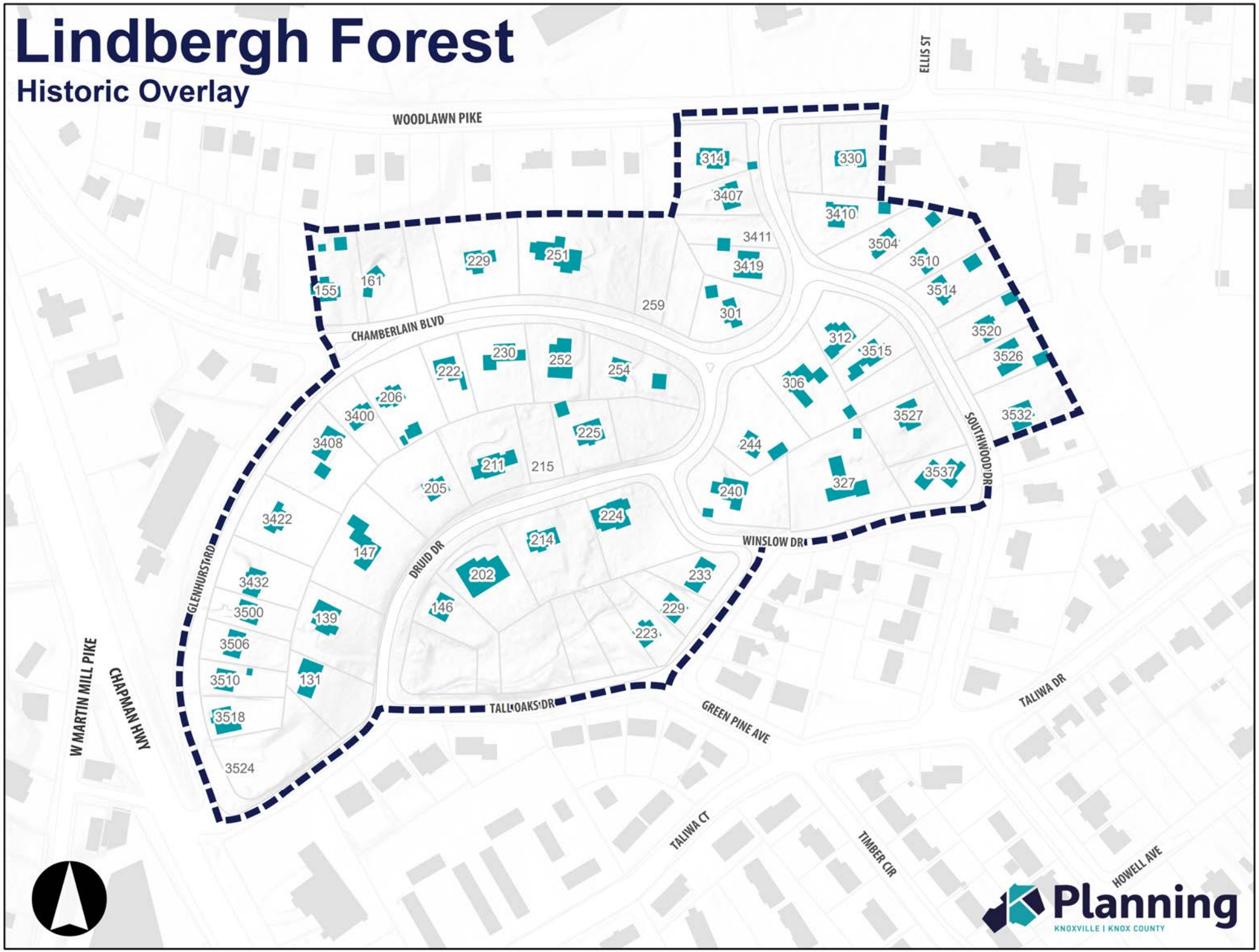
Lindbergh Forest Historic District | Design Guidelines | Draft: November 2026

*The **Lindbergh Forest Historic District Design Guidelines** seek to outline the historic neighborhood's significant features and guide future development. Drafted with input from property owners, these guidelines represent the vision of the community in maintaining its historic character and provide the standards for future preservation, rehabilitation, and new construction. Rooted in accepted preservation standards for exterior maintenance, rehabilitation, and new construction, the guidelines provide a common language and consistent direction for all parties that work with buildings in the historic overlay. The guidelines are intended to guide owners toward design solutions that are feasible while maintaining the district's historic nature.*

November 2026

Lindbergh Forest

Historic Overlay



Planning

KNOXVILLE | KNOX COUNTY

Local Designation as a Historic Preservation Strategy 1
Flexibility of Design Guidelines 4
Levels of Work 10
Design Review Process 11
COA Process 15
History 16
Architectural Styles 18
Design Guidelines 21
Roofs 22
Wall Coverings 25
Windows 29
Entrances & Doors 31
Porches & Stoops 32
Mechanical & Utility Equipment, Energy Retrofit 33
Accessibility and Safety 35
Accessory Structures 36
Additions to Existing Structures 37
Demolition 46
Appendix A: Frequently Asked Questions 47
Appendix B: Glossary of Architectural Terms 49
Appendix C: New Construction Checklist 64
Appendix D: Roofs 66
Appendix E: Windows 69

Appendix F: Doors 71
Appendix G: Historic Buildings and Lead Paint 72
Bibliography 74

Local Designation as a Historic Preservation Strategy

The City of Knoxville recognizes the power of historic structures to define our unique community identity and encourages their preservation so that they remain an important part of the city's building blocks. The City, through Knoxville-Knox County Planning (Planning), works with organizations and private property owners to preserve, protect, and celebrate our historic places.

While various tactics exist for recognizing and celebrating the importance of historic structures, protection is best accomplished at the local level. At the local level, preservation may be defined directly by the community, who develops the design guidelines specific to their own history and context. Design guidelines are developed which ultimately reflect the vision and priorities chosen by neighborhood property owners.

Historic (H) Overlay Districts

The historic overlay district broadly seeks to define and protect historic neighborhoods. This zoning strategy ensures that historic buildings and streetscapes are protected from inappropriate changes. The design review process involves reviewing applications for exterior work alongside the design guidelines and the specific characteristics of the building and neighborhood. Design review is conducted monthly by the Knoxville Historic Zoning Commission (HZC), whose members are appointed by the mayor and confirmed by City Council.

The goal of establishing a historic overlay district and reviewing proposed projects within it is not to freeze time, stall improvements, or prevent improvements to the community. When preservation is provided for in a meaningful way through a historic

Design Guidelines Do...

- Provide a framework for the community to achieve their specific vision for retaining an area's historic character
- Provide flexible, goal-oriented approaches to addressing the particular needs of an individual property
- Provide guidance for contemporary use of a historic building while maintaining its historic character
- Reduce the potential for adverse impacts
- Help coordination among architects, engineers, contractors, and others that work on historic buildings in the community
- Provide a consistent basis for Planning and HZC to make well-informed and defensible decisions regarding the appropriateness of proposed work

Design Guidelines Do Not...

- Require maintenance on a property
- Require museum-quality restoration
- Regulate the use of a property
- Review changes for a building's interior

overlay district, it promotes a vibrant, culturally rich community that supports appropriate changes and allows for the contemporary use of historic buildings, but in a responsible and sensitive way that respects the larger community's agreed-upon goals and priorities.

Design Guidelines

Each designated historic overlay district is accompanied by a set of design guidelines that provides a framework for achieving the design goals and objectives of the community. Drafted with input from property owners, these guidelines represent the vision of the community in maintaining its historic character and provide the standards that help to achieve the goals of that vision.

Property owners play a primary role in ensuring that the historic fabric of the district is appropriately preserved. As stewards of historic properties within the historic overlay district, those caring for our historic building stock must make daily decisions on how best to accommodate modern-day needs while

Secretary of the Interior's Standards for Rehabilitation

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 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 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 features shall match the old design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing 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 cleaning of surfaces, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archaeological resources affected by a project shall be protected and preserved. If such resources are proposed to be disturbed, mitigation measures should 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.

preserving the character-defining features of the places we call home. Such decisions should be made with the historic value of the building in mind, and these decisions must also be grounded in sound and practical guidance. The design guidelines serve this role.

Rooted in accepted preservation standards for exterior maintenance and rehabilitation, the guidelines provide a common language and consistent direction for all parties that work with historic buildings in the historic overlay.

Flexibility of Design Guidelines

It is the intent of the Knoxville Historic Zoning Commission (HZC) and Planning staff to work together with applicants toward design solutions that are both feasible for the owner and do not unnecessarily destroy existing historic materials or features. The design guidelines are written with this goal in mind. They offer opportunities to utilize a wide variety of materials and design options at differing price points.

In their review of the application for a Certificate of Appropriateness (COA), the HZC will take into consideration certain factors such as the degree of deterioration, presence of intact historic materials, visibility of features, and siting/orientation of the building.

In considering these factors, the HZC may find that the application of particular guidelines would not be feasible due to the unavailability of historic materials and/or trades workers, or disproportionate cost relative to the value of the property. Alternative materials and designs can be considered under conditions further described in these guidelines.

Economic Assistance

The City of Knoxville and Knoxville-Knox County CAC operate numerous programs which provide financial and technical assistance for housing rehabilitation. The Tennessee Historical Commission, the NPS, and local organizations also occasionally offer grants or loans for preservation projects. Contact Planning staff for suggestions on potential opportunities.

Historic Preservation and Sustainability

The preservation of historic buildings is a sustainable practice because it promotes continued use and maintenance of our historic building stock over unnecessary replacement. Recognizing the connection between historic preservation and sustainability and the desire of property owners to have energy-efficient dwellings, the design guidelines are intended to balance flexibility for alternative materials and designs while also preserving the historic character of individual buildings and the community as a whole. Guidelines for sustainable measures are incorporated throughout this document in an effort to promote both goals.

Sustainable Materials

Historic building construction embraces durable materials such as old growth lumber, brick, and stone, which last for decades if properly maintained. In contrast, many contemporary manufactured materials are not only unsustainable in their production but have a comparatively shorter lifespan. Some contemporary materials need to be replaced more often, resulting in the use of more energy.

Embodied Energy

Historic preservation is a sustainable practice because it retains the "embodied" or "already present" energy within existing building stock. From the manufacture of goods, to the transportation of those goods to the project site, to the physical labor needed for construction, buildings represent large expenditures of energy. Preserving a building and maintaining its features retains this embodied energy and minimizes the need for the use of additional energy to produce new materials.

Your Historic Structure May Already Be a Green Building

Most historic buildings already feature numerous 'green' features that promote energy efficiency but may be overlooked. In considering the sustainable features of your historic building, look for the following:

- Substantial tree canopy that provides natural shade and cooling
- Operable, double-hung windows that allow cool air to flow in and warm air to pass out
- Windows arranged to take advantage of natural lighting, as well as passive heating in the winter
- Deep-set porches that moderate temperature fluctuations between interior and exterior spaces
- Deep eaves that provide for seasonal shading
- Steeply-pitched roofs that allow for heat to pass upward away from the living space, while also collecting rainwater
- Operable shutters or awnings that can be used to block solar heat gain
- Window and door arrangements, including transoms, that allow for cross-ventilation
- Heavy masonry materials with natural insulating properties
- Chimneys that allow non-mechanical heating
- High ceilings that facilitate movement of air

Even when designed to be as sustainable as possible, new construction can take decades of incremental savings to simply recover the embodied energy represented in a demolished building. In addition, it takes years for new construction to offset the material waste associated with demolition and disposal of the materials of the former building. Replacement of historic buildings, even with sustainable new construction materials, not only makes little financial sense but also removes embodied energy.

Green Features

As previously noted, many historic buildings used design features that promote energy efficiency but are sometimes overlooked. When developing a project and incorporating 'green' design features, a property owner should first gain an understanding of the existing sustainable qualities of their building. Features such as windows, shutters, chimneys, and transoms can offer energy efficiency and may already be present on the building.

Considering Alternative Materials

While traditional materials are the most appropriate, the HZC recognizes the increasing need to consider alternative materials due to the limited availability of traditional materials and tradespersons, as well as the need to consider sustainable initiatives. When determining if use of an alternative material is appropriate, the HZC will consider the following:

Availability and Technology

Are traditional materials of a high quality available, or is the availability of traditional materials limited?

Vanishing Trades

Are there local tradespersons available that can work with the traditional material or is the local building industry only trained in the use of new materials?

Durability

Based on available information, does the proposed material perform as well as the traditional material over time?

Appearance

Does the proposed material match the original in terms of color, texture, finish, reflectivity, and profile?

Compatibility

Does the new material appear seamless with the surrounding historic fabric? Will installation affect the way that adjacent materials appear or react (for example, expansion and contraction of masonry materials)?

Design Review Basics

The historic overlay district provides the opportunity for design review of proposed exterior changes to historic buildings before work is begun. The design review process preserves the house and neighborhood's architectural character, as well as meets the needs of the property owner.

Applicability

The design review process is applicable to all properties within the historic overlay district, regardless of whether the property is considered a contributing historic resource or non-contributing resource. Design review is required for exterior alterations and repairs that require a building permit or any other type of City approval. Exterior changes such as landscaping and painting non-masonry items do not require review and approval. Interior changes are also not reviewed, although building permits may still need to be obtained from the city building inspections department. Responsibility for complying with the design review process ultimately lies with the property owner or applicant. The design review process begins when the property owner decides to undertake an exterior project on a building within the overlay.

Certificate of Appropriateness (COA)

The Certificate of Appropriateness (COA) serves as the record of written approval for a proposed project and provides the documentation necessary to obtain building permits for projects within the historic overlay. The HZC or its staff issues the COA after reviewing and approving plans for the proposed work. Once issued, a COA is valid for thirty-six (36) months.

There are four levels of work associated with COA applications, depending on the complexity of the proposed project. Minor work (Level I) such as routine repair of existing features using in-kind materials or installation of storm windows and doors is typically reviewed by Planning staff for administrative approval. Any project higher than a Level 1 requires review by the HZC for compatibility with the design guidelines.

Working Together to Gain Compliance

Within the historic overlay district, an exterior project that is begun without a valid COA is a violation of the City's zoning ordinance and building code. It is most efficient when the applicant works with the Planning's HZC staff in advance of work on any project. Should a property owner begin work without a COA or a building permit, a stop work order could be placed on the project until it can be reviewed and approved by the HZC or its staff, as well as the building inspections department. Work that is not compatible with the design guidelines or building codes may be required to be altered or removed.

Does Your Project Require a COA?

Examples Include:

- Repair, replacement, or removal of exterior features
- Addition of exterior features such as a deck, porch, or new section
- Painting of unpainted masonry
- Construction of a new main building or accessory structure
- Demolition or relocation of a building

YES – Your project will require design review by the HZC or its staff and issuance of a COA before you apply for a building permit and begin work.

If Your Project Is Limited To:

- Changes to the interior of the building
- Painting wooden features or siding
- Installation of walkways
- Landscaping, including establishing gardens and pruning of trees

NO – Your project will not require a COA; however, be sure to obtain any other relevant permits before beginning work.

