



# URBAN DESIGN BRIEF

**130 & 140 HIGHLAND ROAD E, & 270 SPADINA ROAD EAST**  
CITY OF KITCHENER

PREPARED BY:  
MHBC PLANNING

  
MHBC PLANNING  
URBAN DESIGN  
& LANDSCAPE  
ARCHITECTURE



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# Section 1

## 1.1 INTRODUCTION

MacNaughton Hermsen Britton Clarkson Planning Limited (MHBC Planning) has been retained the 270 Development Inc. to prepare an Urban Design Brief for the redevelopment of the property municipally known as 130-140 Highland Road East (hereinafter referred to as the “subject lands”) as Phase III of a larger consolidated land holding which includes the recently redeveloped and currently under construction Phases I and II respectively, of lands known as 270 Spadina Road East. In order to permit the proposed redevelopment, the approval of amendments to the City of Kitchener Official Plan and Zoning By-law are required.

The Phase III of the proposal includes the redevelopment of the subject lands to a high density residential use consisting of a seventeen (17)-storey rental apartment building (with a 5 storey podium and an 11 storey tower) with 211 units comprised of 1 and 2 bedroom units, as well as 1 and 2 bedroom with optional dens. Structured and surface parking are proposed.

The purpose of this Urban Design Brief is to describe the development proposal including the design objectives, provide insight as to why design decisions are appropriate given the site specific context and describe how the proposal is consistent with and supportive of the City of Kitchener urban design policies and directives.

## 1.2 SITE DESCRIPTION AND CONTEXTUAL ANALYSIS

The subject lands are municipally addressed as 130 & 140 Highland Road East and 270 Spadina Road East are located in the City of Kitchener and Region of Waterloo. The lands have an area of 0.92 hectares with frontage onto Highland Road East and Spadina Road East.

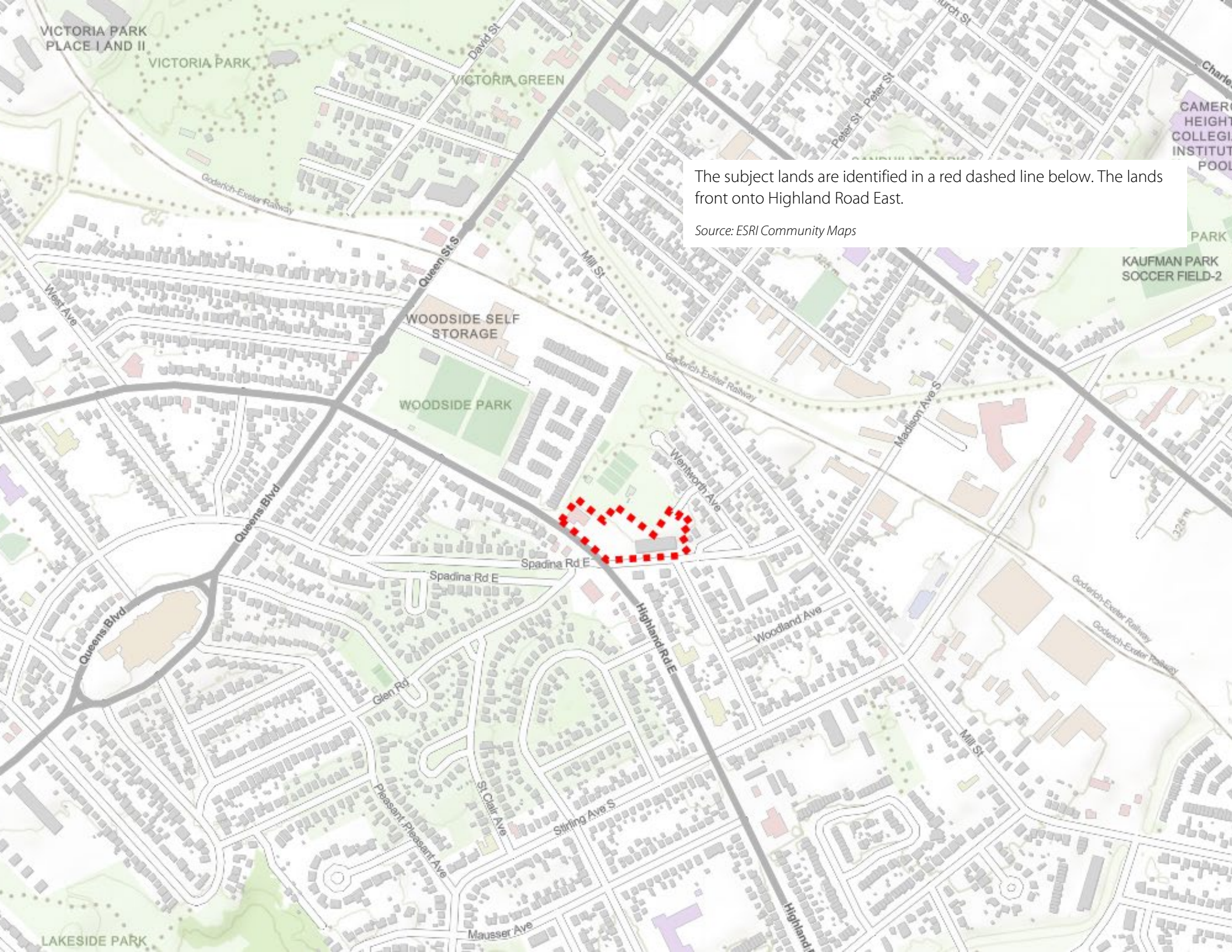
The subject lands are located in the Mill Courtland Woodside Park neighbourhood and are surrounded by a mix of land uses including

commercial uses immediately south of the site, parkland uses directly north of the site, and residential uses along Highland Road East and Spadina Road East.

The subject lands are also well served by existing Grand River Transit (GRT) bus routes. Four GRT bus routes exist within 500 metres of the subject lands (Route 16, Route 1, Route 2, and iXpress Route 2004) including iXpress Route 204 providing connections throughout the City and Region to key locations, including Grand River Hospital, St. Mary’s General Hospital, Conestoga College, and to the broader Region via connecting bus routes and the ION Light Rail Transit (LRT) at multiple stations.

Sidewalks are provided on both sides of the streets along Highland Road East and Spadina Road East. In terms of cycling infrastructure, the City of Kitchener Cycling and Trails Master Plan proposes a separated bicycle lane along Highland Road East through to Hoffman Street in the south and Winstow Drive to Spadina Road East in the east providing connections to the greater active transportation network. Cycling and pedestrian connections are proximate the site through Highland Courts Park with connections to the Iron Horse Trail which is a Primary Multi-Use Pathway/Connection that connects Downtown Kitchener to Uptown Waterloo are also present near the site.

