

**Urban Design Brief  
1242, 1250, 1260, 1270 Gordon  
Street and 9 Valley Road,  
City of Guelph**

161413684

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This Urban Design Brief has been prepared by Stantec Consulting Ltd. and Kasian Architecture Ontario Inc. on behalf of Tricar Properties Limited. in support of the development proposed on 1242, 1250, 1260, 1270 Gordon Street and 9 Valley Road in Guelph, Ontario. The purpose of the Design Brief is to outline the design approach for the proposed high-density residential buildings, and how the design conforms to City of Guelph guidelines and policies. The Design Brief has been prepared in accordance with the City of Guelph Urban Design Brief Terms of Reference (June, 2019) and provides clear direction on how the site should be developed. This has been submitted as part of a complete Zoning By-law Amendment application and is intended to be read in conjunction with other background reports.



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## **1.0 SITE'S PHYSICAL AND POLICY CONTEXT**

This Urban Design Brief (UDB) has been prepared in support of a proposed Zoning By-law amendment application for 1242, 1250, 1260, 1270 Gordon Street and 9 Valley Road in Guelph, Ontario (herein referred to as 1250 Gordon Street).

A pre-consultation meeting was held with the City on March 29, 2018. An Urban Design Brief was requested by the City as a requirement for a complete application based on the proposed application for development. A notice of complete application was circulated July 9, 2020, with comments from City review being received from David Degroot November 17, 2020 and January 18, 2022.

This report is an analysis of the architectural and urban planning conditions currently in place in the City of Guelph; and demonstrates how the proposed development at 1250 Gordon Street offers design solutions that are sensitive to the site's location, articulates both public and private realms, and conforms with City's land use vision and design policy directions. This report has been updated to address the city comments dated November 17, 2020, as well as the addition of 1270 Gordon Street property to the development site.

### **1.1 PHYSICAL CONTEXT**

This section explores the physical context of the subject site, neighbouring properties, and the community-scale regarding existing built form, vegetation, street network, public and open views, pedestrian connectivity, and transportation system. These attributes are critical elements which have been considered and incorporated during the selection of the proposed site use, density, built form and design.

#### **1.1.1 Site Definition**

The subject site is made up of five separate properties, located at 1242, 1250, 1260, 1270 Gordon Street and 9 Valley Road, adjacent to the intersection of Gordon Street and Edinburgh Road South in Guelph, Ontario, as shown on **Figure 1**. The site is approximately 3.32 hectares in size, with residential dwellings situated on the western half of the site (some of which have been demolished) and the remainder of the site being vacant.

The site has approximately 83.5m of frontage onto Street A, with a total area of approximately 17,870 m<sup>2</sup>. The view from the south, looking north onto the property is shown in **Figure 2**. As defined in the City of Guelph Zoning By-law, where the Lot Line abuts two or more Street Lines, the "Front Lot Line" means the shorter of the two lines. From a legal perspective, as Valley Road is the shorter frontage, it is the legal frontage for the development. However, for the purpose of

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addressing Gordon Street, the development will treat, design, and landscape treatment of Gordon as the property frontage.

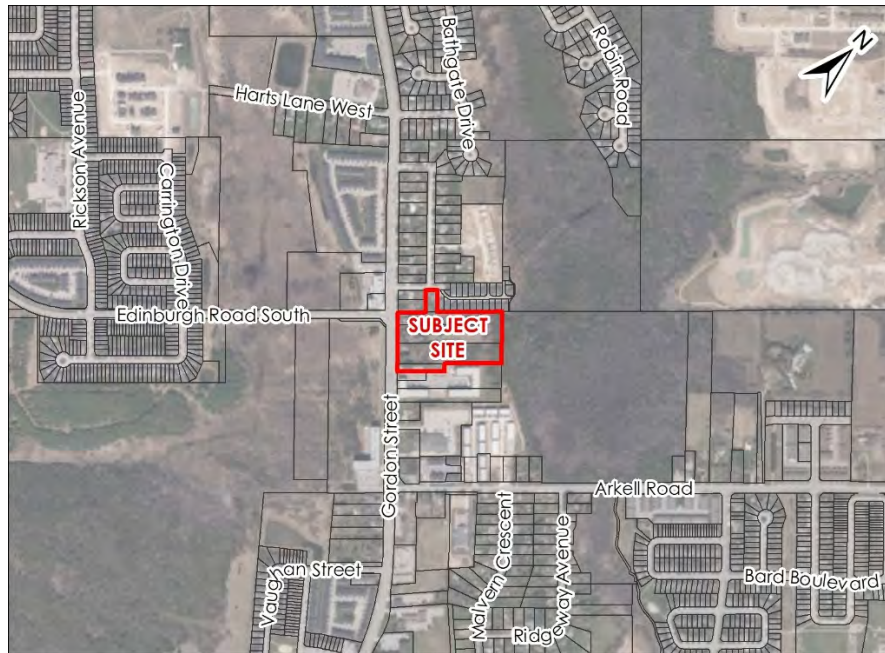


Figure 1: Site Location



Figure 2: Looking north from south of the Subject Site

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### 1.1.2 On Site Attributes

The subject lands are comprised of four existing low-density residential lots, and one commercial lot. The single detached dwellings located on each have either been demolished or are proposed to be. Four of the lots front Gordon Street, while one fronts onto Valley Road. **Figure 3** shows the view of the subject site from Gordon Street.

Topography varies across the site, generally draining to the northeast and southwest, from a high point in the middle of the property. A tree inventory was completed May 17, 2017, updated in 2021 to align with the recent site plan changes and again in Mar 2022 to inventory trees within the potential trail connection locations. The following tree species were inventoried: Norway Spruce, American Basswood, Scots Pine, Eastern White Cedar, Black Cherry, White Birch, White Ash, Hop Hornbeam, Sugar Maple, Red Maple, White Elm, Freeman's Maple, Apple, Hawthorn, Butternut, and Black Walnut. Due to the grading of the site, the majority of existing trees will be removed, with proposed retention of trees within the northeastern park block. Compensation plantings will be provided in accordance with the City's Tree By-law



Figure 3: Existing Condition of Subject Site (view from Gordon Street)

### 1.1.3 The Site in Context

To the immediate north of the subject site is single-detached low density residential. Recent medium/high-density residential developments have been constructed on Gordon Street to the south of the Subject Site, and to the north along Valley Road. To the east of the subject site is



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protected woodlot and to the west and southwest, a provincially significant wetland. The public access to these features will be enhanced through this proposal, as it is anticipated that additional access points will be made accessible to the City-wide trail connection at the rear of the property.

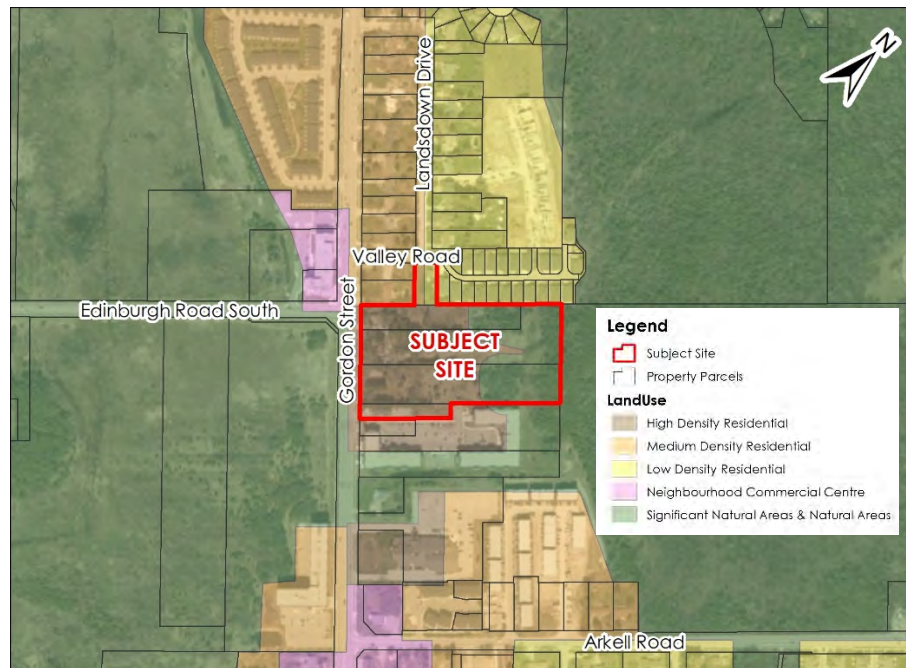
The Tricar Group is proposing two 10-storey residential buildings to the south and southwest portion of the subject site. The development will be subject to a future site plan approval and plan of subdivision applications and, possibly, an application to develop a Plan of Condominium.

The Tricar Group is an experienced developer of high-rise buildings within the City of Guelph and proposes to construct a compact high-density residential development in the south end of Guelph. The proposed development aligns with and moves to meet the growth and intensification targets set for the City and enhance the existing Intensification Corridor along Gordon Street by contributing to the high-density vision for the Site.

The proposed buildings plan to contribute to this overall vision for Guelph by incorporating energy efficient design features into the final building and unit designs. The proposed development is also located adjacent to north-south bike lanes provided along Gordon Street, and within 50 metres of bus stops and routes, providing alternative transportation options for future tenants. Additionally, the subject site is located directly adjacent to a proposed municipal trail system, which will provide future residents with further options for connectivity and active transportation. **Figure 4** below illustrates the surrounding land use context.

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**Figure 4: Surrounding Land Uses**

## **1.2 RESPONSE TO POLICY CONTEXT**

The design policies relevant to the proposed development are taken from the City of Guelph Official Plan (Section 3.6) (March 2018 Consolidation), urban design updates as amended by Official Plan Amendment No. 48, and the City of Guelph Urban Design Action Plan (2009).

The subject site is designated as High Density Residential in the City of Guelph Official Plan (OPA 48), Schedule 2: Land Use Plan. As it is situated along Gordon Street, the subject site is an Intensification Corridor, as identified in Schedule 1: Growth Plan Elements.

Accordingly, the site is designated to support the municipality's goals and objectives related to the provision of housing, in a manner that reflects context-sensitive urban design goals.

### **1.2.1 City of Guelph Official Plan (March 2018 Consolidation)**

All residential designations of the Official Plan contain policies for facilitating the development of a full range of housing types, affordability, densities and tenures to meet a diversity of lifestyles and the social needs, health and well-being of current and future residents, throughout the city. Higher density developments, such as 1250 Gordon Street, are to be provided in appropriate locations to ensure that transit-supportive densities are achieved. Other important considerations for high density development are to ensure that compact urban form, walkable communities and energy efficiencies are achieved through a building's location, design and construction.

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Urban design policies address the relationship between buildings, the spaces that surround them and the area's context. Section 8 of the Official Plan outlines policies and objectives for Urban Design, which seek to create a safe, functional, and attractive environment, contributing to the unique character of the City of Guelph. The development conforms to the following objectives:

- The subject property is located on Gordon Street, which is located within proximity of transit service, adjacent to bicycle lanes and provides for vehicular access. A sidewalk from the subject site to Gordon Street will accommodate a future pedestrian route to the node at the intersection of Clair and Gordon Street. The development will be well served by all forms of transportation (8 m);
- The proposed development has been designed to accommodate all persons, regardless of personal limitations (8 j, 8.19.2);
- The development contributes to a variety of housing types and forms, including both apartment and townhouse units (8 a);
- The building orientation, open spaces, and streets are designed to reflect the visual character and architectural/building material elements found in the older, established areas of the City (8 f & 8.6.1);
- Parking, amenity, and open space areas are located to provide for informal surveillance "eyes on the street". These areas are serviced by internal sidewalks and pathways which are visible and accessible (8.18);
- The development contributes to a variety of land use options along Gordon Street; is serviced by safe and accessible active and vehicular transportation; and creates a compact development (8.2.2);
- It is anticipated loading bays, storage areas and building utilities will be screened where appropriate, to the satisfaction of the City (8.13.6);
- The majority of parking for this development is proposed to be located underground. Surface parking is internalized and will be screened with landscaping to provide for an attractive streetscape (8.9.1 ii) & 8.12). A detailed landscape plan will be provided in concurrence with the Site Plan Application, and Section 2.1.2 below provides a comprehensive overview of the landscaping vision for the Subject Site.

The proposed development conforms to the above mentioned Urban Design policies as set out within the Official Plan by providing sustainable and compatible urban development to accommodate growth, minimize land-use conflict, utilize existing servicing and infrastructure, provide linkages for residents to nearby amenities and services, preserves natural heritage

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features, creates visual interest and adds character through the selection of building material elements, and encourages the use of public and active transit.

### **1.2.2 Official Plan Amendment Number 48: Envision Guelph – Official Plan Update**

Updates to the City of Guelph Official Plan were completed through OPA 48 and are intended to ensure that the Official Plan is in conformity with the provincial legislation and plans, as well as the City plans and studies. These policy updates have been considered in the design of the proposed development and are addressed in Section 1.2.2 below.

Urban Design policies have been updated through OPA 48. The proposed development conforms to the new policies by:

- Creating neighbourhoods with diverse opportunities for living, working, learning, and playing;
- Building compact neighbourhoods that use land, energy, water, and infrastructure efficiently and encourage walking;
- Engaging in “place-making” by developing a building, spaces and infrastructure that are permanent, enduring, memorable, and beautiful, adaptable, flexible and valued;
- Improving conditions for greater personal security by incorporating Crime Prevention through Environment Design (CPTED);
- Design for choices of mobility including walking, cycling, transit, and driving; and
- Reducing energy and water demand utilizing alternative energy systems.

As required by all higher density forms of housing, new buildings shall address the street. The proposed buildings have front façades with entrances and windows that face the street and that reflect and, where appropriate, enhance the rhythm and frequency of the immediate vicinity (Section 8.6).

The apartments proposed within the development will conform to the policies for High-rise built form (Section 8.9) by ensuring tall buildings have a distinctive bottom, middle and top, include interesting architectural features, and parking is provided primarily below grade.

### **1.2.3 City of Guelph Urban Design Action Plan**

The Urban Design Action Plan is based on 10 principles and a range of opportunity areas. The purpose of the plan is to highlight the importance of good urban design practices in all

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aspects of planning and development in the City of Guelph. The proposed development is consistent with the Urban Design Action Plan as outlined below, as it provides for:

- Variety of housing types and options along Gordon Street; located within close proximity to the business park and commercial/retail centre located at Clair and Gordon Street;
- Compact development with servicing provided by existing infrastructure;
- Aesthetic and visually interesting streetscape and architectural design;
- Choices for mobility, including public transit stops located at Clair and Gordon, bicycle lands available adjacent to the site along Gordon, and a proposed sidewalk connection to Gordon Street via Street A, through the adjacent residential development to the south and sidewalk connection to Gordon via the accessible ramp south of building 1; and
- A range of architectural styles within the South Guelph planning area that brings interest and diversity while responding to scale and materiality of the local context.

#### **1.2.4 Gordon Street Intensification Corridor**

The City of Guelph Urban Design Concept Plans for the Gordon Street Intensification Corridor (April 2018) was employed to guide the process for site planning of the Subject Site. As Gordon Street is a central north-south corridor in the City, it has historically acted as a southern arterial road entranceway into the City of Guelph. Between Stone Road to just south of Clairfields Drive, the street is identified as an Intensification Corridor in the Official Plan because it can support multi-modal transportation, a range of local services, and intensified, mixed-use areas. Future higher order transit is being considered for Gordon Street.

The Subject Site is located near the T-intersection of Gordon Street and Edinburgh Street South and is therefore part of Demonstration Site 4 in the Urban Design Concept Plans for the area. Specific site opportunities have been considered for this area, which are outlined as follows:

- Well-scaled residential intensification in keeping with the context of the Official Plan.
- Promote a range of housing options and building types within a consistent mid-rise to high-rise form along Gordon Street, which will be accommodated on the Subject Site through this mixed-density development that includes amenity spaces, fitness room and manager suite fronting onto Gordon, as well as two residential buildings supporting apartments.



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- Provide pedestrian connections through the site, including direct access to the park and the Significant Natural Area from Gordon Street, to a new public amenity area that provides visual connection and access to the neighbouring significant woodlot.
- Establish a sensitive transition to the adjacent woodlands with the appropriate buffers. Additional buffering than what was originally required has been incorporated into the site design.
- Create a logical network of new streets connecting to the existing street network, which will be provided by the extension of Edinburgh Street South that will loop around and meet an extension of Landsdown Drive.
- Create a new public park for the community, taking advantage of the access to the neighbouring woodlot and trail, which is anticipated to be provided by the Park Block (0.249ha) that is being conveyed to the City.
- Provide a combination of underground and structured parking where possible, and pockets of well-designed surface parking for convenience.
- Create height transition from buildings along Gordon Street toward adjacent low-rise dwellings along Landsdown Drive
- Locate amenity and open space areas in a manner that preserves existing trees where possible
- Extend a new municipal road that connects to the existing Edinburgh Road.

South of Edinburgh Road is designated High Density Residential with multiple unit residential buildings, generally in the form of apartments. Overall, the proposed development closely matches the Concept Plan for Site 4 as it achieves the provision of a new roadway connection between Edinburgh Road and Landsdown Drive with high-density development to the south, which provides appropriate transitions from the existing and planned medium and low density to the north, as well as supports the existing high density development to the south. The new public park would reinforce a connected network of green spaces and balance the development capacity of the area, creating enhanced visual and physical access to the natural heritage feature to the east.

## **1.3 URBAN DESIGN GOALS AND OBJECTIVES FOR THE SITE**

### **1.3.1 Urban Design Goals and Objectives**

The urban design goals and objectives for the site are as follows:

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- Create a streetscape aesthetic along Gordon Street and within the site (along the private access road referred to as 'Street A') sympathetic to the pedestrian environment. Proposed amenities such as fitness room and manager suite, that can be occupied at all times of the day will create the opportunity to provide "eyes on the street".
- Landscaping along Gordon Street will be designed to soften hardscape and allow for the establishment of a consistent landscaped street frontage, including a continuous row of healthy trees along the street located on private property.
- Provide exceptional placemaking elements through architectural treatments and detailing, landscaping and vegetation, ornamental features, and site furnishings.
- To build a compact energy efficient neighbourhood that provides diverse opportunities for living and working.
- Design a space that is accessible to all abilities and ages.
- Preserve and enhance protected public views and vistas of built and natural features, including those to the neighbouring woodlands.
- Establish a sensitive transition to the adjacent low-rise neighbourhood with the park north of residence 2.
- Design for a choice of mobility including walking, cycling, transit and driving.
- Protect and enhance the distinct character of the City of Guelph, and the sense of community of neighbourhoods.

Anticipated design of the site layout, architectural elements, and landscaping of the proposed development will reflect local precedents from the surrounding community but will also strive to build on successful elements to create a new design model for future growth, as the design echoes successful past high-density residential developments of Tricar Group.

## 2.0 DEVELOPMENT CONCEPT AND DESIGN SOLUTIONS

### 2.1 DEVELOPMENT CONCEPT

#### 2.1.1 Site Design

The overall design concept is to create an identifiable community, a recognizable “place” that is then connected back into the overall surrounding communities. The project consists of 2 buildings, one 10-storey residential building fronting Gordon Street and one 10-storey residential building adjacent to the south west boundary of the subject site (**Figure 5**).



Figure 5: Building Height Zones

The design concept for the Site includes a main vehicular entrance to the property from the street where the extension of the two existing roads, Landsdown Drive and Edinburgh Road S., meet. This focal entranceway will provide a central area between Residence 1 and Residence 2 to provide parking, landscaping and amenity areas for both residents and visitors. The area will be hidden from Gordon Street, as shown in **Figure 6**, to provide privacy and enhanced views to the nearby wooded areas, and potential future park. A Conceptual Site Plan is provided in **Appendix A**.

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The site perspectives, provided in **Appendix B**, illustrate the visual impact of the proposed orientation of the two towers, and elevations of the proposed buildings are in **Appendix C**.



Figure 6: Overall Aerial View of Site Design

### 2.1.2 Landscaping

Landscape elements will be provided in accordance with City site plan requirements. A preliminary landscaping plan is provided in **Appendix D**. The proposed landscaping enhances the overall appearance of the development by softening building façades and hardscape areas. The landscape has been designed to complement the materials and rhythm of the building architecture and will be consistent with, and complimentary of the existing neighbourhood. Planting is provided to screen at grade parking to provide aesthetically pleasing views from the street.

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**Figure 8: Sample Tree Plantings along Sidewalks**   **Figure 7: Sample Tree Planting along Parking**

Walkways to ground floor and outdoor amenity spaces, manager suite and fitness room from the sidewalk along Gordon Street provide for improved pedestrian connectivity. Decorative pavement to complement the building materials will be implemented to highlight significant pedestrian connections, amenity spaces, and enhance the public realm. Enhanced decorative paving applications will be reflected at the main entrances of Residence 1 and 2 to further emphasize these connections. **Figures 7 and 8** show similar features to the types of plantings that are envisioned for this Site. Planting will also be used to highlight building entrances and entrances to the site, to creating welcoming and legible spaces.

Tree planting shall provide adequate soil volumes based on tree size at maturity in accordance with the *City of Guelph Tree Technical Manual* (Dec 2019). Root paths, continuous soil zones, raising planters, berms, structural soils cells and other site-specific design techniques are to be considered to achieve adequate soil volumes. Tree pits to allow to additional soil volume on top of underground parking structures should be considered in addition to the previously noted techniques. **Figures 9 and 10** illustrate example landscape treatments to provide adequate soil depth.

Sustainable efforts will be employed throughout the site, including low maintenance, drought / urban tolerant plant material. Native and pollinator friendly plant material will be implemented where possible. Year-round interest will be provided through the use of evergreens, plant material with a variety of foliage colours and textures, and flowering plants. The use of deciduous trees will provide shade, reducing the urban heat island effect. Coniferous or marcescent planting will be employed to provide screening from wind where required to provide a comfortable outdoor microclimate.



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The landscape design will provide for clear un-obstructed views of pedestrian and vehicular circulation routes, will comply with the requirements of AODA and employ CPTED principals. Landscape treatments will provide for improved wayfinding, create a strong sense of place for residents and blend the development with the surrounding neighbourhood.



Figure 9 Sample Tree Planting on Berm



Figure 10 Sample Planting in Berm

### 2.1.3 Amenity Facilities

The first amenity area, to the southeast of Residents 1 will take advantage of a sheltered space from the road with direct sun exposure. This space will be informal in nature with a large open area for various activities to take place. A seating area with picnic tables and possible recreational features will provide varying activities for residents. The space will be sheltered and defined with slopes along the adjacent parking lot and trees lining the outer edges of the space. Planting along the property line will provide privacy from the adjacent high-density development to the east.

A second, more formal outdoor amenity space has been provided adjacent to Residence 2. This amenity space provides a direct connection and views to the proposed Park Block (by others – park amenities to be determined through future stakeholder engagement) and to the existing woodlot and proposed city trail connection. This space includes patio tables with umbrellas, lounge chairs, low seatwalls and planting. The low seat walls and plantings provide adequate wind comfort conditions for seating. Accessible pedestrian connections are provided to the main entrance of Residence 2, including close connection to the indoor amenity space. Low seatwalls and planting provide an intimate feel without blocking sight lines. One additional outdoor amenity space provides residents with unprogrammed open greenspace. The open space is located to the east of Residence 2 and extends to the existing woodlot. Native deciduous and coniferous trees will provide

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shade for users and habitat for nearby wildlife. This space offers a large, peaceful open space for residents to enjoy surrounded by nature.

### 2.1.4 Transitions

Along the Gordon Street site edge, Residence 1 has amenity space, manager suite and fitness club facing this street set back 6.0 metres from the existing property line. From the extension of Edinburgh Road, Residence 1 has a 4.9m setback. The tower of Residence 1 is stepped at several location along the 2<sup>nd</sup> and 5<sup>th</sup> to push the highest portions back further away from the street. In addition approximately 67% of the elevation is recessed on the 9<sup>th</sup> and 10<sup>th</sup> floor to achieve a 50 degrees angular plane at the recessed portion along Gordon Street.

To the north east, Residence 2 is set back approximately 50m from the property line to allow for a 0.249ha open area transition with future park amenities and a 69.49-degree angular transition from the edge of the park block to Residence 2. There is a 1876.4m<sup>2</sup> open and treed green area transition to the woodlot west of building 2. Furthermore, the step back of both the 9<sup>th</sup> and 10<sup>th</sup> floor of residence 2 provide an angular place for the low-rise condominiums in the same north easterly direction of 30 degrees. The placement of the proposed towers is such that the visual impact and the microclimate impact on the adjacent site is limited.

Section 2.1.11.2 has additional details and illustrations regarding the angular planes of the proposed residences.

### 2.1.5 Public Views/Vistas

One of the most important views will be from the corner of Gordon Street and Edinburgh Rd looking south (as shown in Figure 11). The main entrance to residential building 1 has been located at this intersection along with a landscaped plaza to generate an active/dynamic, people focused corner. The architectural treatment has been developed to further emphasis the importance of this corner by reflecting verticality.

This main view also will be along the tree lined and landscaped façade of Residence 1. The lowered building podium provides a human scale to the streetscape. Other significant public views will be from Street A (the extension of Edinburgh Road) towards the park block and the amenity space adjacent to the woodlot, with proposed city trail connection.

The public views to the proposed development will have a significant impact on the streetscape and enhance the pedestrian, cycling and vehicular experience of Gordon Street, as a main intensification corridor.

**Figure 11** shows the view south, from the north of Gordon Street. The intersection has visual appeal and improved accessibility to the proposed park and significant natural features and

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trails to the rear of the property. **Figure 12** demonstrates the view driving south from Landsdown Drive.



Figure 11: Public Vista 1 - View from corner of Gordon St. and Edinburgh Rd. S.



Figure 12: Public Vista 2 – Driving South on Landsdown Drive



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### **2.1.6 Parking**

All residential parking is contained within the buildings either at grade or below. At grade parking is screened from the Gordon streetscape by Residence 1. Visitor parking is provided at grade, which allows for additional activity on the streets for Crime Prevention Through Environmental Design (CPTED) purposes as well as slowing the speed of traffic. It is also aligned with the design considerations of the Urban Design Concept Plan for Site 4 of the Gordon Street Intensification Corridor. Landscaping will further screen at grade parking from Street A.