Levels of Work

Level I

Staff Review

- Routine repair of siding, fascia, soffit, windows, roof, or other features using materials, design, and dimensions that match original or early features
- Installation of storm windows/doors, screen doors, or satellite dishes
- Removal of additions less than 50 years old in order to reveal the original configuration of the structure
- Construction of accessory structure of not more than 120 square feet in area
- Installation of signs
- Renewal of an expired Certificate of Appropriateness

Level II

HZC Review

- Major repair, removal, or replacement of architectural elements or materials
- Addition of an architectural element where no documentation exists
- Installation of skylights or solar panels
- Construction of an accessory structure that is more than 120 square feet
- Construction of an addition
- Demolition or relocation of a non-contributing structure

Level III

HZC Review

- Construction of a primary building
- Subdivision of an individual historic landmark property

Level IV

HZC Review

- Demolition or relocation of a contributing structure

Does Your Project Require a COA?

Examples Include:

- Repair, replacement, or removal of exterior features
- Addition of exterior features such as a deck, porch, or new section
- Painting of unpainted masonry
- Construction of a new main building or accessory structure
- Demolition or relocation of a building

YES – Your project will require design review by the HZC or its staff and issuance of a COA before you apply for a building permit and begin work.

If Your Project Is Limited To:

- Changes to the interior of the building
- Painting wooden features or siding
- Installation of walkways
- Landscaping, including establishing gardens and pruning of trees

NO – Your project will not require a COA; however, be sure to obtain any other relevant permits before beginning work.

Design Review Process

The design review process is intended to provide an efficient framework by which proposed projects can be submitted to and reviewed by the HZC. This framework also is intended to promote consistent and fair decision-making by Planning staff and the HZC in the review of proposed projects. For projects subject to design review, approval in the form of a COA shall be obtained before other permits can be issued by the relevant City department and before work can begin.

Application and Approval Process

Step 1. Plan Your Project

The design review process should begin with carefully planning a project that is appropriate by considering the design guideline recommendations. As the first step, this will make the design review process go more smoothly and can help save time and money. Project planning should also include developing an understanding of the property and its character-defining features. This research will help in evaluating how a potential project such as removal, replacement, or addition of a feature may affect the character of the building. The applicant may decide to work with an architect, contractor, or other design or construction professional, depending on the project.

Step 2. Reach Out to Planning Staff

Planning staff will serve as the applicant's contact during the design review process and is available to assist in preparing the application. The planner can provide preliminary insight into what is appropriate according to the design guidelines. The planner can also confirm whether the application requires a Level I or Level II review.

For a Level I project, if appropriate documentation has been submitted and the proposed project meets the design guidelines, staff can approve a COA for a simple application without a formal review by the HZC. Issuance of the COA enables the applicant to obtain any other required permits before beginning the project. For Level II-IV projects, the applicant must submit a more detailed application for the HZC to review.

Step 3. Complete the COA Application and Submit Relevant Supporting Materials

A copy of the COA application form is available at Knoxville-Knox County Planning's office or online at Planning's website (knoxplanning.org). The applicant may also request a copy by e-mail attachment or fax. The application is to be used for all levels of work and is intended to provide Planning staff and the HZC with a thorough understanding of the proposed project.

Specific submittal requirements depend on the nature of the proposed project but generally include sketches, photographs, or written descriptions of proposed work. Product samples and specifications on proposed materials and products may also be needed. Depending on the complexity of the project, professional drawings or renderings may also be recommended to depict the project.

The applicant must submit the completed and signed form, fee, and all supporting materials to Planning staff by the application deadline. The COA application deadlines are available from Planning staff or on Planning's website.

Step 4. Planning Staff Review of Completed COA Application

Once the applicant submits the completed application, Planning staff will review it and consider the proposed project with regard to the guidance provided in the design guidelines. Staff will then prepare a summary report on the proposed project and provide a recommendation to the HZC on how it meets or does not meet the guidelines.

Step 5. HZC Design Review Meeting

All completed applications referred to the HZC will be reviewed in a public hearing during the next available monthly meeting. While attendance at the meeting is not required for review or approval, it is strongly encouraged. Participating in the meeting provides the opportunity for the applicant to present the project to the HZC, address any questions or concerns, or agree to any conditions for approval. Following discussion, the HZC will vote on the proposed project to issue a determination. Cases are approved, approved subject to conditions, postponed, denied outright, or denied without prejudice.

One of five actions can be taken by the HZC:

Approval

The project is approved as proposed. No changes are required, and a COA will be issued. COAs are valid for three years.

Conditional Approval

The HZC may propose minor changes to the proposed project to bring it into alignment with the design guidelines, and approve the project if that condition is fulfilled. A COA will be issued for the project in compliance with the condition. Often, conditions of approval are delegated to staff for additional review.

Postponement

If the HZC determines that it has not received enough information about a project to either approve or deny it, the HZC may postpone the application for future consideration. Planning staff will notify the applicant of this decision and request the necessary information so that consideration of the application can be rescheduled.

Denial

If the HZC determines that a project does not meet the intent of the historic overlay district or the design guidelines, the HZC will deny the application and will not issue a COA. In this case a new application for the same proposal cannot be submitted for a period of one (1) year from the date of the denial.

Denial Without Prejudice

Another type of denial is called “denial without prejudice,” in which the applicant may resubmit the application with minor changes at any time.

Options If a COA Is Denied

If the HZC does not issue a “denied-without-prejudice” decision, the applicant has options for proceeding after an outright denial:

- The applicant may choose not to move forward with the project.
- The applicant may modify the proposed project and application to bring it into alignment with the design guidelines. Following submission of the modified application, Planning staff will schedule the project for another HZC review.
- The applicant may appeal the finding of the HZC to the courts if they feel that rules and procedures were not properly followed or a fair decision was not made in consideration of the design guidelines.

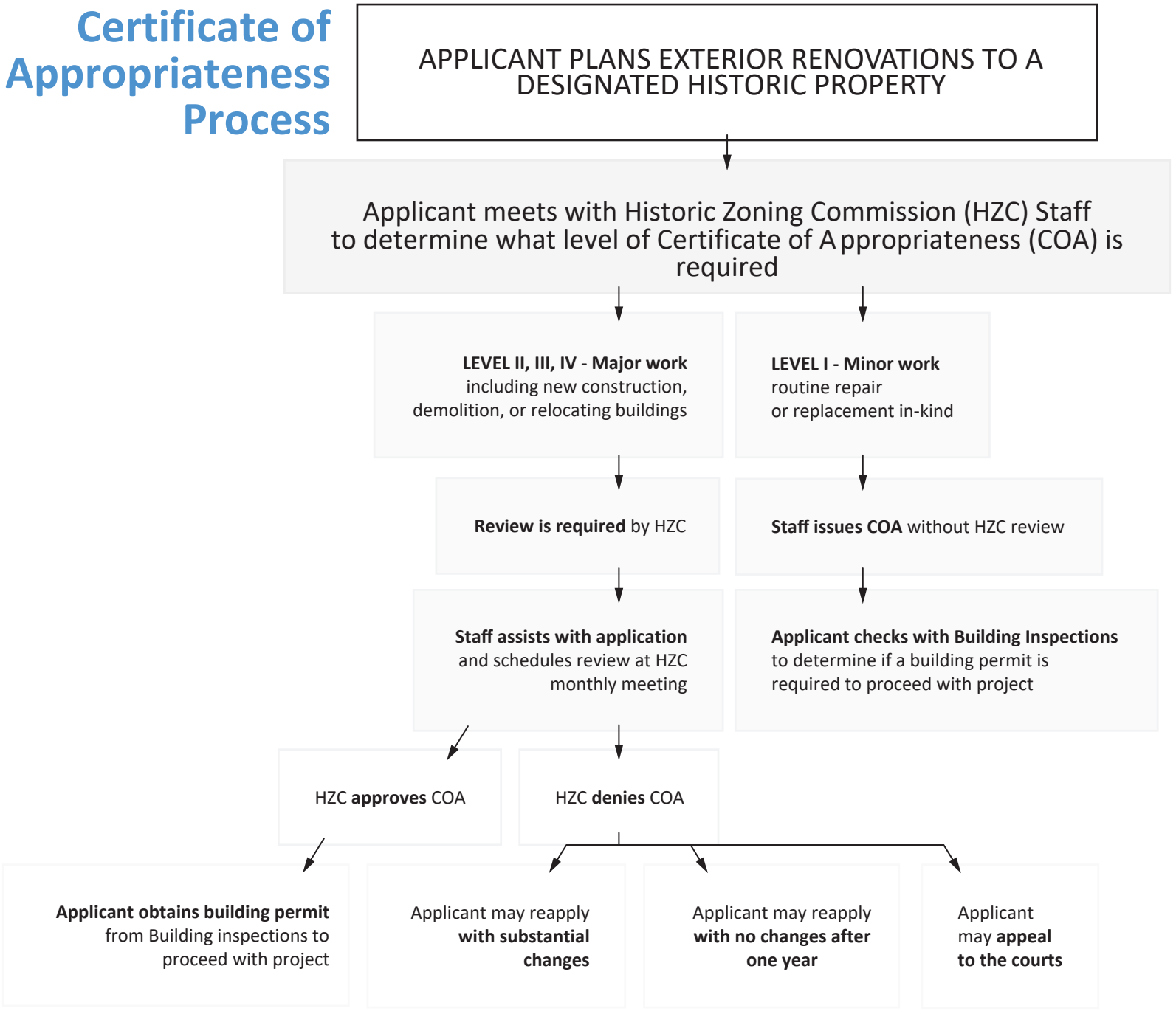
Step 6. Apply For Required Permits

Once a COA has been issued for a project, the applicant can apply for any required building permits necessary to carry out the project. The COA should be presented to the respective city department, typically City Plans Review and Inspections, when applying for permits.

Step 7. Proceed With the Project

Following issuance of the COA and appropriate building permits, the applicant may proceed with the project as outlined in the COA application, which is valid for three years from the approval date. Should the applicant make changes to the project, the applicant should notify Planning staff of any changes as soon as possible, to determine if additional review will be required.

Certificate of Appropriateness Process





Knoxville-News Sentinel advertisement for the auction of lots in Lindbergh Forest, October 13, 1927. Source: *KNS Archive* via ProQuest.

History

Lindbergh Forest was established by 1929, when the subdivision was platted in the curvilinear pattern typical of Knoxville's early twentieth-century automobile suburbs. The subdivision was named for Charles A. Lindbergh, the aviator who flew a plane nonstop from New York to Paris in 1927. Lindbergh Forest was the first Knoxville subdivision in which the developer installed infrastructure at the time of the subdivision's development, including utilities, concrete streets, and curbs. The development also boasted distinctive streetlights composed of concrete posts with square light fixtures, reminiscent of gas lights from the late 18th century. Lindbergh Forest was the first subdivision with underground utilities in Knoxville.

Characteristic of advertising for early automobile suburbs, the October 1927 auction for lots in Lindbergh Forest included attractions to generate publicity. Along with the promise of a "free radio and other gifts," the event included an "aerial circus" where a parachuter jumped from a moving airplane, promoting the connection with Charles A. Lindbergh.

Many of Lindbergh Forest's original houses took advantage of the nearby East Tennessee marble industry. In the 1920s and 1930s, East Tennessee marble was mined extensively and used as a prominent building material in public buildings throughout the United States, including the Oklahoma State Capital and the National Gallery of Art. Many public and commercial Knoxville buildings also feature the material; the downtown Post Office is a high-style example. Relatively few examples of residential construction featuring East Tennessee marble exist, and many of the best examples can

be found in the Lindbergh Forest Historic District. Throughout the neighborhood, East Tennessee marble is featured in window and door sills, wall coverings, and walkways.

Lindbergh Forest features many examples of early Colonial Revival and Tudor Revival style houses, along with many Minimal Traditional houses. One example of a Colonial Revival-style house is 206 Chamberlain Boulevard, while 3419 Southwood Drive illustrates the Tudor Revival style. Many houses combine Tudor Revival, Colonial Revival, Craftsman, or Mission Revival influences to create an eclectic mix, typical of Knoxville's residential architecture. Both 205 and 244 Druid Drive are combinations of Tudor and Colonial Revivals.

Most of the houses in the district were constructed before the beginning of World War II. However, a few lots remained undeveloped, and no houses were built between 1941 and 1947. Around 1947, two new houses were constructed in the district. Both were Lustron houses, which were prefabricated with enameled metal panels. These houses illustrate an important movement in the mid-twentieth century to construct houses quickly and inexpensively to meet post-war housing shortages. Although their style is different from other residences in the district, the Lustron houses are an important part of the neighborhood. Reflecting two of the six Lustron house examples in Knoxville, they are compatible with the overall scale and streetscape patterns of the district.

The Lindbergh Forest Historic District contains many unique houses representative of Knoxville's residential architecture from the 1920s to the 1940s. Distinctive features include its extensive use of East Tennessee marble, the curving streets, mature landscaping, and concrete street paving and street lights. Lindbergh Forest is an intact example of Knoxville's early automobile suburbs.

Architectural Styles

The majority of houses in Lindbergh Forest can be categorized into one of the architectural styles below, and most houses employ an eclectic mix of these styles along with other architectural trends of the early 20th century.



Tudor Revival style house

Tudor Revival

Tudor Revival architecture is inspired by a wide variety of English domestic architecture from the late Medieval and early Renaissance period (1550-1650). Its popularity began in England around 1850 as architects sought to evoke a nostalgic idyll in response to the Industrial Revolution. The style spread to the United States through plan books and well-publicized English examples around 1880, and it was prolific in early American suburbs until the 1940s. Tudor Revival houses typically employ patterned brick, stone, and stucco wall cladding, steeply-pitched gable roof forms, large stylized chimneys, and groupings of tall narrow windows with masonry trim. Arched entries with stone detailing, decorative half-timbering, and ornamentation and variation at gable eaves are also common.



Colonial Revival style house

Colonial Revival

Colonial Revival architecture incorporates the forms and detailing of early American architectural styles (Georgian, Federal, Dutch Colonial) with contemporary materials and details. This was the most dominant architectural style of American houses throughout the first half of the 20th century, accounting for approximately 40% of houses built from 1910-1930. The Philadelphia Centennial Exhibition in 1876 revived interest in American history and culture, inspiring the earliest examples of the style, which became increasingly popular with its presence at the 1898 Columbian Exhibition in Chicago ("White City") and with the restoration of Colonial Williamsburg in the 1920s and 1930s. Colonial Revival architecture is defined by a symmetrically balanced façade with a center door that is typically accentuated by a pediment (or more elaborate surrounds) and a small entry porch with slender columns, along with other Classical detailing. Side-gable, hipped, and gambrel roof forms are most common and frequently feature cornices and dormers.



Mediterranean Revival style house

Mediterranean Revival

Mediterranean Revival is a general category for a variety of architectural styles inspired by historic Italian and Spanish estates. The style was most popular from 1905-1935 due to increased interest in European architecture after World War I and advancements in masonry veneering techniques that made construction more affordable. This style was characterized by low-pitched hipped (sometimes flat) roofs clad in ceramic tiles with wide eave overhangs, stone and stucco (or brick) wall cladding, arched windows and doorways, and porticos or columned recessed entries. Ornamental details such as dormers, parapets, decorative brackets, quoins, classical details, cornices, beltcourses, rusticated stone, and carved masonry can be present. The use of Tennessee marble within Lindbergh Forest provides a local distinction from other examples of this style.