The subject lands are located in close proximity to several commercial uses along Highland Road East. These uses are within walking distance (less than 100 metres) and serve day to day needs of the neighbourhood and include a bakery, several convenience stores, personal services, and a gas station. In terms of institutional uses, the subject lands are located within walking distance (less than 750 metres) from St. Bernadette Catholic School and St. Mary’s General Hospital (less than 800 metres). Recreational uses (Woodside Park, Highland Courts Park, Lorne Park, Glendale Park, and access to the Iron Horse Trans Canada Trail) are located within a 5 minute walking distance of the subject lands.



The subject lands are identified in a red dashed line below. The lands front onto Highland Road East.

Source: ESRI Community Maps

The surrounding area includes a mix of land uses including residential, commercial, and parkland uses. The surrounding land uses are generally described below:

**NORTH** Immediately north of the subject lands is the Kitchener Lawn Bowling Club and Highland Courts Park with connections to the Iron Horse Trans Canada Trail. Further north is Mill Street, a City Arterial Street, provides connections throughout the City of Kitchener. *Source: googlemaps.ca*



**EAST** Directly to the east of the proposed development is the easterly portion of the subject lands known as 270 Spadina Road East which contains an existing six storey building that has been refurbished (Phase I) with an 6 storey addition to the Phase I building that is currently under construction (Phase II of the L shaped building). A mix of residential uses consisting of single detached, semi-detached, four plexes and townhouse dwellings are located in the broader neighbourhood to the east of the site.

*Source: googlemaps.ca*



**SOUTH** Directly south of the subject lands are a mix of commercial uses, including a gas station, convenience store, bakery, food market, and discount clothing alteration services. Further to the south are low density residential dwellings consisting primarily of single detached homes. *Source: googlemaps.ca*

