



# TALL BUILDING GUIDELINES

Urban Design Guidance for the Site Planning and Design  
of Tall Buildings in Milton

May, 2018



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# 1.0 INTRODUCTION



Credit: Grant Lemons, unsplash.com

High-rise or tall buildings are an important component in the creation of higher density, mixed-use communities that are vibrant, walkable and transit supportive.

## 1.1 What is a Tall Building?

A tall building is substantially taller than other buildings in the community and represents a prominent feature on the skyline. Tall buildings are typically defined as high-rise buildings with height that is greater than the width of the adjacent street right-of-way or the wider of two streets if located at an intersection.

In Milton, however, right of way widths include 35.0m Arterials and 47.0m Regional Roads. A building 35m high would be approximately 11 storeys tall and a 47m building would be about 14 or 15 storeys. Yet for Milton, even a building of 9 storeys in height would be considered to be relatively tall. For this reason, the site specific context will be important in determining whether a building should be regarded as low, mid or high-rise. For mid-rise buildings, please refer to the Mid-Rise Design Guidelines companion document. These Tall Building Guidelines may be applied wherever a building appears tall in relation to its context.



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## 1.2 Preferred Locations for Tall Buildings

Higher density mixed use development is generally directed to the Urban Growth Centre. Additional mixed use development at higher densities is planned to occur within Secondary Mixed Use Nodes and Intensification Corridors, located at significant intersections and along major transit routes. Tall buildings are also encouraged at key locations within the urban area, especially at identified gateways and sites adjacent to major open space and institutional uses. Preferred locations will be close to the GO Transit Station and at the intersections of two Arterial Roads. In these strategic and key locations, building up instead of out, makes the best use of land and infrastructure and supports the growth of central and well connected neighbourhoods.



## 1.3 Purpose of the Tall Building Guidelines

By clarifying the Town's expectations for the design of tall buildings, it is intended that the guidelines should assist with the interpretation of Official Plan policies and provide a clear design direction for development proposals. These guidelines should be considered by developers preparing proposals for tall buildings in Milton at the outset. They will be used by Town of Milton staff to provide pre-application advice and during the review of development applications for tall buildings. The guidelines will also be a resource for the preparation of Area Specific Plans and design guidance. Implementation of the guidelines should also take into account and have proper regard to other relevant objectives, policies, standards, regulations and best practices as applicable.

While these Tall Building Guidelines present a number of key design principles, not all will apply equally in all circumstances. The specific site context must be analysed to inform the application and relevance of particular guidelines and to evaluate the appropriate scale, height, important views and other situational challenges and opportunities. Proposals for tall buildings shall be supported by an Urban Design Brief. The Urban Design Brief shall establish the contextual relationship of the proposed development to adjacent buildings, streets and areas. (For further information see the Town's Development Application Guidelines for Urban Design Briefs.) High rise buildings will often require detailed analysis of the microclimate, social setting, land use patterns, historic and architectural character, transportation, accessibility, community safety and Crime Prevention Through Environmental Design, services and the planned function of the area.



This schematic concept is used in Section 2.0 to illustrate the key design principles for tall buildings. It is not intended to represent a real world situation or an actual design response.





## 1.4 Guiding Principles: Opportunities and Challenges

Some of the opportunities and challenges associated with tall buildings suggest a number of guiding principles and influences for site planning and design:



### OPPORTUNITIES

#### INTENSIFICATION

Tall buildings can support healthy and sustainable communities by providing a critical mass of people close to jobs and transit.

#### ACTIVE TRANSPORTATION, TRANSIT AND NEW MOBILITY

Tall buildings with mixed uses, required parking and amenities, located close to transit & community services can help to reduce dependence on private automobiles.

#### MIXED USE

Tall buildings with mixed-uses can encourage sustainable lifestyles by allowing families and individuals to easily live, work, and play in the same locality.

#### LANDMARKS

Tall buildings can be iconic landmarks by punctuating the skyline and helping people to orient themselves in the town. Advances in design and construction enable built forms that are leaning, twisting, tapering and bending.

#### SUSTAINABLE DESIGN

Appropriately located and well-designed tall buildings can contribute to a sustainable future by using innovative building technologies, such as green roofs and renewable energy.

#### PUBLIC SPACE

Tall buildings can free up open space for other uses, such as parks or plazas, by fitting more homes on a smaller building footprint.

#### COMMUNITY BENEFITS

Height and density provisions can allow a building that is taller and higher density than originally permitted in exchange for various community benefits, such as public art, improved transit, day care facilities, or affordable housing.



### CHALLENGES

#### VIEWS AND VISTAS

Appropriately located and designed tall buildings can add visual interest to the skyline and frame new or existing views. But the impact in relation to views of the escarpment, historic landmarks, and the skyline must be carefully assessed.

#### TRAFFIC AND PARKING

In highly accessible locations, tall buildings can exploit opportunities for active transportation, transit and new mobility and may use flexible and innovative approaches for traffic demand management and parking. However, traffic and parking concerns arising from concentrating a higher number households on a site will need to be addressed in a Traffic Impact Study and Parking Justification Report.

#### TRANSITION TO SURROUNDINGS

By definition, tall buildings are usually taller than surrounding buildings and will assert their presence well beyond the boundaries of the actual site. However, tall buildings and the ground areas around them can integrate harmoniously with their surroundings provided that the design is in sympathy with and respects significant features and elements of the established neighbourhood.

#### PEDESTRIAN PERCEPTION AND COMFORT

Well separated slender towers stepped back from a podium base with shelter for weather protection, can have a human scale that contributes to pedestrian comfort and allows views of the sun and sky. To address concerns about pedestrian level perception and comfort, proposals will need to include photo-realistic street views, 3D modelling, wind-testing and sun shadow analysis.





