The Broad Creek Refresh: A Pattern Book
The Broad Creek Refresh
A PATTERN BOOK
July 2021

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The Broad Creek Refresh planning process was a combined effort by the City and the community to update the 2004 Broad Creek Revitalization and Implementation Plan Book and build upon the strengths and successes that followed the implementation of that plan. The Refresh identified several areas which needed to be rezoned, and identified areas for new residential development. This Pattern Book was developed to support the Refresh Plan and provide guidance to this new development.

The Broad Creek Refresh Plan encompasses several neighborhoods, including Broad Creek, Broad Creek Renaissance, and Bruce’s Park. This Pattern Book is limited to the Broad Creek and Broad Creek Renaissance neighborhoods, as highlighted on the map below.
Purpose and Benefits

The Pattern Book guides homeowners, architects, and builders in developing residential buildings which complement the existing neighborhood and elevate the character of the streets of the Broad Creek neighborhood to achieve the aspirations set out by the community in the Broad Creek Refresh Plan. This Pattern Book provides sample plans for several different types and scales of buildings which can be owner-occupied, co-ops, condominiums, or rental properties. Many of these buildings have been designed to support aging-in-place if occupants should choose to stay in their home as they become older. Homes of all types and sizes are provided to ensure that the neighborhood has a great diversity of options so that residents of all stages of life, incomes, and family sizes can live out their lives in the comfort of their neighborhood, remaining in contact with their family, friends, and support networks.

This Pattern Book is also intended to provide guidance and best practices that could potentially lower the overall cost of ownership for the lifetime of the building. This is done so that families living in these buildings can derive the greatest value from occupying a home in Broad Creek and not spend their resources on excessive heating and cooling, replacing materials which could just be repaired, or paying for water instead of capturing water which can be obtained for free from rainfall.

The benefits of the Broad Creek Refresh Pattern Book are numerous, and intended to be enjoyed by several different groups of people. First, the community as a whole, then individual property owners, builders and developers, and the City should all experience improved processes and results when it comes to the design and construction of new single family and small multifamily buildings in Broad Creek.

The community benefits from a consistent image and a standard of quality that reinforce the neighborhood identity. Additionally, the community benefits from the diversity of housing types, which was requested during the planning process, as a way of providing choice, stability, and value within the neighborhood. These building types allow more types of families to locate or remain in Broad Creek, increasing the number of lifelong neighbors who love and support the community.

Individual property owners enjoy the security of knowing that additional or infill development will complement their own property, building value and maintaining a consistent sense of place. Their neighborhood will retain the aspects that they love the most, while growing in the areas which they identified during the Refresh planning effort.

Builders and developers gain precious time and predictability in their design and approval processes when using the Pattern Book. Since they know what is expected of their project, they can design to those standards from the start and gain approval and pull permits more readily. Since the design direction has been started for them, coordinating the design of the project with their design team is easier and less time consuming.

Finally, the City benefits from additional development, improved values, and more predictable results for projects moving through their approval and permitting processes.
How to use the Pattern Book and Overview

How to use the Pattern Book
This pattern book is a guide to developing your own building.

1. Which Part of Broad Creek are You In?
Knowing which area of Broad Creek your property is located in, will dictate which style is appropriate for your building’s design. Generally, the lots farther south are wider than the Northern areas of Broad Creek. Wider lots are more appropriate for townhomes, common in Bowling Green, or bungalow style homes, common in Broad Creek.

One of the easiest ways to determine these districts for your property is to go to the NorfolkAIR website where you can input the address of the property and look up the relevant information for your parcel.

2. Determine your lot size and unit count
Using the information from above, you can determine the buildable area of your lot and get an idea of how many units you’d like your building to have. The example building plans in this book have been illustrated on parcels which are a combination of several 25-foot to 35-foot wide lots. These lot sizes are typical for Norfolk neighborhoods. If you have 1 to 2 lots in your parcel, then a smaller building in the range of a traditional single family house to a 6-unit building is likely going to fit. If you have more than 2 lots, you can either look into a post-war bungalow style or a multifamily building with up to 12 units.
Meet with the Planning Department
Set up a meeting with the Planning Department to review your proposal and establish a process to complete your project. They can help with any questions you might have regarding requirements of the Zoning Ordinance, Site Plan Review process, or the permitting process. Meeting with them early on is important to ensure that there aren’t any hidden obstacles to realizing your development.

