

Introduction to New Construction

Historic districts are not, and should not be, static museum-like environments that are resistant to change. Instead, they are constantly evolving as the needs of their residents change. Chapel Hill's historic districts were not constructed during a single period of development, but were rather built over time, representing, in the case of the Franklin-Rosemary Historic District, nearly three hundred years of building. The result of this gradual development is that the age and style of buildings within Chapel Hill's historic districts varies greatly with the architectural styles represented indicative of the era in which each building was erected, or in some cases, altered. However, the siting and overall form and massing of buildings within the historic districts, especially within a given block or street, create consistent and cohesive streetscapes.

New construction, when it is sensitively sited with regard to existing site features and carefully designed to respect the historic architecture and district context, can be a valuable tool for eliminating vacant lots and gaps in the urban fabric. Context for new construction and additions includes the streetscape in its entirety, as one would see it when standing on the street viewing both sides of the street for the entire length of the Streetscape. Further, special consideration should be given to the immediate surroundings—those adjacent and neighboring historic structures, including those across the street—in order to reinforce existing rhythms and patterns.

Carefully designed new primary buildings, garages, and accessory buildings all illustrate the continued architectural evolution of the district and can enhance the overall character of a district streetscape. New construction need not mimic earlier architectural styles, but should reinforce the visual character and context of the streetscape through compatible siting, scale, form, and materials.

Additions to historic buildings can allow for their continued use despite evolving family and social requirements. Likewise, the construction of carefully sited new porches, decks, and patios can extend the indoor living space to the outdoors with little impact to the historic district.

Thus, the goal of the standards for new construction is not to limit or deny the construction of new buildings or additions within the historic districts, nor to specify or impose particular architectural styles. Rather, the standards address the appropriate form, scale, massing, and location of new construction. The review of these elements will ensure that the proposed new construction is not incongruous with, but rather enhances, the historic district while allowing for the specific taste and stylistic preferences of the owner.

The following pages provide standards for the Setback, Spacing, and Orientation of new buildings in order to ensure that they are consistent with surrounding buildings and contribute to the continuity of the streetscape. Standards for building Scale, Proportion, and Form and for Roof Forms, Materials, and Details will ensure that new buildings fit within the range of building forms within any given area. Standards for Building Materials and Architectural Details, Doors and Windows, and Porches are not intended to promote specific architectural styles, but instead to provide consistency with regard to the scale, materials, and detailing of new buildings.

An understanding of the existing site features, as well as the overall district setting, is essential for the successful design of new construction. The Character Essays in the introduction to this handbook provide specific information about the character-defining setting and landscape features of each of the three districts. The quality of the landscape can help new construction to blend in with the district setting, while creating a distinctive character for a new building. The

standards for Neighborhood Setting provide information about appropriate paving, plantings, lighting, and other site features.

Finally, property owners should consult with Town of Chapel Hill Planning staff to ensure that the proposed new construction meets both these standards as well as Chapel Hill's Land Use Management Ordinance (LUMO).

New Construction: Setback, Spacing, & Orientation

For the purposes of these design standards, the **setback** refers to the distance between the front property line or right-of-way boundary and the front building wall or, if present, the front plane of the covered porch. The **spacing** refers to the side yard distances between buildings. **Orientation** refers to the direction in which the front of the building, and specifically the front entrance, faces.

Sidebar: All new construction must meet the numerical front- and side-yard setbacks laid out in the LUMO.

Chapel Hill's historic districts contain a wide variety of resources including single-family houses, multi-family housing, commercial buildings, and institutional buildings. The setback and spacing of buildings are loosely defined by land use. Commercial buildings are generally sited adjacent to the sidewalk and with sidewalls built to the property line resulting in a dense collection of adjacent buildings that together create a single streetscape façade. Institutional buildings—including churches and university buildings—have setbacks that are consistent with or deeper than their residential counterparts. The area in front of these buildings often incorporates landscaped plazas, wide walkways, and other features that convey a sense of openness.