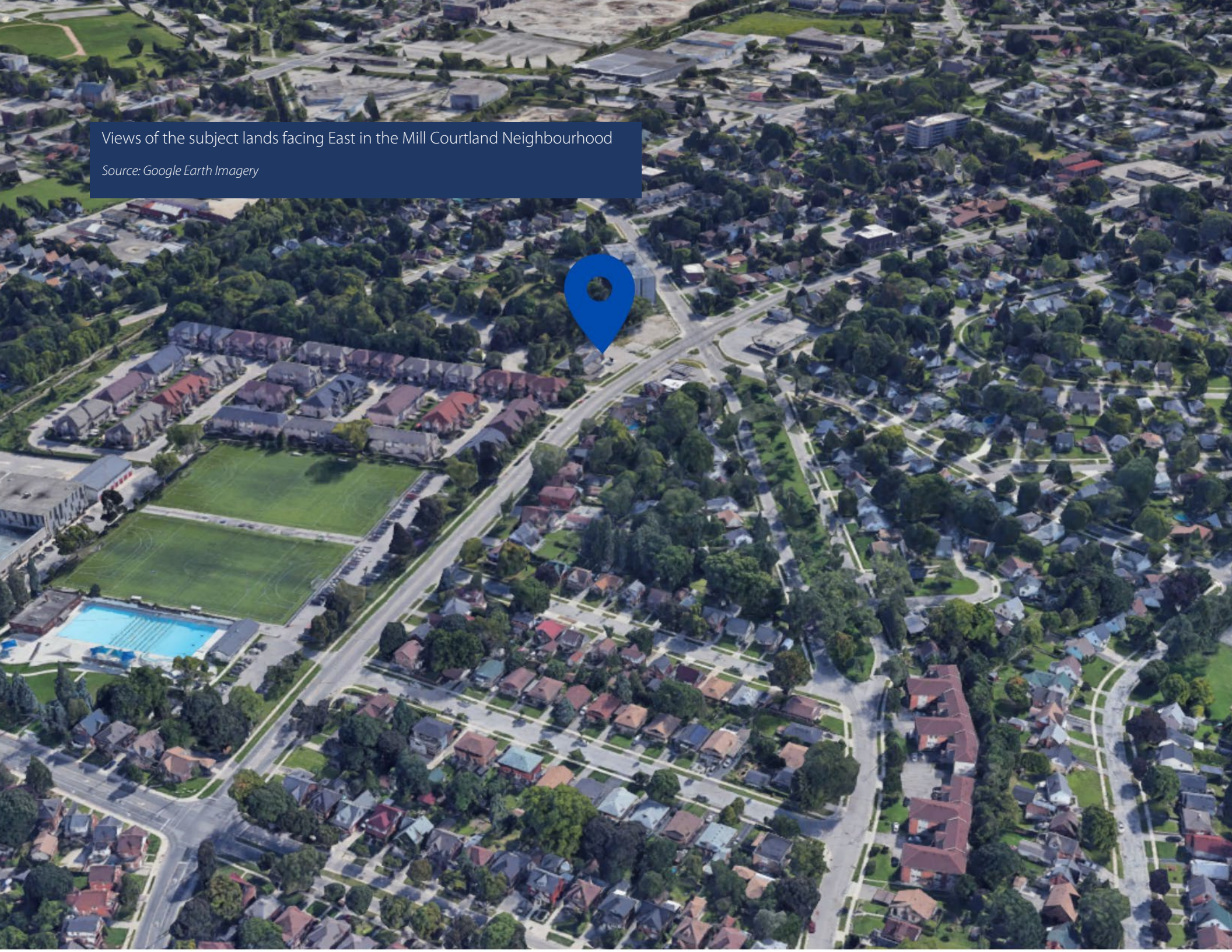


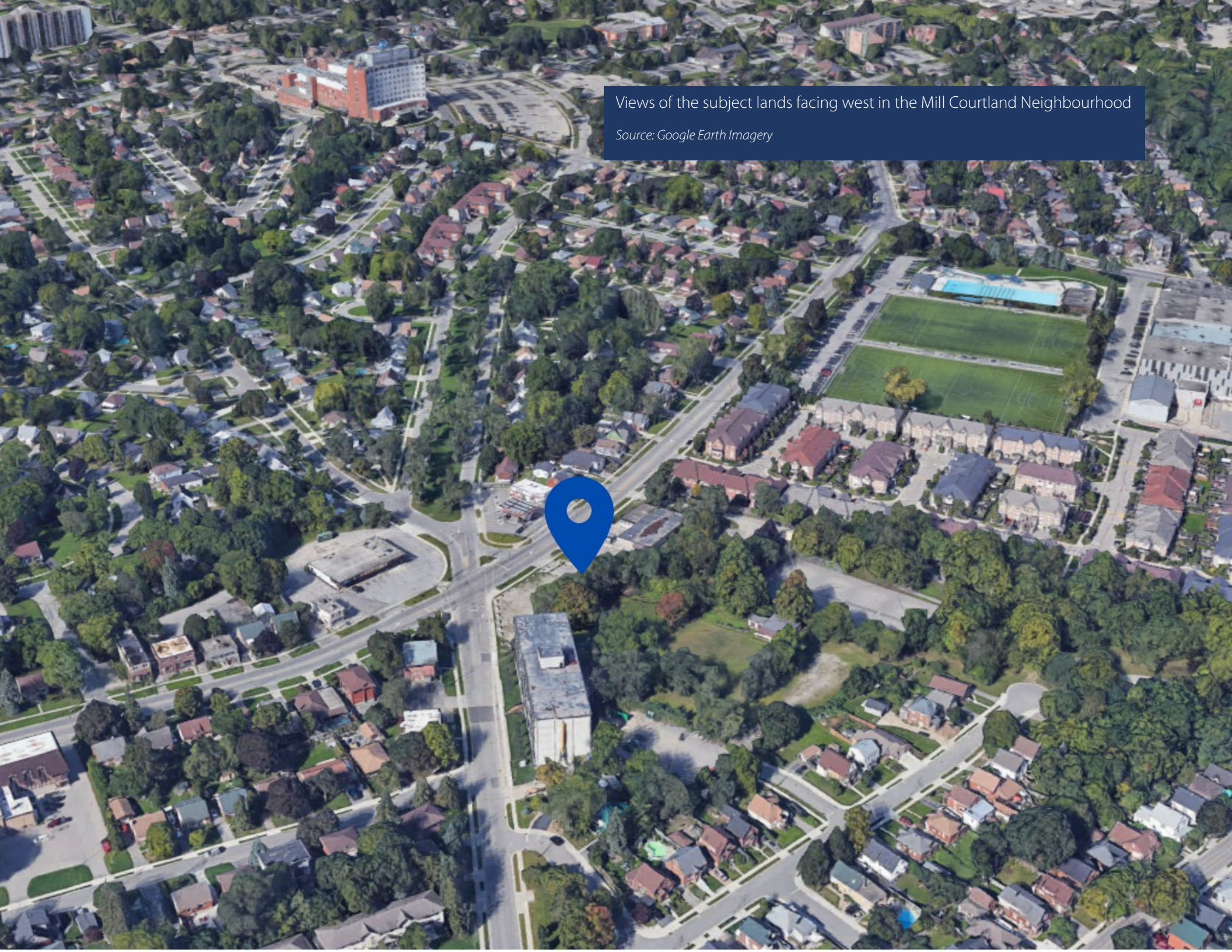
**WEST** Directly to the west of the subject lands is a 128-unit townhouse condominium development. Further to the west is Woodside Park which contains two soccer fields and an outdoor community pool. West of Woodside Park is Queen Street South, a Regional Road which provides connections throughout the Region of Waterloo. *Source: googlemaps.ca*



Views of the subject lands facing East in the Mill Courtland Neighbourhood

Source: Google Earth Imagery





Views of the subject lands facing west in the Mill Courtland Neighbourhood  
*Source: Google Earth Imagery*

### 1.3 VISION, GOALS AND OBJECTIVES

The following vision has been developed for the subject lands:

The proposed development will contribute to a high quality vibrant community that integrates with the surrounding area and provides for connectivity to the existing and planned active transportation network. The proposed design will: achieve transit supportive densities; provide a transition in built form sympathetic to the surrounding urban context; place emphasis on the public realm through building and landscape design and contributes to attainable housing demands within the City of Kitchener.

The following goals and objectives have been identified for the purposes of achieving the vision for the redevelopment:

1. Create a strong visually appealing street edge that will improve the Highland Street East and Spadina Road East streetscapes.
2. Provide for development that will be supportive of transit and alternative transit modes, and will encourage future residents to walk to and from nearby residential, commercial office and retail uses, services and public amenities.
3. Provide a development that, through the combination of massing, orientation, pedestrian entrances, architectural elements, detailing, and material selection, will result in a positive pedestrian experience along the adjacent street frontage, between buildings, and within planned private outdoor amenity spaces.
4. Provide a building that will improve and modernize Highland Street East and Spadina Road East in this location by incorporating high quality architectural detailing and contemporary design.
5. Provide opportunities for future residents to access open spaces and parks within the area, including the Iron Horse Trail, Highland Courts Park, and Woodside Park.
6. Create a development which incorporates sustainable design principles and techniques.
7. Introduce additional building height within a neighbourhood node in a manner that is sympathetic to surrounding uses.



# Section 2

## 2.1 SITE DESIGN

The development proposal includes a residential infill redevelopment of the subject lands that will provide a compact built form, complement existing uses, and enhance the public realm along Highland Street East and Spadina Road East.

The proposed Phase III of the redevelopment includes a seventeen (17)-storey rental apartment building consisting of a 5-storey well-defined podium with a 12-storey tower. Phase III proposes a mixture of surface, underground and structured parking that provides for a total of 118 parking spaces (including 13 visitor spaces and 3 barrier free spaces at grade in the surface lot at the rear of the proposed building) internal to the site as well as two bike storage rooms (Type A) that provide indoor parking for 91 bicycles.

The proposed development will provide the Mill Courtland Woodside Park neighbourhood with 211 additional residential units including a mix of one bedroom, and two bedroom units as well as 1 and 2 bedroom units with optional dens ranging in size from 41 sq. metres to 85 sq. metres for a site total of 404 units. The 5 storey podium contains 8 Live-work units at the ground and first storey levels to provide a mix of uses (commercial and residential) that will help activate the street frontage along Highland Road East. Vehicular access to the structured parking area is proposed via an existing gravel laneway off of Highland Road East. Multiple pedestrian accesses are proposed along Highland Road East, including the primary entry to the principal lobby area. Access to the entryway is planned as barrier free.

The proposed building for Phase III has been oriented with frontage onto Highland Road East to define the street edge and reinforce a human scale by providing direct connections to the existing public realm, streetscape and active transportation network. The existing surrounding uses have been considered in the design of the proposed development.

The proposed development has been designed to provide frequent pedestrian connections to the public realm through building entrances,

parking, proposed walkways and connections. Barrier free sidewalks have been provided leading directly from the public realm and parking areas to the principle building entrances. Building entrances are planned to be highly visible and well lit with pedestrian scaled lighting.

