



U R B A N
D E S I G N
B R I E F

BLACK CREEK GROUP
3, 5, 7, AND 11 MCDONALD STREET,
17 SOPHIA STREET AND 58 AND 60
CLAPPERTON STREET
CITY OF BARRIE

APRIL 2022
WESTON FILE#10228

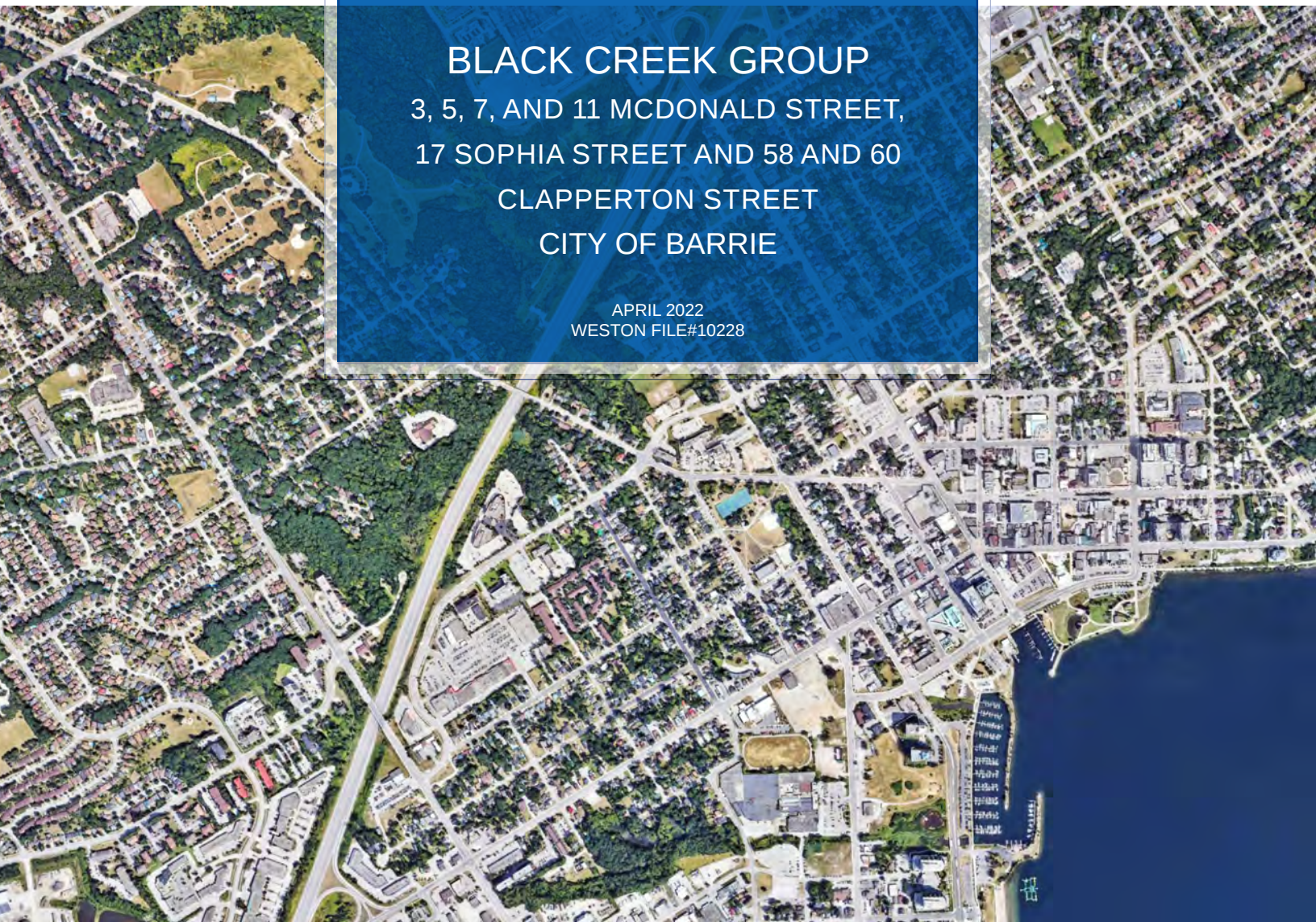


TABLE OF CONTENTS

- 1. INTRODUCTION 4
- 2. CONTEXT 6
 - 2.1 The Site 7
 - 2.2 Surrounding Context 7
- 3. POLICY CONTEXT 10
 - 3.1 City of Barrie Official Plan 11
 - 3.2 City of Barrie Urban Design Manual 22
 - 3.3 Intensification Area Urban Design Guidelines 27
- 4. DESIGN. 36
 - 4.1 Site Design 37
 - 4.2 Access and Circulation 38
 - 4.3 Parking and Servicing 39
 - 4.4 Built Form and Massing 40
 - 4.5 Architectural Detailing 43
 - 4.6 Public Realm and Landscaping 44
 - 4.7 Sustainability and Micro-Climate 47
- 5. SUPPORTING STUDIES. 48
 - 5.1 Shadow Study 49
- CONCLUSION. 61

LIST OF FIGURES

Figure 1: Aerial of Proposed Development Site Location	5
Figure 2: Context Map: 400m - 800m	8
Figure 3: BOP 2018 Schedule A: Land Use	11
Figure 4: BOP 2022 Map 1: Community Structure	17
Figure 5: Intensification Typologies (Mixed-Use Main Streets)	28
Figure 6: Site Plan, prepared by Studio JCI	37
Figure 7: Proposed Ground Site Plan, prepared by Studio JCI	38
Figure 8: Proposed Parking Level 1, prepared by Studio JCI	39
Figure 9: Aerial View - northeast, prepared by Studio JCI	41
Figure 10: Aerial View - southwest, prepared by Studio JCI	42
Figure 12: Rendering of Proposal, West, prepared by Studio JCI	43
Figure 11: Rendering of Proposal, North, prepared by Studio JCI	43
Figure 13: Rendering of Proposal, East, prepared by Studio JCI	43
Figure 14: Landscape Plan, prepared by Land Art Design	44
Figure 15: Landscape Renders, prepared by Land Art Design	45
Figure 16: Landscape Renders, prepared by Land Art Design	46
Figure 17: Shadow Study - April	52
Figure 18: Shadow Study - June	54
Figure 19: Shadow Study - September	56
Figure 20: Shadow Study - December	58

LIST OF TABLES

Table 1. Proposed Development Statistics	37
--	----

1 INTRODUCTION

This Urban Design Brief [herein referred to as the 'Brief'] has been prepared by Weston Consulting on behalf of 2850124 ONTARIO INC. (Black Creek Group) to illustrate the proposed design for the construction of a high-rise, mixed-use development located at 3,5,7,11 McDonald Street, 17 Sophia Street, and 58 and 60 Clapperton Street in the City of Barrie [herein referred to as 'the site']. The development proposes one 21 storey building, consisting of a 4-storey podium and tower.

This Brief is in support of applications for a Zoning By-Law Amendment to permit the proposed development on the site. The Brief provides a discussion of key urban design principles concerning the proposal. These include a policy overview of applicable policies contained within the Barrie Official Plan 2018 [BOP 2018], the New Official Plan [BOP 2022], the City of Barrie Intensification Study [2009] in relation to the site's location within the Urban Growth Centre [UGC], the Intensification Area Urban Design Guidelines [2013] and the City of Barrie Urban Design Manual [updated 2014].

This Brief is to be read in conjunction with the Planning Justification Report also prepared by Weston Consulting in 2022. A number of reports and studies have been prepared in support of this application, including:

- Architectural Plans, dated April 14, 2022;
- Landscape Plan, dated April 12, 2022 ;
- Sun/Shading Study, dated February 24, 2022;
- Traffic Impact Study, Parking Justification Study, dated April 2022;
- Pedestrian Wind Impact/Microclimate Study, dated April 13, 2022;
- Functional Servicing and Stormwater Management Report, dated April 12, 2022;
- Tree Inventory, Assessment and Preservation Plan and Report, dated February 2022;
- Hydrogeological Study, dated April 12, 2022; and
- Topographical Survey, dated March 5, 2021.



Figure 1: Aerial of Proposed Development Site Location

2 C O N T E X T

2.1 THE SITE

The site is located in the City of Barrie at the intersection of Sophia Street, McDonald Street and Clapperton Street. McDonald Street leads into Sophia Street East to the west. Directly north of the site is a small landscaped traffic island, segregating the roads of Clapperton Street, Sophia Street East and McDonald Street. The site is located in the northeast corner of an urban block which is a-irregularly shaped. The site consists of seven existing parcels of land. The consolidated site has approximately 64.6m of frontage along McDonald Street with a combined lot area of 3,045.8m².

2.2 SURROUNDING CONTEXT

Amenity

The Downtown Barrie Public Library is located approximately 200m from the site to the east. The Library provides a range of services and community facilities, including computing labs, programs for seniors, teens and newcomer services, and room rentals. There is a future YMCA across the Clapperton Street adjacent to the library.

The site is within the downtown, where a number of places of worship, commercial services and public services are located. There are at least four child care facilities located within a walking distance (800m) of the site, within walking distance.

Parks

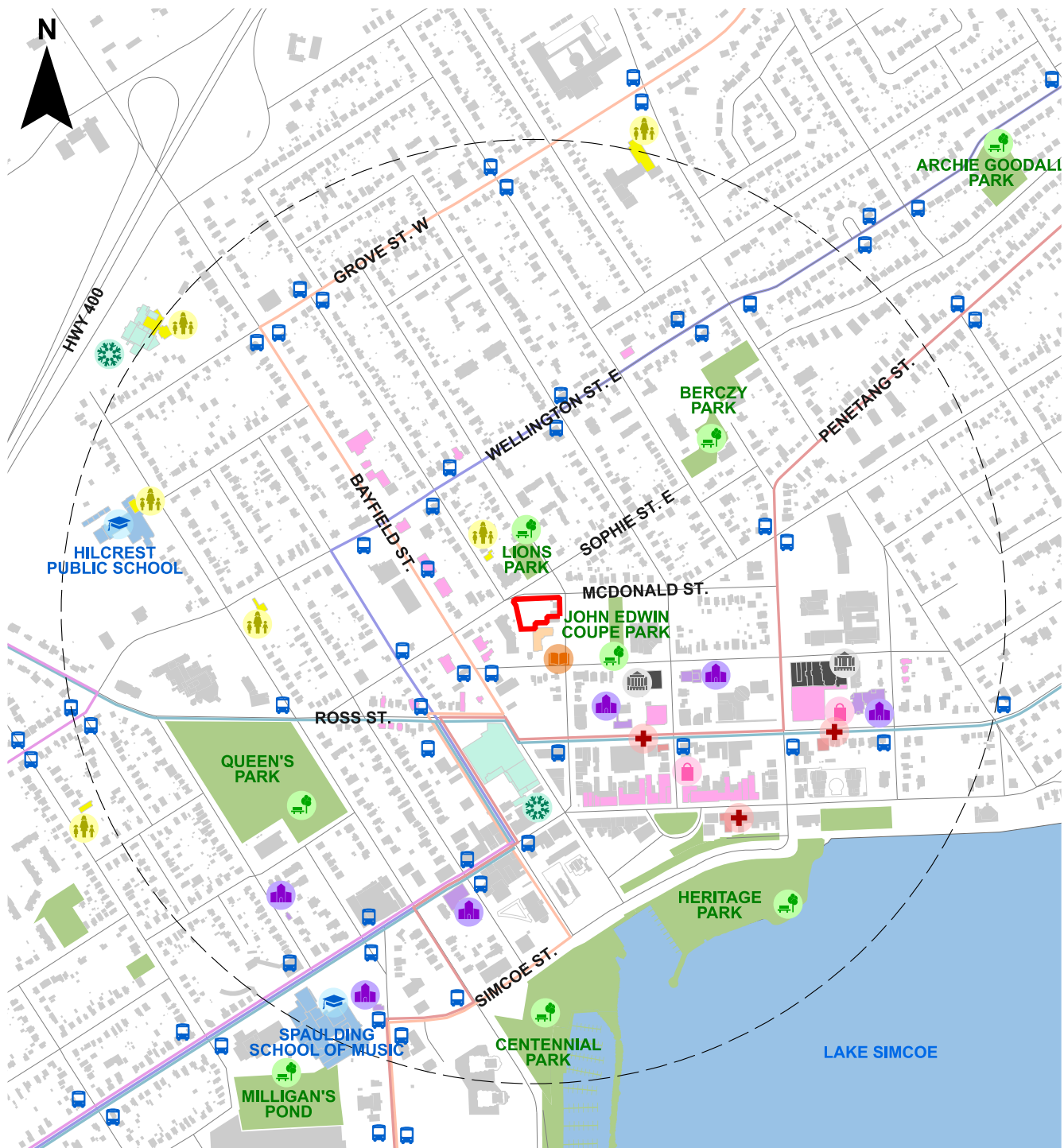
To the north of the site is Lions Park. Lions park is public, and offers seating, treed areas and surfaced sporting areas including a half-size basketball court. A number of additional parks and parkettes are located in proximity of the proposed development. Queens Park to the west and Berczy Park to the north offer a number of recreational opportunities. The site is also within walking distance of the waterfront parks of Centennial Park and Heritage Park, featuring broad vistas of Lake Simcoe, seating and public art. John Edwin Coupe Park is located to the southeast.

Existing Built Form and Uses

Uses within the block currently include a number of commercial services, such as a cleaners, a jewelers, a U-Haul and other domestic goods suppliers. A 7-storey apartment building, the Coral Living Centre, is located directly to the west of the proposed development site. The parking for this facility is contained underground.