Credit: Town of Milton



Credit: Town of Milton



Credit: Town of Milton

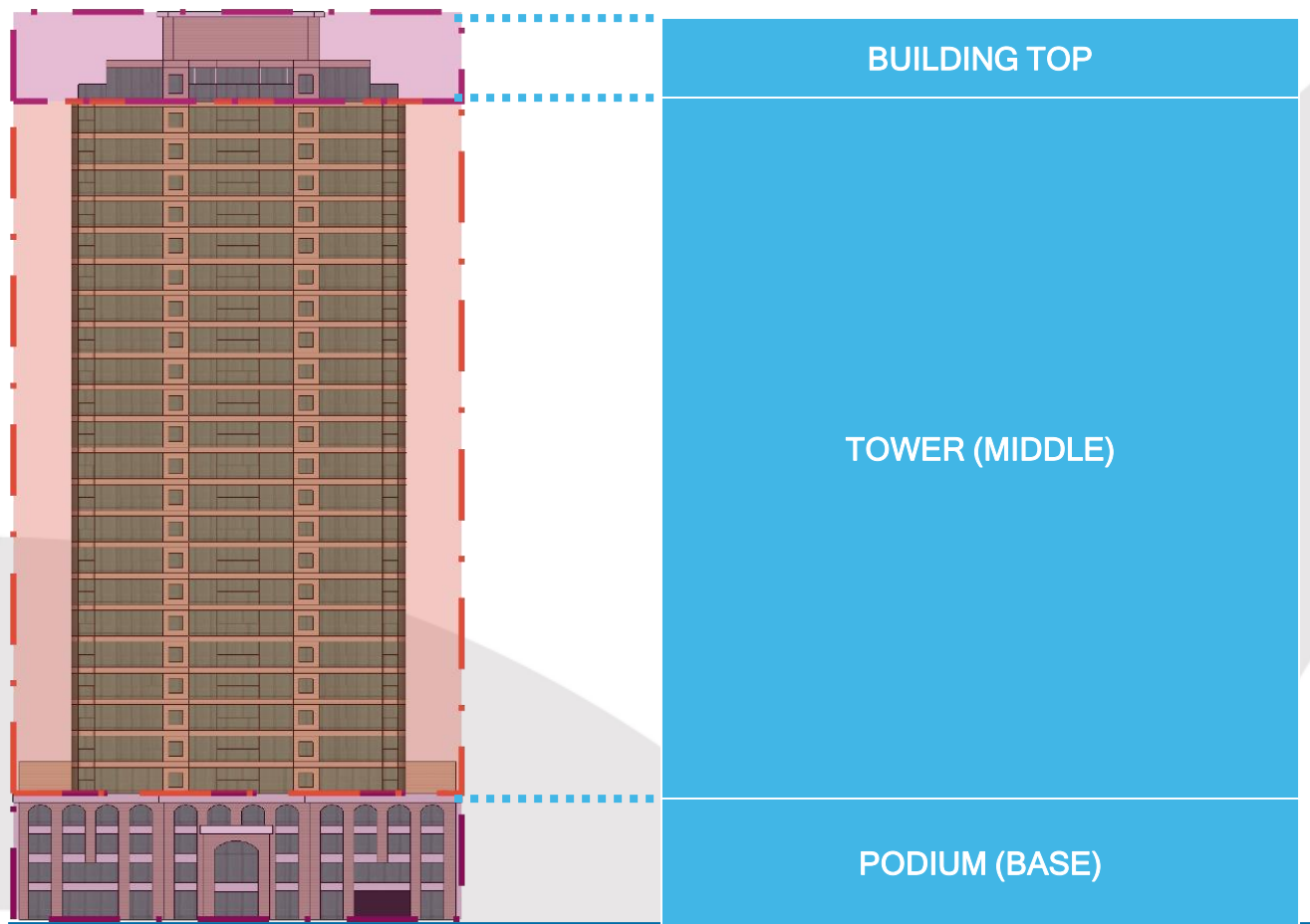


Credit: Town of Milton

Precedent examples of tall building design.



# 2.0 TALL BUILDING DESIGN



The built form and massing of a tall building has three main components that are integrated in the whole of the design. Depending on the design style, function, use and context there may be significant or subtle differentiation in the character or detailing of each of these segments.





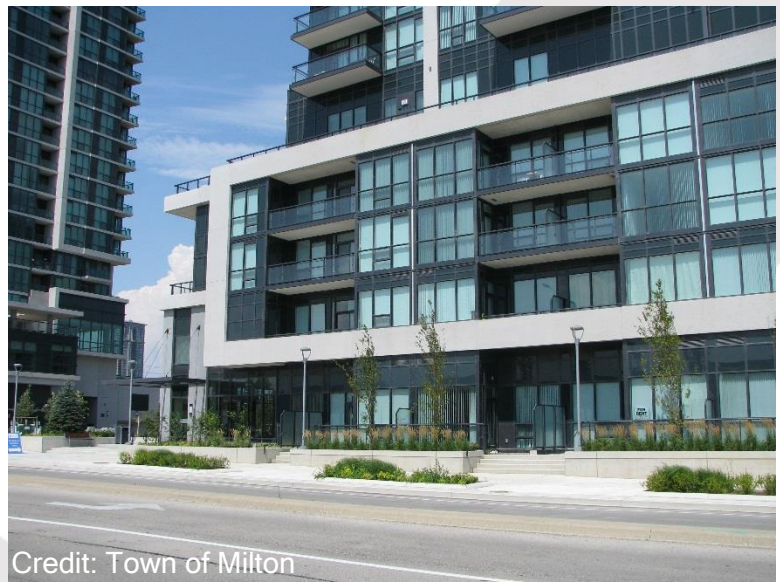
Credit: Town of Milton



Credit: Town of Milton



Credit: Town of Milton



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Credit: Town of Milton



Credit: Town of Milton

Precedent examples of podium design.