### **2.1.7 Access, Accessibility, Circulation, Loading and Storage**

The main access to the proposed development will be via the intersection of Street A (Edinburgh Road) and Landsdown Drive. The main access is designed to be comfortable for pedestrians, cyclists and vehicles, as there is ramp and stair connection from the proposed Street A sidewalk to Residence 1 in addition to an interior sidewalk connection from the proposed Street A sidewalk to the parkette and Residence 2. There is further pedestrian connection for Residence 1 along Gordon Street, with four accesses proposed. Two accesses would be direct connections to the interior amenity spaces, one direct access to the Fitness Room, and another to the Manager Suite. Additional pedestrian pathways are provided for residents south of Residence 1 via the accessible ramp connection from Gordon Street to the southern amenity area. A service lane and sidewalk is also proposed to the southern edge of the property, to the rear of Residence 2. This will also provide a connection to Gordon Street through the adjacent development. A direct pedestrian sidewalk connection through the parking lot, between Residence 1 and 2 has been provided for safe pedestrian movement between buildings. Residents will have underground parking in each of the two towers.

The nearest bus stop is a short walk along Gordon near the corner of Valley Road, with many north and south bound options. A pedestrian network is intended to run along the east of Residence 1, connecting to a proposed sidewalk along Street A that connects to the existing sidewalk along Gordon Street. There will also be on-street shared cycling connecting throughout the site and along the proposed roadways.

### **2.1.8 Materials**

The building will consist of precast concrete, brick veneer, window wall, and punched windows. Materials were chosen in consideration of adjacent context to ensure the new development compliments the existing context and provides a continuation to the streetscape along Gordon Street. The podium along Gordon Street will be all masonry materials, notably buff and dark brown.

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### **2.1.9 Lighting and Signage**

Given the nature of this development, street and pedestrian lighting will be included, particularly at street level to ensure the safety of residents and visitors alike. As the majority of this lighting will be on the building very little impact is envisioned on adjacent properties as the building itself will act as a screen.

Signage will be dealt with at the building face and care has been taken to ensure that the need for wayfinding for the site as a whole will be kept to a minimal by making it clear and obvious to navigate. Signage will be placed for visibility from the public realm and used to introduce the site, mark ingress/egress, and establish a sense of place. It will not compromise the safety of pedestrians or motorists by blocking sight lines.

### **2.1.10 Architectural Treatment**

Both buildings have a similar colour and material palette, while including various combinations and articulations of these elements. Residence 1 uses buff and brown brick veneer at intervals along Gordon Street on the podium and up to level 4. Residence 2 uses buff and brown brick and frames to create another type of ground condition with masonry in the lower middle section to break down the verticality of the building face. Both building use balconies to further articulate the façade. The integration of window wall in certain locations adds to the vertical elements of the building, while individual punched windows maintain a steady rhythm for the scale of the building.

### **2.1.11 High Density Development**

Entrance of Residence 1 is located at the corner of Gordon Street and Street A with an introduction of a corner plaza to help animate the prominent corner of the site. Vertical elements are introduced at northwest corner of Residence 1 to compliment the corner entrance, with step backs provided at several locations on floor 2 and 5 along Gordon Street. Furthermore, accesses are introduced along Gordon Street at the amenities, fitness room and building manager suite at intervals to provide connection between the inside and outside. There is a proposed material change along 2nd and 4th floor to help create the look of townhouses and a podium to help break up the mass of the building.

#### **2.1.11.1 Built form**

Both Residence 1 and 2 have similar overall massing to each other for continuity, while having different expressions of material and massing to respond to their adjacencies to either Gordon Street or the protected woodlot area. Residence 1 takes advantage of the grading of the site and the adjacency to Gordon Street by extending the ground floor with amenity spaces directly on the street frontage. Above, the massing steps back and continues above in varying materials to break down the scale of the building. Residence 2 carries over some of the same material

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changes as Residence 1, while including frames to act as 'arches' at the lower levels. A step back at the 9<sup>th</sup> and 10<sup>th</sup> floor reduces the massing of building 2 facing the public park.

### 2.1.11.2 Elevations and Massing

A 6m setback is provided along Gordon Street to allow for street trees and landscape buffer from the amenities to sidewalk. Accesses and glazing are introduced along Gordon Street to the south of Residence 1 to create visual and physical connections between inside the outside amenity spaces.

The park north of Residence 2 acts as a soft buffer space and provides transition between the development and the low rise residential to the north of the site.

Bird friendly strategies are considered and bird fritted pattern has been applied and shown on elevations according to the City of Guelph's Bird-friendly Design Guideline.

### 2.1.11.3 Transitions

The buildings are situated on the site in order to keep the larger massing closer to both the street face and the southeast area, closer to other tall buildings. Angular planes have been used to assess the massing and height transition of the proposed development. Angular planes are included in **Appendix E**. The angle from Gordon Street to Residence 1 is 53 degrees with the angular plane to the recessed façade is 50 degrees. This is shown in **Figure 13 and 14**.

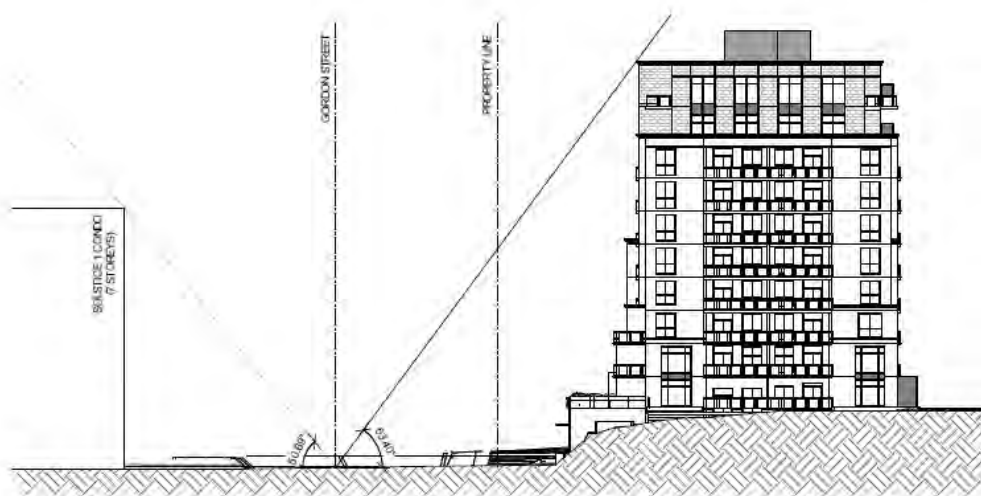


Figure 13: Angle from Gordon St to Residence 1

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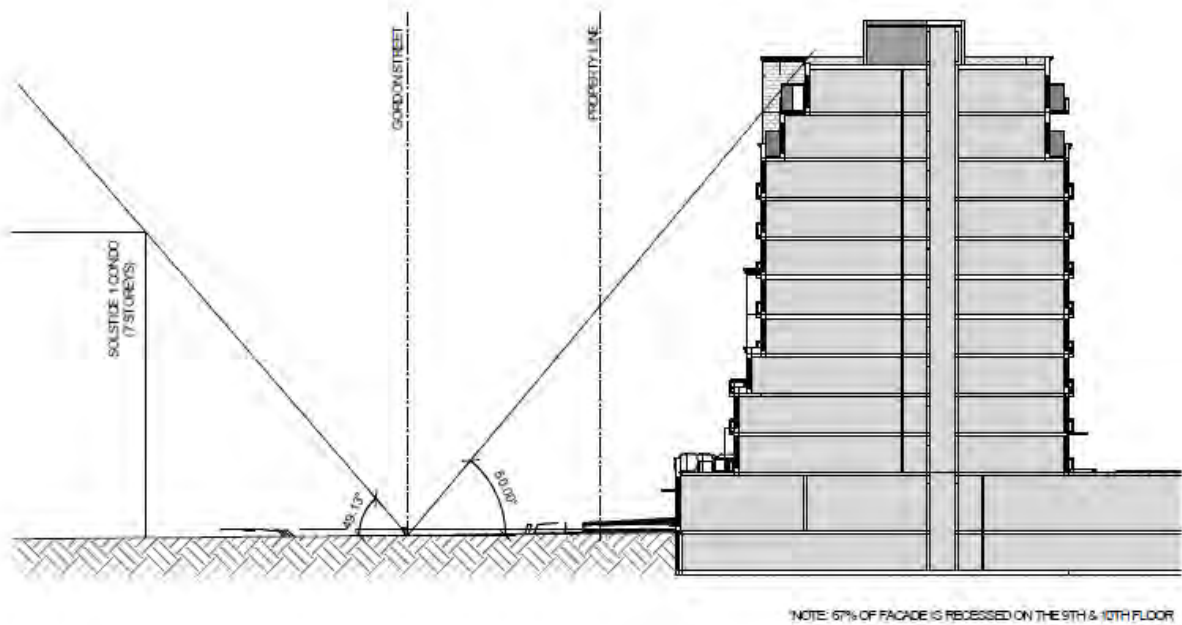


Figure 14: Angle Gordon Street to Recessed Facade

The angular plane from Street A to Residence 1 is 59.39-degrees as illustrated in Figure 15.

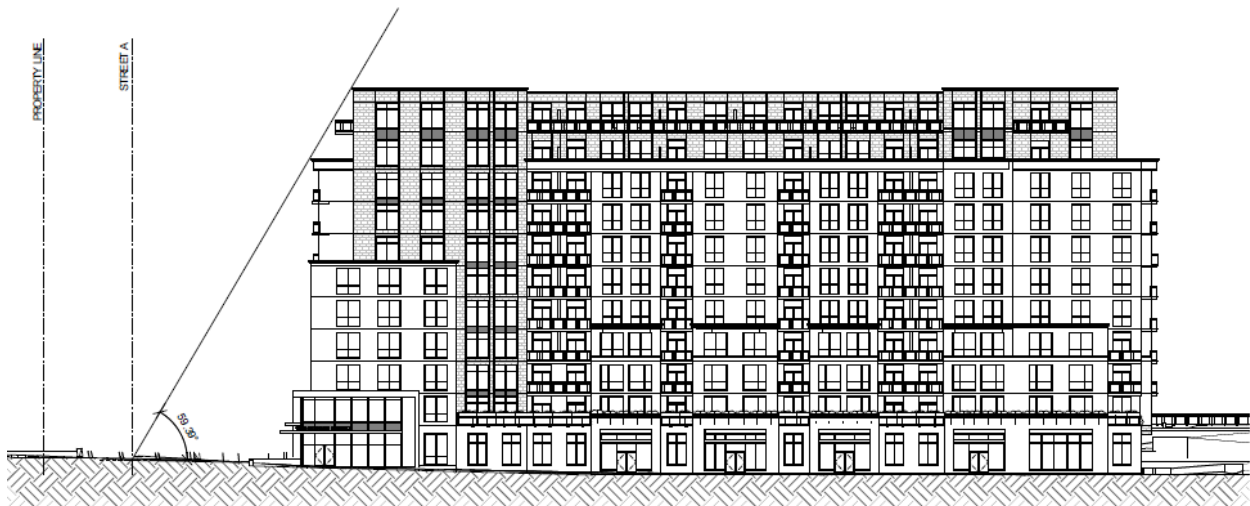


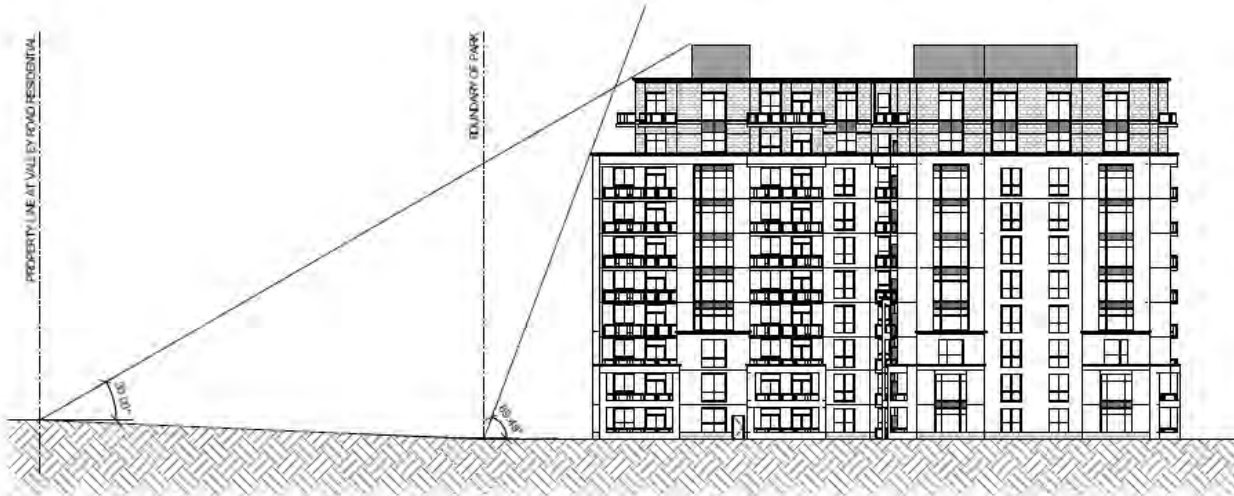
Figure 15: Angle from Street A to Residence 1

## URBAN DESIGN BRIEF

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**Figure 16: Angle Property Line and Park to Residence 2**

The angular plane provided from the lot line shared with the park have also been provided in **Figure 16**. The angle from the edge of the proposed park to Residence 2 at its closest façade is 69.49 degrees. The angular plane from Residence 2 to the rear lot line of the low-rise condominium properties located to the north-east, beyond the park block is 30 degrees.

### 2.1.11.4 Shadows

Diagrams illustrating shadows casted by the proposed buildings are provided in **Appendix F**. The shadows cast during the summer solstice have no impact on existing developments adjacent to the site, and little impact on each other. Morning shadowing will primarily impact the parking areas during this time. The shadows cast during the spring/fall solstice have minor impacts on the existing developments adjacent to the site, primarily impacting the sites to the north during a short window in the morning hours. Before sunset, the property to the south may experience minor impacts from the proposed buildings. The shadowing impacts during the winter solstice may impact the properties to the north from sunset to around 12:00 pm. The proposed development has met the criteria of the City of Guelph Sun and Shadow Study Terms of Reference.

### 2.1.11.5 Wind

An updated Pedestrian Wind Study (July 15, 2021) was completed by Rowan Williams Davies & Irwin Inc, **Appendix G**. Based on wind tunnel testing of the existing and proposed conditions, and the local wind records, the potential wind comfort conditions were predicted. Some wind

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mitigation measures are suggested in the area between both buildings, west corner of building 1 and level 2 terrace to increase comfort during the winter months. Design features, such as a tower setback, podiums (e.g. on the building fronting Gordon St.), canopies above main entrance, wind screens, marcescent plantings and recessed entrances have been incorporated to ensure areas of comfortable for pedestrian use.

## **2.2 INTEGRATION WITH THE PUBLIC REALM**

### **2.2.1 Integration with the Streetscape**

Gordon Street Entrance of Residence 1 is located at the most prominent corner of the site (Gordon Street & Street A) to address the sense of arrival into the site. A cross section detail showing the interface between the Residence 1 and the sidewalk/right-of-way along Gordon Street and Street A is provided in **Appendix D**. The building face is also setback 6m from Gordon Street to allow for street trees and landscape that leads up to the amenity entrances. Trees are proposed to be planted in adequate open, landscape beds in concert with other plantings. The indoor amenity spaces have access to Gordon Street, so there can be visual interaction between passers-by and residents to provide for both interest and safety.

### **2.2.2 Publicly Accessible Open Space and Features**

The redevelopment of this Site closely aligns with the vision for the area, as it is expressed in the Gordon Street Intensification Corridor Urban Design Concept Plan for the site-specific area. The site creates an opening to extend Edinburgh Road and create a visual access to the woodland at the rear of the existing properties and has the potential for improved trail connections to publicly accessible trails enhancing access to open spaces. The proposed road networks improve connectivity across the high-density area, and creates connections for cycling, walking and driving. The proposed development will increase the usability of the area, with improved lighting and increasing 'eyes on the street'. Overall, features will be added to the site, such as seating and outdoor amenity areas for public enjoyment and connection to the City trail.

## **2.3 SUSTAINABLE URBAN DESIGN**

### **2.3.1 General Environmental Sustainability**

Sustainability measures for the proposed development include strategies listed below:

- Transit-friendly compact development with pedestrian and cyclist linkages
- Retention of existing vegetation where feasible & minimized surface parking
- Proposed installation of drought tolerant plants to be detailed at site plan
- Proposed planting of street trees that will contribute to overall canopy cover (details proposed at site plan through finalized landscape plan)
- Integration of tree planting systems



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- Lighter coloured roofing/siding materials, which reduces cooling costs and urban heat island effect
- Low-flow faucets, toilets, and showerheads will be incorporated throughout the units to reduce water consumption
- Closed-looped heating and cooling systems
- Onsite full water infiltration will be incorporated on the building roofs to eliminate discharge from the site to surrounding waterways
- Addition of a rain garden east of Building 2 to recharge the Torrence Creek Subwatershed
- Energy efficient lighting
- Recycling and waste management
- High efficiency HVAC inside units (individual air handlers possibly with ERV's and individually controlled air conditioning)
- Individually metered units
- Well-constructed building to minimize future maintenance issues
- The use of natural light and natural ventilation in the building designs
- Utilization of local materials
- The Site is fully serviced by existing infrastructure

### 2.3.2 Energy

The Community Energy Initiative commitment letter provided by the Tricar Group has been provided in **Appendix .H**

## CLOSING

This document has been prepared in collaboration by Stantec Consulting and Kasian Architecture. This information is respectfully submitted in support of the proposed two 12-storey apartment buildings on behalf of the Tricar Group.

Sincerely,

**STANTEC CONSULTING LTD.**



**Amelia Sloan, MCIP, RPP**

Planner, Community Development

600 - 171 Queens Ave, London, ON N6A 5J7

Phone: 519-675-6668

**KASIAN ARCHITECTURE ONTARIO INC.**



**James Rice | Principal**

OAA, NSAA, MRAIC, March (Hons), BAS (Hons)

Toronto, ON, Canada | M6K 3S3

T 416.583.3633

URBAN DESIGN BRIEF  
1242, 1250, 1260, 1270 GORDON STREET AND 9 VALLEY ROAD,  
CITY OF GUELPH

May 30, 2022  
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## Appendix A SITE PLAN





2	2022-05-03	RE-ISSUED FOR REZONING	
1	2021-08-12	ISSUED FOR REZONING	
REV	YYYY-MM-DD	REVISION / DRAWING ISSUE	REVIEW
CONSULTANT			

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PROJECT

**1250 GORDON STREET - MASTER**

GUELPH, ONTARIO, CANADA

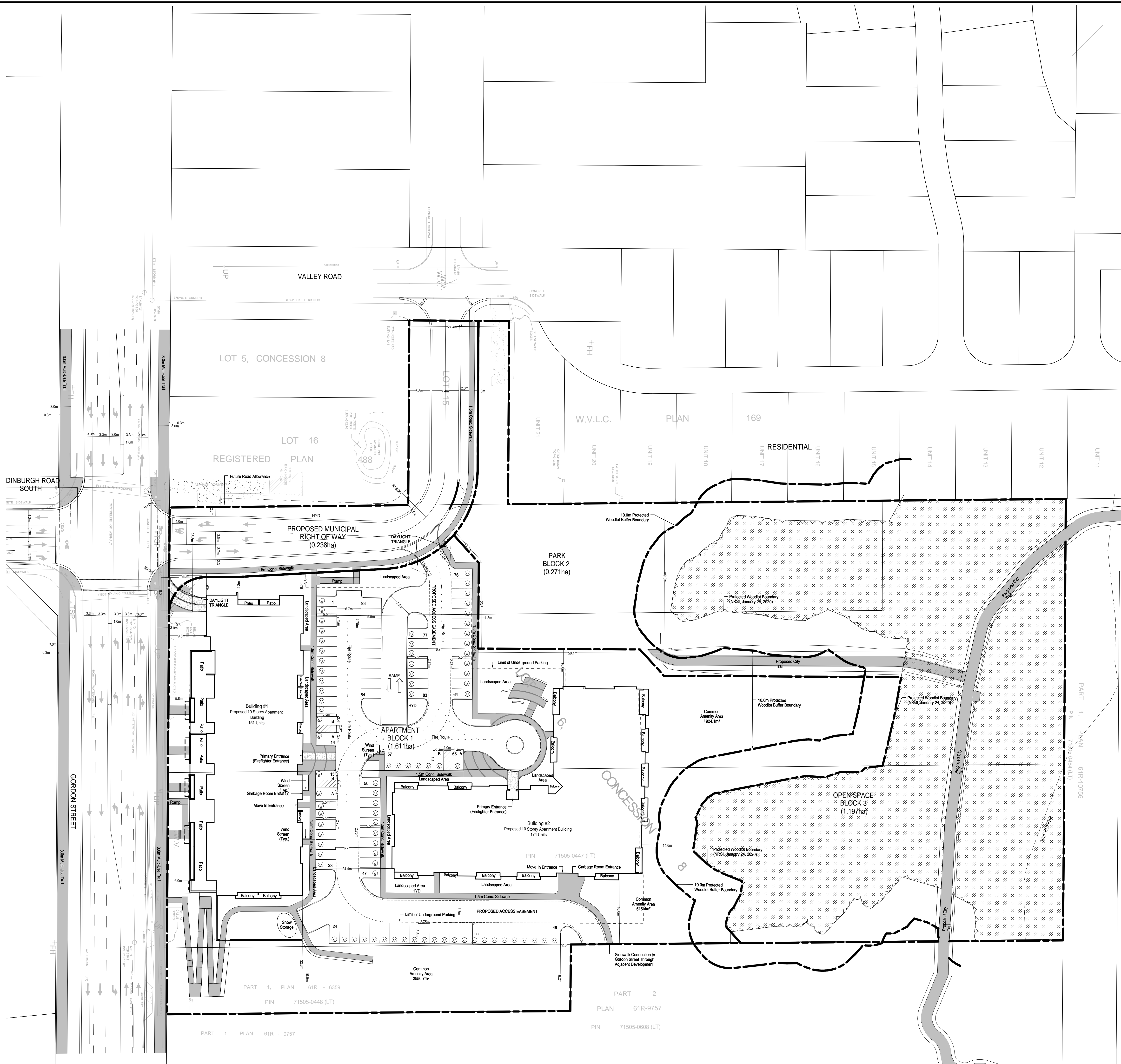
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**SITE PLAN**

DRAWING ISSUE

**RE-ISSUED FOR REZONING**

PROJECT NO.	PLOT DATE	2022-06-23	DRAWN	Author
201233	SCALE	1 : 500	REVIEWED	Checker
DRAWING NO.	<b>A-100</b>			REVISION
				<b>2</b>



URBAN DESIGN BRIEF  
1242, 1250, 1260, 1270 GORDON STREET AND 9 VALLEY ROAD,  
CITY OF GUELPH

May 30, 2022  
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## Appendix B RENDERINGS





**Overall Aerial View**  
1250 GORDON STREET - MASTER  
GUELPH, ONTARIO, CANADA

**A-701**  
2022-04-25  
PROJECT 201233







**Gordon Street View (Res 1)**  
1250 GORDON STREET - MASTER  
GUELPH, ONTARIO, CANADA

**A-702**  
2022-04-25  
PROJECT 201233







**Landsdown Drive View**  
1250 GORDON STREET - MASTER  
GUELPH, ONTARIO, CANADA

**A-703**  
2022-04-25  
PROJECT 201233







**Parking Area View**  
1250 GORDON STREET - MASTER  
GUELPH, ONTARIO, CANADA

**A-704**  
2022-04-25  
PROJECT 201233







**Back View (Res 1 & Res 2)**  
1250 GORDON STREET - MASTER  
GUELPH, ONTARIO, CANADA

**A-705**  
2022-04-25  
PROJECT 201233

**Kasian** 

URBAN DESIGN BRIEF  
1242, 1250, 1260, 1270 GORDON STREET AND 9 VALLEY ROAD,  
CITY OF GUELPH

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2.16

## Appendix C ELEVATIONS



1	2021-08-12	ISSUED FOR REZONING	
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**1250 GORDON STREET - MASTER**

GUELPH, ONTARIO, CANADA

DRAWING TITLE

**RES 1 - EAST & WEST ELEVATIONS**

DRAWING ISSUE

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PROJECT NO.	PLOT DATE	2022-04-25	DRAWN	Author
201233	SCALE	As indicated	REVIEWED	Checker
DRAWING NO.	A-201			REVISION

1

**EXTERIOR FINISH LEGEND**

- BR1 BRICK VENEER - BROWN
- BR2 BRICK VENEER - BUFF
- ST STONE / PRECAST W. STONE PATTERN
- PC1 PRECAST CONCRETE - WHITE
- PC2 PRECAST CONCRETE - BEIGE
- PW PUNCHED WINDOWS - BLACK FRAMES
- TG TEMPERED GLASS RAILING
- WW WINDOW WALL - BLACK FRAMES
- CS CONCRETE SLAB - BEIGE
- MC METAL CANOPY - COLOUR T.B.D.
- SG SPANDREL GLASS - COLOUR T.B.D.
- MP METAL PANEL - COLOUR T.B.D.

**ELEVATION LEGEND**

BIRD FRIENDLY VISUAL MARKERS WITH A MINIMUM DIAMETER OF 5MM FOR THE MARKERS IN ADDITIONAL TO THE MAXIMUM SPACING OF 100MM X 100MM.