The proposed Phase III development includes a range of residential unit types with amenity areas and landscaped features throughout. A common outdoor amenity space is provided above grade above the structured parking at the northeast corner of the site. Individual private balconies will be provided for each unit with many units facing onto the interior courtyard. The development design is intended to provide an attractive area with open spaces for a range of recreational uses.

## 2.2 BUILT FORM, MASSING & ARTICULATION

The massing of the proposed Phase III building is broken up using a number of techniques including changes in building materials/colours; projections; recessions; and varying window sizes. A 5-storey well-defined podium that steps up to an 10-storey podium has been designed along the Highland Road East frontage.

The massing of the building has been designed to create a comfortable and engaging pedestrian environment, which is further enhanced through the provision of landscape and streetscape improvements.

The use of building materials, defined pedestrian entries and building orientation will assist in creating a human scale of development. The building design demonstrates a contemporary architectural expression and will be constructed of high quality materials.

The proposed Phase III development has been designed with consideration to the existing built form context, particularly other low-rise and mid-rise both existing and planned within the area. The building tower is stepped back from the western façade of the building to ensure an appropriate transition from adjacent townhouse dwellings and to minimize shadowing impacts. Overall, the proposed development will assist in the continued intensification and development of a neighbourhood node through the addition of a residential building within walking distance to amenities within the area.

The front building entrance is well defined and highly visible from Spadina Road East and the public realm. Building entrance points are planned to be highly visible from the road network and public amenity areas, with landscaping and enhanced architectural features. The overall proposed building design demonstrates symmetry and rhythm while promoting a high quality design through the use of materials and street-level design. High quality materials including a large amount of glass will be incorporated into the facades, resulting in an attractive modern design. Repetition of lines and windows through both vertical and horizontal articulations will be used to break up building mass.

### 2.3 TRANSIT SUPPORTIVE DESIGN

The proposed development has been designed to prioritize active transit and public transit. Building design provides for a strong pedestrian realm by activating Highland Road East and provides mass along the Highland Road East frontage.

The location of the development and existing active and public transportation infrastructure in the area encourages walking, cycling and transit use due to close proximity. Highland Road East offers GRT services (within a two minute walk from the site) with connections throughout the City and Region. As well, the City of Kitchener Cycling and Trails Master Plan proposes a separated bicycle lane along Highland Road East through to Hoffman Street in the south and Winstow Drive to Spadina Road East in the east with connections to existing cycling infrastructure. Cycling and pedestrian connections also exist to the Iron Horse Trail through Highland Courts Park.

Consideration has been given to the full range of transportation modes including the provision of bike storage. Bicycle parking will be accessible near main entrance areas where feasible to support active transportation. Two bicycle parking storage rooms are proposed at grade inside the proposed building by the main entrance to the parking garage

### 2.4 PEDESTRIAN & VEHICULAR CIRCULATION

The siting of the proposed building on the subject lands will promote safe pedestrian linkages through a continuous pedestrian experience along the primary frontage of the building. The proposed entranceways and walkways will ensure barrier-free accessibility requirements are met by implementing sufficient walkway widths, gradual grade changes, and textured surface paving where appropriate. The main building entrances will be covered and weather-protected with appropriate lighting to create a comfortable and well-defined pedestrian arrival and departure experience.

The proposed parking arrangement and design will allow for a safe and continuous vehicular movement between the parking spaces and sidewalks while ensuring accessible parking needs are prioritized and situated in close proximity to building entrances to ensure barrier free access is provided.

The proposed “at grade” surface parking area is located to the rear of the proposed building for Phase III and will integrate appropriate landscape treatment and accent paving materials where feasible to enhance the pedestrian experience at grade level and to ensure a high quality landscape transition is achieved. The majority of the proposed parking is located through one underground parking level and one structured parking level, which limits the overall amount of surface parking. Underground parking access is provided via access from the existing gravel road adjacent to the property. The underground parking and structured parking will help to reduce surface level parking and provide opportunities for greenspace and landscaping.

Loading, storage and other services will be internalized and located at the rear of the building to minimize impacts on landscaped open space. Access to loading, storage and servicing will be located efficiently to minimize impacts on vehicular and pedestrian traffic. The overall design of the parking and service areas are designed to mitigate the overall visual impact to the public realm. In order to strengthen the development’s pedestrian amenities, vehicle parking and service areas will be screened with thoughtfully placed vegetation and screening. Paving materials will differ from parking lots to pedestrian

crossings, which will provide visual cues as well as provide a richer pallet of materials. Detailed landscaped design will be incorporated at the site plan stage of development.

## 2.5 SUSTAINABILITY CONSIDERATIONS

Green and sustainable initiatives are encouraged within the development to assist in reducing the development's impact on the environment, address climate change and promote sustainable initiatives.

The proposed development represents an efficient use of land through the provision of a range and mix of residential unit types. Through future site plan processes, steps to reduce salt impact to the natural environment and water systems will be undertaken. The development will incorporate the planning of native and non-invasive plant species for streetscape plans and through the subject lands.

Future occupants wishing to seek alternative forms of transportation will have options for walking, biking, or public transit available. This will be facilitated by the provision of bicycle parking, as well as the provision of future pedestrian connections to both the existing sidewalk system and surrounding uses. The proposed development is located in close proximity to a number of transit stops, including future ION stops, making public transit a viable option. The provision of the majority of parking stalls in structured and underground parking (that form part of the overall building structure) minimizes land consumption.

## 2.6 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

### NATURAL SURVEILLANCE

Natural surveillance occurs by designing the placement of physical features, activities and people in such a way as to maximize visibility and foster positive social interaction among legitimate users of private and public space. It is directed at keeping intruders under observation based on the theory that a person inclined to engage in criminality will be less likely to act on their

impulse if they can be seen. The proposed development achieves natural surveillance by:

- Maximizing the number of "eyes" watching the site by creating a visual connection and maintaining unobstructed views from within the building to the exterior, as well as, between the street, the sidewalk, and the building.
- Proposing spaces and uses that are capable of generating activity (unit balconies).
- Placing windows along all sides of the building that overlook public sidewalk and the parking area.
- Designing lighting plans that avoid creating blind spots and ensuring potential problem areas are well lit (pedestrian walkways, stairs, entrances/exits, parking areas, recycling areas, etc.).

### ACCESS CONTROL

Access control is achieved by clearly differentiating between public space and private space. The principal of access control is directed at decreasing crime opportunity. The overall goal with this CPTED principle is not necessarily to keep intruders out, but to direct the flow of people while decreasing the opportunity for crime. The proposed development achieves access control by:

- Providing clearly identifiable, point(s) of entry into the building.
- Creating one well-defined site entrance for vehicular access.