A number of single detached dwellings are located in the blocks to the northeast and northwest of the site. The blocks immediately to the south and east contain a high proportion of surface parking, with few buildings. The block to the east contains parking associated with the Barrie Public Library Downtown Branch. To the west fronting Bayfield Street is a small plaza with take-out restaurants and a convenience store.

The built form character of the area is generally low-rise and mid-rise. These include single-family dwellings and strip plaza commercial buildings. Commercial buildings fronting onto major streets do not typically reinforce the street wall and are sited in a manner which does not encourage pedestrian access.



LEGEND

- Subject Property
- - 400m Radius
- - 800m Radius

Active Transportation

- Line 5
- Line 6
- Line 7
- Line 8
- Line 100

Amenities

- Park
- Place of Worship
- Child Care Facilities
- Recreational Facilities
- School
- Commercial / Retail

- Health Care Facilities
- Libraries
- Government Facilities

Figure 2: Context Map: 400m - 800m

Transit and Active Transit

McDonald Street and Sophia Street are designated as *Minor Collectors* as per the BOP 2018 and BOP 2022. Highway 400 is located to the north and can be accessed via Bayfield Street interchange. The site is well-served by several bus routes which connect to important destinations in the City. These bus stops can be accessed within walking distance of the site along Bayfield Avenue and Maple Avenue. Destinations include the GO Transit Stations of Barrie South and Allendale Waterfront which provide access to other destinations in the GTA, including Toronto Union Station. Other routes connect the site to public amenities in the surrounding area, including Georgian College, Georgian Mall and the Waterfront. The following routes currently serve the site:

- Route 100A/B
- Route 1
- Route 4
- Route 7

Sophia Street has a public sidewalk on both the north and south sides of the right-of-way and west of the landscape island. The sidewalk is buffered from the road by a landscape strip, setting the walkway back from the curb. The sidewalk currently provides direct access to bus stop links in the local area. The Barrie Public Library can also be accessed via the municipal sidewalk directly from the site. There will eventually be a future road widening but a new sidewalk will be constructed and will connect to library.

Active Development Context

There are a number of active developments in the nearby vicinity. Development trends indicate an increase in height, density and mix of uses.

To the northwest of the site is a vacant lot currently subject to plans for the construction of a mid-rise apartment building [B]. Further to the northwest at the intersection of Sophia Street West and Bayfield Street is an application for a 34 storey, mixed-use apartment building [C]. To the east, a development application is underway to permit a 20 storey mixed-use building, west of the Worsley Street and Owen Street intersection [A]. For an extensive list of nearby development applications please see the enclosed Planning Justification Report.

A: 55–57 McDonald St, 61–67 Owen St, & 70–78 Worsley St.

A 20-storey Mixed-use building containing 278 residential units and 950 square metres of ground floor commercial space, together with underground and structured parking.

B: 113 & 117 Bayfield Street and 6, 8 & 12 Sophia Street East

The purpose of the Zoning By-law Amendment Application is to rezone the lands from Transitional Centre Commercial to Residential Apartment Dwelling Second Density with site-specific provisions, to permit the development of an eight storey apartment building that will contain 108 residential units.

C: 136 & 112 Bayfield Street, 14 Sophia Street West, and 113 & 115 Maple Avenue

The proposed Zoning By-law Amendment would facilitate the development of a 12-storey mixed use condominium building with ground floor commercial uses and 8 townhouse units, for a total of 300 units.

3

P O L I C Y C O N T E X T

3.1 CITY OF BARRIE OFFICIAL PLAN

The City of Barrie Official Plan 2018 [BOP 2018] which is currently in-effect, provides guidance for consideration of land use changes, the provision of public works, actions of local boards, municipal initiatives, and the actions of private enterprise. It gives direction for implementing by-laws, guidelines for more detailed planning and the means for controlling growth so that the City's capacity to provide a healthy community environment is not exceeded.

In accordance with Schedule A - Land Use of the BOP 2018, the subject property is designated as "City Centre". The City Centre Planning Area consists of the traditional central business district in the form of the historic downtown as well as some of the City's older residential areas. The City recognizes the downtown as a strategic priority and has completed both a revitalization plan and a community improvement plan under the Planning Act as a means of focusing community interest and investment. City, private and public/private partnerships are intended to encourage the land use, infrastructure and linkages with the waterfront necessary to realize the role and potential of the City Centre to a growing and more geographically extended population.



Figure 3: BOP 2018 Schedule A: Land Use

Schedule C - Defined Policy Areas and Schedule I - Intensification Areas of the BOP 2018 designates the subject property within "Urban Growth Centre" and "Height Review Study Area". In accordance with Policy 4.2.2.6 (b), residential intensification is encouraged in a number of general locations in the City and shall be focused in the Urban Growth Centre, Intensification Nodes, Intensification Corridors, and the Major Transit Station Areas identified on Schedule I of this Plan.

BOP 2018 Section 6.5 Urban Design Guidelines

The goals of this section is to:

- a. *To provide, through urban design policies and guidelines, a framework for the development and maintenance of a healthy, safe, convenient, efficient and aesthetically pleasing urban environment.*
- b. *To initiate an overall visual improvement program for the Planning Areas with emphasis on the Defined Policy Areas and major entrances to the City through public works programs incorporating such matters as boulevard landscaping, street furniture, lighting, signage, sidewalks and park/plaza development. (Mod G (m))*
- c. *To provide guidelines for environmentally sensitive development or redevelopment proposals that minimize disruption to significant natural heritage features and utilize existing vegetation where possible.*

BOP 2018 Section 6.5.2.2 General Design Guideline

In accordance with Section 6.5.2.2.(a), the building and siting condition should incorporate the following conditions:

- i. *Buildings should be designed to complement and contribute to a desirable community character in terms of massing and conceptual design.*
- ii. *The design of a building's roof should screen mechanical equipment from public view and contribute to an attractive streetscape.*

- iii. *Large exposed blank walls should be avoided. All visible sides of a building should be finished and treated similarly to the front. Where exposed walls exist, screening through landscaping should be encouraged.*
- iv. *Building entrances should be well-defined and accessible to pedestrians and the handicapped persons with disabilities.*
- v. *Pedestrian links should be designed to promote the safety of the user and be fully accessible between the commercial and residential properties.*
- vi. *Corner locations should emphasize the building, not the car, as the dominant feature of the site. Setbacks at these corner locations should accommodate space for landscaping, pedestrian amenities and interesting architectural features.*

Section 6.5.2.2.(b) provides the guidelines regarding parking areas including:

- i. *Linking parking areas, driveways and access points should be encouraged to reduce the number of turns onto and off the major road. These mutual entrances will be encouraged and clearly identified.*
- ii. *Adequate disability parking spaces will be provided where required.*
- iii. *Major parking, loading and delivery areas, as well as garbage enclosures should be confined to the rear of the buildings.*

Section 6.5.2.2.(c) identifies the policies regarding Landscaping. In accordance with the policies of this section:

- i. *Minimum planting strips in accordance with the Urban Design Manual shall be provided along the street frontage and should contain planting materials and street furniture (lighting, seating and bus shelters) consistent with any themes established by the municipality.*
- ii. *Landscaping should seek to utilize native vegetation, and water conservation practices wherever feasible.*

Section 6.5.2.2.(g) outlines the guideline for Energy Efficient Urban Design:

- i. *Energy efficiency shall be encouraged through community, site, and building design measures that use energy efficient building materials, energy conserving landscaping, building orientation that uses shade and sunlight to advantage, panels for solar energy, appropriate lighting, “green” roofs, and other methods.*
- ii. *In reviewing development applications, the City may request a report on energy efficiency with the objective of achieving a high level of energy conservation in a sustainable manner.*
- iii. *The maintenance and upgrading of existing buildings to increase energy efficiency is encouraged.*
- iv. *Energy efficiency is promoted through the development of a compact urban form that encourages the use of transit, cycling, and walking, a mix of housing and employment uses to shorten commuting trips, and focusing major developments on transit routes.*

BOP 2018 Section 6.5.2.3 City Centre Guidelines

As mentioned earlier according to Schedule A - Land Use of the BOP 2018, the subject property is within “City Centre” area. Section 6.5.2.3 of the BOP 2018 provides the design guideline for this area:

- a. *In addition to the General Design Guidelines of Section 6.5.2.2, development and redevelopment within the City Centre will be guided by recommendations of the Next Wave Revitalization Plan, the Downtown Commercial Master Plan, the applicable sections of the Waterfront Open Space Master Plan and Urban Design Studies to be prepared for the Downtown.*

- b. *New development shall be of high quality design to maintain and enhance the Downtown’s image as an enjoyable, safe, accessible, pedestrian-oriented place, and designed and built to complement pedestrian activity and historical attributes.*
- c. *Buildings and public areas shall be designed to consider pedestrian scale, comfort, safety and access.*
- d. *Development proposals shall take into consideration protection of view sheds to the lake from prominent landmarks, gateways and public spaces within the City Centre and similarly shall consider protection views of the City skyline and views to important landmarks and public spaces in the City Centre, so as to enhance visual connectivity to the City Centre when viewed from the bay and waterfront open space area.*
- e. *Street furniture such as garbage bins, bike racks, benches, street lamps, tree lighting, banners and sidewalks, crosswalks, bike paths, signage and landscaping shall achieve a high standard of design and be located to link the Downtown and the waterfront in a consistent manner.*
- f. *New development shall be encouraged to locate all utilities underground, where feasible, or in locations that do not visually detract from the Downtown.*
- g. *Site-specific urban design studies may be required as part of a development proposal to investigate and recommend a design for compatibility with surrounding uses, micro-climate effects, pedestrian safety, and issues of human scale and views.*
 - i) *Energy efficiency shall be encouraged through community, site, and building design measures that use energy efficient building materials, energy conserving landscaping, building orientation that uses shade and sunlight to advantage, panels for solar energy, appropriate lighting, “green” roofs, and other methods.*

- ii) *In reviewing development applications, the City may request a report on energy efficiency with the objective of achieving a high level of energy conservation in a sustainable manner.*
- iii) *The maintenance and upgrading of existing buildings to increase energy efficiency is encouraged.*
- iv) *Energy efficiency is promoted through the development of a compact urban form that encourages the use of transit, cycling, and walking, a mix of housing and employment uses to shorten commuting trips, and focusing major developments on transit routes.*

BOP 2018 Section 6.6 Tall Buildings and Height Control

The policies contained within Section 6.6 will be applicable to any building proposed to be greater than three (3) storeys in height.

Section 6.6.3 provides the general policies regarding tall buildings and height control including:

- a. *Innovative architectural design will be encouraged to reduce the visual and physical impact of height on the adjacent pedestrian realm, including design features such as tower and podium configurations or other design measures.*
- b. *Tower design featuring floor plate sizes that result in slimmer buildings, along with other innovative design solutions which assist in reducing the visual and physical impact of tall buildings, will be preferred over slab style building design where important views need to be protected.*
- c. *Where tall buildings are proposed adjacent to existing tall buildings, or where multiple tall buildings are proposed on the same property, sufficient separation distance (as detailed in Zoning By-law) will be provided between towers in order to maintain privacy, access to light,*

and views of the sky. Proposals for tall building developments are expected to include a rationale on the appropriate separation distance between adjacent towers.

- d. *Where possible, parking areas, site servicing, loading areas, and building utilities should be located towards the rear of buildings with appropriate screening. The use of underground parking is strongly encouraged in place of above-ground structured or surface parking. Where aboveground structured parking is proposed, at least 60 percent of the property frontage, and flankage in the case of corner lots, will consist of residential or commercial uses.*
- e. *Tall buildings directly contribute to the look and feel of the City's architectural styles. Accordingly, tall buildings will be held to a high standard of design excellence by using quality urban design, architectural treatments, and building materials in order to promote a visually interesting skyline.*

BOP 2018 Section 6.6.4

In accordance with Section 6.6.4 (a) Building Shadowing should consider the following:

- i. *Tall buildings will be designed to best mitigate the impact of shadows on public parks and open spaces, private amenity areas, and surrounding streets, throughout the day. Development applications located adjacent to the open space waterfront areas surrounding Kempenfelt Bay shall be designed to minimize the impacts of shadowing particularly between March 21 and September 21.*

ii. *Buildings will make use of setbacks, stepping provisions, and other such design measures in order to reduce shadow impacts. Towers will be positioned on sites to reduce the extension of shadows onto surrounding areas. Appropriate spacing will be provided to allow for adequate sunlight and views of the sky between adjacent building towers.*

Section 6.6.4 (c) identifies the policies regarding Microclimatic Impact:

- i. *Tall buildings will be designed to minimize adverse microclimatic impacts in order to foster a comfortable pedestrian realm at the street level. Microclimatic impacts may include the effects of wind channeling, the urban heat island effect, adverse shadowing, and the interruption of sunlight.*
- ii. *Where appropriate, tall buildings will incorporate features that provide weather protection for pedestrians, such as podium bases, canopies, awnings, facade interruptions, arcades, landscaping, or other creative solutions.*

Section 6.6.4 (d) outlines the policies for Street Level Activity. According to this section:

- i. *The policies for 6.6.4 (d) are intended for tall buildings located within the Urban Growth Centre and other intensification areas. However, they may be applied to tall buildings outside of these areas when in accordance with good planning and urban design principles.*
- ii. *New development will foster a pedestrian friendly public realm by featuring a street wall of continuous built form frontage adjacent to any principal streets. This street wall will include active at-grade uses, with building facades incorporating transparent windows, doors, glazing, and other such architectural treatments.*

iii. *The primary building facades should be positioned and oriented along the property line in order to achieve a uniform street edge. Corner lot buildings should be designed to reinforce multiple streetfacing frontages. Main entrances should be directly accessible from public sidewalks. Exceptions to this rule may be considered where greater setbacks are applied to improve the streetscape by incorporating outdoor patios, extended sidewalks, or other creative publicly accessible uses.*

iv. *Tall buildings will incorporate building articulations, massing and materials that respect a pedestrian scale and create interest. Features that separate buildings from the street or inhibit pedestrian activity, such as fencing or long stretches of blank walls, will be actively discouraged.*

Section 6.6.4 (e) provides guidelines regarding the Local Area Compatibility. In accordance with policy (i) of this section, where taller buildings are located next to lower scale buildings, design elements which make use of height transitions between sites shall be encouraged. Towers should be strategically placed to appropriately transition to lower scale buildings. Compatibility between sites is not intended to be interpreted as restricting new development to exactly the same height and densities of surrounding areas, particularly in areas of transition such as the intensification corridors.