**2 RES 1 WEST ELEVATION**  
SCALE: 1 : 200



**1 RES 1 EAST ELEVATION**  
SCALE: 1 : 200



1	2021-08-12	ISSUED FOR REZONING		
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PROJECT

1250 GORDON STREET - MASTER

GUELPH, ONTARIO, CANADA

DRAWING TITLE

RES 1&2 - NORTH & SOUTH ELEVATIONS

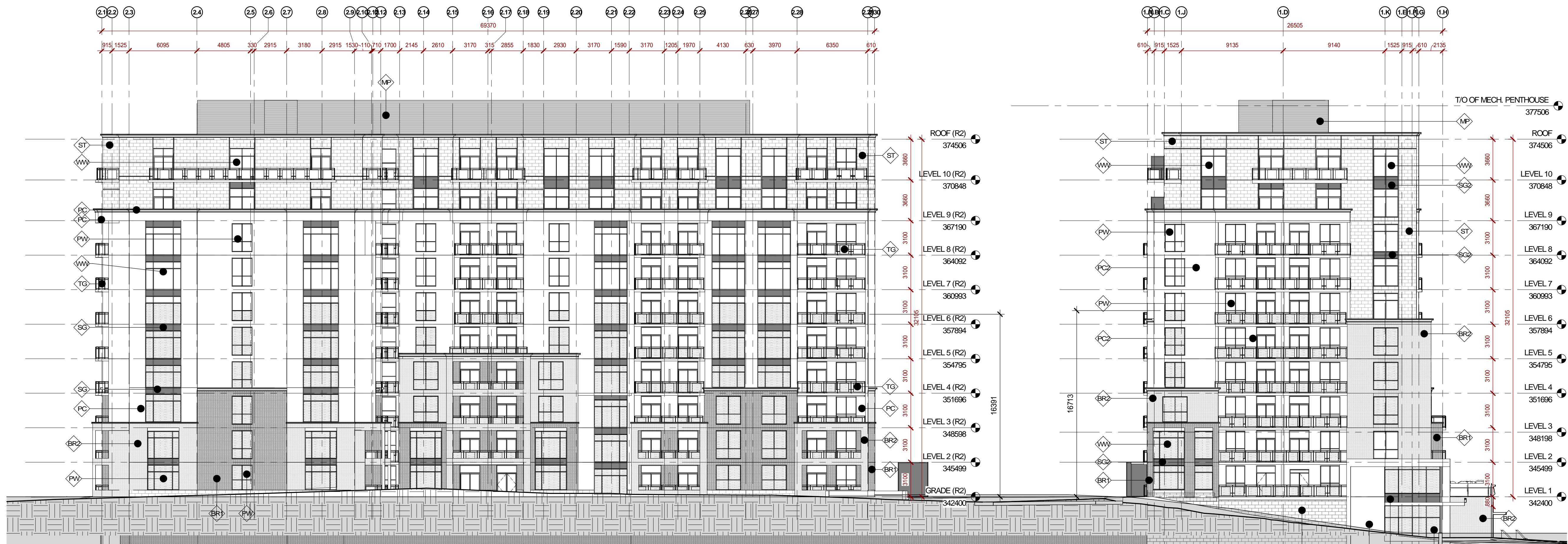
DRAWING ISSUE

ISSUED FOR REZONING

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SV_P2 PARKING	NO.	342400	SCALE	As indicated	REVIEWED	Checker
						REVISION
						1

**ELEVATION LEGEND**

BIRD FRIENDLY VISUAL MARKERS WITH A MINIMUM DIAMETER OF 50MM FOR THE MARKERS IN ADDITIONAL TO THE MAXIMUM SPACING OF 100MM X 100MM.



**2 RES 1&2 NORTH ELEVATION1**  
A-202 SCALE: 1:200



**1 RES 1&2 SOUTH ELEVATION1**  
A-202 SCALE: 1:200



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1250 GORDON STREET - MASTER

GUELPH, ONTARIO, CANADA

DRAWING TITLE

RES 2 - EAST AND WEST  
ELEVATIONS

DRAWING ISSUE

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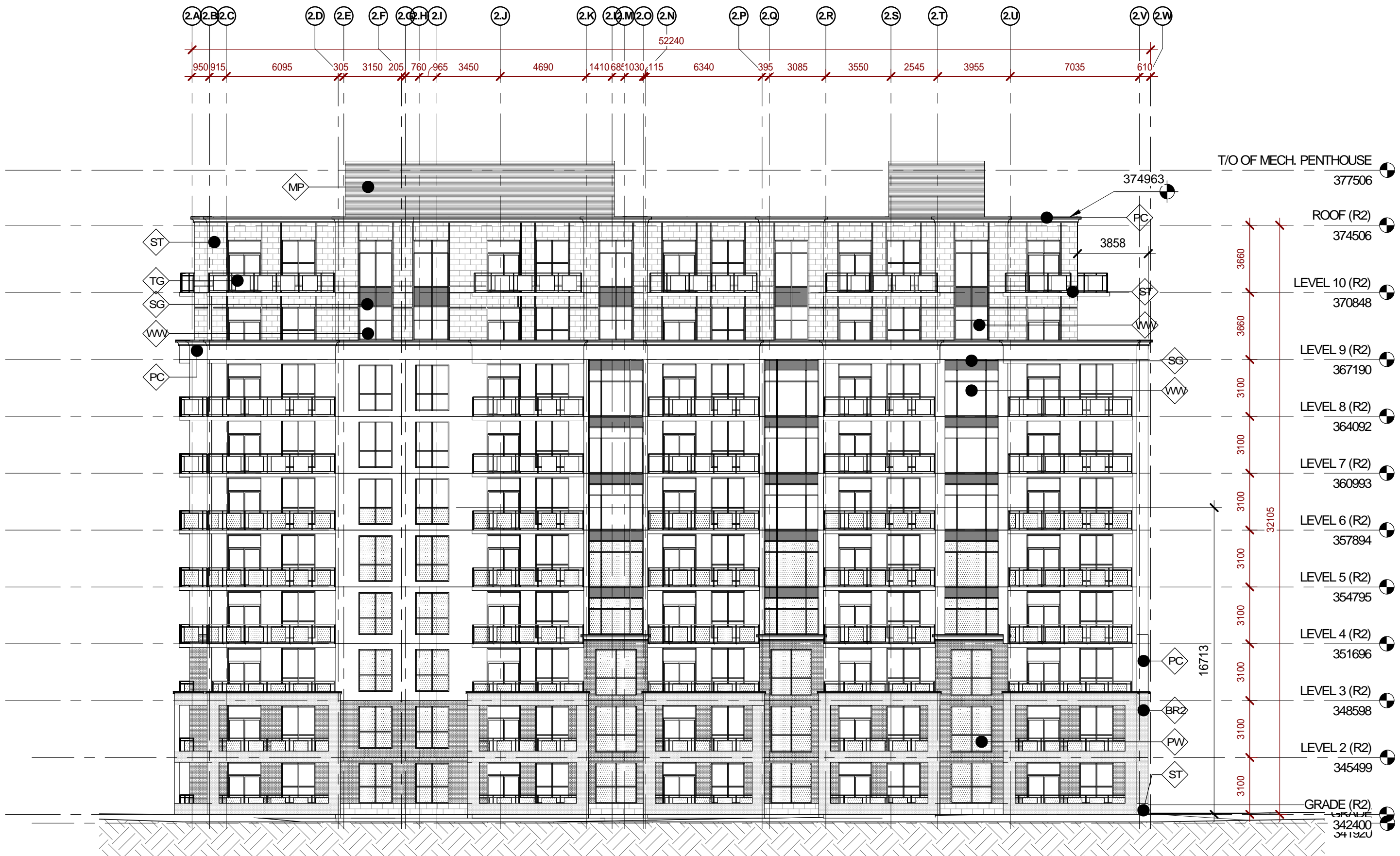
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EXTERIOR FINISH LEGEND

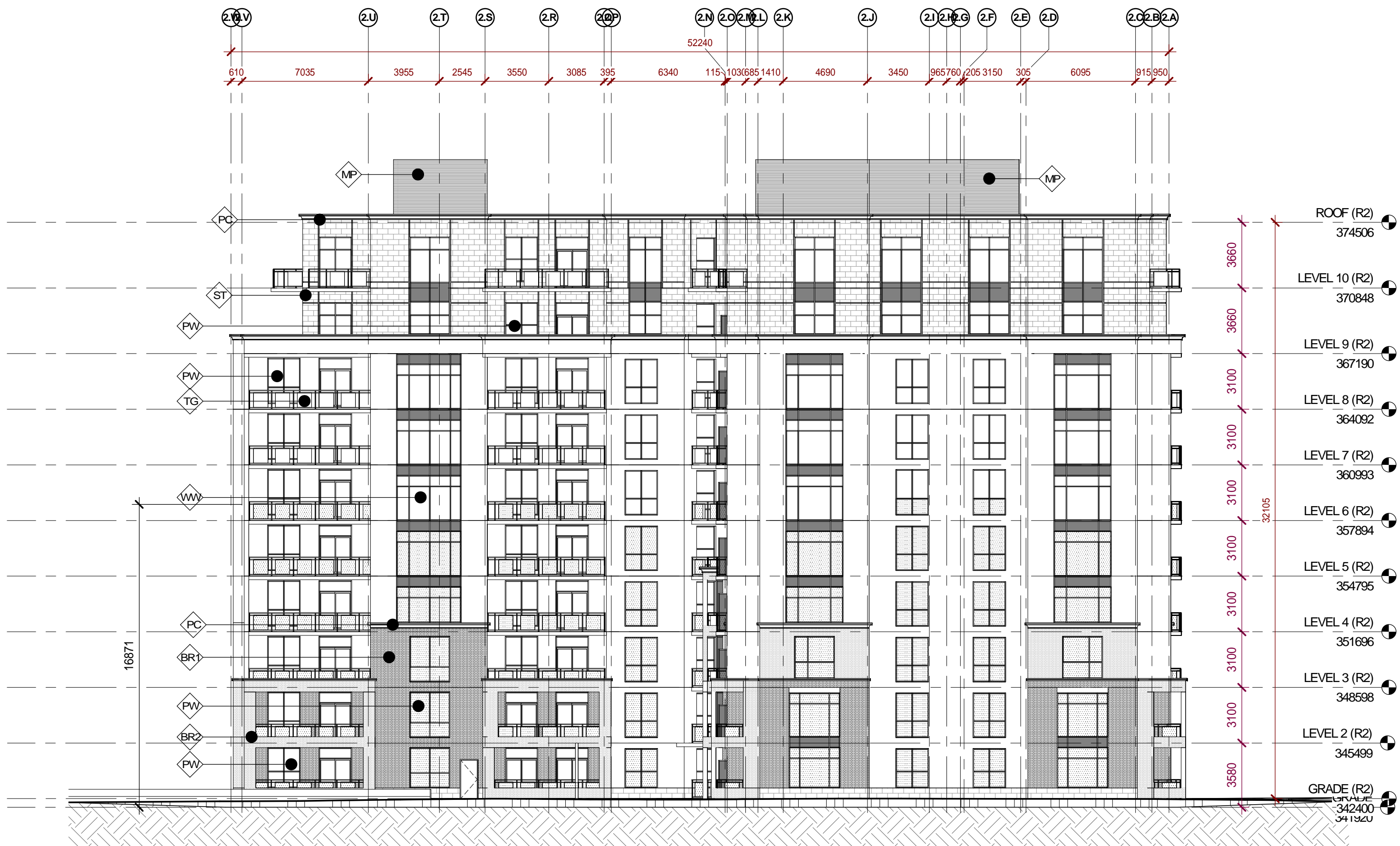
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- BR2 BRICK VENEER - BUFF
- ST STONE / PRECAST W. STONE PATTERN
- PC1 PRECAST CONCRETE - WHITE
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- MC METAL CANOPY - COLOUR T.B.D.
- SG SPANDREL GLASS - COLOUR T.B.D.
- MP METAL PANEL - COLOUR T.B.D.

ELEVATION LEGEND

BIRD FRIENDLY VISUAL MARKERS WITH A MINIMUM DIAMETER OF 5MM FOR THE MARKERS IN ADDITIONAL TO THE MAXIMUM SPACING OF 100MM X 100MM



2 RES 2 EAST ELEVATION  
SCALE: 1 : 200



1 RES 2 WEST ELEVATION  
SCALE: 1 : 200

URBAN DESIGN BRIEF  
1242, 1250, 1260, 1270 GORDON STREET AND 9 VALLEY ROAD,  
CITY OF GUELPH

May 30, 2022  
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## **Appendix D** PRELIMINARY LANDSCAPE PLAN AND X SECTION DETAIL OF GORDON STREET AND STREET A



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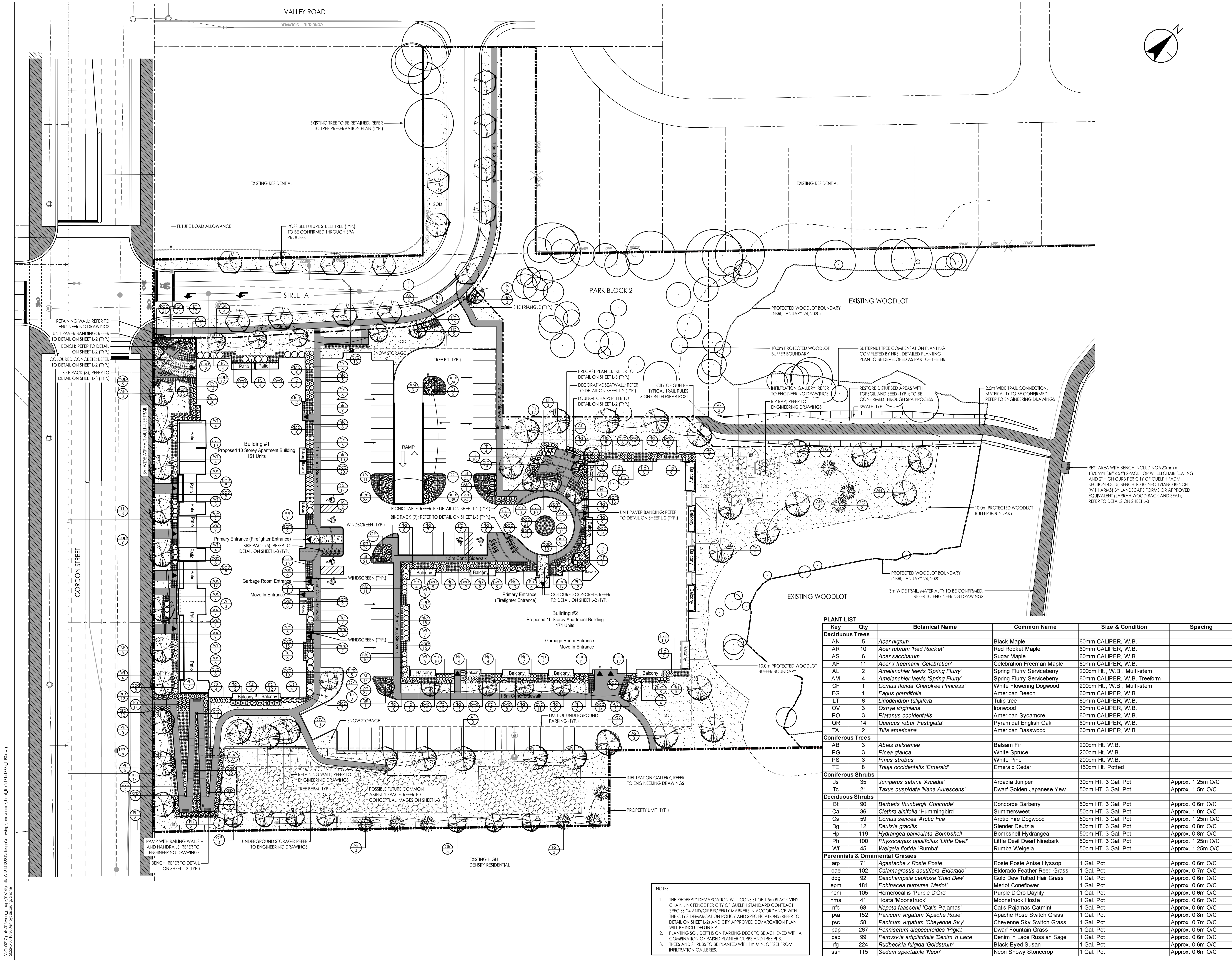
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A map showing the location of the site. The site is marked with a black rectangle and the word "SITE" inside. It is located at the intersection of Edmoreport Rd S and Gordon St. A north arrow is in the top right corner.

Drawing No.	Sheet	Revision
LC-1	1 of 1	0



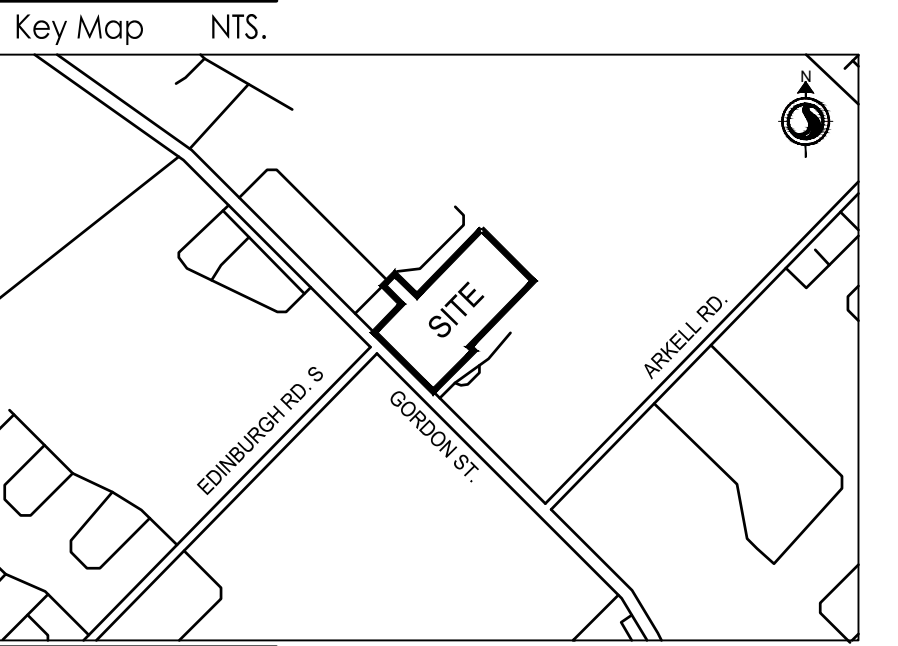




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Consultants



- Legend
- PROPERTY LIMIT
  - WOODLOT BUFFER
  - PROTECTED WOODLOT BOUNDARY
  - EXISTING TREE
  - DECIDUOUS TREE
  - CONIFEROUS TREE
  - POSSIBLE FUTURE STREET TREE
  - SHRUBS, PERENNIALS & ORNAMENTAL GRASSES
  - LIMIT OF MULCHED PLANTING BED
  - TREE PIT
  - SOD
  - ASPHALT PAVING
  - NATURAL CONCRETE PAVING
  - COLOURED CONCRETE PAVING WITH UNIT PAVER BANDING
  - BENCHES, LOUNGE CHAIRS, AND PICNIC TABLES
  - BIKE RACK
  - DECORATIVE SEATWALL

Notes

1. ALL DRAWINGS SHOULD BE REVIEWED WITH REFERENCE TO COMPLETE CONTRACT DOCUMENTS.

2. DRAWINGS NOT INTENDED FOR CONSTRUCTION

2.	PER CITY COMMENTS		SU	HS		22.05.27	
1.	PER UPDATED SITE PLAN		SU	HE		21.08.20	
Revision			By	Appd.		YY.MM.DD	
3.	ISSUED FOR DRAFT PLAN APPROVAL		SU	HS		22.05.27	
2.	ISSUED FOR DRAFT PLAN APPROVAL		SU	HE		21.08.20	
1.	ISSUED FOR DRAFT PLAN APPROVAL		SU	HS		21.08.11	
Issued			By	Appd.		YY.MM.DD	
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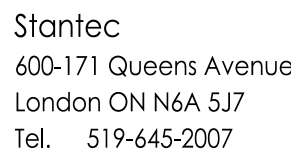
Client/Project  
TRICAR DEVELOPMENTS INC.

1242, 1250, 1260 GORDON STREET  
& 9 VALLEY ROAD  
Guelph, ON Canada

Title  
LANDSCAPE PLAN

Project No. 161413684  
Drawing No. L-1  
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Sheet 1 of 3  
Revision 2





The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.

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## Key Map NTS.



1. ALL DRAWINGS SHOULD BE REVIEWED WITH REFERENCE TO COMPLETE CONTRACT DOCUMENTS.
2. DRAWINGS NOT INTENDED FOR CONSTRUCTION

Revision	By	Appd.	YY.MM.DD
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3	ISSUED FOR DRAFT PLAN APPROVAL	SU	HS	22.05.20
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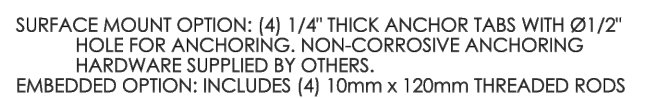
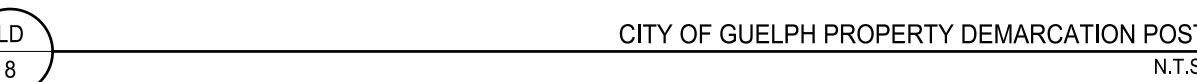
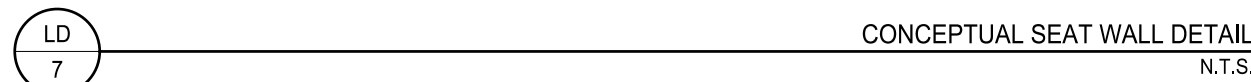
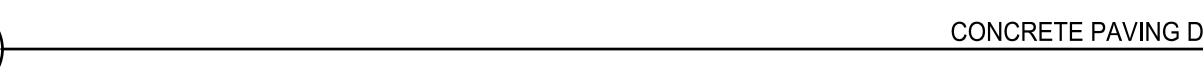
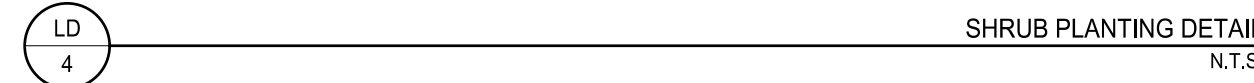
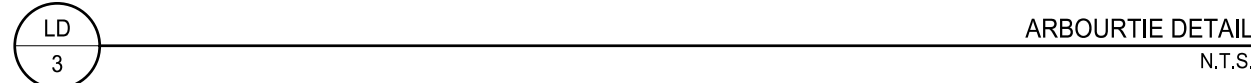
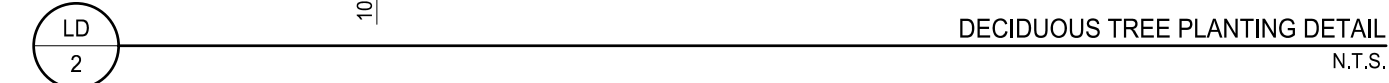
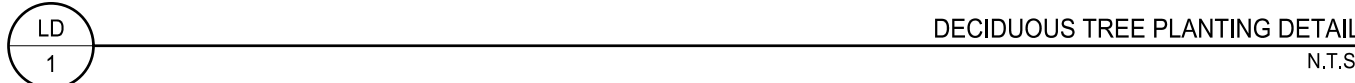
Issued	By	Appd.	YY.MM.DD
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Permit-Seal

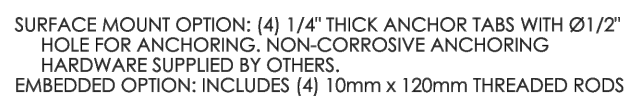
TRICAR DEVELOPMENTS INC

1242, 1250, 1260 GORDON STREET  
& 9 VALLEY ROAD  
Guelph, ON Canada

LANDSCAPE DETAILS

12 2 2

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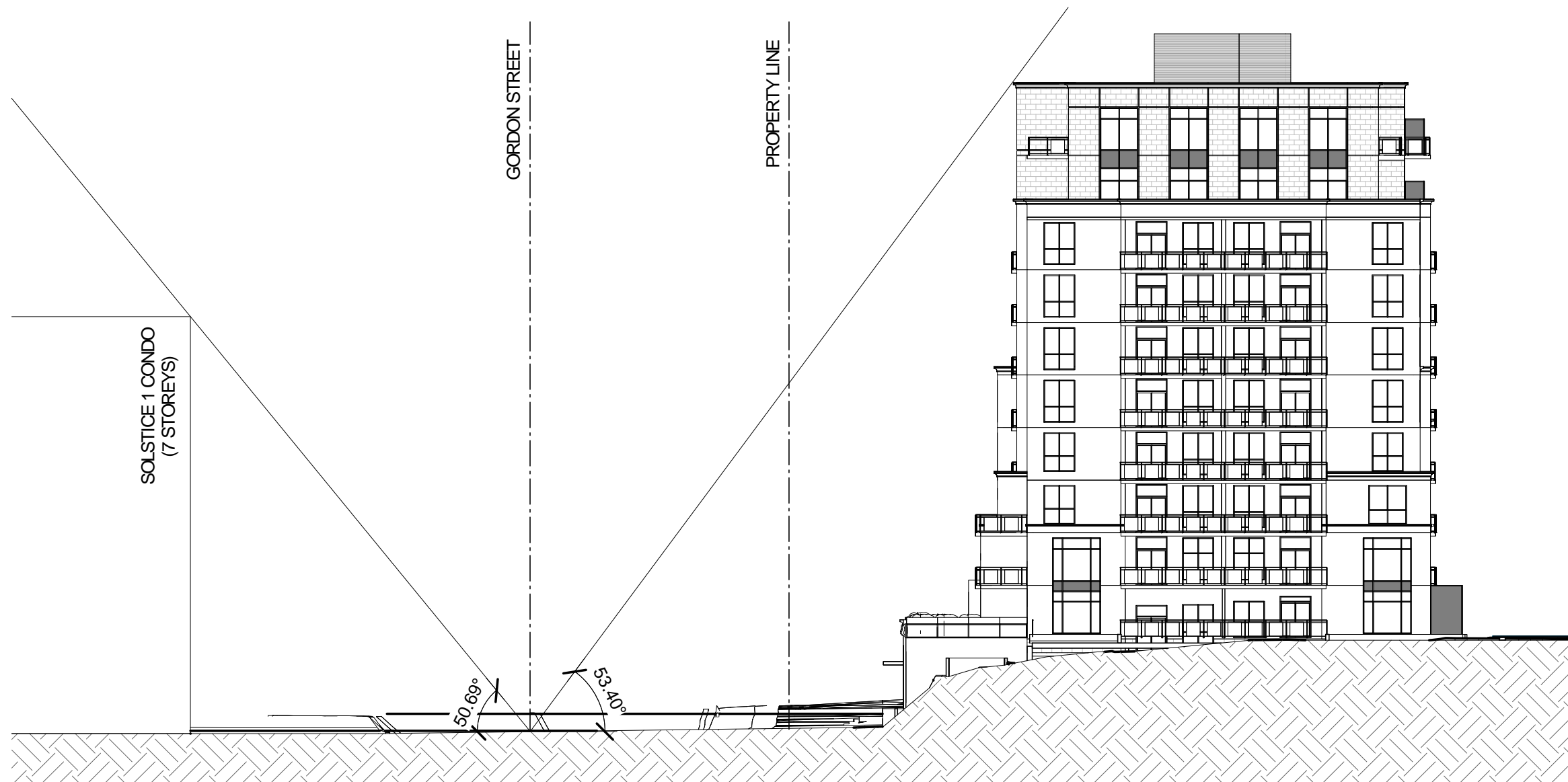