### TERRITORIAL REINFORCEMENT

Territorial Reinforcement is the intentional design of the site to create a "border" between private and public property. These measures are not meant to prevent anyone from physically entering, but to create a feeling of territoriality and send a message to offenders that the property belongs to someone. The proposed development achieves the principle of territorial reinforcement by:

- Clearly delineating private from public property via: pavement

treatments, entry treatments, landscaping, signage, etc.

- Delineating desired pedestrian and vehicular circulation.

## **MAINTENANCE**

The other key aspect of CPTED is property maintenance; on the premise that good maintenance practices and upkeep send the message that the property is cared for on a regular basis. Following construction of the development, property management will ensure that the buildings interiors and exteriors are well maintained.

Rendering of proposed building South and East Facades



Rendering of West and South façades along Highland Road East



Rendering of North and West façade from rear parking area

# Section 3

## 3.1 CITY OF KITCHENER OFFICIAL PLAN

Section 11 of the City of Kitchener Official Plan contains Urban Design policies. It is intended that the urban design policies will provide guidance and direction as the city grows, develops, and evolves. The proposed development meets the City's urban design objectives (11.1.1 – 11.1.8) by achieving a high standard of urban design. The following is a summary of how the proposal meets the relevant design policies from Section 11 (Urban Design) of the current Official Plan:

### **General Policies**

#### **Streetscape**

*The City will support the character of streets through the coordination of site, building and landscape design on and between individual sites with the design of the street.*

The proposed building and primary building entrances will be oriented towards the street and will support the character of the surrounding area. The proposed development will have direct access to the public sidewalk system, landscaping along street frontages, and a visually appealing building façade that enhances the public realm experience. Active uses at grade will activate the streetscape. The building design will be compatible with the surrounding streetscape, with regard to scale, placement, materials, and landscape and architectural features.

#### **Safety**

*The City will apply Crime Prevention through Environmental Design (CPTED) principles in review of new developments, redevelopments and infrastructure projects to implement crime prevention strategies that will enhance the effective use of space. Where feasible, and in compliance, with other policies of this plan, the City will ensure the efficiency of emergency medical, fire, and police services be considered in the design of communities, neighbours and individual sites.*

*Development applications will be reviewed to ensure that they are designed to accommodate fire prevention and timely emergency response.*

CPTED considerations are analyzed within this brief. The subject lands are located in a Built-Up area within close proximity to emergency services. Emergency services are able to access the development from the access off of Highland Road East. The building will be designed in compliance with the Ontario Building Code including aspects related to fire prevention suppression. The proposed development is located in a highly visible location with sufficient eyes on the property from surrounding buildings for natural surveillance.

#### **Universal Design**

*The City will encourage new sites to be designed, existing sites to be redeveloped, the public realm and community infrastructure to be planned to be barrier-free and universal accessibility by all citizens. In this regard, the City will enforce the Ontario Building Code and other accessibility related legislation and regulations.*

The proposed development has been designed with accessibility in mind and in compliance with the Ontario Building Code in this regard. Main entrances are located at grade, and appropriate ramping will be incorporated where required. Access to all floors will be available via elevators.

#### **Priority Locations**

*Policy 11.C.1.21 The City will promote the utmost standard of urban design for sites located at strategic or prominent locations in the City, such as at priority locations in the Urban Growth Centre, along major arterial streets, at street intersections and at the entrance points to the City; communities, neighbourhoods or design districts.*

The subject lands are located at a street intersection. As such, the proposed development will be designed with high quality materials and architecture. In particular, appropriate building articulation and fenestration has been incorporated to enhance the building facades along both street frontages, thereby enhancing the streetscape. The site has been designed as a positive, contemporary contribution to the area.

## Site Design

*Policy 11.C.1.30 includes a number of factors to be considered through the Site Plan Control Process.*

The various considerations included in Policy 11.C.1.30 have been addressed through the proposed design of the site. This includes: improvements to the aesthetic quality of the site from the public realm; the provision of safe, comfortable and functional site circulation; the provision of landscaping that enhances the proposed building as well as the streetscape; and the appropriate incorporation of mitigation techniques to minimize adverse impacts onto adjacent properties.

## Building Design, Massing and Scale Design

*The Official Plan contains three policies related to Building Design, Massing and Scale Design. These policies encourage redevelopment projects to create attractive streetscapes and to contribute to rich and vibrant urban places. These policies encourage attractive building forms, facades, and roof designs which are compatible with surrounding buildings. For infill development, the policies encourage development which compliment existing buildings and contribute to neighbourhood character, particularly if located within close proximity of a recognized cultural heritage resource. Architectural innovation and expression is also encouraged.*

The proposed development will provide a unique built form that will be a positive addition to an area with a wide range of building and architectural styles. The proposed development will contribute to an active streetscape and will contribute to Kitchener as a rich and vibrant urban place. The proposed development has been designed to complement existing buildings while providing thoughtful intensification of the site.

## 3.2 CITY OF KITCHENER URBAN DESIGN MANUAL

The City's Urban Design Manual contains detailed guidelines that apply to all development within the City. The Urban Design Guidelines contained within the Manual represent a framework for establishing Kitchener's future urban

form. It sets out a number of positive design principles, which should be followed in the design of new communities, sites and buildings. These guidelines are to be reviewed and evaluated with all processes and approvals. The purpose of the Guidelines is to ensure the new development is consistent with the City's Vision for urban design. Below is analysis of how the proposed development considers applicable guidelines within Part A and Part B of the Manual.

### 3.2.1 City-Wide Design Guidelines

The purpose of the City-Wide Design section of the Urban Design Manual is to set forth the universal design expectation which apply to all of Kitchener. This Section includes urban design objectives that are relevant to all geographies and building typologies and is divided into two sections: Community Design and Site Design. For the purpose of this brief, the Site Design guidelines will be focused on, which include guidelines related to Built Form, Shared Spaces, and Site Function with sub-categories within each of these two sections.

The proposed development has appropriately considered City-Wide guidelines as follows:

- The proposed development focuses height and mass towards the Highland Road East street edge where it provides the best public realm opportunities while minimizing impacts on surrounding lands.
- The building is designed to provide sufficient transition in mass, height, and density between adjacent land uses, particularly with respect to the residential townhouse development directly to the west of the site.
- Massing techniques are incorporated into the building design, including building articulations such as projections, recesses, which when combined with variations in colour, materials, and texture, aid in the reduction and diversification of the building massing and enhance the streetscape.
- The building is designed with defined entrance features and attractive facades to enhance the public realm along Spadina Street East and Highland Road East.