## 2.1. Podium Design



Credit: Town of Milton

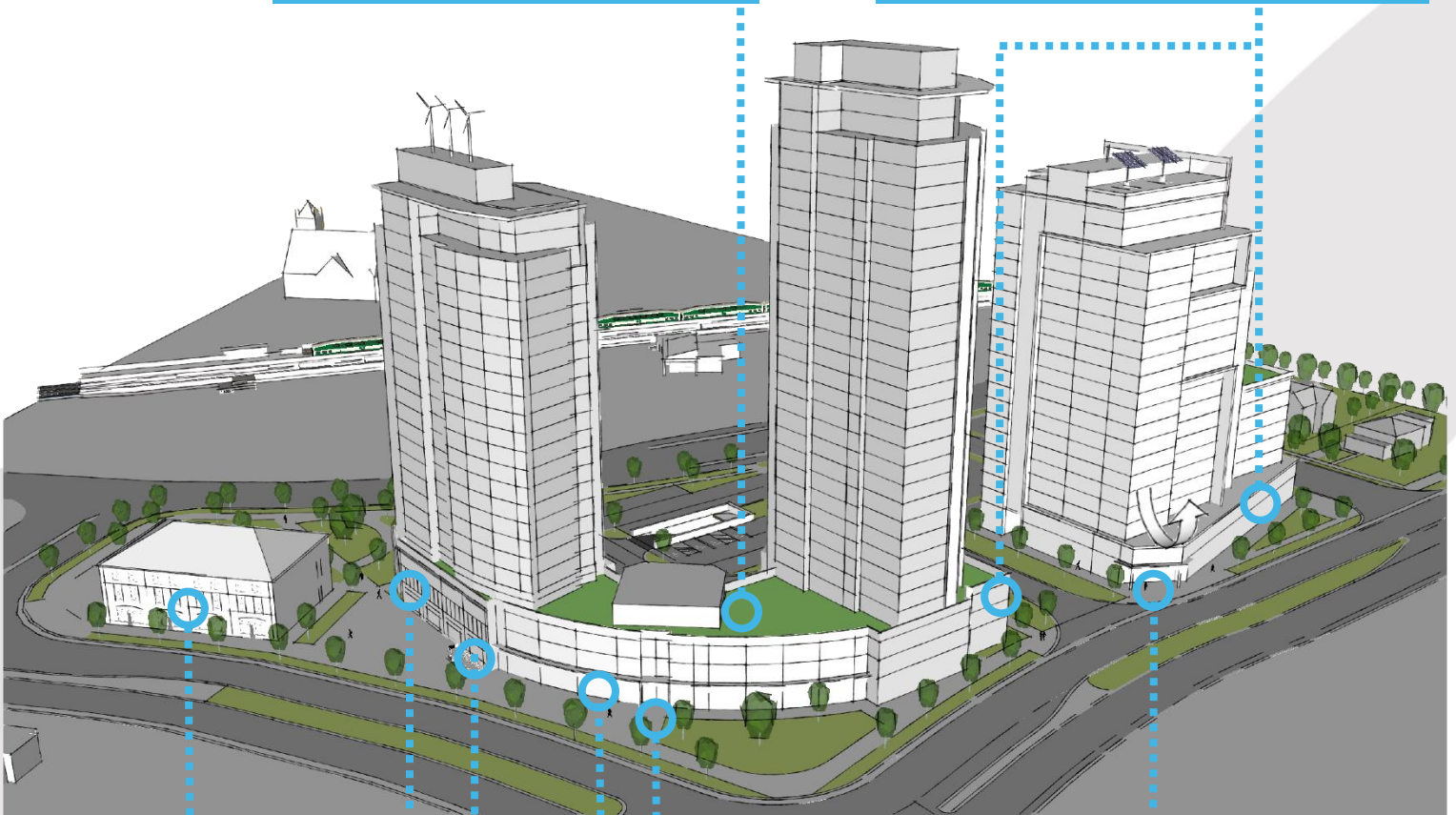
The podium (or building base) is the primary interface between the tall building and the surrounding streets and public spaces. It therefore has the greatest impact on how pedestrians interact with the building and how the building fits within the street level environment.

# PODIUM DESIGN

1

Green roofs on top of the podium. This creates opportunities for communal outdoor amenity space and environmental innovations such as rainwater harvesting.

Podium height and setback related to the surrounding context and road hierarchy. This contributes to street edge continuity and enclosure, thereby defining a human scaled and inviting street space.



Podium façade respects the scale, rhythm and proportions of nearby heritage buildings. This helps to maintain a locally distinctive character at street level.

In mixed-use areas, active uses and a high proportion of transparent windows and doors at street level. This helps to enliven the street.

Main entries oriented towards intersections, municipal sidewalks and transit stops. This supports pedestrian activity and visibility. Step backs and canopies or colonnades provide weather protection.