URBAN DESIGN BRIEF  
1242, 1250, 1260, 1270 GORDON STREET AND 9 VALLEY ROAD,  
CITY OF GUELPH

May 30, 2022  
2.18

## Appendix E **ANGULAR PLANE**

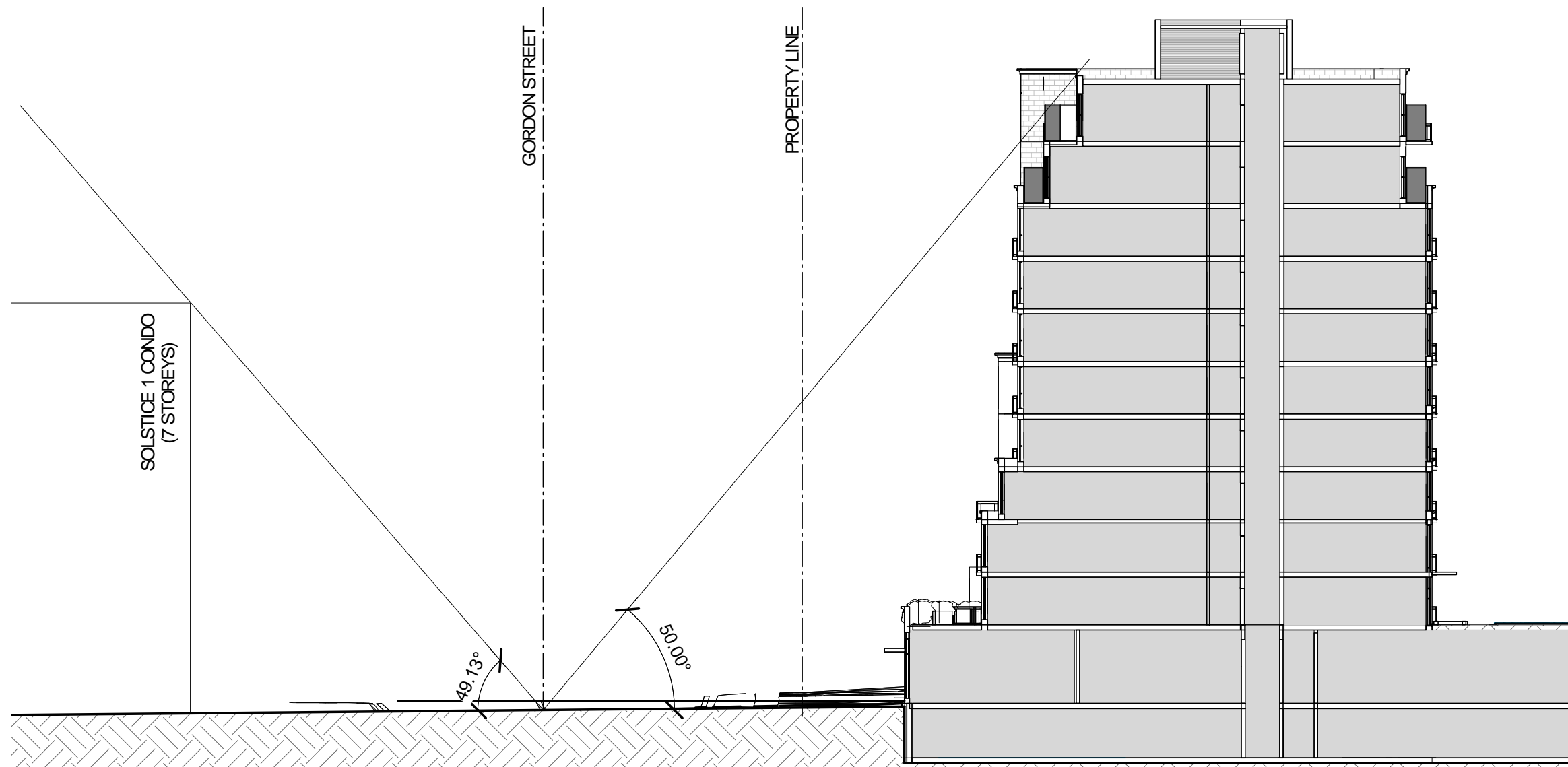


**Angular Plane\_Gordon Street**  
 1250 GORDON STREET - MASTER  
 GUELPH, ONTARIO, CANADA

**A-120**  
 2022-04-25  
 PROJECT 201233





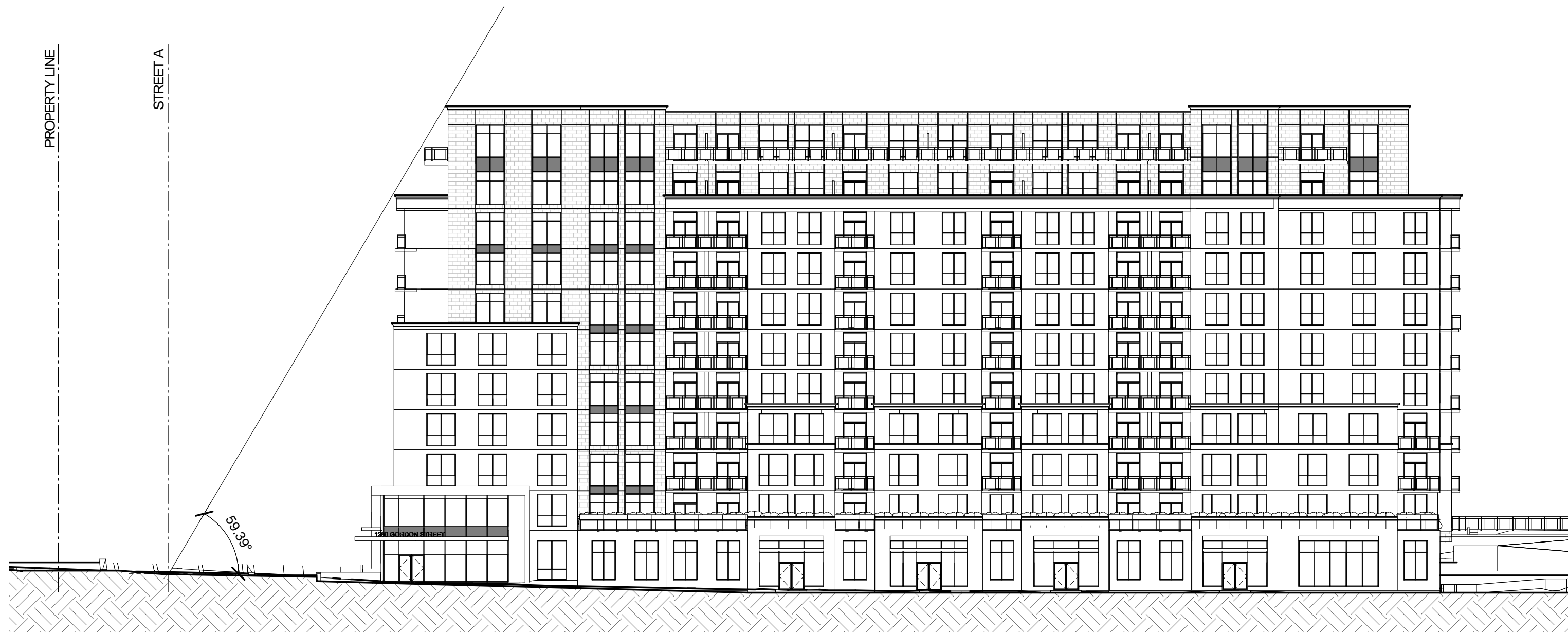


\*NOTE: 67% OF FACADE IS RECESSED ON THE 9TH & 10TH FLOOR

**Angular Plane\_Gordon Street\_Recessed Facade**  
 1250 GORDON STREET - MASTER  
 GUELPH, ONTARIO, CANADA

**A-120.1**  
 2022-04-25  
 PROJECT 201233

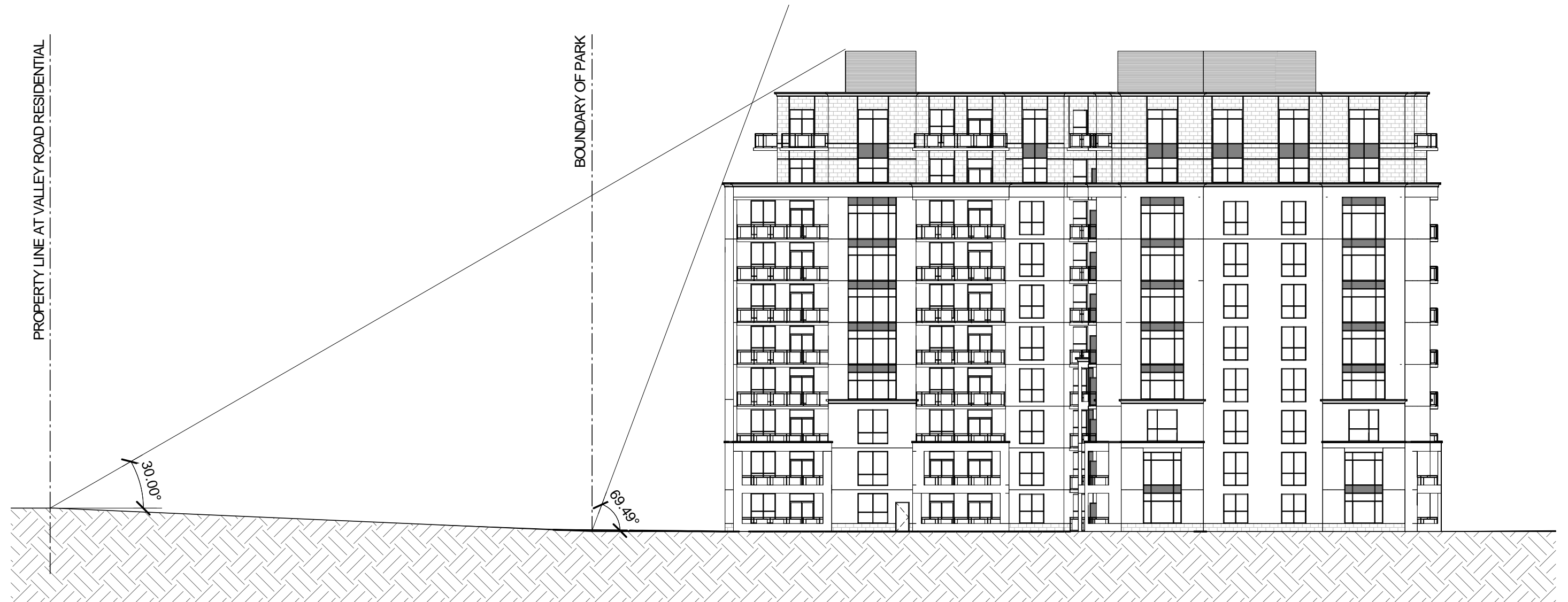




**Angular Plane\_Street A**  
 1250 GORDON STREET - MASTER  
 GUELPH, ONTARIO, CANADA

**A-121**  
 2022-04-25  
 PROJECT 201233





Angular Plane\_Park  
1250 GORDON STREET - MASTER  
GUELPH, ONTARIO, CANADA

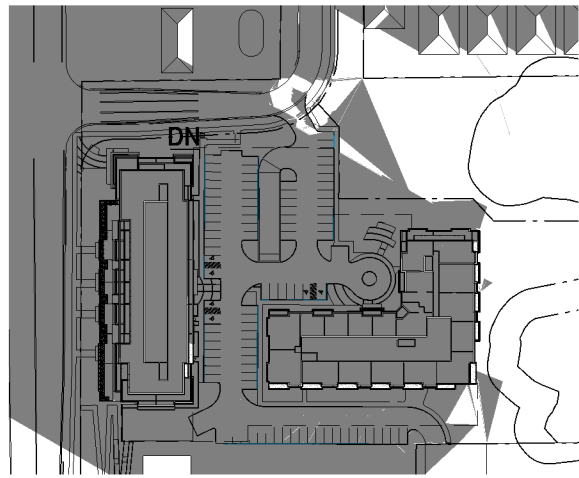
A-122  
2022-04-25  
PROJECT 201233



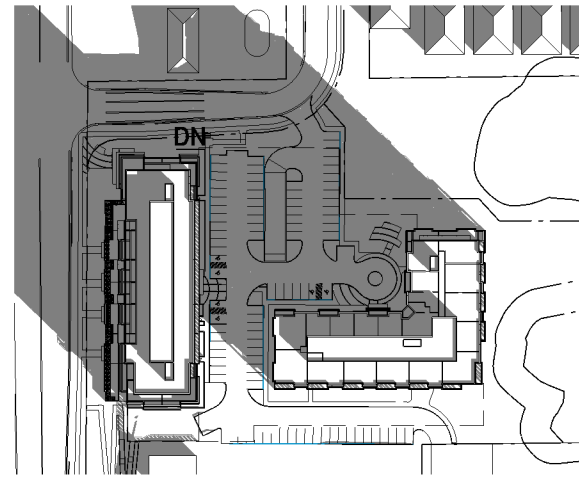
URBAN DESIGN BRIEF  
1242, 1250, 1260, 1270 GORDON STREET AND 9 VALLEY ROAD,  
CITY OF GUELPH

May 30, 2022  
2.19

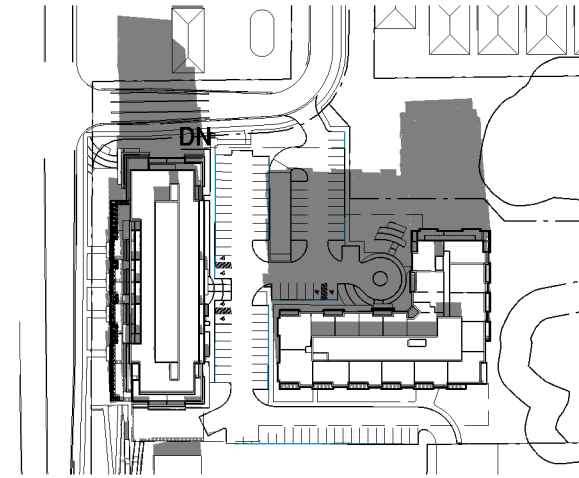
## Appendix F SHADOW STUDY



APR 06:29 (SUNRISE)



APR 07:59 (SUNRISE +1.5 HR)



APR 08:00

$$A_T = 2,710 \text{ m}^2$$

**A<sub>S</sub> - AREA IN SUNSHINE AT PARK:**

10:00 - 1,906 m<sup>2</sup>

11:00 - 2,266 m<sup>2</sup>

12:00 - 2,479 m<sup>2</sup>

13:00 - 2,593 m<sup>2</sup>

14:00 - 2,642 m<sup>2</sup>

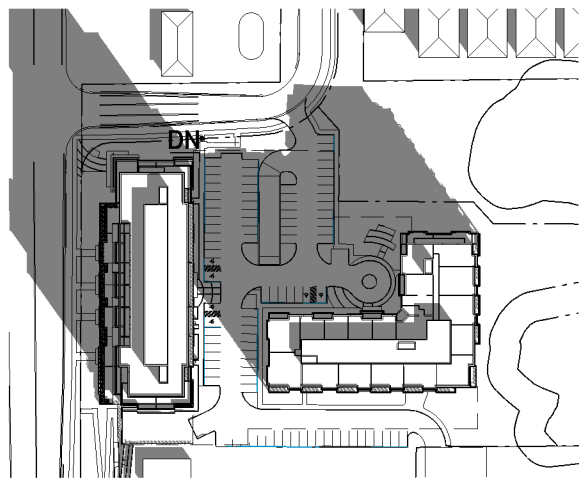
$$A_{AS(ave)} = 2,086 \text{ m}^2 + 2,373 \text{ m}^2 + 2,536 \text{ m}^2 + 2,618 \text{ m}^2 / 4$$

$$= 2,403 \text{ m}^2$$

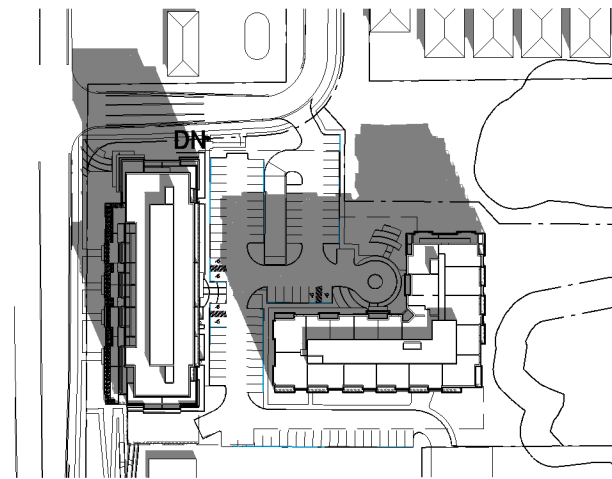
$$\text{SUN ACCESS FACTOR} = A_{AS(ave)} / A_T$$

$$= 2,403 \text{ m}^2 / 2,710 \text{ m}^2$$

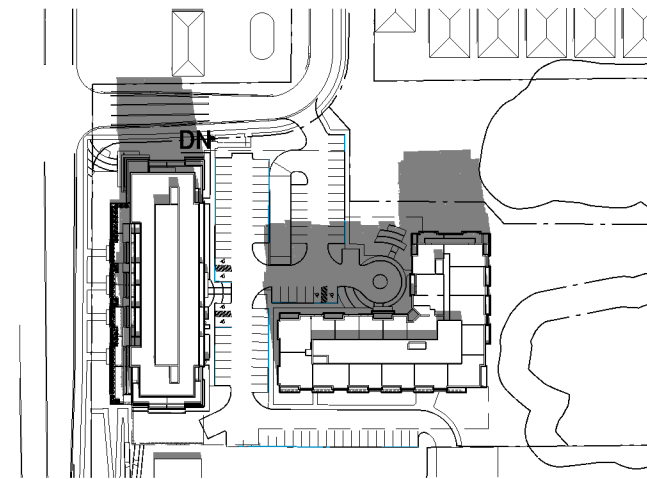
$$= 0.89 \text{ (89\%)}$$



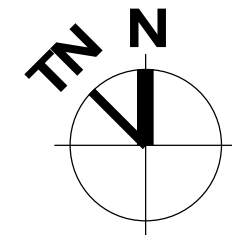
APR 09:00



APR 10:00

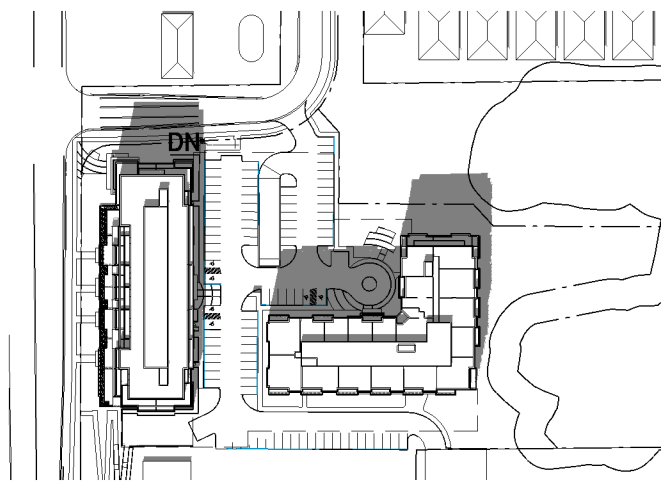


APR 11:00

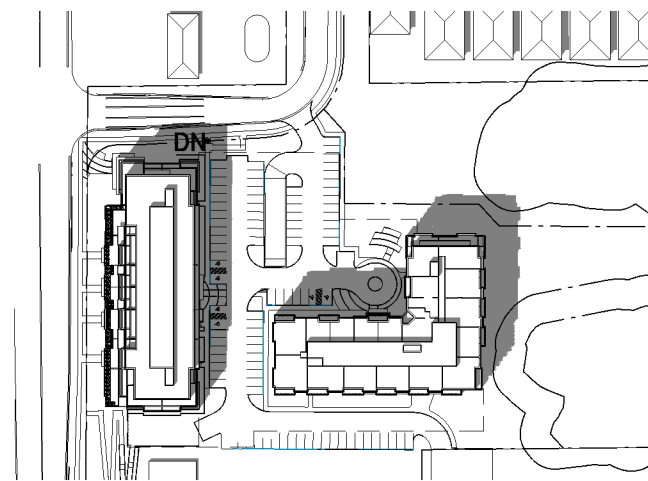


Sunrise 6:29 am  
Sunset 8:11 pm  
Solar Noon 1:19 pm

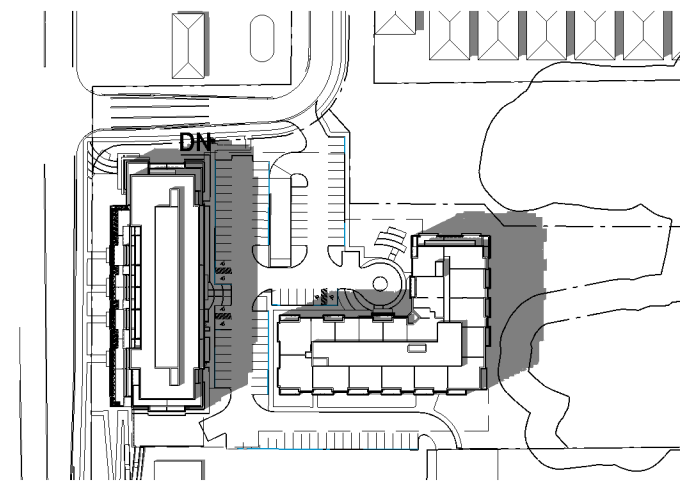
Latitude, Longitude: 43.516610, -80.200970



APR 12:00



APR 13:00



APR 14:00

**APR21\_1**

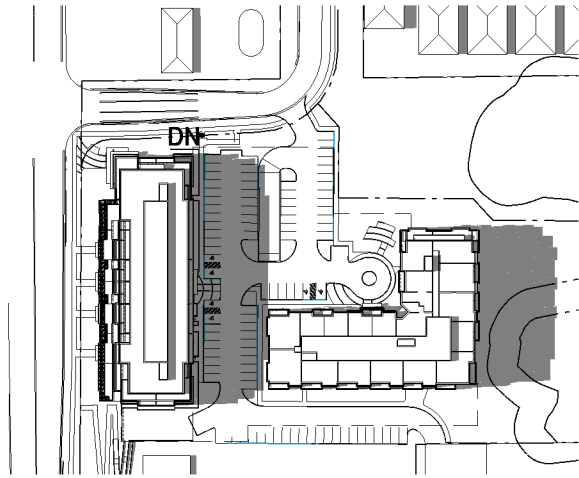
1250 GORDON STREET - MASTER  
GUELPH, ONTARIO, CANADA

**A-600**

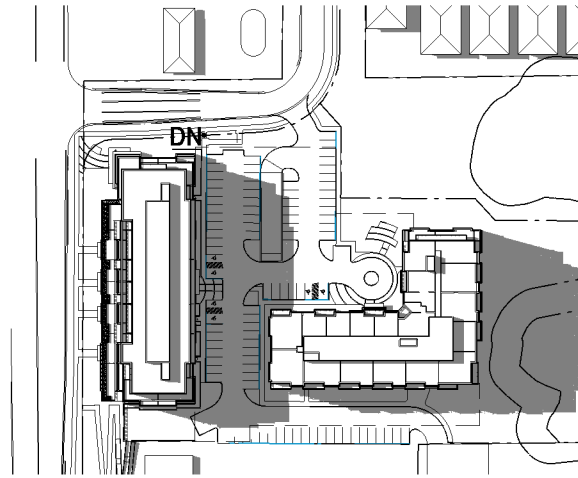
2022-06-10

PROJECT 201233

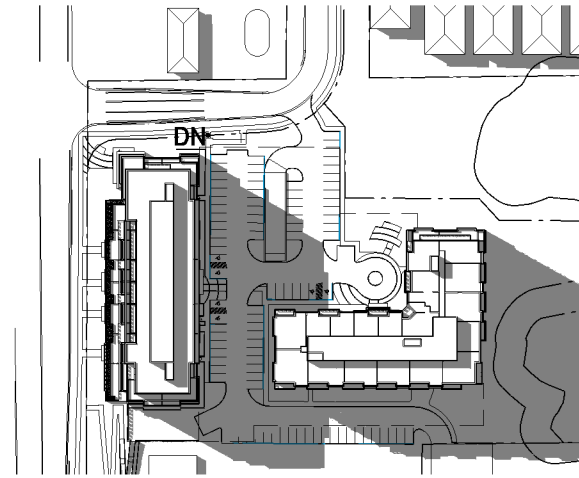




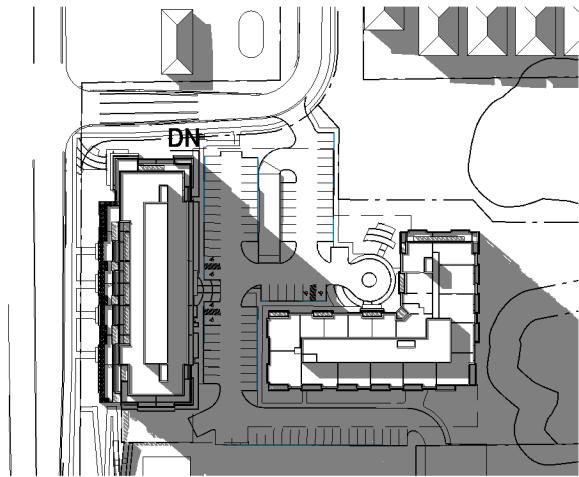
APR 15:00



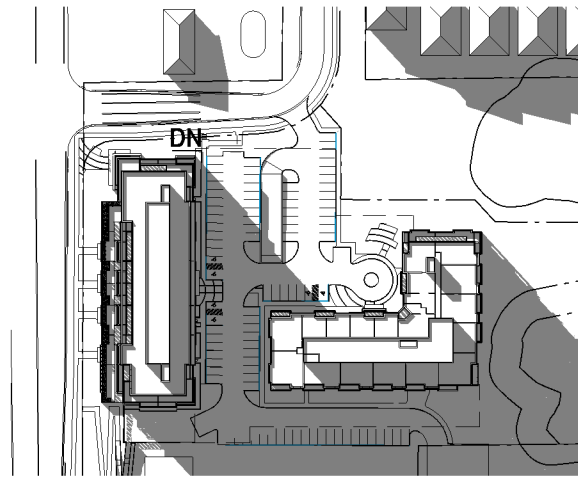
APR 16:00



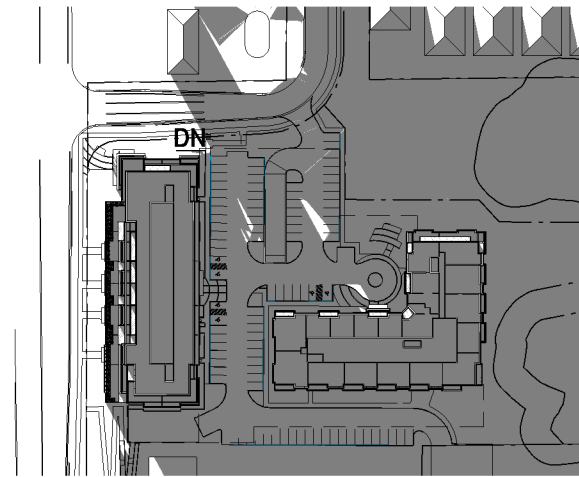
APR 17:00



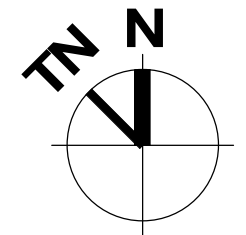
APR 18:00



APR 18:41 (SUNSET -1.5 HR)