The setback and spacing of residential buildings varies widely in the historic districts. Throughout the Franklin-Rosemary and Cameron-McCauley historic districts, parcels were subdivided and lots developed over time, creating variations in the ratio of open space to building mass. Setbacks and spacing in the Gimghoul Historic District are more consistent, reflective of its more concentrated period of development and the covenants that regulated early development and are still in place. Despite these variations, the setback and spacing of buildings in all three districts is generally consistent by street and block, the continuity establishing a streetscape rhythm that reinforces the character of the district and enhances the pedestrian experience.

When determining the placement of a new building on a given site, it is important to consider not only the immediate site and the setbacks laid out in Chapel Hill's Land Use Management Ordinance (LUMO), but also the setbacks, spacing, and orientation of existing and historic buildings in the immediate surroundings in order to reinforce the siting and development patterns of nearby historic buildings. The precedents set by neighboring historic buildings and the location of any mature trees or other significant site features should all factor into the proposed siting of a new building. Except for the introduction of appropriately scaled and sited accessory buildings or garages, the construction of new buildings in rear yards is not appropriate because it conflicts with the traditional pattern of setback, spacing, and siting of primary buildings in Chapel Hill's historic districts.

Finally, although ground disturbance is necessary for new construction, it is important to minimize any excavation and regrading and to limit the impact of construction equipment and related activities in the historic districts so that significant site features, including archaeological features, are not destroyed or damaged. All sitework must also follow the standards for Neighborhood Setting.

Standards for Setback, Spacing, & Orientation:

Note: Context for new construction and additions includes the streetscape in its entirety, as one would see it when standing on the street viewing both sides of the street for the entire length of the Streetscape. Special consideration should be given to adjacent and neighboring Historic Sites in order to reinforce existing rhythms and patterns. “Immediate surroundings” refers to adjacent and neighboring sites, including those across the street. Special consideration should be given to the immediate surroundings, in order to reinforce existing rhythms and patterns.

1. Maintain the established development patterns as well as established relationships between building mass and open space that exists on the block or streetscape.
2. Site new buildings with setbacks within the range of historic building setbacks in the immediate surroundings. Generally speaking, new buildings should not project beyond neighboring historic buildings.
3. For sites between two distinctive areas of setback—such as between commercial and historically residential uses or between residential and institutional uses—setbacks should follow the buildings with the same historic use.
4. Site new buildings with spacing consistent with existing buildings in the immediate surroundings. Side yards shall be consistent in size to side yards of neighboring buildings.
5. Orient new buildings with the primary elevation and the primary entrance facing the street. Buildings on corner lots may alternatively address the secondary right-of-way.
6. For commercial or institutional buildings with rear parking, a primary entrance oriented to the front of the property is still required.
7. Design and site new buildings so they do not compromise the overall historic character of the site, including its topography, significant site features, and distinctive views.
8. Maintain and protect significant site features, including site topography, retaining walls, and historic driveways and walkways, from damage during, or as a consequence of, related site work or construction.

New Construction: Building Scale, Proportion, & Form

In addition to siting, it is important that new buildings constructed within the historic districts are compatible with nearby historic buildings in terms of building scale, proportion, and form. For the purposes of these design standards, **scale** refers to the height and width of the building façade (including the roof) and their relationship to that of nearby buildings, structures, and open spaces.

Human scale, or pedestrian scale, refers to the relationship of the human form to the building and its components and is especially important in these walkable, neighborhood districts. There are a number of scale-reducing techniques that can help to minimize the visual impact of larger buildings, especially commercial or institutional buildings, within predominantly residential areas. These include dividing the façade into smaller bays, varying building planes by stepping back parts of the building, breaking up roof masses, using multiple materials, and taking design clues from nearby historic buildings.

Related to the building scale, **proportion** is the interrelationship of the vertical to horizontal dimensions, the height and width, of the building, specifically the façade. The proportion also determines the directional expression of the building. For example, buildings that are wider than they are tall are considered to have horizontal expressions. When designing new construction, it is helpful to consider the directional expression and overall proportion of nearby historic buildings in order to reinforce the existing rhythm of the streetscape. Further, buildings and spaces composed of harmonious proportions inherently relate to the human form, and create a pleasing environment.