Select Materials and Finishes
The material and finish palettes provided in this book should be used to select those that will be applied to your building. Colors and patterns should vary from building to building, but be sure to select from the materials listed in the Approved Materials section as they are the only ones that have been pre-approved.

Pick a building type and style
Once you know what size of house or how many units you want to build, you’ll need to figure out what you want your new building to look like. Using the plans and designs presented in this book, select a set that works with your site and the number of units you want to build.

You will need to work with an architect to draft plans that can be used for permitting and construction. The design and style does not need to exactly replicate those in this book, but should generally reflect the form, layout, style, and details of the version that you chose to use as a guide.

Incorporate the resilience and construction tips into your building plans
The Resilient Construction section has several strategies and tips to help your design meet the Resilience Quotient requirements of the Zoning Ordinance and some to help lower the overall cost of construction and ownership over time.

Work with your architect to incorporate these into your design so that you, your tenants, and future owners can enjoy their time in a beautiful building while not unnecessarily spending money on energy costs or future upgrades.
Traditional Broad Creek

The Traditional Broad Creek neighborhood is bounded by Corprew Ave. to the South, East Princess Anne Rd. to the North, and its commercial corridor is East Virginia Beach Blvd. extending from West to East.

The homes to the North of East Virginia Beach Boulevard are on more narrow lots. The Northern neighborhood contains homes that were built closer to the turn of the 20th century. Homes at this time, were small and compact and most feature a fireplace that would provide heat during cold nights.

Similarly, these homes also feature large porches or roof overhangs to provide some much needed shade during the summer.

The southern half of Broad Creek offers many more one-story homes that were built during the middle and later half of the 20th century. These Post-War Bungalows often feature enclosed sunrooms or porches and sculptural decorative elements.

Both the Southern and Northern half of the Traditional Broad Creek are primarily single-family neighborhoods. They offer sidewalk-lined streets and friendly porches and places to interact with neighbors. Since the porch is street-facing many are decorated architecturally and with well-kept patio furniture by proud residents.
The Broad Creek Renaissance is an expansion of the neighborhood to the North and to the East. Highlighted in the map to the right.

Several areas were identified during the Broad Creek Refresh planning process for future residential development. These areas are illustrated on the map as Future Development Opportunity Areas and their character should more closely match that of the Broad Creek Renaissance areas. These areas are where the larger 4- to 6-unit multifamily units are most appropriate.

The Broad Creek Renaissance areas represent a recently constructed turn-of-the-century development. The areas labeled West and East are also known as Robert’s Village and Bowling Green.

All areas in the Broad Creek Renaissance neighborhoods consist primarily of multi-family buildings, as well. Most buildings here contain between 2 and 6 individual homes.

Each of these homes has a spacious entry and oftentimes a porch or balcony space as well. The buildings appear as large stately homes with attached garages and sloping roofs.

Built in the colonial revival style, most buildings here have classical decorative elements: columns based on Greek designs, windows with gridded lite divisions, window shutters, picket fences, etc.

Brick is a common material in this area, often found at the base of homes and the public facing facades.

Traditional Broad Creek Style Elements

ENTRANCES

CLADDING

Brick
Painted Cementitious Siding/
Painted Cedar Siding
Cementitious Shingles or
Painted Cedar Shingles

PORCH SPACE

The City of Norfolk
Broad Creek Renaissance
Style Elements

ENTRANCES

CLADDING

PORCH SPACE

Building Forms and Styles
The Broad Creek neighborhood features a greater variety of prevalent building forms than many of Norfolk’s neighborhoods. Initial development in Broad Creek spanned from the early 1900s through the post-war years late into the 1950s and 1960s. Since most neighborhoods were developed either prior to World War II, or after World War II, they typically feature either traditional pre-war development patterns narrow or square houses on narrow, but deep lots, or a post-war pattern of wide, primarily 1-story houses, on wide lots which are often assembled from 2 to 5 smaller building lots. Broad Creek has an elegant mix of the two patterns that seems to have developed organically during the initial construction of the neighborhood. The building forms in this pattern book represent both patterns as they should both be considered appropriate within the neighborhood.