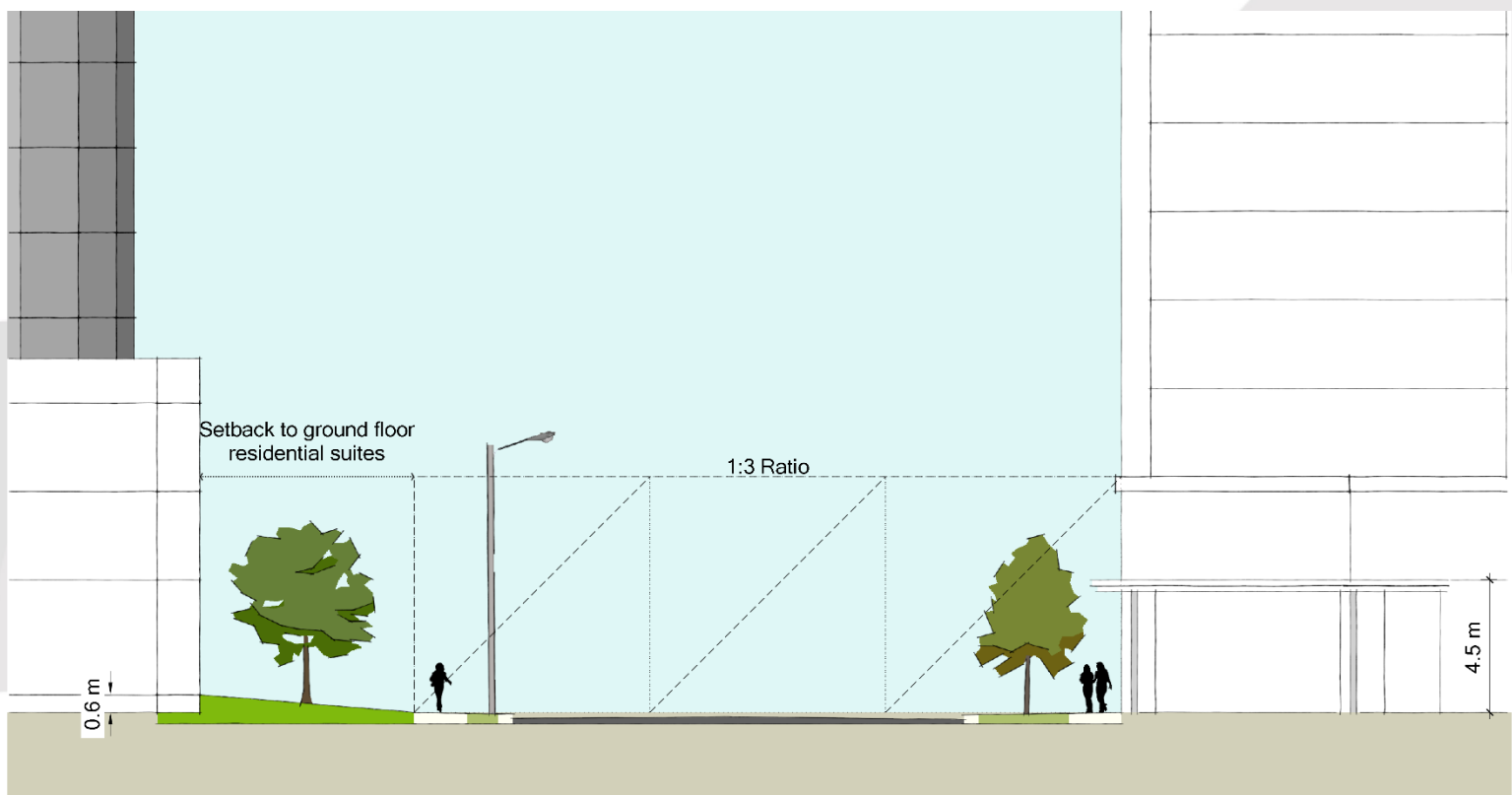
2

3

## Podium Design Notes

- 1 Where an area is in transition and there is no stable built form to which the new development will relate, the height of the podium should be proportional to the right of way width. A minimum height to width ratio of 1:3 is required to achieve perceived comfort and sense of enclosure for pedestrians. The maximum podium height will vary by location, but is not normally expected to exceed 4 to 6 storeys in order to achieve a satisfactory human scale.

In mixed use areas, the podium should be located at the back edge of the sidewalk with a minimal setback sufficient to accommodate a 3.0m + sidewalk width. Where appropriate, larger setbacks and recessed ground floors may accommodate wider sidewalks with awnings and canopies for pedestrian weather protection, plantings, street furniture, public art and patio dining. In residential streets, the setback will be sufficient to accommodate a landscape privacy zone and sidewalk connections to ground floor suites.



- 2 In mixed use areas, the floor-to-floor height of the ground floor should be a minimum of 4.5m to accommodate internal servicing and loading, and active commercial uses. For residential street fronts, ground floor suites should be raised 0.6m - 1.0m above grade to create a privacy separation from the sidewalk,
- 3 Various forms of shelter such as canopies, recessed entries and colonnades and step backs can all help to provide relief for pedestrians from the impact of downdrafts, gusts, eddies and inclement weather conditions. Wind testing and analysis of tall buildings will be necessary to evaluate the wind impact of the proposed tower and to ensure that the recommended design solutions are adequate.





Credit: Town of Milton



Credit: Town of Milton



Credit: Kyle Pearce, CC-BY-SA-3.0, Wikimedia Commons



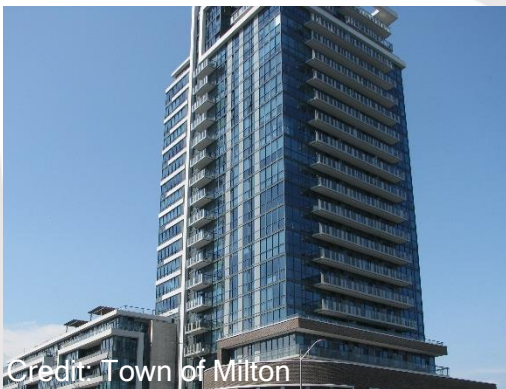
Credit: Town of Milton



Credit: Town of Milton



Credit: Town of Milton



Credit: Town of Milton



Credit: Grant Lemons, unsplash.com



Credit: Chris Barball's, unsplash.com

Precedent examples of tower design.