Minimal Traditional house

Minimal Traditional

Minimal Traditional is a form of modern architecture that was proliferated from 1935-50 due to its relative availability and affordability during the Great Depression and the housing shortage following World War II. Minimal Traditional designs were widely circulated through house plan pattern books and catalogs (such as Sear's Modern Homes). They were designed to be eligible for FHA (Federal Housing Administration) loans, which were created in 1934 to support homeownership for working class white Americans, limited the maximum sales price of homes that qualified for funding, and encouraged that "all nonessential features can be profitably omitted" in design. Minimal Traditional houses tend to be small in size with a compact rectangular floor plan, low-to-moderately pitched side gable roof (some variations), and a symmetrical façade centered on a stoop rather than a larger porch. Ornamentation is generally limited to picture windows, chimneys, paneled front doors, shutters, variations in roofs over the front stoop, and material variations in exterior cladding (such as wood siding, asbestos shingles, brick, and stone). A number of Minimal Traditionals in Lindbergh Forest employ stone quarried from nearby Crab Orchard, Tennessee.



Lustron House

Lustron houses are houses made almost entirely from prefabricated porcelain-enameled steel, which were developed from 1947-50 by the Chicago-based Lustron Corporation and were touted for their durability, efficiency, and sleek design. They are a rare type of Minimal Traditional housing that can be found within Lindbergh Forest.

Design Guidelines

Overall Approach for Preserving Historic Building Materials

Retain

Retain and preserve historic building materials

- Protect historic building materials and features from deterioration.
- Maintain protective coatings on historic materials.
- Provide adequate drainage to limit standing water on horizontal surfaces.
- It is not appropriate to remove historic materials that are intact or repairable.
- Clean historic materials only when necessary to stop deterioration or remove graffiti, heavy soiling, or biological growth. General cleaning should otherwise be avoided so as not to unnecessarily introduce moisture into materials.
- Start with low-pressure water washing and a soft, natural bristle brush when cleaning is necessary.
- It is not appropriate to use abrasive cleaning methods such as high-pressure water washing or sandblasting, which can easily damage historic materials and lead to additional deterioration.

Repair

Repair deteriorated but repairable historic materials before considering replacement

- Repair deteriorated materials by using accepted preservation treatments.
- Match repairs to original materials in appearance, profile, texture, and finish.
- If disassembly of a historic building feature is necessary in order to complete a repair or avoid inadvertent damage to surrounding features, document the configuration of the feature and reassemble accordingly once finished.
- If removing paint, stain, stucco, or other claddings, select a localized area to test the removal process to ensure that materials will not be damaged.
- It is not appropriate cover historic materials instead of appropriately repairing them.

Replace

Replace historic materials with compatible new materials

- Replace only the portions of a feature that are deteriorated beyond repair. Avoid wholesale replacement of otherwise intact features or materials.
- Replace deteriorated or damaged materials with replacement materials that match the original in dimension, detail, profile, texture, and finish.
- Use replacement materials and a design based on historical, photographic, and/or physical evidence.
- In the absence of appropriate documentation, utilize a simple design that is compatible with the building in scale, profile, material, and finish.
- Alternative materials will be considered on a case-by-case basis depending on the building feature and compatibility of the proposed material.
- Alternatives to traditional materials may be utilized on new construction, additions, and contributing historic structures if the HZC determines that the alternative material adequately simulates the traditional or original material. Faux wood-grained materials do not adequately simulate wood.

Roofs

A roof's shape and pitch support the architectural character of a building and play a role in defining a building's massing, volume, and presence along the street. Defining features of a roof include chimneys, dormers, cornices, and eaves. Roofing materials are also distinguishing details, including standing seam metal, slate, cement or metal shingles, and terracotta tiles. Many roofs have been re-clad with modern asphalt shingles. Retaining the original roof shape and pitch, as well as associated details, is important since changes to the roof can significantly alter the appearance of a building.

1. Retain the existing roof shapes, pitch, materials, and associated characteristics.
2. Retain and repair character-defining eave details.
    a. It is not appropriate to remove, cover, or wrap original eaves or cornices.
    b. It is not appropriate to enclose exposed rafters.
    c. Match existing overhang, fascia boards, soffits, trim, and other details.
3. Repair original roofing materials unless substantial deterioration warrants replacement. Replace deteriorated materials with compatible counterparts.
    a. Retain and repair original roofing materials and features unless substantial deterioration warrants replacement.
    b. Replace deteriorated roofing with in-kind materials, matching original materials in appearance, pattern, color, and composition. Compatible substitute

Replacing Slate and Tile Roofs

Specialty roofing materials such as slate and tile requires careful consideration. While replacement with in-kind materials is most appropriate, allowances can be made for substitute materials in consideration of the continual changes to roofing within the district overtime. In general, the following options will be considered:

In-Kind Replacement

Existing slate and tile roofs should be maintained as necessary in order to maximize their useful life. When deteriorated, consider selective repair or replacement over wholesale replacement.

Imitation Slate or Tile

In many instances, replacement of an existing roof with a new slate or tile roof may prove infeasible. In such instances, replacement of the roof with a modern substitute material that replicates the appearance of the original material will be considered. When reviewing such materials, the HZC will consider the texture, pattern, durability, and dimension of the replacement material.

Asphalt or Fiberglass Shingles

If replacement with an in-kind or imitation roof material is not feasible or appropriate, replacement with a dimensional fiberglass or asphalt shingle can be considered.

materials, including low-profile asphalt or fiberglass shingles can be used if determined an appropriate match for original roofing materials.

c. Repair original specialty materials such as slate, metal, or tile by replacing only deteriorated sections with in-kind materials, unless more than 30% of the total surface is deteriorated, in which case replacement can be appropriate.
    i. When possible, replace specialty roofing materials with in-kind materials.
    ii. If in-kind materials are not feasible, new materials that replicate the look and texture of the original will be considered. When reviewing such materials, the HZC will consider the texture, pattern, durability, and dimension of materials. Replacement with dimensional fiberglass or asphalt shingles may also be considered.
    iii. Consider salvaging intact units of specialty cladding materials when replacing roofs in order to reduce landfill waste and promote reuse of historic fabric.



Steeply pitched rooflines, projecting gables, eave overhangs, and unique exterior chimneys

d. Repair deteriorated flashing by installing new to match existing. Unfinished metal flashing is not appropriate.
e. Corrugated, 5V, or wide sheet metal is not appropriate on the roof of the main building or on front porches.

4. Preserve and repair character-defining roof details.
    a. Retain and preserve decorative and functional features such as dormers, finials, cresting and built-in gutters.
        i. Do not remove or replace original features that can be repaired.
        ii. If replacement is necessary, match the original feature in size, appearance, and material. Compatible substitute materials can be used if determined to be an appropriate match and it is not feasible to replace with the original material.
    b. Original roof dormers should not removed.
    c. Skylights should be flat. Bubble profile skylights are not appropriate.
    d. When reconstructing an original feature that is missing, base the reconstruction on historical, photographic, and/or physical documentation.
5. Retain and repair original chimneys whenever possible.
    a. Retain original or reconstructed chimneys including chimney caps, chimney pots, and patterned masonry.

b. Use compatible mortar when repairing chimneys. Replacement masonry should match the shape, size, color, and texture of the original. It is not appropriate to use simulated masonry materials.
c. Reducing the height of secondary chimney stacks, while retaining the appearance that a stack exists, can be considered based on a professional contractor's assessment of their condition.
d. The height of character-defining chimneys on primary elevations should not be reduced.
e. Small chimneys that originally served as enclosures for stove pipes and secondary chimneys can be removed if determined to be of no architectural significance.
f. Altering the character of a chimney by painting, parging, or otherwise covering exposed masonry materials is not appropriate and can cause damage.



Distinctive slate roof cladding

Devices on Roof

Devices include satellite dishes, solar collectors and solar panels, modern skylights, anachronistic elements or structures, mechanical units, vents with fans.

1. Satellite dishes and rooftop mechanical equipment should not be installed on roof planes that are visible from the street.
2. Do not install devices where they interfere with existing decorative roof elements.
3. If installed, devices should not comprise more than 40% of the total roof surface.
4. Rooftop solar collectors and/or panels can be evaluated on a case-by-case basis based on the following guidelines:
   a. Minimize the impact of solar devices on the historic character of a building. Install on roof slopes that are not visible from the street.
   b. Ensure the roof structure can support the weight of added solar devices.
   c. If a building's orientation limits the utility of solar collectors on a rear roof slope, a visible location on a secondary elevation may be considered, taking into account the size, panel arrangement, and material finish.
   d. If possible, install solar devices on accessory buildings at the rear of the lot rather than on primary buildings.
   e. Install solar devices so they lie parallel to and within 6 inches of the roof surface. If solar devices' efficiency is reduced by this requirement due to the building's orientation, alternate installations may be approved if collectors will be minimally visible from the street.
   f. The colors of panels and frames should be similar to the color of the roofing materials.

Wall Coverings

Masonry

1. Protect and retain original masonry surfaces and features.
    a. Retain the original color and texture of masonry materials.
    b. Provide positive drainage away from foundations to move water away from the foundation wall.
    c. Retain protective paint coatings where historically present.
    d. It is not appropriate to paint or stucco historically exposed masonry surfaces.
    e. It is not appropriate to remove protective patinas that evolve over time and are part of the structure's character.
    f. It is not appropriate to sandblast or use abrasive methods to clean masonry materials. Masonry should be cleaned with the gentlest method possible, such as low-pressure water and detergent and natural bristle or other soft-bristle brushes.
2. Repoint deteriorated mortar joints.
    a. Repoint mortar joints only where there is evidence of moisture problems, material breakdown, or sufficient erosion to allow standing water in the joint.
    b. Prepare joints by using hand tools, removing ½" to 1" of old mortar to provide sufficient space to bond new mortar.
    c. Repoint mortar with materials matching the original in composition, color, and texture. High lime mortars and hydraulic cements are the most appropriate for repointing historic masonry.
    d. Match the size and profile of the repointed joint to the original joint.
    e. Using inflexible mortars with high amounts of Portland cement, which are incompatible with historic soft mortars that accounted for expansion and contraction of masonry materials, is not appropriate and can cause severe damage.

Masonry Sealants

Applying paint and waterproof or water-repellent coatings to masonry is generally not appropriate. Not only can they alter the appearance of masonry, but sealing and painting can also prohibit the natural movement of moisture through masonry, ultimately trapping it and causing additional deterioration.

Sealants are not to be used as a substitute for appropriately repairing deteriorated materials. Sealants are only to be applied in rare circumstances where moisture can be demonstrated to be uncontrollably infiltrating masonry and when the method of infiltration is understood.

In instances where use of a sealant is determined appropriate, coat only the masonry that is affected. It is not appropriate to unnecessarily seal masonry that has no demonstrated infiltration. Apply sealants only on dry masonry. Treating masonry while damp can unintentionally trap damaging moisture inside the masonry.

Maintain clear distances between plantings and the foundation wall in order to limit the potential for moisture to be trapped against the wall by vines or vegetation.

3. Replace deteriorated or missing masonry units or features in kind.
    a. Replace only the sections of historic masonry that are missing or deteriorated.
    b. Use new or recycled masonry materials that match the original as closely as possible in size, shape, color, and texture.
    c. If a historic masonry feature is missing, replace it with a new feature that, based on photographic documentation or comparable features elsewhere on the building, matches the original in size, material, texture, and scale.
    d. Replacing large sections of intact masonry materials is not appropriate.
    e. It is not appropriate to use materials such as artificial stone or brick veneer as a substitute for replacement of deteriorated masonry.
4. Retain historic stucco cladding and repair damaged sections as needed with new stucco that duplicates the old in strength, composition, color, and texture.
    a. Synthetic stucco is not an appropriate replacement.



Unique stone patterns on exterior walls and window & door surrounds



Brick masonry detailing



Wood shingles on a Minimal Traditional house

Wood Features and Siding

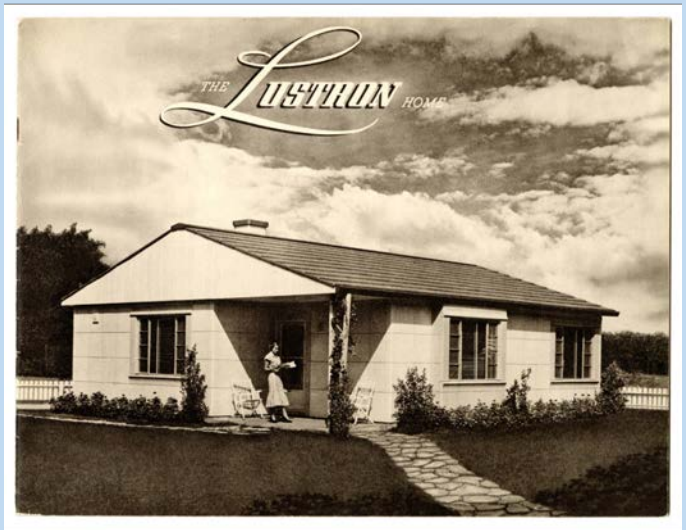
1. Repair deteriorated wood elements that are character-defining features.
   a. Repair deteriorated wood surfaces by patching, consolidating, splicing, or otherwise reinforcing deteriorated sections.
   b. Match repairs to original materials in appearance, profile, texture, and finish.
   c. When repairing deteriorated components, retain unique details such as beaded edges, bevels, or fish scale patterns.
2. Maintain compatibility when replacing wood features and wood and asbestos siding that are deteriorated beyond repair.
   a. Repair or replace, only as needed, materials and features with components that match the original in material, dimension, detail, profile, and texture.
   b. Smooth-finished fiber cement board may be utilized as a replacement for wood and asbestos siding only when it has deteriorated beyond repair and for any other type of siding, as long as the profile and exposure (visible width) is historically appropriate.
   c. Utilize a replacement siding that matches the profile and exposure of any original existing siding or matches what is documented to be the original. In the absence of appropriate documentation, install siding with an exposure to match that of similar buildings in the district.
   d. Replace missing wood features with elements based on historical, photographic, or physical evidence of the original feature. In the absence of such evidence, use a design that is compatible with the building in style, scale, and size.
3. Existing vinyl or aluminum siding may be replaced in-kind if no further architectural detailing is covered or removed. New vinyl and aluminum siding are not appropriate.

Special Considerations for Lustron Houses

Lindbergh Forest contains two Lustron houses (3510 Glenhurst Drive and 222 Chamberlain Boulevard), which are a rare type of Minimal Traditional housing made of prefabricated porcelain-enameled steel that were only manufactured from 1947-50. Their prefabricated nature complicate repairs and replacement of roofing and siding because they generally require a specific disassembly and reassembly process; manuals are available online. In-kind replacement materials can be very difficult, if not impossible, to find. It is important to select an experienced contractor to undertake significant exterior and interior repairs to avoid long term damage.

Roofs and siding can be repaired by removing rust, filling holes with steel-enforced epoxy, and installing an elastomeric coating to protect against leaks. In cases of severe deterioration or damage, it may be necessary to install a new roof or siding over the original. Removing original exterior materials can compromise the house's structural integrity.