The Traditional areas of Broad Creek were developed primarily as single-family houses. These single-family forms typically have a footprint that occupies the majority of the buildable portion of the site. In general, the older pre-war homes are narrow and deep, and are constructed to be 2-stories in height, though there are some 1-story examples present in the neighborhood as well. Building forms that are compatible with 1- and 2-story pre-war patterns are present in this Pattern Book. Homes that were built after World War II tend to be 1-story, wide, and low in form. Building forms that are consistent with this pattern are also present. The Broad Creek Renaissance portion of the neighborhood was developed in the early 2000s and includes some single family homes, but primarily consists of small multifamily buildings which were designed to feel appropriate in scale next to the original single family homes. Many of them appear to be large single family houses, but are in fact buildings which are made up of two to four housing units. This pattern book includes several building forms which are appropriate for small multifamily development that is compatible with the Broad Creek neighborhood.

Buildings in both the Traditional and the Renaissance areas of the neighborhood primarily feature pitched roofs and front porches. The pitch of the roof and the size and configuration of the porch are related to the style of the building. The porches are used heavily throughout the neighborhood and are a critical component of the liveliness of the community. They are the space where residents provide eyes on the street for safety and security, greet neighbors, and welcome friends. The areas within Broad Creek in which each of the building forms is appropriate are indicated below the name of the building form on the following pages.
The City of Norfolk

The Post-War European Romantic Cottage style homes typically found in Broad Creek are small 1-story brick buildings with steeply pitched roofs, small, private entries, and prominent, decorative chimneys. Special masonry, such as stone or the inclusion of clinker bricks, is often used as an accent around the entry, at the foundation, or on the chimney. These mid-century adaptations of an Arts & Crafts style introduce some modern elements and simplified detailing, but retain the ornamental materials found in the earlier styles. New buildings in this style should reflect these characteristics.

For additional guidelines for developing this style, see the Planning Department document A Pattern Book for Norfolk Neighborhoods.

Post-War European Romantic Cottage

Traditional Broad Creek

1. Roof
   Low-sloped (6:12 or less) roof with overhangs, materially is traditionally shingles, standing seam may be appropriate in a modern adaptation. In many examples the main roof continues to cover the front entry with columns for support.

2. Trim
   Minimal. Simple profile, flat trim where present

3. Cladding
   Brick

4. Windows
   Should be operable for natural ventilation. Window glass should feature divided lites, with clear (untinted) glass windows. Wide windows in a landscape orientation are appropriate as are windows that wrap a corner

5. Carport
   Traditionally, these homes feature an open carport covered with a roof sloping in one direction.

6. Columns
   Thinner columns are appropriate here 4" - 6". Often rectangular, the metal or wooden columns should be decorative in their arrangement and not their individual design. In the example below, additional stacked columns create a diagonal design under the porch.

7. Entry Doors
   Main entry door should be covered and well-lit so that residents may comfortably enter the building in inclement weather

8. Foundation Walls
   Foundation material is traditionally brick. Brick materials are often used to create planters or seating at the front facade of the home. Stacked stone may be appropriate in some conditions for feature walls, chimneys, or retaining walls.

Post-War Brick Ranch

Traditional Broad Creek

1. Roof
   Low-sloped (6:12 or less) roof with overhangs, materially is traditionally shingles, standing seam may be appropriate in a modern adaptation. In many examples the main roof continues to cover the front entry with columns for support.

2. Trim
   Minimal. Simple profile, flat trim where present

3. Cladding
   Brick

4. Windows
   Should be operable for natural ventilation. Window glass should feature divided lites, with clear (untinted) glass windows. Wide windows in a landscape orientation are appropriate as are windows that wrap a corner

5. Carport
   Traditionally, these homes feature an open carport covered with a roof sloping in one direction.

6. Columns
   Thinner columns are appropriate here 4" - 6". Often rectangular, the metal or wooden columns should be decorative in their arrangement and not their individual design. In the example below, additional stacked columns create a diagonal design under the porch.