The City of Barrie New Official Plan 2022 [BOP 2022] has been approved by the council and is seeking the approval from Province of Ontario's Ministry of Municipal Affairs and Housing. Although not yet in effect, the policies of the New Official Plan have been considered and are discussed below. BOP 2022 is the roadmap to guide Barrie's growth. The Plan responds to community's land use, development, and conservation goals.

BOP 2022 Section 3.1 Leadership in Design Excellence

The urban design policies provided in Section 3.1 are policies for development to achieve the City's objectives to become an attractive city, ensure proper transitions between different types of development, and achieve design excellence. The urban design direction set out in this section is further complemented by the direction given in the City-Wide Urban Design Guidelines, which provide area-specific built form guidelines and further develop the design vision provided for in this Plan.

BOP 2022 Section 3.1.1. Objectives

The following objectives outlined in BOP Section 3.1.1 are to make Barrie a more attractive city and are implemented by the urban design policies of the BOP, as well as the separate City-Wide Urban Design Guidelines:

- a) *Design for excellence by:*
 - i. *Prioritizing people;*
 - ii. *Elevating standards of sustainability and resilience; and,*
 - iii. *Celebrating local culture and place.*
- b) *Design for human scale by:*
 - i. *Creating compact, complete, and connected neighbourhoods;*
 - ii. *Scaling built form appropriately to its context and providing appropriate transitions between different types of built form; and,*
 - iii. *Creating a connected and vibrant public realm.*

- c) *Design for diversity, equity, and inclusivity by:*
 - i. *Designing with equity as the goal, and breaking through biases;*
 - ii. *Accommodating all users of public and private space;*
 - iii. *Creating diversity and choice; and,*
 - iv. *Incorporating universal design standards.*
- d) *Design for climate resiliency, sustainability, mitigation and adaptability by:*
 - i. *Optimizing resource use and minimizing greenhouse gas emissions;*
 - ii. *Maximizing energy efficiency through building performance; and,*
 - iii. *Improving building and landscape performance and resiliency.*

BOP 2022 Section 3.1.2. Design Excellence

In accordance with Section 3.1.2 of the BOP, to achieve design excellence in the city's built form and public realm, and to encourage the successful implementation of this Plan's policies, the City will:

- a. *Highlight the importance of urban design in all matters related to the planning and development of the city, and set a course of action aimed at achieving and recognizing design excellence on a broad and consistent basis.*
- b. *Promote community-led design and design education through public consultations.*
- c. *Increase transparency and opportunities for meaningful involvement with residents and stakeholders, with the ultimate goal of leveraging good urban design as a means to improve the function and aesthetic character of the city's communities.*
- d. *Require development applications to demonstrate how relevant attractive city objectives and urban design policies are being achieved through any requisite planning justification report and/or urban design brief.*

BOP 2022 Section 3.2.3 Urban Growth Centre (UGC)

In accordance with Map 1: Community Structure of BOP [Figure 4], the site is located within the Proposed Urban Growth Centre (UGC).

The BOP recognizes the Urban Growth Centre as the premiere hub for businesses, residences, and visitors. The area is intended to provide a broad range of uses including office, commercial, institutional, cultural, residential, and other uses, and will be the major focus of economic growth, civic identity, and celebration. In addition to other policies of this Plan, the following policies shall apply to the Urban Growth Centre:

- a. *The Urban Growth Centre is a place of regional importance centred on the waterfront and downtown, and the quality of development in the Urban Growth Centre shall be commensurate to its regional importance.*
- b. *The Urban Growth Centre will be planned to be a complete community, and as a strategic location for the concentration of the highest densities and widest mix of uses in the city. This will transform the Urban Growth Centre into a dynamic place to live, work, shop, and connect.*
- c. *The Urban Growth Centre will be supported by and connected to the waterfront through a diverse and dynamic public realm network, including natural heritage features, parks and a multi-modal road network.*
- d. *The Urban Growth Centre will be planned to:*
 - *Achieve and maintain by 2031, by accommodating a significant amount of the City's forecasted population and employment growth, a minimum density of 150 persons and jobs per hectare (refer to Section 2.4.2.1 for calculation instructions); and,*
 - *Require that at least 20% of housing units developed in the Urban Growth Centre satisfy the criteria for affordable housing according to the policies in Section 6.4.2 of this Plan.*

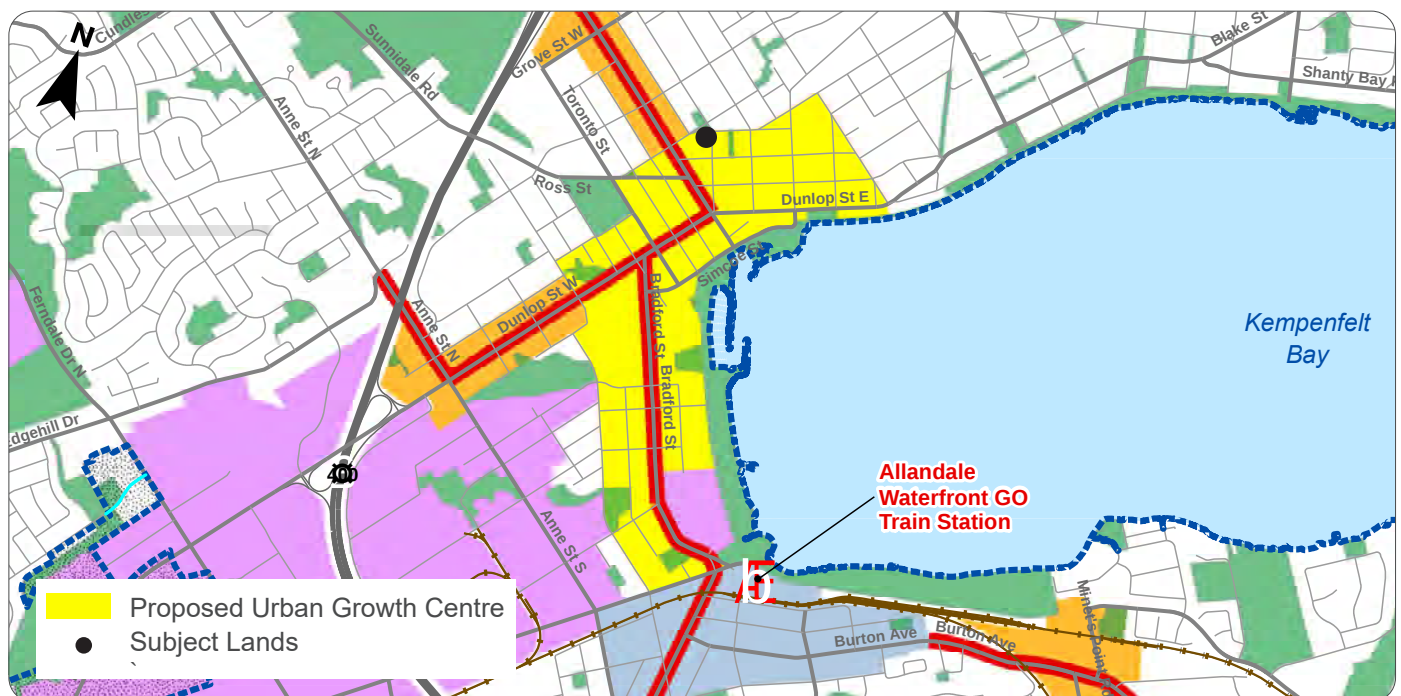


Figure 4: BOP 2022 Map 1: Community Structure

- e. *A high standard of design shall be achieved in the Urban Growth Centre by:*
 - *Working with stakeholders, transit providers, and other agencies to achieve design excellence with all public infrastructure projects in the Urban Growth Centre; and,*
 - *Incorporating winter city design elements, in accordance with the City-Wide Urban Design Guidelines, to ensure a safe, attractive, and inviting pedestrian realm that supports year-round use.*
- f. *To enable the area to become a complete community, the City will plan a critical population mass for the Urban Growth Centre that will attract food retailers to provide local residents with local access to fresh food options.*

BOP Section 3.2 General Urban Design Policies

The policies identified in this Section provide a general urban design direction for the new developments within the City of Barrie.

Section 3.2.1 provides the policies regarding Human Scale Design:

- a) *To create human scale neighbourhoods that accommodate the City's anticipated intensification and growth, development applications, where appropriate, shall demonstrate the following:*
 - i. *A compact and walkable pattern of streets and blocks which responds to, and connects with, the existing and planned community structure set out in Map 1, including how streets, blocks, and open spaces are used to:*
 - *Increase overall connectivity and walkability by increasing intersection density across the city, ideally with block lengths ranging from approximately 150.0 metres to typically a maximum of 250.0 metres in length, with shorter block lengths being preferable in intensification areas;*

- *Improve the existing urban fabric by connecting cul-de-sacs and dead-end streets into the wider street network, wherever possible; and,*
- *Contribute to the city's legibility (meaning the coherent organization of the built environment), navigability and sense of place;*
- ii. *A context-appropriate continuous built form and street frontage which engages with and animates adjacent streets and open spaces;*
- iii. *Architectural design that contributes to a rich pedestrian environment and experience through the location of building entrances along public streets and open spaces, the use of high-quality materials, increased glazing and transparency at the ground level, and pedestrian protection from the elements;*
- iv. *Prioritization and optimization of public streets, mid-block connections, or other connections for human scale modes of transport including active transportation and public transit; and,*
- v. *Appropriate transitions between the private and public realm. This shall be achieved using setbacks, landscaping and materials, signage, lighting and/or other design techniques that create visual and physical transition between public and private spaces, as identified in the City-Wide Urban Design Guidelines.*
- b) *Attention must be paid to appropriate transition between existing and planned land uses and built form. While still conforming with the development standards of the appropriate land use designation, this may result in lower heights and densities than proposed based on or responding to site characteristics, building and site performance, and neighbourhood context.*
- c) *Height and density are built form characteristics that are interrelated. Given this, proposed developments must seek a balance between height and density that is context sensitive.*

d) *The City will not support over-development. Over-development does not necessarily result from one incompatible form, but often from a cumulation of unbalanced characteristics. The policies of this Plan and the City-Wide Urban Design Guidelines provide direction to ensure high-quality urban design is achieved without over-development occurring on any given property. At the same time, over-development may sometimes occur even when permissions have been followed. Therefore, the determination of over-development must be weighed across a variety of characteristics that include, but are not limited to:*

- i. Development that is excessive in its demands on city infrastructure and services;*
- ii. Development that negatively impacts the public realm and local character;*
- iii. Development that proposes excessive height or density;*
- iv. Variances to the City's development standards resulting in inappropriate built form, especially where an alternative built form solution is more appropriate;*
- v. Undesirable building separation distances resulting in shadow impacts, inappropriate over-look conditions, or which significantly negatively impacts access to daylight; and,*
- vi. Development that results in other impacts to a site's functionality or that limits the redevelopment potential of the remaining block or adjacent sites, such as site access or circulation issues.*

Section 3.2.3 identifies the Sustainable and Resilient Design policies including:

- a) *To support the City's sustainable design priorities, all development applications shall demonstrate how the City's sustainable and resilient design priorities are being addressed, including through:*
 - i. Optimization of passive and renewable energy design strategies;*
 - ii. Minimization of non-renewable energy consumption, as well as waste;*

- iii. Use of environmentally-friendly products;*
- iv. Protection and conservation of water;*
- v. Enhancement of the natural environment;*
- vi. Mitigation of climate change and major weather events, including through the use of design elements and durable materials;*
- vii. Adaptation to Barrie's seasonal changes; and,*
- viii. Resource conservation through operational and maintenance practices.*

BOP 2022 Section 3.3.1 General Built Form Development Criteria

Section 3.3.1 provides urban design policies that apply to all new development in Barrie:

- a. *Buildings shall be oriented to create a strong street presence, with main entrances located to face the street.*
- b. *Corner buildings shall address both streets by providing two articulated façades facing the street.*
- c. *Blank facades facing a street, open space, or park shall be strongly discouraged.*
- d. *Buildings adjacent to the street edge and at sites with high public visibility shall be designed to take into account elements such as appropriate height, roof features, building articulation, and high-quality finishes and windows.*
- e. *Intersections of major streets shall be emphasized by placing buildings in close proximity to the intersection and ensuring that building entrances are visible from that intersection.*
- f. *Buildings will be designed to completely screen roof-top mechanical equipment from public view.*
- g. *Long building facades that are visible along a public street will incorporate recesses, projections, windows or awnings, and/or landscaping along the length of the façade to create articulation and visual interest in the mass of such facades.*

BOP 2022 Section 3.3.4 High-Rise Buildings

According to this Section, High-rise buildings are over 12 storeys. The following urban design policies apply to high-rise buildings:

- a) *High-rise buildings shall be designed with the following elements:*
 - i) *Podium, being the base of a building that frames the public realm to help make the building human scale. It helps enhance the overall building design/ architectural interest and is programmed to provide an active pedestrian streetscape. It should generally be between three and a maximum of six storeys in height.*
 - ii) *Tower, being the upper portion of a building above the permitted podium height, it is slender in shape to reduce visual and microclimatic impacts of the tower and allows the podium to be the primary element of the public realm. The tower meets the following criteria:*
 - a. *Provide appropriate privacy and daylight conditions for people living and/or working within the building;*
 - b. *Minimize shadow impacts and should contribute to urban design excellence in Barrie;*
 - c. *Unless further direction is provided in the City-Wide Urban Design Guidelines and/or Zoning By-law, the tower will be setback a minimum of 12.5 metres from: (1) the side property line; (2) the rear property line, and; (3) the centre line of an abutting right-of-way. When a lot is adjacent to a natural area, a highway or another use where it may be appropriate to have the building closer to the lot line, an appropriate reduction of the setback may be considered to the satisfaction of the City;*
 - d. *As further directed by the Zoning By-law and Urban Design Guidelines, all parts of a tower, including its balconies, shall be setback from the podium and all public street frontages to ensure an appropriate human scaled pedestrian environment and mitigate wind impacts at street level;*
 - e. *Towers should be sited and oriented to maximize building energy performance, natural ventilation, view corridors, and daylighting;*
 - f. *Where more than one high-rise building is located on the same lot, the distance between the towers at the twelfth storey and above shall be at least 30.0 metres;*
 - g. *The first storey shall generally be taller in height to accommodate a range of non-residential uses;*
 - iii) *Tower top, being the thoughtful architectural design of the rooftop, which provides appropriate expression to the top of the building, and which meets the following criteria:*
 - a. *The tower top shall be designed to be of architectural interest and contribute to an interesting skyline and cityscape, amenity space, and/or environmental sustainability features, screening any building mechanical or telecommunications equipment from view; and,*
 - a. *Amenity space and signage, if provided at the rooftop, shall be integrated into the design and massing of the tower top.*
- e) *Tall buildings will be sited to preserve and define any vistas terminating at Kempenfelt Bay, specifically the view corridors down Bayfield Street, Mulcaster Street, and Berczy Street. These vistas will only be considered when viewed from publicly accessible areas such as streets and parks.*

Summary

The proposed development conforms to the City of Barrie Official Plan Urban Design Guidelines found within Section 6.5 of the Plan. The proposed development also meets the draft policies of the approved New Barrie Official Plan, while it is not in force and effect at this time. The conceptual design and massing will contribute to the emerging character of the downtown Barrie area as a regional focal point. Guidelines particular to the City Centre and the Urban Growth Centre, directs that new development, such as the proposed development, should be of a high-quality design and should enhance the Downtown as an enjoyable, safe, and pedestrian-oriented place. Public spaces should be designed to support pedestrian comfort and enjoyment through seating, planting, and walkways, as demonstrated by the enclosed landscape renderings.

The proposed development will also provide views of Kempenfelt Bay, and the City skyline and in turn, will represent an attractive landmark within the City Centre. The proposed development is located on a prominent corner of the downtown area, and will be designed to frame the street and emphasize the corner as a gateway to the downtown area. In accordance with the plan, the corner development has emphasized the building, and not the car, as the proposed commercial space is intended to be a designation for locals and future residents of the development. As demonstrated by the renders provided by Land Art Design, the site will be landscaped to enhance attractiveness and will foster a vibrant public realm. The proposed development also supports the creation of complete communities, as the proposal is in proximity of various services, amenities, resources and transportation options that will support future residents being able to meet daily needs via short trips. The proposed development also supports the policies that have regard for energy efficiency, as the proposal consists of a compact, high-density development that will enhance the mix of housing options and encourage use of transit and cycling.

Pedestrians will be able to move throughout the site safely, due to the presence of numerous accessible entrances, protected pedestrian walkways and pavement markings that denote pedestrian crossings. The required loading space and waste staging area has been located internal to the site, away from adjacent properties as required. Landscape strips are provided around parking areas and driveways, softening and breaking up hardscape where possible. Vegetated screens are provided to shield vehicular areas such as the parking area and the driveway from adjacent properties. Furthermore, the vast majority of parking is located within underground parking levels, as required by the policies.

The tower plates of the proposed development all have gross floor areas of less than 850 m², which responds to contemporary urban design guidelines. The tower configuration has been designed to have two distinct volumes, and recessing that minimizes the appearance of massing and shadowing impacts. The tower has also been designed to have appropriate setbacks from the property line, with the majority of the building massing fronting McDonald Street. As such, the proposed development will avoid any compatibility concerns with adjacent future redevelopment. Appropriate podium setbacks have been provided, that provide for landscaped areas and a street wall along the building side yard that frames McDonald Street. The presence of large blank walls are avoided, as glazing is provided at grade, enhancing permeability. As discussed in Section 4.7, the proposed development will provide for acceptable wind conditions and proves characteristics of sustainability development. The mechanical penthouse is located only within the western portion of the tower and is screened from view.

3.2 CITY OF BARRIE URBAN DESIGN MANUAL

The City of Barrie Urban Design Manual [BUDM] seek to create a safe, accessible, functional and attractive built environment. The following guidelines serve as a framework for new developments.

BUDM Section 3.0 Site Circulation

This Section provides guidelines for Pedestrian Circulation, Vehicular Circulation and Parking, Parking Structures and Access Driveways.

Section 3.1 Pedestrian Circulation includes the following guidelines:

- A. *Provide a safe and convenient and accessible pedestrian network from street to building, parking area to building, and building to building, that is visible from the street and buildings, and clear from visual obstructions.*
- B. *Provide pedestrian links between neighbouring properties where appropriate.*
- C. *Provide pedestrian walkways connecting municipal sidewalks to all public institutions, office developments, neighbourhood and larger commercial developments and multi-unit residential developments.*
- D. *Identify and emphasize major pedestrian routes through the use of signage, pavement markings, bollards, trees, appropriately scaled lighting and continuous hard surfaces.*
- E. *Minimize pedestrian and vehicular crossings on site.*
- F. *Install park and street furniture to create monitoring opportunities along pedestrian pathways and open areas.*
- G. *Discourage dead ends, reducing the potential for entrapment and concealment.*
- H. *Provide adequate lighting along pedestrian connections.*

In accordance with Section 3.2 Vehicle Circulation and Parking, the following guidelines should be considered in new developments:

- A. *Design parking and vehicular movement plans in a safe, convenient, and easily understood manner with appropriate turning radii and visibility.*
- B. *Provide parking areas with appropriate signage and adequate and uniform lighting for visibility and safety surveillance.*
- C. *Locate parking areas (particularly barrier free parking spaces) in close proximity to building entrances.*
- D. *Incorporate pedestrian circulation within the parking area.*
- E. *Pave all parking and traffic circulation areas for light & heavy use as required.*
- F. *Clearly define primary vehicle routes on the site through the use of signage, curbing, bollards and line painting. Separate parking areas from primary vehicle routes and driveway entrances to public streets.*
- G. *Provide right angle parking spaces wherever possible with parallel parking only where circumstances dictate.*
- H. *Avoid dead-end parking aisles.*
- I. *Use areas located immediately adjacent to buildings or structures for walkways and/or landscaping and not for parking.*
- J. *Provide landscaping around the perimeter of parking areas and laneways. Use low level screening adjacent to public streets. Use dense screening (i.e. solid fences, coniferous plant material) when adjacent to conflicting land uses. Be sure that landscaping does not create hiding places or be a visual obstacle.*
- K. *Consider ground cover, or a decorative hard surface for pedestrian uses, as a possible alternative to sod within raised traffic islands. Select parking lot plant material that is easy to maintain, hardy, and pollution, salt and drought tolerant.*
- L. *Ensure that parking lot planting does not obstruct views of approaching traffic, pedestrians, the street and building entrances.*

- M. Incorporate landscaping features in parking areas to provide shade and influence wind, erosion, noise and glare.
- N. Provide appropriate snow storage areas that do not interfere with pedestrian and vehicle circulation, or sensitive landscape plantings, as well as in an area that could be a visual obstacle.
- O. Visitor parking areas should be located near main entrances of buildings and marked with signage, providing visitors with a direct route to and from the building.
- C. Ensure pedestrian safety and maximize visibility through the proper location of driveways.
- D. Maximize the distance between site access driveways as well as the distance between site access driveways and street intersections.

BUDM Section 4.0 Site Services

Policies contained in Section 4.0 provides a clear set of guidelines for Site Services:

According to Section 3.3, the Parking Structures should meet the following requirements:

- P. Provide barrier free parking close to entrances and elevators.
- Q. Provide signage to clearly identify the location of designated barrier free parking stalls.
- R. Ensure that parking structures include the following safety features:
 - Adequate and uniform lighting.
 - Clearly indicated exit routes and doors.
 - Bright coloured paint to improve light levels and reduce glare.
 - Mirrors and circular support columns to encourage open spaces and discourage potential entrapment and hiding areas.
 - Limit access to no more than two designated, monitored entrances/exits.
- S. Position all pedestrian entrances and exits next to vehicle entrances and in a visible location.
- T. Stairwells and elevators should be located in a central area, close to a main entrance. Stairwells should be without solid walls.
- A. Ensure that loading bays, recycling areas and garbage storage facilities are located away from public streets or screened through the use of landscaping, walls and buildings but not to create entrapment areas and hiding places.
- B. Eliminate conflict between service/loading areas and vehicle/pedestrian routes.
- C. Design on-site circulation to eliminate reversing or maneuvering on public streets.
- D. Screen commercial outdoor storage from public streets and adjacent residential uses.
- E. Locate recycling and garbage handling within the primary building or within an accessory structure. Ensure adequate access for the related service vehicle and a loading space located adjacent to the recycling and garbage handling area.
- F. Construct accessory recycling and garbage handling structures as an enclosed building including roof and door/gate and with materials consistent with the primary building. Wood structures are discouraged.
- G. Store all recycling and garbage bins within the structure.
- H. Provide interior waste storage areas for restaurants and commercial buildings providing food services.
- I. Locate utilities underground to improve the appearance of the development. Where above ground utilities are necessary, ensure compatibility with other site features.
- J. Provide adequate lighting to ensure safety.

Section 3.4, outlines the guidelines for the design of Access Driveways:

- A. Locate site access in a manner that reduces traffic conflict and confusion.
- B. Provide mutual driveways where appropriate, especially along major collector and arterial roads to minimize the number of driveways.

BUDM Section 5.0 Lighting

As per Section 5.0, new developments should meet the following guidelines regarding Lighting:

- A. *Select exterior lighting fixtures based on compatibility with the architectural design of the building and the character of the neighbourhood and enhance the ability for surveillance.*
- B. *Design site lighting that considers all building and user needs. Particular attention is to be paid to pedestrian areas, barrier free travel paths, driveways, transit stops, parking, service areas and buildings.*
- C. *Feature lighting is encouraged to highlight building relief, landscape features, and monuments.*
- D. *Use of full “cut-off” light fixtures for exterior parking lot lighting and fully shielded fixtures for wall mounted exterior lighting to eliminate glare and light spillage on neighbouring properties and streets (see the acceptable examples below). The term “shielded” shall mean that 100% of the lumens emitted from the light fixture are projected below an imaginary horizontal plane passing through the highest point on the fixture from which light is emitted.*
- E. *Ensure that the source of light (the element) is not visible from adjacent residential properties.*
- F. *Use pedestrian scaled lighting (3.5 to 4 metres high) to clearly identify pedestrian routes.*
- G. *Coordinate lighting systems and landscaping to ensure that plant materials or other landscape features do not obscure site and street lighting.*
- H. *Encourage lighting areas that are intended to support evening/night activities. Avoid lighting all public areas as it creates a false sense of security for people passing through the night.*

BUDM Section 7.0 Architectural Design

Section 7.0, provides a framework to guide architectural design:

- A. *Ensure that the architectural design is compatible with the developing character of the neighbouring area. Design compatibility includes complementary building style, form size, colour and materials. Ensure that building heights and scale relate to the existing developed form of the area and unify or enhance the building character of the neighbourhood.*
- B. *Design multiple buildings on the same site to create a cohesive visual relationship between the buildings.*
- C. *Coordinate exterior building design and detail on all elevations with regard to colour, types of materials, number of materials, architectural form, and detailing to achieve harmony and continuity of design.*
- D. *Locate the main building facade towards a public street or internal courtyard. Principle walls should have windows along the street or interior space to provide casual surveillance and break up the building mass. Where blank walls are unavoidable, use architectural techniques (banding, soldier course, etc.), landscaping, and murals to enhance the elevation.*
- E. *Enclose or screen rooftop mechanical equipment. Integrate roofs and screening with the design of the building in terms of form, materials and colour.*
- F. *Ensure that buildings over 3 storeys in the City Centre contribute to the skyline and all roof top penthouses and equipment is screened in a distinctive manner (e.g. in the form of an angled rooftop design).*
- G. *Design rooftops to have some identifiable shape. Avoid square or flattops on large buildings.*
- H. *Ensure that main entrances to buildings are prominent and identifiable from the street to encourage pedestrian use.*
- I. *Effective use of building materials, architectural details and lighting is encouraged.*