The preceding guidelines for wall coverings relate to masonry, wood, and composite siding materials. Exterior rehabilitation and other work on these unique houses will be evaluated on a case-by-case basis related to the nature of the scope of work, location of the work, and nationwide best practices for Lustron Houses. Planning staff will assist property owners and contractors as repairs are necessary.



Lustron House brochure. Source: Ohio Memory Archive.



Lustron House

Windows

While the most common argument against historic windows is that they are not energy efficient, an appropriately weather-sealed historic wood window with a storm window is just as energy efficient as a new insulated window. In addition, historic windows made of old growth wood are more stable and resistant to deterioration and, if properly maintained, can be easily repaired and last for over one hundred years.

1. Storm windows may be installed as follows:
    a. Align storm windows with the original opening. Altering an opening to accommodate a storm window is not appropriate.
    b. Storm windows that do not allow a full view of the primary window or do not have a meeting rail that aligns with that of the primary window are not appropriate.
2. Character-defining windows, including stained glass and windows with unique shapes, should be repaired and retained. Deteriorated character-defining windows should be replaced with windows that match the overall size, muntin configuration and profile, rail width and profile, and style of the original windows.
3. Replacement of non-character defining windows can be approved if replacement windows meet the below guidelines. Replacement windows should be compatible with the original windows and with the overall house.
    a. It is not appropriate to enlarge or reduce the size of the original opening to accommodate the installation of a replacement window on an elevation visible from the street.
    b. Replacement windows that are visible from the street should match the operation type (e.g., double-hung, casement) of the original windows.
    c. Alternative materials for replacement windows may be considered, as long as the replacements match the overall size, muntin configuration and profile, and style of the original windows. Alternative window profiles may be considered when not visible from the street and appropriate for the style of the building.
        i. Alternative materials for replacement windows include aluminum-clad wood, fiberglass, and composite, along with replacing the material of the existing window.
        ii. Vinyl and aluminum windows can be approved as replacement windows on elevations not visible from the street, as long as the replacements match the overall size of the original windows.
        iii. Other window materials will be considered on a case-by-case basis.



Leaded glass window

d. Maintain the original profiles, trim dimensions, and depth of reveal when installing replacement sashes. Properly recess new window sashes within the existing opening to protect the window, allow water runoff, and preserve the original window profiles.
e. Frosted, tinted, reflective, opaque, or patterned replacement glass is not appropriate on street-facing facades, unless as an in-kind replacement on a stained glass or a similar feature.

4. Design new window openings to be as inconspicuous as possible.
   a. Design new window openings to be compatible with existing windows in scale and details.
   b. New window openings on elevations not visible from the street may vary from the existing windows' operation, scale, and detail if they do not require removal of any character-defining features.
   c. If new egress window openings for converted attic spaces are required, install them so their visibility from the street is limited. Size these windows to be appropriate to the scale of the wall elevation where they are being added.
5. Avoid enclosing original window openings, especially on elevations visible from the street.



Double-hung wood windows

Entrances & Doors

The entrance to a historic house includes the front entry door and any decorative details associated with it. The entrance can include front entry steps and the railing. An entrance door should be consistent with the design of the historic house and may have a transom and sidelights. Secondary entries at the rear of the building are typically simpler in detail.

1. Retain and repair original primary entrances and associated features.
2. Replace doors when they are determined to be deteriorated beyond repair.
    a. Replace character-defining doors in kind. Door assemblies, sidelights, transoms, and other features. should match the originals in style, size, profile, and glazing configuration. True divided lites or simulated divided lites are appropriate.
    b. If in-kind replacements are not available, replace original doors with new doors compatible in style, size, and design with the house.
    c. Vinyl, vinyl-clad wood, or steel doors are not appropriate for main entries, but may be considered for secondary doors if the details match the originals.
    d. Undistinguished, flush doors are not appropriate.
3. Design new door openings to be as inconspicuous as possible.
    a. Install new door opening to the rear quarter of a side elevation or on the rear elevation so that its visibility from the street is limited.
    b. New door openings to be compatible with those existing on the building in size and proportion.
4. Install appropriate energy efficiency enhancements.
    a. Installing weather stripping around the door jamb and threshold to reduce air leakage around an existing door.
    b. If a storm door is used, it should have a color-clad frame and a full-view glass or be designed to respect the original entry door.



Round-arched wood door with Tudor Revival style hardware

Porches & Stoops

More than half the houses in Lindbergh Forest have a porch or an entry stoop. Porches protect entries from weather and cool the house by shading the windows and doors. They offer entertainment and an opportunity for neighborhood social life. Enclosing or removing a porch harms the appearance of the house, detracting from the original character and design. The individual design elements of the neighborhood porches – wood columns, metal railings, stone or brick arches, wood ceilings and floors, stone floors, etc. – reinforce the style of the houses. These individual details should be repaired and preserved or replicated if good documentation of an original porch exists. Porches are important features to include in new buildings constructed in Lindbergh Forest. Properly proportioned porches will help new construction blend better with the neighborhood.



Full-sized front porch and a round-arched entry stoop

1. Retain and preserve original or early porches and stoops, including their individual components.
    a. Retain porches and stoops that contribute to the historic character of the building, including individual components such as: porticos, support columns and posts, masonry piers, ceilings and roofs, steps and handrails, foundation cladding, balustrades (rails & balusters), newel posts, and other character-defining masonry elements.
    b. Where historic components are determined to be deteriorated beyond repair, use them as the basis for selecting replacement components in order to match the early or original in design, profile, material, and texture.
    c. Retain the location and character of front porch steps. If the rise/run of existing steeps is steep and unsafe, rebuilding in the same location can be considered.
    d. Where historic components are missing, use historical, photographic, or any remaining physical evidence as the basis for replacement components.
2. Enclosure of existing porches should be as inconspicuous as possible, and should not result in the removal of historic materials.
    a. Retain open porches on street-facing facades. It is not appropriate to enclose a front porch with glass.
    b. Screened front porches may be acceptable if the screening is translucent and the open appearance of the porch is maintained. The screening should be able to be removed without damage to historic materials.
    c. Porches at the rear of secondary elevations may be enclosed with glass or screening with minimal framing in order to retain a sense of transparency.

Mechanical & Utility Equipment, Energy Retrofit

Such systems include heating, ventilation, air conditioning, plumbing systems, satellite dishes, and antennas, as well as energy conservation and green technologies. It is important, though, to make sure that the installation of modern systems does not compromise the architectural character of a historic building or detract from the appearance of the streetscape or district.

1. Locate modern systems and equipment to minimize aesthetic impacts.
    a. Place ground-mounted equipment, such as air-conditioning units, so it is not visible from the public street right-of-way or screen it from view with appropriate landscaping, fencing, or masonry wall.
    b. Locate new utility systems, such as water, gas, and electric meters, so they are not visible from the public street right-of-way or screen them from view with appropriate landscaping, fencing, or masonry wall.
    c. Locate antennae and satellite dishes toward the back of secondary roof slopes or on the rear roof slope.
    d. Screen antennae and satellite dishes from view as much as possible by placing behind chimneys, dormers, or in roof valleys.
    e. Paint mechanical and utility equipment to blend with the building or landscape, if the existing color stands out.
    f. Installing runs of ducts, pipes, or cables on the exterior of a building is not appropriate.
    g. The installation of wireless communication towers within the boundaries of the historic district is not appropriate.
2. Install modern systems and equipment in a manner that avoids damage to historic materials and features.
    a. When installing roof-mounted systems, use methods that do not damage historic fabric or require removal of character-defining features.

Energy Efficiency Tips

Enhance rather than replace or remove original materials and features of historic buildings and their sites to maximize energy conservation.

- Retain mature shade trees, porches, awnings, operable windows, transoms, breezeways and other historic features that help to regulate air flow and temperatures.
- Retain and preserve existing energy efficient features such as porches, breezeways, transoms, and operable windows.
- Enhance the energy efficiency of existing features by installing weather stripping and maintaining tight seals by caulking.
- Add storm windows and doors in accordance with the guidelines.
- Insulate attic spaces.
- Install draft plate sealers to electrical outlets and switches.
- Seal around holes in foundations and walls used for service lines.
- Fill electrical, plumbing, and ventilation chases with insulation.

b. Install equipment in such a way that it can be easily removed in the future without damaging historic fabric.
c. It is not appropriate to cut holes in features such as decorative cornices or rake boards to accommodate cables or modern systems or equipment.

3. Install passive energy collection systems in a manner that does not diminish the character of the building.
   a. Install freestanding or detached solar collectors in areas that are inconspicuous from the public street right-of-way.
   b. Select a finish for exposed hardware, frames, and piping that blend with that of the primary building.
   c. It is not appropriate to install framing systems with reflective surfaces. Matte finishes of black, brown, and gray may be appropriate.

Accessibility and Safety

1. Minimize the impact of accessibility and safety features on the visual character of the building and the district.
    a. Locate ramps and other means of access along secondary elevations whenever possible.
    b. Scale the feature to the historic building to which it is being added.
    c. Design ramps to have simple, non-detracting detailing.
    d. Design accessibility elements such as handrails and balusters to be simple in character and finish.
    e. Select finishes that blend with the building or landscape.
2. Minimize the impact of accessibility and safety features on the historic fabric of a building.
    a. Design and install ramps so that they do not require removal or alteration of character-defining features.
    b. Design and install ramps so that they can be removed in the future without damaging historic materials.
    c. It is not appropriate to install ramps or other means of access that require major changes to the original front entry or porch.
    d. Widen entries on secondary elevations, if necessary to meet the accessibility code, rather than those on the front.

Accessory Structures

Accessory structures may include carriage houses, garages, sheds, carports, or gazebos. These structures impact the relationship of open to occupied space on a property. New accessory structures should be designed to be compatible with the character, massing, and scale of the primary building on the lot.



Detached garage with stone veneer cladding to match house



Attached garage compatible in scale and detail with primary house

1. Retain character-defining historic accessory structures when possible.
    a. Demolition of accessory structures may be reviewed and approved based on the accessory structure's architectural integrity, condition, and visibility from the street.
    b. Non-historic accessory structures (built outside the neighborhood's period of significance) may be demolished with approval by Planning staff.
2. Design new accessory structures to be visually compatible with the primary building on the lot as well as adjacent structures in terms of scale, size, and materials. Simplified designs are the most appropriate.
    a. Utilize roof shape and pitch that are consistent with the primary building, which are commonly gable roofs. Other roof shapes, including shed and flat roofs, can be appropriate when the structure is not visible from the right-of-way.
    b. Select exterior wall and roof materials that are visually compatible with the stone, brick, and siding materials approved for use in the district.
    c. Choose windows and doors that are consistent with the primary building and that are proportionately consistent with the size of the accessory structure.
3. Respect the character of the site when designing a new accessory structure.
    a. Retain the historic relationship between the primary building, open space, and landscape features when siting a new accessory structure.
    b. Locate new accessory structures in rear yards unless documented precedent exists within the district for other locations.

Additions to Existing Structures

With proper planning and consideration of the qualities of the primary building, an addition can provide needed space and be compatible with the historic context. On the other hand, an inappropriate design can result in an irrecoverable loss of the building's character. During the continued life of a building, there is often a need to adapt it to provide additional space. While many historic buildings can readily accommodate a new addition, careful consideration must be given to the design and location of a proposed addition.

1. Design the roofs of new additions to be compatible with the primary structure.
    a. Minimize the impact of additions on the existing roof form.
        i. Retain the original roof configuration when making additions or changes to the building.
        ii. Roofs on new additions should be compatible with the shape and pitch of the existing roof.
    b. Eaves should have overhang(s) that mimic the original eaves.
    c. New dormers should be scaled to the massing of the building and other dormers present on the building.
    d. Additions should duplicate existing roofing materials if possible.
    e. Rooftop additions should be designed carefully to be compatible with the house.
        i. Carefully consider the location and character of rooftop additions to minimize visual impacts.
        ii. Dormers are generally the most appropriate rooftop additions.
        iii. Large rooftop additions that dramatically alter perception of the original building mass are not appropriate.
2. Additions should be placed in locations compatible with the primary building.
    a. Locate additions to minimize visual impact on the original building and the district.
    b. Place new additions on the rear elevation or at the rear half of a side elevation.
    c. Locate new additions so that they do not conceal, destroy, or cause removal of character-defining features of the original building.
    d. Locate a new addition so that significant landscape features (such as mature trees) and historic accessory structures are not damaged or removed.
3. New additions should feature an overall massing and scale that do not detract from the historic structure.

Reusing Historic Materials

Make every effort to limit the amount of historic materials and features removed with constructing an addition. If necessarily removed materials are sound or reparable, it would be good – but not required by these guidelines – to retain them or donate them for future use on other projects. Doing so would make use of the embodied energy in existing materials and would limit use of landfill space.

a. Design an addition that respects the massing and scale of the primary of the primary building and surrounding structures.
b. Design an addition so that it is compatible with the size, scale, setback, and massing of the primary building.
c. Consider separating a large addition from the primary building by a small linking corridor (called a "hyphen") that distinguishes the two forms from one another.

4. Select a design that is compatible with the character and materials of the original building and surrounding structures.
   a. Design an addition so that it is compatible with the character of the original building but is differentiated from the primary house, making it clear what is historic and what is new.
   b. Porches to be added to the rear of secondary elevations or on the rear elevation must be compatible with the building in terms of overall design and scale as well as material and detail.
   c. Design door and window openings that conform to the proportion, size, and rhythm of those on the original building.
   d. Visible foundation walls should be offset from those of the original building.
   e. Use materials historically found on the original building or compatible alternative materials that are consistent in color, texture, and scale.
   f. Duplicate only the most basic details from the original building, such as trim. Simplified details that reference the character of the original building are appropriate. Minimize replication of highly decorative or distinguishing details found on the original building.

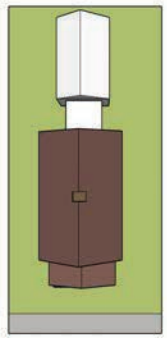
Considerations when Planning an Addition

When planning to construct an addition, it is helpful to consider the factors that the HZC will consider in its review of the proposed addition.

Questions that the HZC will ask include:

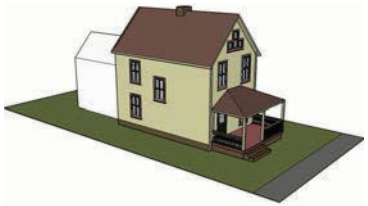
- Is the addition visible from the public street right-of-way?
- Does the addition diminish the ability to interpret the character and vintage of the original building?
- Does the addition detract from adjacent properties?
- Does the addition require significant alterations or removal of character-defining features?
- Does the addition require structural changes to the original building?
- Is the massing of the addition subordinate to the original building mass?
- Is the addition offset from the original building to provide differentiation?
- Is the design simple and compatible with the character of the original building and surrounding properties?
- Could the addition be removed in the future without causing irreversible damage to the historic building?

