## **Urban Design Brief** 1888 Gordon Street City of Guelph

161401285

Prepared for: Tricar Developments Inc.

Prepared by: Stantec Consulting & Kasian Architecture Ontario Inc.





December 19, 2016

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## **Executive Summary**

This Urban Design Brief has been prepared by Stantec Consulting Ltd. and Kasian Architecture Ontario Inc. on behalf of Tricar Developments Inc. in support of the development proposed on 1888 Gordon Street in Guelph, Ontario. The purpose of the Design Brief is to outline the design approach for the proposed high density residential building, 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 (July, 2011) and provides clear direction on how the site should be developed. This has been submitted as part of a complete Zoning By-law Amendment and Official Plan Amendment application and is intended to be read in conjunction with other background reports.





Site's Physical and Policy Context December 19, 2016

## 1.0 SITE'S PHYSICAL AND POLICY CONTEXT

This Urban Design Brief (UDB) has been prepared in support of an Official Plan and Zoning By-law Amendment application for 1858 & 1888 Gordon Street, City of Guelph (herein referred to as 1888 Gordon Street).

A pre-consultation meeting was held with the City on October 22, 2014. This Urban Design Brief was requested by the City as a requirement for a complete application based on the proposed application for development.

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 1888 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.

#### 1.1 PHYSICAL CONTEXT

This section explores the physical context of the subject site, neighbouring properties, and the community-scale with regard to 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 located at 1858 & 1888 Gordon Street at the east corner of Poppy Drive and Gordon Street in Guelph, Ontario, as shown on **Figure 1**. The site has approximately 108 m of frontage onto Gordon Street, and a total area of approximately 3.193 hectares.





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Figure 1: Site Location

### 1.1.2 On Site Attributes

The subject site has an existing single detached residential building which is proposed to be demolished (**Figure 2**). Topography varies across the site, generally draining from east to west. A Tree Inventory was completed on February 25<sup>th</sup>, 2016. Tree species inventoried include Norway Maple, Eastern White Cedar, White Spruce, Colorado Spruce, Basswood, Scots Pine, Cherry, Ash, Balsam Fir, Elm, Manitobia Maple, White Mulberry, Apple, White Pine, Red Pine, Red Maple, Buckthorn and Hawthorn. Where possible, trees will be retained or transplanted, or compensation plantings will be provided in accordance with the City's Tree By-law.





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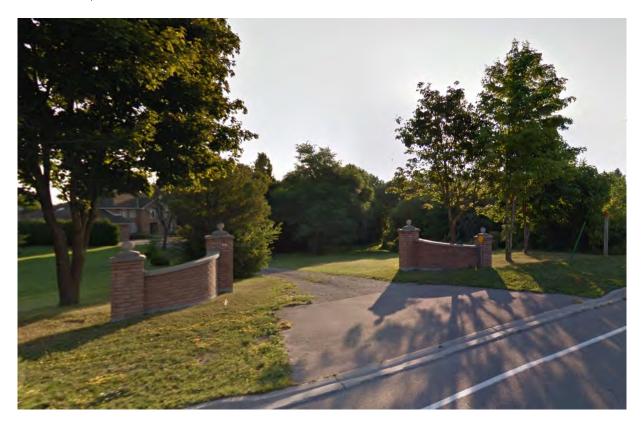


Figure 2: Existing Condition of Subject Site (view from Gordon Street)

#### 1.1.3 The Site in Context

To the immediate north is a garden nursery, and a large commercial/retail centre located north of Poppy Drive. Recent residential developments have been constructed along Poppy Drive and Hawkins Drive to the northeast, and Poppy Drive and Gordon Street to the southwest. To the south is a mix of general residential, natural areas and open space designated lands.

The proposal is for a high density residential infill. The subject site is identified as a Greenfield Area (Schedule 1B, Official Plan) and located immediately south of a Community Mixed Use Node and the Gordon Street Intensification Corridor. Gordon Street is an arterial road connecting Highway 401 to downtown Guelph.

