

# 4. DESIGN AND STREETScape GUIDELINES

## DESIGN GUIDELINES

While the transect provides direction for form and land use, qualitative design guidance employs a traditional neighborhood design (TND) approach to the design and placement of individual buildings that addresses street hierarchy as well as the ways a new development can activate the pedestrian realm along streets and public spaces to create memorable neighborhoods with individual character with appropriate modulation and treatment of its exterior surfaces.

### A. Building Placement

The arrangement of buildings contributes significantly to the experience of the public realm. Buildings through the appropriate treatment of placement, setback, street wall, massing and ground floor should enhance the character and quality of life, in which form, scale, visual character and experiential quality of the private and public realms can help make a neighborhood memorable. These qualities are desired in new commercial and residential developments to avoid the impression of a single development that is disconnected from the street. Half- or full-block developments in particular can look monolithic in mass and form. It is critical to achieve a fine-grain neighborhood feel in such developments to ensure a pleasant, human-scale experience along the sidewalk.

The design of blocks and buildings should be based in these key guiding principles:

1. Reinforce the framework of the UDA by focusing more density with a mix of uses within the neighborhoods of Stone Port and Stone Ridge.
2. Enhance the public realm with a consistent application of streetscape improvements within these areas.
3. Frame and define the street by placing buildings closer to the property line, with parking located in the rear or side, per What Makes a Neighborhood Guiding Principle #3: Buildings placed close to the street create a sense of place.
4. Express a neighborhood character that is defined by human-scale buildings that offer a variety in texture, form, scale, color and material.
5. Address and activate the street at the ground floor with well-articulated and detailed ground-floor treatment, with frequent entrances and plenty of transparency.



Image 1: Compact street blocks, a mix of uses and linear park space



Image 2: Consistent streetscape finishes



Image 3: Streetscape furniture

**B. Lot and Block Standards**

Compact and smaller street block sizes facilitates a development form that promotes walkability.

- 1. Block and lot size diversity. Street layouts provide for development blocks generally in the range of 200-400 feet deep by 300-600 feet long to facilitate greater ease of walkability.
- 2. A variety of lot sizes should be provided that allow diverse housing choices.
- 3. Lot widths should create a relatively symmetrical street cross section that reinforces the public space of the street as a simple, unified public space.

**C. Block Modulation and Building Massing and Placement**

The modulation of a block and the massing of buildings significantly impact how the size of the building is perceived by a person at street level. By breaking up a large building into smaller masses, the building’s apparent mass can be reduced, forming a more interesting block. Special attention should be paid to buildings that front onto the public realm, and to relationships between buildings.

- 1. Full-block developments (or greater than 300 feet in street frontage) should be broken up into distinct volumes that are in proportion to one another, while preserving

the integrity of the building’s design, and creating transitions in bulk and scale. Repetitive elements or monolithic treatments that create a half- or full-block massing or appearance should be avoided.

- 2. To express variety, avoid monotony and distinguish different building volumes, building design should use a variety of color, material and texture.
- 3. Mixed-use buildings that frame and define the street and express a neighborhood character contribute to the quality of the public realm and the pedestrian experience. Well-articulated and detailed street walls, and building frontage that is directly adjacent to the public realm, are important to the fabric of the city and help to establish a human-scale urban experience.
- 4. Mixed-use buildings should incorporate a variety of vertical and horizontal modulations to develop distinct architectural volumes, break up monotonous volumes and create a fine-grain character.
- 5. The scale of building elements (roofs, doors, windows, porches, columns) should be chosen with the pedestrian in mind and should be proportioned to the building’s height and volume. Visual order is achieved through a consistent use of these elements in individual buildings. The coordinated repetition and massing of building forms and architectural elements achieves a proper rhythm of neighborhood buildings.



Image 4: Compact street blocks with pedestrian plazas and mid-block paseos



Image 5: Pedestrian plaza

6. The proper placement of buildings and associated open spaces along streets frame the public realm and reinforce the hierarchy and legibility of neighborhoods within each focus area. Buildings should define and frame the public realm. Their placement and massing should create a street wall that holds the street volume and creates a street edge. Buildings should address the street consistent with the urban design
7. The highly visible intersections of Stone Spring and Port Republic, Stone Spring and US-33 and Cross Keys and Route 33 require massing that reinforces and anchors the junction with more vertical architecture, gateway elements that announce the neighborhoods of (Stone Port or Stone Ridge) or even with a building setback to accommodate a pedestrian plaza.