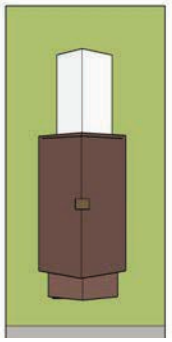






Rear Recessed with Connector

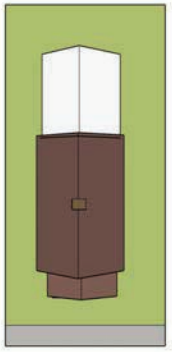






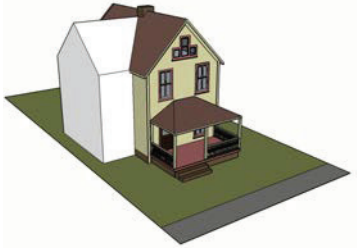
Rear Recessed

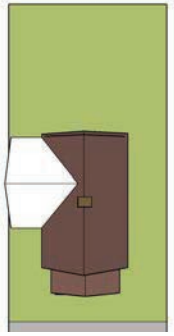


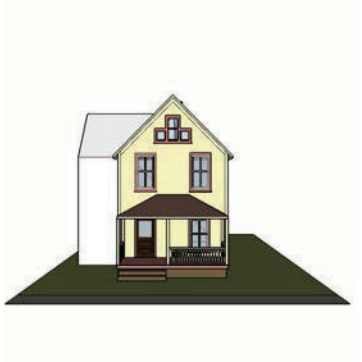




Large Rear Recessed







Large Side

Construction of New Primary Buildings

Designing a new building to fit within a historic neighborhood requires careful planning and an understanding of the area's architectural history. By reviewing the surrounding context of the block and the greater neighborhood, a property owner or designer can identify and incorporate the features that define the neighborhood's character. Replication of historic house designs is not required, although it is acceptable to use them as a basis for new construction. The guidelines also allow for contemporary designs that allude to the historic styles in the district. New buildings should be differentiated from their historic counterparts and avoid creating a false sense of history, while remaining compatible with the context. The following elements are particularly critical in considering the design of a new construction within the district: location, setback, form, scale, massing, height, and roof shape.

Site

1. Design new buildings to be compatible with the existing site.
2. Significantly altering the existing topography of a site via major grading or other methods is not permitted.
3. Consolidating lots into a larger property in order to accommodate a large structure disrupts the pattern of properties within the district and is not appropriate.
4. New building placement should preserve existing mature trees and should be placed outside of their critical root area, if at all possible. Existing mature trees to be preserved should be indicated on site plans.

Placement

1. Base the location of a new building on existing patterns of setbacks, orientation, and building spacing. This will help retain the historic relationship among buildings within the district.
2. The front façade line of new houses should be aligned with façade lines of adjacent houses and compatible with the overall setback pattern of the block.
3. Maintain the existing spacing of front and side yard setbacks along a block.
4. Orient the front entrance toward the main street.
5. Locate new accessory buildings at the rear of the lot consistent with those existing in the district.

Height and Scale

1. Maintain the established height and scale of the street by designing new buildings to be within the typical range of heights and widths. Design new buildings so their height and width are compatible with existing buildings in the district.

2. Design new buildings to have massings similar to those traditionally found within the district.
3. Choose a building form that has a similar complexity to those elsewhere in the surrounding area.
4. Break up large massings through vertical and horizontal articulation, such as projecting bays, bay windows, porches, and material changes.

Roofs

1. Roofs on new primary structures should imitate the shape, pitch, and complexity of neighboring existing houses or others of the same architectural style in the district.
2. New primary structures should include gable roofs, unless the design includes a more complex roof form associated with a cohesive architectural style.
3. A minimum eave overhang of 8 inches should be used on new buildings.
4. Fascia boards should be included on all gable ends.
5. Appropriate materials include asphalt or fiberglass shingles, slate, clay or concrete tiles. Color of roofing materials should be dark green, charcoal gray or black, dark reddish brown, to simulate other roof colors in the neighborhood.
6. Use contemporary interpretations of traditional roof details such as rake boards, chimneys, roof cresting, finials, dormers, parapets, attic vents, cornices, molding, and other unique roof features when designing new buildings.

Design Features

1. Design new buildings with features that reflect those existing in the district.
2. Balance facade proportions with those historically found in the district. The composition and scale of facade elements such as porches significantly affect the aesthetic of the district.
3. Use materials with traditional dimensions.
4. Maintain traditional ratios of solid wall spaces to openings.
5. Utilize window and door openings that are compatible with those on the surrounding buildings in placement, spacing, scale, proportion, and size. Windows are to have a vertical orientation.
6. Design a new building to be compatible in character with existing structures but also to be a product of its own time.
7. It is appropriate to employ contemporary interpretations of historic designs or use a simple contemporary design that conforms to general characteristics such as massing, scale, and proportions. Include architectural details or building articulation such as cornices, lintels, brackets, and chimneys. Contemporary interpretations of traditional details are encouraged, but avoid oversimplified buildings that stand in contrast to the rich architectural variety within the district.

Porches and Stoops

1. A front porch measuring at least six feet in depth is required for all new primary structures.

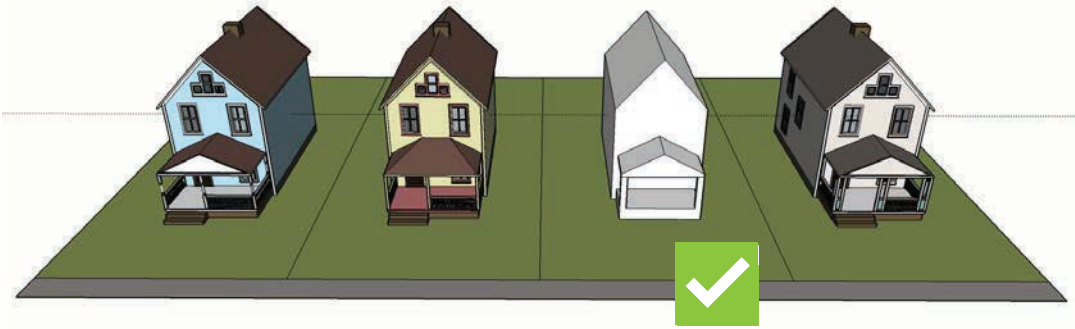
2. The proportion of the porch or stoop to its front facade should be consistent with the other porches in Lindbergh Forest.
3. Details such as columns, posts, arches, wall coverings, balustrades, floors, ceilings should be clad with materials that are compatible with other porch details in the neighborhood.
4. If provided, front porches must be large enough to provide space for active use, measuring six to eight feet deep at minimum, and feature a porch roof.
5. If a stoop is provided, stoops should be a minimum of four feet deep and be proportionate to other historic stoops in the neighborhood.

Materials

1. Use traditional materials or alternative materials that are comparable to those found in the district.
2. Select materials with textures and finishes that are compatible with those of the surrounding area, promote a sense of human scale, and have proven durability.
3. All new construction should include a character-defining masonry element similar to original features in the neighborhood, such as wall cladding, foundation cladding, chimneys, window trim, or porch elements.
4. See below guidelines for specific materials.
    a. Wood siding
        i. New construction with wood siding should incorporate cornerboards, window trim, and door trim with a depth and level of detail comparable to historic houses in the neighborhood.
        ii. Alternative materials that simulate wood siding may be appropriate, excluding vinyl and aluminum siding.
    b. Fiber or cement board siding
        i. Use smooth-finished boards and maintain a four to six inch reveal compatible with wood siding on historic houses.
        ii. It is not appropriate to use fiber cement board or other material that has a faux wood grain.
    c. Masonry
        i. Use masonry materials that are compatible with the character of traditional masonry materials (stone and brick) in size and texture. Samples of proposed brick or stone may be requested for HZC review.

Parking

1. New parking pads, driveways, and access points for new construction and existing houses should be unobtrusive to the existing pattern of the block and streetscape.
2. Do not locate parking pads in front yards.
3. Parking areas should be at least twenty feet behind the front facade of the house, with access limited to one lane between the street and the façade, unless site constraints require a different configuration.





New Construction

Spacing

New Construction

Setback

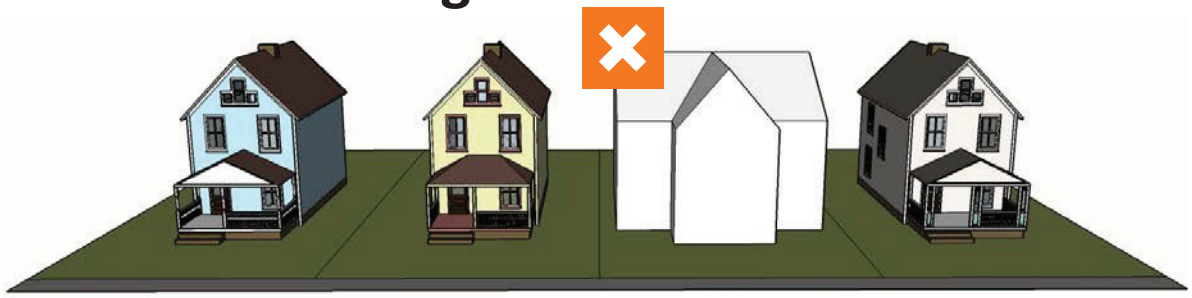






New Construction

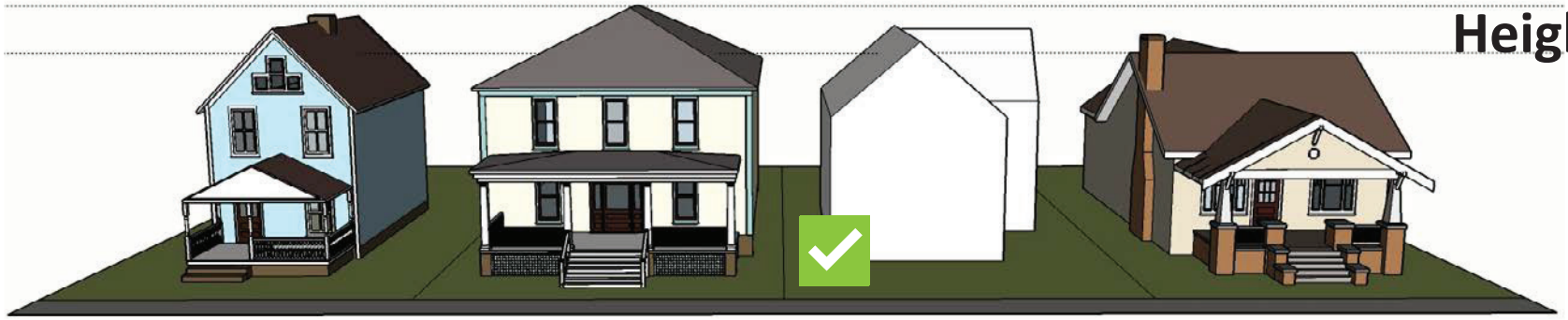
Massing

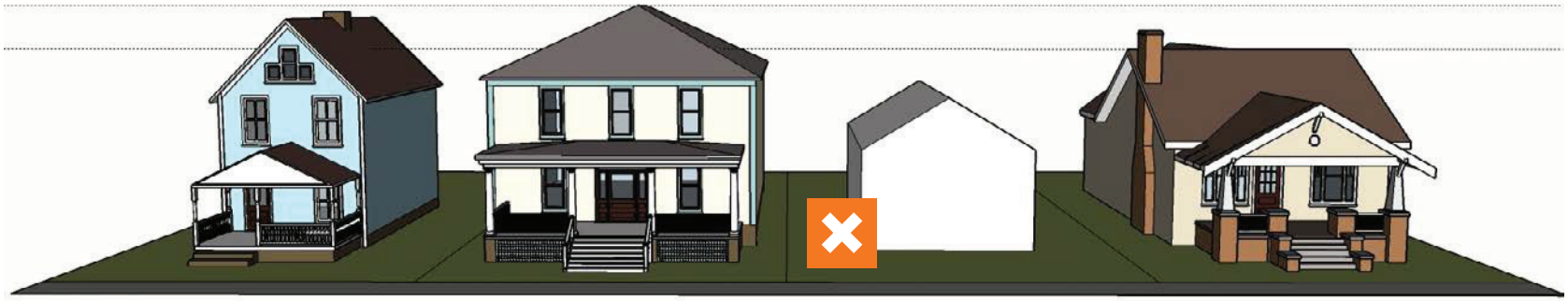




New Construction

Height





Further Guidance for New Construction

Applying the Guidelines

Guidelines for new construction are not intended to define a specific level of detail or style for new buildings. Rather, they are intended to promote an understanding of the general characteristics that are important to consider in ensuring that a new building is compatible with the surrounding district.

The HZC will utilize the guidelines to answer the following questions:

- Does the building maintain the street character?
- Does the building fall within the established rhythm along the street?
- Is the building orientation and setback consistent with the streetscape?
- Is the front entrance oriented to the street?
- Does building massing and form fall within the established range of the streetscape?
- Does the front façade incorporate human-scale elements?
- Is the ratio of solid to openings (windows and doors), particularly on the façade, consistent?
- Is the complexity of the building form appropriate within the context of the streetscape?
- Does the roof shape and pitch conform to those within the district?
- Are materials scaled to the building and appropriate traditional materials or modern substitute counterparts with proven durability?
- Is the building appropriately articulated by architectural details that recall historic forms but stand as a product of their own time?

Recommendations for Environmental Stewardship

Just as with rehabilitating historic buildings, carefully plan the construction of infill buildings to include a sustainable approach and maximize energy efficiency:

- Maintain site features such as mature trees that provide natural shade.
- Site a building to take advantage of passive solar gain in the winter and deflection in the summer.
- Incorporate features such as porches where there is historic precedent.
- Use locally-sourced or recycled materials that are compatible with traditional materials in the district.
- Consider roof forms that allow for the installation of solar collectors at the rear of secondary elevations or on the rear elevation.
- Design and locate gutter systems that allow for the capturing of stormwater runoff.
- Locate windows and doors to allow for indoor cross ventilation.

Demolition

Demolition creates a permanent change in and loss to the district, reducing its historic and architectural significance. Demolition will be considered only when all other alternatives have been explored. The below guidelines apply to demolition of primary structures (see Accessory Structures for related guidelines for demolition).

1. Work with the Historic Zoning Commission (HZC) or staff to identify alternatives to demolition. Alternatives are listed below.
    a. Redesign the project to avoid any impact to the structure or setting.
    b. Incorporate the structure into the overall design of the project.
    c. Convert the structure into another use (adaptive reuse).
    d. Relocate the structure on the current property.
    e. Relocate the structure to another property within the same H zoning overlay.
    f. Relocate the structure to another property within the city or county.
2. Before demolition is considered, document the condition of the building, including any public health and safety issues, such as asbestos or lead paint.
3. Document significant structures through photographs and drawings prior to demolition.
4. Describe any impact of demolition of the subject property on the surrounding properties.
5. Work with the HZC staff and interested groups to facilitate salvage of usable architectural materials if demolition is approved.
6. Approval for demolition may be considered if the HZC determines that the building or structure does not contribute to the historical or architectural character of the district. A building's contribution may include its linkage, historically or architecturally, to other buildings in the district, such that their continuity as a collection possesses greater significance than the subject building as an individual resource.
7. Approval for demolition may be considered if the HZC finds that structural problems and associated costs to address the problems warrant demolition; the decision shall be based on an assessment by a licensed structural engineer or architect.

Appendix A: Frequently Asked Questions

Does my project require design review?

