



Urban Design Guidelines for
Low-Medium Density
Infill Housing
Update 2009

ottawa.ca
City services **3-1-1**
TTY 613-580-2401

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1.0 Introduction

This is a series of design guidelines for infill housing to help fulfill some of the design strategies for Ottawa as outlined in the Official Plan. It is intended as a basic framework for the physical layout, massing, functioning and relationships of infill buildings. Developers, designers and property owners are encouraged to use the guidelines and even go beyond them to come up with ideas to further improve urban infill.

Infill housing is about the development of vacant lots or portions of vacant lots in established urban areas. It optimizes the efficient use of serviced lands adjacent to existing infrastructure and transportation modes. Design guidelines are a working tool to help developers, designers, property owners, utility providers, community groups, builders, Council and city staff implement policies of the Official Plan and facilitate the approvals process by highlighting the desired type of development. Applicants are encouraged to use the guidelines to come up with ideas to further improve urban infill. Note that not all of the individual design guidelines listed in this document apply or are appropriate in every infill situation and thus, the guidelines are not to be used as a checklist in evaluating proposals.

Well-designed residential infill projects can integrate harmoniously into a local landscape, improving and enriching a neighbourhood, and increasing the value of the infill development itself. Good design is critical to growing cities and essential for increasing densities appropriately. The keys to good infill are recognizing the scale and visual lot pattern of the desirable neighbourhoods that exist, and those planned for the future, and not permitting the car to dominate the public realm. Designing for the needs of pedestrians and cyclists, and integrating the car appropriately into a planned urban environment, improves the quality of the city streetscape and helps create livable cities.

Livable communities consist of a balanced environment where pedestrians, cyclists and automobiles exist supportively together to create a sense of place and local identity.

These guidelines target those attributes that can guide various stakeholders into achieving quality design for infill development with regard to:

- 1 Public streetscapes
- 2 Building design
- 3 Parking and garages
- 4 Heritage building alterations/additions
- 5 Service elements

As part of improving the environment around us, choices are made that influence a more sustainable future. In this regard, the City of Ottawa's Environmental Strategy also incorporates actions that help govern infill development which include among other things:

- Developing in harmony with the environment and using land wisely
- Focusing on walking, cycling and transit ensuring less land lost to roads and parking
- Improving the quality of the natural environment

1.1 Purpose and Objectives

In general, the aim of the guidelines is to help create an infill development that will:

- Enhance city streets
- Support and extend established landscaping
- Be a more compact urban form to consume less land and natural resources
- Achieve a good fit into an existing neighbourhood, honouring its character, architectural and landscape heritage
- Provide new housing designs that offer variety, quality and a sense of identity
- Emphasize front doors rather than garages
- Include more soft landscaping and less asphalt in front yards
- Incorporate environmental innovation and sustainability, for example, by constructing “green” buildings

In so doing, these design guidelines highlight the important elements of building in a civic-minded spirit.

Pursuing a comprehensive design strategy, entitled ‘Ottawa by Design’, these guidelines serve to fulfill the Official Plan’s objectives in the area of community design.

The Plan directs growth to established areas, to maximize the use of land that is already serviced, accessible and close to existing amenities. Intensifying empty lots with infill development will become a more common occurrence, and good design will be the essential ingredient for achieving quality development at higher densities.

The guidelines are intended to address the small-scale changes in a neighbourhood but are also meant to deal with more substantive changes to achieve a good ‘fit’ within an established context.

Design direction is offered to assist people who are proposing change and also help those evaluating proposals through the development review process to assess, promote, and achieve appropriate infill. In addition, neighbourhood residents and interested stakeholders can see what the expectations are for infill development, and thereby obtain a better understanding of how development proposals will be evaluated.

To facilitate the approvals process, builders can get practical ideas and guidance on important design ingredients for building in established communities prior to starting the design of their project.

1.2 The Official Plan

(Official Plan Amendment #28, approved by City Council July 13, 2005)

"The Design Objectives of this Plan are qualitative statements of how the City wants to influence the built environment as the city matures and evolves. These Design Objectives are broadly stated, and are to be applied within all land use designations, either at citywide level or on a site-specific basis." (Excerpt from the Official Plan)

Design Objectives

- 1 To enhance the sense of community by creating and maintaining places with their own distinct identity
- 2 To define quality public and private spaces through development
- 3 To create places that are safe, accessible and are easy to get to, and move through
- 4 To ensure that new development respects the character of existing areas
- 5 To create places that can evolve easily over time
- 6 To understand and respect natural processes and features, and promote environmental sustainability in development



Figure 1: New development in an existing area combines both new and traditional materials in innovative ways.

Compatibility and Community Design

(Section 2.5.1 of the Official Plan)

“The City’s growth management strategy includes intensification of development in the urban area over the next 20 years and concentrating rural development in Villages. Introducing new development in existing areas that have developed over a long period of time requires a sensitive approach to differences between the new development and the established area. This Plan provides guidance on measures that will mitigate these differences and help achieve compatibility of form and function. Allowing for some flexibility and variation that complements the character of existing communities is central to successful intensification.”