## 2.2 Tower Design



The tower (middle or shaft) is the most visually substantial and physically impactful component of a tall building. It will likely be a prominent and defining feature in the urban landscape. Particular attention will be given to tower design, modelling, and materials to create a unique, identifiable and interesting skyline.

# TOWER DESIGN

1

Heavier materials, such as metal or brick, provide architectural accents and features.

Tallest towers located closest to major intersections and/or transit facilities.

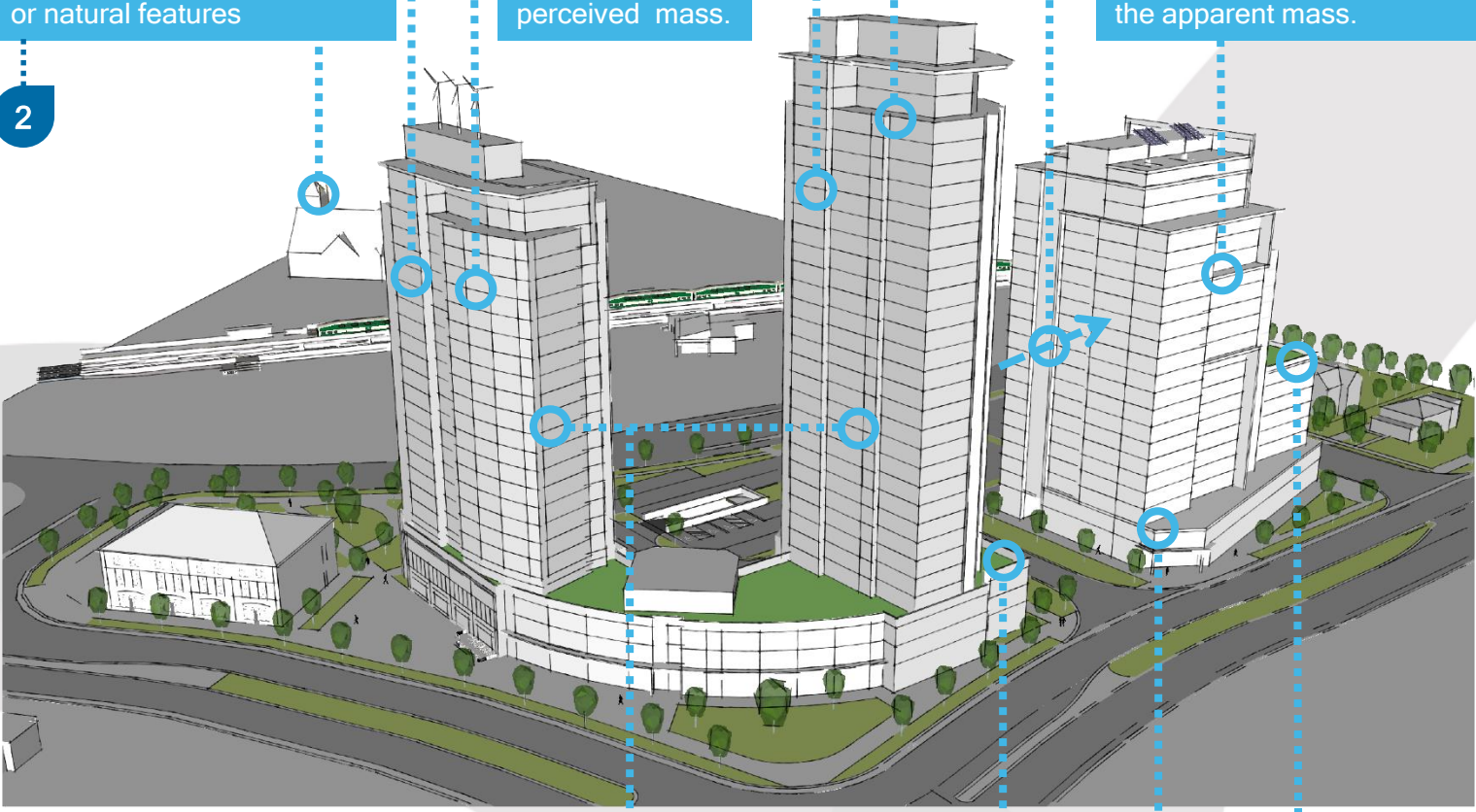
Slender floorplates and generous separation between towers (25m min.) maximizes views of the sky and minimizes cumulative sun shadow and microclimate impacts.

Towers positioned to preserve or frame important views of heritage landmarks or natural features

Lighter materials such as glass reduce the perceived mass.

Vertical and horizontal articulation. This creates visual interest and reduces the apparent mass.

2



Offset multiple towers in a single development. This creates a generous podium roof for outdoor amenity areas and added benefits for sky views, sun shadow and microclimate. A significant variation in height (at least 5 floors) contributes to a visually interesting skyline.

Towers stepped back above the podium. This clearly differentiates between the building base and the tower above and enhances pedestrian perception and comfort.

Building heights gradually stepping down towards low-rise areas provide a gentle transition in scale.