**D. Building Design**

The UDA ensures that new development is designed with a pedestrian orientation which will foster a vital and active street life while creating an overall positive image for the County. Buildings provide visual interest to pedestrians and serve as attractive backgrounds for public open spaces; and the ground floor designs activate the street and enrich the pedestrian environment.

1. Entries to stores and ground-floor commer-

cial uses should be visually distinct from the rest of the store façade, with creative use of scale, materials, windows, projecting or recessed facades, architectural details, color and/ or awnings. These entries should have direct at-grade access from the sidewalk.

2. All commercial uses located at the street level should provide a direct at-grade entrance from the public right-of-way, with door thresholds flush with the sidewalk level. An entrance should be provided for each tenant street frontage exceeding 50 feet. Where such frontages exceed 100 feet, one entrance should be provided for each 100 feet of frontage or portion thereof. Separate pedestrian entrances for individual tenants should be at least 25 feet apart. Pedestrian ramps within the public right-of-way should be prohibited, except where necessary for required disabled access to existing buildings when no alternative is available.
3. Architectural features such as awnings, canopies and other design features which add human scale to the streetscape are encouraged and should be consistent with the overall design of the building.
4. Between 3 and 12 feet above the sidewalk, a minimum of 60 percent of the façade should contain windows of clear or lightly tinted vision glass that allow views of indoor space. Heavier tinted or mirrored glass should not be permitted.



Image 6: Ground floor commercial with creative use of materials, projecting and recessed facades.



Image 7: Suburban WalMart model adapted to a traditional neighborhood design. Building is brought close to the street.

- 5. Storefronts should remain unshuttered and minimally lit from within after business hours during active pedestrian times to illuminate adjoining sidewalks.
- 6. Signage attached to storefront windows should be kept to a minimum.

**F. Ground-Floor Residential Use**

Ground floor residential units that are designed correctly provide “eyes on the street” and enliven the public realm.

- 1. The ground floor of residential building facades should be articulated at regular increments to differentiate individual residential units from each other and from the overall massing of the building, to express a rhythm of individual units along the street.
- 2. Street walls containing groundfloor residential units should be set back up to 10 feet from any property line fronting a public street. Stoops and landscaping should be provided in this setback to provide a buffer between the sidewalk and the units’ living areas.
- 3. Ground-floor residential units should be raised between 18 to 42 inches minimum above the adjacent sidewalk grade to provide an additional buffer.

- 4. The area between 3 and 12 feet above the sidewalk of street-facing ground-level residential units should possess clear, non-reflective windows.
- 5. Fences and gates should be utilized within the setback area only if they demarcate private open space attached to a residential unit. Solid walls or fences should not exceed a height of 42 inches above grade.
- 6. Each street-facing unit should be identified either on the door or the adjacent wall.

**G. Building Entries and Facades**

The building facade and entry is a critical component of the public realm.

- 1. The architectural features, materials, and the articulation of a facade of a building should be continued on all sides visible from a public street or courtyard.
- 2. The front facade of the principal building on any lot should face onto a public street.
- 3. The primary entrance to any building should face onto a public street.
- 4. The front facade should not be oriented to face directly toward a parking lot.