“In general terms, compatible development means development that, although it is not necessarily the same as or similar to existing buildings in the vicinity, nonetheless enhances an established community and coexists with existing development without causing undue adverse impact on surrounding properties. It ‘fits well’ within its physical context and ‘works well’ among those functions that surround it. Generally speaking, the more a new development can incorporate the common characteristics of its setting in its design, the more compatible it will be. Nevertheless, a development can be designed to fit and work well in a certain existing context without being ‘the same as’ the existing development. When a new vision for an area is established through a Community Design Plan or other similar Council-approved planning exercise, addressing compatibility will permit development to evolve toward the achievement of that vision while respecting overall community character.”

Community Design

(Section 2.5.1 of the Official Plan)

“An important ingredient in building livable communities is the creation of quality places for people. Community design is a way of thinking spatially, of seeing the built environment at a human scale and in three dimensions. Good urban design and quality architecture can create lively places with enriched and distinctive character. It gives us the tools to shape the environment into vital places that create meaningful connections between people and places. The components of the environment where design plays a key role, include: Built form, Open spaces and Infrastructure.”

“Together, these building blocks create lasting impressions, where streetscapes and neighbourhoods contribute to a community identity that is more than the sum of its parts. It is the successful interplay between the built and natural environment, and how people use it, that has given us special places like the ByWard Market, Manotick and Westboro; streets like Elgin Street and Centrum Boulevard; and open spaces such as the Rideau Canal.”

Some of the objective criteria for ‘compatibility’ of infill development are set out in the amended Section 4.11 of the adopted Official Plan. The policies of Section 4.11 will be respected in the implementation of these guidelines.

1.3 Infill and Intensification

Infill is development that occurs on a single lot, or a consolidated number of small lots, on sites that are vacant or undeveloped. Infill may also refer to the creation of the lot or lots.

Infill development at higher densities, in relation to existing neighbours, requires good design to mitigate the potential impact of intensified building forms.

Residential intensification means intensification of a property, building or area that results in a net increase in residential units or accommodation and includes:



Figure 2: The design details in this higher density infill project create a sense of identity and place.

- Redevelopment (the creation of new units, uses or lots on previously developed land in existing communities), including the redevelopment of Brownfield sites;
- The development of vacant or underutilised lots within previously developed areas;
- Infill development;
- The conversion or expansion of existing industrial, commercial, and institutional buildings for residential use; and
- The conversion or expansion of existing residential buildings to create new residential units or accommodation, including secondary dwelling units and rooming houses.

The benefits of intensification (from CMHC'S 'Healthy Housing 2005') are:

- More efficient use of existing infrastructure and community facilities
- Reduced expense on entirely new infrastructure and transit systems
- Lower energy requirements for transportation due to reduced automobile travel and more opportunities for public transport, walking and cycling
- Reduced commuting time and stress on the environment
- More compact development patterns protect greenspaces
- Reduced rate of encroachment on undeveloped areas
- Reduced water collection costs in clustered and more dense development
- Lower water treatment costs with larger treatment plants serving more homes
- Mixed dwelling types encourage people to stay in the same community as their housing needs change

1.4 When are Design Guidelines applied?

Under Section 2.5.1 of the amended Official Plan, 'Ottawa By Design', design guidelines are listed as an initiative to help achieve the Plan's goals in the area of design. They help implement Official Plan policies with respect to the review of the development applications for infill development.

This design guideline document will be applied to all infill development affected by the Official Plan's 'General Urban' designation including the following residential types: single detached, semi-detached, duplex, triples, townhouses and low-rise apartments.

Please also refer to Section 8.0 of this document; this explains the legislative context under which the guidelines can be applied.

The design guidelines that follow illustrate some of the important principles for design in the public realm.

The photographs and sketches are intended to illustrate only a few of the multitude of solutions for successful infill development.

Other Available Guidelines include

- Regional Road Corridor Guideline (2000)
- Environmental Noise Control Guidelines (2006)
- Urban Design Guidelines for Gas Stations (2006)
- Urban Design Guidelines for Large-Format Retail (2006)
- Urban Design Guidelines for Development along Arterial Mainstreets (2006)
- Urban Design Guidelines for Development along Traditional Mainstreets (2006)
- Urban Design Guidelines for Drive-Through Facilities (2006)
- Urban Design Guidelines for Outdoor Patios (2006)
- Urban Design Guidelines for Greenfield Neighbourhoods (2007)
- Urban Design Guidelines for Transit-Oriented Development (2007)
- Right-of-Way Lighting Policy (2008)
- Road Corridor Planning and Design Guidelines (2008)

2

Public Streetscapes

2.0 Public Streetscapes

The public realm is made up of the public streets, sidewalks, boulevards, back lanes, street furniture, public utilities, parks and open spaces. Civic life takes place in these outdoor spaces that make up the public realm. In addition, private front yards form the edge of the public realm and both the landowner and the pedestrian benefit when the front yards of buildings serve as landscaped edges to the public sidewalk.

New development should contribute to the character and legibility of public spaces, and new streets should form natural, logical extensions of the existing city street network. Cities are for people, and when the environment is designed with a respect for pedestrians and cyclists, the quality of the public realm improves.

For healthy cities development must make public streetscapes attractive to pedestrians, with trees and planting a priority. Sustainable cities have beautiful large-canopied trees lining their sidewalks, providing natural cooling and shade in the summer.

Where neighbourhoods have diverse building forms and a less than successful urban environment, infill buildings can fulfill the role of creating new desirable standards on which to enhance the streetscape.