While scale and proportion analyze the building size in two dimensions, form and mass describe the volume of the building in three dimensions. Building **form** is the overall shape, or volume, of the building and can be simple and boxlike or more complex with projecting and inset bays. Mass refers more specifically to the visual weight of a structure and can be considered both in terms of the relationship of one building to other, nearby buildings and in terms of the various building parts to one another. Some of the scale-reducing techniques noted above also reduce the mass of the building.

In order to maintain the cohesiveness of the streetscape and the character of the district, new construction should be consistent with the scale, proportion, and form of historic buildings in the immediate surroundings. New buildings should be consistent in height, scale, proportion, and overall form and massing, but need not replicate historic detailing. They should instead reflect their own era of construction.

Finally, the principles of scale and proportion can also be applied to individual building elements including porches, windows, doors, and architectural details like bracket, trim, and porch railings and columns. The scale and proportion of individual elements can help reduce the overall scale and mass of a building while also reinforcing the directional expression of the building. The scale and proportion of individual building elements is addressed in the standards for Building Materials and Architectural Details, Doors and Windows, and Porches.

Standards for Building Scale, Proportion, & Form:

1. Maintain the established patterns of scale and proportion that exists on the block or streetscape. Design new buildings so that their size and scale do not visually overpower historic buildings in the immediate surroundings.
2. Scale new buildings to be consistent with the height and width of existing, historic buildings in the immediate surroundings. The height of the historic buildings should be calculated from the original, historic ridge line (not any towers, steeples, or later additions).
 - Generally speaking, building heights, from the first floor level to the ridge of the main roof, should be within the range of historic building heights in the immediate surroundings and should be no taller than the tallest building on the block of the same type (i.e. single-family house, multi-family house, church, commercial building).
 - The foundation height and first-floor level should be consistent with that on surrounding buildings. However, for new construction on the periphery of the districts, where there is greater variation in topography, the foundation height is less significant than the overall height, form, and massing of the new construction.
 - The width of new buildings should be within the range of historic building widths (for the same type building) in the immediate surroundings, not including side wings or porches.
3. For sites between two distinctive areas of scale—such as between commercial and traditional residential uses or between residential and institutional uses—scale should follow the buildings with the same historic use.
4. Where base zoning allows for larger scaled buildings that may be zoned for something other than single-family residential development, care should be taken to incorporate scale-reducing techniques to minimize the impact on adjacent historic buildings. Create human scale by including functional elements typical to the historic district, such as porches and porticos.
5. Design new buildings so that the proportion of their street facade is similar with those of neighboring historic buildings, regardless of lot frontage.
 - When the overall mass and proportion of a new structure is greater than that seen historically, the design shall employ methods—including wall planes the step back from the façade, stepped down roof heights, and changes in material—to diminish the visual impact of the overall building height, width, form, and scale.
6. Design new buildings so that the directional expression (vertical, horizontal, or square) is compatible with that of surrounding buildings. For example, if the majority of buildings in the immediate surroundings have horizontal or square expression, avoid designing buildings with prominent vertical proportions.
7. Design new buildings with forms that relate to those of historic houses in the immediate surroundings. For example, if a street is comprised primarily of Colonial Revival-style houses with simple rectangular forms, do not introduce a new building with complex massing. Conversely, if the forms of adjacent buildings have a variety of projecting bays, dormers, etc., consider employing similar elements in the new building.

New Construction: Roof Form, Materials, and Details

Roofs and roof heights must be considered as part of the overall analysis of building scale, proportion, and mass discussed on the previous pages. However, additional considerations should be made for the appropriateness of roof form, materials, and details.

Roof **form** refers to the overall shape and pitch of the roof. The form may be gabled, hipped, shed, flat, or some combination of these. However, the roof form and orientation should correspond to other common roof forms in the immediate surroundings. The pitch, or slope, of the main roof should also be consistent with nearby roof pitches in order to retain a sense of continuity and rhythm along the streetscape and within the historic district. In general, steeply pitched roofs allow for significantly more roof surface to be visible from the public right-of-way, thus affecting the overall proportions of the building façade, and are not appropriate for prominent roofs.