The site is located within proximity to public transit provided along Gordon Street, the mixed use node located at the intersection of Gordon Street and Claire Road, and Gosling Gardens Park and South End Community Park. These retail, commercial and recreational facilities are located within 1 km of the subject site and provide conveniences such as restaurants, personal services, entertainment, grocery, pharmacy, and shopping amenities. Public transit is available within 500 metres. Bicycle lanes are provided on the east and west side of Gordon Street from the site to the downtown area. Figure 3 below illustrates the surround land use context. A conceptual site plan has been included in Appendix A.





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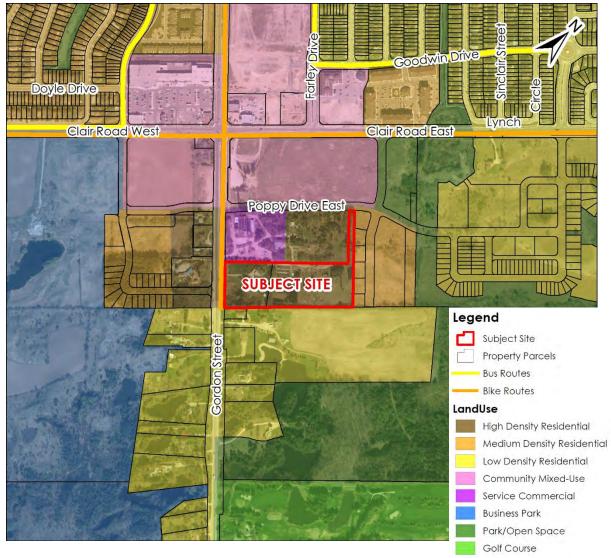


Figure 3: Surrounding Land Uses

## 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) (September 2014 Consolidation), urban design updates as amended by Official Plan Amendment No. 48, South Guelph Secondary Plan (Section 4.19.2.11.3), and the City of Guelph Urban Design Action Plan (2009).

The subject site is designated as High Density Residential in the City of Guelph Draft Official Plan (OPA 48), Draft Schedule 2: Land Use Plan. The existing City of Guelph Official Plan 2001 (September 2014 consolidation), currently in effect, designates the subject site as General Residential, and within the South Guelph Secondary Plan (Schedule 1A).





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The remaining 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, the City plans and studies. OPA 48 was approved by City Council in June 2012 but is currently not in effect. These policy updates have been considered in the design of the proposed development and are addressed in Section 1.2.2 below.

## 1.2.1 City of Guelph Official Plan (September 2014 Consolidation)

Urban design policies address the relationship between buildings, the spaces that surround them and the area's context. Section 3.6 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:

- As per the results of the scoped Environmental Impact Study, the proposed development will exemplify environmentally sustainable urban development by adhering to urban design principles that respect the natural features, reinforce natural processes and conserve natural resources (3.6 c & 3.6.2));
- The subject property is located on Gordon Street which is located within proximity to transit service, adjacent to bicycle lands 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 (3.6 g);
- The proposed development has been to designed to accommodate all persons, regardless of personal limitations (3.6 I & 3.6.22);
- The development contributes to a variety of housing types and forms, including both apartment and townhouse units(3.6.8);
- The building orientation, open spaces, plazas and streets are designed to reflect the visual character and architectural/building material elements found in the older, established areas of the City (3.6.9).
- The 14 storey apartment buildings have been tiered to provide an appropriately scaled aesthetic street wall. Townhouses along the westerly apartment building are oriented towards Gordon Street provide a visually interesting façade. The remaining townhouses and apartment buildings have been sited to provide an attractive façade towards the amenity building and open space area located in the central portion of the site. There are no blank facades facing onto Gordon Street or an open space area (3.6.10);
- 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 (3.6.12 & 3.6.21);





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- 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 (3.6.14);
- It is anticipated loading bays, storage areas and building utilities will be screened where appropriate, to the satisfaction of the City (3.6.15);
- The majority of parking is proposed underground. Surface parking is internalized and will be screened with landscaping to provide for an attractive streetscape (3.6.16) A detailed landscape plan will be provided in concurrence with the Site Plan Application;

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 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: Environ Guelph – Official Plan Update

Urban Design policies have been updated, 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 is permanent, enduring, memorable and beautiful, adaptable, flexible and valued;
- Improving conditions for greater personal security by incorporating Crime Prevention through Environment Design;
- Design for choices of mobility including walking, cycling, transit, and driving; and
- Reducing energy and water demand utilizing alternative energy systems.