- J. *Ensure that buildings situated on corner lots have presence on both streets.*
- K. *Buildings should be strategically designed to minimize alcoves or hiding spots for offenders to hide in.*
- L. *Buildings should naturally direct visitors toward the main entry point where it is observable by residents and security.*
- M. *Balcony space should be large enough to provide a useable activity area for residents, thereby increasing opportunities for residents to overlook public areas. Balcony railings should be built with transparent or open metal material as it will increase surveillance opportunities.*
- N. *Access points to buildings should be reduced so as to be manageable for security officers.*
- O. *Define entrances to the site and each parking lot with landscaping, architectural design, or symbolic gateways.*
- D. *Ensure soft landscape areas on the perimeters of the site to delineate boundaries, and establish streetscape appeal, spatial separations, berming and snow storage areas.*
- E. *Strategic landscape screening and/or fencing is encouraged for exposed parking, driveways, storage, services and garbage containment areas.*
- F. *Design landscaping to encourage positive functional relationships between the site uses and their surroundings in order to avoid conflicts, and/or require effective levels of buffering and fencing to minimize those conflicts. Relate landscape treatment of soft areas to their specific function, such as streetscaping, buffering, erosion control and energy conservation (windbreaks/shading).*
- G. *Landscape areas outside the building entrance(s) including barrier free hard surfaces (other than asphalt) to clearly define its function.*
- H. *Provide additional soft landscape areas within the site and foundation planting to reduce the negative impact of continuous expanses of pavement, to help delineate vehicular and pedestrian circulation, and provide opportunities to layer the landscaping between the street and building in relation to façade design.*

BUDM Section 9.0 Landscape Design

In accordance with Section 9.0, landscape design of the new developments should meet the following requirements:

- A. *Promote the preservation of existing natural features such as watercourses, specimen, trees, hedgerow and woodlot vegetation wherever reasonably possible in an effort to minimize the environmental impact on the site and surrounding areas.*
- B. *Promote an attractive landscape treatment of the site to soften and improve the visual character of the development by designing a harmonious integration of planting, fencing, retaining walls, hard surfaces, signage, etc.*
- C. *Ensure appropriate plant species are proposed in relation to availability, cold hardiness, mature size and habit, sunlight/soil requirements, moisture/drought tolerance, pollution/salt tolerance, and seasonal effects.*
- I. *Where appropriate, include the provision of appropriate site amenities and furnishings (i.e. C.S.A. approved playscapes, patios, benches, etc.).*
- J. *Tree preservation is promoted through the City of Barrie Tree Cutting By-law 2002-12 and the issuance of tree cutting permits. In situations where the by-law does not apply, it is the intent of these Guidelines that healthy trees be preserved whenever possible, and that no tree removal occur until the site plan is approved.*

Summary

The proposed development meets the overall objectives of the Barrie Urban Design Manual. Site circulation has been designed to provide a safe and convenient pedestrian experience from street and parking areas to the building. Building entrances are located on multiple faces of the proposed development, providing direct linkages to various pedestrian routes. Direct connection to the development from sidewalks along Sophia Street and McDonald Street is provided and pedestrian links are delineated by the use of paving and bollards. Lighting will be used to delineate walkways, and will be designed as part of the detailed design phase. The pedestrian connections from the parking areas to the building will be demarcated through pavement marking and appropriate signage. Overall, the proposed parking design will provide for safe and convenient vehicular movements throughout the site. Car share spaces are located at-grade, easily accessible by future residents. The majority of parking will be located underground, away from view and at-grade parking will be screened by the use of vegetated walls. Landscape buffers also are located around parking areas, where possible.

Barrier-free parking is provided in accordance with municipal requirements and turning diagrams have been provided that show the conflict-free movements of typical vehicles and trucks. The loading space is located internal to the site, with a clearly defined route from the entrance on Clapperton Street. A T-turnaround movement to/from the loading space is required; however, sufficient spacing is provided to ensure safety. The loading space has been designed in accordance with municipal requirements and waste staging area has been provided. For more information, please see the enclosed Transportation Report provided by Paradigm Transportation Solutions Limited.

The architectural design of the proposal has been created to be compatible with the developing character of the Downtown Barrie Urban Growth Centre. The proposed development's location, separated from the dwellings to the northeast by streets, landscaped areas, and Lions Park, favours the desirable intensification of the area without compromising the surroundings' visual character and sunlight access. The building's architectural design includes opaque and translucent materials with vertical and horizontal articulation to create a visually appealing streetscape and enhance the downtown's evolving character. The tower structure is glazed with projected balconies and a recessed portion from the building's main entry at grade to the top, breaking down the massing into two volumes. The podium structure is "lifted" from the ground by applying translucent facades elements, allowing for visual permeability between the indoors and outdoors. The podium upper floors have a more "robust" look with materials that integrate elements from the surrounding architecture while visually separating itself from the rest of the building and emphasizing the pedestrian scale. Main building façades have been oriented to the street, framing the prominent corner of Clapperton Street and McDonald Street. Additionally, glazing is provided along the street to provide permeability and activation of the public-private realm. The public square located at the northeast corner of the site will further activate the streetscape and serve as a community focal point. The mechanical penthouse is located only on the west side of the tower, the materiality of which will be chosen to minimize visual impact. The proposed development also contemplates balconies that will provide useable activity area for residents, while building setbacks will ensure minimal overlook occurs.

The proposed landscape design will promote an attractive landscape treatment of the site to soften and improve the visual character of the development. In particular, the proposed landscape plan will enhance the public square, promoting its prominence as a focal point and community landmark. Sod will be provided, where possible, to break up hardscape areas and site amenities and furnishings will be provided.

In summary, it is our opinion that the proposed development meets the overall objectives of the Barrie Urban Design Manual.

3.3 INTENSIFICATION AREA URBAN DESIGN GUIDELINES

The City of Barrie Intensification Area Urban Design Guideline [BIAUDG] direct new development within the Intensification Nodes and Corridors, Urban Growth Centre, and Major Transit Station Areas identified in the City of Barrie Official Plan. These guidelines apply to the proposed development, as it is located with the Downtown Barrie Urban Growth Centre.

Section 2.5 Intensification Typologies

As new development occurs within the Intensification Areas, the Auto-Oriented Commercial Districts, Corridor Residential Districts and Core Districts buildings and site design should evolve to reflect a higher density, more urban condition. This development will take a number of forms based on location and existing context. The site is located within the Mixed-Use Main Street.

In accordance with Section 2.5.2 Mixed-Use Main Streets, as redevelopment occurs within the Intensification Areas, streets within the Urban Growth Centre (i.e. Dunlop Street, Bradford Street, Toronto Street, Collier Street) should transition to Mixed-Use Main Streets, or downtown commercial streets with active, pedestrian-supportive streetscapes. Opportunities for intensification within the Urban Growth Centre and Mixed-Use Main Streets area include:

- Additions and renovations to existing buildings.
- Redevelopment of vacant or underutilized sites (i.e. single-storey buildings).
- Development on vacant parcels.

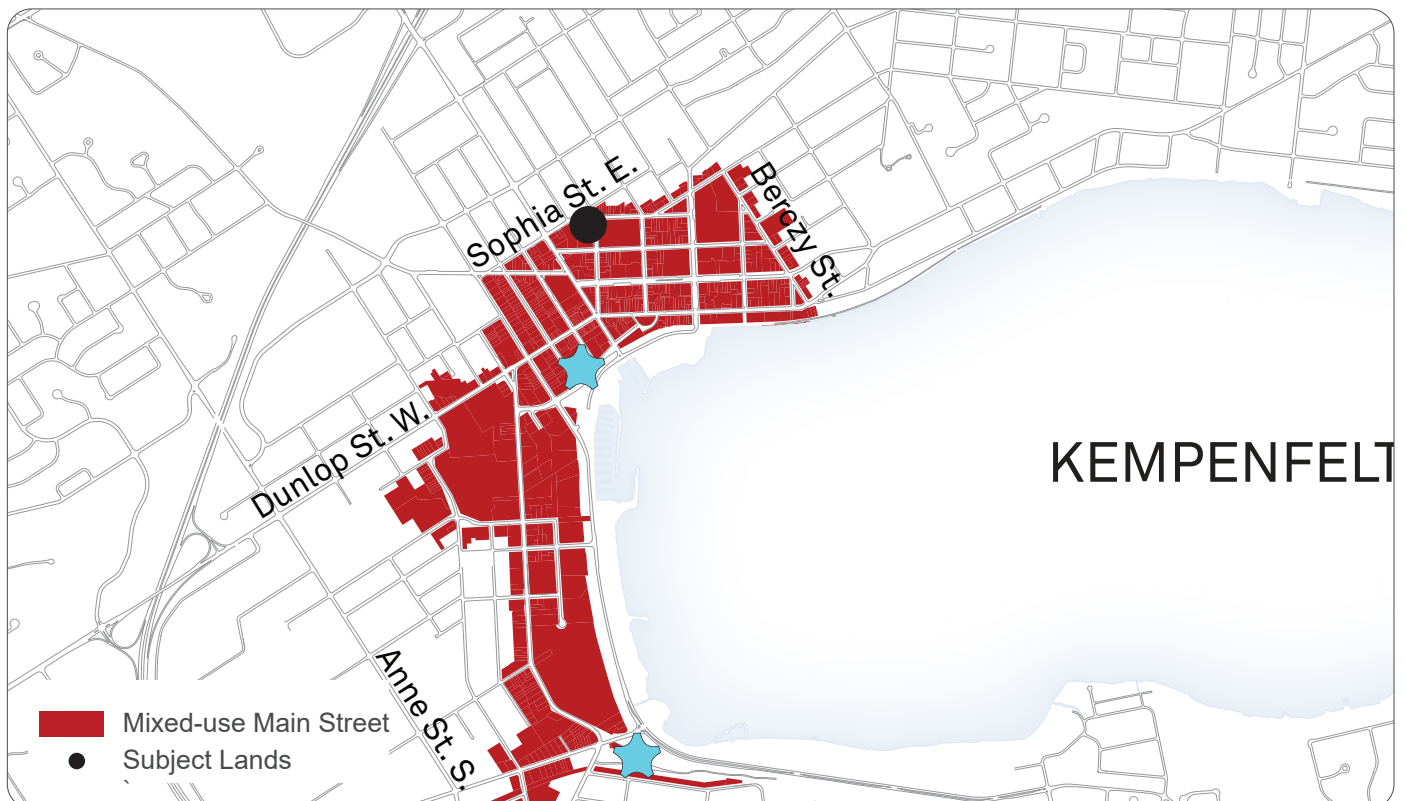


Figure 5: Intensification Typologies (Mixed-Use Main Streets)

In each case, intensification must be compatible with the existing heritage fabric with respect to building height, scale, façade design and key architectural characteristics. New developments should reinforce the neighbourhoods and land uses identified in the City of Barrie Downtown Commercial Master Plan (2006), including:

- Collier Street - Professional Services/Financial
- Dunlop Street - Main Shopping
- Mulcaster Street - Artistic/Old Market Square Area
- Bayfield Street - Cultural/Arrival
- Lakeshore Drive - Promenade
- Bradford Street - Entertainment

Similar to the existing conditions on Dunlop Street, Mixed-Use Main Streets should maintain a tight-knit grid of streets and blocks, and a consistent streetwall height that reflects the heritage character of the Downtown. This is particularly important to the south of the historic Downtown, where the existing conditions are more vehicle-oriented.

Mixed-use buildings, with retail at grade and residential and office above, will allow residents to live, work and play within the Urban Growth Centre, creating “eyes on the street,” and enhancing safety and activity at all hours.

Additional building set-backs (and pavement narrowing where feasible) should accommodate wide boulevards with street trees, landscaping, continuous sidewalks, seating, signage and public art. Smaller civic open spaces are encouraged to provide opportunities for pedestrians to gather and socialize.

Priority Directions

- *Ensure a consistent, high-quality urban frontage along the waterfront and Downtown main streets.*
- *New buildings, open space and street design will build on the unique character of the Downtown (i.e. a human-scaled building base, street trees, active at-grade uses, waterfront views, etc.), adjacent neighbourhoods and the waterfront setting by being context specific, appropriately scaled, and containing an appropriate mix of uses.*
- *In the Mixed-Use Main Street areas, Taller buildings above 8-storeys may be appropriate*
- *on sites where lot size, set-backs, step-backs and building transitions (i.e. step-backs) can be made to respect the neighbouring properties. Taller building sites are anticipated adjacent to the waterfront where existing tall buildings are located, and at primary street intersections.*
- *Ensure building mass and height, and street and open space design, contributes to compatible development within the existing downtown and waterfront. Additional studies are recommended to ensure new buildings do not limit sunlight access to waterfront parks, or views to Kempenfelt Bay.*

Section 3.2 Streets and Streetscapes

In accordance with Section 3.2, streets within the Intensification Areas should be pedestrian-supportive, including large, mature street trees, ample landscaping, and wide boulevards that accommodate opportunities for active uses at grade, including spill-out retail, patio seating, etc.

Per Section 3.2.8 Lighting, Downcast, pedestrian-scaled lighting enhances safety and visibility on streets. In key areas, such as the Primary and Secondary Intensification Nodes, waterfront or the heritage Downtown, lighting can be used to accent special features, such as buildings, heritage properties, landscaping, signage, etc.

- a. *The design and location of lighting should consider sustainability and the impacts of light pollution, including:*
 - *energy efficiency;*
 - *directional lighting that reduces wasted energy;*
 - *induction lighting;*
 - *solar power; and,*
 - *street reflectors and sensors (to help regulate brightness and when lights turn on and off).*
- b. *Downcast pedestrian-scale lighting should be provided in high traffic pedestrian areas.*
- c. *All lighting should be located within the Street Furniture and Landscape Zone.*
- d. *Consideration should be given to providing additional pedestrian-scale lighting in areas with a high volume of pedestrian activity, such as Intensification Nodes, the waterfront, transit stops, trail crossings, mid-block connections, etc.*
- e. *New lighting design should comply with the City's Dark Sky Policy.*

Considering Section 3.2.9 Utilities, the coordinated design of utilities will contribute to the visual quality of streetscapes within the Intensification Areas. Utilities must be considered as an integrated component in building design and the public realm.