- The building entrances on the Spadina Street East are designed to be visible and directly accessible from the public street.
- All building elevations will be designed to provide transparency, architectural continuity, visual interest, and contextual sensitivity. No blank walls are proposed. Through the inclusion of proposed windows and balconies, there will be sufficient natural surveillance onto the surrounding public street.
- The proposed building will be designed in a contemporary fashion, meaning that the building represents present-day architecture, with varied details, materials, colours and textures.
- The design of the building provides for pedestrian weather protection through the use of covered building entrances.
- Lighting will be designed according to City standards, and will minimize glare and light spilling onto surrounding areas.
- Energy efficient light fixtures will be used, and over lighting will be avoided throughout the development.
- A mix of private balconies and shared amenity areas are to create a variety of recreation options.
- A shared amenity area is provided internal to the site with sufficient natural surveillance from balconies as part of the Phase I and II development at 270 Spadina. The Phase III building will also have numerous balconies over looking the common amenity area for added natural surveillance.
- The site has been designed with reductions in parking to reduce the demand of private automobiles and to encourage active modes of transportation.
- The location of the underground parking access, structured parking area, and ground level parking area is located interior to site and subsequently screened from view of the public realm and streetscape.
- Driveway access to the proposed development is located off an existing gravel driveway off of Highland Road East. The entrance provides connections to the surrounding neighbourhood.

Other sections of the City-wide guidelines, including Services and Utilities, Waste and Recycling, and Snow Storage will be considered through the detailed site plan review process and prior to final site plan approval.

### 3.2.2 Guidelines for Nodes & Corridors

The purpose of the Nodes & Corridors section of the Urban Design Manual is to define design expectations for these key intensification areas of the City. The subject lands are within a Neighbourhood Node and as such, these design guidelines were considered in the design of the site.

The proposed development has appropriately considered guidelines for Nodes and Corridors as follows:

- The proposed development locates greater heights and massing at the intersection and along a primary street.
- The proposed building respects and complements surrounding building forms, and maintains compatibility through various design techniques such as building setbacks, stepbacks, articulation and architectural rhythm and detailing.
- High quality complementary and contemporary materials and finishes will be incorporated into the building's material palette
- Energy efficient lighting that is human scaled to promote pedestrian comfort and safety will be used.
- Parking is located interior to the site and safe pedestrian movement is provided by prioritizing pedestrian walkways and minimizing locations for potential conflicts between pedestrians and vehicles.

Other sections of the Nodes & Corridors guidelines, including Services and Utilities, Waste and Recycling, and Snow Storage will be considered through the detailed site plan review process and prior to final site plan approval.

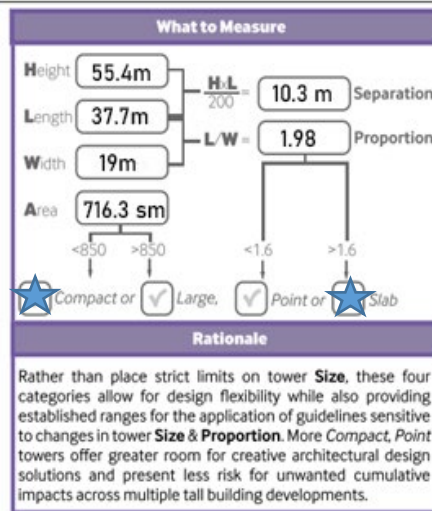
### 3.2.3 Guidelines for Tall Building

The purpose of the Tall Building section of the Urban Design manual is to provide design expectations for tall buildings – defined as a building that is

## Measuring Towers



A tower measuring 23m in Width, 37m in Length, and 54m in Height would result in an 850sq.m. Tower Floor Area, a Tower Proportion of 1.6, and a Separation of 10m.



- The tower configuration and location on the site has been designed to minimize impacts on surrounding low-rise development.
- Building mass has been broken up through vertical and horizontal articulation, changes in materials, and architectural features.
- The development demonstrates compatibility with the surrounding area by transitioning the height through building setbacks and tower stepbacks. The building is designed to have a significant tower stepback from adjacent lower density residential uses to the west of the site.
- There are no neighbouring towers surrounding the proposed development to achieve relative height with.
- Physical separation of 10.3 metres is maintained from side and rear property lines and to the centre line of the abutting lane.

nine (9) storeys or more – throughout the City of Kitchener. These guidelines provide a framework against which to consider and test individual site restrictions, broader contexts, and design aspiration. For the purpose of these guidelines, tall building built form design is broken down into three subcategories; Ground Floor & Base Design, Tower Design, and Top Design. The following is a general assessment of the proposal relative to the various sections within the Tall Building Guidelines:

- The proposed development includes a well defined building base integrated into the public realm and designed to prioritize pedestrian utility, comfort, and safety.
- Visual variety has been provided through well-articulated massing and high quality materials.
- Above ground structured parking has been incorporated into the base design and placed behind active uses along the street edges.
- Based on the criteria established in the Tall Building Guidelines– the proposed buildings would be classified as ‘compact slab’ (which are encouraged over larger built forms).
- Balconies have been provided for residential units along street-facing elevations allowing for natural surveillance.

## Section 4 – Microclimate Impacts

### 4.1 SHADOW STUDY

A Shadow Analysis is a complete application submission requirement per the site's Pre-Submission Consultation meeting. The Tall Building Guidelines identify that such shadow analysis is meant "to demonstrate how a proposed development is designed to mitigate unwanted microclimatic impacts" and directs that daily access to at least 5 hours of cumulative direct sunlight to nearby sidewalks and open spaces should be maintained under equinox conditions. The City's Urban Design Guidelines encourage development of a built form that provides sunlight access to the public realm during the winter months and shaded areas for the summer months.