Image 8: Townhomes with entries from the sidewalk



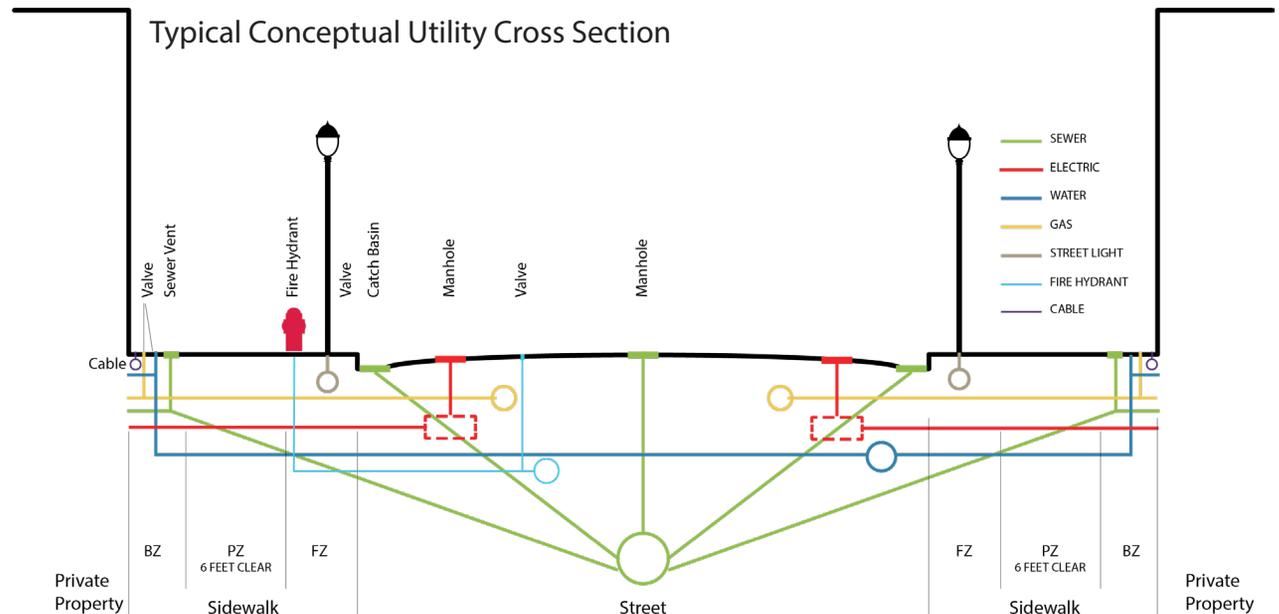
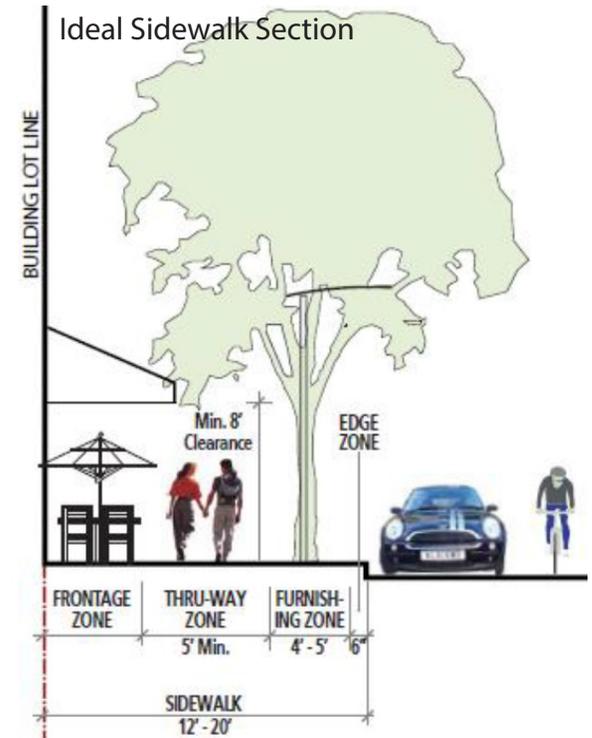
Image 9: Townhomes with entries from the sidewalk

5. Porches, pent roofs, roof overhangs, hooded front doors or other similar architectural elements should define the front entrance to all residences.
6. For commercial buildings, a minimum of 50 percent of the front facade on the ground floor should be transparent, consisting of window or door openings allowing views into and out of the interior.
7. Building entrances and windows are located along street frontages to break up blank walls and improve the pedestrian experience.
8. Building frontages should be set near the sidewalk and building sizes should be consistent, providing a sense of enclosure for the street.
9. Architectural detailing and applied decoration should enliven facades and break down building sizes to human proportions.
10. Blank lengths of wall exceeding 50 linear feet are discouraged.
11. Different elements should imply distinct architectural treatments (materials, fenestration, heights, window types, etc.) to exhibit incremental and diverse street faces.