Design Guidelines

- 2.1** Design quality public space for pedestrians, cyclists, transit access and cars.
- 2.2** Provide a streetscape that is inviting, safe, and accessible, emphasizing the ground floor and street façade of buildings with principal entries, windows, porches, balconies and key internal uses at street level.
- 2.3** Landscape the front yard to blend with surrounding front yards' landscaping patterns. The landscaping should complement and enhance the continuity of uses along the street and create a significant green presence.



Figure 3: Buildings close to the sidewalk frame the street to establish a human scale and connection to the public realm.

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Public Streetscapes

- 2.4** Design the streetscape to work with the local vocabulary when an architecturally significant fabric exists.



Figures 4 and 5: Whenever possible, the location of driveways and building footprints should be shifted to retain mature trees.



- 2.5** Retain all established landscaping such as existing healthy trees. Design buildings around established trees. Replace trees with new if removal is justifiable.
- 2.6** Reflect the streetscape character, whether it is a traditional inner-city character, new or old. If the streetscape character and pattern is less desirable, with asphalt parking lots and few trees lining the public sidewalks, encourage change and a more desirable pedestrian character and pattern, which may encourage further positive change for future development.



Figure 6: The infill building on the left reflects the style, mass and character of the existing building on the right without attempting duplication.

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Public Streetscapes



Figure 7: A sidewalk is a pleasant pedestrian environment with trees along the edge.

- 2.7** Provide street trees for shade at 6 to 10 metre spacing, in continuous planting pits or in clusters to support healthy growth. Use planting techniques that avoid the effects of soil compaction and road salt.



Figure 8: A row of street trees creates an attractive street edge.

- 2.8** Expand the network of public sidewalks for pedestrian safety, including crosswalks to complete the network.
- 2.9** Provide pedestrian-scale lighting that points downward in order to minimize light pollution and prevent spillage onto neighbouring properties. (Refer to the City's Standard Site Plan Agreement, Schedule 'C' - City Standards and Specifications, under Condition 19 - Exterior Lighting)

- 2.10** Preserve and enhance any existing decorative paving on streets and sidewalks.



Figure 9: Planted edges enhance the public sidewalk.

- 2.11** Plant trees, shrubs, hedges, ornamental plantings and ground cover adjacent to the public street and sidewalk for an attractive sidewalk edge. Select hardy, salt-tolerant native plant material that can thrive in stringent urban conditions. (General information on native species can be found on the Ottawa Forest and Greenspace Advisory Committee's web pages <http://www.ofnc.ca/ofgac/>)

- 2.12** Keep walkways as accessible as possible between the public sidewalk and private entrances and yards.

- 2.13** Consider the 'cultural landscape', fabric, character and layout of the neighbourhood. Where infill is in a neighbourhood, for example, dominated by hedges, new hedges should be planted as part of the development (in place of fences.)

3.0 Building Design (Built Form)

The existing context, character and pattern of an established neighbourhood can be recognized, while at the same time, allow for the evolution of architectural style and innovation in built form. Infill development should be a desirable addition to an existing neighbourhood. This does not mean imitating historical styles and fashions of another era, or conversely about total contrast in fabric or materials, but rather recognizing the established scale and pattern of the context and grain of the neighbourhood.

The goal of good infill development can be met within any style.

Residential infill should meet current building requirements and incorporate new technologies. Various architectural styles can be very compatible with existing structures and spaces. Through the use of quality materials and innovative design, contemporary architectural styles can revitalize a street. Built form rich in detail enhances public streets and spaces.

Design Guidelines

3.1 Siting

- 3.1.1** Ensure new development faces and animates the public street.
- 3.1.2** Locate and build infill in a manner that reflects the existing or planned pattern of development in terms of height, front, rear, and side yard setbacks.



Figure 10: This urban infill matches the setbacks of surrounding homes.



Figure 11: This suburban infill respects the scale, setback and materials of surrounding homes. The home takes advantage of a corner lot by locating the garage and driveway on the side façade.

- 3.1.3** In determining infill lot sizes, recognize local lot sizes including lot width, relative to the scale and proportions of the new development vis-a-vis the surrounding development; recognize also the provisions of the zoning by-law and the Official Plan's intensification policies
- 3.1.4** Orient buildings so that their amenity spaces do not require sound attenuation walls and so that noise impacts are minimized toward adjacent buildings.
- 3.1.5** In cases where there is a uniform setback along a street, infill buildings should match this setback and fit into the neighbourhood streetscape and create a continuous, legible edge to the public street. In cases where there is no uniform setback, the new building can be located at roughly the same distance from the property line as the buildings along the abutting lots.



Figure 12: Landscaping in the front yard, street level windows, a visible main entrance and an upper balcony make an attractive edge to the public street. The parking, at the rear, is accessed off the side street of this corner lot.

- 3.1.6** Contribute to the amenity, safety and enjoyment of open spaces by offering living spaces that face them.



Figure 13: Living spaces adjacent to support the quality of an open space.

3.1.7 Avoid the arrangement of units where the front of one dwelling faces the back of another, unless the units in the back row have façades rich in detail, recessed garages and extensive landscaping. Do not break the pattern of the green front yards of the neighbourhood by placing parking at the front.



Figure 16: This back row offers attractive landscaping, enhanced front entrances, balconies and recessed garages.