If you are proposing exterior work to your building located within a historic overlay district, a Certificate of Appropriateness (COA) is required. Interior work does not require design review unless it affects the exterior appearance of the building (such as enclosing a window opening from the inside).

Where do I begin the review process?

You can obtain preliminary information on the design review process, fees, application forms, and design guidelines at the Knoxville-Knox County Planning website at knoxplanning.org. The primary contact for the design review process is the Planning historic preservation planner, who serves as staff to the Historic Zoning Commission. Planning staff can provide information on the process and guidance on your proposed project.

When is the best time to begin coordination with Planning staff?

In order to avoid unnecessary delays and expenses, you should contact the designated Planning staff as early as possible in your design process. Planning staff can verify that you are on the right track with your project.

How much does the design review process cost?

The HZC charges a fee for a Certificate of Appropriateness scaled to the nature of the proposed work. The latest information on fees associated with COAs can be obtained from the Knoxville-Knox County Planning website at knoxplanning.org or from Planning staff.

How can I get through the design review process more quickly?

The design review process is guided by a set calendar that allows for consistent meeting dates and submittal deadlines. Providing all the information outlined in the application checklist is important to ensure that projects are reviewed efficiently. The best way to speed up the process is to coordinate early with Planning staff to ensure that you submit appropriate, complete materials for your project.

Do I need to hire a professional?

Not all projects necessitate hiring a design professional or contractor to assist with the design review process. For example, replacing a front door will not require the use of a professional. However, for complex projects such as additions, that require the submission of scaled drawings or renderings, retaining the services of a professional will lessen the chances that the project will be sent back to the drawing board for revisions. You are the one responsible for "selling" the HZC on your project.

Can I begin work after receiving a COA?

Usually, going through the design review process and receiving a COA is just the first step of the process necessary to begin work on a project. Check with the Building Inspector to ensure that you have all necessary permits prior to beginning work. Note that you cannot receive a building permit without first obtaining an approved COA.

What if an emergency repair is needed?

If a building within a historic district requires an emergency repair due to unforeseen events such as a tree collapse, fire, or weather event, the Building Inspector can choose to issue an emergency work permit without review by the HZC.

Appendix B: Glossary of Architectural Terms

A

Aluminum Siding

Sheets of exterior wall covering fabricated from aluminum to resemble wood siding. Aluminum siding was developed in the 1940s and was popular into the 1950s and 1960s.

Appropriate

Suitable for, or compatible with, a property, based on accepted standards and techniques for historic preservation.

Arch

A curved and sometimes pointed structural member used to span an opening.

Architrave

The lower part of a classical entablature, resting directly on the capital of a column, the molding around a window or door.

Asphalt Shingle

A shingle manufactured from saturated roofing felts, rag, asbestos, or fiberglass coated with asphalt and finished with mineral granules on the side exposed to weather.

Awning

A roof-like cover of canvas or plastic over a window or door to provide protection against sun, wind, or rain.

B

Balustrade

A series of balusters or uprights connected on top by a handrail and sometimes on the bottom by a bottom rail to provide an ornamental and protective barrier along the edge of a stair, roof, balcony, or porch.

Battered Column

A column that is thicker at the bottom than at the top.

Bay

(1) An opening or division along a face of a building; for example, a wall with a door flanked by two windows is three bays wide. (2) The space between principle structural members, as in a timber frame, the space between posts. (3) A projection from the façade of a building, such as a bay window.

Beveled glass

Glass panels whose edges are ground and polished at a slight angle to form a beveled border; used for entrance doors and ornamental work.

Brick Bond

The pattern in which masonry, particularly brickwork, is laid to tie together the thickness of the wall.

Bracket

Projecting support members under eaves or other overhangs; plain or decorated.

Bulkhead

The area below the display window on the front façade of a commercial storefront.

Bungalow

A house type and architectural style popular in the early 20th century. Typically defined as a relatively modest, one-story dwelling of informal character, the bungalow traced its origins to British colonial India, as well as to the Arts and Crafts movement of the 19th century.

C

Capital

The top member of a column, usually decorated or molded. Each classical order —Doric, Ionic, Corinthian, Composite — has its characteristic capital.

Casement

A window with sash hung vertically, which opens inward or outward.

Casing

The finished visible framework around a door or window.

Certificate of Appropriateness

When an owner within a historic or neighborhood conservation district wants to make changes to the exterior of his or her property, a Certificate of Appropriateness (COA) is needed from the Historic Zoning Commission (HZC) in addition to other permits that may apply. The COA grants permission for the proposed work that is compatible with the adopted design guidelines.

Chamfer

A beveled edge on the corner of a post, wall, etc. May take the form of a flat surface or a more elaborately molded surface. Edges so beveled are said to be chamfered.

Character-defining features

Individual physical elements of any structure, site, street, or district which contributes to its overall historic or architectural character and for which it is recognized as historically or architecturally significant.

Clapboard

Long horizontal boards with one edge thicker than the other, overlapping to cover the outer walls of framed structures; also known as weatherboard.

Classical

The architecture of ancient Greece and Rome, and architecture using forms derived from ancient Greece and Rome.

Coping

The top course of a masonry wall or parapet which projects beyond the wall surface to throw off the rain.

Corbel

A small projection built out from a wall to support the eaves of a roof or some other feature.

Cornice

In classical architecture, the upper projecting section of an entablature; projecting ornamental molding along the top of a building or wall. The term is loosely applied to any horizontal molding forming a main decorative feature such as a molding at the junction of the walls and ceiling.

A raking cornice extends along a slanting (raking) side of a gable or pediment.

A boxed cornice is a simple treatment with a vertical fascia and a horizontal soffit board enclosing the ends of the ceiling joists where they project at the eaves.

Course

A horizontal row of bricks, stones, or other masonry units.

Cresting

Ornamental ironwork used to embellish the ridge of a gable roof or the upper cornice of a mansard roof.

Cross Gable

A gable which is set parallel to the ridge of the roof.

Cupola

A small domed structure, usually polygonal, built on top of a roof or tower.

D

Deck

A roofless porch, usually at the rear of a building, popular in contemporary residential architecture.

Dentils

Small, closely placed blocks set in a horizontal row used as an ornamental element of a classical cornice.

Dormer

A vertical window projecting from the slope of a roof, usually provided with its own roof, used to light rooms in a half story.

Double-hung Window

A window with two sashes, each movable by means of sash cords and weights.

Downspout

A pipe that carries water from the gutters to the ground or to a sewer connection.

E

Eaves

The projecting overhang at the lower edge of a roof.

Elevation

A scaled drawing which illustrates the view of any side of a building.

Ell

A wing or extension of a building, often a rear addition, positioned at right angles to the principal mass.

Engaged Column

A column that is in direct contact with a wall; at least half of the column projects beyond the surface of the wall to which it is engaged. Sometimes called a pilaster.

Entablature

The horizontal part of a classical order, above the columns; consists of architrave, frieze, and cornice.

Etched Glass

Glass where the surface has been cut away by a strong acid, creating a decorative pattern.

F

Façade

An exterior side of a building.

Fanlight

A semicircular or fan-shaped window with a radiating glazing bar system usually found over entrance doors.

Fascia

The flat member of the architrave in classical architecture. A fascia board is a flat board used to cover the ends of roof rafters.

Fenestration

The arrangement of windows in other exterior openings of a building.

Finial

An ornament at the top of a spire, gable, or pinnacle.

Foundation

The supporting portion of a structure below the first-floor construction, or below grade.

Frieze

In classical architecture, the member between the architrave and cornice. Also, any plain or decorative band, or board on the top of a wall immediately below the cornice.

G

Gable

A triangular wall segment at the end of a double pitched or gabled roof.

Galvanize

To coat steel or iron with zinc.

Gambrel Roof

A roof having a double slope on two sides of a building.

Gazebo

A small summerhouse or other space with a view; usually found in a garden or yard.

H I J K

Headers

Bricks laid with their ends toward the face of a wall.

Hipped Roof

A roof formed by four pitched roof surfaces.

Jerkin Head Roof

A roof form in which the top of the gable is cut off by a secondary slope forming a hip.

Keystone

The wedge-shaped stone found at the center of an arch.

L

Latticework

Openwork produced by interlacing or crossing lath or thin strips of iron or wood; often used at the base of a porch.

Lean-to

A small addition with a single pitched roof.

Light (lite)

A pane of glass.

Lintel

A horizontal structural member that supports a load over an opening.

Louver

A small lantern or other opening, often with wood slats, used for ventilating attics or other spaces.

M

Mansard Roof

A roof that has two slopes on all four sides.

Masonry

Work constructed by a mason using stone, brick, concrete blocks, tile, or similar materials.

Molding

A continuous decorative band; serves as an ornamental device on both the interior and exterior of a building or structure.

Mortar

A mixture of plaster, cement, or lime with a fine aggregate and water used for pointing and bonding bricks or stones.

Mullion

A large vertical member separating two casements and forming part of the window frame.

Muntin

One of the thin strips of wood used for holding panes of glass within a window; also called sash bar or glazing bar.

N O P

Newel Post

The post supporting the handrail at the top and bottom of a stairway.

Pane

A single piece of window glass.

Panel

A sunken or raised portion of a wall, ceiling, mantel or door with a frame-like border.

Parapet

A low wall or protective railing often used around a balcony or along the edge of a roof.

Patio

A usually paved and shaded area adjoining or enclosed by the walls of a house.

Pediment

A wide low-pitched gable surmounting the façade of a classical building; used over windows and doors.

Pergola

An arbor or passageway with a trellis roof on which climbing plants can be trained to grow.

Pilaster

A shallow pier attached to a wall, often decorated to resemble a classical engaged column.

Pointing

The final filling and finishing of mortar joints that have been left raw or raked out.

Porte-cochère

A large covered entrance porch through which vehicles can drive.

Portico

A major porch, usually with a pedimented roof supported by classical columns.

Portland Cement

A hydraulic binder for concrete; made by burning a mixture of clay and limestone.

Preservation

Preservation means the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property.

Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

Public Street Right-of-Way

Publicly owned and maintained streets, including sidewalks.

Q

Quoin

Large stones, or rectangular pieces of wood or brick, used to decorate and accentuate the corners of a building.

R

Rehabilitation

Rehabilitation means the act or process of making possible an efficient compatible use for a property through repair, alterations, and additions while preserving those portions or features that convey its historical, cultural, or architectural values.

Rake

The slope of a gable, pediment, stair, string, etc.

Repointing

Raking out deteriorated joints and filling them with a surface mortar to repair the joint.

Restoration

Restoration means the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time, by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code- required work to make properties functional is appropriate within a restoration project.

Retaining Wall

A wall that bears against an earthen backing.

Return

The continuation of a molding from one surface onto an adjacent surface.

Roof Ridge

The horizontal line formed when two roof surfaces meet.

Rustication

Rough-surfaced stonework.

S

Sandblasting

An abrasive way of cleaning brick, masonry, or wood by directing high powered jets of sand against the surface.

Sash

A frame for glass to close a window opening.

Segmental Arch

An arch formed by the segment of a circle.

Shingle

A wedge-shaped piece of wood as used in overlapping courses to cover a roof or an outside wall surface.

Shutter

An extra closure for a window or door, usually a pair of paneled wood hinged at the outside jambs.

Sidelight

One of a pair of narrow windows flanking a door.

Sill

The framing member that forms the lower side of an opening, such as a door sill. A window sill forms the lower, projecting, lip on the outside face of a window.

Soffit

The exposed underside of an arch, cornice, balcony, or beam.

Spall

To split off from the surface, as stone that is bearing undue pressure near its face or is weathered.

Spandrel

The triangular space between the shoulder of an arch and the triangular framework that surrounds it; the space between two adjacent arches; the triangular space between the outer string of a stair and the floor.

Stringcourse

A continuous horizontal band of brick, stone, or wood on the exterior wall of a building; used for decorative purposes, or to break up a large expanse of wall surface.

Stoo

A casing or molded piece running along the base of a window and contacting the bottom rail on the inside of a building.

Stucco

An exterior wall covering consisting of a mixture of Portland cement, sand, lime, and water.

Surround

An encircling border or decorative frame.

T

Terra Cotta

A fine-grained fired clay product used ornamentally on the exterior of buildings, may be glazed or unglazed, molded or carved.

Tongue-and-groove

A projecting rib along the edge of a member fit into a corresponding groove in an adjacent member.

Transom

An opening over a door or window, usually for ventilation, and containing a glazed or solid sash.

Trellis

A light frame or latticework used as a screen or as a support for vines.

Trim

The finish material on a building, such as a molding applied around door and window openings or at the floors and ceilings of rooms

Turret

A small tower usually corbelled at the corner of a building.

U V

Underpinning

The system of supports, such as rough walls or piers, beneath the ground floor.

Valley

The depressed angle formed at the meeting point of two roof slopes.

Veranda

A roofed space attached to the exterior wall of a house and supported by columns, pillars, or posts; commonly used in Britain to describe an open porch.

W X Y Z

Water Table

A plain or molded ledge or projection, usually at the first-floor level, that protects the foundation from rain running down the wall of a building.

Weatherboard

Wood siding consisting of overlapping horizontal boards, usually thicker atone edge than the other.

Weatherstrip

A piece of wood, metal, rubber, or other material installed around window and door openings to prevent air infiltration and moisture penetration.

Wrought Iron

Pig iron that is puddled and rolled or hammered into shape, never melted or cast.

Appendix C: New Construction Checklist

The following checklist may be used by applicants or HZC members as a reminder of the features and elements to be considered when proposing new construction.