#### 4.1.1 Shadow Study – Winter Solstice (December)



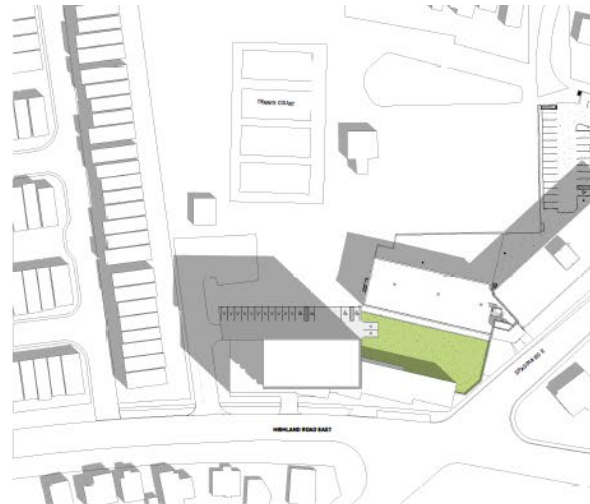
Source: Neo Architecture Inc. (October 2022)

There are minimal shadow impacts in December. At 12pm, the shadows cast by the proposed tower fall to the north and over several townhomes at 110 Highland Road East and a portion of Highland Courts Park portion. By 2pm, the shadows shift off of the adjacent townhouses to the west to cover a greater portion of Highland Courts Park, including the tennis court area. At 4pm, the shadows shift and cast over the Kitchener Lawn Bowling Club, a portion of the Phase II development 270 Spadina Road East, and the proposed landscaped courtyard on the subject lands. Adjacent properties (110 Highland Road East) are not shaded for more than 2 consecutive hours. The shadow impacts on the proposed landscaped courtyard, Highland Courts Park, and the Kitchener Lawn Bowling Club are acceptable, recognizing limited use of outdoor space (particularly tennis courts) in December. Overall, at the winter solstice, there are significant continuous periods of no shadowing impact from the proposed building on surrounding properties and over 5 hours of cumulative direct sunlight are provided to nearby sidewalks and open space which is consistent with the City's guidelines.

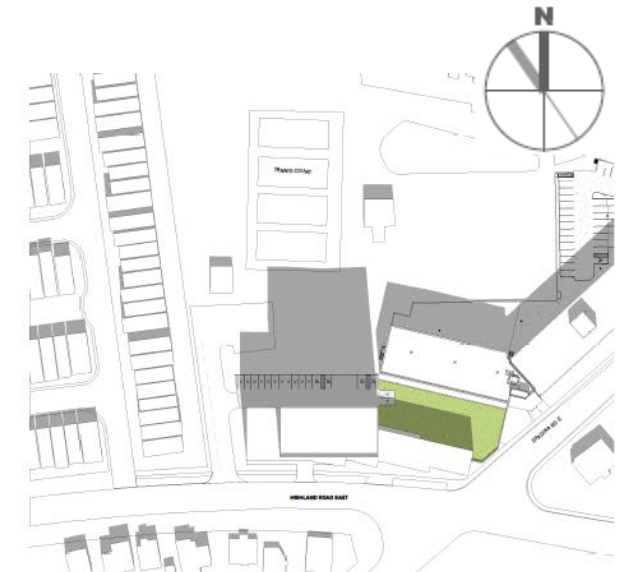
#### 4.1.2 Shadow Study – Spring Equinox (March)



1 **SPRING EQUINOX 10H**  
1 : 1000



2 **SPRING EQUINOX 12H**  
1 : 1000



3 **SPRING EQUINOX 14H**  
1 : 1000



4 **SPRING EQUINOX 16H**  
1 : 1000

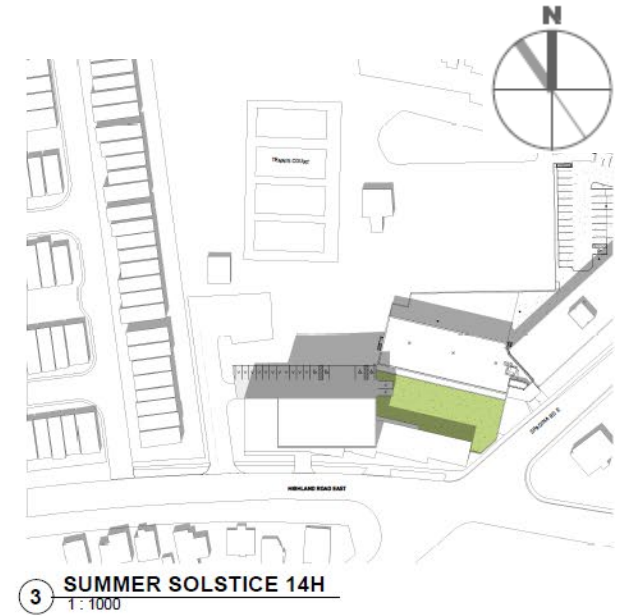


5 **SPRING EQUINOX 18H**  
1 : 1000

There are brief periods (less than 2 hours) where the proposed building casts shadows on the townhouses to the west. Shadows cast from the proposed building shade the parking lot and portions of Highland Courts Park as well as the western portion of 270 Spadina for around 4 hours a day.

Overall, there are significant continuous periods of no shadowing impact from the proposed building on surrounding properties; over 5 hours of cumulative direct sunlight are provided to nearby sidewalks and open space.

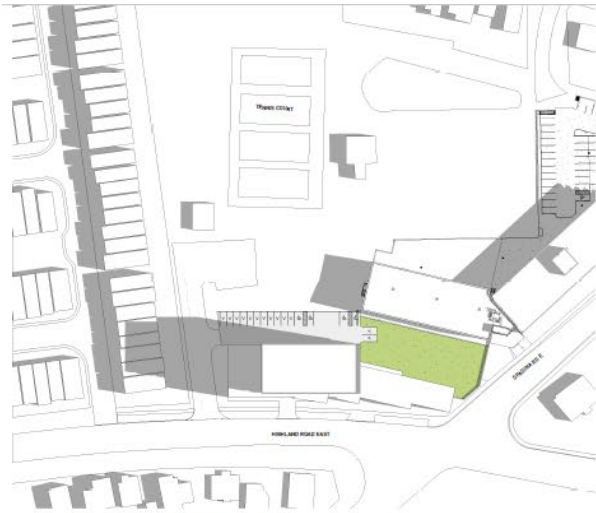
### 4.1.3 Shadow Study – Summer Solstice (June)



Shadow impacts from the proposed building during the summer solstice are minimal. The proposed building casts shadows on the proposed landscaped courtyard and 270 Spadina around 4pm into the evening. This will provide the landscaped area and the southwestern façade of Phase II of 270 Spadina with shade relief from the late afternoon sun.

Overall, there are significant continuous periods of no shadowing impact from the proposed building on surrounding properties; over 5 hours of cumulative direct sunlight are provided to nearby sidewalks and open space.