The townhouses within the proposed development will conform to the policies for Built Form: Mid-Rise Buildings (Section 8.8) by ensuring the dwellings will create visual interest through material selection and architectural type, and be sited to provide appropriate human scale and allow for aesthetic views along Gordon Street. Underground parking is provided, and the minimal





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surface parking proposed will be adequately screened with landscaping. Pedestrian access is provided to the principal entrances from the public realm.

The apartments proposed within the development will conform to the policies for High-rise buildings 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.

The new development will contribute to pedestrian-oriented streetscape by locating built form adjacent to, and addressing the street, placing principle entrances towards the street, and providing active uses that provide an interface with the public realm. Lighting will be provided at a sufficient level for building identification and safety but will be oriented/shielded to minimize glare or encroachment to adjacent properties. Landscaping will be provided for and will create visual interest, complement built form, and contribute to the public realm.

## 1.2.3 South Guelph Secondary Plan

The South Guelph Secondary Plan (also known as Official Plan Amendment 2) provides planning policies specific to the southern areas that were annexed by the City from the Township of Puslinch in 1993. The primary goal of the Plan is to establish planning direction for the guidance of development. The subject property is designated General Residential on Schedule A of the Secondary Plan, which is envisioned to accommodate a range of housing types and densities to provide options for residents.

The proposed development of this site will contribute varied housing options within the South Guelph planning area. The site is in proximity to live/work opportunities for future residents, include the commercial and retail stores within the multi-use node at Clair and Gordon Street; park amenities and transit stops. The development of the subject site provides opportunities for streetscape improvements and safe access to offsite amenities through the provision of new sidewalks along Gordon Street. The proposal has not yet ben vetted through the site plan review committee; however, it is our opinion that there are opportunities for pedestrian linkages and improvements as a result of this development.

The proposal is located within the South Guelph Planning Area and in our opinion meets many of the objectives and principles of the plan by:

- Significantly increasing the population of residents and workers with new housing units;
- Minimize the presence of surface parking lots with underground parking garages;
- Build a compact community which encourages walking and active transportation;
- Build to provide interconnection to streets, the site will provide a sidewalk along the Gordon Street frontage to accommodate better movement;





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- Maintain the natural heritage features and functions within and adjacent to the subject site; and
- Develop in a planned fashion through the proposed phasing (as illustrated in Schedule C of the Secondary Plan).

### 1.2.4 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 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; 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.

#### 1.3 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:

- Create a streetscape aesthetic along Gordon Street and within the site (along the
  private road) sympathetic to pedestrian environment with the opportunity to provide
  "eyes on the street".
- Provide exceptional placemaking elements through architectural treatments and detailing, landscaping and vegetation, ornamental features, site furnishings and signage.
- 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.





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- Preserve and enhance protected public views and vistas of built and natural features.
- 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. Examples of successful existing design elements can be found in similar neighbourhoods. Some of these elements may serve as inspiration for the proposed site plan (illustrations in the following images).

Inclusion of placemaking features provides a comfortable and enjoyable setting for the residents and allows for design cohesion throughout the site for a defined and recognizable sense of place.



Figure 4: Placemaking Elements: Enhancing the public realm





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Figure 5: Placemaking Elements: Access to ground units

Various architectural details will enhance the proposed building, such as materials, themes, and colours. The exterior form, detailing and finishes of the buildings will integrate with the historical vernaculars characteristic of Southwestern Ontario architecture. The architectural design seeks to harmonize a variety of heights and finishes throughout the development.