7. Entry Doors
   Main entry door should be covered and well-lit so that residents may comfortably enter the building in inclement weather

8. Foundation Walls
   Foundation material is traditionally brick. Brick materials are often used to create planters or seating at the front facade of the home. Stacked stone may be appropriate in some conditions for feature walls, chimneys, or retaining walls.
Post-War Brick Ranch

Post-war brick ranch style houses are found in all shapes and sizes throughout the Broad Creek neighborhood. They are typically 1-story brick buildings with a small porch, an open carport, and Modern details. Columns, posts, and railings display minimal ornament, if any, and are typically made from simple steel structural tubes.

Typically, these buildings are based on a square or wide rectangular box, over which a hipped roof with relatively low pitch is placed.

Windows are large and sometimes mulled together. There should be no shutters applied to this building type as they will not cover the wide windows. Corner windows are appropriate and provide a very interesting detail.

Gable-End Two Story — Traditional

1. Roof
   Pitched roof (6:12 to 9:12), material color should reduce heat gain

2. Trim
   Simple profile, multi-layered

3. Cladding
   Brick, siding, shingle, or clapboard

4. Windows
   Should be operable for natural ventilation. Window glass should feature divided lites, with clear (untinted) glass windows

5. Porch roof
   Should match main roof in color. Can be sloped forward with a metal standing seam, or asphalt shingle roof

6. Columns
   10”-12” wide columns are typically appropriate: Square, rounded or fluted columns should match trim in color.

7. Entry Doors
   Main entry door should be covered and well-lit so that residents may comfortably enter the building in inclement weather. Sidelights or transom windows should be included

8. Railings
   Painted wood or decorative metal railings

9. Foundation skirt
   Foundation skirt to match porch skirt in material and color. Acceptable materials are brick or parged CMU

3-D PERSPECTIVE
Gable-End Two Story — Traditional

Most of the earliest homes constructed in Broad Creek were two-story gable-end buildings. These buildings make efficient use of the narrow lot sizes in traditional neighborhoods and are easy to construct. Their wide porches allow occupants to enjoy time outdoors and engage with their neighbors and community.

In the event that there is an opportunity to develop a nonstandard lot in the Traditional area or as a part of mixed housing development scenario for the Broad Creek Renaissance, base plans for these houses may be obtained from the Department of Planning from the Traditional Neighborhood Plan Book — Chapter 1. Appropriate styles from the book to build in the Broad Creek neighborhood are:

- Type 1
- Type 2
- Type 4

Gable-End Two Story — Modern

1. Roof
   Pitched roof (6:12 to 9:12), material color should reduce heat gain

2. Trim
   Simple profile, flat, usually one piece

3. Cladding
   Brick, siding, shingle, clapboard, cementitious panel

4. Windows
   Should be operable for natural ventilation. Window glazing should be clear (untinted) glass. Most windows should be oriented vertically, though horizontal windows in some locations are appropriate

5. Porch roof
   Should match main roof in color. Can be sloped forward with a metal standing seam, or asphalt shingle roof

6. Columns
   6”–12” columns are typically appropriate: Square or round columns made of wood or steel tube should be painted to match trim in color

7. Entry Doors
   Main entry door should be covered and well-lit so that residents may comfortably enter the building in inclement weather. Sidelights or transom windows adjacent to entry door allow additional light into the entry. Full-height or storefront-style porch windows are appropriate

8. Railings
   Simple, minimal railings using metal tube or bar for top rails and posts, with cable or thin rods for balusters

9. Foundation Skirt
   Foundation skirt to match porch skirt in material and color. Acceptable materials are brick or parged stucco

Future Development Opportunity Areas

MINIMUM PORCH WIDTH

2/3 WIDTH OF FRONT FACADE

MINIMUM PORCH DEPTH

4/3 WIDTH OF FRONT FACADE

Typical Gable-End house in Broad Creek
Those who wish to build a more modern style home may base their plans off of the Traditional Gable-End house, but apply modern details. Trim profiles can be simplified and made smaller, windows without muntins are appropriate, and a slightly different material palette may be used. Careful detailing of the porch and front entry is necessary to ensure that these houses look appropriate in the neighborhood. Modern style homes are often more difficult to detail and construct correctly since there is little room for error, trim is not used to conceal gaps, and reduced overhangs do not shed water as well as traditional styles.

