

# TOWN OF BLACKSBURG

## RESIDENTIAL INFILL DEVELOPMENT GUIDELINES



DECEMBER 2011

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# introduction

Residential neighborhoods are the basic building blocks of a community. Within the Town of Blacksburg, strong neighborhoods are more than just a collection of houses, streets and alleys around the urban core or subdivisions. Instead, Blacksburg's traditional residential neighborhoods have a variety and mixture of housing types that are connected to the Town's existing fabric and create the unique sense of place and community identity that Town residents enjoy.

As a university town, the desire for well-designed neighborhoods that meet housing demand for all citizens and contribute to quality of life has been in the forefront of community concerns for a number of years. Residential land use policies have changed over the years and in some cases more intense multi-family uses have been allowed in traditional single family neighborhoods in response to housing demand. With limited on-campus housing available, many Virginia Tech students live off-campus in apartments and other rental properties including duplex, townhome, and single family residences in residential neighborhoods. This type of market influence makes purchasing homes or vacant lots for conversion to rental or investment property attractive to residential developers. At the same time, national market trends confirm a growing demand for residential infill projects that cater to the older baby boomers (aged 55-64) and generation Y (late teens to early 30's) that want to experience the convenience and downscaled lifestyles of vibrant, mixed use urban areas like the Town of Blacksburg. As residential infill construction continues, the Town of Blacksburg must consider how new structures can meet the demand for all of these markets, and can be designed to create a seamless transition between new development and existing housing patterns to ensure the long-term viability of its neighborhoods.

At the heart of these residential infill design guidelines is the principle of maintaining and reinforcing community character. Without attention to community design, the appearance of the Town of Blacksburg's neighborhoods in the future could lose some of the small town charm that contributes to the property values of residents in those neighborhoods. Design guidelines provide a commitment and a blueprint for maintaining the character of residential neighborhoods over time. In addition, ensuring that future development maintains the design character of a neighborhood can provide property owners with some assurance that the form of future

appearance of the neighborhood will not degrade investment in their own property and will enhance the beauty of the Town as a whole.

## Purpose of the Guidelines

The purpose of the following Residential Infill Design Guidelines is to serve as a resource for Town of Blacksburg, residents, property owners, builders and developers who are involved in planning, designing, and building residential projects in existing neighborhoods. Residential "infill" development can be either construction on vacant land or redevelopment that replaces existing buildings. These residential infill guidelines encourage the efficient use of developable land and provide direction to developers, staff, and elected officials alike, to implement the Town's design-related goals and objectives for residential development. Compatible infill development can help reinforce the cherished aspects of community character and support neighborhood walkability and overall quality of life. A variety of design features affect the success of compatible infill projects, namely building orientation, parking, setback patterns, landscaping, architectural features, massing, and usable open space. These guidelines provide suggestions to help integrate new projects effectively into existing neighborhoods throughout the Town.

## How and Where the Guidelines Could be Applied

The Town's recently amended Comprehensive Plan accommodated population growth to designated Urban Development Areas (UDA). While UDAs certainly are opportunities for residential infill development, a significant portion of the Town's land area is comprised of residential neighborhoods. It is expected that infill development will occur in both of these locations and the guidelines will apply in all cases.

Although these guidelines are advisory only and do not constitute a code or ordinance requirement, the Infill Design Guidelines have Town-wide applicability and are intended to serve as a framework within which architectural and landscape design excellence can thrive. Working within the Town's zoning regulations and other requirements, such as the HDRB guidelines and historic district regulations, these guidelines can help to articulate and clarify the 'public interest' in site design and built form, to achieve good neighborhood design. In many cases, residential infill will require planning approvals, and the guidelines will serve as

useful, though advisory, tools in the review and approval of planning applications.

This document is organized into three sections:

**Section 1** describes the existing policy and regulatory framework guiding residential development within the Town.

**Section 2** defines the design principles and corresponding standards that support context sensitive residential infill development.

**Section 3** provides prototypical examples of how the standards could be applied to a site.

 overview of policy and regulatory documents

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The Town lays out its vision and standards for residential development in the Comprehensive Plan and Zoning Ordinance. While these documents provide a basic framework and design standards for infill development that are compatible with existing neighborhoods, these guidelines can add further detail to this framework from a community design standpoint, to help the Town achieve the quality of development that is desired. The Town will need to consider how best to use these guidelines, including how to integrate them into the Comprehensive Plan and Zoning Ordinance.

## **TOWN OF BLACKSBURG COMPREHENSIVE PLAN 2006-2046 (ADOPTED AUGUST 9, 2011)**

The Town of Blacksburg's Comprehensive Plan outlines a number of community planning factors related to housing and community character. The following planning factors are particularly relevant to these infill design guidelines:

- The preservation of Blacksburg's neighborhoods can be threatened by new structures that, while technically meeting legal requirements, are out of character with those neighborhoods. Of particular concern is the placing of extremely large houses geared towards student housing on existing lots, or on adjacent lots that would normally hold two or more structures. When there is new development, the Town encourages that it be in scale with the rest of the neighborhood. (*Community Planning-14*)
- Blacksburg is becoming an attractive area to retirees, who come here for the amenities associated with Virginia Tech, a lower cost of living, and a mild climate. (*Community Planning-14*)
- As the general population ages, accessibility issues will increase. (*Community Planning-14*)
- As Blacksburg develops, there is an increasing demand for a variety of housing options: style, size, location and price, for all segments of the population. (*Community Planning-14*)

These community planning factors set the stage for the Community Planning Chapter Goals, Objectives and Action Strategies that are articulated in the plan. These include:

- Provide a quality mix of housing styles and choices in a variety of price ranges that are available throughout Town.
- Increase the number of housing units attractive to and suitable for retired people.
- Preserve and enhance the integrity and quality of existing residential neighborhoods.
- Clearly articulate the Town's development standards and requirements to the development community and the general public.
- Protect the historic fabric and sense of place of neighborhoods to enhance community pride.
- Promote pedestrian access and safety within the historic district.

While these are all relevant to encouraging compatible residential infill development, there is an opportunity to identify a more specific design vision for infill development to ensure that new development on vacant lots or modifications to existing buildings are compatible with existing neighborhoods. Adding a new goal regarding infill development with supporting objectives and strategies to address design standards and development review procedures should be considered in future Comprehensive Plan updates.

## **ZONING ORDINANCE**

The Town's Zoning Ordinance contains nine residential districts and a mixed use district, each with a description of purpose, permitted uses, and site development regulations. The ordinance defines all of the residential use types that are permitted by right and by conditional use for each district. For the purposes of this study, the definitions of residential use types which are permitted by-right and by conditional use permit for the R-4, R-5, and RM-27 districts are defined on page 7.

In addition to general district standards, the Use and Design Standards section of the ordinance provides design guidance for each use type with particular attention to design features, such as locating parking behind a building, orienting entrances to the street, providing for sidewalk connectivity, and screening objectionable features. The design features in this section of the ordinance address key features of building form and site development, but do not go far enough to ensure all aspects of urban form are addressed so the end product meets the intent of the ordinance. Separate sections of the ordinance further address parking requirements, landscaping, screening and lighting.

As a whole, the Town's ordinance provides some very specific development parameters within individual districts, but does not always address all of the design elements necessary to achieve the desired development pattern. For example, the Zoning Ordinance currently requires a conditional use permit for alley access for residential uses other than single family dwelling. If alley access is permitted by-right there is more design flexibility to provide a traditional consistent streetscape without multiple curb cuts. More garages could face an alley, including duplexes.

The following images describe some of the types of development as defined in the current Town Zoning Ordinance.



**ACCESSORY APARTMENT**—A secondary dwelling unit or units established in conjunction with and clearly subordinate to a primary dwelling unit, whether a part of the same structure as the primary dwelling unit or a detached structure or structures on the same lot. All existing units are non-conforming uses.



**MULTI-FAMILY DWELLING**—A building or portion thereof which contains three (3) or more dwelling units for permanent occupancy, regardless of the method of ownership. Included in the use type would be garden apartments, low and high rise apartments, apartments for elderly housing and condominiums.



**SINGLE FAMILY DWELLING, ATTACHED**—A grouping of three (3) or more single family dwellings sharing two (2) or more common walls, with each dwelling on its own individual lot. Attached dwellings are not vertically stacked. Common examples are subdivided triplexes and quadplexes.



**SINGLE FAMILY DWELLING, DETACHED**—A site built or modular building designed for or used exclusively as one (1) dwelling unit for permanent occupancy, which is surrounded by open space or yards on all sides, is located on its own individual lot, and which is not attached to any other dwelling by any means.



**TOWNHOUSE**—A grouping of three (3) or more attached single family dwelling in a row in which each unit has its own front and rear access to the outside, no unit is located over another unit, and each unit is separated from any other unit by one (1) or more common walls.



**TWO-FAMILY DWELLING**—The use of an individual lot for two (2) dwelling units which share at least one (1) common wall, each occupied by one (1) family, that separates living space (i.e., living room, kitchen, bedroom, bathroom, etc.) also referred to as a common example of which is a duplex. Each dwelling unit may be vertically stacked. The exterior appearance of the whole resembles a single structure.



## WHAT CAN BE BUILT?

The R-4, R-5, and RM-27 zones allow a wide-range of residential building types and are the most commonly used for both single family and multi-family residential infill development within the Town. Below is a summary of some of the basic regulatory parameters governing the intensity and scale of development allowed in these residential zones. The images below are examples of projects built in each zone.



R-4: Low Density Residential

Permitted Uses:  
Single Family, Detached

Maximum Allowed Density	Not Specified
Minimum Lot Requirements	
Lot Area	10,000 SF
Lot Frontage	40 Feet
Minimum Building Setbacks	
Front	30 Feet
Side	10 Feet, except on corner lots
Rear	25 Feet
Building Height	
Max	30 Feet or 40 Feet with an additional 1 Foot setback/1 Foot of additional height
Maximum Coverage	
Lot	45%
FAR	.25



Zone: R-5

Permitted Uses:  
Single Family, Detached  
Two-family dwellings

Maximum Allowed Density	20 Bedrooms/Acre
Minimum Lot Requirements	
Lot Area	8,500 SF
Lot Frontage	45 Feet
Minimum Building Setbacks	
Front	35 Feet
Side	10 Feet, except on corner lots
Rear	25 Feet
Building Height	
Max	35 Feet or 45 Feet with an additional 1 Foot setback/1 Foot of additional height
Maximum Coverage	
Lot	55%
FAR	.35



Zone: RM-27

Permitted Uses:  
Boarding House; Home Occupations; Multi-family dwellings; Single family attached; Single Family, Detached; Townhouse; Two-family dwellings

Maximum Allowed Density	27 Bedrooms/Acre
Minimum Lot Requirements	
Lot Area	8,500 SF
Lot Frontage	60 Feet
Minimum Building Setbacks	
Front	35 Feet
Side	10 Feet, except on corner lots
Rear	25 Feet
Building Height	
Max	35 Feet or 45 Feet with an additional 1 Foot setback/1 Foot of additional height
Maximum Coverage	
Lot	60%
FAR	.40

 infill development guidelines

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# best practices for residential infill

This section presents a summary of best practices for integrating new housing into the fabric of existing neighborhoods. The strategies presented are particularly oriented to two-family dwelling (duplex), single family attached, townhouse, and multi-family residential development in the R-5, and RM-27 residential zones. However, the principles and strategies presented in this guidebook can also be relevant to infill development in single family (R-4) and other residential zones and to residential projects in commercial and mixed use zones.

The following design objectives are derived from the Town's existing planning and regulatory framework and serve as the basis for the best practices contained in this guidebook:



## RESPECT NEIGHBORHOOD CONTEXT AND ENHANCE COMMUNITY CHARACTER

The residential streets of Blacksburg's neighborhoods often include a diversity of architectural styles and housing types, yet come together to create a cohesive identity based on consistent patterns—such as street-oriented buildings, fine-grain “rhythms” of development, and green street edges created by front yards and gardens.



## PROVIDE TRANSITIONS

Providing effective transitions of building scale, building design, form and color helps to integrate infill development into existing neighborhoods and helps to mitigate visual impacts. Complementary architectural design, materials, scale, massing, and the use of landscape, screening, and open space are strategies to achieve compatibility within the neighborhood and the Town.



## CREATE PEDESTRIAN FRIENDLY STREETSCAPES

Blacksburg's sector/neighborhood plans and design-related policies frequently call for new development to contribute toward a pedestrian-friendly street environment. Besides the essential provision of sidewalks, pedestrian friendly design can be achieved by providing visual interest and a human-scaled level of detail; providing convenient pedestrian access to destinations, with strong connections between main entrances and sidewalks; using trees and vegetation, particularly along residential streets.