Figure 6: Architectural Treatment





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## 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 6 buildings, two, fourteen story residential buildings (buildings 1 & 2) to the northwest of the site with a linking single story amenity building, a ten story residential building to the northeast (building 3) and two four story residential buildings to the south east (buildings 4 & 5).

The site has been designed with a central spine running south west to north east which not only acts as the main entrance and circulation to the development but also as a connector and a "place generator". This spine terminates at the northeast of the site and allows for a future connector to the commercial development to the northwest.

A central public plaza and amenity area bisect this spine approximately halfway along its length to create a central focus for the development. Envisioned as a pedestrian priority space the materials continue across the spine to reduce vehicle speed and to reinforce this priority at this point it is clear that vehicles are in the pedestrian realm rather than providing limited, narrow pedestrian crossings that indicate that the pedestrian is in the vehicle realm. On street parallel visitor parking similarly acts to reduce the speed of traffic.

Buildings 1,2,4 & 5 all have townhouses at the base facing the public spine and plaza and all pedestrian building entrances are off this main spine. The amenity building containing a swimming pool, social spaces etc. acts not only as a backdrop to the public plaza but also allows for both a visual and physical access to the north.

Currently the development is intended to be phased as follows. Buildings 1 & 2 along with the amenity built to be constructed first, followed by building 3 and finally buildings 4 & 5.

#### 2.1.2 Transitions

Along the Gordon road site edge, building 1 has townhouses facing this street with the main tower set back 11.5m. The tower itself is stepped to push the highest portions back further away from the street. The four story building 5 is also set back 11.5m with landscaping forming the transition between built form and the road.

To the north east, building 3 is set back approximately 40m from the property line to allow for a 3500m<sup>2</sup> open green area to transition to the low rise development adjacent.





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#### 2.1.3 Public Views/Vistas

From Gordon Street the main public view will be along the tree lined spine to the public plaza with building 3 as the vista stop. Other significant public views will be from the public plaza.

## 2.1.4 Parking

All residential parking is contained within the buildings either at grade or below. At grade parking is screened to the main pedestrian areas by town houses, entrances or single story units. Visitor parking is provided by on street parking which allows for additional activity on the streets for Crime Prevention Through Environmental Design (CPTED) purposes as well as slowing the speed of traffic.

### 2.1.5 Access, Accessibility, Circulation, Loading and Storage

The main access to the proposed development will be via the central spine with a secondary future connection to the northwest to connect with Poppy Drive East. Vehicular access to buildings 1 & 2 will be via this central spine as will loading and garbage. Building 3 will be accessed similarly but from the secondary north west/south east connector. Buildings 4 and 5 will be similar but with the parking access from the rear of the buildings. The nearest bus stop is a short walk at the corner of Farley and Goodwin Drives with direct service north on Gordon Street to Guelph Central Station. It is the intention that the amenity building remains unlocked throughout the day to allow for further connections to the north west. It will be locked only at night for security purposes however all residents will have pass cards that will allow unhindered access.

#### 2.1.6 Materials

The material and colour palettes have yet to be finalized however the buildings will consist of precast concrete either painted or sealed, brick veneer in dark grey, red and buff, Window wall and punched windows along with metal panels. The intent is to create a family of buildings, with slight differences that read together to be of one place and common pallets.

## 2.1.7 Lighting and Signage

Given the nature of this development, significant 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 around the central spine and plaza very little impact is envisioned on adjacent properties as the buildings themselves will act as screens.

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.





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#### 2.1.8 Architectural Treatment

The architectural hierarchy generally begins at ground level with people oriented and scaled elements such as townhouses and the amenity building to create a ground plane that is interesting, inviting and safe. The building materials will be a finer grain material such as brick with more monolithic materials above. The townhouses set close to the sidewalks will be raised slightly to give privacy to those inside whilst maintaining a residential street quality. The buildings generally "turn the corners" in a likewise manner with townhouses on the public sides addressing the main spine and the plaza. The plaza itself acts as a break in the street wall that can accommodate many outdoor activities. The three tall buildings have been designed with a clear base, middle and top and although the lower floors are large they become smaller further up the building. The buildings also have generous separating distances, much more than would be found in a typical urban core.