In the event that there is an opportunity to develop a nonstandard lot in the Traditional area or as a part of mixed housing development scenario for the Broad Creek Renaissance, base plans for these houses may be obtained from the Department of Planning from the Traditional Neighborhood Plan Book - Chapter 1. An architect will need to design the home and detail it with the appropriate modern details. Appropriate styles from the book to build in the Broad Creek neighborhood are:

- Type 1
- Type 4

### Missing Middle Housing

**Introduction**

Norfolk is a city of neighborhoods. These neighborhoods are tucked alongside rivers, tributaries and creeks that connect to the Chesapeake Bay and the greater Tidewater area. There are patterns to be found in our neighborhoods that relate to their geographical context and climate. Although each neighborhood is as unique as the people who inhabit it, there are similarities to the scale and form of successful neighborhoods and buildings that make people feel comfortable and embraced by the community. In Norfolk’s oldest neighborhoods, it may take years of walking, strolling and biking down the street to figure out how the neighborhood was conceived and adapted many times over to serve generations of families and businesses.

The last several decades of zoning and development have conditioned Americans to describe the best neighborhoods as those with only single family homes, but that type of thinking and oversimplification is detrimental to the richness of human habitation and community. We would argue that the best neighborhoods are those where diversity can thrive and equity is just baked into the architectural and urban design recipe. These neighborhoods are those with the magic "Missing Middle" ingredient.

If you’ve grown up in Norfolk or any of our sister cities, it’s likely that you lived in Missing Middle housing. You’ve definitely seen it while walking or driving around. Interspersed with single family homes are large homes that are divided into two, three, four or more units. Some were built this way, and others were adapted over time. Most of the time you would not even be able to distinguish between a true single family home or a Missing Middle home unless you looked for an extra front door or gas meter. Oftentimes these are the grandest homes in the neighborhood. Sprinkled in amongst the single family homes, the duplexes, triplexes and fourplexes are slightly larger apartments, co-ops and condos that you wouldn’t even notice as part of the “single family neighborhood” unless you stopped to think about them.

**MISSING MIDDLE**

A range of multi-unit or clustered housing types, compatible in scale with single-family homes, that help meet the growing demand for walkable, urban living, respond to household demographics, and meet the need for more housing choices at different price points.

— DANIEL PAROLEK
The following multifamily building types are from the document *The Missing Middle Pattern Book*. Any development of these types of buildings must follow the guidelines in that document. See the following section, Building and Site Details, for suggested parking layouts.

**Townhomes**

1. **Roof**
   - Sloping roofs are appropriate (5:12-9:12), material color should reduce heat gain

2. **Trim**
   - Simple profile, flat

3. **Cladding**
   - Brick, siding, clapboard, or cementitious panels

4. **Windows**
   - Should be operable for natural ventilation. Window glazing should be clear (untinted) glass. Most windows should be oriented vertically, though horizontal windows in some locations are appropriate

5. **Porch roof**
   - Should match main roof in color. Can be sloped forward with a metal standing seam, or asphalt shingle roof, or can be a flat metal or membrane roof

6. **Columns**
   - 3”-6” columns are typically appropriate: Square or round columns should match trim in color

7. **Entry Doors**
   - Each individual entry door should be covered and well-lit so that residents may comfortably enter the building in inclement weather

8. **Railings**
   - Railings are to be infilled with either vertical or horizontal pickets. Cable railings, wood, or metal materials are appropriate

9. **Foundation skirt**
   - Foundation skirt to match porch skirt in material and color. Acceptable materials are brick, parged stucco, or clapboard