## MINIMIZE VISUAL IMPACTS OF PARKING

Parking interferes with the building's relationship to the street and pedestrian-friendly appearance. The visual and pedestrian connectivity impacts created by parking can be mitigated through good parking design, landscape, location of parking relative to buildings, quantity of on-street and off-street parking, and overall improved pedestrian connectivity and access.



## CREATE USABLE OUTDOOR SPACES

At higher densities, outdoor space is too valuable to waste. The design of both the site and buildings needs to be carefully coordinated to allow for strategies that will create outdoor spaces that are usable. Not only must usable outdoor spaces be sufficiently sized, but buildings should be designed to provide convenient access to these spaces. Whenever possible, outdoor areas should be designed to be multifunctional, simultaneously serving recreational, environmental, and even vehicle access functions.

# site design & parking | building orientation

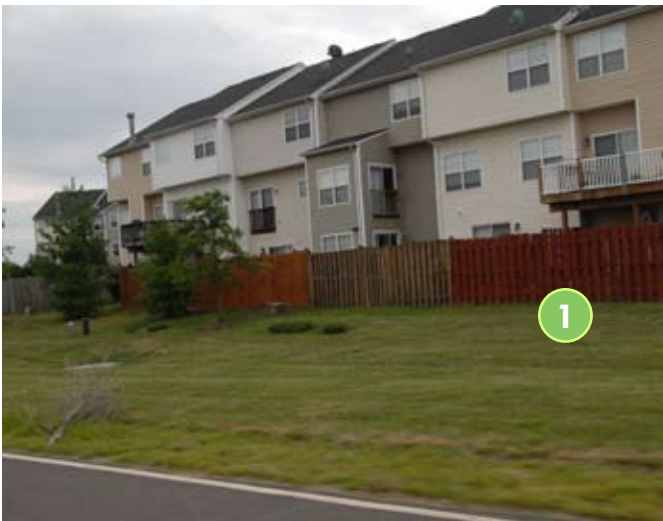
## GENERAL DISCUSSION:

Buildings oriented toward streets are a key characteristic of Blacksburg's residential neighborhoods. This is achieved by having features such as windows, main entrances, and porches oriented toward the street. This street orientation also contributes toward a pedestrian-friendly street environment, providing a visually-rich street edge; and contributes to safety by allowing residents to survey street activity (the "eyes-on-the-street" concept).

## DESIGN GUIDELINE:

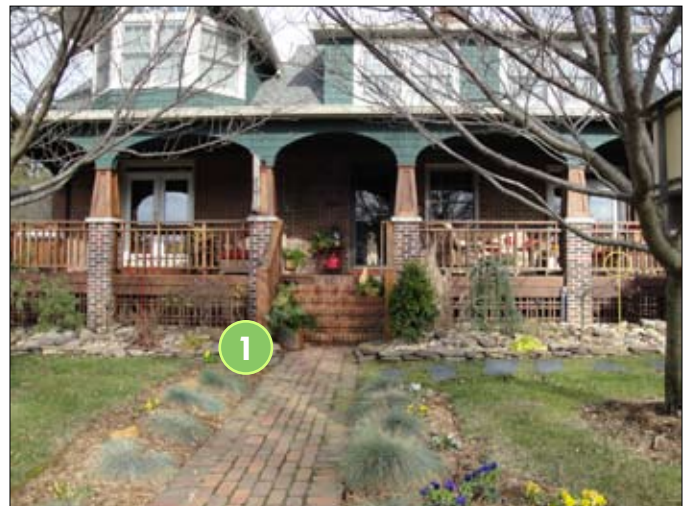
- **Locate the primary entrance towards the street.**
- **Clearly define the primary entrance of the structure by using a front porch or stoop, and other architectural building details.**
- **Retain space in front of structure to relate to street or sidewalk without intervening elements, such as parking.**

## DISCOURAGED



- 1 Back side of houses and fencing face the primary street.

## ENCOURAGED



- 1 Front porches and primary building entry face the street.

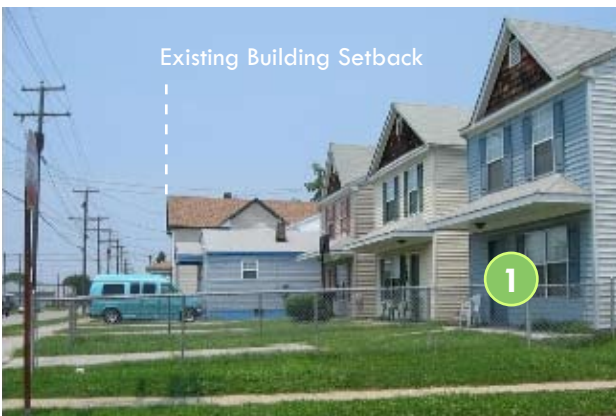
# site design & parking | setback

## GENERAL DISCUSSION:

Some streets feature consistent front building setbacks that help define neighborhood character. It is important for the front setback and the placement of the building on the lot to correspond to the prevailing setbacks of other homes on the block to create a consistent appearance along the street. When multi-family residential structures are placed on busy commercial or neighborhood streets, smaller setbacks that locate the building closer to the street are the norm. Multi-family structures constructed near single family residential neighborhoods should reflect the setbacks typically found in those areas. The building setback for large multi-family developments should be proportional to the building and sidewalk itself to create a spatial enclosure that promotes walking.

Note: deep front setbacks can compromise the ability to provide backyard space and/or rear parking, particularly at higher densities.

## DISCOURAGED

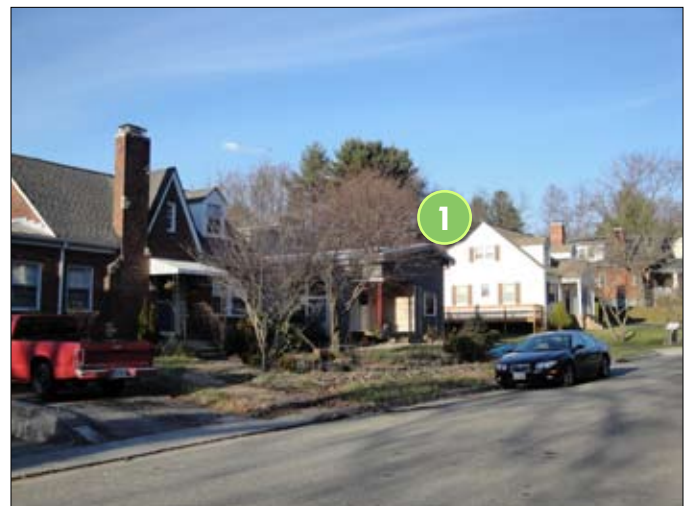


1 Infill houses (upper image) and multi-family units (lower image) set back farther than prevailing setback on the block.

## DESIGN GUIDELINE:

- Provide a front yard consistent with those found on the block facing the street.
- Front porches are encouraged and may extend into the required front yard setback.
- Large multi-family developments should be designed with varied setbacks that contribute to an interesting streetscape and avoid a monotonous streetwall. Continuous lines of buildings with the same setback should be avoided.
- Individual buildings can also be designed with an articulated front, with porches closer to the street.
- In residential neighborhoods, multi-family housing should adopt the predominant setback, but should also vary the building facade to relieve the appearance of mass.
- Setbacks should be proportional to the height and mass of a building.

## ENCOURAGED



1 Residences align with setback of neighboring house.

# site design & parking | building frontage/entries

## GENERAL DISCUSSION:

Most neighborhood residential streets in Blacksburg are characterized by landscaped setbacks between the fronts of buildings and sidewalks. This “green edge” provides residential streets with a clearly identifiable character. In many areas, this green edge is reinforced by planting strips and street trees. In addition, entry features accent the front facade of a home and add visual interest. Entry features and their components, such as columns and steps, should be proportional to the overall scale of the home. Porches and other entry features are a common architectural element in homes in the Town. Entry features on infill homes should be consistent in design and scale with the new home and the predominant style on the block.

## DESIGN GUIDELINE:

- The building frontage should contain landscaping or plantings to create a green edge consistent with the character of residential streets.
- Parking should not obstruct the building frontage; rather, it should be located behind, to the rear or side of the principle structure.
- Entry features are encouraged on all new infill structures.
- Entry porches and porticoes in two-story homes should be one story to minimize the appearance of bulk.
- The scale and style of porch and portico elements should be consistent with the scale and style of the home, and should strive to respect the scale and style of porch and portico elements in the other homes on the block.

## DISCOURAGED



- 1 Inadequate yard and landscaping are not consistent with traditional neighborhood patterns for frontage.

## ENCOURAGED



- 1 Landscaping between the front door and sidewalk creates a “green edge” and a more traditional pattern of residential street frontage.
- 2 A large porch defines the entry to the front doors of this duplex.



# site design & parking | off-street parking

## GENERAL DISCUSSION:

Residential parking is a significant component of most of the Town's neighborhoods. The proper supply, placement and design of parking are key elements in developing residential infill projects that respect the character of an existing neighborhood and create pedestrian-friendly streets. Parking for residential areas should play down the visual impact of cars and parking garages. Parking should be located to the rear or side of buildings wherever possible. Other solutions that minimize the visual impact of driveways include sharing driveways, using alleys, or other innovative approaches. In larger multi-family developments, long aisles of parking bays should be broken up with landscaped islands. Pedestrian access should be designed around the perimeter of on-site parking and between parking aisles.

Reduced or no on-site parking can greatly simplify the design of infill development with no need to find space to fit vehicle areas onto small infill sites, and entirely avoids the problem of how to minimize the visual and environmental impacts of parking. The Town should continue its on-going work to revise ordinances to allow for more creative parking solutions.

In addition, on-street parking can reduce on-site parking needs by providing parking spaces within the thoroughfare right-of-way. It provides convenient front door parking opportunities, contributes to the street environment, and creates a protective buffer between pedestrian and vehicular traffic. Spaces are distributed evenly along the street edge, helping maintain visual consistency and appeal in residential

## DESIGN GUIDELINE:

- **Parking spaces or garages should not dominate the street scene. Instead, parking should be located to the rear of the lot or building or screened from the public way with landscaping, low fencing, or garage orientation.**
- **Shared driveways are encouraged to reduce the amount of paving and number of curb cuts.**
- **Where applicable, parking should be accessed from existing alleys.**
- **Parking should not disrupt the quality of common spaces or pedestrian environments of multi-family development.**
- **Large surface parking areas should be distributed throughout the site in discrete areas or garages and broken up with landscaping.**
- **Placement of design details of garage and carports should be incorporated into the architectural features of the residence.**
- **When residences are occupied by students there is often more parking than typically found in multi-family developments. Accommodating parking should not compromise the quality or character of a neighborhood.**

neighborhoods. On-street parallel parking is preferred over angled parking, as it leaves more space for bike lanes and wider sidewalks.

## DISCOURAGED



- 1 The repetition of parking garages dominate the view from the street.

## ENCOURAGED



- 1 Parking garages are tucked under the buildings in the rear.

# site design & parking | planning for parking

## GENERAL DISCUSSION:

For higher-density infill, shared structured parking, such as in the form of basement parking garages, is the optimum parking solution. It accommodates more parking than otherwise possible on small sites. While construction costs can be a drawback of structured parking, there are cost-efficient strategies that make structured parking practical in many situations.

Care must be taken so that structured parking does not dominate the ground level of street frontages. This can be achieved by excavating the parking, so that living space above is brought closer to ground level, or by wrapping the front of structured parking with active building spaces.

## DESIGN GUIDELINE:

- The presence and appearance of garage entrances should be minimized so that they do not dominate the street frontage of a building.
- Buildings containing above-grade structured parking should screen parking areas with landscaped berms, or incorporate contextual architectural elements, that complement adjacent buildings or buildings in the area.

## DISCOURAGED



- 1 Parking accommodated on surface lots (image above) or with combination lots/tucked under garages (below) take up a significant amount of space.

## ENCOURAGED



- 1 Parking is located under these multi-family apartment buildings and the entrances are discreetly situated.

# site design & parking | alleys

## GENERAL DISCUSSION:

Alleys are a part of the Town's historic street pattern. In residential areas, alleys are effective in providing service access and additional parking. In some of Blacksburg's residential neighborhoods, alleys provide access to parking without impacting the pedestrian friendliness of the residential streets. In addition, there is a history of developing secondary structures along the alleys with accessory units. Many communities are encouraging the development of new neighborhoods that have the capacity for accessory units as a method for increasing density and maintaining the appearance of a single family community. Alleys should be utilized as opportunities to create new, quiet and walkable secondary residential addresses and provide for off-street parking.

## DESIGN GUIDELINE:

- Alley access parking is preferred in areas where it is available.
- Garages should be set back from the edge of the alley.
- Secondary structures, such as garages, with accessory units should be built along the edge of the alley to maintain the pattern of backyard open space in neighborhoods.
- The development of accessory units over or adjacent to parking accessed by existing alleys is an option to add density.