The local context is generally greenfield with auto centric commercial nodes or single family homes on large lots. This development does not aim to reflect that but aims to create a more dense, pedestrian, residential environment.

#### 2.1.9 High Density Development

#### 2.1.9.1 Microclimate: Wind and Shadows

Diagrams illustrating shadows casted by the proposed buildings are provided in Appendix B.

#### 2.2 INTEGRATION WITH THE PUBLIC REALM

## 2.2.1 Integration with the Streetscape

The fundamental elements in this development – the main spine and the public plaza- are not only intended for residents but to pull in visitors and hence the development is fully integrated with the surrounding communities.

The permeability of the development with multiple connections (described above) is intended to provide for this integration.

The street scape features have not yet been finalized but will include places to sit, trees for shade, street lights for safety and comfort as well as open areas for multiple uses.

## 2.2.2 Public Accessible Open Space and Features

The main plaza will contain various elements and features however most importantly it will act as a connector across the main spine as mentioned previously. Materials will be of pedestrian scale but durable enough for vehicular use. It will form the heart of the development and likely the location for the Christmas tree.





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#### 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 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)
- 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
- Energy efficient lighting
- Recycling and waste management
- High efficiency HVAC inside units (individual air handlers with ERV's and unit air conditioner)
- 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
- 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 B**.





Closing December 19, 2016

## **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 14 storey and one 10 storey apartment buildings, two 4 storey townhouse buildings, and an amenity building on behalf of the Tricar Group.

Sincerely,

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Appendix A Conceptual Site Plan December 19, 2016