Site

Walkways and Driveways

- Location
- Dimensions
- Materials

Fences

- Location
- Height
- Materials
- Meet zoning requirements

Mechanical and Utilities Screening

- Location
- Visibility from public street right-of-way

Buildings

Building Placement

- Distance to street (setback)
- Oriented to primary street
- Respects existing pattern of spacing between buildings

Size

- Massing relates to existing buildings
- Complexity of form is compatible with surrounding buildings
- Height is within 10 percent of adjacent buildings
- Width is within 10 percent of surrounding buildings

Roof

- Compatible pitch and form
- Materials are compatible with historic precedents
- Chimneys, dormers, and other features are of appropriate scale

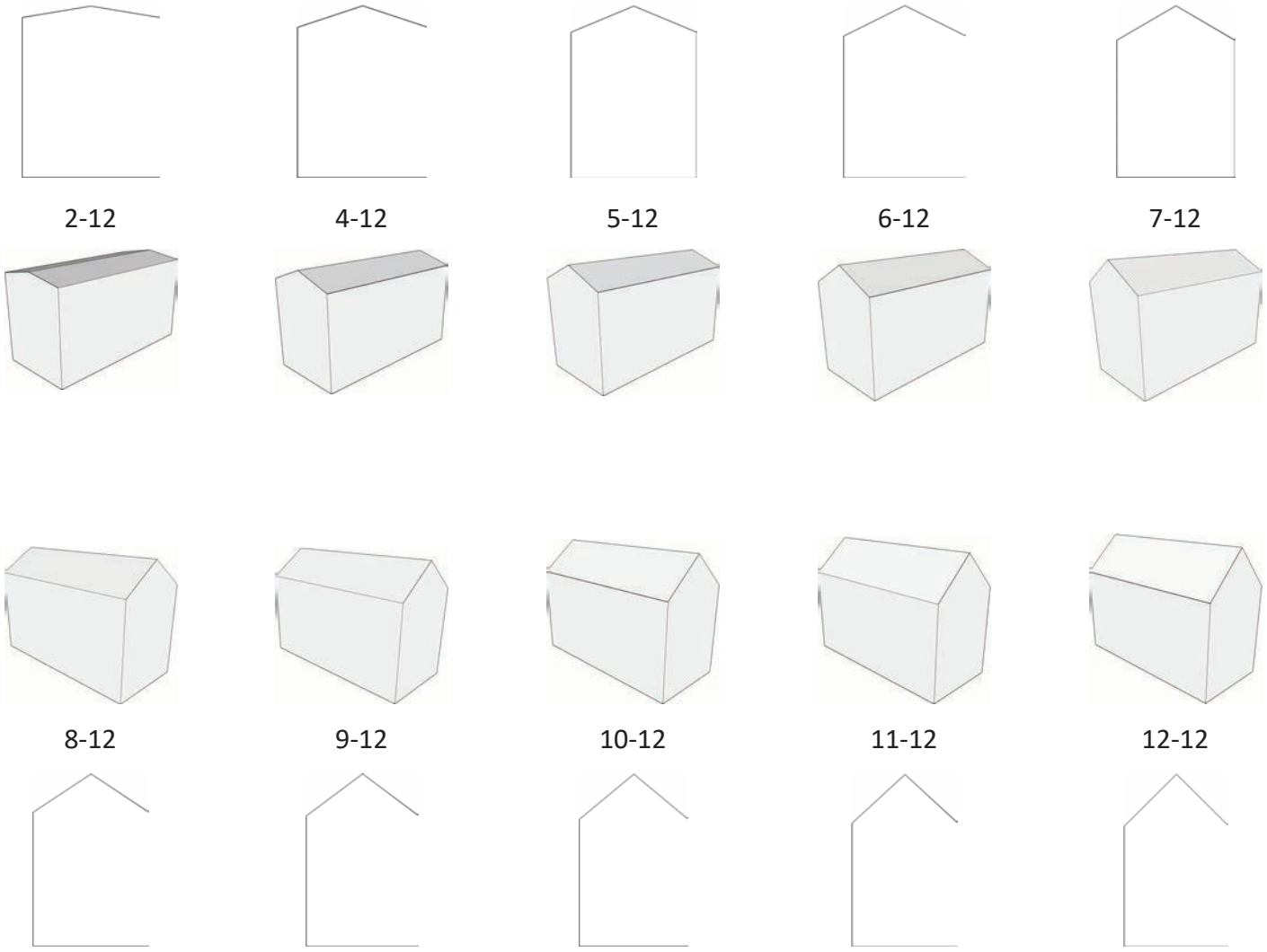
Windows and Doors

- Compatible ratio, spacing, and proportions
- Window material and casing compatible with historic precedents
- Door style and finish are compatible with historic precedents
- True-divided- light or simulated- divided-light
- Storm windows and doors painted and conform to openings and window/door divisions
- Shutters (if included) are scaled to the opening and include hinge hardware

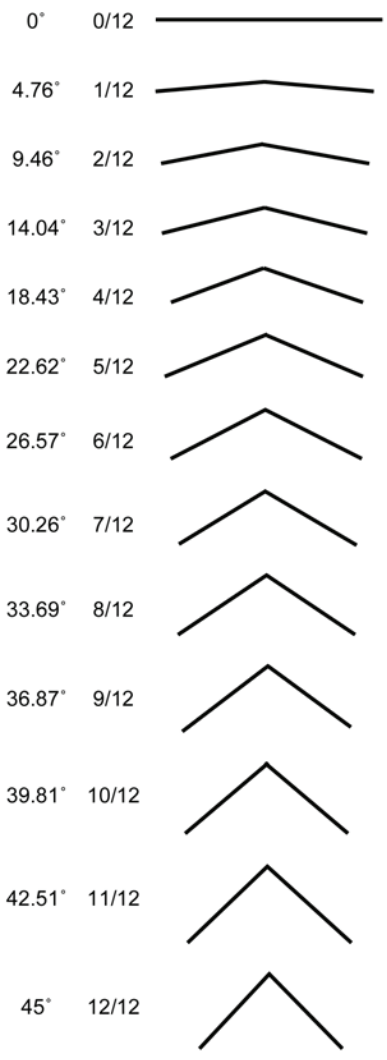
Porches

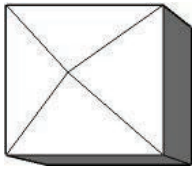
- Compatible to the scale and style of surrounding houses
- Design respects materials, proportions, and placement of surrounding houses
- Materials and details
- Traditional materials
- Alternative materials that adequately simulate the authentic material