### H. Utilities

All utilities should be considered as part of the overall design early in the process.

1. All utilities, such as backflow prevention devices, groupings of meters, and so on should be located outside the public right-of-way within a building alcove, utility room, or landscaped area and be fully screened from view of the public right-of-way.
2. The utility needs of future commercial tenants (e.g., grease traps, exhaust chutes, air conditioning) should be anticipated in the initial building design to avoid difficulty when retrofitting buildings after construction.



# Streetscape Design

All sidewalks within the Neighborhood Center (T4) for the neighborhoods of Stone Ridge and Stone Port should consist of an edge zone, furnishings zone, throughway zone, and, where appropriate, a frontage zone. See diagram Ideal Sidewalk Section and description below:

Edge Zone (6 inch curb)

The edge zone, sometimes referred to as the curb zone, is the interface between the roadway and the sidewalk.

Furnishings Zone (5 foot min.)

The furnishings zone serves as the buffer between the active pedestrian throughway zone and street traffic. The furnishings zone accommodates public amenities such as street trees, street lamps, benches, bike racks, news racks, mailboxes, transit shelters, utility poles and utility boxes. In some cases, the furnishings zone can be used for outdoor seating and dining by shops, cafés and restaurants.

Pedestrian Throughway Zone (6 foot min.)

Located between the furnishings zone and the frontage zone, the throughway zone allows for unimpeded pedestrian circulation. It is free of all obstruction, including utility boxes and railings for outdoor dining.

Frontage Zone (varies)

The frontage zone lies between the throughway zone and adjacent building or property line, assuming the sidewalk dimensions accom-

modate it. Movable outdoor seating and dining may be situated here as appropriate.

**A. Sidewalks**

Sidewalks should meet all state and local requirements for adoption into the public street system, and should also meet Americans with Disabilities Act (ADA) requirements where applicable.

1. Striped crosswalks should be included and well-marked at all signed or signaled intersections.
2. The throughway zone should be a minimum of five feet wide.
3. Outdoor seating, either general-purpose or restaurant/café seating, is encouraged in the frontage zone, particularly in heavily trafficked pedestrian areas
4. Open seating areas without railings are encouraged wherever possible, but if required, should be as open and unobtrusive as possible.
5. If there is an insufficient frontage zone to accommodate private uses such as cafés, any additional area should be taken from the private realm rather than encroaching on the throughway zone.



Image 10: Sidewalk seating



Image 11: Sidewalk cafe seating

6. If possible, all utility boxes should be placed underground. If placing utility boxes underground is not an option, then all utility boxes should be placed in the furnishings zone.

**B. Street Tree and Landscape Design**

All plant material should be selected from varieties that are native to the Commonwealth of Virginia, whenever possible.