*Maximum number of 5 townhome units per structure

**Stacked Triplex**

1. **Roof**
   - Low-sloping or flat membrane roof, material color should reduce heat gain

2. **Trim**
   - Simple profile, multi-layered

3. **Cladding**
   - Brick, siding, clapboard, cementitious panel

4. **Windows**
   - Should be operable for natural ventilation. Window glass should feature divided or non-divided lites, with clear (untinted) glass windows

5. **Porch roof**
   - Should match main roof in color. Can be sloped forward with a metal standing seam or asphalt shingle roof, or a flat membrane roof

6. **Columns**
   - 12”-24” columns are typically appropriate: Square, rounded or fluted columns should match trim in color.

7. **Entry Doors**
   - Main entry door should be covered and well-lit so that residents may comfortably enter the building in inclement weather

8. **Railings**
   - Painted wood or decorative metal railings

9. **Foundation skirt**
   - Foundation skirt to match porch skirt in material and color. Acceptable materials are brick or parged stucco

*Maximum number of 5 triplex units per structure
1. **Roof**
   Low-sloping or flat membrane roof, material color should reduce heat gain

2. **Trim**
   Simple profile, multi-layered

3. **Cladding**
   Brick, siding, clapboard, cementitious panel

4. **Windows**
   Should be operable for natural ventilation. Window glass should feature divided or non-divided lites, with clear (untinted) glass windows

5. **Porch roof**
   Should match main roof in color. Can be sloped forward with a metal standing seam or asphalt shingle roof, or a flat membrane roof

6. **Columns**
   12”-24” columns are typically appropriate: Square, rounded or fluted columns should match trim in color.

7. **Entry Doors**
   Main entry door should be covered and well-lit so that residents may comfortably enter the building in inclement weather

8. **Railings**
   Painted wood or decorative metal railings

9. **Foundation skirt**
   Foundation skirt to match porch skirt in material and color. Acceptable materials are brick or parged stucco
Building and Site Details

The building and site details primarily impact how the building relates to the street and those who pass by it. These guidelines are intended to result in buildings which provide a neighborly feel to the street by keeping the social spaces like porches close to the street, and pushing private spaces like garages and back yards towards the back of the house.

Also covered are some typical details for windows and doors which help new buildings better fit into neighborhoods where older buildings exist and provide architecturally correct placement for some features which are commonly applied incorrectly, such as shutters.
Doors

**Entry Door Options**

- Stile and rail door with transom window
- Entry door with full-height sidelights

**Storm Door Options**

Windows

**MATERIALS / DETAILS**

**APPROPRIATE WINDOW MATERIALS**

Wood, aluminum clad, vinyl clad, fiberglass, aluminum storefront, and steel sash

Modern and contemporary designs should make use of contemporary windows such as aluminum and steel casement and awning windows.
Garages — Attached
Attached garages provide convenient parking for single family homes. Being attached to the primary building allows the occupants to move directly between the house and the parking area.

There are a few very important principles which must be followed when designing and constructing an attached garage:

1. The face of the attached garage must be at least 5’ behind the front facade.

2. The attached garage must be secondary to the primary building in scale and form. It must be considerably smaller in size and height, and not have so much ornamentation or detail that it competes with the primary building.

3. The attached garage must be constructed of similar materials to the primary building.

4. The attached garage must fit on the site within the established setbacks for the applicable zoning district.

LOCATION/ORIENTATION

APPROPRIATE MATERIALS

- Cementitious Shingles or Painted Cedar Shingles
- Architectural Shingles or Slate Shingles
- Standing Seam Metal
- Painted Cementitious Siding/Painted Cedar Siding
- Architectural Shingles or Slate Shingles
- Painted Cementitious Siding/Painted Cedar Siding

Garages — Detached
Detached garages are useful to homeowners as a separate building for parking which can have other “accessory” uses that make them a valuable addition to a property. In addition to storing vehicles, lawn and garden tools, project materials, bicycles and boats can all find a home in the detached garage.