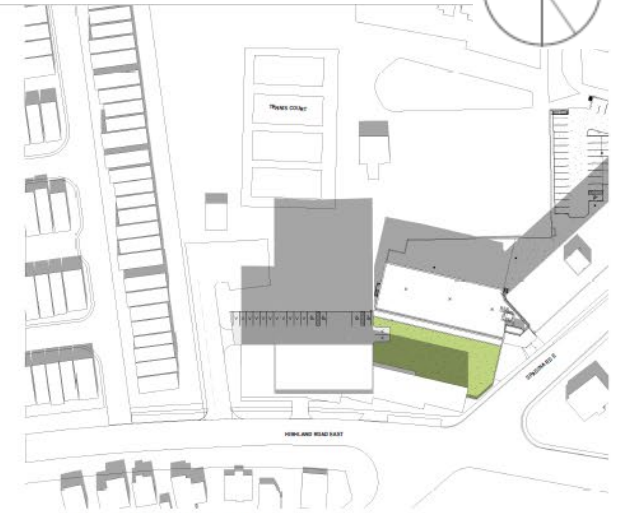
4.1.4 Shadow Study – Fall Equinox (September)



1 FALL EQUINOX 10H  
1:1000



2 FALL EQUINOX 12H  
1:1000



3 FALL EQUINOX 14H  
1:1000



4 FALL EQUINOX 16H  
1:1000



5 FALL EQUINOX 18H  
1:1000

There are minimal shadow impacts in September until 4pm, when the shadows cast by the proposed tower fall to the east. Shadows cast by the proposed podium and tower cover a large portion of the Kitchener Lawn Bowling Club property and the western portion of Phase II of 270 Spadina.

Overall, there are significant continuous periods of no shadowing impact from the proposed building on surrounding properties; over 5 hours of cumulative direct sunlight are provided to nearby sidewalks and open space.

## 5.1 WIND STUDY

A Pedestrian Level Wind Preliminary Impact Assessment has been prepared by the Boundary Layer Wind Tunnel Laboratory at the University of Western Ontario (dated October 14<sup>th</sup>, 2022) to review pedestrian level wind conditions on and around the project. The report identifies key pedestrian areas and provides recommendations for site design to minimize wind impacts.

The introduction of a high-rise building development in a relatively suburban environment will invariably create local wind speed-ups for some wind directions. Overall, the wind conditions at adjacent properties to the Spadina developments are not expected to be greatly influenced by the introduction of the proposed 140 Highland Road E (Spadina III) building. Flows around the Spadina II development can expect to experience some changes in local wind patterns, but the general comfort levels are expected to be similar or improved with the introduction of the Spadina III building. The exception to this is the landscaped courtyard between Spadina II & III; this is discussed further below.

The following is an overview of some specific areas of interest and highlight some mitigation strategies:

Highland Road and Spadina Road sidewalks: The sidewalks are expected to be most influenced by frequent southwesterly to northwesterly winds. During the summer and autumn seasons, the sidewalk along Highland is expected to experience wind suitable for standing. During winter and spring, winds at the sidewalk adjacent to the building might experience wind consistent with leisurely walking. Consequently, the sidewalk areas are expected to be suitable for walking or better year-round, consistent with the intended usage.

Main entries and secondary entries at Street levels: Downflow off the broader south face of the building, particularly for frequent southwesterly wind directions, will be moderated by the tower stepbacks at the 5-storey podium. Nevertheless, some downwash from the podium will cause local increase of the windspeed near ground level and along the south face of the building (facing Highland Road E). The modest increases in the wind speed can make winds near the entries suitable for standing during late spring through to

early autumn months, and suited for leisurely walking during the remainder of the year. Therefore, entry/exit areas along the south face of the building can also be expected to experience winds suited for walking during a portion of the year and thus be uncomfortable for the intended usage. Mitigation would be recommended to improve the entry/exit areas to standing or better year-round.

The inclusion of a canopy structure over each of the main south entries and/or the inclusion of evergreen trees (or windscreens) distributed along the south side of the building will help mitigate winds at entry areas, and make them suited for standing year-round.

The north entry off the north parking lot (see left inset below), and one entry on the south side (see right inset below) are setback from the building line and are expected to be comfortable year-round.

Secondary entries along the south side of the building are expected to benefit similarly from the use of trees and canopies, as proposed above. The entry at the west end of the south face is proposed to be a bicycle entry; shrubbery or windscreens adjacent to the area will help mitigate against cornering winds.

Landscaped Courtyard: The landscaped courtyard is located between the Spadina Phase II and Phase III developments, and occupies a large portion of the east half of the Spadina III site. The east side and the west ends of the courtyard area can be especially influenced by wind funneled between the buildings.

Windscreens and or Shrubby (5-6ft high) at the perimeters of the courtyard is recommended to mitigate the effects of this funneling. Furthermore, distribution of wind screens and/or evergreen plantings throughout the courtyard space will to improve the area to sitting or standing usage year round.

Private Amenity Terrace(s): The outdoor amenity terraces are located at the east and west sides of the building at the 6<sup>th</sup> level and 11<sup>th</sup> level, respectively. These occupy only a portion of the respective roof deck area. The south and north sides of the terrace spaces are expected to be

susceptible to cornering winds due to southerly and northerly winds. As these are located along the narrow building faces, they are not expected to be greatly influenced by downwash.

For both sets of terraces, increasing the windscreen/railing heights (to 5-6ft) at the north and south sides and between adjacent terrace spaces, and/or including shrubbery along the north and south sides of the terraces, would be beneficial.

Introduction of the proposed mitigation strategies described above are intended to improve wind conditions to sitting or standing during the late spring through early autumn. Winter conditions are expected to be suited for standing or walking activities, given the raised exposure.

Building Corners: In general, all building corners can be expected to experience increased winds. Placement of evergreen shrubbery and planters can be effective at softening these effects, as well as act to keep pedestrian traffic away from high wind areas.

Adjacent Properties: The development is not expected to have a significant influence on winds at neighbouring properties, i.e. the comfort categorization of adjacent properties is expected to remain similar to that for the existing configuration.

General Mitigation: Some of the landscape/hardscape features that can be adopted to mitigate local winds through the terrace level, as well as at ground level locations and through the courtyard include: over head trellises, planters with evergreen shrubbery, and/or evergreen rows, windscreens.



## Section 5 – Conclusions

### 5.1 CONCLUSIONS

The proposed development will contribute to a high quality vibrant community that integrates with the surrounding area and provides for connectivity to the existing and planned active transportation network. The proposed design will:

- i) achieve transit supportive densities;
- ii) provide a transition in built form sympathetic to the surrounding urban context;
- iii) place emphasis on the public realm through building and landscape design and contributes to attainable housing demands within the City of Kitchener.

In our opinion, the development satisfies the direction provided in the City's Urban Design policies.

The future site plan application will further refine the design, including site landscaping and will consider the more detailed guidance provided in the City's Urban Design Manual.