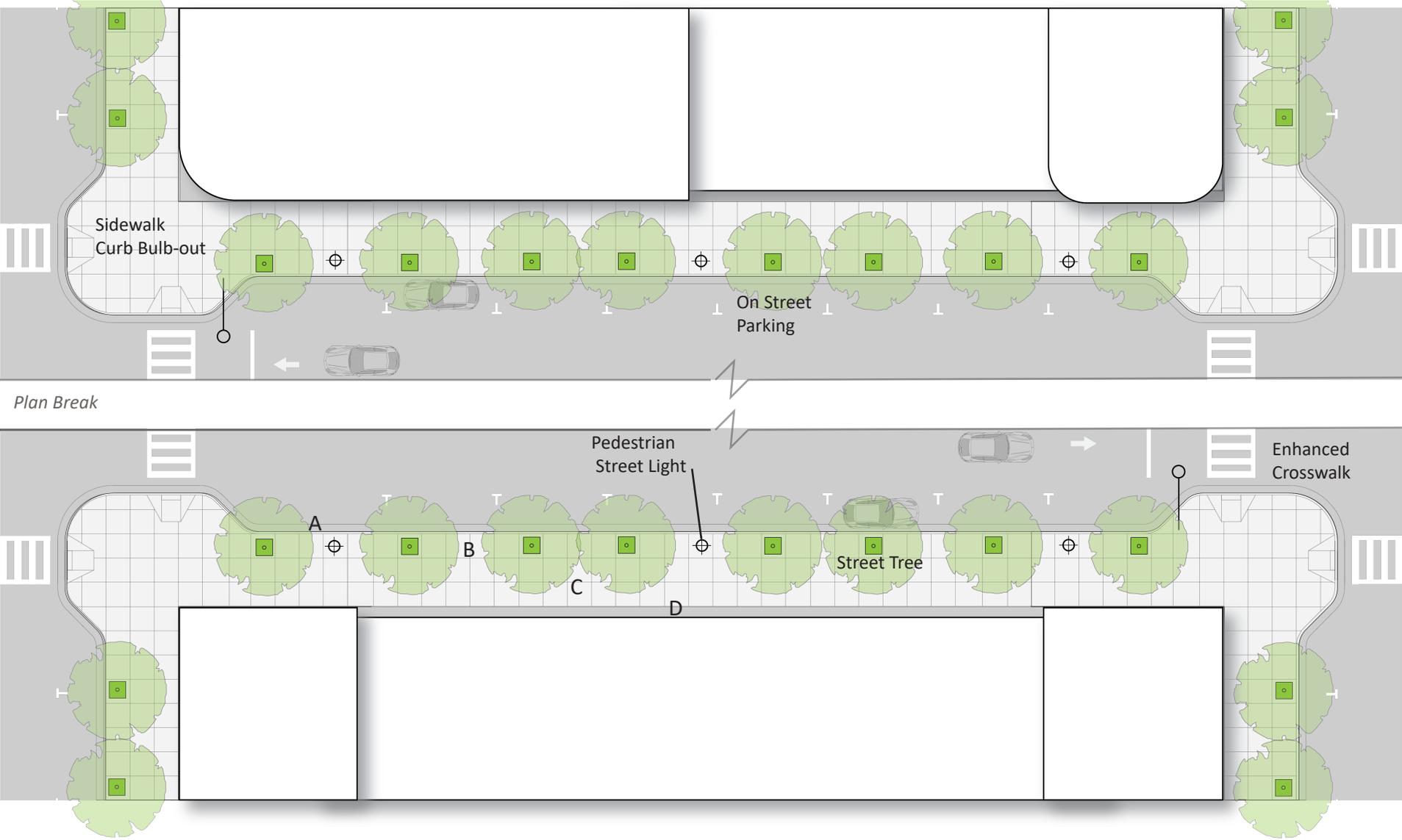
1. All streets should have a regular pattern of street trees for aesthetic value, and to shade sidewalks.
2. Street trees should generally be placed up to 40 feet apart, and planted in the furnishing zone, located between the street curb and pedestrian throughway zone. Street trees may be planted in planting beds, or may be installed in tree grates to create additional sidewalk space
3. Evergreen trees should be used at strategic locations for screening and buffering to parking, trash compartments and other back-of-building features, due to their dense foliage, but also incorporated into landscaping in parks and civic spaces to enhance aesthetics during winter.

4. Deciduous shrubs should be used as accents on private residential lots, as well as in parks, commercial areas, and other community spaces. Particularly evergreen shrubs can be used for visual interest, as well as for screening of items like utility meters and HVAC equipment.

**C. Tree location**

Street trees should be located at an adequate distance from the street and adjacent buildings to maximize the trees' long-term health.

1. Street trees should be planted a minimum distance of two-and-a-half feet (2.5') from the street curb edge.
2. Street trees should be planted a minimum distance of eight feet (8') from a building face, although a greater distance may be desirable, depending on the tree species.
3. Tree grates or planting strips should be used throughout.
4. Street trees should be planted in adequately sized tree wells to contribute to the long-term health of the trees and to accommodate root balls large enough to replace a dead tree with a relatively mature one.
5. Street grates should cover a minimum area of 24 square feet (e.g., 4' x 6').