Figures 14 and 15: These two rows of infill townhomes use extensive landscaping. Generous balconies predominate over recessed garages.



- 3.1.8** Determine an appropriate separation distance between infill housing blocks to ensure appropriate light, view, and privacy considering: building heights, site orientation and locations of windows. Ensure visual privacy, for example, by offsetting new windows from neighbour's windows.



Figure 17: An adequate separation distance between infill blocks (in this example, on a rear private lane) ensures sufficient light, view and privacy for residents. Richly detailed rear balconies and arbours define outdoor amenity areas; complementary screening and planting increase privacy.

- 3.1.9** Locate rear elevations and rear yards in line with their context so that the rear amenity space is generally consistent with the pattern of the neighbours.
- 3.1.10** Respect the privacy of outdoor amenity areas of adjacent residences and minimize any undesirable impacts through the siting and design of buildings and through the use of screening, lighting, landscaping and other mitigative design measures.
- 3.1.11** Varied front yard setbacks may be permitted if the change in setback preserves and integrates existing natural features, such as mature trees or rock outcroppings into the new development or if this is consistent with the cultural landscape of the neighbourhood, (i.e. Some neighbourhoods enjoy consistent setbacks, others are characterized by irregular setbacks.)
- 3.1.12** Avoid artificially raising or lowering grades (in order to increase floor space and height) that would require retaining walls, so as not to adversely affect water run-off and/or adjacent properties.

3.2 Mass/Height

3.2.1 Construct at both a residential scale as well as a scale, mass and proportion that contributes to the quality of the streetscape.



Figure 18: The stacked townhomes on the left are larger in scale than the adjacent properties, but through the use of quality materials and design, they contribute to create a positive streetscape.

3.2.2 In cases where new buildings back on to low-scale residential properties or public open space, set the building back so that it does not project into a 45 degree angular plane from the rear property line, in order to reduce the impact of potential loss of sunlight or privacy on neighbouring properties. (A 45 degree angular plane is measured from a rear lot line and projects at a 45 degree angle toward the development.) For larger infill development, design within an appropriate angular plane, and provide a suitable buffer zone in order to protect a neighbour's right to adequate light, view and privacy.

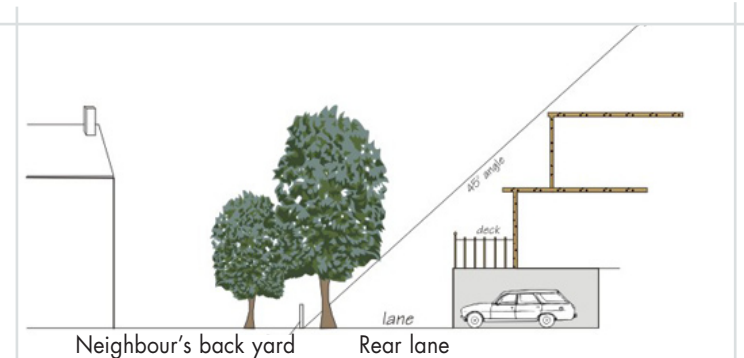


Figure 19: Building within angular planes from this rear lane protects existing neighbour's back yard privacy and access to sunlight.

3.2.3 Create a transition in building heights if the new development is higher than the existing buildings, through the skilful harmonization and manipulation of mass. Add architectural features such as porches, bays and other building elements to visually reduce the mass of the new building. In addition, the appropriate selection of materials, colours and textures can mitigate the perception of mass and height.



Figure 20: This infill project steps down to respect lower neighbourhood character.

- 3.2.4** Create a transition in building widths if the new development is significantly larger than the existing adjacent buildings by visually dividing the building width into smaller sections that approximate the width of the neighbours.
- 3.2.5** Position the infill to take advantage of solar heat and reflected light. Create a layout where internal and external spaces benefit from the solar orientation.
- 3.2.6** Look for measures to support sustainability and improve environmental amenity such as creating green roofs (landscaped) that are functional, and have aesthetic value.

3.3 Building Faces

- 3.3.1** Enhance the public realm giving particular consideration to all building faces on streets, public lanes and pathways.
- 3.3.2** Allow the front door (the public entrance) to dominate the front façade as opposed to the garage being dominant. The use of quality materials and an eye-catching entrance is preferable over recessed and shadowed entrances.



Figure 21: The architectural detailing on this semi-detached residence highlights the structure and not the garage and covered parking spot.



Figure 22: The structural columns and second story balcony articulate the front façade and highlight the entrance to this unit.

3.3.3 Use quality building materials and detailed design for building faces, including the backs that face and affect the neighbours.

3.3.4 Where more than one semi-detached or single detached building is constructed on adjacent properties, the buildings should be compatible with each other and with the existing fabric on street and are to exhibit distinguishing characteristics so that they are not identical (including but not limited to the use of different materials, colours, rooflines, window and door treatments) and so that they will contribute positively to the image and character of the overall streetscape.



Figure 23: This semi-detached home is designed so that the two units are compatible but not identical to each other.

3.3.5 Interpret local history and design elements in the design of the new infill project.

3.3.6 Create design excellence, using visual cues from the neighbourhood, through the following elements:

- Quality materials
- Textures and colours used in wall treatments
- Articulation of design features such as projections, recesses, front porches, stoops, balconies
- Cornice lines, chimneys, etc.
- Size, shape, placement and number of doors and windows
- Form of the roofline



Figure 24: These townhouses pick up on the materials and colours of the existing residences while at the same time incorporating more modern design elements.