## DISCOURAGED



- 1 Garages are located off alleys, but lack of landscaping creates sea of asphalt.
- 2 Alley does not continue to the next block.

## ENCOURAGED



- 1 Garages are located off alleys to conceal parking.
- 2 Accessory units are located above the garage as a way to increase housing variety and provide affordable housing.
- 3 Landscaping is provided to help soften the additional pavement.

# site design & parking | screening/landscaping

## GENERAL DISCUSSION:

Hedges, trees, shrubs, and fences are often used for transition between public and private space and can contribute to a more private frontage space and serve as a screening device. Aesthetically, it is important to select plant and fencing that complement architectural features and materials. Besides providing pedestrians shelter from the sun during summer months, studies have shown that people respond positively to environments rich in trees and landscaping. Street trees and planting strips also help buffer pedestrians from vehicle traffic.

## DESIGN GUIDELINE:

- The view of parking should be screened from the public way with landscaping or low fencing.
- All site areas not covered by structures, walkways, driveways or parking spaces should be landscaped.
- Landscaping and fencing should support the distinction and transition between private, common and public spaces. Chain link fences are not desirable.
- Natural features and existing trees should be retained.
- Parking lots should be generously landscaped to provide shade, reduce glare and provide visual interest.

## DISCOURAGED



- 1 Parking is not located behind the building and is not screened from street view.

## ENCOURAGED



- 1 Parking is hidden from public view with landscaping and stone walls or fencing.

# site design & parking | open space

## GENERAL DISCUSSION:

Provision of open space is critical for multi-family developments. Particularly in larger developments, it is important to provide comfortable outdoor places for residents to sit, rest, and interact. Multi-family residential development should provide open space that is easily accessible to residents. Individual units adjacent to common open spaces should be designed with entry features and windows that open onto those outdoor spaces and should ideally foster a sense of community. This can be facilitated by building facades that allow residents to see and easily use common spaces. Common open spaces should offer amenities that invite use, such as seating, shade, and tot lots.

## DISCOURAGED

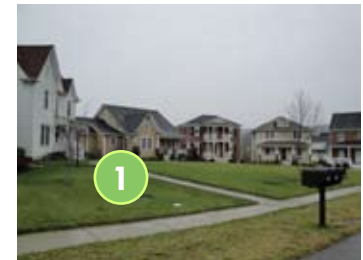


- 1 This courtyard is too narrow to function as usable open space, particularly given the height of the building (upper image).
- 2 Hardscaped community park with no landscaping and bordered by a chain link fence is uninviting (lower image).

## DESIGN GUIDELINE:

- New developments should use open space and community facilities to provide social and design focal points.
- Multi-family development must provide both common open space for each unit.
- Common spaces and amenities should enhance the sense of community in multi-family projects.
- Play spaces for children are strongly encouraged and should be both secure and observable.
- Common open space should be centrally located and accessible to residents.
- Common open space should be connected to each development's internal pedestrian system.

## ENCOURAGED



- 1 Good examples of residential common open space.
- 2 Community park with a blend of hardscape and landscape is open and connected with residential community.

# site design & parking | connectivity

## GENERAL DISCUSSION:

Many areas of Blacksburg's downtown and historic neighborhoods, such as the original "Sixteen Squares," have a connected network of streets. In addition, a number of unbuilt "paper streets" demonstrate the original historic grid pattern. As the Town develops its remaining vacant lands zoned for residential use, there is a desire to promote mixed density and mixed income neighborhoods that are connected to the community. An interconnected street network and compact blocks provide the framework for a greater diversity of building types close to one another and promote pedestrian and bicycle activity by making connections between destinations accessible and convenient. Blocks may be square or rectangular, or in some cases more irregularly shaped, but the ideal length of a block ranges from 250 feet to 400 feet, particularly in higher-density areas. In general, block lengths should not exceed 600 feet in the most extreme circumstances. New streets should be designed in a manner that reflects the original street scale, pattern, and block size of the surrounding established neighborhood.

## DESIGN GUIDELINE:

- **Principal access roads into new development areas should be of similar scale as streets to which they connect.**
- **The street patterns at the edges of the new project area should be extended into the site.**
- **Block lengths should range from 250 feet to 400 feet, particularly in higher density areas, and in general should not exceed 600 feet except where topography and other extreme circumstances are present.**
- **Gateways and edges of new development should promote landscape and street improvements as common amenities that are shared with adjacent neighborhoods in the future.**

## DISCOURAGED



- 1 Cul-de-sacs limit transportation opportunities.

## ENCOURAGED



- 1 A connected network of streets makes destinations accessible.

# site design & parking | walkways

## GENERAL DISCUSSION:

Internal walkways are needed within larger residential developments to promote pedestrian movement by connecting users from the public sidewalk network and parking areas to ultimate destinations within a site. Walkways should be built between adjacent residential buildings to connect all primary building entrances, surrounding streets, external sidewalks, adjacent trails, transit stops, parking areas and recreational facilities.

## DESIGN GUIDELINE:

- Walkways should connect public sidewalks and parking areas to all main entrances on the site. For townhouses or other residential units fronting on the street, the sidewalk may be used to meet this standard. For multi-family developments, walkways should connect all pedestrian areas of the site, such as parking areas, recreational areas, trails, common outdoor areas, adjacent walkways, and any pedestrian amenities.
- Walkways should be at least 4-5 feet wide and should be clearly marked to ensure visibility between pedestrians and motorists.

## DISCOURAGED



- 1 This walkway connects the public sidewalk to parking areas, but the scale of buildings, large numbers of cars, and no clearly marked space communicate that this area is meant to be used for cars, not pedestrians.

## ENCOURAGED



- 1 This landscaped walkway clearly marks the pedestrian realm and connects entrances to individual units and parking areas.

# building design | scale & massing

## GENERAL DISCUSSION:

Buildings should be designed to fit within the context of the surrounding structures and provide visual interest to pedestrians. Massing describes the physical form of a building or group of buildings. The massing of residential buildings in the Town varies but can generally be described as the repetition of simple rectangular forms. One-and-a-half story bungalows or two story four-square homes are often recognized types common in Virginia. New residential buildings should generally follow this traditional approach to building massing, and renovations/additions should respect the combination of masses in the original home. Larger multi-family residential structures should incorporate design and construction methods that break up the façade and minimize the appearance of mass, through height variations, multiple rooflines, building articulation, and architectural detailing.

## DESIGN GUIDELINE:

- The mass and scale of new infill residential buildings should appear to be similar to the buildings seen traditionally in the neighborhood.
- The width of a building face of an infill project should not exceed the width of a typical residential structure on adjacent lots.
- The perceived scale of new infill buildings should be minimized by stepping down its height toward the streets and neighboring smaller structures.
- Larger buildings should be divided into smaller “modules” of similar size to traditional houses seen in the neighborhood.
- Building roof forms that are similar to those seen traditionally in the neighborhood, such as gabled and hip roofs, should be used.

## DISCOURAGED



- 1 Long, unadorned walls make the building look bigger than it is.
- 2 Windows are small with no articulation of frames, lintels or multiple panes.
- 3 Infill buildings are out of scale with existing buildings.

## ENCOURAGED



- 1 Front stoops break up the massing of this multi-family building.
- 2 Multiple roof lines provide variations in height.
- 3 Windows are scaled and designed compatibly with neighboring houses.



# building design | architectural features

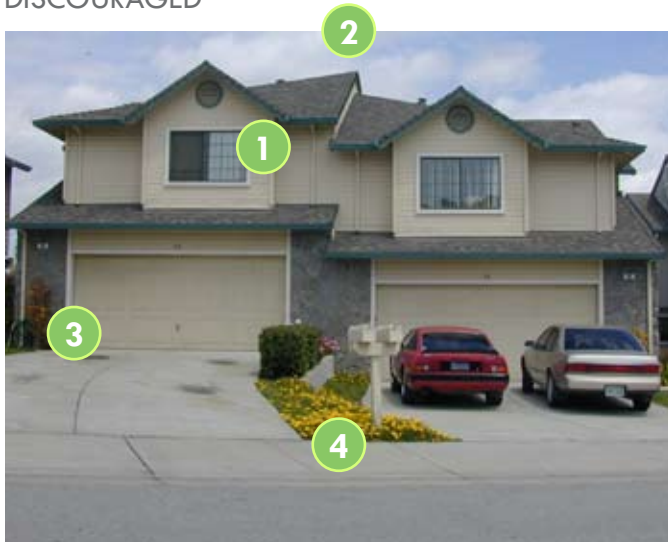
## GENERAL DISCUSSION:

Some neighborhood areas are characterized by recurring architectural features that are valued as key aspects of community character. An infill structure should be designed in a cohesive architectural style that complements the best examples of existing residential development on the block. Structures that are compatible with existing homes contribute to a sense of place and add to the character of the neighborhood. Use of stylistically cohesive, character-defining features, such as porches or other entry treatments, window patterns, roof forms, building details, etc., enhances visual compatibility.

## DESIGN GUIDELINE:

- New infill development should have a coherent architectural design concept where windows, doors, roof forms, siding materials and other building elements create a pleasing composition.
- The patterns of windows and doors should reflect the scale and patterns in the neighborhood. Windows should be proportioned and grouped to provide a similar composition.
- New development should use a mix of patterns and materials that are indigenous to the Town.

## DISCOURAGED



- 1 Window openings are not symmetrical.
- 2 Roof lines are not part of an integrated design.
- 3 Garage doors and driveways are a predominant feature of the two-family dwelling.
- 4 Multiple garages and dormers clearly communicate the presence of two units.

## ENCOURAGED



- 1 Window openings reflect traditional patterns.
- 2 A large porch frames the doors and defines the entry to the front doors of this duplex.
- 3 The single dormer and porch create the appearance of a single family dwelling.

# building design | character & context

## GENERAL DISCUSSION:

Architectural designs need to be sensitive to the vernacular and traditional architecture found in the Town of Blacksburg and Southwest Virginia. The following are some examples of traditional home architecture in the Town that can be used in designing new infill residential buildings and renovating or adding to existing residential buildings in the Town. There are opportunities for modern designs, as well.

## DESIGN GUIDELINE:

- **The architectural design of infill construction should complement the architectural styles of existing homes on the block. If there is a mixture of styles on a block, then the interpretation of design may be more flexible.**
- **New stylistic interpretations of traditional architecture are encouraged.**
- **Architectural features and detailing should be proportional to the scale of the structure, as well as to other homes of a similar architectural style on the block.**
- **Roof lines, stoops or porches, landscaping, and windows are all elements that contribute to neighborhood character cohesiveness.**



# streetscape | streetscape

## GENERAL DISCUSSION:

The design of the space between the edge of the curb and the front of a building is essential for encouraging pedestrian activity and promoting safety and security. In addition to providing a spatial buffer between vehicles and pedestrians, the streetscape should consist of trees for shading and softening the urban environment, pedestrian-scaled lighting for security and aesthetics, and benches, drinking fountains, newspaper boxes, or other pedestrian-oriented amenities. For high-pedestrian use sidewalks, six feet of sidewalk width should always be maintained as an obstacle-free throughway zone with the trees, lighting, and other amenities located either in the planting strip between the street and sidewalk or in the frontage zone next to the buildings.

## DESIGN GUIDELINE:

- All large scale residential developments should include a comprehensive streetscape plan that achieves street design, pedestrian comfort, and visual amenity objectives.
- In new residential areas, new developments should include street trees.
- Pedestrian-scaled lighting and other amenities should also be included.

## DISCOURAGED



- 1 Lack of street trees creates unpleasant pedestrian conditions.
- 2 Street is too wide without on-street parking.
- 3 Pedestrians must walk in the street because there are no sidewalks.

## ENCOURAGED



- 1 Street trees shade or soften the visual impact of the street.
- 2 On street parking provides convenient front door parking, contributes to the street environment, and creates a protective buffer between pedestrian and vehicular traffic.
- 3 Continuous sidewalk allows pedestrians to walk safely throughout the neighborhood.

# streetscape | sidewalks

## GENERAL DISCUSSION:

Sidewalks are an important element of neighborhood design. They contribute to the character of neighborhoods by providing safe places for people to travel and interact with one another. Sidewalks enable pedestrians to access residences, schools, parks, transit, businesses, and employment destinations among others. As such, a high level of sidewalk connectivity is necessary to create an efficient pedestrian network. While Blacksburg has an extensive sidewalk system on many neighborhood streets, gaps remain in some locations. Infill projects can help to fill these gaps. In most areas, sidewalks should be designed to allow two people walking together to pass a third person comfortably. In areas of intense pedestrian use, sidewalks should be wider to accommodate the greater volume of pedestrians.