3



## Tower Design Notes

1

Slender point towers with compact floorplates are preferred in order to:

- Maximise views, light and ventilation for the interior spaces;
- Facilitate views of the sky and sunlight reaching outdoor spaces;
- Avoid the perception of a canyon effect along streets and sidewalks;
- Create narrow shadows that track quickly across the ground; and,
- afford opportunities for views and vistas of landmarks and natural features.

Between the 8<sup>th</sup> and 15<sup>th</sup> storeys, the floorplates (excluding balconies) should be less than 1000sq.m . Above the 15<sup>th</sup> storey, the floorplate should be less than 750sq.m or 40 linear metres measured diagonally.



2

The orientation of towers needs to balance shadow impacts with the protection of views and vistas of the Escarpment. Generally, a north-south orientation will reduce shadow impacts, but an east west orientation will have least impact on views and vistas. Therefore, the orientation of towers will need to be supported by a sun-shadow impacts study and a visual impacts study.

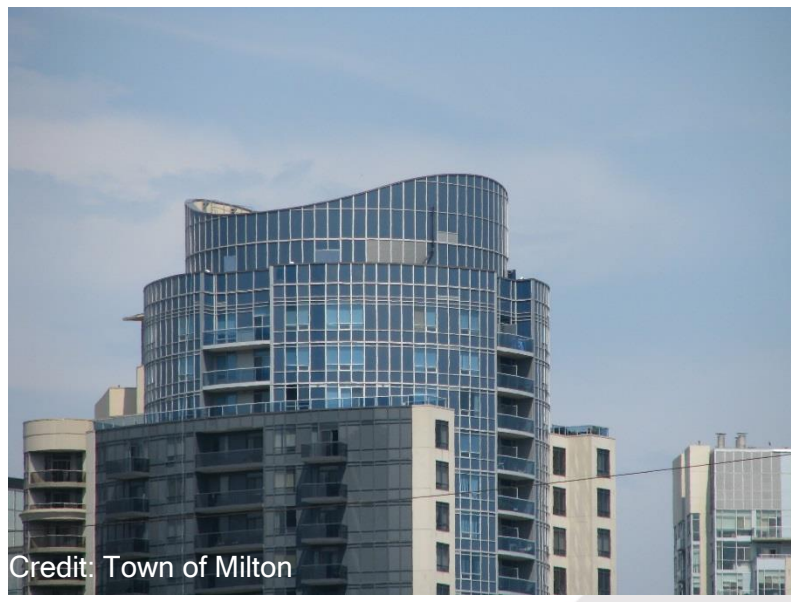
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Front, side and rear angular planes will be applied up to and including the 8<sup>th</sup> floor of a building in accordance with the Mid-Rise Guidelines companion document.