- f. *Opportunities should be identified for grouping above grade utilities in single locations where feasible.*
- g. *Utilities, including utility cabinets, transformer vaults, hydro metres and gas metres, should be incorporated into building design. Where this is not feasible, utilities should be placed in discrete locations and/or screened from public view, where they will not interfere with pedestrian movement or transit stops.*
- h. *New and innovative solutions for integrated utility services can result in reduced street clutter.*

Section 3.3 Parking

Per Section 3.3.2 Bicycle Parking, creating a network of parks, open spaces, streets and trails for cyclists that connect to the Primary and Secondary Intensification Nodes, the Urban Growth Centre, and the lakefront, should establish cycling as a major mode of transportation in the City of Barrie. The accommodation of convenient bicycle parking is essential to support this option and ensure it remains a long-term transportation alternative.

- a. *Bicycle parking should be provided at regular intervals in the Primary and Secondary Intensification Nodes, the Urban Growth Centre, and other areas of high pedestrian activity.*
- b. *Bicycle parking should be located close to building entrances and should be sheltered. Short-term visitor bicycle parking should also be provided.*
- c. *The placement of bicycle posts within the pedestrian realm should not impede pedestrian movement.*
- d. *Bicycle storage facilities should be provided at public parks and open spaces to encourage alternative modes of transport.*

Section 4.3 General Building Guidelines

New buildings within the Intensification Areas should be designed to address and frame streets and open spaces. Generally, new buildings should be appropriately massed and articulated to minimize their presence from adjacent streetscapes, and provide appropriate transitions to nearby residential neighbourhoods.

Section 4.3.1 Building Orientation and Site Layout

In accordance with Section 4.3.1 Building Orientation and Site Layout, the relationship of buildings to one another, and to streets and open spaces, influences the amount of energy they consume, the comfort of pedestrians at the street, and the quality of interior spaces. Buildings should frame streets and open spaces, and preserve desirable views.

- a. *Buildings should be positioned to frame abutting streets, internal drive aisles, sidewalks, parking areas and amenity areas. On corner sites, buildings should be designed to frame both the primary and the secondary street.*
- b. *Main building entrances should be directly accessible from public sidewalks.*
- c. *The front streetwall of buildings should be built to the front property line, or applicable set-back line, to create a continuous streetwall.*
- d. *A minimum of 75% of a building's frontage should be built to the applicable set-back line.*
- e. *The remaining 25% of the building frontage can be set back a maximum of 5 metres to accommodate lobby entrances, bicycle parking, or outdoor marketing areas (i.e. cafe seating, display areas, etc.).*

Section 4.3.2 Building Heights

Per section 4.3.2 the ability of buildings to fit into the existing context, and contribute positively to the character of the streetscape, is imperative to ensuring successful new buildings in the Intensification Areas. Generally, new buildings should promote human-scaled development, minimizes adverse impacts on adjacent streetscapes, and provides appropriate transitions to nearby residential neighbourhoods.

- f. *Buildings taller than 8-storeys are encouraged in key areas, including:*
 - *Within the Urban Growth Centre, adjacent to Lakeshore Drive, where existing tall buildings are located and new buildings can capitalize on key views to the Lake. The location and massing of these buildings (and taller building elements) should allow for continuous sunlight on adjacent waterfront parks, and views to Kempenfelt Bay.*
 - *At Primary and Secondary Intensification Nodes, where taller buildings will act as landmarks along the Intensification Corridors, and enhance wayfinding throughout the City.*
 - *On large lots, on a case-by-case basis, where appropriate transitions can be made to adjacent properties and all other guidelines in this section can be met.*
- g. *Taller buildings above 8-storeys should be limited to the sites above where lot size, set-backs, step-backs and building transitions can be made to respect the neighbouring properties. New development within the Intensification Areas will strengthen communities, and accommodate many new residents and jobs. To ensure the most efficient use of existing infrastructure, and create a vibrant streetscape, a minimum level of development is also required. To accomplish this, the City should require a minimum building height.*
- h. *All new buildings must achieve a minimum height of 7.5 metres (2-storeys) to promote intensification and ensure the most efficient use of existing infrastructure.*

Section 4.3.3 Minimum Ground Floor Height

Section 4.3.3 sets the minimum ground floor height of the new developments. Floor heights for commercial uses are generally greater than a typically residential floor. Recognizing that ground floor retail will not be immediately viable throughout the Intensification Areas, a flexible ground floor height is recommended in order to accommodate future conversion to retail uses where appropriate.

- a. *Ground floor heights should be a minimum of 4.5 metres to accommodate retail uses and provide sufficient clearance for loading areas.*
- b. *Ground levels should be free of any significant grade changes to promote barrier-free access and retail activity.*

Section 4.3.4 Front Façade Step-backs

In accordance with Section 4.3.4, the podium created through a step-back above the building base creates a human-scaled streetwall and mitigates the overall impacts of the building height on adjacent streetscapes. The remainder of the building envelope should be carefully considered to allow for a minimum of 5 hours of sunlight per day on boulevards across the street within the Intensification Areas from March 21st (spring equinox) to September 21st (Fall Equinox) to ensure pedestrian comfort and encourage active use of the streetscapes.

- c. *Step-backs should be a minimum of 1.5 metres. 3 metres is recommended to ensure usable outdoor amenity spaces.*

Section 4.3.5 Side Building Set-backs

Policies contained in Section 4.3.5 outlines that new developments in the Intensification Areas should maintain as continuous a streetwall as possible, while respecting the adjacent properties access to natural light and air. As a result, new buildings should apply a minimum distance from existing buildings with side windows.

- a. *Where a new building is adjacent to a vacant lot, buildings should be built to the side property line (with no windows) to allow for a continuous streetwall in the future.*
- b. *New buildings must maintain a minimum 5.5 metre distance from existing adjacent buildings that have windows on their side-facing walls.*
- c. *When the new building is set back at least 5.5 metres from the property line, it should incorporate glazing where possible.*
- d. *Additional set-backs will be required when the existing building has its primary windows on the side face. The distance of the set-back in these instances will be determined on a case-by-case basis.*

Section 4.3.6 Side Building Step-backs

It is important to maintain views and sunlight penetration to public boulevards through the articulation of the sides of the building. Providing breaks in the streetwall on the upper levels achieves this, and mitigates the “canyon effect” on longer corridors. Per Section 4.3.6 the following guidelines should be considered:

- a. *Where properties have wider frontages, the building’s uppermost storeys can step back sideways - allowing for the application of glazing, thereby reducing the amount of blank sidewalls, should that building be built ahead of its neighbours.*

4.3.7 Transition to Neighbourhoods

Where Intensification Areas are adjacent to stable residential neighbourhoods, the application of an angular plane is recommended to provide a transition in height from mid-rise buildings to low residential homes to reduce shadow impacts on the residential properties, as well as the perception of height.

- a. *Provide sky views and sunlight penetration to the sidewalks in the right-of-way, and to other nearby properties.*
- b. *When a more “porous” street wall is preferred, side step-backs should be encouraged above the minimum building height for that area.*

Section 4.3.8 Building Articulation

Per Section 4.3.8, the aesthetic qualities of the building, its façade, roof line, windows, and access points are all vital factors in how the public perceive a building, and how that building impacts their experience of the street. As such:

- a. *The façades of large buildings should be designed to express individual commercial or residential units through distinct architectural detailing, including entrance and window design.*
- b. *Despite the use of various architectural styles within the City, the design and material quality should be consistent and building materials and finishes should be complementary.*
- c. *Lots that face on to parks and open spaces should be subject to architectural and landscaping controls in order to provide an optimal interface.*
- d. *Corner buildings at key intersections should emphasize the focal nature and visibility of these buildings through elements such as bay windows, projections, recesses, special materials, and other architectural details.*

- e. *Buildings should incorporate architectural details such as vestibules, recessed entrances, covered walkways, canopies and awnings to provide weather protection.*
- f. *A significant amount of the building frontage on the ground floor and at building base levels should be glass to allow views of the indoor uses and create visual interest for pedestrians. Clear glass is preferred to promote the highest level of visibility.*
- g. *Building elements should be oriented to maximize views to Kempenfelt Bay.*
- h. *Building entrances should work in conjunction with retail uses and can be expressed and detailed in a variety of ways including large entry awnings, canopies or double-height glazing. Retractable awnings and canopies may encroach into the public right-of-way provided a minimum of 2.7 metres of vertical clearance is provided. Permanent awnings or canopies that encroach into the public right-of-way may require a permit.*
- i. *Where residential uses are included above retail uses, separate entrances should be provided.*
- j. *Secondary entrances should not be the dominant entrance. However, they should be easily accessible and convenient for service, loading and parking areas.*
- k. *When building frontages exceed 12 metres in width they should be divided into functionally and visually smaller units through the use of façade articulation, internal courtyards, and networks of connected walkways and landscaping.*

Section 4.3.9 Roofs and Roofscapes

Mechanical penthouses that extend above the maximum height limit, but fall within the recommended angular planes, will not impact shadowing, will generally not be visible from adjacent sidewalks, and are minimally visible from the opposite sidewalk. Section 4.3.9 provides the following guidelines:

- a. *Mechanical penthouses may exceed the maximum height limit by up to 5 metres, but may not penetrate the recommended angular planes.*
- b. *All mechanical penthouses should be designed and clad with materials that complement the main building façades.*
- c. *The portion of the building roof that is not used for a mechanical penthouse should be occupied by green roofs and/or useable outdoor amenity space.*
- d. *Sustainable technologies, such as photovoltaic panels, are encouraged on the roofs of buildings.*

Section 4.3.10 Materials

The choice of building materials is integral to the appearance and function of new buildings within the Intensification Areas. Particular attention should be paid to buildings podiums, as this is the portion of the building that is most visible from the streetscape. According to Section 4.3.10:

- a. *All new buildings and developments should utilize building materials chosen for their functional and aesthetic qualities, as well as their energy and maintenance efficiency.*
- b. *All exterior building finishes should demonstrate a high quality of workmanship, durability and ease of maintenance.*
- c. *Building materials should be used as they are intended (i.e. colour, texture, etc.), and should not be used to mimic other materials.*

- d. *Finished materials should extend to all sides of the building, including building projections and mechanical penthouses.*
- e. *The ground floor should incorporate a minimum of 60% glazing to enhance safety through casual surveillance.*
- f. *Building materials and finishes on building façades facing onto or visible from public streets and public spaces should not include synthetic siding systems, mirror/heavily tinted glass panels, and unadorned concrete block.*
- g. *Blank walls or unfinished materials along property lines where new developments are adjacent to existing parking areas or smaller-scaled buildings should be avoided.*
- h. *Where possible, construction materials should be recycled to reduce the environmental impacts of extracting and manufacturing new materials.*
- i. *If no salvageable materials are available, efforts should be made to purchase materials from demolition sales, salvage contractors and used materials dealers.*
- j. *New construction materials should be locally sourced to reduce the impacts of transportation. Canadian products are generally designed to withstand our climate.*

Section 5.2 Mixed-Use Main Street Guidelines

As redevelopment occurs within the Intensification Areas, streets within the Urban Growth Centre such as Sophia Street and McDonald Street, should transition to Mixed-Use Main Streets, or “downtown commercial streets with active, pedestrian-supportive streetscapes.”

Per Section 5.2.1 Pedestrian-Supportive Uses, Mixed-Use Main Streets will be characterized by active, pedestrian-supportive streetscapes. To support this vision, it is important that auto dependent uses, such as drive through retail and car wash facilities, are prohibited within Mixed-Use Main Streets. This can be accomplished through amendments to the Zoning By-Law (please refer to Section 6.1.1).

Summary

The proposed development is subject to the Intensification Area Urban Design Guidelines as it is located within an Urban Growth Centre, an intensification area. The consolidation of the seven lots enables the context-appropriate intensification and optimal use of the lands. In accordance with the guidelines, the proposed development contemplates redevelopment of the currently underutilized lands for a higher density, mixed-use built form that will contribute to the enhancement of the downtown Barrie area. The proposed development will respect the surrounding heritage character of the area through providing a continuous streetwall and suitable podium heights along Sophia Street and McDonald Street, of 17.6 metres. A high-quality urban frontage is achieved through human-scaled building base, street trees and landscaped areas. Improvement of the corner site is achieved through the framing of the street. The main building entrance is located along the streetwall, directly accessible via McDonald Street and the building is setback 3 metres from the front lot line. Furthermore, the ground floor height exceeds the minimum of 4.5 metres, at 6.45 metres and significant grade changes are avoided. In accordance with the guidelines, podium stepbacks are also a minimum of 1.5 metres. The recommended minimum sideyard setback of 5.5 metres is also respected.

The proposed public square will enhance the pedestrian-scaled design of the development and will support the significance of the proposal as a community landmark and gateway to the downtown Barrie area. Detailed design regarding utilities and lighting will be provided during the detailed design phase. The proposed development provides ample short- and long-term bicycle parking, supporting the use of alternative transportation modes.

The commercial space of the proposed development has been designed to express its distinct use, as compared to the residential use of the building through entrance and window design. In conformance with the guidelines, the corner building has been designed to emphasize the focal nature and visibility of the site, through large windows, projections, recesses and appropriate materiality. Separate entrances are also provided for the commercial, versus the residential space. The commercial entrance is located on the east side of the building off of the proposed urban square in order to animate the space. The proposed development's mechanical penthouse is only within the west side of the tower and materiality will be selected to minimize massing. Detailed materiality will be provided in the detailed design phase.

In accordance with the Intensification Area guidelines, the proposed development achieves a more intense form of development while also respecting the surrounding area. Due to the landscaped island between the proposed development and Lion's Park, appropriate distance is provided between the development and the low-rise neighbourhoods to the north, outside of the Urban Growth Centre. As such, an appropriate transition to the Urban Growth Centre, and the proposed development specifically, is achieved. A Shadow Study has been prepared which demonstrates that the proposed development will have minimal shadow impacts on the immediate area, in particular the public park across from the landscaped island. A representation of the angular plane, from the boundary of the Urban Growth Centre, has been provided, which demonstrates a minimal encroachment into the plane. While the proposed development introduces a new form of building type to the site, the transition in scale given surrounding context is suitable.