## DESIGN GUIDELINE:

- **Neighborhood streets should include an interconnected system of sidewalks.**
- **Neighborhood streets should include a sidewalk design that reflects the existing patterns in the neighborhood.**
- **Primary streets should have planting strips and streetscape to separate sidewalks from the street's edge.**
- **Sidewalks and corner curbs must meet ADA accessibility requirements.**
- **Sidewalks should be required on both sides of all streets, with a minimum width of 5 feet.**

## DISCOURAGED



- 1 Poorly maintained sidewalks are a barrier to pedestrian activity.

## ENCOURAGED



- 1 Well-maintained sidewalks encourage walking.

# streetscape | crosswalks

## GENERAL DISCUSSION:

When connecting infill areas to nearby commercial areas, safe pedestrian connections are needed. Crosswalks provide higher visibility to pedestrians at logical crossing points. Basic crosswalks consist of reflective white striping, although crosswalks with higher visibility, traffic calming measures (raised crosswalks), or those that are more aesthetically pleasing (colored brick crossings downtown) are more appropriate in commercial areas or locations with a high volume of pedestrians. Care should be used so that the surface does not impede wheelchair access or provide a hazard for the visually impaired or elderly. Crosswalk lighting should be provided so the pedestrian feels safe, and higher luminance should be used at key pedestrian crossings. Countdown pedestrian signals also facilitate pedestrian movement at intersections. Crossings at non-signalized intersections should only be allowed when they can be designed for pedestrian safety.

## DESIGN GUIDELINE:

- **Neighborhood streets with high pedestrian volumes and/or located close to Downtown, Virginia Tech or other important destinations should include crosswalks with enhanced paving materials and be consistent with Town standards.**
- **On wider streets where there is more local traffic, “pedestrian crossing zones” where the street narrows and pedestrian buttons are available for safe and comfortable crossing should be encouraged.**
- **Crosswalks should be designed with ADA accessibility guidelines in mind.**

## DISCOURAGED



**1** Lack of crosswalks create unsafe conditions.

## ENCOURAGED



**1** Adequate sidewalks and high visibility crossings encourage walking.

# streetscape | bike facilities

## GENERAL DISCUSSION:

Streets must provide an efficient and interconnected network for bicyclists. Bicycle connections should include safe, direct routes between popular destinations including schools, parks, and business districts. On low-volume residential streets, bicycle boulevards (streets that have been optimized for bicycle travel through traffic calming and diversion, signage and pavement markings, and intersection crossing treatments) can be an effective treatment. Bicycle boulevards are shared roadway facilities that are comfortable and attractive to cyclists with a wide range of abilities and ages but are inconvenient as through routes for automobiles. Bicycle boulevards should be located on routes that serve major origins, destinations and travel corridors (often paralleling an arterial), and should be as direct and intuitive as possible.

In addition to travelway facilities, bicycle amenities are beneficial for areas to support bicycle activity. Bicycle parking - racks or lockers - should be considered at certain destinations, such as multi-family developments, commercial, employment, and transit centers. Provision of bicycle parking is another means to justify a reduction in vehicular parking where reasonable cycling access exists.

## DISCOURAGED



## DESIGN GUIDELINE:

- **Neighborhood streets with high bicycle volumes and/or located close to Downtown, Virginia Tech or other important destinations should include bicycle facilities consistent with Town standards where feasible and logical.**
- **Bicycle lanes and crossings should be clearly marked to ensure the safety of bicyclists.**
- **Bicycle parking located close to the building entrance should be provided in multi-family developments.**
- **On-street bike lanes should be a minimum of 4' in width or 5' in width when on-street parking is present. If there is no opportunity to include dedicated bike lanes, a wide outside lane of a minimum 14' in width, or 15' when on-street parking is present, can be used. Multi-use trails that allow for bicycle access should be a minimum of 10-12' in width.**

## ENCOURAGED



# street design | complete streets

## GENERAL DISCUSSION:

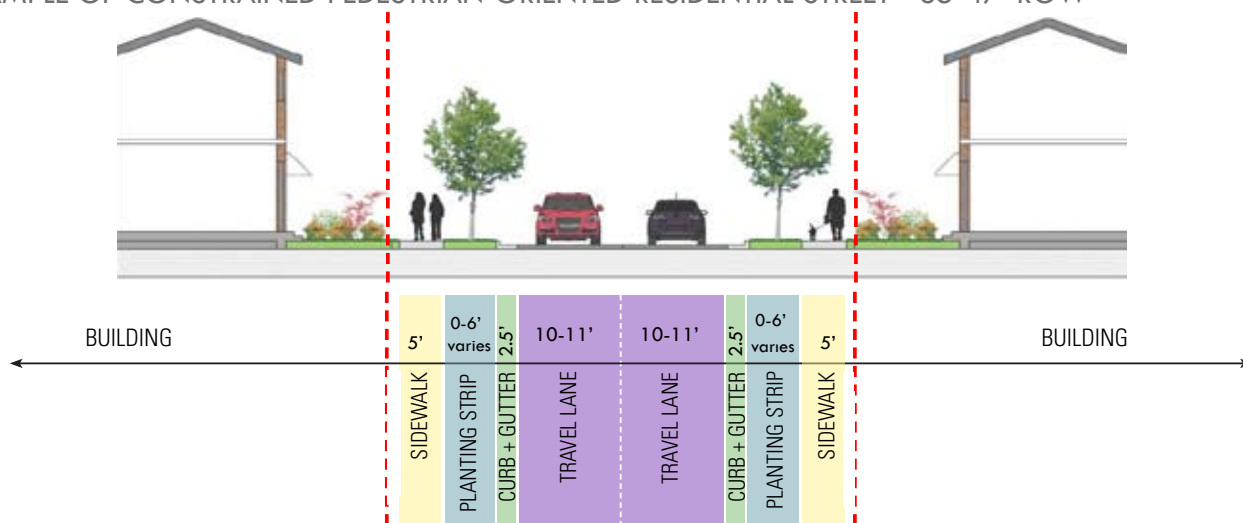
Complete Streets should provide an efficient and interconnected network for bicyclists, pedestrians, autos, and transit users of all ages and abilities. There is no single design for a Complete Street, as each one is unique and responds to its community context. In addition, other factors influence design, including topography, existing street pattern and funding for improvements. A Complete Street may include: sidewalks, bike lanes (or wide paved shoulders), special bus lanes, comfortable and accessible public transportation stops, frequent and safe crossing opportunities, median islands, accessible pedestrian signals, curb extensions, narrower travel lanes, roundabouts, and more. Infill projects given their scale may contribute one or more features incrementally to create a complete street.

Designing streets in a constrained right-of-way requires prioritizing the design elements and emphasizing the elements that are deemed to be higher priority. Prioritization typically occurs within a larger visioning process involving project stakeholders and the affected community.

## DESIGN GUIDELINE:

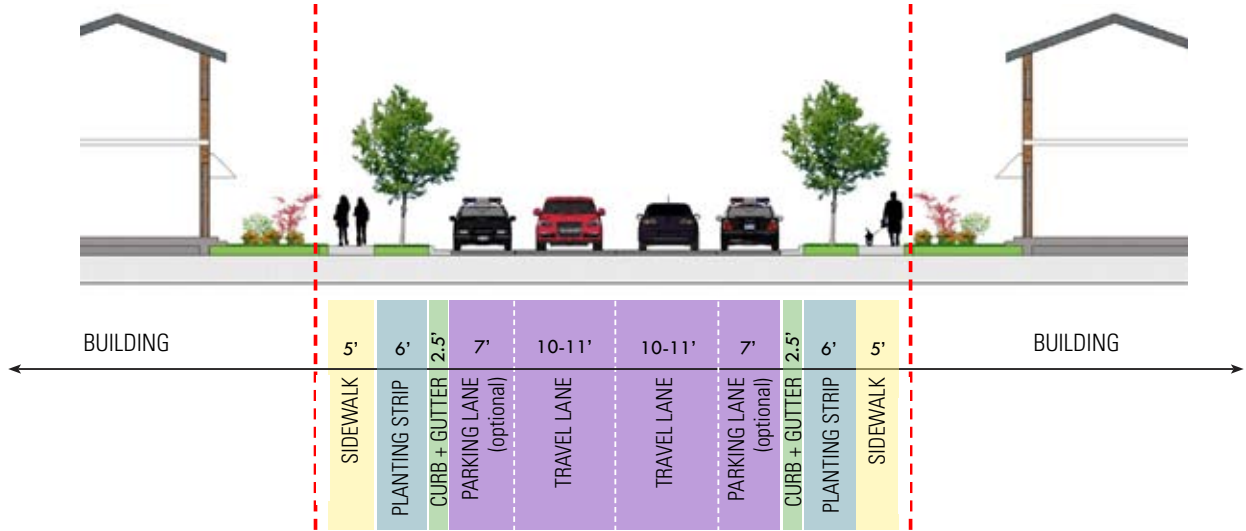
- Lane widths should be scaled for traffic volume, speed and roadway function - for low volume, low speed residential streets, 10'-11' travel lanes are preferred.
- Sidewalks should be required on both sides of all streets, with a minimum width of 5 feet.
- On-street bike lanes should be a minimum of 4' in width or 5' in width when on-street parking is present.
- Where possible, provide additional separation between pedestrians and motor vehicles with planting strips or on-street parking.
- Bicycle lanes, shared facilities, and crossings should be clearly marked to ensure safety of bicyclists.

EXAMPLE OF CONSTRAINED PEDESTRIAN-ORIENTED RESIDENTIAL STREET - 35-47' ROW



# street design | complete streets (cont.)

EXAMPLE OF PROTOTYPE PEDESTRIAN-ORIENTED RESIDENTIAL STREET - 49-63' ROW





 infill development prototypes

# infill development prototype

The following set of illustrations are intended to demonstrate the application of context sensitive design principles for infill developments within an existing mixed density neighborhood. The illustrations were prepared using SketchUp to model basic forms at a level of detail sufficient to illustrate the design points, but without prescribing architectural style. The drawings are conceptual only and do not represent a specific site condition within the Town of Blacksburg.

These guidelines are applicable to all types of residential development, but are focused on multi-family, an area where most issues of compatibility have occurred within the Town of Blacksburg.

Three illustrations per example are included. The first shows infill within a typical neighborhood block, the second includes a view of the infill site at street level, and the third provides a point-by-point example of how the design principles may be applied.

The following examples are included:

## **Small Site Infill (1/4 acre):**

- 1- Duplex (side-by-side)
- 2- Two-family rental building (over/under)
- 3- Single family home with apartment unit above a detached garage

## **Medium Site Infill (1 acre):**

- 1- Mixture of 2-family and multi-family units organized as a single residential complex
- 2- Cottage Court consisting of higher density single family homes organized in a courtyard style around a communal green

## **Large Site Infill (9 acres):**

- 1- Higher density multi-family complex
- 2- Lower density single and multi-family complex

# infill development prototype

## EXISTING ZONING REQUIREMENTS

The following tables summarize the zoning standards for typical zoning districts in residential neighborhoods in the Town of Blacksburg. The R-5 district was assumed for the Small and Medium sized infill scenarios and the RM-27 district was assumed for the Large infill scenarios.

These design guidelines follow the Town's R-5 or RM-27 Zoning District standards except where a better form of development was achieved with modification of the standards, such as reduction in front yard setbacks for a more compatible infill structure.