Figure 25: The curved façade, echoed by the curved arbour, creates a unique corner treatment that adds interest to the public realm. The significant glazing contributes to community surveillance.



Figure 26: Front doors and windows close to grade offer an attractive edge to the public sidewalk.



Figures 27 and 28: Both urban and suburban infill can create interest and a place of reference.



3.3.7 Create building faces that are detailed with inviting entrances and living spaces close to the ground that offer 'eyes on the street' and contribute to the amenity of the public realm.

- 3.3.8** Plant deciduous trees and shrubs to shade south and south-west windows from the summer sun for energy conservation. Planting conifers is desirable for windows facing north, west and northwest in a winter city.
- 3.3.9** Provide primary building entrances that are inviting and visible from the street by:
- Adding architectural elements such as porches which promote street-oriented interaction
 - Keeping front doors prominent and match the pattern of the doors on the street, and/or by placing doors close to grade to minimize exterior stairs for accessibility and ease of year-round maintenance
- 3.3.10** Locate windows to maximize light and view, and minimize overlook onto neighbouring properties.
- 3.3.11** On corner lots, all sides of a building that face public streets should display a similar and comparable level of quality and detail. Avoid large blank walls that are visible from the street, other public spaces, or adjacent properties. All sides of infill buildings should be well designed, not just the front.



Figure 29: The side of this corner building displays a level of architectural detail that enhances the streetscape. Blank walls facing both public streets and adjacent properties should be avoided.

3.4 Architectural Style

Infill development by its nature is modern construction within an historic context, a stylistic blend of new with existing.

3.4.1 Create interest and a sense of identity.



Figure 30: Two contemporary infill buildings propose a new look for the street while still respecting the scale, mass and pattern of the street.

- 3.4.2 Achieve a style where the architectural form is rich in detail and enhances public streets and spaces.
- 3.4.3 Use the past to help inform approaches to design, reinterpreting local vernacular in a contemporary way.



Figure 31: This semi-detached infill unites two different architectural styles. The renovated unit on the left is attached to the contemporary middle unit but reflects the form and character of the existing single-detached red brick home. The contemporary unit adopts the colours of the renovated unit to blend successfully into the streetscape.

- 3.4.4 Design, detail and use materials that reflect quality-built residential features and elements.
- 3.4.5 Harmonize with the traditional materials of the neighbourhood when in the context of a heritage streetscape.

4

Parking & Garages

4.0 Parking & Garages

Create infill that supports the quality of the public streetscape and enriches the pedestrian experience. To preserve livable city streets, a high quality built environment needs to be as important a consideration as the needs of parking and servicing. Buildings define the edges and richness of a public space. If a house presents only a garage door as its primary face on the public street, the result is a loss of a quality environment for the neighbourhood. A pedestrian's enjoyment of these city spaces diminishes if the pattern of blank garage faces repeats itself down the length of a city street.

A garage should not dominate any façade facing a street, public space or other residential dwelling. Soft landscaping should prevail for its aesthetic and environmental value. Planting, clean air and efficient energy use counteract the negative impact of impermeable dark asphalt. (Urban areas are hotter when they have an abundance of black pavement, dark roofs and a lack of trees.) The goal is to design safe and environmentally friendly communities creating an appropriate interface between pedestrians, cyclists and autos.

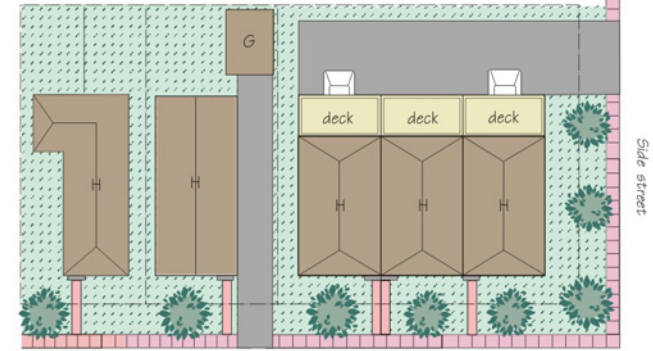


Figure 32: Note the absence of a sloped basement driveway, garage door, and retaining walls to support this infill development; instead here is room for a green front yard and ground-level windows.

4 Parking & Garages

Design Guidelines

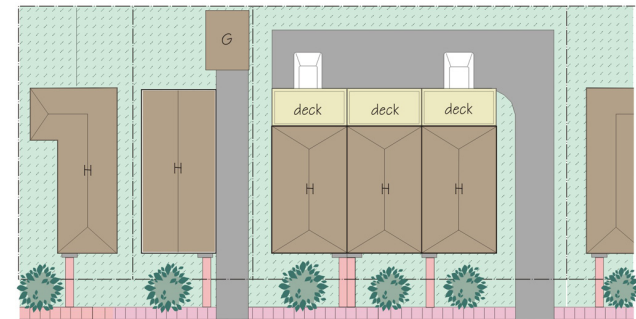
- 4.1** Look for opportunities to provide a shared underground garage that is contained internally on the site to minimize the amount of paved area, pedestrian/vehicular conflicts on the sidewalk, and to maximize room for soft landscaping and on-street parking (where permitted). Limit curb cuts as much as possible.
- 4.2** Make driveway locations and car storage as discrete as possible to allow for greater amounts of landscaped open space.
- 4.3** Ensure that new streets, if private, function and provide similar amenities as public streets. For example, construct sidewalks.
- 4.4** In neighbourhoods with open rear public lanes, or corner lots, locate all parking and garages at the back to maximize the area of green front yards adjacent to the public sidewalk.
- 4.5** In order to maximize the area of green front yards and emphasize the dwelling façade, where possible provide driveways to detached rear garages or parking areas. Consider the use of permeable paving for all or portions of the driveway.
- 4.6** Share driveways where feasible.