APR 20:11 (SUNSET)



Sunrise 6:29 am  
Sunset 8:11 pm  
Solar Noon 1:19 pm

Latitude, Longitude: 43.516610, -80.200970

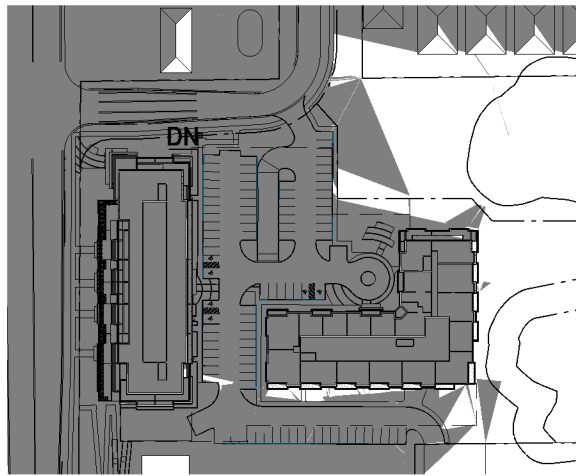
**APR 21\_2**

1250 GORDON STREET - MASTER  
GUELPH, ONTARIO, CANADA

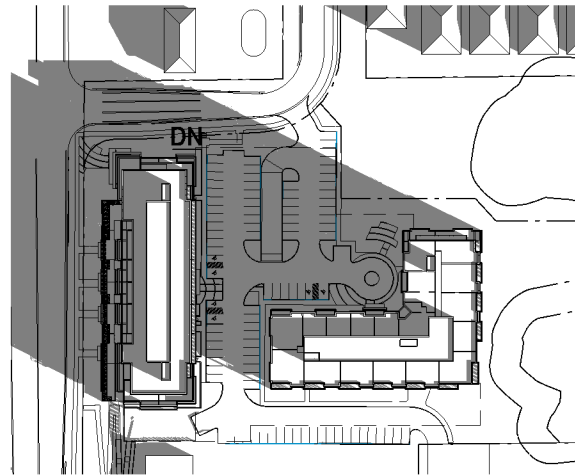
**A-601**

2022-06-10

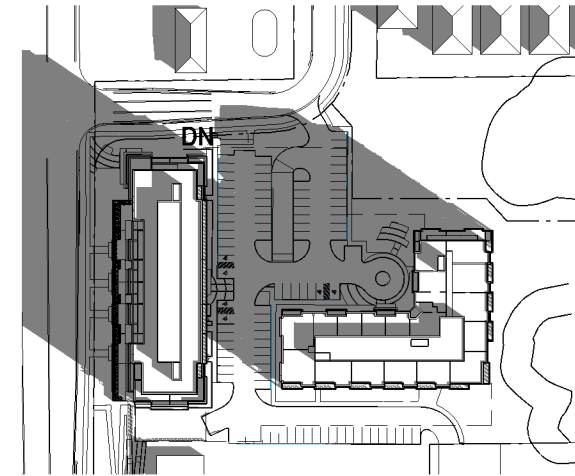
PROJECT 201233



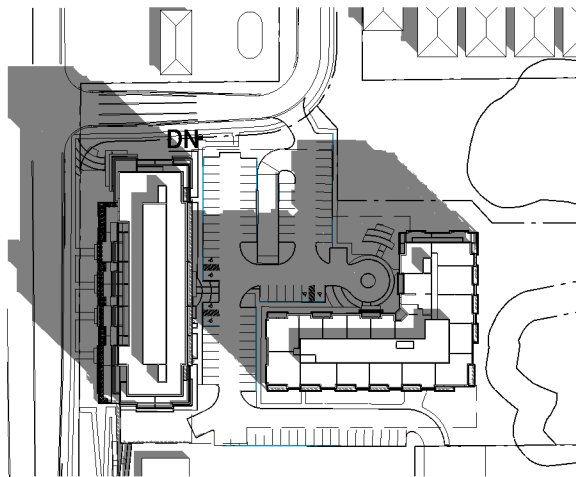
JUN 05:40 (SUNRISE)



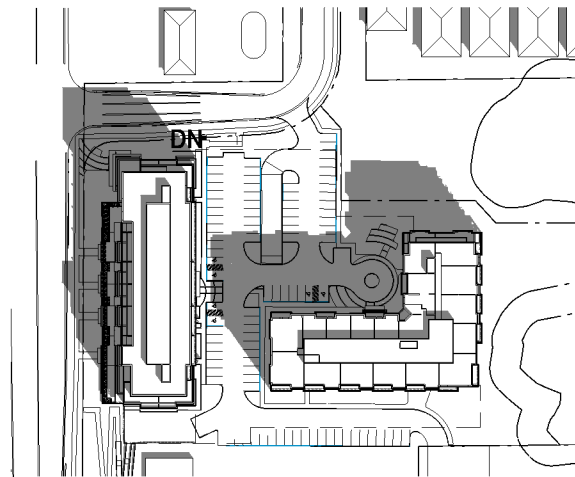
JUN 07:10 (SUNRISE +1.5 HR)



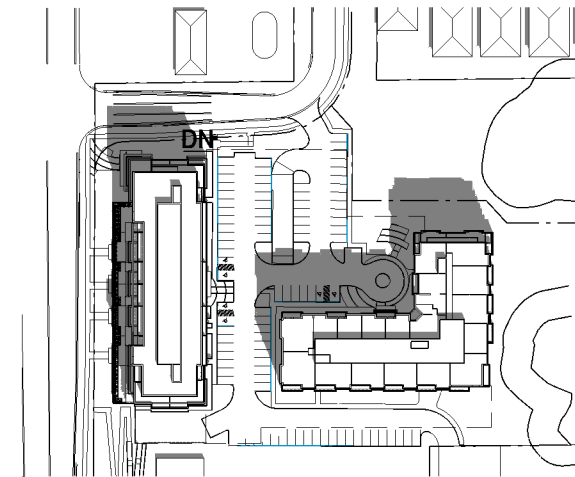
JUN 08:00



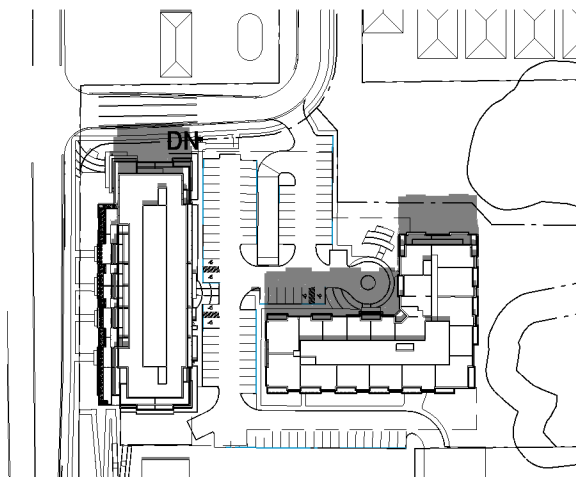
JUN 09:00



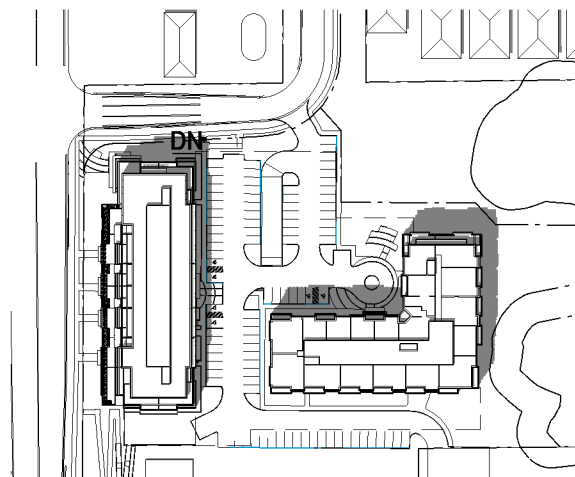
JUN 10:00



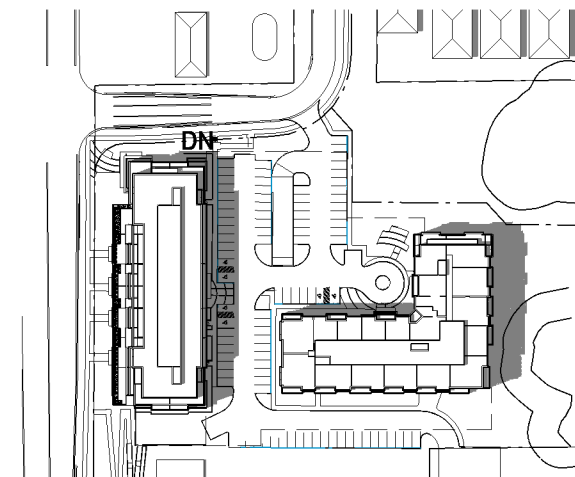
JUN 11:00



JUN 12:00



JUN 13:00



JUN 14:00

$$A_T = 2,710 \text{ m}^2$$

**A<sub>S</sub> - AREA IN SUNSHINE AT PARK:**

$$10:00 - 2,297 \text{ m}^2$$

$$11:00 - 2,501 \text{ m}^2$$

$$12:00 - 2,637 \text{ m}^2$$

$$13:00 - 2,692 \text{ m}^2$$

$$14:00 - 2,706 \text{ m}^2$$

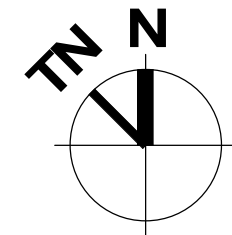
$$A_{AS(ave)} = 2,399 \text{ m}^2 + 2,569 \text{ m}^2 + 2,665 \text{ m}^2 + 2,699 \text{ m}^2 / 4$$

$$= 2,583 \text{ m}^2$$

$$\text{SUN ACCESS FACTOR} = A_{AS(ave)} / A_T$$

$$= 2,583 \text{ m}^2 / 2,710 \text{ m}^2$$

$$= 0.95 \text{ (95\%)}$$

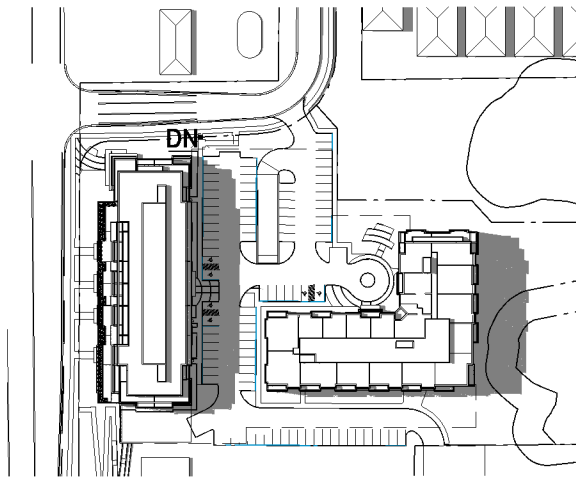


Sunrise 5:40 am  
Sunset 9:06 pm  
Solar Noon 1:22 pm

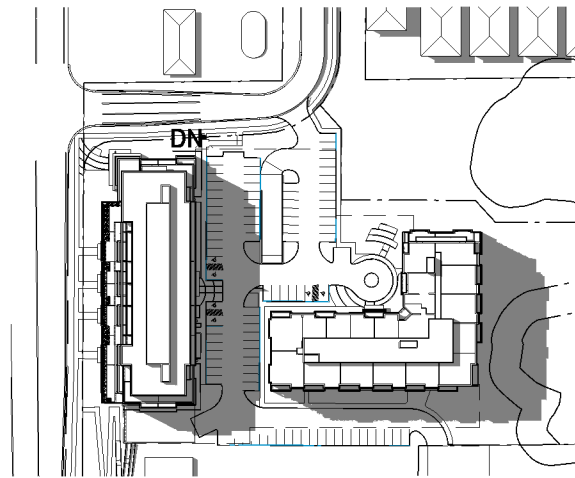
Latitude, Longitude: 43.516610, -80.200970

**JUNE 21\_1**  
**1250 GORDON STREET - MASTER**  
**GUELPH, ONTARIO, CANADA**

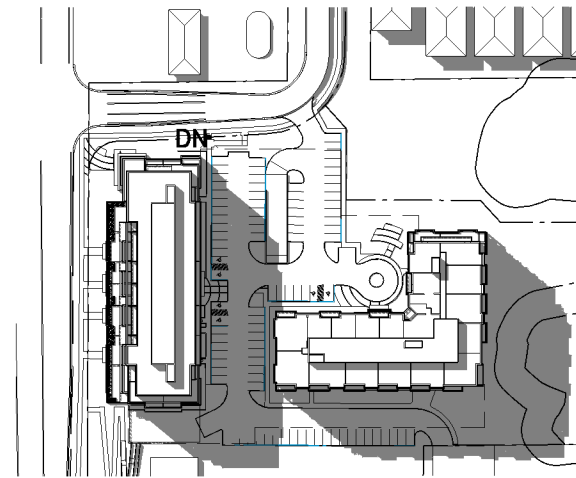
**A-602**  
**2022-06-10**  
**PROJECT 201233**



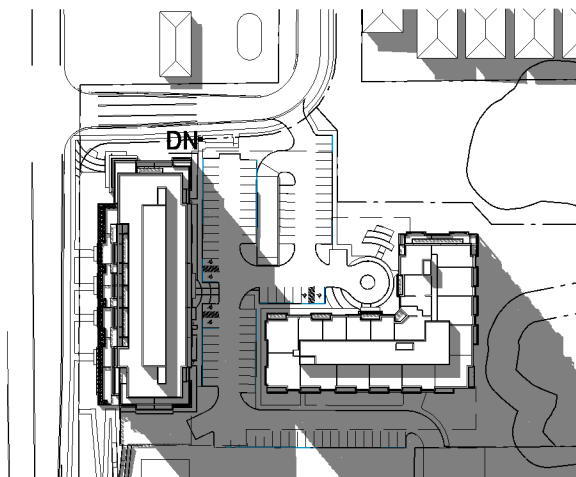
JUN 15:00



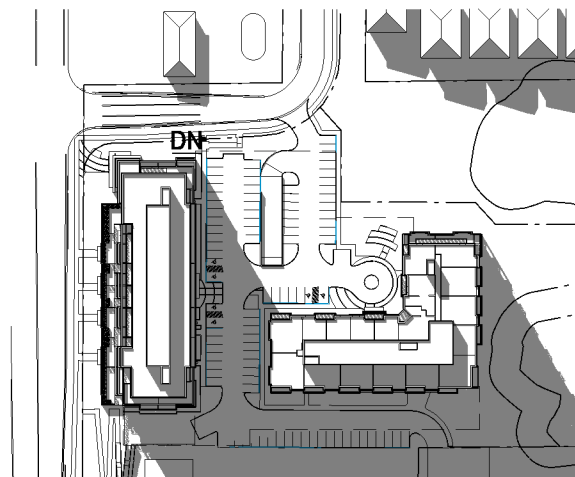
JUN 16:00



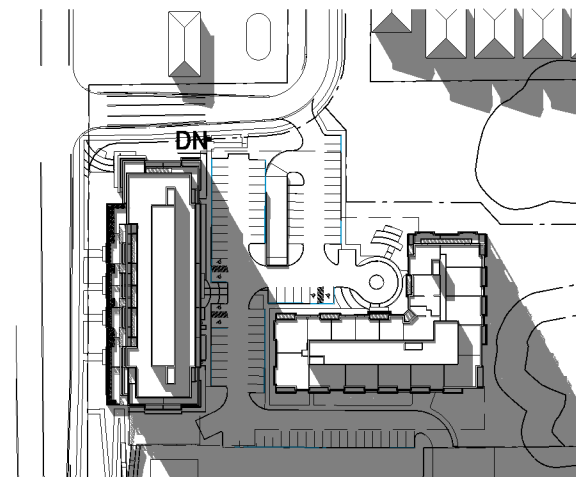
JUN 17:00



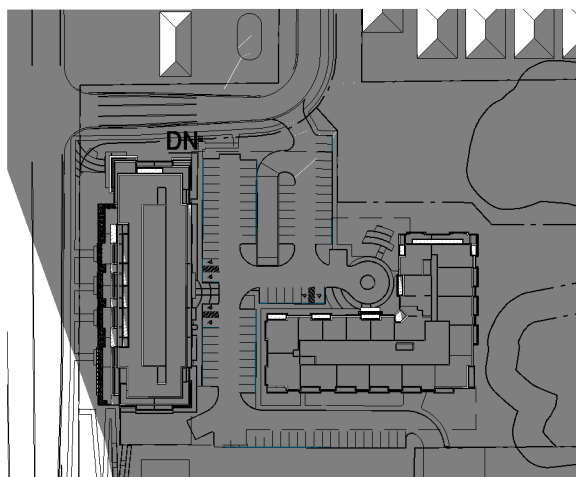
JUN 18:00



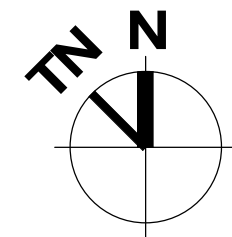
JUN 19:00



JUN 19:36 (SUNSET -1.5 HR)



JUN 21:06 (SUNSET)

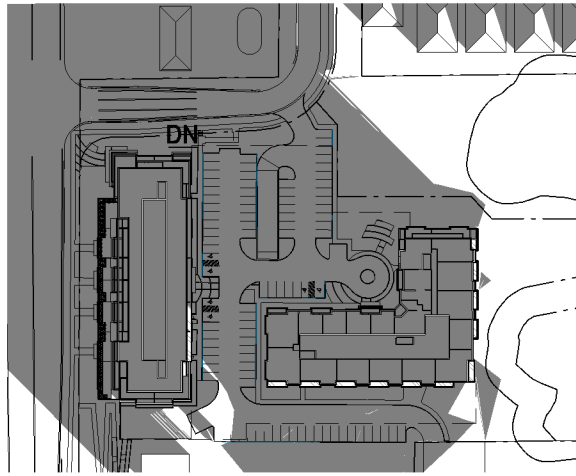


Sunrise 5:40 am  
Sunset 9:06 pm  
Solar Noon 1:22 pm

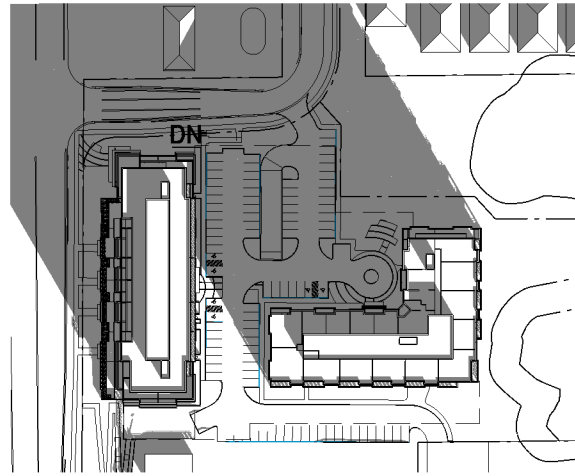
Latitude, Longitude: 43.516610, -80.200970

**JUNE 21\_2**  
1250 GORDON STREET - MASTER  
GUELPH, ONTARIO, CANADA

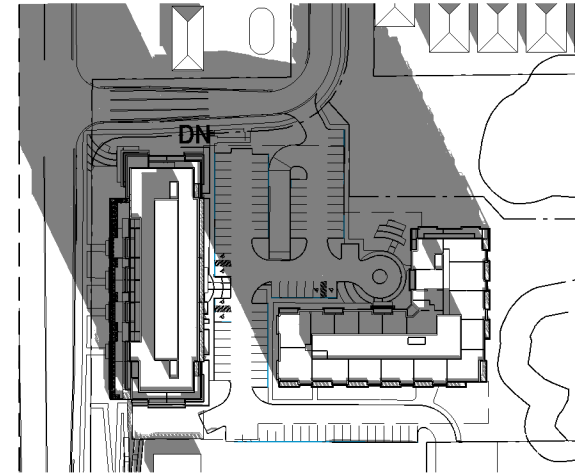
**A-603**  
2022-06-10  
PROJECT 201233



SEP 07:07 (SUNRISE)



SEP 08:37



SEP 09:00

$$A_T = 2,710 \text{ m}^2$$

**A<sub>S</sub> - AREA IN SUNSHINE AT PARK:**

10:00 - 1,355 m<sup>2</sup>

11:00 - 1,965 m<sup>2</sup>

12:00 - 2,367 m<sup>2</sup>

13:00 - 2,503 m<sup>2</sup>

14:00 - 2,710 m<sup>2</sup>

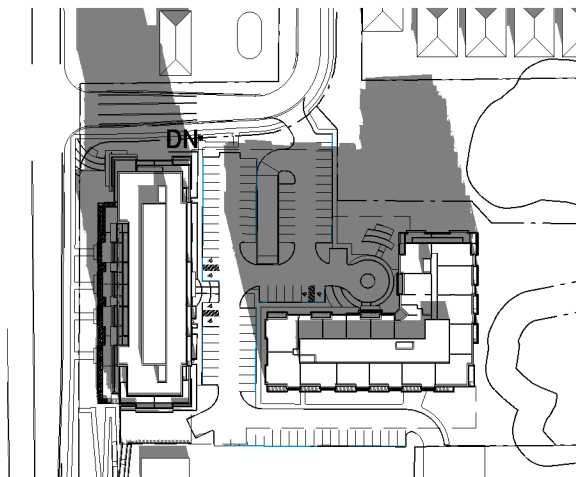
$$A_{AS(ave)} = 1,660 \text{ m}^2 + 2,166 \text{ m}^2 + 2,435 \text{ m}^2 + 2,607 \text{ m}^2 / 4$$

$$= 2,217 \text{ m}^2$$

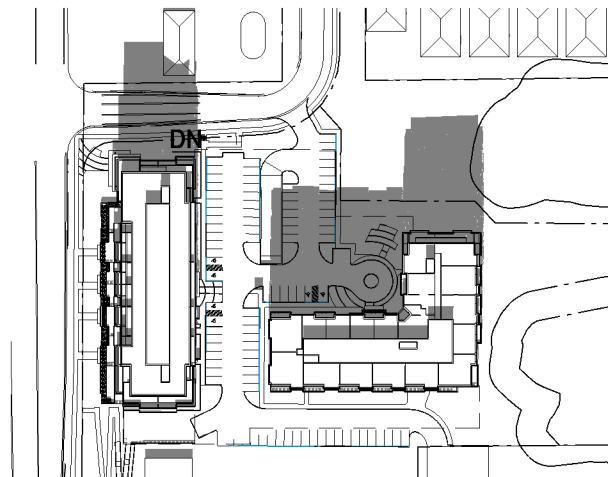
$$\text{SUN ACCESS FACTOR} = A_{AS(ave)} / A_T$$

$$= 2,237 \text{ m}^2 / 2,730 \text{ m}^2$$

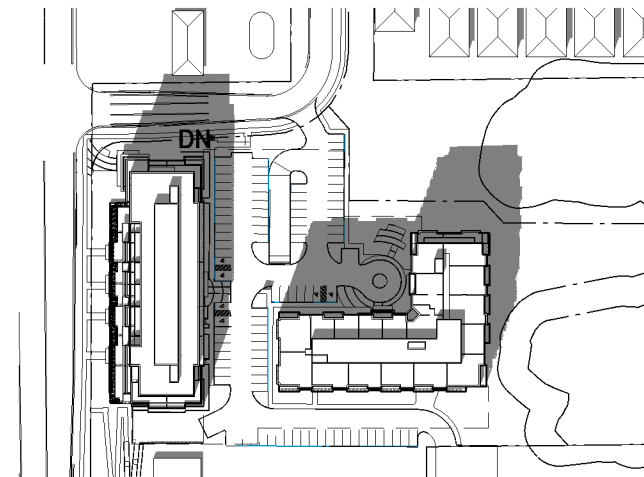
$$= 0.82 \text{ (82\%)}$$



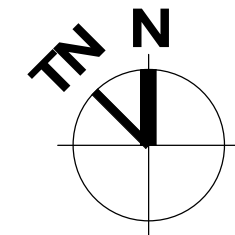
SEP 10:00



SEP 11:00

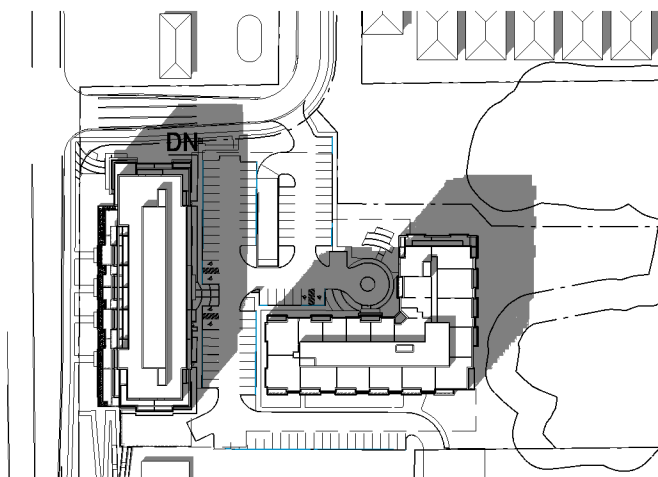


SEP 12:00

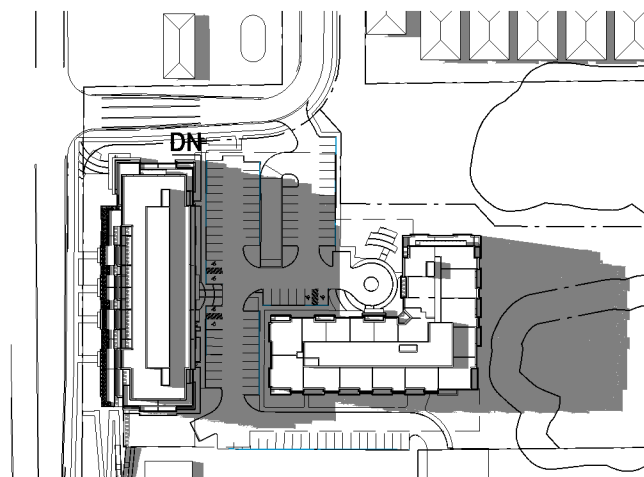


Sunrise 7:07 am  
Sunset 7:20 pm  
Solar Noon 1:14 pm

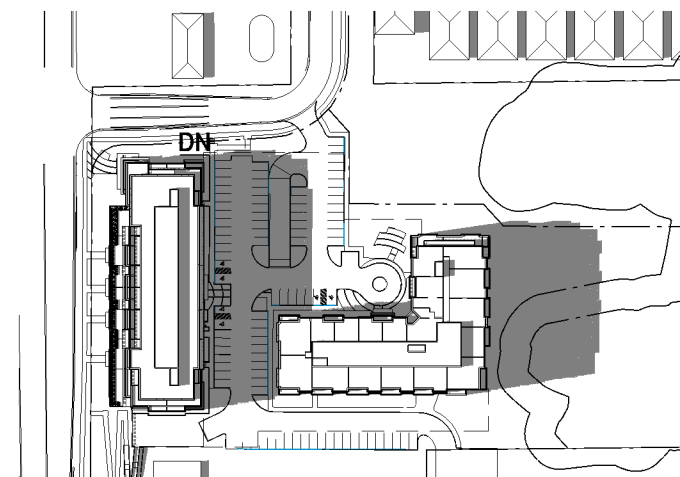
Latitude, Longitude: 43.516610, -80.200970