### Zone: R-5

Maximum Allowed Density	20 Bedrooms/Acre
Minimum Lot Requirements	
Lot Area	8,500 SF
Lot Frontage	45 Feet
Minimum Building Setbacks	
Front	35 Feet
Side	10 Feet, except on corner lots
Rear	25 Feet
Building Height	
Max	35 Feet or 45 Feet with an additional 1 Foot setback/1 Foot of additional height
Maximum Coverage	
Lot	55%
FAR	.35

### Zone: RM-27

Maximum Allowed Density	27 Bedrooms/Acre
Minimum Lot Requirements	
Lot Area	8,500 SF
Lot Frontage	60 Feet
Minimum Building Setbacks	
Front	35 Feet
Side	10 Feet, except on corner lots
Rear	25 Feet
Building Height	
Max	35 Feet or 45 Feet with an additional 1 Foot setback/1 Foot of additional height
Maximum Coverage	
Lot	60%
FAR	.40

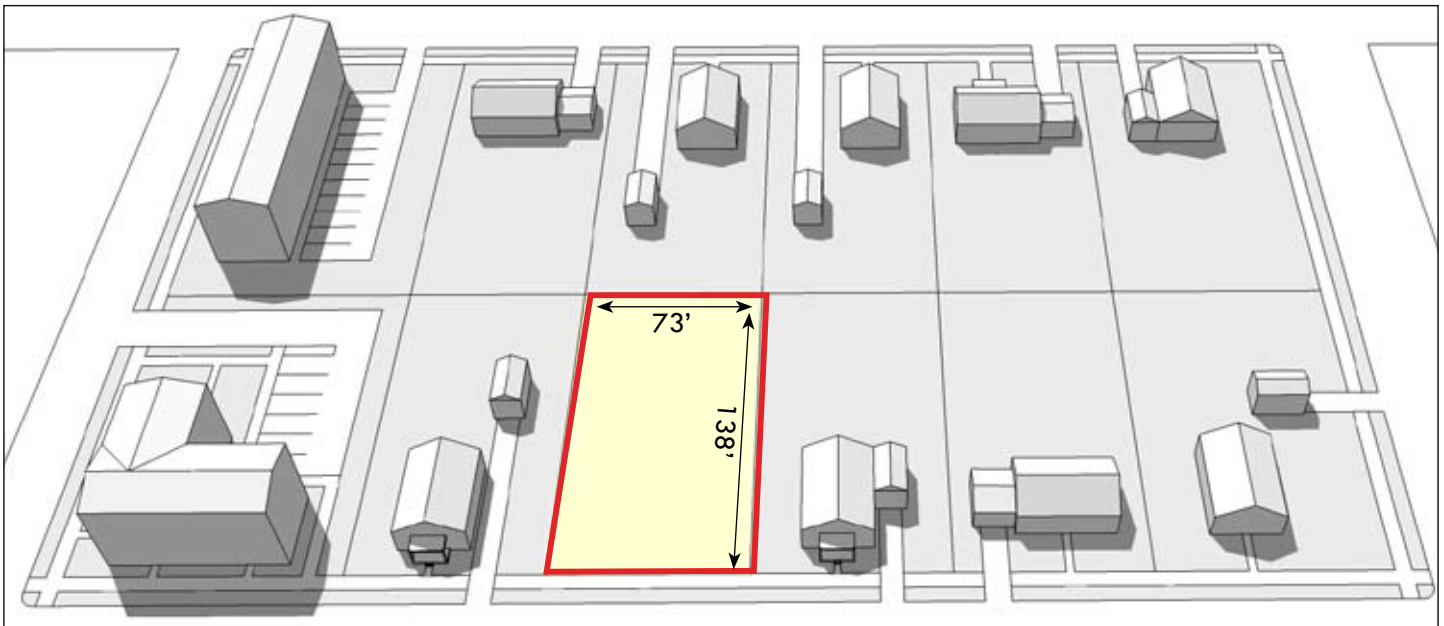
**General Note:** The Zoning Ordinance standards referenced on this page are only some of the adopted standards as of December, 2011. Please refer to the Town's Zoning and Subdivision Ordinances for a complete list of all current requirements.

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# infill development prototype | small site context

The following is a set of design characteristics that describe an existing prototypical neighborhood. By defining an infill site's context, compatible design features including building form, placement, site design, and character may be derived and provide influence for the infill site design.

Parcel Size:	1/4 Acre
Zoning:	R-5 Transitional



Note: The following design characteristics apply to the next 3 small infill site examples.

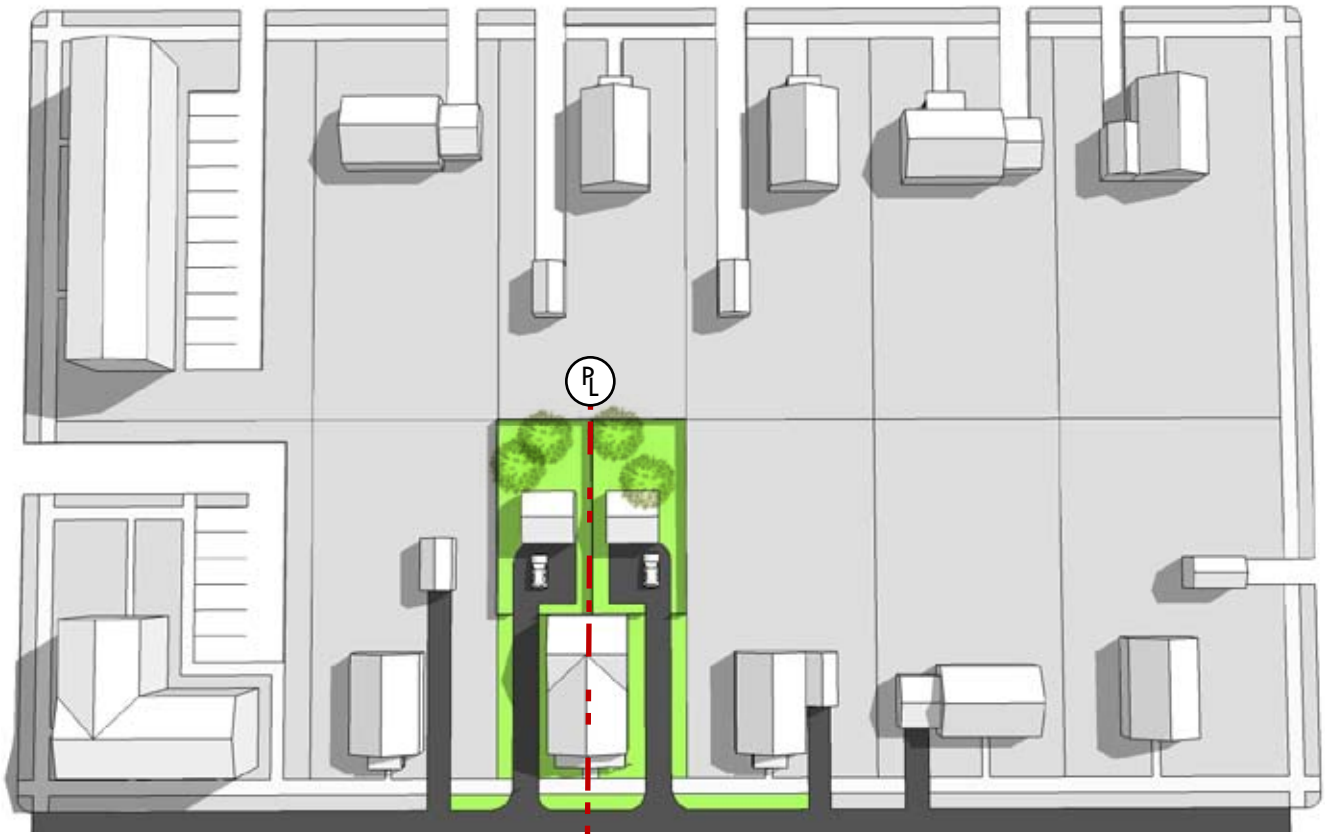
## DESIGN CHARACTERISTICS OF EXISTING NEIGHBORHOOD

- 1** **CONTEXT:** Existing neighborhood development is comprised of a mixture of single family and multi-family residences.
- 2** **FRONT SETBACKS** are varied in the neighborhood - generally between 10 and 25'.
- 3** **PARKING** is generally located in side or rear yards. A mixture of attached and detached garages are prevalent and located behind the front building setback line.
- 4** **PARKING ACCESS:** A single driveway provides parking access on both single and multi-family lots.
- 5** **BUILDING ORIENTATION** is a mixture of parallel and perpendicular frontage. Front entrances are all **ORIENTED** towards the sidewalk.

# infill development prototype | small site 1

DUPLEX HOUSING (SIDE-BY-SIDE UNIT): 2 DU or 5-6 Bedrooms

Total # of Dwelling Units: 2  
Total # of Bedrooms: 5-6



INFILL SITE SHOWN WITHIN A TYPICAL NEIGHBORHOOD BLOCK



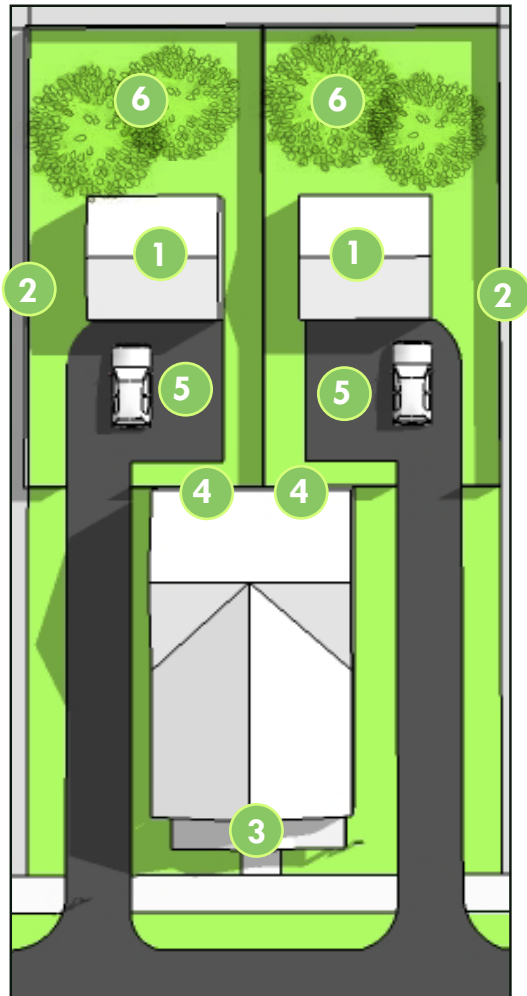
VIEW FROM THE STREET

# infill development prototype | small site 1

DUPLEX HOUSING (SIDE-BY-SIDE UNIT): 2 DU or 5-6 Bedrooms

## CONCEPT DESIGN FEATURES

*Note: Not in order of priority. Refer to general design guidelines for further discussion.*



- 1 PARKING:** Two car detached garage is located behind the primary residence.
- 2 SCREENING:** Fence or low wall helps to screen parking from neighboring properties.
- 3 PRIMARY ENTRANCES** to side-by-side units are located off a single front porch.
- 4 REAR ENTRANCES** provide access to private entrances to individual units.
- 5 ADDITIONAL SURFACE PARKING** located at the rear of the property is screened from the street.
- 6 SCREENING:** Parking located at the rear of the property is screened using a combination of fencing and landscaping.
- 7 ARCHITECTURE:** Massing, roof pitch, materials, porches, and proportions should be compatible with adjacent surrounding buildings. De-emphasize obvious features that reflect multi-family housing such as symmetrical doorways, wide driveways, multiple front walkways, etc.



VIEW FROM STREET



BIRD'S EYE VIEW

# infill development prototype | small site 2

2-FAMILY RENTAL BUILDING (OVER/UNDER): up to 5-6 Bedrooms

Total # of Dwelling Units: 2  
Total # of Bedrooms: 5-6



INFILL SITE SHOWN WITHIN A TYPICAL NEIGHBORHOOD BLOCK



VIEW FROM THE STREET



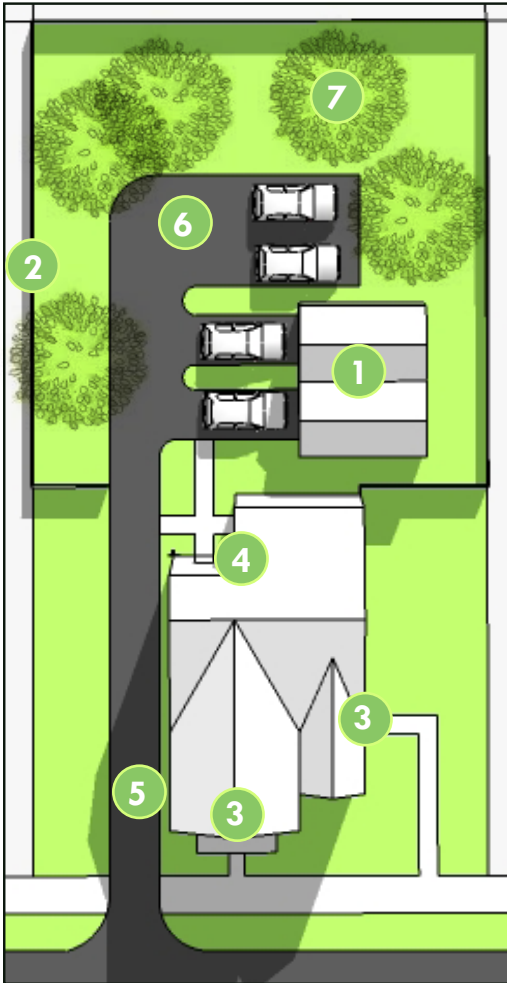
# infill development prototype | small site 2

2-FAMILY RENTAL BUILDING (OVER/UNDER): up to 5-6 Bedrooms

## CONCEPT DESIGN FEATURES

*Note: Not in order of priority. Refer to general design guidelines for further discussion.*

- 1** PARKING: Two car detached garage is located behind the primary residence.
- 2** FENCE OR LOW WALL helps to screen parking from neighboring properties.
- 3** PRIMARY ENTRANCES provide access to lower and upper (3) apartment units.
- 4** REAR ENTRANCES provide access to lower and upper apartment units.
- 5** SINGLE DRIVEWAY provides consolidated access to parking.
- 6** ADDITIONAL SURFACE PARKING is located at the rear of the property.
- 7** SCREENING: Parking located at the rear of the property is screened using a combination of fencing and landscaping.