Roof materials in the districts are generally limited to asphalt shingle, metal, and slate, with rubber or other membrane roofing sometimes used for flat, or nearly flat, roofs. These materials are also appropriate for new construction. Metal, which has gained popularity in recent years as a sustainable material with a long lifespan and energy-conserving qualities, may be appropriate as long as the color, finish, and profile of the material is consistent with historic metal roofs. See *Guidelines for Roofs, Gutters, & Chimneys* for more information.

Dormers and chimneys are common roof features within the historic district. The presence of dormers often correlates to specific architectural styles, most notably the Colonial Revival and Craftsman styles. Likewise, distinctive eave treatments, including brackets and exposed rafter tails, also correspond with specific styles. (See the architectural style guide in the appendix for more information). Dormers and decorative eave treatments should be included if they are appropriate for the style of the building. Chimneys on traditional-style houses should be faced with masonry, while other materials may be appropriate for houses with Modernist designs.

Standards for Roof Form, Materials, and Details:

1. Design new roofs to be compatible in form, slope, and orientation with historic buildings in the immediate surroundings.
2. Utilize roof forms or combinations of roof forms that relate to existing surrounding buildings. For instance, if most nearby houses have steeply pitched hipped roofs, avoid low-slung, gabled roofs.
3. Design new roofs to be proportionate to the building and appropriate to the style of the building, so as not to overwhelm the structure.
4. Utilize roof materials that are commonly found in the district and apply them in ways that are appropriate to the style of the building. Contemporary materials such as synthetic slate and fiberglass or asphalt shingles are acceptable for sloped roofing. Contemporary membrane and roll roofing are acceptable for low-sloped roofs of a less than 1:12 pitch.

Ribbed or corrugated metal roofing are not appropriate in the historic districts.

5. Design dormers to be compatible with the architectural style of the house in their size, scale, and roof form so that they do not visually overpower the building on this or adjacent sites.
 - The number and size of dormers shall be limited on a roof, such that the primary roof form remains prominent.
 - Utilize similar roof forms and pitches for dormers. Gabled, hipped, or shed dormers are appropriate for most structures.
 - Roof ridges for dormers must be secondary to (lower than) those of the main structure and set in from the eave of the building.
6. Use eave details and materials that complement those frequently found in the surrounding buildings and are appropriate for the style of the building.
7. Face chimneys with masonry unless houses are constructed in Modernist or Contemporary styles.
8. Install condensers, skylights, ventilators, solar panels, antennas, satellite dishes, and mechanical or communication equipment on roof slopes or building elevations that are not visible from the street or in locations that visually compromise the architectural character of the building.

New Construction: Building Materials and Architectural Details

After initial decisions of overall scale, proportion, and form are made, design considerations should turn to compatibility with neighboring historic buildings in terms of finish materials and architectural details. (The design of porches and the selection and placement of windows and doors are discussed in subsequent sections.) Ultimately, a successful design will merge all these considerations into a unified design that is compatible with, though differentiated from, neighboring historic buildings.

Buildings within Chapel Hill's historic districts incorporate a wide variety of building materials. These include wood siding, trim, and wall shingles; brick foundations, walls, chimneys, and porch piers; stone foundations, chimneys, and porch piers; and asphalt and metal roofs. The variety of building materials reinforces the diversity of architectural styles and contributes to each district's unique and rich character. For preservation guidance related to specific materials, see the guidelines for Materials.

Beyond simply weatherproofing a building, materials can be used to reduce the perceived scale and mass of a building and to reinforce its human scale. Materials also add texture, depth, and rhythm to otherwise flat surfaces. The texture of materials is tied to their innate properties. Brick is generally course and variegated while painted wood is smooth, but may be illustrate texture through its repetitive application. Rhythm refers to the regular or harmonious recurrence of lines and shapes in buildings, including the repetitive patterning of masonry and weatherboard surfaces. Additions and new construction should use materials in ways that provide a degree of texture and rhythm similar to surrounding buildings.