TYPICAL STREET BLOCK WITH STREET TREE LAYOUT

- A. Curb Zone (6")
- B. Furnishing Zone
- C. Pedestrian Thoroughway Zone
- D. Frontage Zone

**D. Planting Strips**

The pedestrian realm may be enhanced through planting strips in a sidewalk’s furnishings zone.

1. Planting strips should not be located where pedestrian traffic is high or where the strips would otherwise impede pedestrian flow.
2. Planting strips should be located in the furnishings zone only. Planting strips should be planted with low-growing, native and/or drought tolerant plant materials with low water and maintenance requirements. Planting strips should not be planted with grass or other plant materials requiring heavier water use and maintenance.
3. Planting strips could be slightly raised and bordered with a low protective edge to create separation from foot traffic. To curb dog use, planting strips could be surrounded by a low fence often referred to as an ornamental street tree fence integrated into the planting strip.
4. Planting strips should have a minimum width of three feet, six inches (3’6”).

**E. Street Corner Radii**

1. Corner Radii. The roadway edge at street intersections should be rounded by a tangential arc with a maximum radius of 15 feet for neighborhood streets and 20 feet for intersections at Stone Spring and Port Republic streets.
2. Curb cuts for driveways to individual residential lots should be prohibited along Stone Spring Road and at Stone Port’s primary neighborhood street (See Street Hierarchy Map on Page 34) for a continuous and uninterrupted walking experience. Curb cuts should be limited to intersections with other streets or access drives to parking areas for commercial, civic or multifamily residential uses.

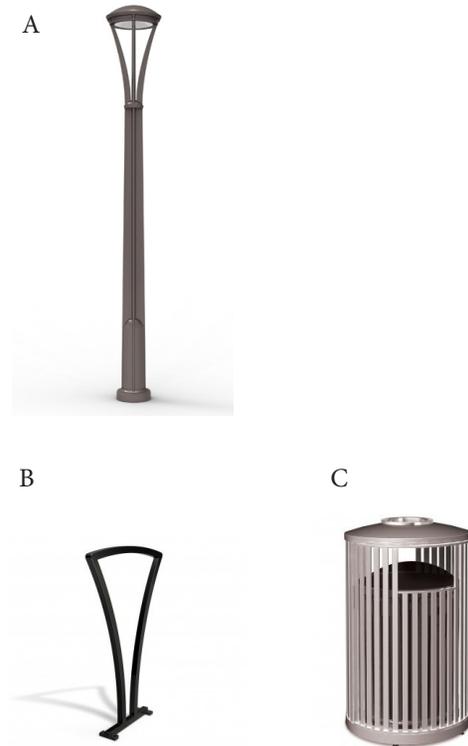
**F. Street Furniture**

An additional enhancement of streets in Stone Port and Stone Ridge neighborhoods is the inclusion of street furniture when the width of the sidewalk or public or private surface allows for it.

1. Street furnishings should be located in the furnishings zone.
2. Street furniture includes benches, bicycle racks, bollards, planters, and other accessories for the convenience of pedestrians or cyclists.



Image 12: Narrow street corner radii



Street furniture Family: A. Pedestrian Lighting, B. Bicycle Rack and C. Trash Receptacle

- 3. The careful selection and use of street furnishings enhances the street environment, provides a clean, consistent look and makes ongoing maintenance easier and less expensive. Street furnishings include benches, containers, bike racks and drinking fountains.
- 4. A family of distinct pedestrian street light fixtures that employ energy efficient luminaries, and are designed to minimize light pollution should be investigated for the Stone Port, Stone Ridge and Boyers Crossing neighborhoods. The pedestrian light fixtures should convey a distinct character in its design and should be complementary to the street furnishings.
- 5. Furnishings for primary streets (Stone Spring and Port Republic) may be distinct and of higher quality to denote the nature of those streets within the UDA. Other elements could be considered for such streets, such as maps and information kiosks.
- 6. Utility boxes should be painted with a color consistent with the family of street furnishings to downplay visibility.

**G. On-Street Parking**

- 1. Streets with commercial land uses at the ground floor should have on-street parking directly available, where possible.