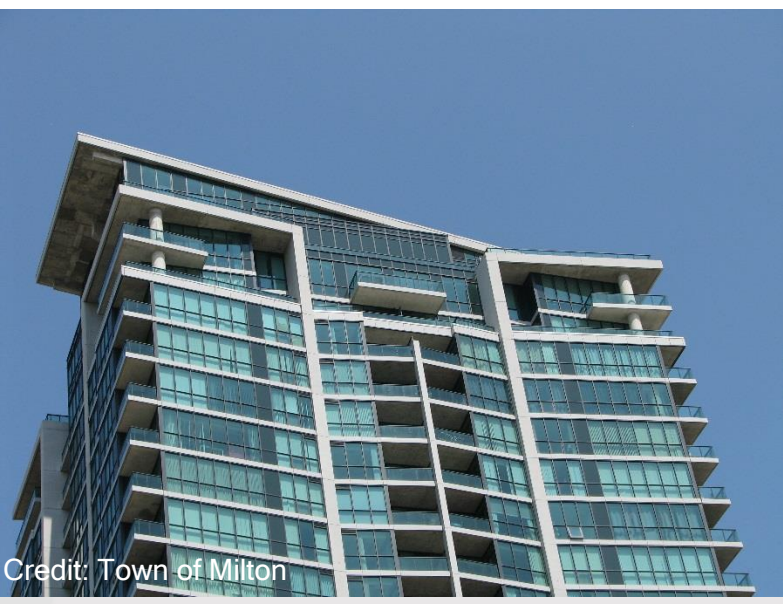




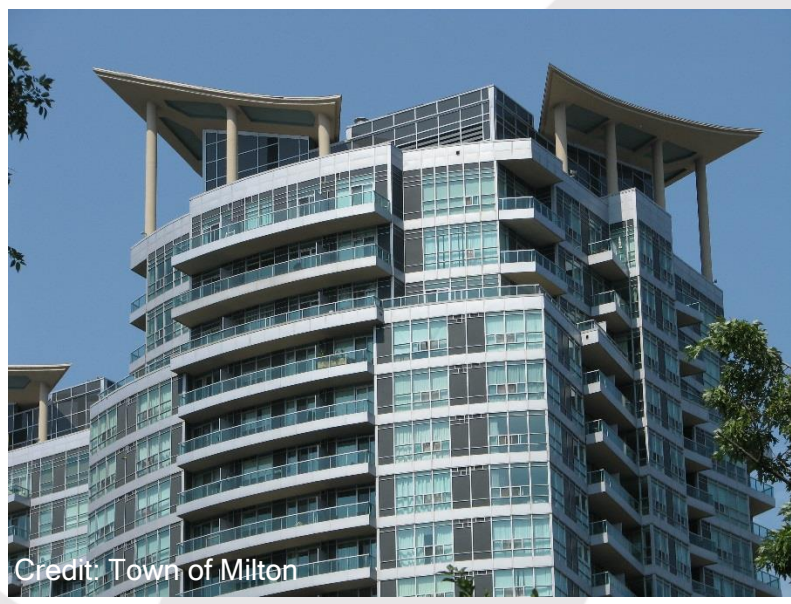
Credit: Town of Milton



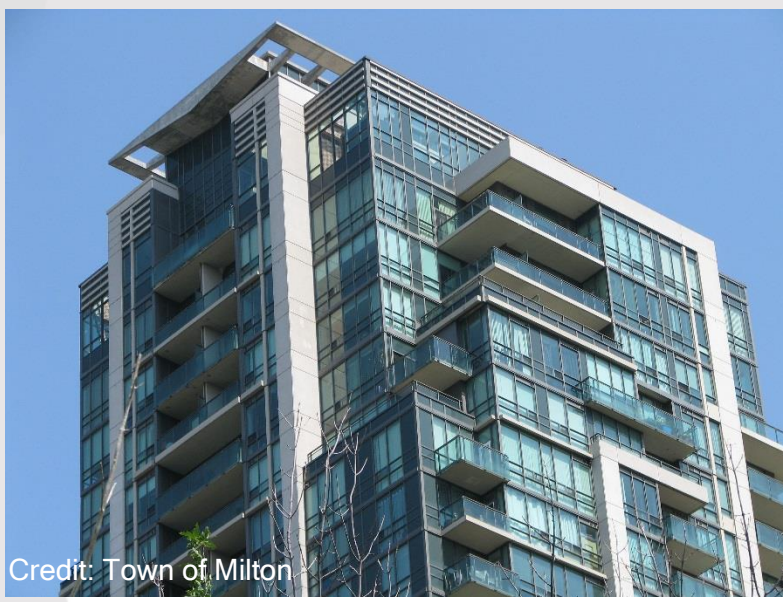
Credit: Town of Milton



Credit: Town of Milton



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Credit: Town of Milton



Credit: Town of Milton

Precedent examples of building top design.



## 2.3 Building Top Design



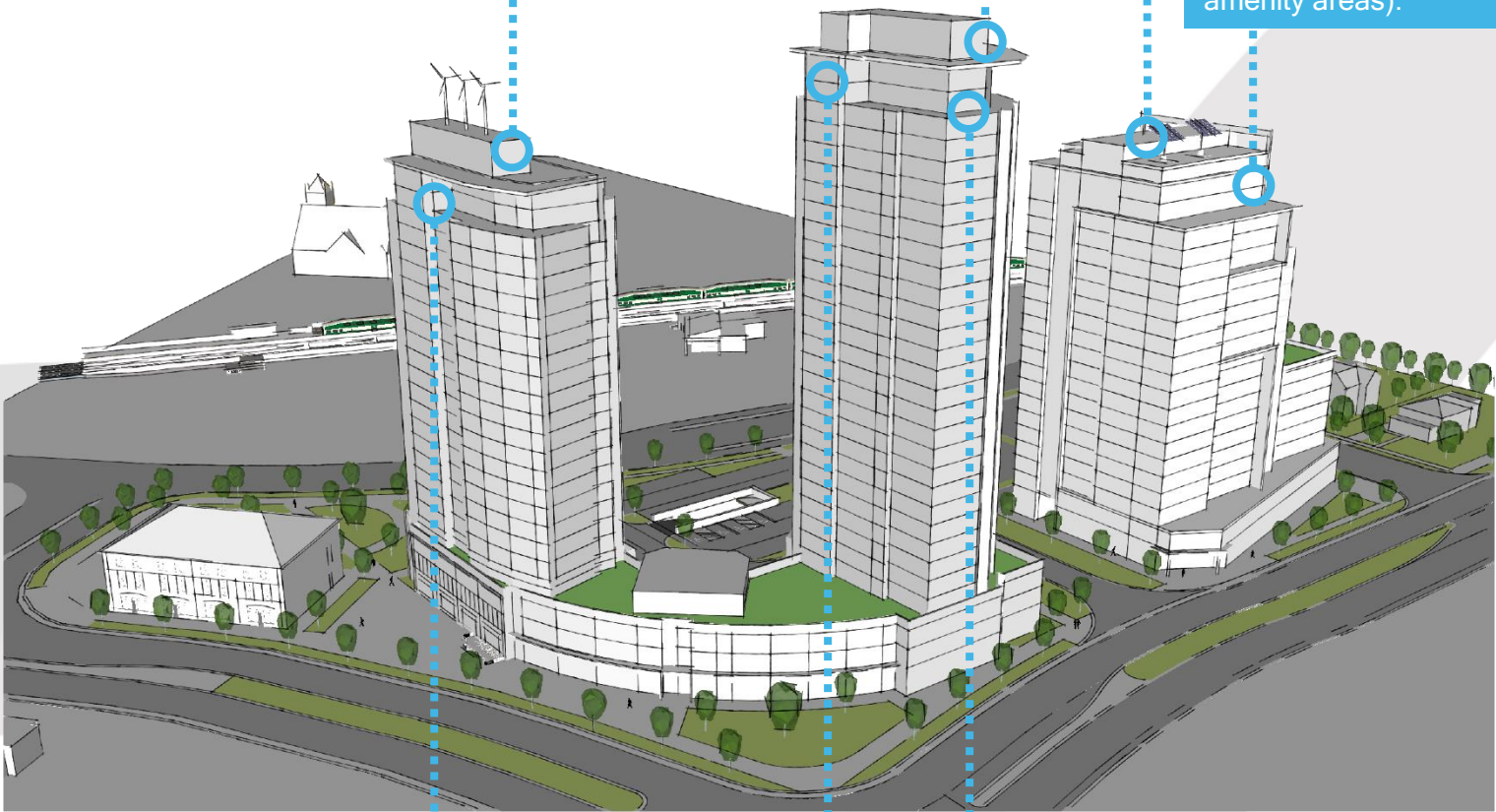
The top of the building terminates the tower and adds visual interest to the skyline. A unique design assists with wayfinding and orientation in the urban environment.