VIEW FROM STREET

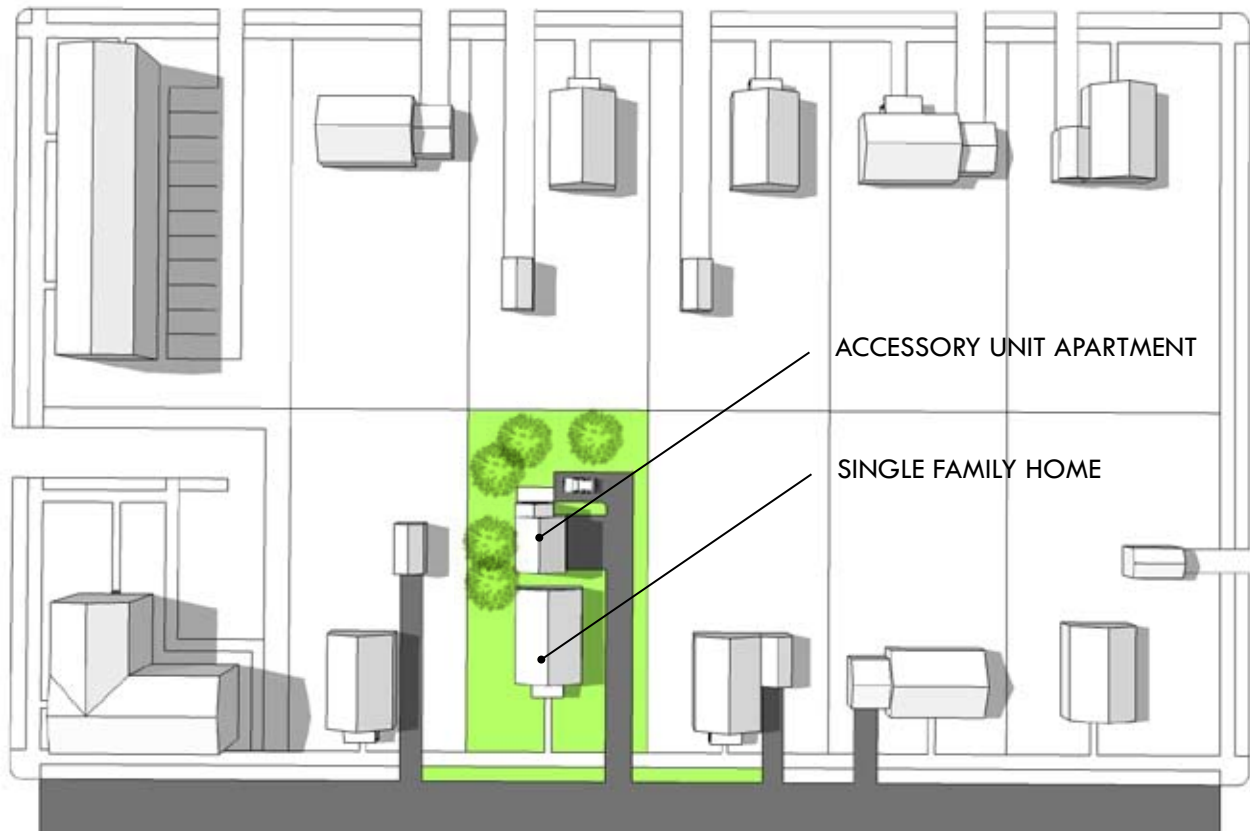


BIRD'S EYE VIEW

# infill development prototype | small site 3

SINGLE FAMILY HOME WITH 2 DU AND 5-6 BEDROOMS (WHOLE SITE)

Total # of Dwelling Units: 2  
Total # of Bedrooms: 5-6



INFILL SITE SHOWN WITHIN A TYPICAL NEIGHBORHOOD BLOCK



VIEW FROM THE STREET: Accessory unit is set back behind the principal residence; Its roof pitch and massing is compatible with principal residence.

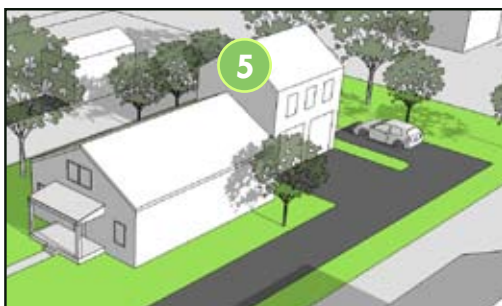
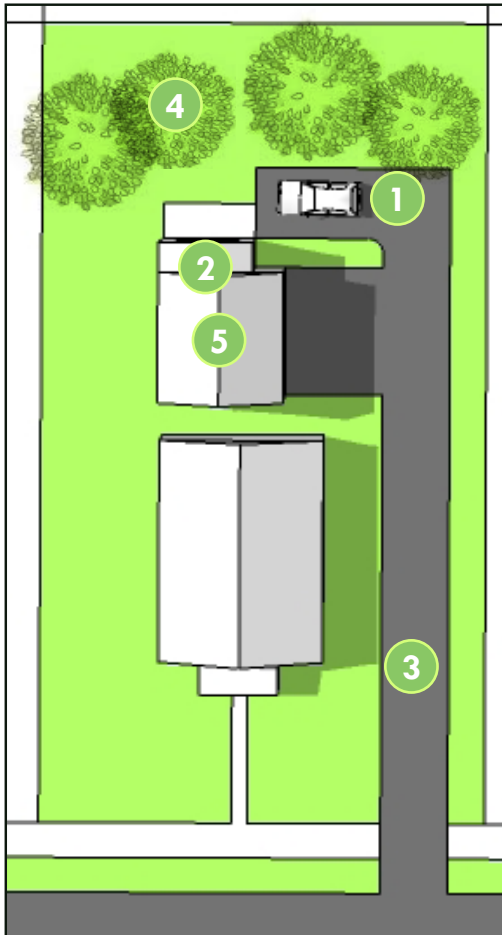
# infill development prototype | small site 3

SINGLE FAMILY HOME WITH 2 DU AND 5-6 BEDROOMS (WHOLE SITE)

## CONCEPT DESIGN FEATURES

*Note: Not in order of priority. Refer to general design guidelines for further discussion.*

- 1** SURFACE PARKING is located at the rear of the property. A separate space is provided for the accessory unit apartment.
- 2** ENTRANCE to accessory unit is located at the rear of the garage in an enclosed stairwell.
- 3** ACCESS is provided from the existing driveway.
- 4** SCREENING: Parking located at the rear of the property is screened with a combination of trees and shrubs.
- 5** ARCHITECTURE: Massing, roof pitch, materials, porches, and proportions of accessory unit should be compatible with adjacent and surrounding buildings.



BIRD'S EYE VIEW



VIEW FROM STREET

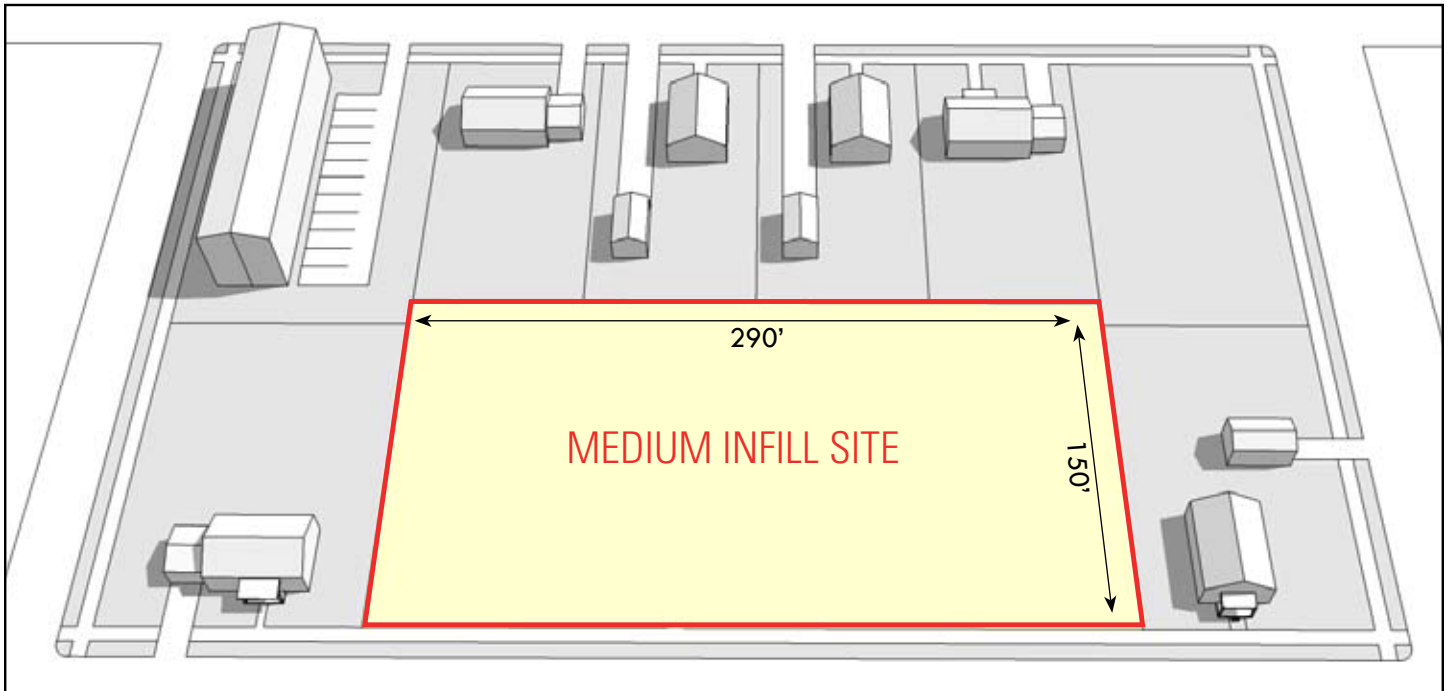


VIEW OF ACCESSORY UNIT

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# infill development prototype | medium site context

Parcel Size:	1 Acre
Zoning:	R-5 Transitional



Note: The following design characteristics apply to the next 2 medium infill site examples.

## DESIGN CHARACTERISTICS OF EXISTING NEIGHBORHOOD

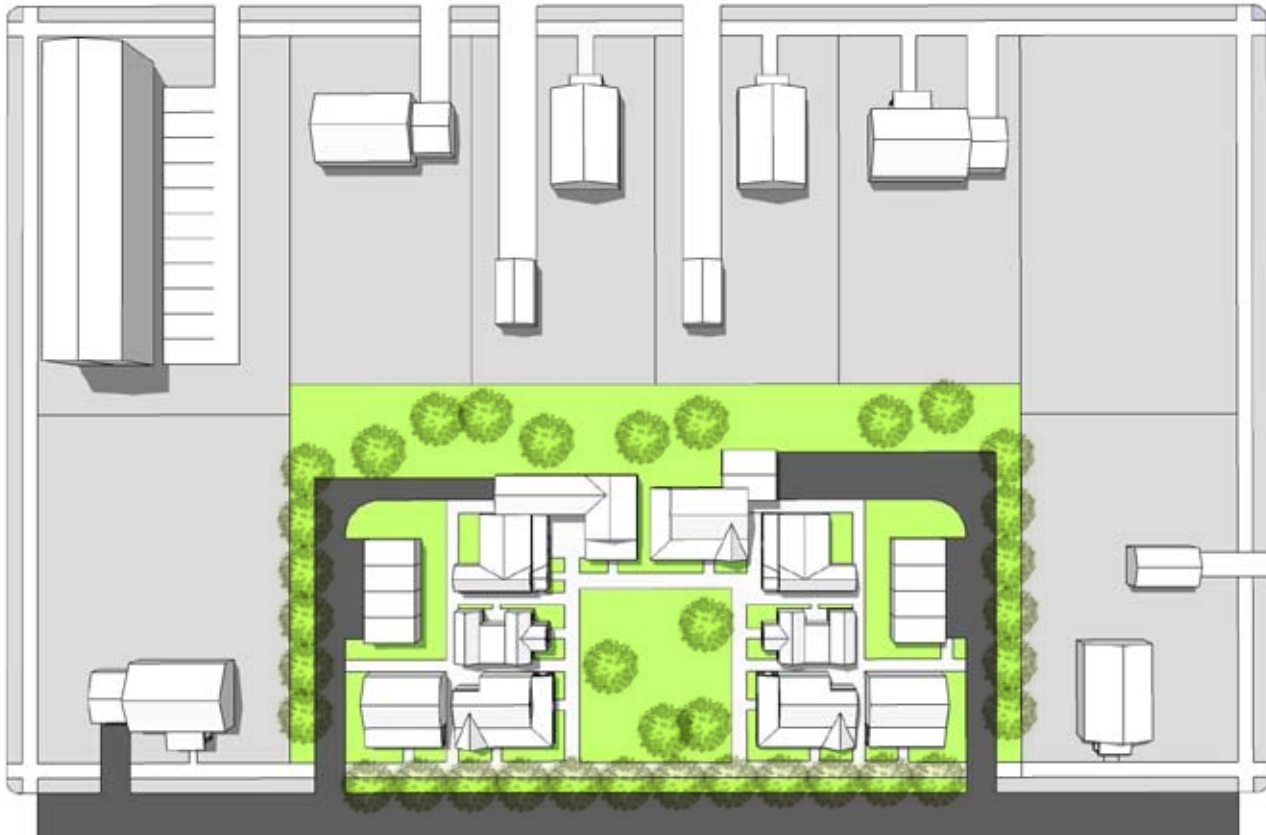
- 1** CONTEXT: Existing neighborhood development is comprised of a mixture of single family and multi-family residences.
- 2** FRONT SETBACKS are varied - generally between 10 and 25'.
- 3** PARKING is provided on-site and generally located at the rear of the property. A mixture of attached and detached garages are prevalent and located behind the front building setback line.
- 4** PARKING ACCESS: A single driveway generally provides parking access on both single and multi-family lots.
- 5** BUILDING ORIENTATION is a mixture of parallel and perpendicular frontage. Front entrances are all oriented towards the sidewalk.
- 6** OPEN SPACE is generally located at the rear of properties providing both screening and recreation on a parcel level.