SEP 13:00



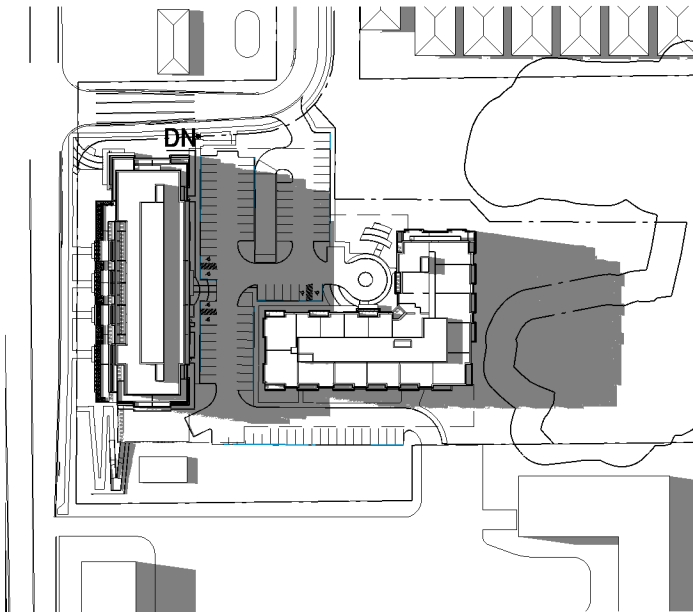
SEP 14:00



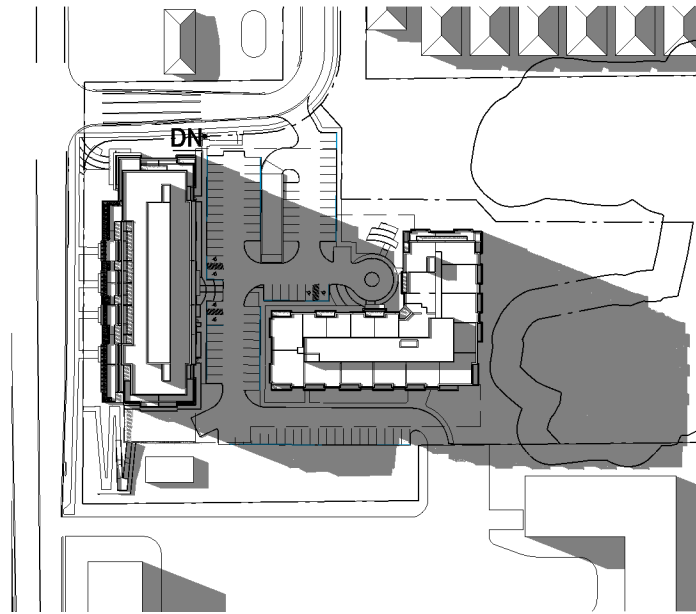
SEP 15:00

**SEPT 21\_1**  
1250 GORDON STREET - MASTER  
GUELPH, ONTARIO, CANADA

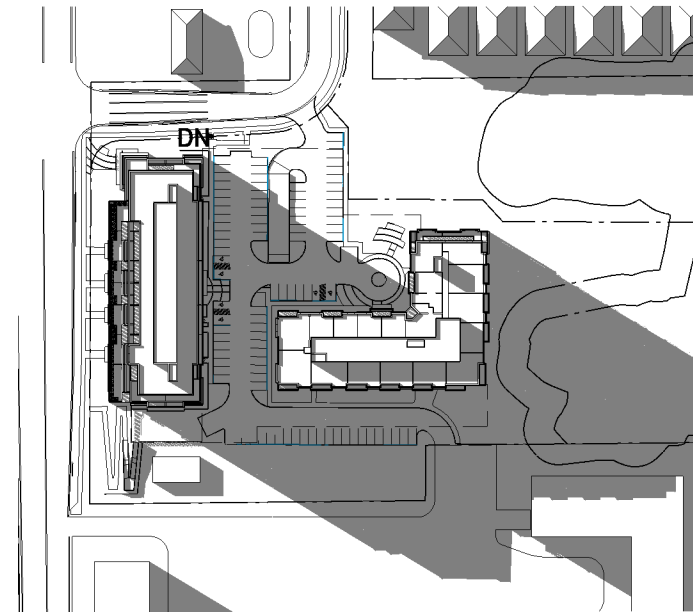
**A-604**  
2022-06-10  
PROJECT 201233



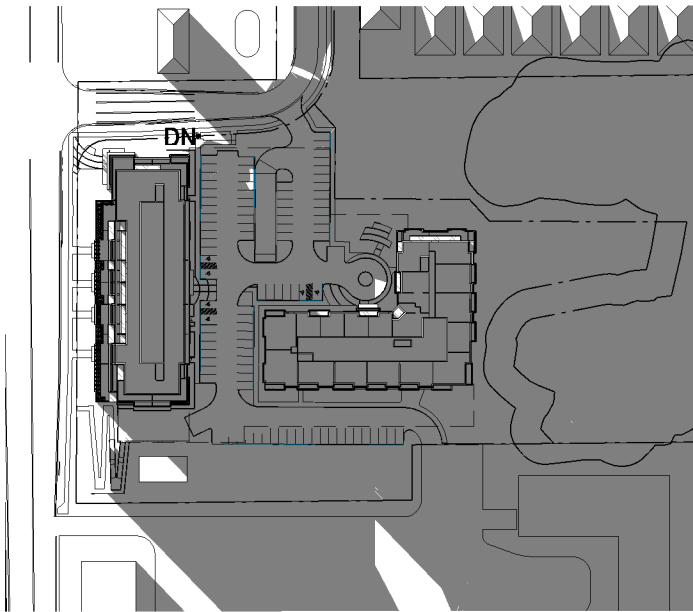
SEP 16:00



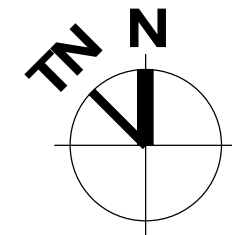
SEP 17:00



SEP 17:50 (SUNSET -1.5 HR)



SEP 19:20 (SUNSET)



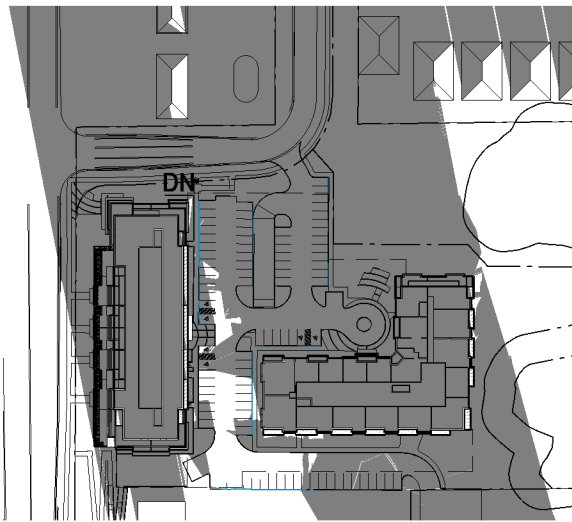
Sunrise	7:07 am
Sunset	7:20 pm
Solar Noon	1:14 pm

Latitude, Longitude: 43.516610, -80.200970

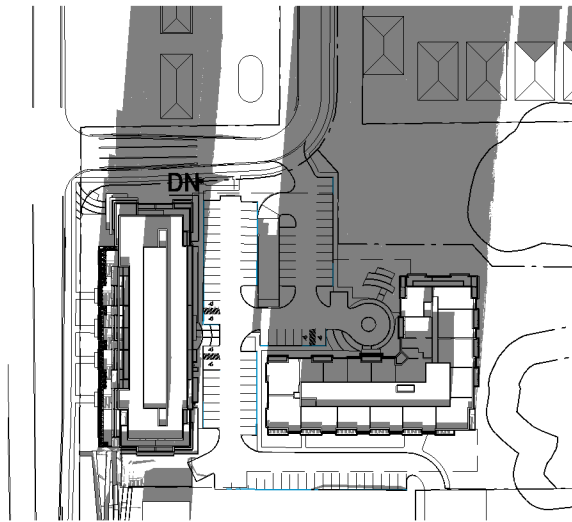
**SEPT 21\_2**  
 1250 GORDON STREET - MASTER  
 GUELPH, ONTARIO, CANADA

**A-605**  
 2022-06-10  
 PROJECT 201233

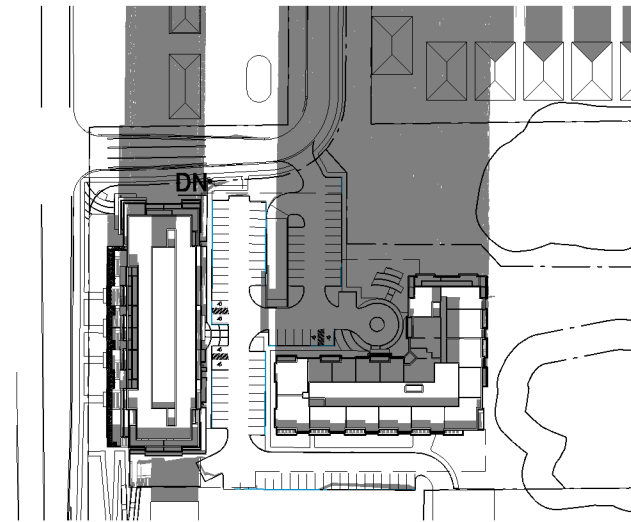




DEC 07:51 (SUNRISE)



DEC 09:21 (SUNRISE + 1.5 HR)



DEC 10:00

$$A_T = 2,710 \text{ m}^2$$

**A<sub>S</sub> - AREA IN SUNSHINE AT PARK:**

10:00 - 420 m<sup>2</sup>  
 11:00 - 268 m<sup>2</sup>  
 12:00 - 972 m<sup>2</sup>  
 13:00 - 1,848 m<sup>2</sup>  
 14:00 - 1,552 m<sup>2</sup>

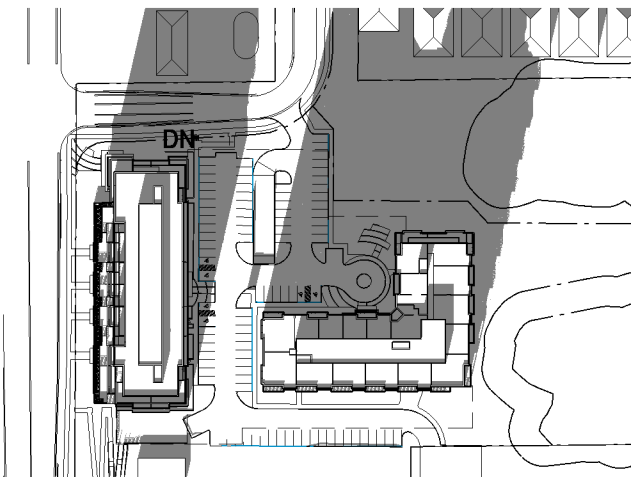
$$A_{AS(ave)} = 344 \text{ m}^2 + 620 \text{ m}^2 + 1,410 \text{ m}^2 + 1,700 \text{ m}^2 / 4$$

$$= 1,018 \text{ m}^2$$

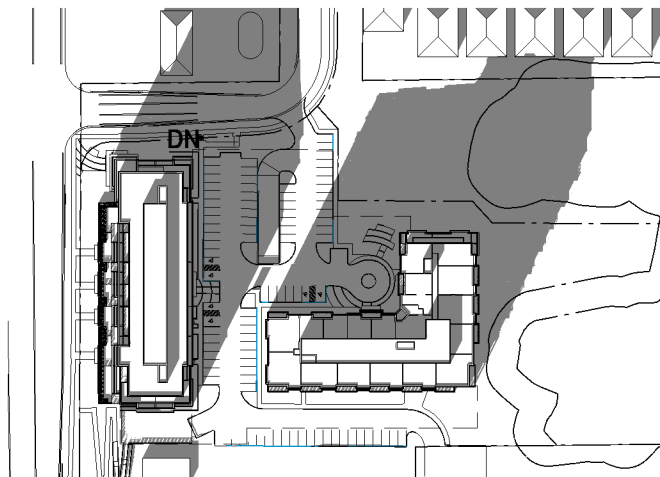
$$\text{SUN ACCESS FACTOR} = A_{AS(ave)} / A_T$$

$$= 1,018 \text{ m}^2 / 2,710 \text{ m}^2$$

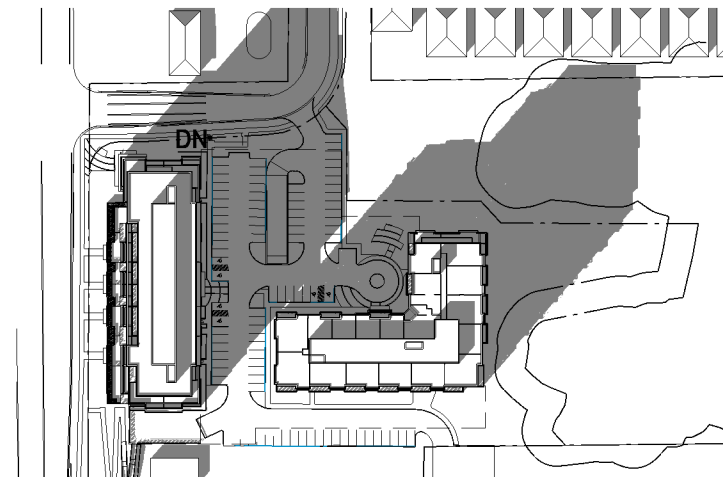
$$= 0.38 \text{ (38\%)}$$



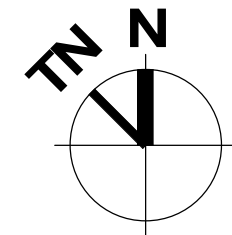
DEC 11:00



DEC 12:00

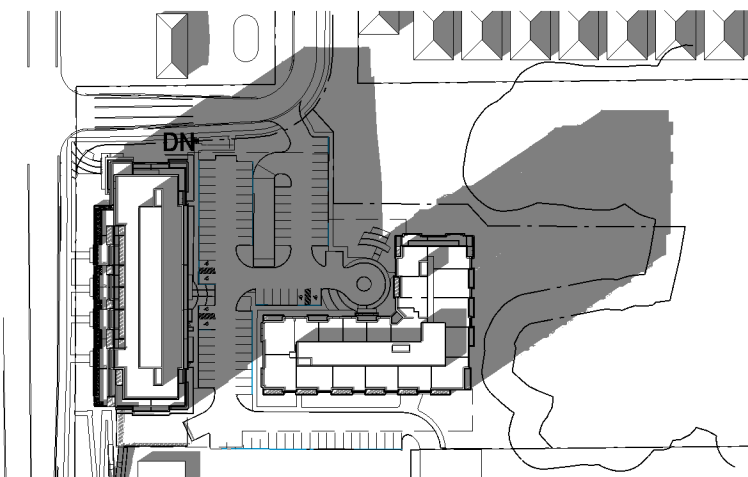


DEC 13:00

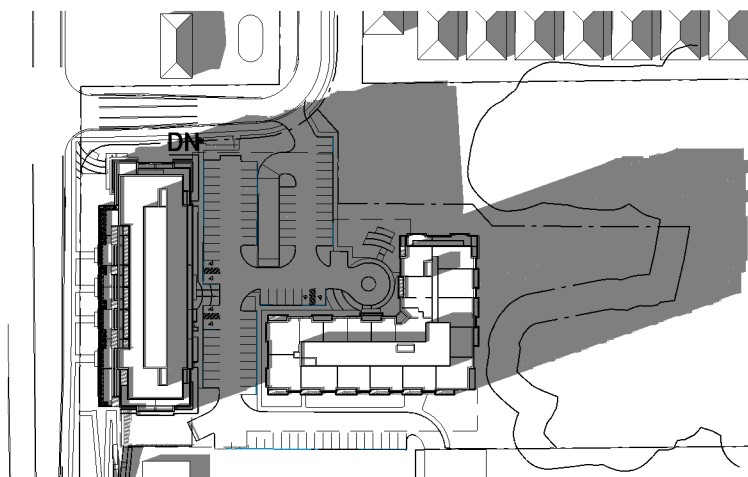


Sunrise 7:51 am  
 Sunset 4:47 pm  
 Solar Noon 12:18 pm

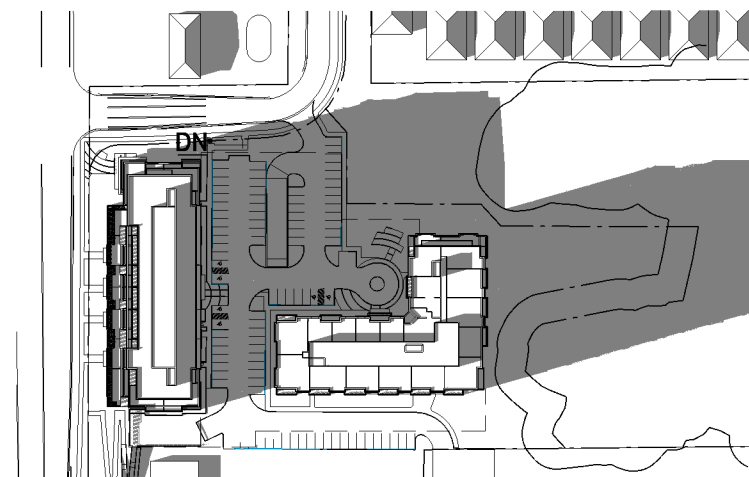
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DEC 14:00



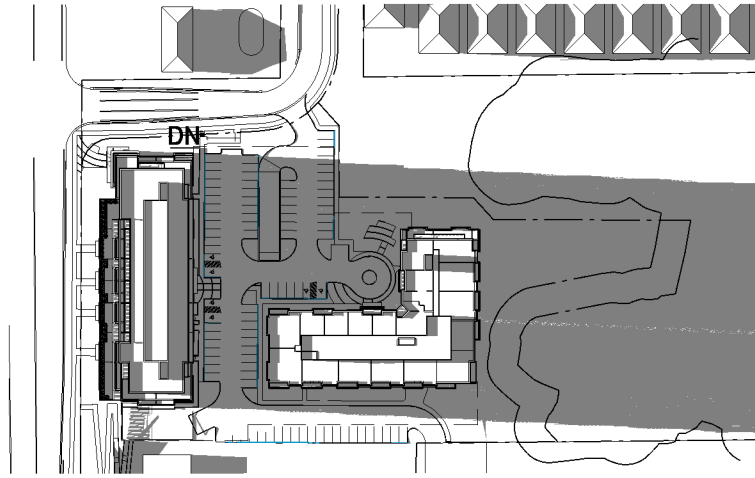
DEC 15:00



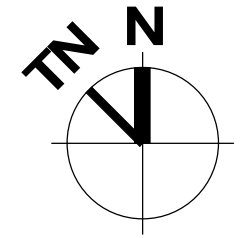
DEC 15:17 (SUNSET -1.5 HR)

**DEC 21\_1**  
 1250 GORDON STREET - MASTER  
 GUELPH, ONTARIO, CANADA

**A-606**  
 2022-06-10  
 PROJECT 201233



DEC 16:47 (SUNSET)



Sunrise	7:51 am
Sunset	4:47 pm
Solar Noon	12:18 pm

Latitude, Longitude: 43.516610, -80.200970

**DEC 21\_2**

1250 GORDON STREET - MASTER  
GUELPH, ONTARIO, CANADA

**A-607**

2022-06-10

PROJECT 201233

URBAN DESIGN BRIEF  
1242, 1250, 1260, 1270 GORDON STREET AND 9 VALLEY ROAD,  
CITY OF GUELPH

May 30, 2022  
2.20

## Appendix G WIND STUDY



## 1250 GORDON STREET

GUELPH, ON

PEDESTRIAN WIND STUDY

RWDI # 2002369

July 15, 2021

### SUBMITTED TO

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## EXECUTIVE SUMMARY

RWDI was retained to conduct a pedestrian wind assessment for the proposed 1250 Gordon Street in Guelph, ON (Image 1). Based on our wind-tunnel testing for the proposed development under the Existing and Proposed configurations (Images 2A and 2B), and the local wind records (Image 3), the potential wind comfort conditions are predicted as shown on site plans in Figures 1A through 2B, while the associated wind speeds are listed in Table 1. These results can be summarized as follows:

- Wind speeds that meet the pedestrian wind safety criterion are predicted at all areas assessed.
- Existing wind conditions on and around the site are generally comfortable for pedestrian use throughout the year.
- With the addition of the project, wind conditions during the summer are predicted to be comfortable for the intended use at all grade level areas. During the winter months, seasonally stronger wind speeds are expected to result in increased wind activity at the west corner of Building 1 and areas between the two buildings with conditions predicted to be uncomfortable.
- During the summer, wind conditions on the Level 2 terrace area are expected to be comfortable for passive pedestrian use. Elevated wind activity on the terrace in the winter may not be a concern as the area would be used less frequently during that time.



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Figure 1B: Pedestrian Wind Comfort Conditions – Proposed – Summer

Figure 2A: Pedestrian Wind Comfort Conditions – Existing – Winter

Figure 2B: Pedestrian Wind Comfort Conditions – Proposed – Winter

## LIST OF TABLES

Table 1: Pedestrian Wind Comfort and Safety Conditions

# 1 INTRODUCTION

RWDI was retained to conduct a pedestrian wind assessment for the proposed 1250 Gordon Street in Guelph, ON. This report presents the project objectives, approach and the main results from RWDI's assessment and provides conceptual wind control measures, where necessary.

## 1.1 Project Description

The project (site shown in Image 1) is located on the northeast side of Gordon Street near the corner of Edinburgh Road South and Gordon Street. The project consists of two 10-storey residential buildings with underground parking.

## 1.2 Objectives

The objective of the study was to assess the effect of the proposed development on local conditions in pedestrian areas on and around the study site and provide recommendations for minimizing adverse effects, if needed. This quantitative assessment was based on wind speed measurements on a scale model of the project and its surroundings in one of RWDI's boundary-layer wind tunnels. These measurements were combined with the local wind records and compared to RWDI criteria for gauging wind comfort and safety in pedestrian areas. The assessment focused on critical pedestrian areas, including building entrances and public sidewalks.



Image 1: Aerial View of Site and Surroundings (Photo Courtesy of Google™ Earth)



## 2 BACKGROUND AND APPROACH

### 2.1 Wind Tunnel Study Model

To assess the wind environment around the proposed project, a 1:300 scale model of the project site and surroundings was constructed for the wind tunnel tests of the following configurations:

- A - Existing: Existing site with existing surroundings (Image 2A),
- B - Proposed: Proposed project with existing surroundings (Image 2B).

The wind tunnel model included all relevant surrounding buildings and topography within an approximately 360m radius of the study site. The wind and turbulence profiles in the atmospheric boundary layer beyond the modelled area were also simulated in RWDI's wind tunnel. The wind tunnel model was instrumented with 73 specially designed wind speed sensors to measure mean and gust speeds at a full-scale height of approximately 1.5 m above local grade in pedestrian areas throughout the study site. Wind speeds were measured for 36 directions in 10-degree increments. The measurements at each sensor location were recorded in the form of ratios of local mean and gust speeds to the mean wind speed at a reference height above the model. The placement of wind measurement locations was based on our experience and understanding of the pedestrian usage for this site.