It is easier to design a detached garage that is larger than an attached garage without overpowering the scale of the primary building since it has physical space separating the two buildings.

There are a few very important principles which must be followed when designing and constructing an attached garage:

1. Detached garages must be located behind the rear facade, in the back yard. They may be front loaded or side loaded.

2. The detached garage must be secondary to the primary building in scale and form. It must be considerably smaller in size and height, and not have so much ornamentation or detail that it competes with the primary building.

3. The detached garage must be constructed of similar materials to the primary building.

4. The detached garage must fit on the site within the established setbacks for the applicable zoning district.

LOCATION/ORIENTATION

APPROPRIATE MATERIALS

- Cementitious Shingles or Painted Cedar Shingles
- Architectural Shingles or Slate Shingles
- Standing Seam Metal
- Painted Cementitious Siding/Painted Cedar Siding
- Architectural Shingles or Slate Shingles
- Painted Cementitious Siding/Painted Cedar Siding
Fences

FENCE OPTIONS

In order to maintain a standard aesthetic for fences in the Broad Creek neighborhood, a simple gradient of height and opacity in relation to distance rearward of the front facade of the home was developed. This gradient permits greater height and greater opacity of the fence as it is moved closer to the rear of the house. The fence opacity measures the percentage of the fence that is open space. For example, a fence made of 3” pickets with 3” of space between them would be 50% opaque since half of the surface is solid picket, and the other half is open space. The allowable heights and percent opacities are as follows:

- 5-20 feet back from the front building face: Low height (4’) / Maximum 30% opacity
- 20 feet back to the rear corner of the building: Mid-height (5’) / Maximum 60% opacity
- Rear corner of the building to rear setback: High Level (6’) / Privacy style

FENCES

While fences serve a function of division, they should be designed, constructed, and maintained to convey a feeling of welcome. Chain link fences and completely opaque fences that are placed too close to the street do not make neighbors feel welcome in their own neighborhood while walking by the property. Fences composed of vertical or horizontal pickets made of wood, vinyl, metal, or wood composite achieve this by defining an area that feels more like an extension of a building.

See the images below for representations of the intended results of this fence gradient:

Low Level (4’)

Mid Level (5’)

High Level (6’)

APPROPRIATE MATERIALS

INAPPROPRIATE CHAIN LINK
Resilient Construction & Sustainable Design

ACCESSIBILITY — ADA & UNIVERSAL DESIGN
Designing for accessibility ensures that buildings are usable throughout the life of the occupant. Buildings must be designed and constructed in accordance with ADA Guidelines. They should also be designed to allow occupants to recover from injuries, age gracefully, or enjoy visits from friends and family with disabilities.

TOTAL COST OF OWNERSHIP — INSULATION
Effective insulation installation at the time of construction is one of the best ways to decrease the cost of ownership or tenancy for occupants of the building by reducing their monthly energy costs. All buildings should be framed with a minimum of 6 inch exterior wall framing to provide a cavity deep enough for effective insulation. Roof framing should be a minimum of 12 inches deep for insulation and an air gap at the underside of the roof sheathing. Insulating elevated slabs, foundation walls, or the underside of the lowest floor, depending on the foundation type, also provide significant energy savings to the building occupants.

TOTAL COST OF OWNERSHIP — SOLAR
There are two ways to decrease cost of ownership when it comes to solar power:

1. Install solar panels at the time of construction. With the right sized system, solar power can reduce electricity costs for the occupants, and potentially pay back the owner for excess energy sold to the electric utility company. Additionally, solar power can be an effective form of resilience should the electrical service be disrupted for an extended period of time due to storms or other outages.

2. Pre-wire the building for the installation of solar power at a later date. This is a very inexpensive step to take during construction, but can be prohibitively expensive to install after the building is completed and occupied. If a solar power system is not affordable at the time of construction, it can be added on to the building later, but will be less expensive to install.

FLOOD RESISTANCE — ELEVATION
The most effective means of flood protection is elevating living spaces out of the flood plain. While all designated flood plains have a specific minimum elevation requirement, the majority of flood damage occurs in places which are not in a designated flood plain. For this reason, all residential buildings in Norfolk must be elevated a minimum amount regardless of whether or not they are located in a flood plain.