# infill development prototype | medium site 1

## COTTAGE COURT

Total # Dwelling Units: 10

Total # of Bedrooms: Approximately 20



INFILL SITE SHOWN WITHIN A TYPICAL NEIGHBORHOOD BLOCK



*VIEW FROM THE STREET: Single family detached cottage houses are clustered around a communal green. Parking is tucked behind the buildings, creating a pedestrian-oriented street frontage that can blend into the neighborhood. Porches and varied architectural features are compatible with existing single family dwellings and contribute to the diverse character of the streetscape.*

# infill development prototype | medium site 1

## COTTAGE COURT



BIRD'S EYE VIEW



VIEW OF COMMUNAL GREEN FROM SIDEWALK



VIEW OF COTTAGES FRONTING THE SIDEWALK

### CONCEPT DESIGN FEATURES

*Note: Not in order of priority. Refer to general design guidelines for further discussion.*

- 1** FRONT ENTRANCES are oriented towards the street and/or communal green.
- 2** PARKING garages and driveways are located to the rear of buildings.
- 3** PARKING ACCESS is off of a single driveway located on either side of the property.
- 4** SCREENING is provided between adjacent properties and at the edge of parking areas.

### OTHER DESIGN PRINCIPLES

Clustered homes are connected by a series of pathways that lead to and from parking, community green space, sidewalks, and to front, rear, and side cottage entrances.

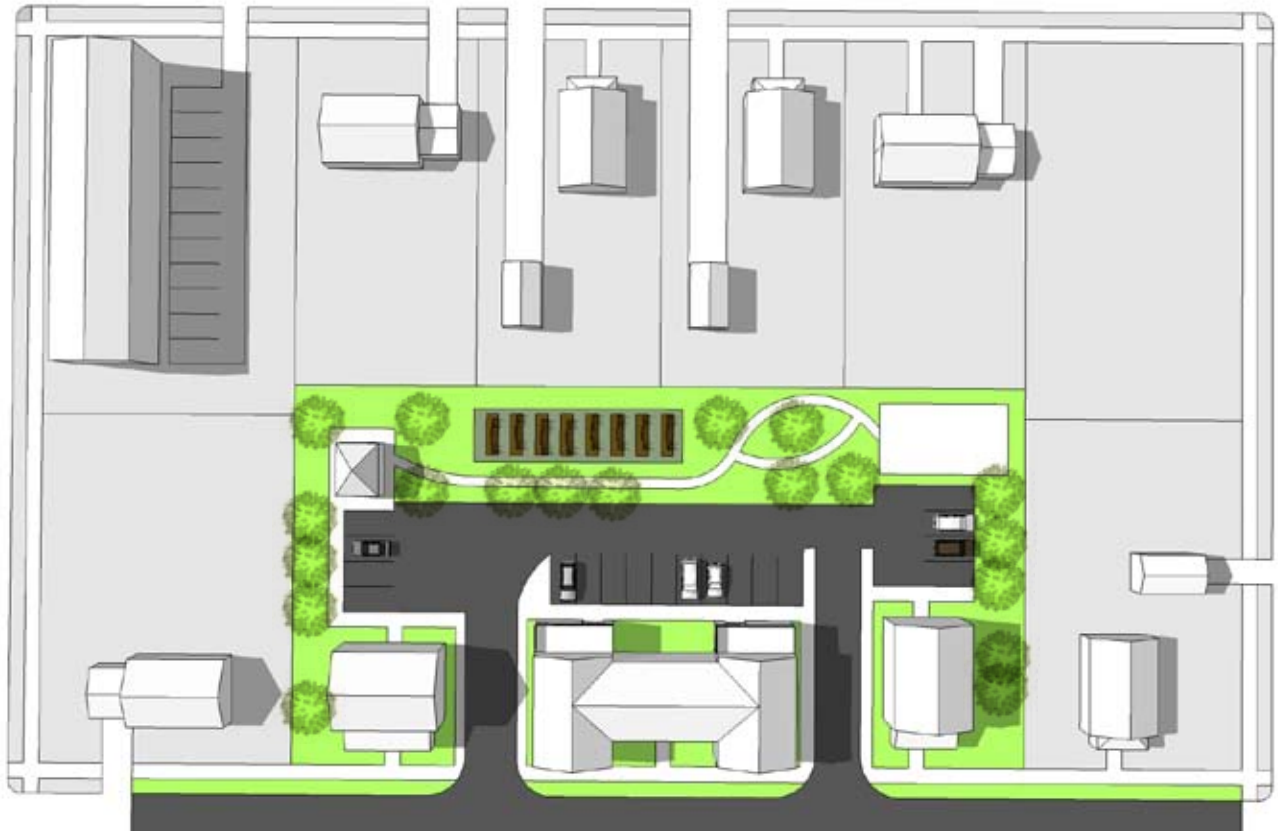
Porches provide an additional “private” space for cottage homes, where most of the outdoor space is provided for collective use.

# infill development prototype | medium site 2

MIXTURE OF DUPLEX AND MULTI-FAMILY UNITS

Total # Dwelling Units: 10

Total # of Bedrooms: Approximately 20



INFILL SITE SHOWN WITHIN A TYPICAL NEIGHBORHOOD BLOCK



*VIEW FROM THE STREET: Multi-family residential garden apartments flanked by duplexes; Duplexes are located directly adjacent to single family homes providing a transitional use to higher density units. Massing and architecture should be compatible with existing single family and two-family dwellings, incorporating porches, angled roofs, and local materials to provide a cohesive street view.*

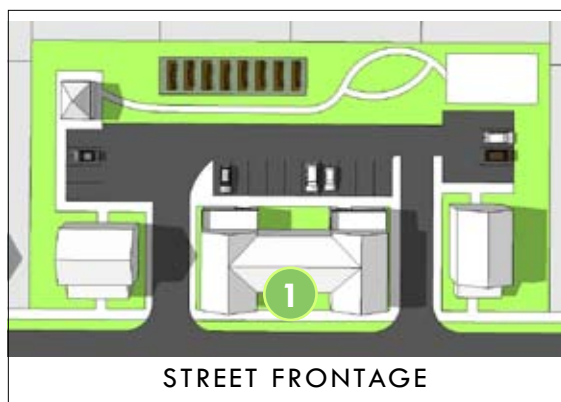


# infill development prototype | medium site 2

MIXTURE OF DUPLEX AND MULTI-FAMILY UNITS



REAR BIRD'S EYE VIEW



PLAN VIEW

## CONCEPT DESIGN FEATURES

*Note: Not in order of priority. Refer to general design guidelines for further discussion.*

- 1 FRONT ENTRANCES are oriented towards the street.
- 2 REAR ENTRANCES from the parking areas provide access to upper and lower apartment units.
- 3 DRIVEWAYS: Two driveways provide access to the parking lot in the rear.
- 4 SURFACE PARKING lot is located at the rear of the property.
- 5 WALKING PATH/TRAIL is included for recreation and access to shaded areas, community gardens, picnic pavilion, and/or playground.
- 6 SCREENING is provided between adjacent properties and at the edge of parking areas.

## OTHER DESIGN PRINCIPLES

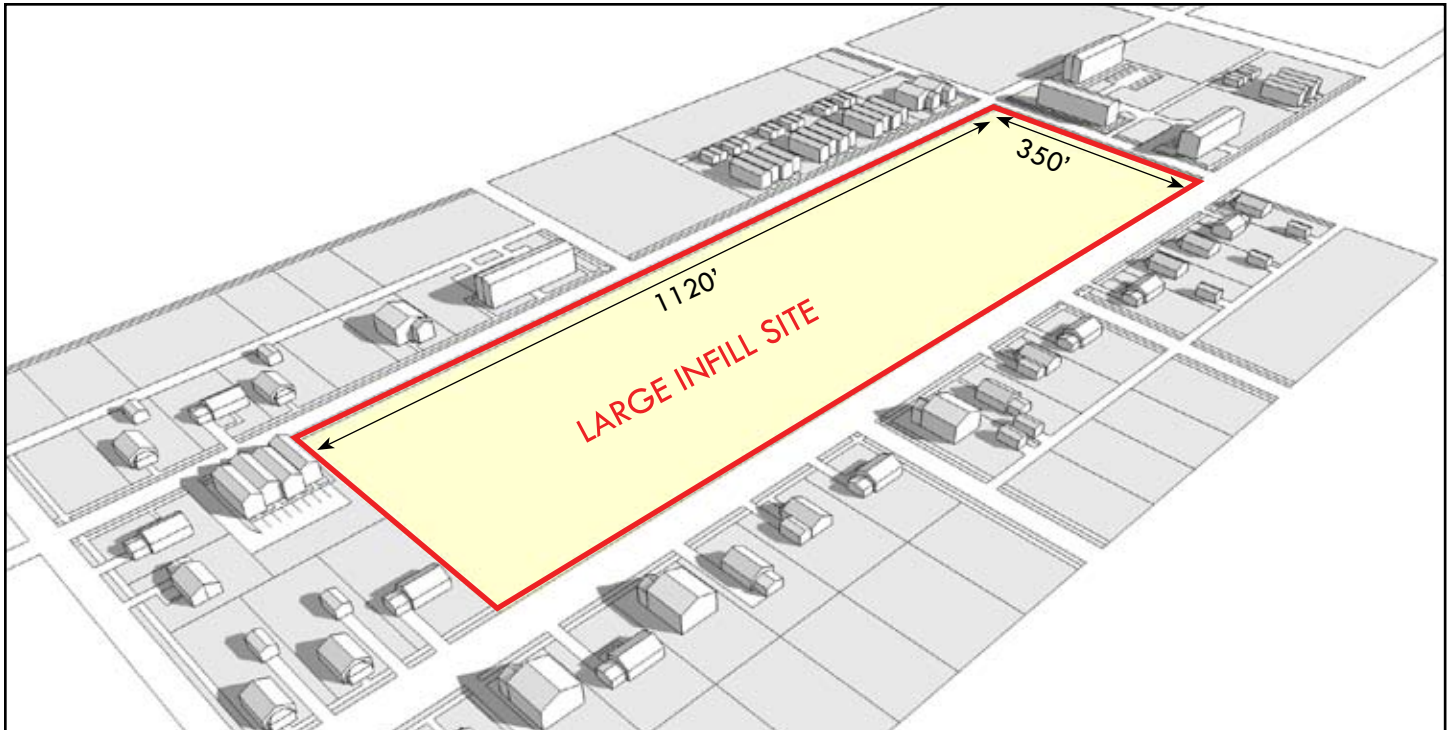
Allowable density is broken into smaller-scale buildings to maintain a neighborhood-style pattern of development.

Programmed or usable OPEN SPACE is to be provided on site.

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# infill development prototype | large site context

Parcel Size:	9 Acres
Zoning:	RM-27



Note: The following design characteristics apply to the next 2 large infill site examples.

## DESIGN CHARACTERISTICS OF EXISTING NEIGHBORHOOD

- 1** **CONNECTIVITY:** Average block lengths vary between 500-600' in length.
- 2** **CONTEXT:** Existing neighborhood development is comprised of a mixture of single family and multi-family residences.
- 3** **FRONT SETBACKS** are varied - generally between 10 and 35'.
- 4** **PARKING** is provided on-site and located at the rear of properties. A mixture of attached and detached garages is prevalent and located behind the front building setback line.
- 5** **PARKING ACCESS:** Generally, a single driveway provides parking access on both single and multi-family lots. Where feasible, alleyways provide rear access to garages and parking.
- 6** **BUILDING ORIENTATION** is a mixture of parallel and perpendicular frontage. Front entrances are all oriented towards the sidewalk.
- 7** **OPEN SPACE** is generally located on individual parcels. Community or neighborhood scale open space is lacking.