Contemporary materials can, in some cases, replicate the appearance and qualities of some traditional materials. The cost, maintenance, and limited availability of quality of original materials (especially slow-growth wood) may necessitate the use of substitute, compatible materials for new construction. While contemporary materials may be used on new construction, they are to be appropriately proportioned for the style and scale of the house. Further, when applied to houses with traditional designs, contemporary materials should be used and installed in a conventional manner (i.e. siding should be installed horizontally and in widths similar to those of nearby historic houses).

Visual texture is also obtained through the use and interaction of a variety of architectural details, elements that, together with building form, define the architectural style of a building. Architectural details include decorative wall materials, trim, cornices, door and window surrounds, cornerboards, skirtboards, and porch details, all of which vary greatly throughout the districts. Beyond simple decoration, architectural details can affect the perceived mass and scale of buildings by subdividing the building into smaller, articulated panels.

Additions and new construction need not replicate historic styles, materials, and architectural details. Instead, contemporary and compatible design is encouraged. However, additions and new construction should contribute to a cohesive streetscape by using materials and architectural details in traditional ways that reflect the established styles and details that characterize the district. Alternatively, additions and new construction may incorporate contemporary materials and architectural details applied to Modernist forms and designs that complement the historic buildings in the immediate surroundings.

Standards for Building Materials and Architectural Details:

1. Design new buildings and their features to be compatible in scale, materials, proportions, and details with neighboring historic buildings. New buildings should be compatible with, but discernible from, historic buildings in the districts.
2. Select exterior surface materials and architectural details that are compatible with those of neighboring historic building in terms of size, composition, texture, pattern, color, and detail.
3. Use traditional materials including but not limited to brick, stucco, stone, and wood, in conventional ways (i.e. wood siding applied horizontally).
4. Use contemporary materials, including cementitious siding, when they match the appearance, dimension, texture, color, sheen, and visual weight of their counterparts commonly found in the historic districts. Apply materials in a traditional manner that conveys the same visual appearance as historic materials. It is not appropriate to install artificial siding with a faux-grained texture.
5. It is generally inappropriate to use synthetic (vinyl, aluminum, PVC, plastic, resin, fiberboard) siding and details within the historic districts as these generally do not reflect the size, scale, proportion, texture, and detail of traditional building materials. However, substitute materials may be considered for trim, porch elements, and other decorative features that are susceptible to repeated moisture infiltration and rot.
6. It is generally inappropriate to use artificial brick veneer, thin-set stone veneer, split-faced concrete block, stamped concrete and similar types of contemporary materials that do not accurately reflect the size, scale, proportion, texture, and detail of traditional building materials.
7. Use of modern materials may be appropriate if they are applied to Modernist rather than traditional forms, as a means of continuing the evolution of architecture through time.
8. Architectural details should be appropriately scaled and compatible with the overall architectural style of the building. If emulating historic architectural styles, ensure that the proportion and scale of the trim or feature relates to those on historic buildings within the immediate surroundings.
9. It is not appropriate to introduce exterior wall features, details, or surfaces to a building that would create a false historical appearance.

New Construction: Doors and Windows

While door and window types and styles vary greatly in the districts, the ratio of solid wall to voids created by door and window openings is relatively consistent and lends continuity to the districts' streetscapes. The location, size, and proportion of door and window openings create a visual rhythm that unifies the façade of the structure and characterizes the building, streetscape, and district. Thus the door and window patterns employed in new buildings should reinforce the existing patterns found on buildings in the immediate surroundings. This, in turn, will reinforce the rhythm of the streetscape.

In addition to the location, size, and proportion of door and window openings, the style and articulation of the openings contribute to the architectural style of the building and the overall character of the streetscape and district. Thus, studying the door and window styles and patterns of existing buildings, within the context of the new design, will help define appropriate treatments for the new building.

Window Diagram

Door Diagram

Window/door styles diagram?