FLOOD RESISTANCE — RETENTION
Providing a rainwater storage on individual properties reduces the risk of flood damage in the entire City of Norfolk. Storing rainwater reduces the amount that the city’s pipes need to drain in the event of a storm. This stored water, depending on the containment method, can then be used to water plants or wash vehicles, reducing the amount of city water used on each property.

Additionally, the City of Norfolk Public Works Department may offer a reduction in storm water fees as an incentive. For more information on rain capture, contact the Public Works Department.

Types of storm water retention include:

1. Tree Preservation and Planting: Trees absorb groundwater and release it into the atmosphere, reducing the risk of flooding. A mature oak, for example, can store upwards of 200 gallons (6+ bathtubs) daily. It is important to not damage mature trees during the construction process so that they can absorb water and cleanse the air.

2. Rain Barrel or Cistern storage: Providing a Rain Barrel or a Cistern (container larger than a rain barrel) will allow homeowners to use rainwater instead of city water for certain tasks. Rainwater is not as filtered, so tasks should be limited to washing appropriate items or watering plants.

3. Rain Garden: A Rain Garden is a miniature version of tree planting, absorbing water that may otherwise flood the property. A rain garden is a collection of plants that can absorb water and beautify a yard. Each property is a unique case, and a professional should be consulted to ensure the correct species of plants are selected.
Sweat Equity Strategies

CONVERTING A PARKING PAD TO A GARAGE

Not every home needs to be complete from the very beginning. New homeowners should build what they can comfortably afford, then add value to their property over time. This is a strategy that has been commonly employed by home and property owners. This section includes ideas for a few ways in which new buildings can be built to make future additions and renovations easier on the owner.

CONDITION AT HOME PURCHASE

Garages can add considerable expense to the cost of a home. Building the house with an adjacent concrete parking pad that is sited so that an enclosed garage can be built in the future allows the owner to build value into their property when they can better afford it.

The home is built with an inexpensive parking pad sited to fit within established setbacks.

SUGGESTED ADDITIONS TO INCREASE THE VALUE OF THE HOME

An attached garage can be added at a later date over top of the parking pad.

Alternatively, the driveway can be extended and a detached garage added in the back yard. If zoning permits it, this structure could also be designed as an Accessory Dwelling Unit (ADU) which can bring in additional income for the homeowner.
Addition of a Rear Deck

Rear decks can be added at any time to improve the value of a home. Small ones can be added by a homeowner themselves, working over a few weekends. Norfolk enjoys a mild climate that makes backyard living possible for much of the year, and a deck is a great addition for a family to be able to enjoy time outdoors. Decks should be designed to complement the house, and use similar materials and colors in their construction. Covered decks are more complicated, but increase the number of days in a year that a deck is usable by providing protection from rain and summer sun. The City has a permitting process for building decks that homeowners must follow in order to ensure that they are built safely.

Adding Solar Panels

The addition of solar panels can help a homeowner offset costs of electrical energy, and potentially pay them back if their property receives sufficient solar exposure to generate more electricity than they use. Pre-wiring a home for the installation of solar panels and designing the roof framing to support the additional loads and attachment points are inexpensive ways to ensure that the home is ready for the addition of solar panels when the owner is ready to install them.

ADDITIONAL CONSTRUCTION OPTIONS

The addition of solar panels can help a homeowner offset costs of electrical energy, and potentially pay them back if their property receives sufficient solar exposure to generate more electricity than they use. Pre-wiring a home for the installation of solar panels and designing the roof framing to support the additional loads and attachment points are inexpensive ways to ensure that the home is ready for the addition of solar panels when the owner is ready to install them.

Roof-mounted solar panels are the traditional way of adding solar capabilities to a residence. Pre-wiring and ensuring that the roof is oriented and angled properly for maximum solar exposure will help make future installation as easy as possible. Solar shingles may also become a possibility for roof replacement.

Solar panels on the roof of a carport or detached garage are another alternative to roof-mounted panels.