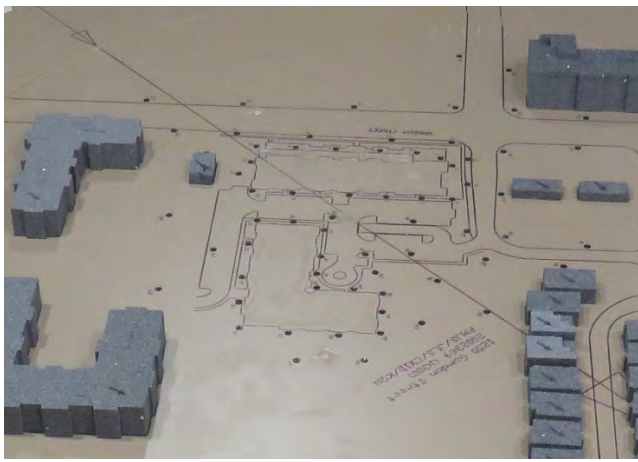
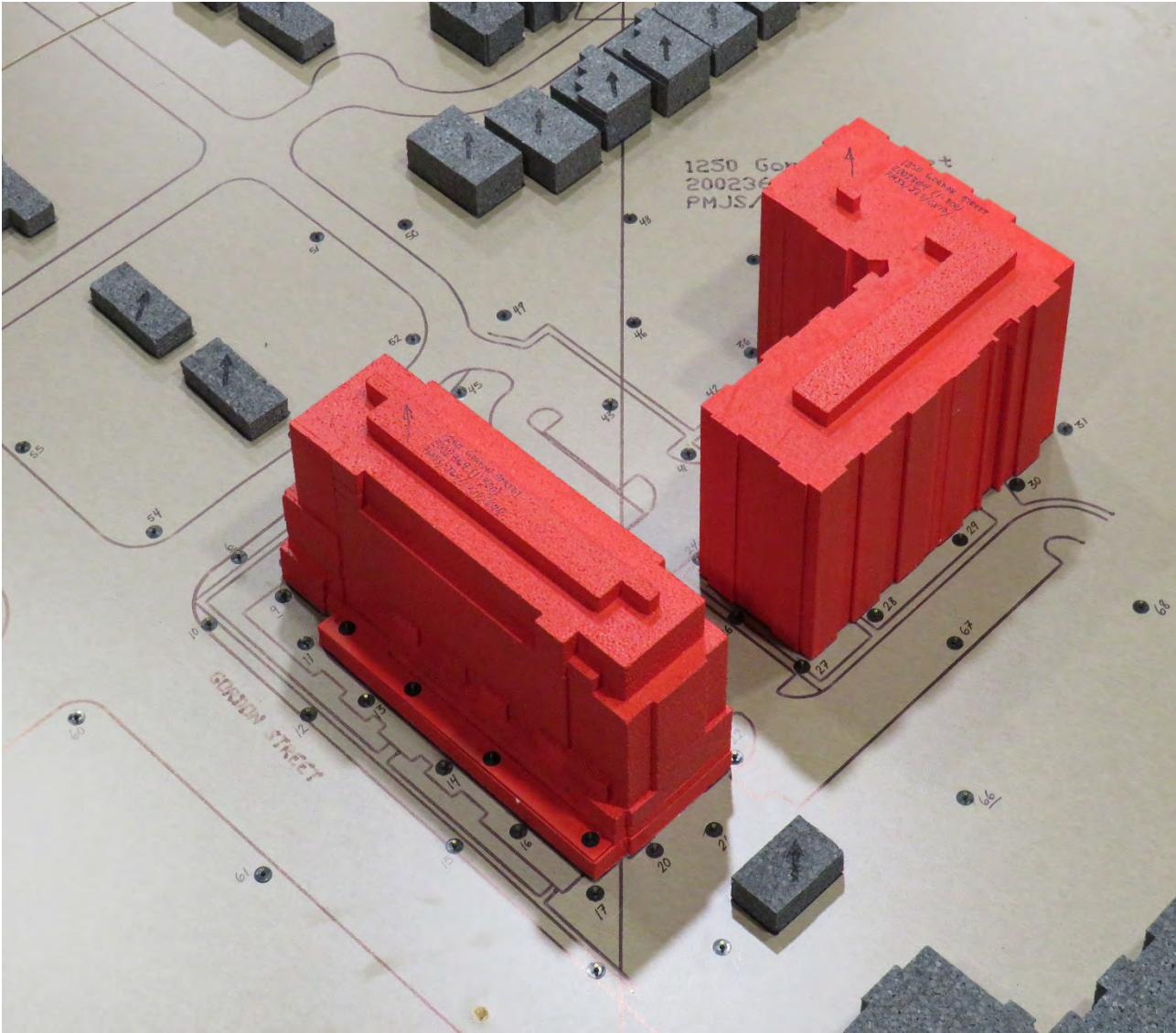
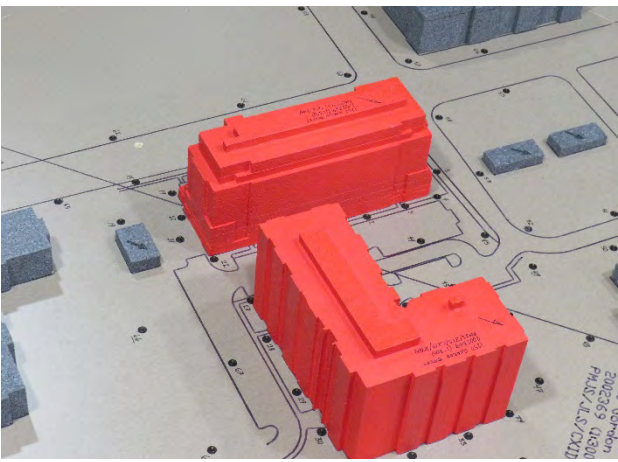


Image 2A: Wind Tunnel Study Model – Existing Configuration



**PEDESTRIAN WIND STUDY  
1250 GORDON STREET**

**RWDI #2002369  
July 15, 2021**

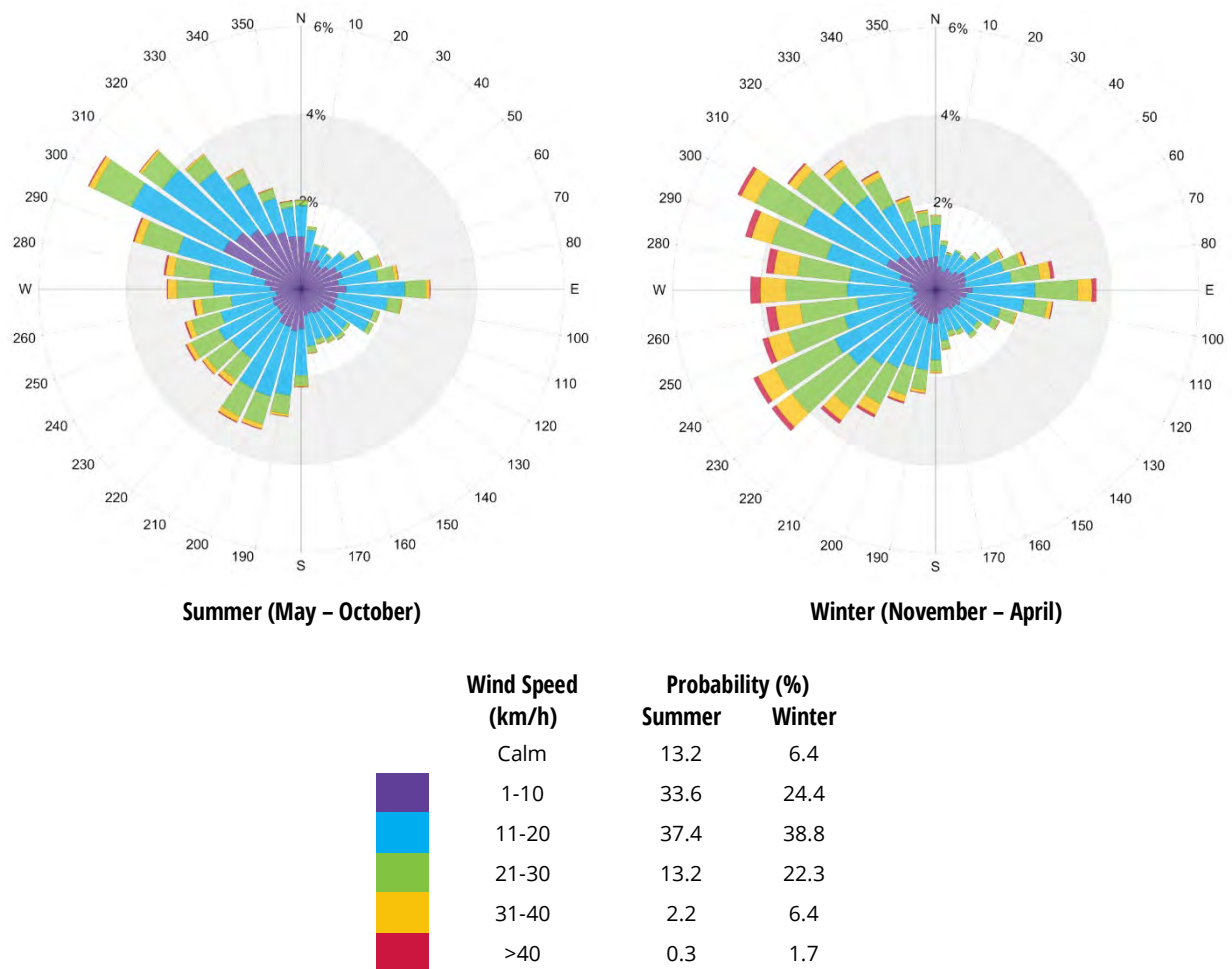


**Image 2B: Wind Tunnel Study Model – Proposed Configuration**

## 2.2 Meteorological Data

As required by the City of Guelph as per their Terms of Reference for Wind Studies (dated May 2019), wind statistics recorded at the Region of Waterloo International Airport were used as this is the nearest weather station with long-term reliable wind data. Wind statistics recorded at Waterloo International Airport between 1990 and 2020, inclusive, were analyzed for the Summer (May through October) and Winter (November through April) seasons. Image 3 graphically depicts the directional distributions of wind frequencies and speeds for these two seasons. Winds from the east and southwest through northwest are predominant throughout the year, as indicated by the wind roses. Strong winds of a mean speed greater than 30 km/h, measured at the airport (at an anemometer height of 10 m), occur for 2.5% and 8.1% of the time during the summer and winter seasons, respectively.

Wind statistics were combined with the wind tunnel data to predict the frequency of occurrence of full-scale wind speeds. The full-scale wind predictions were then compared with the City of Guelph's wind criteria for pedestrian comfort and safety (see Section 2.3).



**Image 3: Directional Distribution of Winds Approaching Waterloo International Airport between 1990 and 2020**

## 2.3 City of Guelph Pedestrian Wind Criteria

The pedestrian wind criteria are outlined in the City of Guelph's "Pedestrian Level Wind Studies Terms of Reference", dated May 2019. The following defines the criteria in detail.

Comfort Category	GEM Speed (km/h)	Description
<b>Sitting</b>	$\leq 10$	Calm or light breezes desired for outdoor restaurants and seating areas where one can read a paper without having it blown away
<b>Standing</b>	$\leq 15$	Gentle breezes suitable for main building entrances, bus stops, plazas, and other places where pedestrians may linger
<b>Walking</b>	$\leq 20$	Relatively high speeds that can be tolerated if one's objective is to walk, run, or cycle without lingering
<b>Uncomfortable</b>	$> 20$	Strong winds of this magnitude are considered a nuisance for all pedestrian activities, and wind mitigation is typically recommended

**Notes:**

- (1)  $GEM\ Speed = \max (Mean\ Speed, Gust\ Speed/1.85)$  and  $Gust\ Speed = Mean\ Speed + 3 \cdot RMS\ Speed$ ;
- (2) Wind conditions are considered to be comfortable if the predicted GEM speeds are within the respective thresholds for at least 80% of the time between 6:00 and 23:00. Nightly hours between 0:00 and 5:00 are excluded from the wind analysis for comfort since limited usage of outdoor spaces is anticipated; and,
- (1) Instead of standard four seasons, two periods of summer (May to October) and winter (November to April) are adopted in the wind analysis, because in a climate such as that found in **Guelph**, there are distinct differences in pedestrian outdoor behaviours between these time periods.

Safety Criterion	Gust Speed (km/h)	Description
<b>Exceeded</b>	$> 90$	Excessive gust speeds that can adversely affect a pedestrian's balance and footing. Wind mitigation is typically required.

**Notes:**

- (1) Based on an annual exceedance of 9 hours or 0.1% of the time for 24 hours a day; and,
- (2) Only gust speeds need to be considered in the wind safety criterion. These are usually rare events but deserve special attention in city planning and building design due to their potential safety impact on pedestrians.



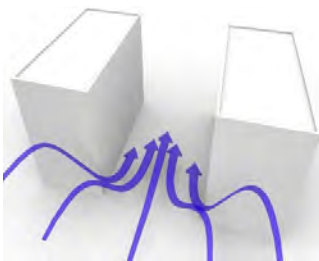
## 2.4 Generalized Wind Flows

In our discussion of wind conditions, reference may be made to the following generalized wind flows (Image 4):



### ***DOWNWASHING***

Tall buildings tend to intercept the stronger winds at higher elevations and redirect them to the ground level. This is often the main cause for wind accelerations around large buildings at the pedestrian level.



### ***CHANNELING EFFECT***

When two buildings are situated side by side, wind flow tends to accelerate through the space between the buildings due to channeling effect caused by the narrow gap.

**Image 4: Generalized Wind Flows**

## 3 RESULTS AND DISCUSSION

The predicted wind conditions are shown on site plans in Figures 1A through 2B located in the “Figures” section of this report. These conditions and the associated wind speeds are also represented in Table 1, located in the “Tables” section of this report. The following is a detailed discussion of the suitability of the predicted wind conditions for the anticipated pedestrian use of each area of interest.

**Wind speeds that meet the wind safety criterion are anticipated at all areas assessed.**

### 3.1 Grade Level (Locations 1 through 69)

Wind conditions comfortable for walking are appropriate for sidewalks and walkways as pedestrians will be active and less likely to remain in one area for prolonged periods of time. Lower wind speeds conducive to standing are preferred at main entrances where pedestrians are apt to linger.

#### 3.1.1 Existing Configuration

Wind conditions on and around the existing project site are generally comfortable for standing or sitting in the summer (Figure 1A) and walking or standing in the winter (Figure 2A) which is appropriate for the intended pedestrian use.



### **3.1.2 Proposed Configuration**

With the addition of the proposed development, wind speeds slightly increase. During the summer, wind speeds are expected to be mostly comfortable for sitting or standing in most areas, while localized areas experience walking conditions (see Figure 1B). These conditions are considered suitable for the intended usage of the areas on and around the site including the main entrances (Locations 1, 7, 8 & 38).

During the winter, conditions are predicted to be windier than in the summer, with wind speeds comfortable for walking or standing at most areas around the site (Figure 2B). These conditions are considered appropriate for the use of the areas around the site. Appropriate conditions are also expected at all main entrances during the winter. Uncomfortable wind conditions are anticipated at a few localized areas including an area along Street A, to the northwest of Building 1 (Location 6) and at the area between Buildings 1 and 2 (Locations 22 and 24). Mitigation locations and examples of wind control measures are shown in Image 5 & 6.

High windspeeds to the northwest of the site are due to southwesterly winds downwashing (Image 4) off the north and west façades of Building 1 and accelerating at the ground. To reduce this effect, we recommend installing a canopy around the northwest corner to help redirect winds (see Image 6). In addition, coniferous or marcescent street trees along the north and west sidewalks, will help to disperse winds flowing to the street below. High wind speeds at the area between the two buildings (Location 22 and 24) are primarily due to exposure to westerly winds channelling through the area (Image 4). The addition of dense coniferous or marcescent planters to the north of locations 22 and 24 will help to diffuse wind flowing through these areas, alternatively windscreens placed north of these locations will help to diffuse uncomfortable conditions. Mitigation locations and examples of wind control measures are shown in Image 5 & 6.

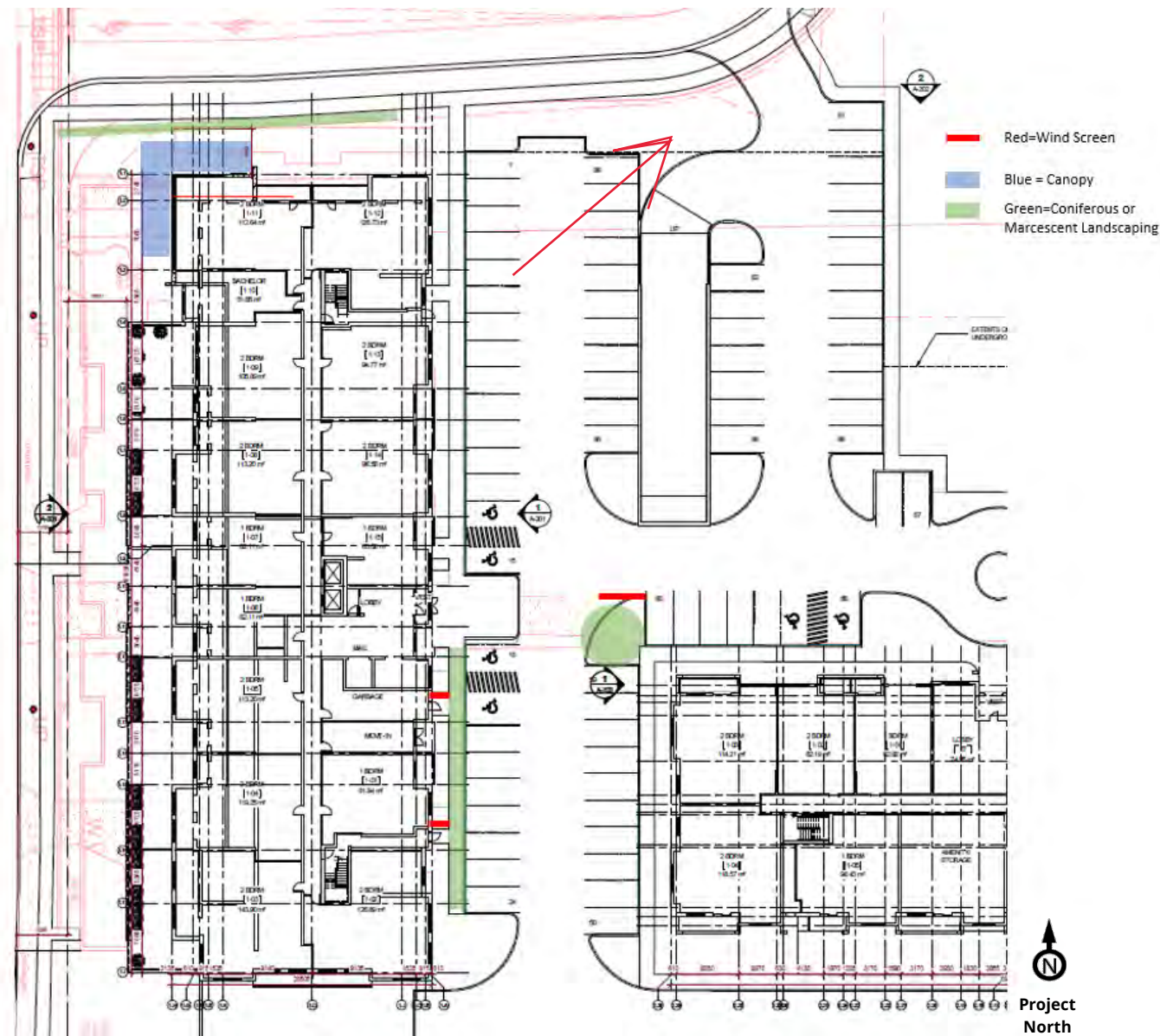


Image 5: Areas of recommended mitigation





**Image 6: Examples of Canopies, wind Screens and Coniferous Landscaping**





### 3.2 Above-Grade Levels (Locations 70 through 73)

It is generally desirable for wind conditions on terraces intended for passive activities to be comfortable for sitting or standing more than 80% of the time in the summer. During the winter, the area would not be used frequently, and increased wind activity would be considered appropriate.

During the summer, wind speeds on the Level 2 terrace (Locations 70 through 73 in Figure 1B) are predicted to be suitable for sitting or standing which is appropriate for passive activities.

In the winter, wind speeds slightly increase due to seasonally stronger winds during this season but may be considered acceptable as the terrace level would not be frequently used during this time.

## 4 APPLICABILITY OF RESULTS

The wind conditions presented in this report pertain to the model of the 1250 Gordon Street constructed using the drawings and information listed below. Should there be any design changes that deviate from this list of drawings, the wind condition predictions presented may change. Therefore, if changes in the design are made, it is recommended that RWDI be contacted and requested to review their potential effects on wind conditions.

File Name	File Type	Date Received (dd/mm/yyyy)
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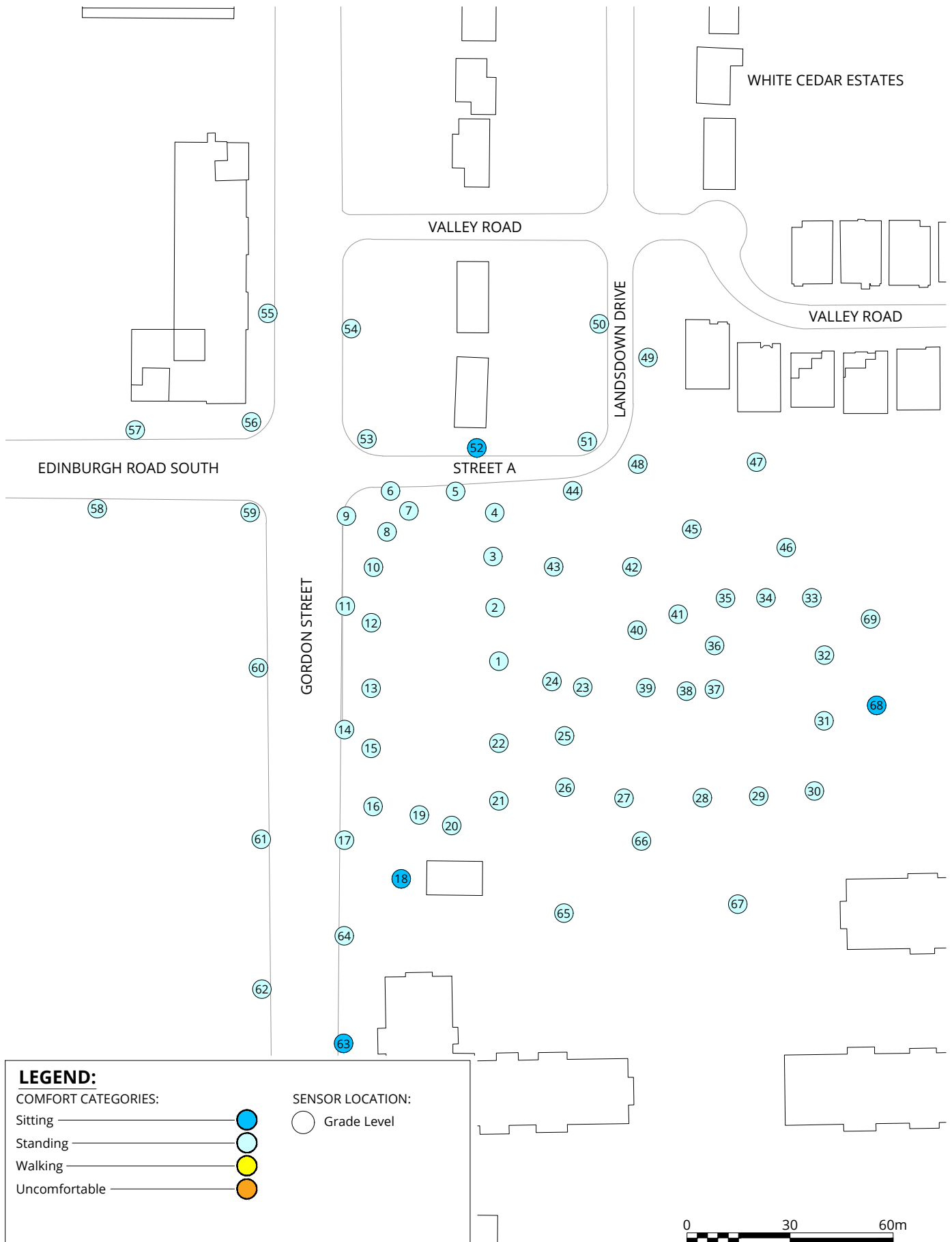
## 5 REFERENCES

1. ASCE Task Committee on Outdoor Human Comfort (2004). *Outdoor Human Comfort and Its Assessment*, 68 pages, American Society of Civil Engineers, Reston, Virginia, USA.
2. Williams, C.J., Hunter, M.A. and Waechter, W.F. (1990). "Criteria for Assessing the Pedestrian Wind Environment," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol.36, pp.811-815.
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8. Durgin, F. H. (1997). "Pedestrian Level Wind Criteria Using the Equivalent average", *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 66, pp.215-226.
9. Wu, H. and Kriksic, F. (2012). "Designing for Pedestrian Comfort in Response to Local Climate", *Journal of Wind Engineering and Industrial Aerodynamics*, Vol.104-106, pp.397-407.
10. Wu, H., Williams, C.J., Baker, H.A. and Waechter, W.F. (2004), "Knowledge-based Desk-Top Analysis of Pedestrian Wind Conditions", *ASCE Structure Congress 2004*, Nashville, Tennessee.