In summary, the proposed 21-storey mixed-use development conforms to the City of Barrie's Intensification Area Urban Design Guidelines.

4 D E S I G N

4.1 SITE DESIGN

The proposed development offers a compact and efficient use of lands conforming to the downtown Barrie area policies and guidelines. The Site Plan (Figure 5) illustrates a 2 metre conveyance, dedicated to the City for future road widening along Sophia Street and McDonald Street.

The building is situated on the property with an appropriate setback from the property line to allow for efficient vehicular and pedestrian circulation and provide space for a landscaped areas to integrate at-grade activities into the adjacent public realm.

The proposed building is separated by a minimum distance of approximately 19 metres from the 7-storey apartment building to the west at 11 Sophia Street and 14.5 metres between 20 Worsley Street to the south. These distances ensure adequate sunlight is available within the open spaces of each of the properties, while maintaining a consistent streetwall and built form along the roadways. The massing and orientation of the proposed built form establishes and appropriate transition between the subject property and the surrounding context.

Table 1. Proposed Development Statistics

Type	Statistic
Lot Area [Existing]	3,045.8m ²
Lot Area [After Road Widening]	2,885.9m ²
GFA	17,381.5m ²
Height	66.73m + MPH
Coverage	43.85%
Total Units	253
Commercial Space	256.5m ²
Parking Spaces	207 (Residential)
Bicycle Parking	253
Total Amenity	3,860.4m ²

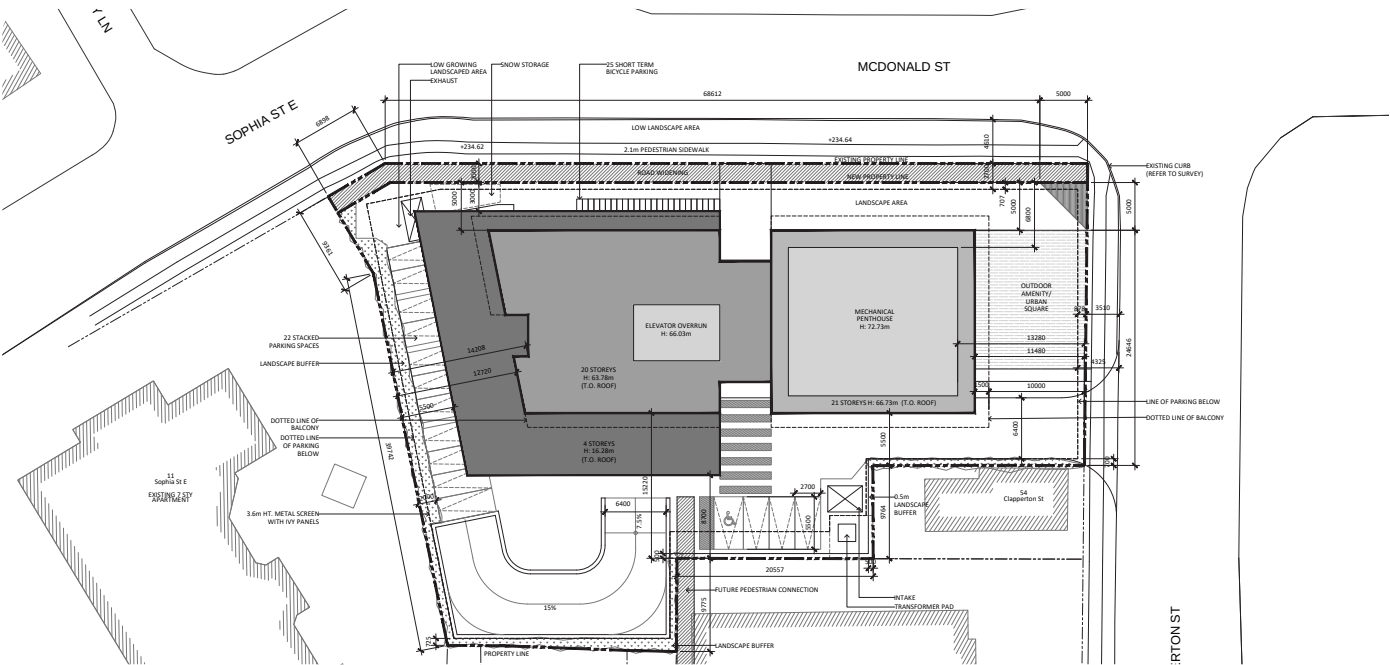


Figure 6: Site Plan, prepared by Studio JCI

4.3 PARKING AND SERVICING

Bicycle Circulation

Bicycle parking is located along the primary frontage adjacent to the main residential lobby entrance. This area is connected to the residential and commercial interiors by a sidewalk and an outdoor amenity space, respectively.

The majority of parking is located within three levels of underground parking, accessed via a vehicular ramp at the rear of the building. This is partially concealed by the building envelope. The vehicular driveway leads to several surface parking stalls at the south perimeter of the site, including barrier-free spaces. Further surface parking is provided along the west perimeter of the site. This area of surface parking is maximized with use of a sidelift system, concealing additional parking capacity. This zone is screened by a landscaped buffer.

All servicing is contained within the building envelope to the rear. Staging and loading areas are supported by sufficient vehicular movement space, and are located adjacent to moving and bulk storage rooms to maximize efficiency.

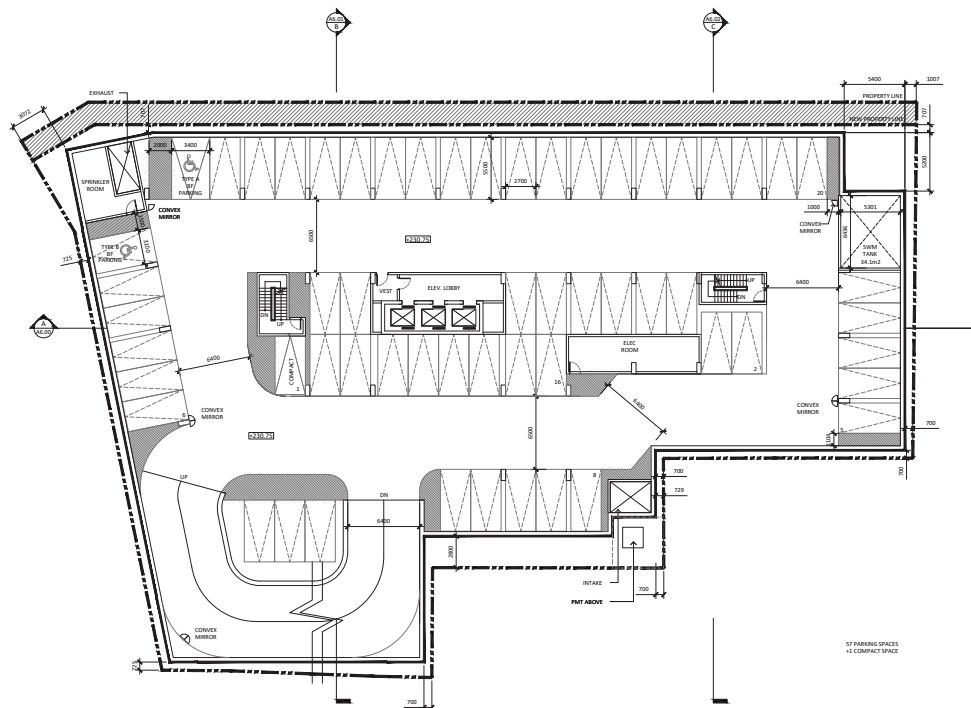


Figure 8: Proposed Parking Level 1, prepared by Studio JCI

4.4 BUILT FORM AND MASSING

The proposed development includes a 21 storey building with a maximum building height of 66.73 metres. The massing consists of two volumes. The podium of the building is four storeys in height, and frames a portion of the McDonald and Sophia Street frontage, adding to the pedestrian scale while animating the streetscape. This wraps around the west and south faces of the building to create a linear edge for the development and block. The west volume of the building has a maximum height of 20 storeys and connects to the east volume at 21 storeys in height [excluding mechanical penthouse]. The break in the massing and front façade softens in the visual impact building length, creating the sense of two smaller buildings that is further complimented by changes in materiality and elevation design.

The podium steps back at the north, west and south to provide adequate separation distances between the proposed high-rise portions of the building and existing built forms within the block. This provides an extended terrace for the private units on the 5th floor. The 21-storey portion of the building occupies a prominent location at the intersection of Clapperton and McDonald Street, and frames the proposed urban square, enhancing the gateway into the downtown area.

The ground floor and mezzanine will have expanded heights to accommodate active uses. This will increase the opportunity for glazing to strengthen the indoor-outdoor interface and reinforce sight-lines between the urban square and the interior. The elevated ground floor heights will further enhance the public realm and pedestrian experience.

The overall increase in building height is mitigated given its extensive separation from low-density neighborhood uses on the north side of Sophia Street. The extensive right-of-way widths of McDonald Street, Sophia Street and the triangular landscaped island directly adjacent the site provides appropriate separation to the neighbourhood and a transitional interface between the Urban Growth Centre and areas to the north. This transitional zone allows the site to achieve a greater height with a limiting impact on adjacent uses.

Section 4.3.7, Transition to Neighbourhoods of the Intensification Area Urban Design Guidelines, provides recommended guidelines to assist in the application of an angular plane for transitional purposes between higher and lower density areas. The primary purpose of the angular plane is to reduce and mitigate shadowing impacts. As demonstrated in Section 5.1 of this report, there is no significant shadowing impact to the north and east as a result of the extensive public lands that separate the site from properties to the north. As such, shadowing concerns are sufficiently mitigated.

Figure 8 and 9 provide a visual illustration of the angular plane from various vantage points. Given the edge of the Urban Growth Centre being located on the north side of Sophia Street, Figure 8 shows the angular plane as measured from the northern property line of the Sophia Street ROW. The majority of the building is located outside of the angular plane, particularly on the east side of the building. Projections occur along the western interface given the narrowing ROW width and limiting distance to the north. The angular plane projections are minor in the context of development in the area and the desired urban form for the Urban Growth Centre, specifically as shadowing impacts are mitigated. The angular plane has been measured as identified in Section 4.3.7 of the of the Intensification Area Urban Design Guidelines and treats the north side of Sophia Street as the edge of the transition zone.

Figure 9 illustrates the angular plane parallel to the building face. As indicated, the atypical interface between the site and adjacent neighbourhoods, and the non-linear edge to the Urban Growth Centre creates varying options on the application of the angular plane and the determination of impact. As shown in Figure 9, the parallel application from the face of the building illustrates no angular plane impact or projection as it related to the majority of the property frontage and from Lions Park (the primary interface between the site and the adjacent low density lands).



Figure 9: Aerial View - northeast, prepared by Studio JCI

It is acknowledged that there are some minor projections into the angular plane for the edges of the building at the identified pinch points where the depth of the public lands and transitional zone is narrower (i.e.. the northwest portion of the site). These projections are acceptable given the majority of the building is located outside of the angular plane when identifying Lions Park and areas north as the primary interface. Minor projections are also considered to be acceptable in relation to the optimal utilization of a site in delivering new housing units and mixed-use development opportunities within the context of an Urban Growth Centre. The primary purpose of the angular plane is not to prevent projections but to ensure that building design and appropriate transition to low density areas is ultimately maintained, and that shadowing impacts on these stable areas is mitigated. In our opinion, the combination of building design elements and extensive transition area achieves the intent of the recommended angular plane policy.



Figure 10: Aerial View - southwest, prepared by Studio JCI

4.5 ARCHITECTURAL DETAILING

The architectural design comprises a podium-tower building structure with horizontal and vertical articulation applied to enhance the character of the existing built form. A combination of projected balconies and recessed glazed surfaces create variation and transition between the podium and the tower and the west and east portion of the tower.

The proposed development architectural design renderings illustrate the materials and colour palette choices. Glazed surfaces are incorporated at grade to promote indoor and outdoor permeability while separating and “lifting” the podium upper floors from the ground. The main building entry is located at the recessed portion of the façade the breaks down the tower into two volumes to the top.

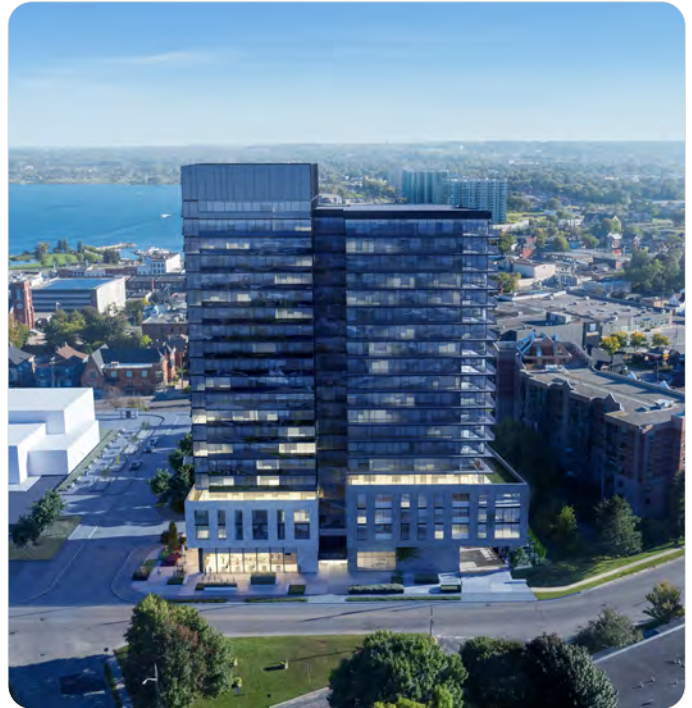


Figure 11: Rendering of Proposal, North, prepared by Studio JCI



Figure 12: Rendering of Proposal, West, prepared by Studio JCI



Figure 13: Rendering of Proposal, East, prepared by Studio JCI



Figure 15: Landscape Renders, prepared by Land Art Design



Figure 16: Landscape Renders, prepared by Land Art Design

4.7 SUSTAINABILITY AND MICRO-CLIMATE

The proposed development has been designed to achieve a number of goals related to sustainability and microclimate. The proposed development introduces compact intensification to an under-utilized site within a built-up area, reducing the need for sprawl into undeveloped areas. Limiting urban sprawl supports the maintenance of biodiversity throughout the region and reduces traffic congestion and unnecessary land consumption. Furthermore, the proposed development will be located within an urban node, in proximity of local amenities and services that can be accessed through active transportation and transit routes, reducing the number and length of vehicle trips. Through this pattern of development, the creation of complete communities is supported so that residents can have their daily needs met within their immediate community. The proposed development has also been designed to conform to regional and municipal standards regarding stormwater management and will utilize best management practices and explore new technologies to ensure efficient building design through the future detailed design process.