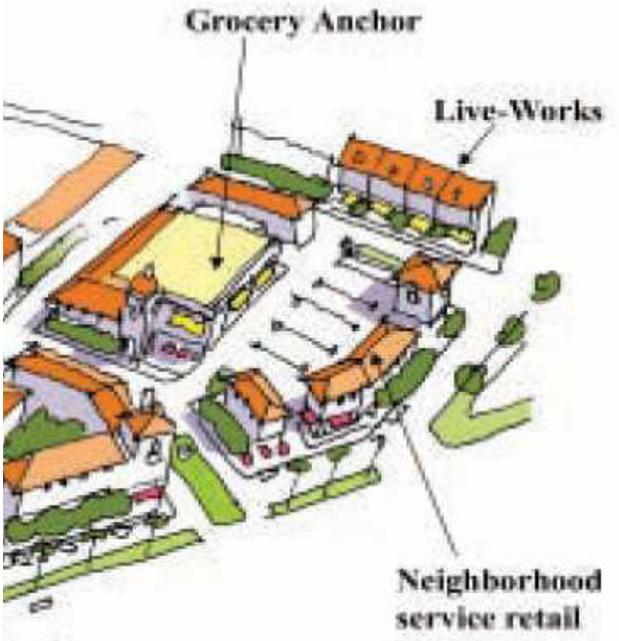
**H. Surface Parking**

All surface parking lots should be located at the rear (behind) or at the side of a building so that it is not visible from any street frontage.

- 1. Surface parking areas exposed to view from public streets, sidewalks, and other public spaces shall be screened from the street and sidewalk with a 36" min. and 48" max. height wall or screened with a hedge maintained at 36" min. and 48" max. height and with a shrub spacing of no greater than 24" at time of planting located parallel to the front property line.
- 2. A parking lot or garage may not be adjacent to or opposite a street intersection.
- 3. Surface parking lots or garages should provide not less than one bicycle parking space for every 10 motor vehicle parking spaces.
- 4. Adjacent on-street parking may apply toward the minimum parking requirements.



Christiansburg UDA Plan. Vision for new and infill development with surface parking located in the interior of the block.



Example: Parking located in the interior of the block

**I. Interface between Buildings and Stone Spring Neighborhood Parks**

Each neighborhood in this plan, Stone Port, Stone Ridge, Boyers Crossing and Crossroads has proposed parks to organize future development around it. Buildings facing these parks, either across the street or on adjacent parcels, can enhance the park experience, serve as an architectural backdrop to parks, frame the outdoor space and provide a greater degree of safety through “eyes on the park.” Designers of park-fronting buildings have a heightened responsibility to the public realm. The park can be activated through ground-floor use, and proper design can minimize impact on solar access.

1. Buildings should engage adjacent parks through active ground floor uses, such as restaurants and cafés, and with transparent storefronts to create visual interest. They should include spill-out space for dining or sitting on the sidewalks facing parks.
2. Building entrances should face parks to encourage building occupants to cross the street to the park and for park visitors to shop and dine in adjacent businesses.
3. Blank walls with few windows and lack of ground-level interest are strongly discouraged.
4. Parks and plazas should be designed to allow for clear views in, out and through them.

5. Publicly accessible open space should include principal access points to the surrounding street network, preferably at street intersections.
6. Principal access points should remain unimpeded by walls, steps, or other barriers; they should act as seamless extensions of the sidewalk.
7. Principal access points should meet the adjoining street line at the elevation of the adjoining sidewalk.
8. Fencing and walls at the edges of parks should be minimized.
9. Due to the topographic issues within the UDA area, steps and ramps will be needed, but should be gradual and generously wide.
10. Major walkways should be of a smooth, durable material, which may include stone, concrete or brick pavers, asphalt unit pavers, decomposed granite paving, and/or wood decking. An additional zone on either side of this walkway may be provided to accommodate trees and seating, which may have textured paving such as cobblestone or crushed stone.
11. Other park amenities may include open-air cafés, kiosks and pushcarts.



Image 13: Neighborhood park with mid-block crossing



Image 14: Neighborhood park with new residential development



Image 15: Neighborhood park at commercial strip mall. New