# infill development prototype | large site 1

HIGHER DENSITY MULTI-FAMILY COMPLEX

Total Dwelling Units shown: Approximately 129

Total # of Bedrooms: Approximately 235



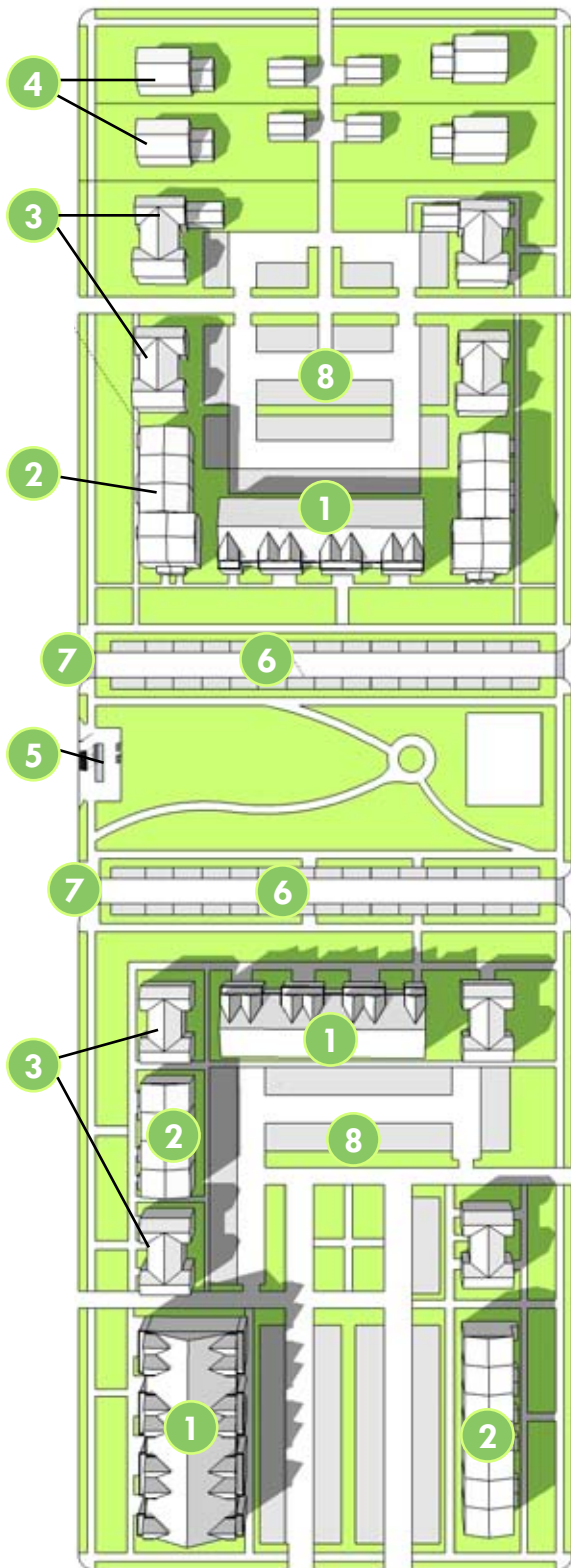
BIRDS EYE VIEW OF INFILL SITE SHOWN WITHIN A TYPICAL NEIGHBORHOOD



*VIEW FROM THE STREET: New higher density garden apartments, townhomes, and existing single family homes front a new neighborhood-oriented park; Park spaces provide relief from higher density housing and provide a public amenity as a shared community asset. Massing and architecture should be compatible with existing single family and two-family dwellings, incorporating porches, angled roofs, and local materials to provide a varied, yet cohesive streetscape.*

# infill development prototype | large site 1

## HIGHER DENSITY MULTI-FAMILY COMPLEX



CONCEPT PLAN

### CONCEPT DESIGN FEATURES

*Note: Not in order of priority. Refer to general design guidelines for further discussion.*

- 1 Larger scale garden apartments
- 2 Townhomes
- 3 Smaller scale garden apartments provide transition between lower and higher density on the site.
- 4 Single or 2-family houses with garage - located adjacent to existing single family homes to provide density transition.
- 5 NEIGHBORHOOD PARK provides bus access and bicycle parking.
- 6 ON-STREET PARKING is provided for guests and park visitors.
- 7 NEW CONNECTING STREETS continue the existing neighborhood block network.
- 8 PARKING is located at the interior of the block and served by a new alleyway.

### OTHER DESIGN PRINCIPLES

Complete network of sidewalks along the roadway and on-site to provide connectivity between parking, building entrances and sidewalk.

Denser buildings located adjacent to other existing multifamily residences and fronting park.

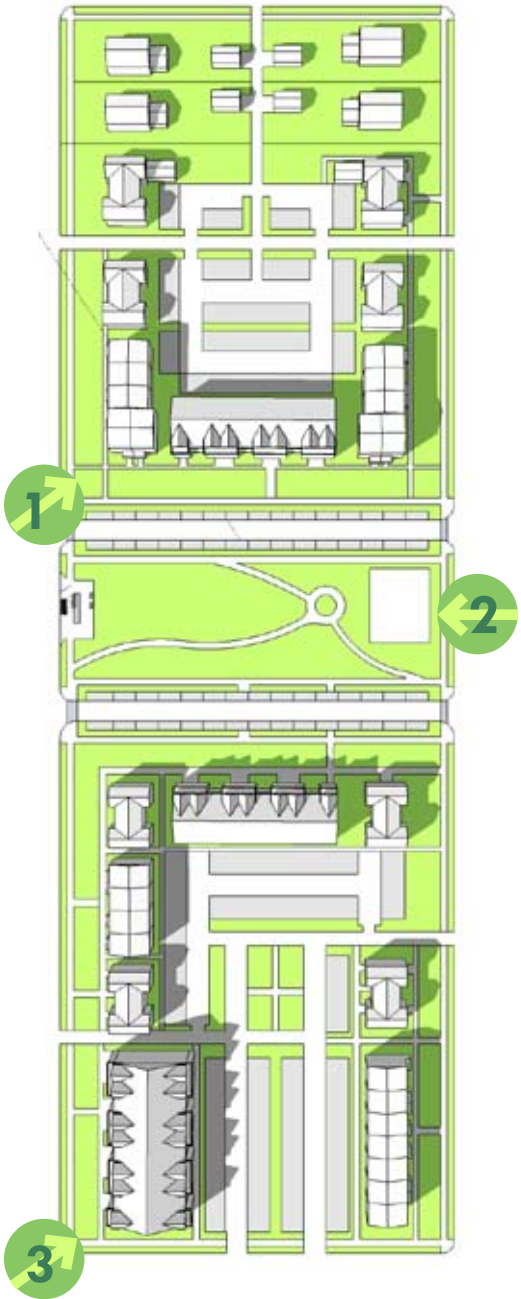
Smaller scale residences are adjacent to lower density and single family houses.

Architecture, massing, materials, colors, and proportions designed to conform with existing neighborhood context.

# infill development prototype | large site 1

## HIGHER DENSITY MULTI-FAMILY COMPLEX

### ADDITIONAL VIEWS OF HIGH DENSITY CONCEPT PLAN



1

*Buildings transition from higher to lower in density.*



2

*Higher density buildings front a neighborhood park; On-street parking is provided along the edge of the park.*



3

*Mixture of multi-family housing with parking interior to the block is depicted.*

# infill development prototype | large site 2

LOWER DENSITY SINGLE AND MULTI-FAMILY COMPLEX

Total Dwelling Units shown: Approximately 62  
Total # of Bedrooms: Approximately 186



**BIRD'S EYE VIEW OF INFILL SITE SHOWN WITHIN A TYPICAL NEIGHBORHOOD**

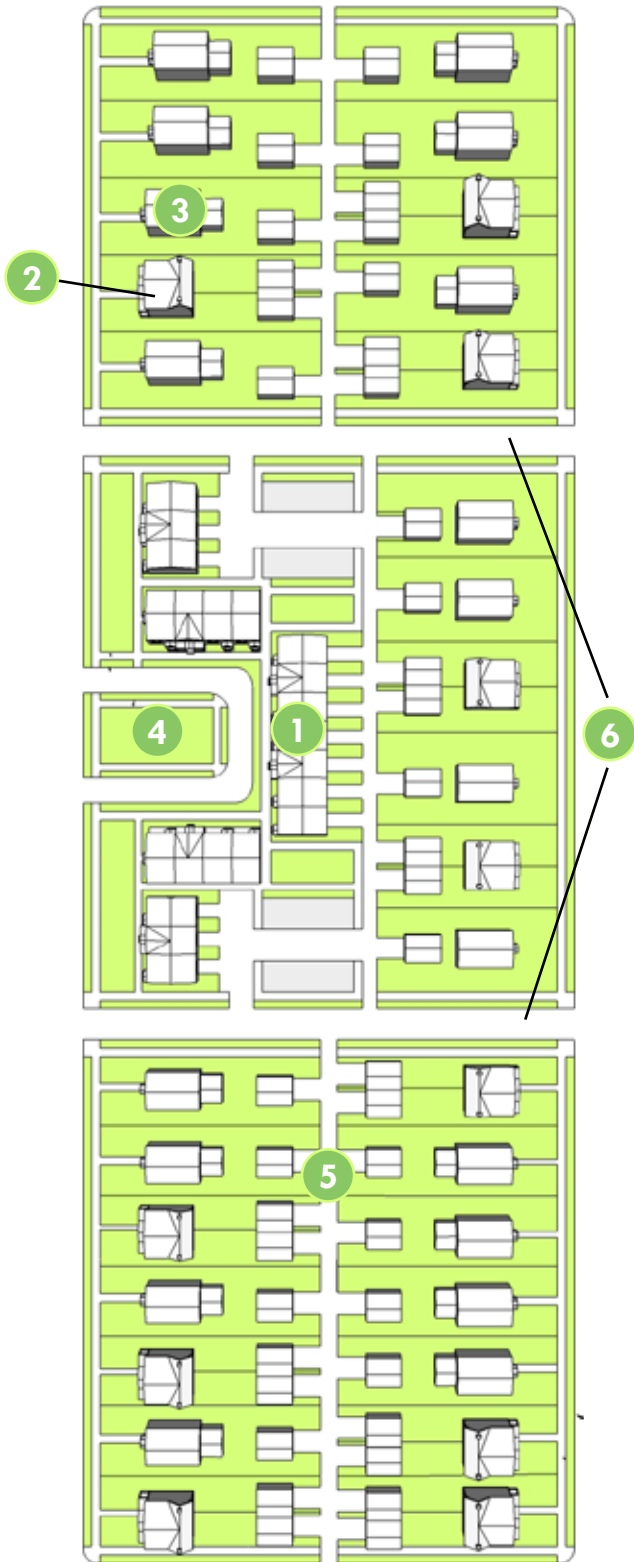


**VIEW FROM THE STREET:** Townhome community fronting a shared open space. Park spaces provide relief from higher density housing and provide a public amenity as a shared community asset.

Massing and architecture should be compatible with existing single family or two-family dwellings incorporating porches, angled roofs, and local materials to provide a varied, yet cohesive streetscape.

# infill development prototype | large site 2

## LOWER DENSITY SINGLE AND MULTI-FAMILY COMPLEX



### FEATURES OF INFILL DEVELOPMENT

- 1 Townhomes
- 2 Two-family dwelling
- 3 Single family home with garage
- 4 PARKS are located to serve townhome community with bus access or bicycle parking.
- 5 ALLEY system provides access to parking and individual garages.
- 6 NEW CONNECTING STREETS create a walkable block network.

### OTHER DESIGN FEATURES

Network of sidewalks adjacent to the roadway and on-site to provide access to parking and building entrances.

Higher density residences front onto a collective open space.

Duplexes and single family homes are mixed; Duplexes are designed to blend in with single family homes, incorporating features such as a singular porch and parking accessed from the rear alleyway.

Architecture, massing, materials, colors, and proportions are designed to maintain a neighborhood context with pedestrian-scaled elements.

Townhome facade design varies between units, adding visual interest and diversity to the development. Side unit townhomes or corner units that front on two roadways of importance should incorporate primary facade details on two sides: windows, porches, awnings, and entrances with connections to the sidewalk.

INFILL SITE CONCEPT PLAN



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LOWER DENSITY SINGLE AND MULTI-FAMILY COMPLEX

## ADDITIONAL VIEWS OF LOWER DENSITY CONCEPT PLAN



*Shared open space is an amenity to the townhouse community.*



*Townhome community fronting a shared open space. Parking is located to the rear in both garages or surface lots accessed off of an alley or side street.*



*Duplex housing located adjacent to a single family home. A single front porch de-emphasizes the pair of doors leading to individual units.*