# BUILDING TOP DESIGN

Renewable energy technologies incorporated as part of a comprehensive approach to best practice sustainable design.

Mechanical equipment screened from view with materials to match the main building. Step backs and roof overhangs minimise the visual impact.

Rooftop mechanical equipment wrapped by suites or other habitable space (i.e. amenity areas).



Upper floors terminate the tower with a distinctive crowning feature, integrated with the overall design.

Vertical features and accent materials integrate the upper floors with the tower below.

Horizontal articulation and lighter materials differentiate the upper floors.

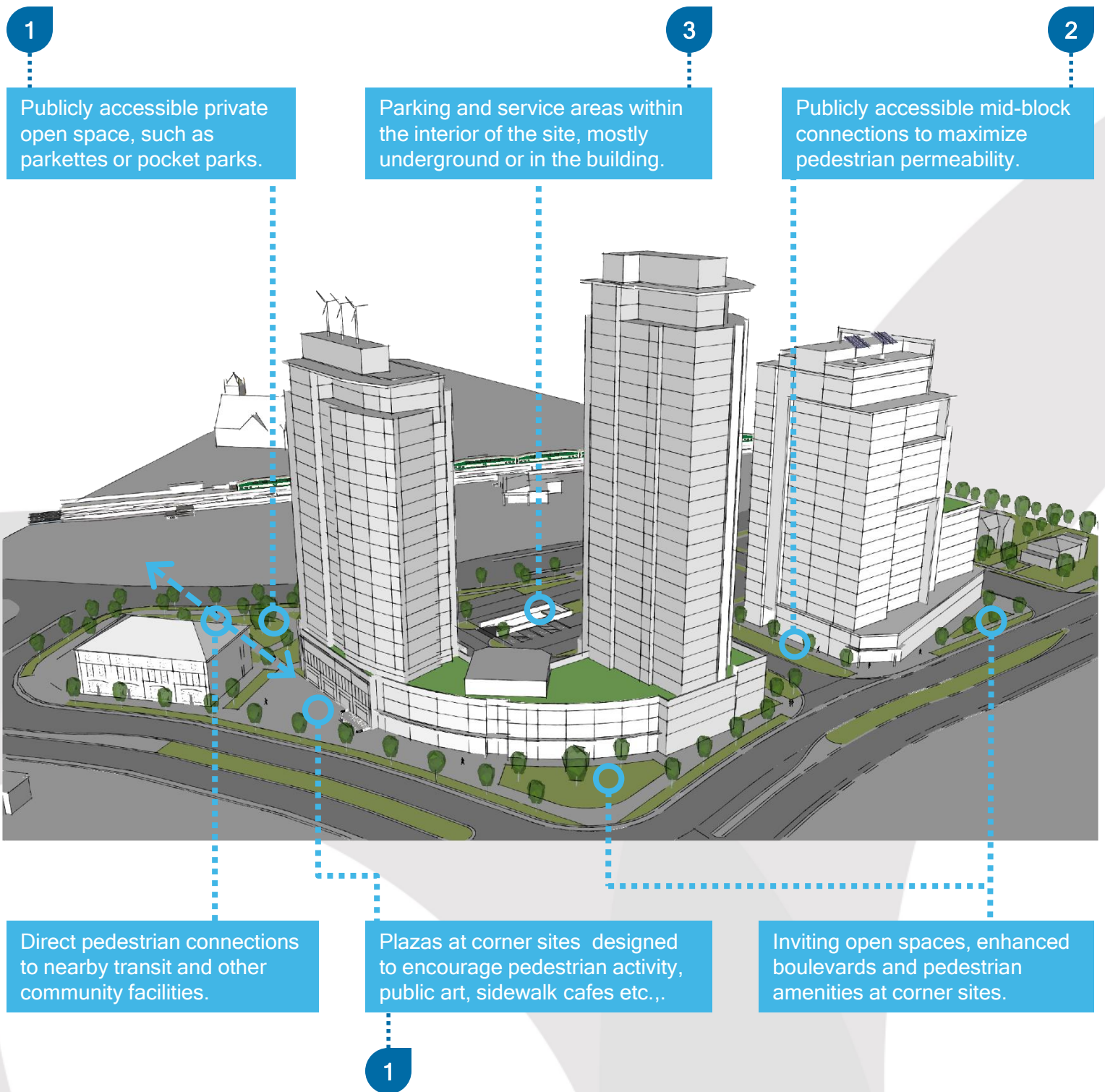


## 2.4 Public and Private Open Space



Public and private open space includes the municipal sidewalk and boulevards within the right of way, publicly accessible open space such as plazas and parkettes, parking and servicing areas and private open amenity space. These should be seamlessly integrated to maximize pedestrian permeability and accessibility.

# PUBLIC AND PRIVATE OPEN SPACE





# Public And Private Open Space Notes

1 Publicly accessible private open space, public art and other community benefits will be encouraged through height and density bonussing (i.e. Section 37 of the Planning Act).



Credit: Mtaylor848, CC



Credit: Matt Quinn, unsplash.com

2 Mid-block pedestrian connections with or without vehicle access should be provided where block lengths exceed 90m. The building may bridge over the mid-block accessway, in the form of a breezeway, if preferred to achieve street wall continuity.



3 Surface parking areas should generally be limited to barrier-free parking, visitor parking, drop-off zones and loading/unloading.