public street

Figures 33 and 34: A single shared access driveway for a multitude of infill units matches the neighbourhood pattern of parking at the back. It reduces pavement area, vehicle/pedestrian conflict (with only one curb-cut) and allows for more soft landscaping and on-street parking.

3 townhouse infill with parking at the back
in existing neighbourhood



public street

4

Parking & Garages



Figure 35: The design of this infill on the left minimizes the impact of car storage by locating shared parking behind the development, internal to the site and accessed through a low entryway.

- 4.7** If access to a garage is at the front, limit the garage width to occupy no more than 50 per cent of the width of the lot to preserve soft landscaped areas for the environmental value, streetscape aesthetic and space for snow storage.
(Two cars parked indoors in tandem (as opposed to side by side) can help achieve the 50 per cent goal.)



Figure 36: The garage occupies around 50 per cent of this lot; note the glass transom detail above both the garage door and the front entry door, providing more natural light, and the hedge, which delineates the property, screens the parking and adds greenery.

- 4.8** For semi-detached and multiple-attached dwellings row houses, where the 50 per cent goal is more difficult to achieve, a percentage reduction can be considered provided the visual dominance of the garage is downplayed. The garage should be recessed into the building, with windows, projecting balconies, living space and landscaping as the dominant elements facing the public streetscape.

4

Parking & Garages



Figure 37: Living spaces and trees are emphasized in this infill instead of the garage. The subject garage happens to be well designed and includes windows and other appropriate detailing.

- 4.9** Emphasize the entry, windows, balconies and front yard planting. Minimize and/or recess the garage door if it faces the street. Windows, texture and some detail can help the design of garage doors.
- 4.10** Locate the driveway directly in front of the garage door and limit the pavement width to no greater than the minimum width identified in the zoning by-law.
- 4.11** Avoid sloped driveways to basement garages.



Figure 38: The garage occupies around 50 per cent of the front of these multiple-attached dwellings, and there are no sloped driveways to diminish the streetscape. The infill development also employs successful articulation, visually separating each residential unit from the next.



Figure 39: Sloped driveways may be acceptable in cases where the dwelling is emphasized and where the driveway and garage door is de-emphasized. Prominent porches, entry areas, second floor balconies and significant landscaping can help to emphasize the dwelling.

- 4.12** Reduce the area occupied by parking spaces and driveways to reduce the negative environmental impact of hard paved surfaces. Increase the size of soft landscaped areas in its place.
- 4.13** Use more permeable and natural surfaces (turfblock, cobblestone, honeycomb block) such as hard, stable, dust-preventative pavers, as an alternative to dark asphalt and standard concrete paving, to reduce heat build-up and stormwater run-off. Wheel strips, that are hard, stable and dust preventable, can also be used as an alternative to conventional paving.
- 4.14** Combine planting with fencing if needed. Planting should be effective and enjoyed all year-round and no higher than 1m along the front to maintain clear sightlines.



Figure 40: Wheel strips provide a stable base for vehicles; an unpaved driveway allows for increased infiltration.

5.0 Heritage Building Alterations/Additions

Re-vitalizing and adding on to existing buildings is a fundamental principle of city building. Older structures, with updated interiors, rejuvenated exteriors, new uses and added facilities, are good neighbours. As familiar landmarks in the community, they represent prudent building and conserve the environment through reduced landfill. Heritage buildings require special attention and are covered under their own legislation (Refer 5.8).

Design Guidelines

- 5.1** Respect the municipal and provincial policies specifically related to additions and infill associated with heritage buildings and areas: City of Ottawa OP Section: 4.6.1.2, 4.6.1.7 and 4.6.1.8 and the Provincial Policy Statement 2.6 Cultural Heritage. (OP policy 4.6.1.2 specifically ties into design guidelines that form part of heritage conservation district studies. Since many older residential parts of former Ottawa are part of designated heritage conservation districts, these district studies and the guidelines contained therein are relevant.)
- 5.2** Complement the character and style of the existing building as well as the attributes of the surrounding area.
- 5.3** Respect and conserve the heritage value when introducing a new addition to an historic place.
- 5.4** Use materials and finishes that are predominant in a neighbourhood with heritage character. Traditional materials and finishes, rather than the traditional building form, can be used as an effective mechanism to balance new with old. Select colours and materials that enhance, or harmonize with, the character of development in the area.
- 5.5** Make new development physically and visually compatible with, and distinguishable from, the historic place. Look for opportunities to be innovative and creative when blending new development with the existing context.
- 5.6** Enhance and maintain the amenity and continuity of a heritage streetscape.
- 5.7** Recognize the older architectural vocabulary referencing and harmonizing the scale, proportion and materials of the originals.
- 5.8** Safeguard and protect views to adjacent or nearby valued older buildings, landmark buildings or structures.