Appendix D
Roofs

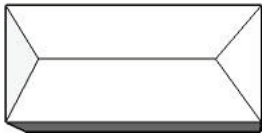


Roof Pitches

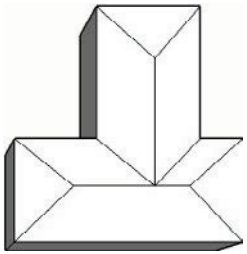




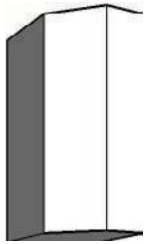
Pyramidal



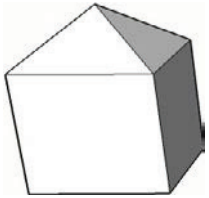
Hipped

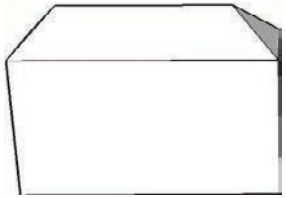


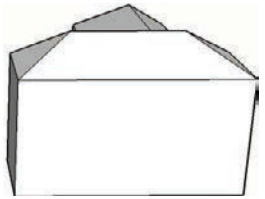
Cross Hipped

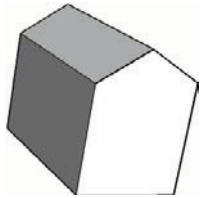


Front Gable

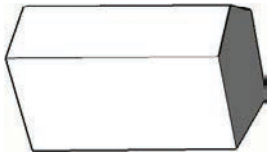




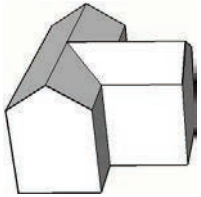




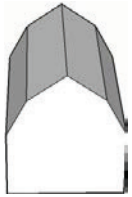
Roof Styles



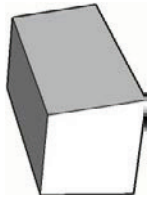
Side Gable



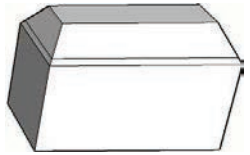
Cross Gable



Gambrel

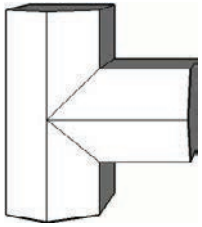


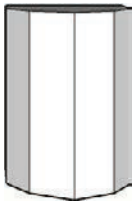
Shed

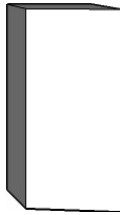


Mansard



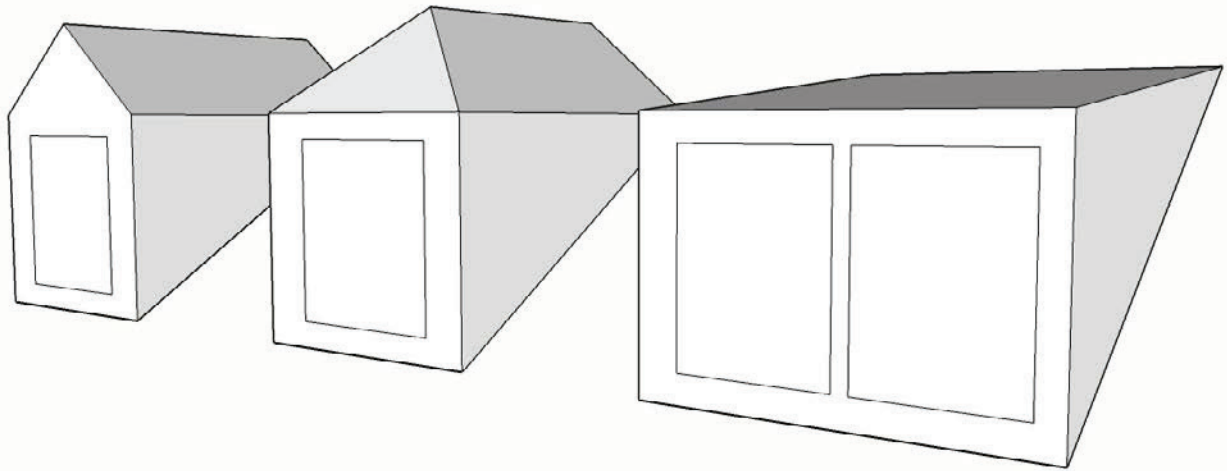


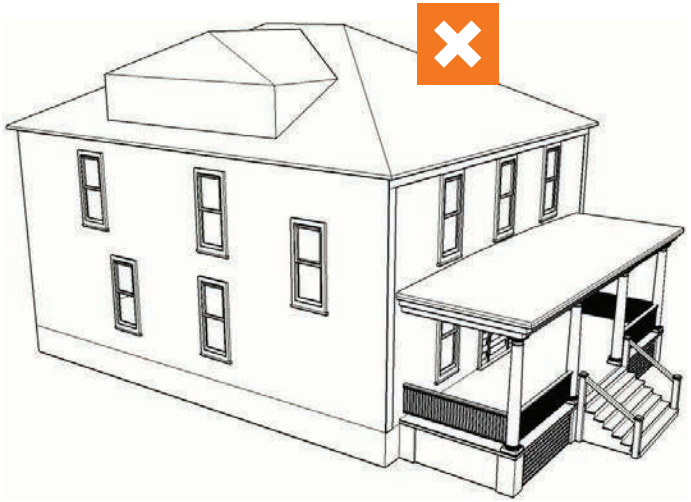




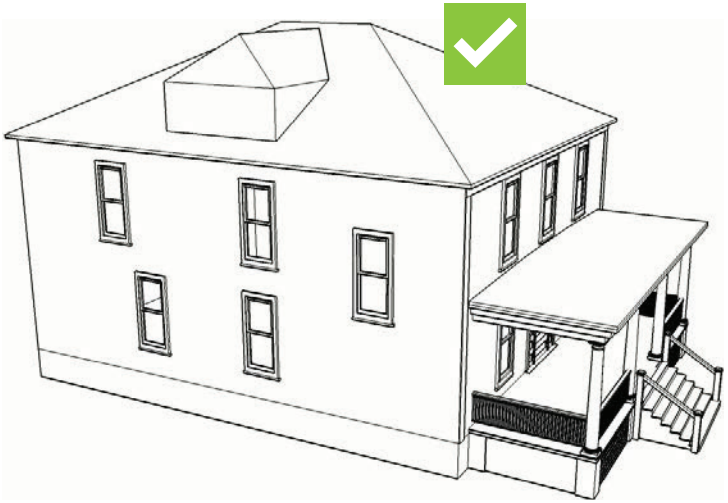


Dormer Shapes

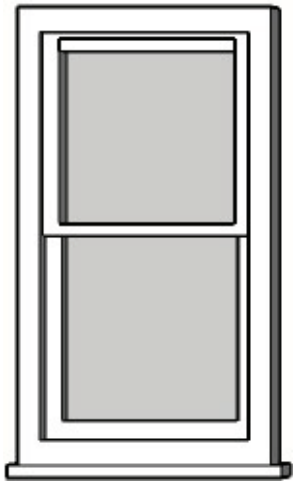




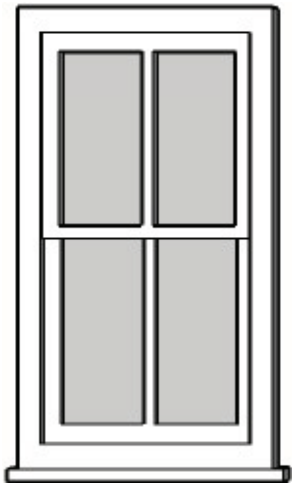
Dormer Addition



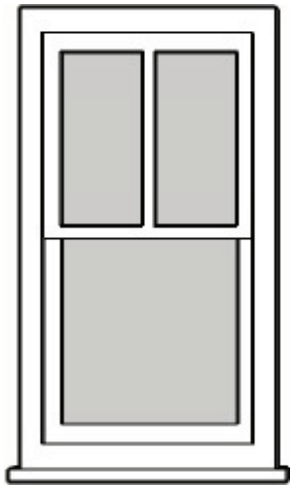
Appendix E
Windows



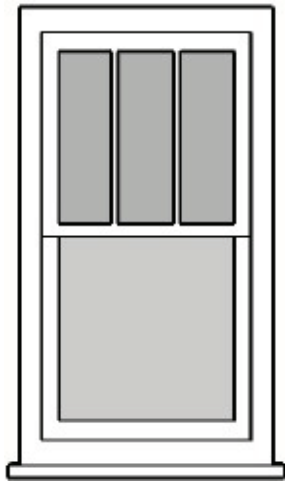
1 over 1



2 over 2

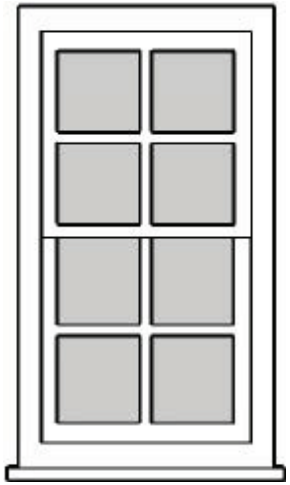


2 over 1

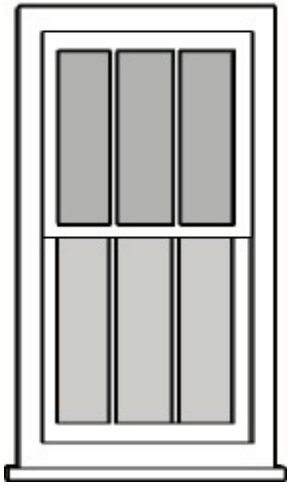


3 over 1

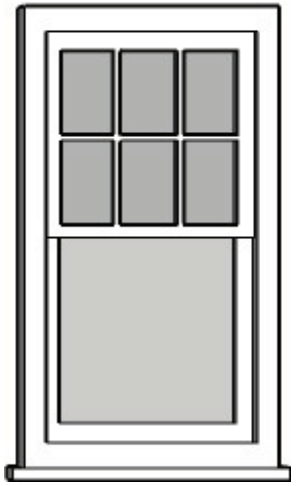
Window Styles



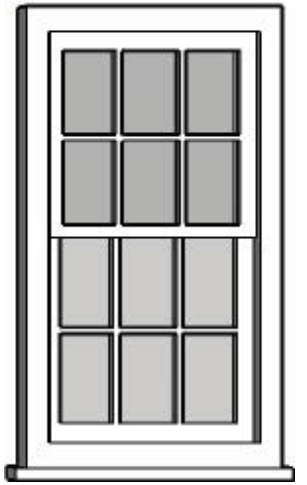
4 over 4



3 over 3

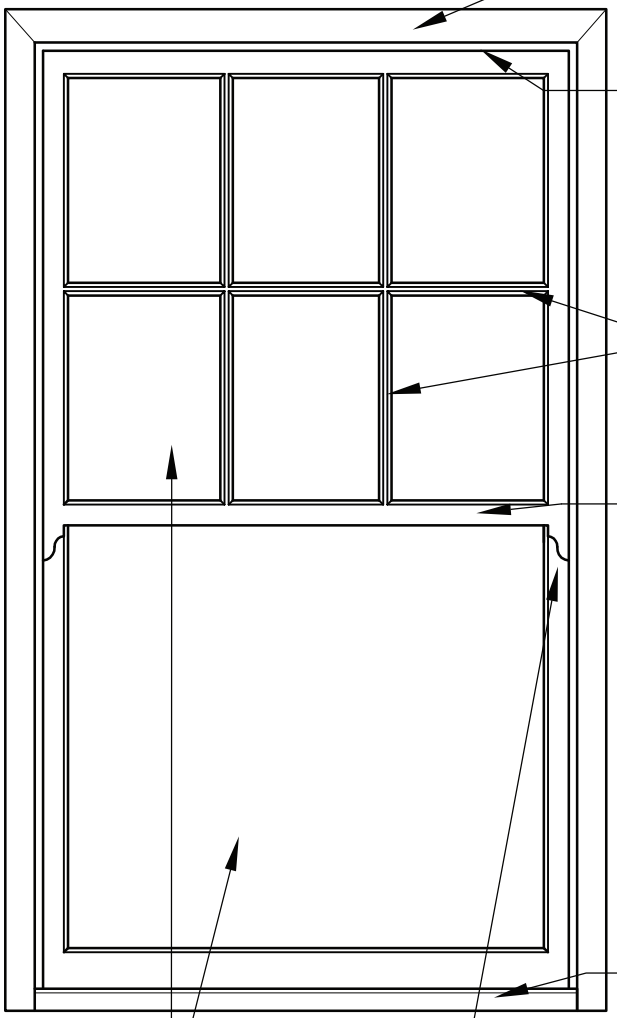


6 over 1



6 over 6

Parts of a Wood Window



Brick Mold
general shape and dimension

Blind Stop
dimension

Sash Top Rail
height and putty bevel

Muntin
shape, width, and depth of exterior

Meeting Rail
height

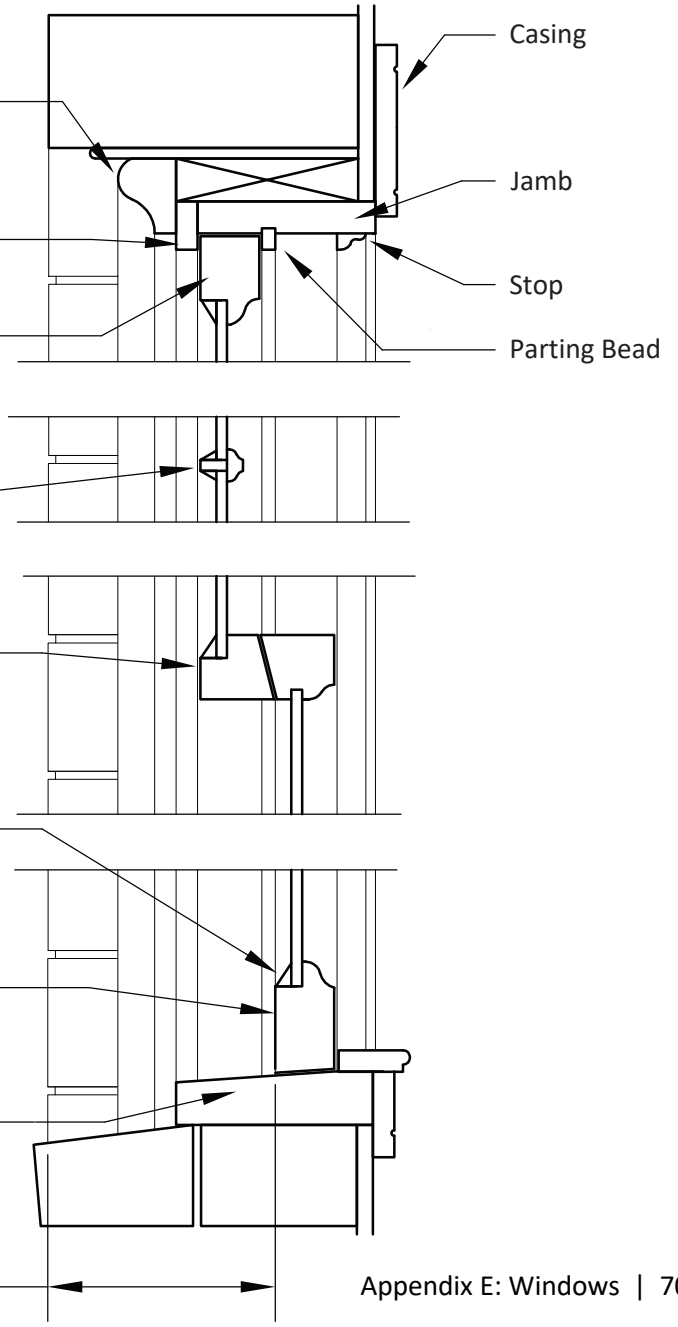
Putty Bevel
depth: dimension from the sash face to the glass surface

Sash Bottom Rail
height

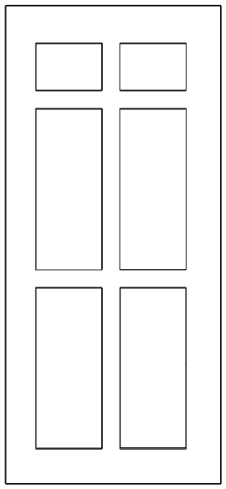
Sill
height and slope

distance from wall face to window

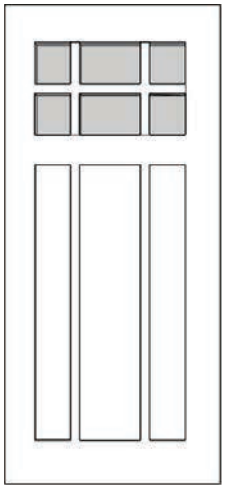
Section Drawing shows the relationship of the window sash to the exterior wall plane.



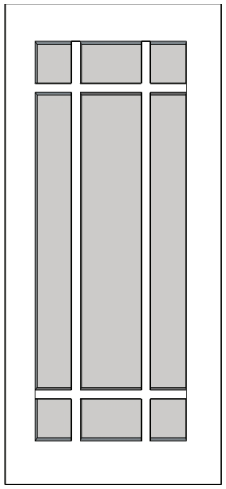
Appendix F
Doors



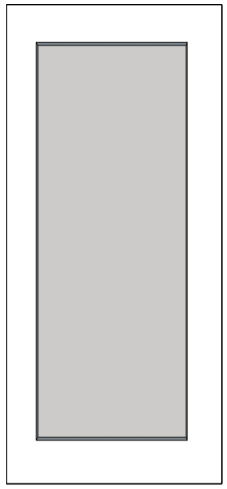
6-Panel Vertical



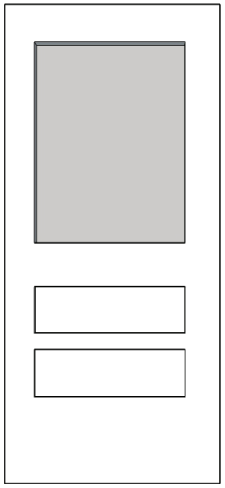
Craftsman
6-Lite Panel



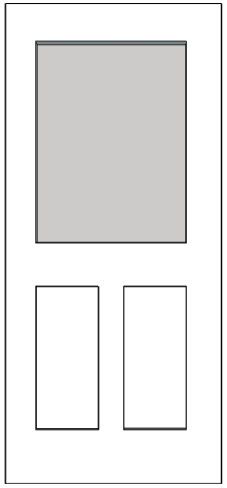
Craftsman
9-Lite Panel



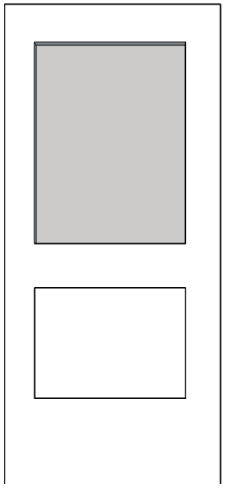
Full-Lite



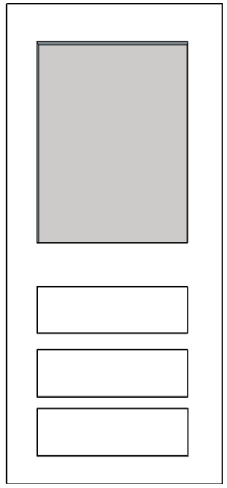
Half-Lite
Double Panel
Horizontal



Half-Lite
Double Panel
Vertical



Half-Lite
Single Panel



Half-Lite
Triple Panel

Appendix G: Historic Buildings and Lead Paint

Lead paint is only a hazard if it is unstable, so the mere presence of lead paint is no reason to destroy the historic fabric of your structure. Only a lead paint professional can analyze paint to determine the presence of lead. There are safe and cost-effective ways to remove or work around the lead paint. Procedures to safely remove lead paint down to the bare wood surface should not cost more than 20% above the cost of a hand-scraped paint removal job.

Educate Yourself About Managing Lead Paint

If you own or live in a building built before 1978, you should thoroughly educate yourself about smart lead paint management in your home or building. Removing lead paint from siding, window jambs, window sashes, and trim can be a safe, quick, and easy process, if you know how to do it or if you hire an experienced contractor to do it. The dust generated from unstable lead paint has the most potential to create a lead poisoning hazard. Therefore, efforts to manage lead paint hazards focus on eliminating the dust from lead paint.

NOTE: The information presented here is not intended to provide comprehensive technical advice or instructions on solving historic preservation issues.

Any information contained or referenced is meant to provide a basic understanding of historic preservation practices.

Hire a Contractor with Lead-Safe Certification

The Environmental Protection Agency's (EPA) Lead Renovation, Repair, and Painting Rule (RRP Rule) requires that firms or contractors performing renovation, repair, and painting projects that disturb lead-based paint in houses built before 1978 be certified by the EPA, use certified renovators who are trained by EPA-approved training providers, and follow lead-safe work practices. Although homeowners themselves are not subject to these regulations, it is highly recommended that anyone removing lead paint follow the EPA regulations for the safety of themselves and those around them.

Manage the Lead Paint in Your House or Building

You can manage the lead paint in your historic house or building by using these practices:

Dust your house weekly to remove lead dust.

Use an EPA-approved HEPA vacuum to vacuum your house or building. These vacuums take in the dust but do not release a significant amount of dust back into the air.

Eliminate any painted surfaces that rub together and generate lead dust. For example, you might have a painted door that rubs against a painted door jamb.

Never dry-scrape old paint. Mist the wood with water first to prevent the spread of lead dust.

Do not remove old paint with a blower-type heat gun, which heats to a dangerously high temperature. Lead paint becomes a toxic vapor at about 650 degrees Fahrenheit. Instead, use an infrared paint removal tool. Infrared tools will not heat the paint above 600 degrees. They are approved by the Environmental Protection Agency to be safe for removing lead paint.

Bibliography

Allen, Edward. Fundamentals of Building Construction: Materials and Methods. New York: John Wiley & Sons, Inc., 1985.

Bluemnson, John J. G. Identifying American Architecture: A Pictorial Guide to Styles and Terms, 1600-1945. New York: W.W. Norton & Company, Second Edition, 1981.

Bucher, Ward, A.I.A. Dictionary of Building Preservation. New York: John Wiley & Sons, Inc., 1996.

Chambers, J. Henry. Cyclical Maintenance for Historic Buildings. Washington, D.C.: Technical Preservation Services, U.S. Department of the Interior, GPO, 1976.

Fitch, James Marston. Historic Preservation: Curatorial Management of the Built World. Charlottesville, VA: University Press of Virginia, 1990.

Gayle, Margot, David W. Look, AIA, and John G. Waite. Metals in America's Historic Buildings: Uses and Preservation Treatments. Washington, D.C.: Technical Preservation Service, U.S. Department of the Interior, GPO, 1980.

Grimmers, Anne E., Jo Ellen Hensley, Liz Petrella and Audrey T. Tepper.: The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings. Washington D.C.: U.S. Department of the Interior, National Park Service, 2011.

Harris, Cyril M. Architecture Sourcebook. New York: McGraw-Hill Book Company, 1977.

Harris, Cyril M. Illustrative Dictionary of Historic Architecture. New York: Dover Publications, Inc., 1977.

Howe, Barbara et al. House Histories. Nashville: American Association for State and Local History, 1986.

Jandl, H. Ward, Ed. The Technology of Historic American Buildings. Washington, D.C.: Foundation for Preservation Technology, 1984.

Labine, Clem and Carolyn Flaherty, Eds. The Original Old-House Journal Compendium. Woodstock, N.Y.: Overlook Press, 1980.

Longstreth, R. Main Street: A Guide to American Commercial Architecture. Washington, D.C.: National Trust for Historic Preservation, 1987.

McAlester, Virginia and Lee. A Field Guide to American Houses. New York: Knopf, 1984.

McKee, Harley J. Recording Historic Buildings. Washington, D.C.: US Government Printing Office, 1970.

Morton lll, W. Brown, Gary L. Hume, Kay D. Weeks and H Ward Jandl.: The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings. Washington D.C.: U.S. Department of the Interior, National Park Service. 1997

National Park Service. Illustrated Guidelines for Rehabilitating Historic Buildings. Washington D.C.: Historic Preservation Services, 1992.

National Trust for Historic Preservation. New Energy From Old Buildings. Washington, D.C.: Preservation Press, 1981.

Poppeliers, John, S. Allen Chambers and Nancy B. Schwartz. What Style is it? A Guide to American Architecture. Washington, D.C.: Historic American Buildings Survey, 1977. Rev. Ed. Preservation Press, 1984.

Rifkind, Carol. A Field Guide to American Architecture. New York: New American Library, Inc., 1980.

Travers, Jean and Susan Shearer. Guide to Resources Used in Historic Preservation Research. Washington, D.C.: National Trust for Historic Preservation, 1978.

Whiffen, Marcus. American Architecture Since 1780: A Guide to the Styles. Cambridge: Mit Press, 1969.

Online Resources

National Park Service Technical Preservation Services
http://www2.cr.nps.gov/tps/index.htm

Illustrated Guide for Rehabilitating Historic Buildings
http://www2.cr.nps.gov/tps/tax/rhb/index.htm

Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings
http://www.nps.gov/tps/sustainability.htm

The Secretary of Interior's Standards for Rehabilitation
http://www2.cr.nps.gov/tps/tax/rehabstandards.htm

National Park Service Preservation Briefs
http://www2.cr.nps.gov/tps/briefs/presbhom.htm

National Register of Historic Places
http://www.cr.nps.gov/nr/