A Pedestrian Level Wind Study was prepared by Rowan Williams Davies & Irwin Inc. (RWDI) to assess the wind conditions at various points around the proposed development. Wind speeds at the parking lots and walkways on the site are generally anticipated to be comfortable for walking or better throughout the year, which is suitable for the intended usage. During the winter, potentially uncomfortable wind speeds are anticipated on the walkway at the northeast building corner. This is due to the acceleration of northwesterly winds around the northeast building corner. However, overall wind conditions on and around the proposed project site are not expected to exceed the pedestrian safety criterion due to local wind climate and positive building design features.

5

SUPPORTING
STUDIES

5.1 SHADOW STUDY

A Sun/Shading Study has been prepared by Studio JCI to assess whether the proposal causes undue shadow impacts on public parks and open spaces, private amenity areas, and surrounding streets. This Study serves to identify and limit any resultant shadowing that may produce undesirable conditions on the public realm and other sensitive areas. The Study has been prepared according to the Terms of Reference provided by the City of Barrie dated October 2018. As such, shadow tests have been conducted on the following dates and at the following times:

Test Dates

April 21, June 21, September 21, and December 21

Test Times

Hourly intervals starting 1.5 hours after sunrise and ending 1.5 hours before sunset:

- April 21st: 7:54am - 6:41pm
- June 21st: 7:05am - 7:37pm
- September 21st: 8:35am - 5:48pm
- December 21st: 9:22am - 3:12pm

The diagrams in Figures 17 to 20 are the shadow tests from each of the test months, illustrating morning and afternoon shadows. Please see the full Sun/Shading Study prepared by Studio JCI, filed under separate cover [February 24th 2022]. The following discussion provides an overview of key shadow impacts from the proposed development.

April 21

The morning shadows of April 21st cast partially onto the mid-rise and high-rise active development sites to the northwest, impacting a small portion of the front yard. Shadowing during the daytime impacts the traffic island to the north of the site, with partial impacts on the public sidewalks of Sophia Street, McDonald Street and Clapperton Street. Impacts on the Sophia Street sidewalk recede by 2:54pm. Shadowing reaches the urban block to the northeast by this time, with minor cast shadow evident in the front yards of the properties at 18, 20, 22, 24, 26, 28, 30, 32, and 34 McDonald Street. Evening shadows cast eastward, with impacts evident on lands which are mainly occupied by surface parking areas.

June 21

The morning shadows of June 21st cast further westward, impacting a larger portion of Sophia Street at 7:05am, but with a reduced extent throughout the remainder of the day. Cast shadow is also reduced on the front yards of the lots to the north of the Sophia Street right-of-way. The south curb of the landscaped island is impacted during the daytime only. Towards evening, a reduced shadow extent results in zero impact on low-rise dwellings within the northeast block.

September 21

The morning shadows of September 21st cast further northwest, with moderate impacts from cast shadow on the low rise properties fronting the west side of Drury Lane. These recede by 10:35am, with shadow mainly cast onto the roof and front yard of the low-rise apartments at 18 Sophia Street. Shadowing impacts the south portion of Lions Park between 11:35am and 2:35pm. With shadowing elongated towards sundown, a greater portion of the block to the northeast is impacted by incremental shadow. Low-rise dwellings within the block are not impacted for longer than 2 hours in duration.

December 21

Shadowing during the winter solstice is generally more prevalent, with longer shadow extents seen across the test times. Lions Park is impacted by overshadowing between 10:22am and 2:22pm. The low-rise properties within the block to the northeast are partially impacted toward evening, primarily the front yards of those fronting Sophia Street towards the McDonald Street intersection. These impacts occur prior to sundown.

Summary

The majority of cast shadow falls onto the right-of-ways of Sophia Street, McDonald Street, and to a lesser extent, Clapperton Street. As shadowing progressively moves eastward, areas of the public sidewalk partially impacted are not in shadow for an extensive period of time. Lions Park remains free from overshadowing in the Spring and Summer months, when the park will experience more frequent utilization. The park is partially impacted by shadowing during the month of September, with shadowing evident throughout test times in December. However, the park does not appear to have winter programming and is therefore not anticipated to be occupied as frequently in the winter months.

Impacts on low-rise dwellings generally occur in moderation within the block to the northeast. Impacts during Spring are minor, with no impacts during the month of June. Shadow is cast onto the front yards of the dwellings fronting McDonald Street during the month of September, and those fronting Sophia Street are moderately impacted during December towards sundown.

The proposed development location, separated from the detached homes to the northeast by Sophia Street E and Clapperton Street, Lions Park and a landscaped island, contributes to the increased height without compromising sunlight access. These public lands provide sufficient separation to mitigate shadowing. As previously discussed, most of the building is located outside the angular plane, especially on the east side of the building. Given the desired urban form for the Urban Growth Centre to increase housing diversity and opportunities, the proposed design provides intensification while appropriately transitioning the surrounding built form. This shadow study concludes that the proposed development does not generate any prolonged and adverse shadowing on the surrounding dwellings and public spaces.



APRIL 21, 7:54 AM



APRIL 21, 8:54 AM



APRIL 21, 11:54 AM



APRIL 21, 12:54 PM



APRIL 21, 3:54 PM



APRIL 21, 4:54 PM

Figure 17: Shadow Study - April



APRIL 21, 9:54 AM



APRIL 21, 10:54 AM



APRIL 21, 1:54 PM



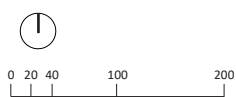
APRIL 21, 2:54 PM



APRIL 21, 5:54 PM



APRIL 21, 6:41 PM



SHADOWS OF PROPOSED
BUILT FORM
SUBJECT PROPERTY

APPROVED BUILDINGS
AND STRUCTURES

PROPOSED BUILDINGS
AND STRUCTURES



June 21, 7:05 AM



June 21, 8:05 AM



June 21, 11:05 AM



June 21, 12:05 PM



June 21, 3:05 PM



June 21, 4:05 PM



June 21, 7:05 PM



June 21, 7:37 PM

Figure 18: Shadow Study - June



June 21, 9:05 AM



June 21, 10:05 AM



June 21, 1:05 PM



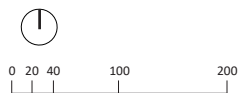
June 21, 2:05 PM



June 21, 5:05 PM



June 21, 6:05 PM



SHADOWS OF PROPOSED
BUILT FORM

SUBJECT PROPERTY

APPROVED BUILDINGS
AND STRUCTURES

PROPOSED BUILDINGS
AND STRUCTURES



SEPTEMBER 21, 8:35 AM



SEPTEMBER 21, 9:35 AM



SEPTEMBER 21, 12:35 PM



SEPTEMBER 21, 1:35 PM



SEPTEMBER 21, 4:35 PM



SEPTEMBER 21, 5:35 PM

Figure 19: Shadow Study - September



SEPTEMBER 21, 10:35 AM



SEPTEMBER 21, 11:35 AM



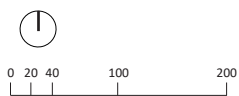
SEPTEMBER 21, 2:35 PM



SEPTEMBER 21, 3:35 PM



SEPTEMBER 21, 5:48 PM



 SHADOWS OF PROPOSED BUILT FORM
 SUBJECT PROPERTY

 APPROVED BUILDINGS AND STRUCTURES

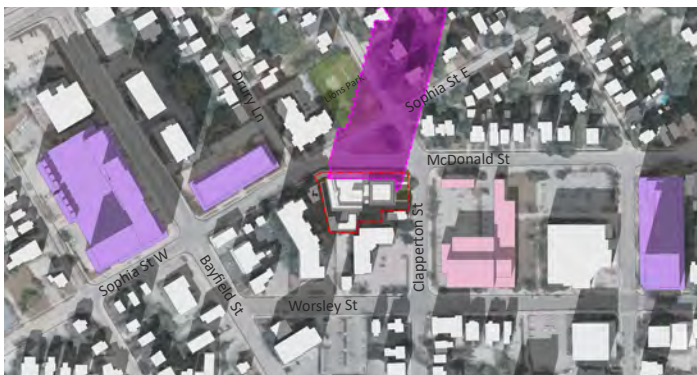
 PROPOSED BUILDINGS AND STRUCTURES



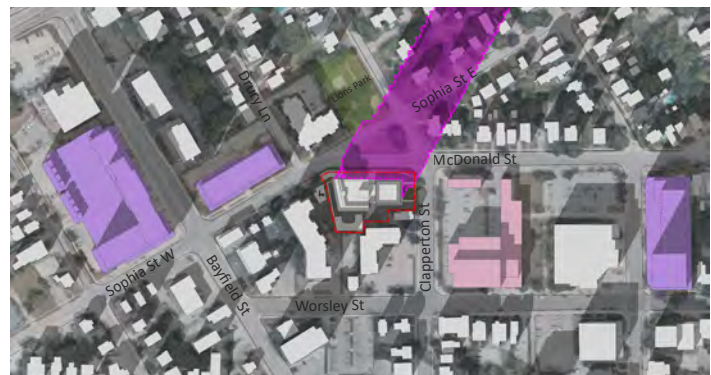
DECEMBER 21, 9:22 AM



DECEMBER 21, 10:22 AM



DECEMBER 21, 1:22 PM

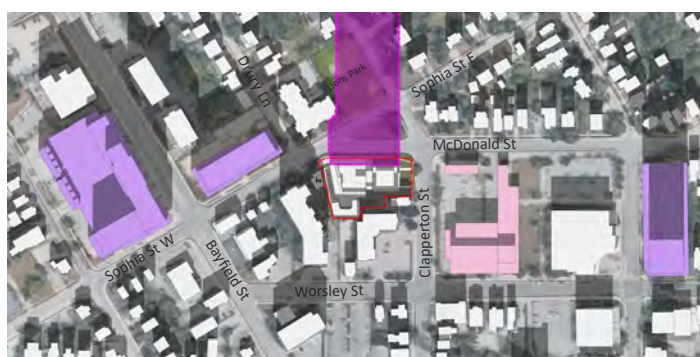


DECEMBER 21, 2:22 PM

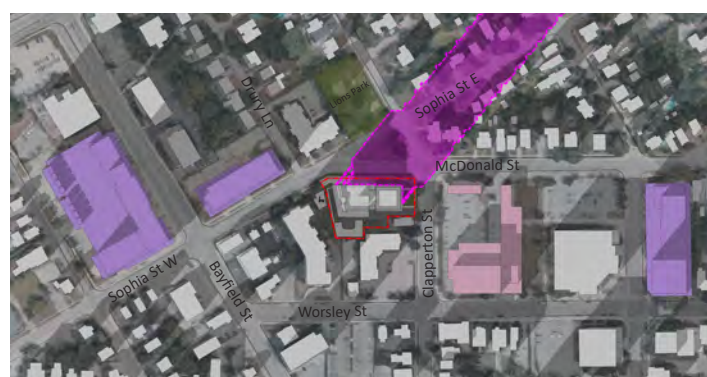
Figure 20: Shadow Study - December



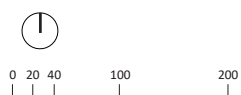
DECEMBER 21, 11:22 AM



DECEMBER 21, 12:22 PM



DECEMBER 21, 3:12 PM



SHADOWS OF PROPOSED
BUILT FORM

SUBJECT PROPERTY

APPROVED BUILDINGS
AND STRUCTURES

PROPOSED BUILDINGS
AND STRUCTURES

6 CONCLUSION

The proposed development within Downtown Barrie at Sophia Street East, McDonald Street and Clapperton Street allows for intensification in a prominent central location, focusing on design principles to achieve policy goals. The building consists of a 4-storey podium and a 21-storeys tower, combining residential and commercial uses with an urban square and extensive landscaped areas to integrate the proposed development into its immediate public realm and improve the pedestrian experience of the area.

The building design was articulated to break up the tower into two major massing structures to minimize visual impact and create a more porous envelope to reduce wind speed impacts and minimize the visual massing of the building. The proposed architectural details and materiality aim to contribute to the neighbourhood's character and enhance pedestrian experiences in public spaces by providing permeability between indoor and outdoor areas. Although there are minor projections into the angular plane at particularly identified areas, the majority of the building is located within the angular plane given the transitional zone between the site and the stable neighbourhood uses to the north. The extensive separation of the site as a result of the ROW depths, the area context, and the supportive Sun Shadow Study demonstrates that the proposed height, building form and ultimate design is appropriate for the site and fulfills the underlying objectives of the applicable policies and recommended urban design guidelines.