5

Heritage Building Alterations/Additions

- 5.9** Protect and re-use site elements and features including large mature trees, fencing, stone walls, stone paving, etc.



Figure 41: The large trees in front of this infill are a significant asset to the neighbourhood.

- 5.10** Make additions either secondary, acting as a frame to a heritage showpiece, or visually separate and distinct.



Figure 42: The red brick infill addition, set back and to the right of this neighbourhood building, blends into the existing context through its compatible composition, materials and colours. Its placement on the site showcases the heritage building.

6

Service Elements

6.0 Service Elements

Reduce the negative aesthetic impact on streets and open spaces of service elements such as utility boxes, garbage storage, loading docks, vehicle access and egress (such as ramps to parking), air conditioner compressors, utility meters and transformers.

Services can be incorporated into the design of new development and screened from view so that they do not diminish the quality or safety of the public streetscape.

Design Guidelines

- 6.1** Locate loading, garbage, and other service elements (transformers, utility meters, heating, ventilation and air conditioning equipment) in non-prominent locations that do not detract from the aesthetic appeal of the city streetscape or the homes that they service, but that have regard for easy access, safe operations and maintenance.



Figure 43: Service elements are integrated into the design of this home.

- 6.2** Integrate and screen service elements into the design of the building so that they are not visible from the street or adjacent public spaces. Conceal these elements using a variety of methods such as location, containment, berms, and/or landscaping, decorative walls and fences, without unduly limiting access, safe operations and maintenance.
- 6.3** Ensure screening does not interfere with the safe movement of pedestrians and vehicles.
- 6.4** Locate ventilation out-takes so odours do not spill into public areas or private residential spaces.
- 6.5** Respect safety clearances and setbacks from both overhead and underground services and utilities. Creative solutions may include architectural gestures that respond to setbacks and clearances (i.e. stepping back upper stories), coordinating landscaping, and site features and streamlining services to reduce the setbacks and clearances.
- 6.6** Utilities should be clustered or grouped where possible to minimize visual impact. The City encourages utility providers to consider innovative methods of containing utility services on or within streetscape features such as gateways, lamp posts, transit shelters etc., when determining appropriate locations for large utility equipment and utility cluster sites.

7.0 Glossary

Accessibility: the ease with which a building or place can be reached

Amenity: elements that contribute to an area's needs, whether social, environmental or cultural and promotes the comfortable use of the space

Angular plane: an angle drawn from the edge of a residential lot line to define the confines in which to build to protect a neighbour's right to sun

Architectural elements: prominent or significant parts of the physical building or structure that contribute to the overall design

Articulation: architectural detail that gives a building interest and added richness

Buffer zone: an area to be used for planting/screening, to mitigate the impact of an adjacent use

Building mass: the combined effect of the shape and bulk of a building or group of buildings, including height, width and depth

Built form: buildings and structures, their density, scale (height and massing) and appearance

Block: an area surrounded by a set of streets

Character: a place with its own identity

CMHC: Canada Mortgage and Housing Corporation

Compatibility: when the density, form, bulk, height, setbacks, and/or materials are able to co-exist in their surroundings. 'Compatible' does not mean 'the same as' and is not intended to preclude innovation and creativity.

Context: the setting of a site, and its adjacent uses; can include the houses on a street, the trees, the neighbourhood, the pedestrian environment

Cultural Landscape: represents the combined works of nature and man

Driveway: a private way used for vehicular access from a parking space to a public street

'Eyes on the Street': coined by Jane Jacobs, "The sidewalk must have users on it fairly continuously, both to add to the number of effective eyes on the street and to induce a sufficient number of people in buildings along the street to watch the sidewalks." (From her book, "Death and Life of Great American Cities")

Fabric: the pattern of the arrangement of street blocks, lots and buildings

Façade: the principal face of a building (also referred to as the front wall)

Front wall: main exterior wall of a residential building located closest to the front lot line

Front yard: the space between the property line and the structure facing the public street

Glazing: a transparent part of a wall, usually made of glass or plastic

Grade: Ground level

Grain: see Fabric

Green building: buildings designed to reduce the overall impact of the built environment on human health and the natural environment throughout the building's lifecycle. Some design and material considerations which contribute to a green building include (1) the use of environmentally friendly products (e.g. sustainably harvested materials, materials made with a high percentage of recycled content etc.), (2) design that reduces material and energy consumption and promotes renewable energy generation (e.g. building orientation and location, passive solar heating and cooling, grey water or rain water recycling, solar thermal or PV installations), (3) design which considers occupant health (e.g. low VOC paints and glues), (4) design that reduces waste and pollution (e.g. limiting construction waste, recycling of demolition materials etc.), and (5) design which reduces contribution to the urban heat island effect through cool or green roofs, light coloured materials, and reduction in paved surfaces. A green building may incorporate some or all of these ideas. While green buildings are encouraged, they must still meet the provisions of the Building Code.

Green roof: provides recreational amenity, reduces storm water run-off, helps insulate buildings, reduces heat infiltration, filters rainwater and requires less energy to cool

Infrastructure: physical structures that form the foundation for development. Infrastructure includes wastewater and water works, electric power, communications, transit and transportation facilities, and oil and gas pipelines and associated facilities.