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## FIGURES



## Pedestrian Wind Comfort Conditions

Existing Configuration  
Summer (May to October, 6:00 to 23:00)

1250 Gordon Street - Guelph, ON

Project North True North



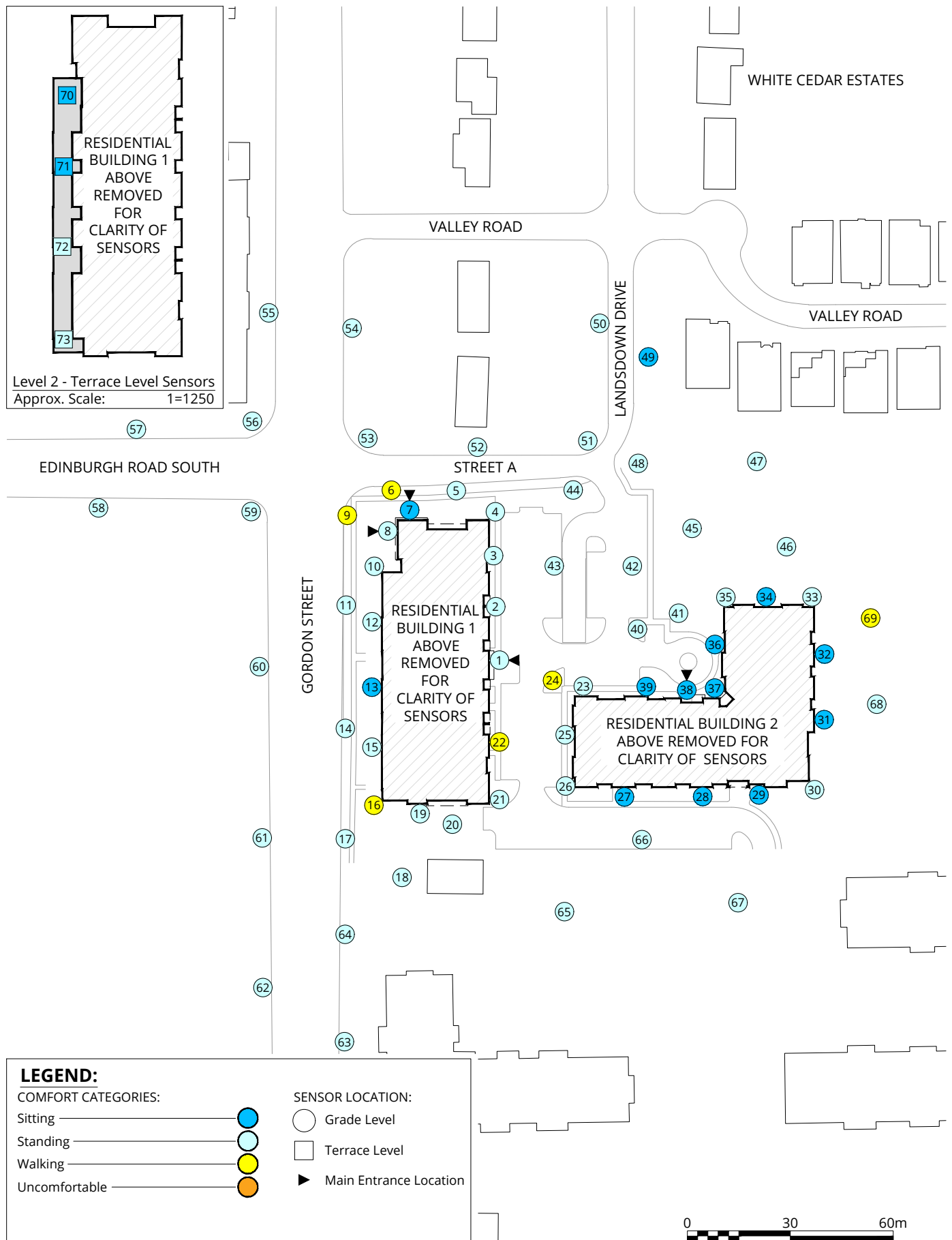
Project #2002369

Drawn by: DF Figure: 1A

Approx. Scale: 1:1500

Date Revised: Jul. 9, 2021





## Pedestrian Wind Comfort Conditions

Proposed Configuration  
Summer (May to October, 6:00 to 23:00)

1250 Gordon Street - Guelph, ON

Project North True North



Project #2002369

Drawn by: DF

Figure: 1B

Approx. Scale:

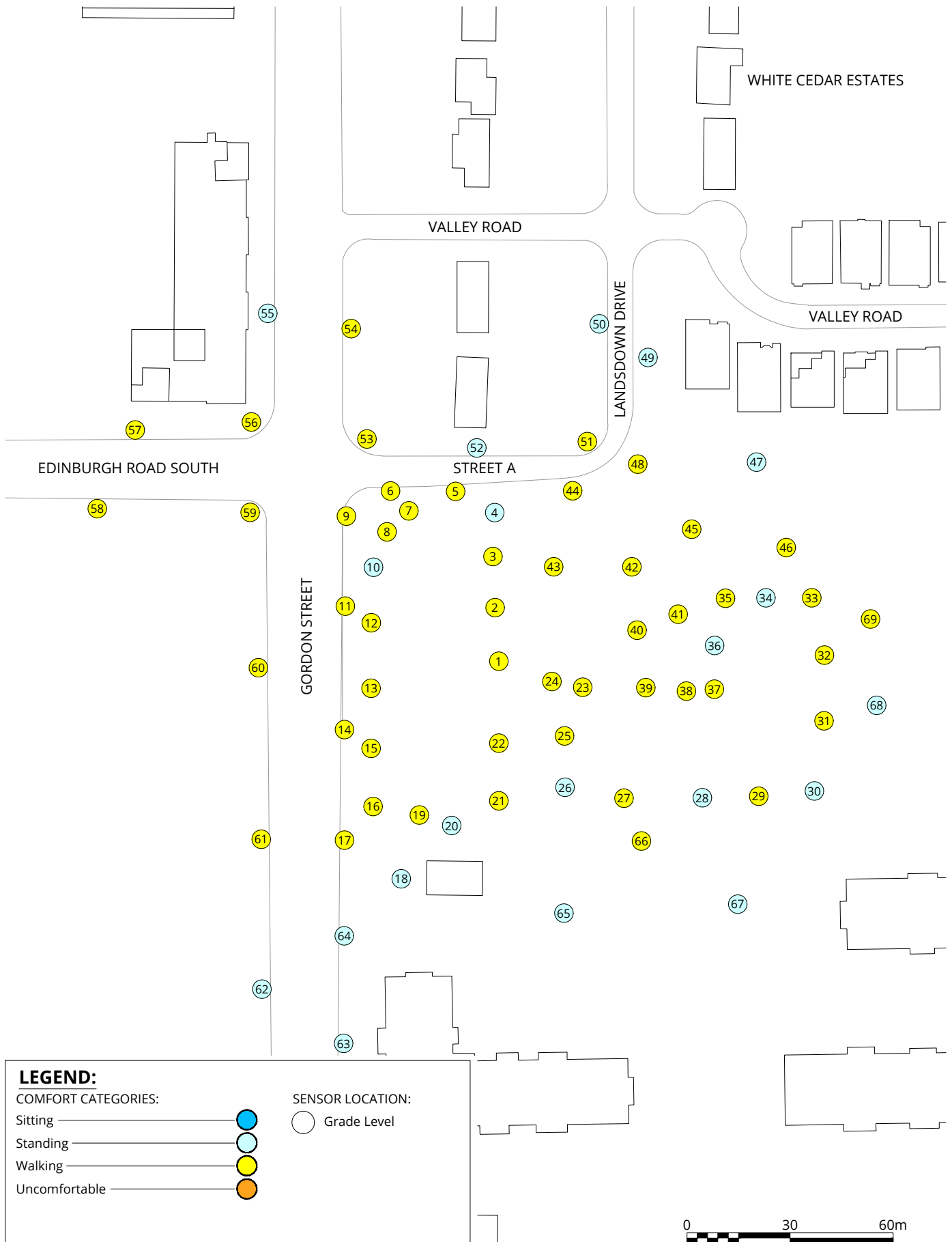
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Date Revised:

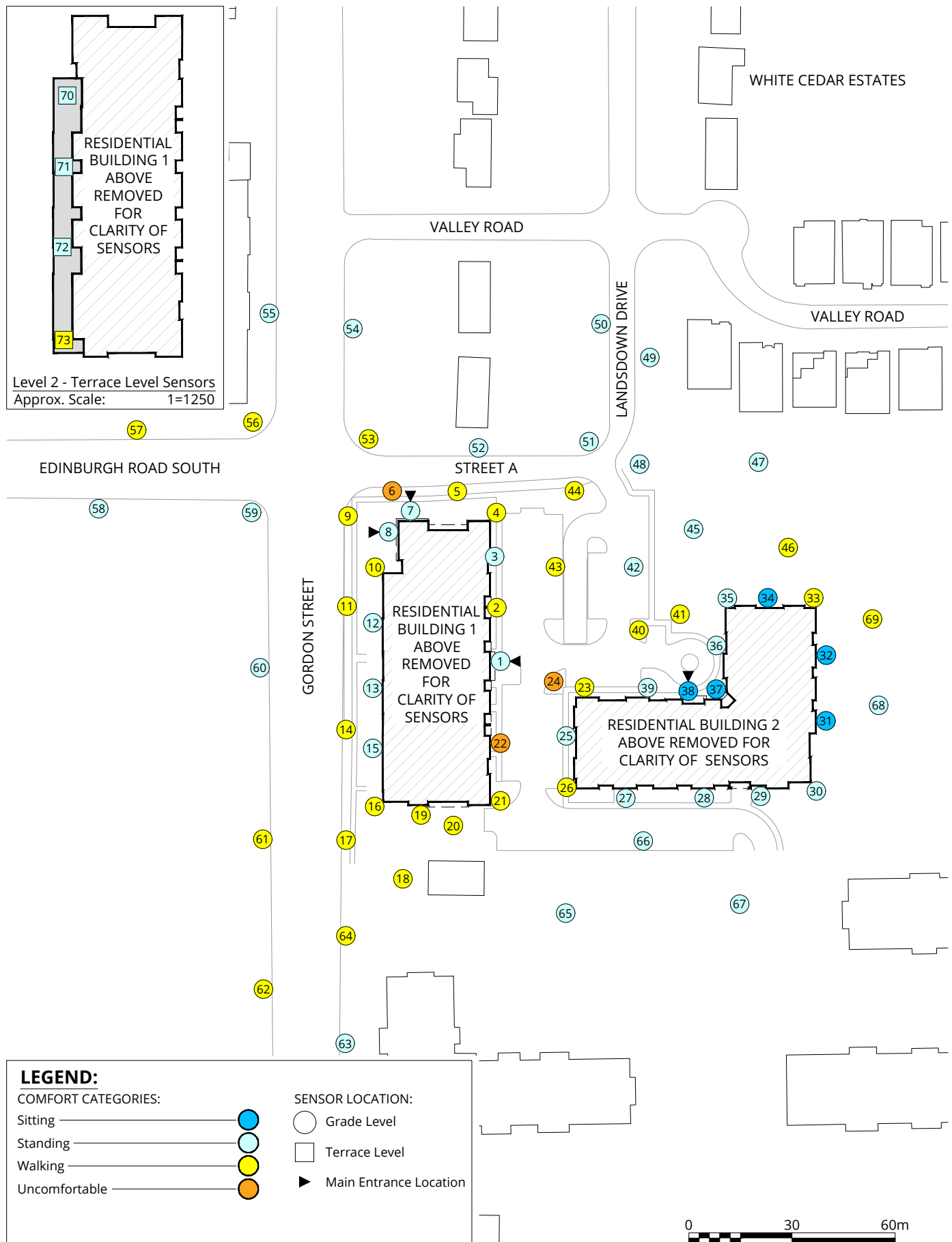
Jul. 9, 2021










<b>Pedestrian Wind Comfort Conditions</b> Existing Configuration Winter (November to April, 6:00 to 23:00)  1250 Gordon Street - Guelph, ON	Project North  True North 	Drawn by: DF	Figure: 2A	
		Approx. Scale: 1:1500		
		Date Revised: Jul. 9, 2021		



<b>Pedestrian Wind Comfort Conditions</b> Proposed Configuration Winter (November to April, 6:00 to 23:00) 1250 Gordon Street - Guelph, ON	Project North True North   Project #2002369	Drawn by: DF	Figure: 2B	
		Approx. Scale: 1:1500		
		Date Revised: Jul. 9, 2021		



# TABLES



**Table 1: Pedestrian Wind Comfort and Safety Conditions**

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
1	Existing	13	Standing	17	Walking	64	Pass
	Proposed	12	Standing	15	Standing	71	Pass
2	Existing	13	Standing	16	Walking	65	Pass
	Proposed	13	Standing	16	Walking	71	Pass
3	Existing	13	Standing	16	Walking	62	Pass
	Proposed	12	Standing	15	Standing	63	Pass
4	Existing	12	Standing	15	Standing	59	Pass
	Proposed	15	Standing	18	Walking	77	Pass
5	Existing	12	Standing	16	Walking	64	Pass
	Proposed	13	Standing	17	Walking	76	Pass
6	Existing	13	Standing	16	Walking	66	Pass
	Proposed	17	Walking	21	Uncomfortable	82	Pass
7	Existing	14	Standing	17	Walking	70	Pass
	Proposed	8	Sitting	11	Standing	51	Pass
8	Existing	14	Standing	17	Walking	66	Pass
	Proposed	12	Standing	15	Standing	61	Pass
9	Existing	14	Standing	17	Walking	67	Pass
	Proposed	16	Walking	19	Walking	73	Pass
10	Existing	12	Standing	15	Standing	60	Pass
	Proposed	13	Standing	16	Walking	67	Pass
11	Existing	14	Standing	17	Walking	65	Pass
	Proposed	14	Standing	17	Walking	67	Pass
12	Existing	13	Standing	16	Walking	63	Pass
	Proposed	11	Standing	14	Standing	56	Pass
13	Existing	13	Standing	16	Walking	60	Pass
	Proposed	10	Sitting	13	Standing	56	Pass
14	Existing	14	Standing	17	Walking	61	Pass
	Proposed	15	Standing	18	Walking	78	Pass
15	Existing	13	Standing	16	Walking	58	Pass
	Proposed	11	Standing	15	Standing	66	Pass
16	Existing	13	Standing	16	Walking	59	Pass
	Proposed	16	Walking	20	Walking	79	Pass
17	Existing	13	Standing	16	Walking	57	Pass
	Proposed	15	Standing	19	Walking	74	Pass

**Table 1: Pedestrian Wind Comfort and Safety Conditions**

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
18	Existing	10	Sitting	13	Standing	51	Pass
	Proposed	12	Standing	16	Walking	76	Pass
19	Existing	12	Standing	16	Walking	59	Pass
	Proposed	13	Standing	17	Walking	84	Pass
20	Existing	11	Standing	14	Standing	55	Pass
	Proposed	14	Standing	18	Walking	75	Pass
21	Existing	12	Standing	16	Walking	60	Pass
	Proposed	14	Standing	18	Walking	72	Pass
22	Existing	13	Standing	17	Walking	65	Pass
	Proposed	17	Walking	21	Uncomfortable	78	Pass
23	Existing	13	Standing	16	Walking	61	Pass
	Proposed	13	Standing	17	Walking	77	Pass
24	Existing	13	Standing	16	Walking	62	Pass
	Proposed	17	Walking	21	Uncomfortable	83	Pass
25	Existing	13	Standing	16	Walking	62	Pass
	Proposed	12	Standing	14	Standing	70	Pass
26	Existing	12	Standing	15	Standing	57	Pass
	Proposed	13	Standing	16	Walking	73	Pass
27	Existing	13	Standing	16	Walking	64	Pass
	Proposed	10	Sitting	12	Standing	59	Pass
28	Existing	12	Standing	15	Standing	58	Pass
	Proposed	9	Sitting	11	Standing	53	Pass
29	Existing	13	Standing	16	Walking	63	Pass
	Proposed	10	Sitting	11	Standing	55	Pass
30	Existing	12	Standing	15	Standing	57	Pass
	Proposed	13	Standing	15	Standing	60	Pass
31	Existing	12	Standing	16	Walking	60	Pass
	Proposed	8	Sitting	10	Sitting	47	Pass
32	Existing	12	Standing	16	Walking	59	Pass
	Proposed	8	Sitting	10	Sitting	53	Pass
33	Existing	13	Standing	16	Walking	63	Pass
	Proposed	14	Standing	18	Walking	77	Pass
34	Existing	12	Standing	15	Standing	59	Pass
	Proposed	8	Sitting	10	Sitting	45	Pass

**Table 1: Pedestrian Wind Comfort and Safety Conditions**

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
35	Existing	13	Standing	16	Walking	63	Pass
	Proposed	11	Standing	14	Standing	67	Pass
36	Existing	12	Standing	15	Standing	58	Pass
	Proposed	9	Sitting	12	Standing	53	Pass
37	Existing	13	Standing	16	Walking	62	Pass
	Proposed	5	Sitting	7	Sitting	31	Pass
38	Existing	13	Standing	16	Walking	60	Pass
	Proposed	8	Sitting	10	Sitting	46	Pass
39	Existing	13	Standing	16	Walking	63	Pass
	Proposed	10	Sitting	13	Standing	61	Pass
40	Existing	13	Standing	17	Walking	65	Pass
	Proposed	13	Standing	17	Walking	76	Pass
41	Existing	13	Standing	16	Walking	62	Pass
	Proposed	14	Standing	17	Walking	79	Pass
42	Existing	13	Standing	17	Walking	65	Pass
	Proposed	12	Standing	15	Standing	68	Pass
43	Existing	13	Standing	16	Walking	62	Pass
	Proposed	14	Standing	17	Walking	77	Pass
44	Existing	13	Standing	17	Walking	67	Pass
	Proposed	13	Standing	17	Walking	75	Pass
45	Existing	13	Standing	16	Walking	63	Pass
	Proposed	12	Standing	15	Standing	63	Pass
46	Existing	12	Standing	16	Walking	63	Pass
	Proposed	13	Standing	17	Walking	70	Pass
47	Existing	11	Standing	14	Standing	57	Pass
	Proposed	12	Standing	15	Standing	68	Pass
48	Existing	13	Standing	16	Walking	63	Pass
	Proposed	11	Standing	14	Standing	64	Pass
49	Existing	12	Standing	14	Standing	57	Pass
	Proposed	10	Sitting	13	Standing	51	Pass
50	Existing	12	Standing	15	Standing	57	Pass
	Proposed	11	Standing	14	Standing	55	Pass
51	Existing	13	Standing	16	Walking	62	Pass
	Proposed	12	Standing	15	Standing	69	Pass



**Table 1: Pedestrian Wind Comfort and Safety Conditions**

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
52	Existing	9	Sitting	11	Standing	49	Pass
	Proposed	11	Standing	14	Standing	63	Pass
53	Existing	14	Standing	17	Walking	69	Pass
	Proposed	13	Standing	17	Walking	68	Pass
54	Existing	13	Standing	16	Walking	61	Pass
	Proposed	12	Standing	15	Standing	61	Pass
55	Existing	12	Standing	15	Standing	64	Pass
	Proposed	11	Standing	13	Standing	55	Pass
56	Existing	14	Standing	16	Walking	66	Pass
	Proposed	14	Standing	17	Walking	63	Pass
57	Existing	15	Standing	20	Walking	80	Pass
	Proposed	13	Standing	18	Walking	74	Pass
58	Existing	14	Standing	17	Walking	62	Pass
	Proposed	12	Standing	15	Standing	60	Pass
59	Existing	13	Standing	17	Walking	64	Pass
	Proposed	12	Standing	15	Standing	56	Pass
60	Existing	13	Standing	17	Walking	62	Pass
	Proposed	12	Standing	14	Standing	63	Pass
61	Existing	13	Standing	16	Walking	59	Pass
	Proposed	13	Standing	16	Walking	59	Pass
62	Existing	12	Standing	15	Standing	54	Pass
	Proposed	13	Standing	16	Walking	58	Pass
63	Existing	10	Sitting	13	Standing	53	Pass
	Proposed	11	Standing	13	Standing	58	Pass
64	Existing	12	Standing	15	Standing	55	Pass
	Proposed	13	Standing	16	Walking	62	Pass
65	Existing	11	Standing	14	Standing	56	Pass
	Proposed	11	Standing	15	Standing	62	Pass
66	Existing	12	Standing	16	Walking	61	Pass
	Proposed	12	Standing	14	Standing	65	Pass
67	Existing	12	Standing	15	Standing	56	Pass
	Proposed	12	Standing	15	Standing	63	Pass
68	Existing	9	Sitting	11	Standing	46	Pass
	Proposed	13	Standing	15	Standing	73	Pass

**Table 1: Pedestrian Wind Comfort and Safety Conditions**

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
69	Existing	13	Standing	17	Walking	73	Pass
	Proposed	16	Walking	20	Walking	82	Pass
70	Existing	-	-	-	-	-	-
	Proposed	10	Sitting	12	Standing	52	Pass
71	Existing	-	-	-	-	-	-
	Proposed	10	Sitting	13	Standing	53	Pass
72	Existing	-	-	-	-	-	-
	Proposed	11	Standing	13	Standing	60	Pass
73	Existing	-	-	-	-	-	-
	Proposed	13	Standing	16	Walking	75	Pass

Season	Months	Hours	Comfort Speed (km/h)		Safety Speed (km/h)
Summer	May - October	6:00 - 23:00 for comfort	(20% Seasonal Exceedance)		(0.1% Annual Exceedance)
Winter	November - April	6:00 - 23:00 for comfort	≤ 10	Sitting	≤ 90 Pass
Annual	January - December	0:00 - 23:00 for safety	11 - 15	Standing	> 90 Exceeded
<b>Configurations</b>					
Existing	Existing site and surroundings		16 - 20	Walking	
Proposed	Proposed Project with existing surroundings		> 20	Uncomfortable	

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## Appendix H ENERGY INITIATIVE



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**SITE SUSTAINABILITY OVERVIEW**

<b>Urban Development</b>	A dense and well utilized site serviced by vehicular and active transportation to the downtown core. Integrates an active pedestrian connection between new and existing development.
<b>Existing and Proposed Trees</b>	New trees on site and in the public right of way will contribute to the urban canopy, and new growth will add to the overall rejuvenation of the urban forest. It will provide a pleasant visualization for the existing adjacent buildings, as well as occupants of the proposed.
<b>Site Lighting</b>	Site lighting will be designed to direct to the ground and not to the sky.
<b>Alternative Transportation</b>	The site is adjacent to public transportation routes, pedestrian and cycling networks and has on-site bicycle storage. Future residents will have many active transportation choices, and the site is served by nearby retail and commercial uses within walking distance. The active pedestrian connection provides residents ease of access to the commercial/retail core.
<b>Carbon Dioxide</b>	The design and construction of the building will take into consideration the electrical and natural gas consumption for each major plant and electrical systems. Design will be balanced to provide more efficient equipment. Part of the design exercise will be to target larger electrical loads and the selection of the most efficient solution.
<b>Landscape and Exterior Design</b>	The proposed open space area exceeds the zoning requirement, at 40%. The landscaped areas will provide for an aesthetically enhanced streetscape, façade, and entrance design to the building. A large open public space area is proposed central to the site.
<b>Heat Island</b>	The building proposes light-colored building materials which have proven effective in reflecting more light. The roof will use lighter-coloured surfaces compared to a typical asphalt roof, which does not reflect a lot of solar radiation.
<b>Exterior Design</b>	Through responsible building design, mixes of building materials will be evaluated and selected to decrease the heat island effect and be energy efficient. The design of the new building will be subject to the recently amended Ontario Building Code requirements, particularly by energy modeling design evaluation approach, which largely influences the percentage of glazing, glazing type, building opening's orientation, etc. By the use of a responsible balance of materials and orientation, an

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	energy efficient design will be synergized in an aesthetically pleasing and sustainable structure.
<b>Building Sustainability</b>	The building design, materials, and equipment have been selected and will be incorporated such that the building is sustainable in the long term. Sections of window walls will be designed in compartments to reduce the overall large expansion and contraction properties attributed with glass. The use of precast exterior wall panels and coating provides improved life cycle façade with minimal fading or delamination as found in other materials.
<b>Stormwater Management</b>	Stormwater management will be designed to capture and recharge the existing groundwater system. It is estimated that 80% of the runoff volume will be directed to groundwater.

**WATER EFFICIENCY**

<b>Water Efficient Landscaping</b>	Drought resistant landscape material will be specified as much as possible.
<b>Reduced Water Consumption - Domestic Use</b>	Low-flow faucets, toilets, and showerheads will be incorporated throughout the units to reduce water consumption. The intent is for hot water domestic supply to come via condensing boiler systems. Heated storage tanks will be utilized to reduce fluctuations in the requirement for hot water under peak demand. Allowing for on-site storage reduces the amount of time required by residents to wait for hot water to come from centralized systems.
<b>Reduced Water Consumption - Heating &amp; Cooling</b>	Through the integration of high efficiency chiller/cooling tower systems and condensing boilers, the heating and cooling systems will be completely closed looped systems. The evaporation losses and energy efficiencies will be minimized, even more than a conventional heating and cooling system.

**ENERGY & ATMOSPHERE**

<b>Design Features – Mechanical Systems</b>	The buildings HVAC system is centralized, individual controls will be provided in units for heating, cooling and lighting. The use of condensing boilers will be installed. Variable speed pumps for heating and cooling will be incorporated with integrated building controls. Low E windows will be used.
<b>Design Features – Electrical</b>	Energy efficient lighting will be utilized throughout the building. High efficiency florescent lighting will be utilized in most common areas which require 100% illumination at

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	all time (parking garage, corridors, and stairs), and consideration for motion detection devices and/or LED lighting will be taken into consideration. Natural light is accommodated in all units and common areas to reduce the need for electrical consumption. Energy efficient appliances will be the standard inclusion for all units.
<b>Electrical Metering and Controls</b>	Utilities will be separately metered for individual units making residents aware of energy consumption. The building manager will be responsible for common areas and to monitor and reduce energy consumption. Common areas to be separately metered for electrical and natural gas.

## **MATERIALS & RESOURCES**

<b>Regional Materials</b>	The vast majority of materials are available locally (800km radius as defined in LEED standard), limiting environmental impact of source supply transportation.
<b>Low Emitting Materials</b>	Low VOC materials will be used where possible, including, membranes, soy based polyurethane insulation, paints, carpeting, etc.
<b>Collection of Recyclables</b>	Collection of recyclables will be in accordance with City by-laws. A collection room will be located in the base of the building with ample room for additional bins.
<b>Building Materials</b>	High recycled content material to be specified where possible. Renewable finishes (such as flooring) will be offered as choices to purchasers of residential units.
<b>Construction Waste Management</b>	A construction waste diversion program will be in effect during the construction period. On-site concrete washing out will not be done on-site, back washing of the concrete truck will be done at the batching plant.

## **INDOOR ENVIRONMENT QUALITY**

<b>System Controllability</b>	Each unit will have access to individual controls for heating, cooling, lighting, and ventilation.
<b>Natural Ventilation</b>	Operatable windows are provided for every unit and individual balcony.
<b>Low VOC emitting Materials</b>	Low VOC materials will be utilized where possible.
<b>Natural Light</b>	The building provides natural light to all regularly utilized spaces, other than the below grade parking garage.

## **INNOVATION & DESIGN PROCESS**



## URBAN DESIGN BRIEF

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<b>Sustainable Consultants</b>	The building and units will be designed and developed with input from accredited sustainable consultants. The building will be constructed to SB10 of the Ontario Building Code, energy modeling will be completed and applied to the building design to exceed the requirements of SB10.
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