Standards for Doors and Windows:

1. Design new buildings so that window and door openings are compatible with the buildings in the immediate surroundings. This compatibility includes:
 - the ratio of solids (walls) and voids (windows and doors)
 - the rhythm and placement of windows and door openings
 - the proportion of window and door openings (ratio of width to height)
 - the overall size and shape of window and door openings

2. Design new buildings so that the articulation of window and door openings is compatible with buildings in the immediate surroundings. For example, openings are generally recessed on a masonry building while doors and windows are surrounded by raised trim on a frame building. New openings that are flush with the rest of the wall are not appropriate on traditionally styled buildings.

3. Design new buildings so that the pattern and style of windows and doors are compatible with the windows and doors of buildings in the immediate surroundings and are consistent with the overall style of the building.

4. It is not appropriate to install windows, doors, or sidelights with two-dimensional simulations of pane subdivisions, such as snap-in muntins. If not true divided light, glazing should have three-dimensional grills affixed to both the interior and exterior of the window with shadow bars between insulated glass panes.

5. Install windows and doors constructed of materials that are compatible with the windows and doors of buildings in the immediate surroundings. These include wood and aluminum-clad wood windows as well as wood, metal, metal-clad wood, or fiberglass doors. Vinyl and vinyl-clad windows are not appropriate in the historic districts.

6. Install storm windows and doors following the standards found in Windows and Shutters and Exterior Doors (page#).

7. It is not appropriate to use tinted, frosted, or mirrored glass where visible from the street. Translucent or low-e glass may be strategies to reduce solar heat gain.

8. Install shutters if their presence is consistent with the overall style of the building.
 - Shutters should be sized to fit the opening and mounted on hinges, even if fixed in the open position
 - It is not appropriate to install shutters on bay or grouped windows.
 - Shutters should be constructed of wood, wood composite without a faux wood grain, or other materials that accurately mimic wood.
 - Metal or vinyl shutters are not appropriate in the historic districts.

New Construction: Porches & Entrances

Porches and covered entrances are an integral part of both historic and contemporary homes. Traditionally, porches extended the living space into the outdoors, especially in the era before central heating and air conditioning. Today, porches continue to provide spaces for outdoor gathering that are sheltered from sun and rain. Like porches, entrances provide shelter immediately outside the door and are often detailed with ornamentation coordinated to convey the architectural style of the building.

Porch form is determined by the width and depth of the porch, its roof pitch and shape, and the location of the porch in relationship to the main entrance to the building. Porch form is intricately tied to the style of the building with prominent, wrap-around porches common on Queen Anne-style houses, more modest porches common on Craftsman-style houses, and small covered entrances typical on Colonial Revival-style houses. Similarly, the detailing of posts, railings, and other decorative elements relate directly to the architectural style of the building.

While porch form and details vary, adding variety to the streetscape, the presence of porches can add continuity to disparate architectural styles and building setbacks along the streetscape. Thus, when porches are appropriately designed and constructed, new residential buildings can better blend with nearby historic buildings in the district.

Porch parts diagram.

Standards for Porches & Entrances:

1. Design new buildings with porches that complement the size, proportion, placement, and rhythm of existing historic porches in the immediate surroundings.
2. Design porches to provide usable outdoor space by ensuring a depth of six (6) to eight (8) feet.
3. Design porches to be compatible with the overall architectural style of the building.
4. Select materials and architectural details that are compatible with both the architectural style of the new building and with buildings in the immediate surroundings in terms of size, composition, texture, pattern, color, and detail.
5. It is generally inappropriate to use synthetic (vinyl, aluminum, PVC, plastic, resin, fiberboard) siding and details within the historic districts. However, substitute materials may be considered for trim, porch elements, and other decorative features that are susceptible to repeated moisture infiltration and rot.
6. It is generally inappropriate to use artificial brick veneer, thin-set stone veneer, split-faced concrete block, stamped concrete and similar types of contemporary materials that imitate historic materials.
7. Frame porches with raised foundations should have tongue-and-groove porch floors with boards laid perpendicular to the façade of the house. It is not appropriate to use wood decking for porch floors. Porches with floors at grade may have concrete floors.