Landscaped buffer: a landscaped area along the perimeter of a lot that screens certain uses from one another or from the public street

Legibility: the ease by which an area can be understood and navigated by both its residents and the world at large

Light pollution: light created from excessive illumination, by unshielded or misaligned light fixtures, and by inefficient lamp sources, with health implications to humans and wildlife

Lot width: the horizontal distances between the side lot lines

Official Plan: the Official Plan of the City of Ottawa (2003) as amended from time to time

Pedestrian scale: a size (of building, space) that a pedestrian perceives as not dominating or overpowering

Permeability: the variety of routes and views through something that feels pleasant and safe

Private way: private driveways within a planned unit development that leads to a public street

Property line: the legal boundary of a property

Public Lane: a narrow street at the back of buildings, generally used for service and parking

Public realm: the streets, lanes, parks and open spaces (whether public or privately owned) that are free and available to anyone to use.

Public Streetscape: the overall character and appearance of a street formed by buildings and landscape features that frame the public street. Includes plants, lighting, street furniture, paving, public utilities etc.

Planned Unit Development: two or more residential use buildings on the same lot

Scale: the size of a building in relation to its surroundings and to the size of a person (see Pedestrian Scale)

Setback: the required distance from a road, property line, or another structure, within which no building can be located. Soft landscape: the area used for planting

Soft Landscaping: includes trees, shrubs, hedges, ornamental plantings, grass and ground cover

Street: a public street

Streetscape character: a streetscape with characteristics based on street age; building siting, landscape patterns and natural features

Streetwall: a line of buildings that frames the street

Style: architectural vocabulary and appearance; can reflect historic or modern

Urban Design: the art of making places; includes buildings, groups of buildings and the spaces between them

Walkway: walking area that connects the public sidewalk to the front door of a residence

8.0 Appendix: How Design Guidelines fit with the current Development Approval process

Many of the urban design guidelines can be implemented through the mechanisms available in the Planning Act. These mechanisms are applied, in part, through the City's Zoning By-law, through the review of Site Plan Control applications and through the variance and consent processes of the Committee of Adjustment.

In the area covered by the '**Downtown Ottawa Urban Design Strategy**', these guidelines will be implemented through the **Downtown Urban Design Review Pilot Project** which requires design review by a professional peer review group as part of the approvals process for all new developments within the design review pilot project area of the downtown.

The comprehensive **Zoning By-law** outlines what a parcel of land may be used for and regulates lot size, parking requirements and building height. Design guidelines will support the requirements under Zoning.

Site Plan Control is the City's process that is used to control or regulate the various features on the site of an actual development including building location, landscaping, drainage, parking, and access by pedestrians and vehicles.

Site Plan Control approval is exempted for detached, semi-detached, duplex and triplex buildings under the Site Plan Control By-law. For more information on Site Plan Control please refer to: http://ottawa.ca/residents/planning/dev_review_process/dev_application/17_3_5_en.html.

The **Committee of Adjustment** is a quasi-judicial tribunal appointed by City Council and is independent and autonomous from the City Administration. It derives its jurisdiction from the Planning Act of Ontario. The Committee's mandate is to:

- Hear Applications for "Minor Variances" - where a requirement of a Zoning By-law cannot be met (under Section 45 of the Planning Act).
- Hear Applications for Consent to "Sever" a property or for any agreement, mortgage or lease that extends for more than 21 years (under Section 53 of the Planning Act).
- Consider Applications for Permission, which deal with the enlargement or extension of a building or structure that is legally a non-conforming, or for a change in a non-conforming use.

The Design Guidelines in this document are a tool to guide development. Applicants will have regard for the guidelines as they prepare their submissions. The Committee of Adjustment will also have regard to the guidelines as they evaluate development applications.

For more information on the Committee of Adjustment, please consult the City's web site.

For a '**Consent (to sever) Application**' where an infill lot is being created, even if the lot conforms to the requirements of the Zoning By-law, the Planning and Growth Management Department may request specific conditions for the design of the building to be constructed on the lot. For example, the Committee can approve a severance with conditions imposed on that approval, such as the requirement for rights-of-way that will help achieve the design principles for the street as outlined in the guidelines.

The **Building Permit** stage is sometimes the only time an infill project will be reviewed by the City. For example, an infill project is only reviewed at Building Permit stage if it is exempt from Site Plan Control By-law 2002-4 as amended, if all other Zoning By-law provisions have been met, if it is not a Designated Heritage Building (or within a Heritage Conservation District under the Ontario Heritage Act) and if there is no requirement for a severance. The Building Code review process is technical only; therefore, Building Code Services has no authority to do a design review under the Building Code Act. If the building is a permitted use and complies with the Zoning By-law in terms of performance standards, there is no ability for the Chief Building Official to require that plans be modified to respond to design matters. Therefore, the design guidelines may not be applied when an infill project is only reviewed at the Building Permit stage. However, all proponents of infill projects are highly encouraged to consult these guidelines.

Cash-in-Lieu of Parking and Cash-in-Lieu of Parkland requires providing cash-in-lieu of providing parking spaces, and cash-in-lieu of providing lands for recreational uses, whichever may apply.