## Appendix A CONCEPTUAL SITE PLAN

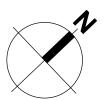






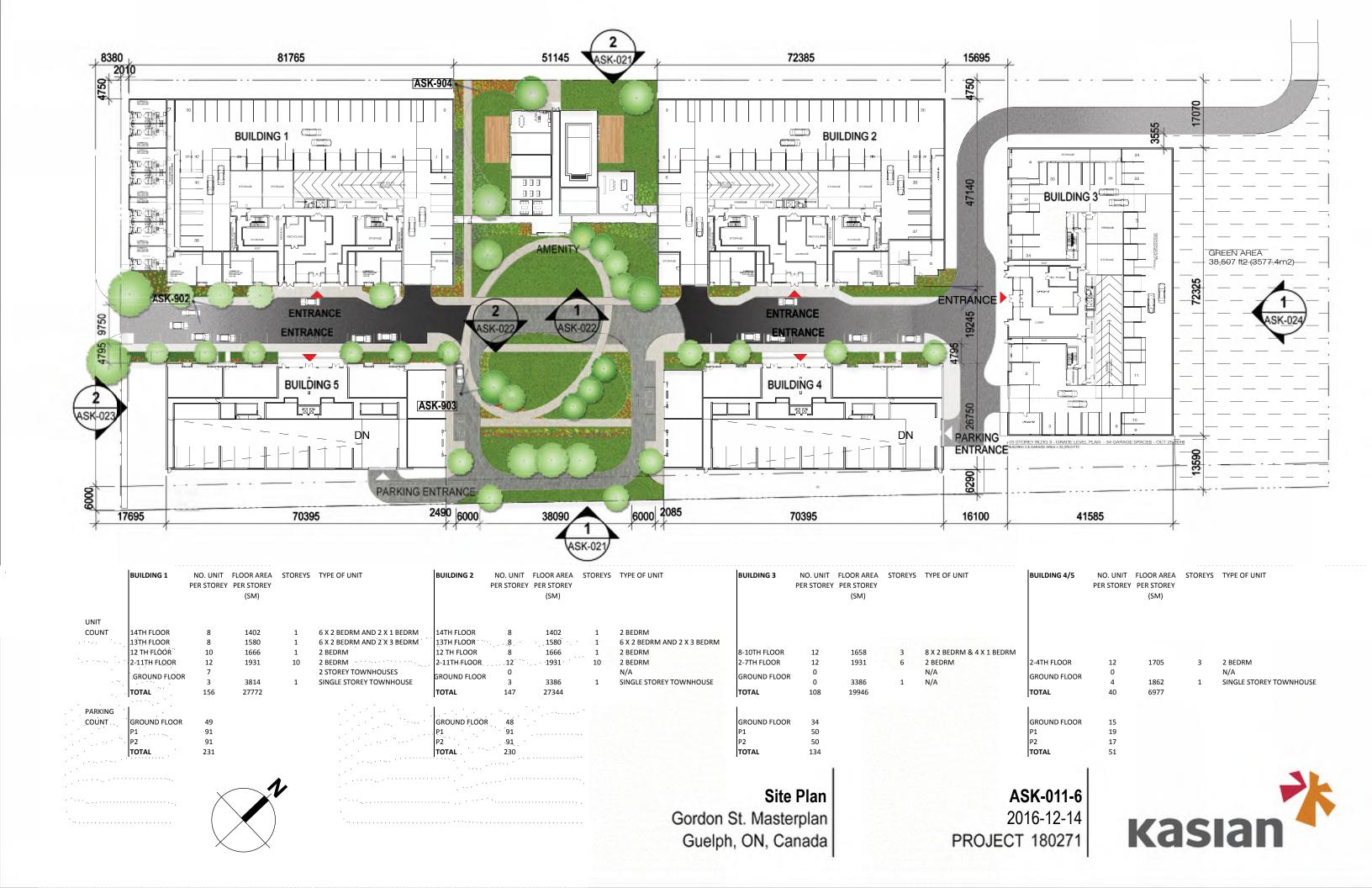
SITE PLAN

SCALE: 1:1500



Site Plan Gordon St. Masterplan Guelph, ON, Canada **ASK-011-1** 2016-12-14 PROJECT 180271



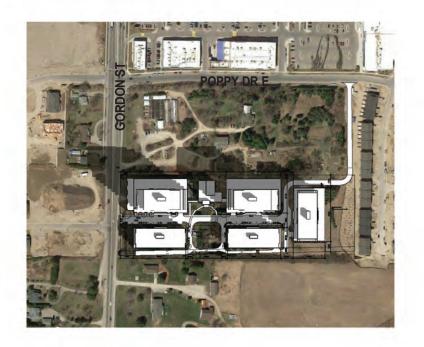


Appendix B shadow study December 19, 2016

## Appendix B SHADOW STUDY







JUN 21 - 8:18 AM



JUN 21 - 2:18 PM

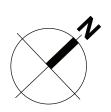
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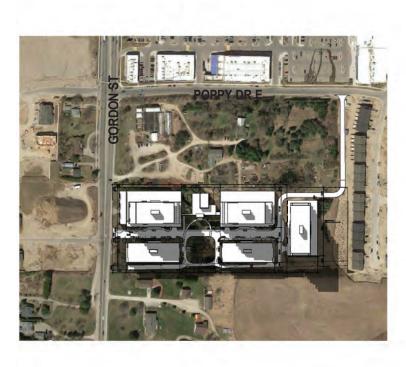
JUN 21 - 4:18 PM



Shadow Studies- Summer Solstice (Jun. 21)
Gordon St. Masterplan
Guelph, ON, Canada

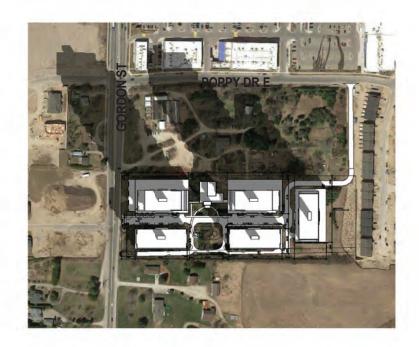


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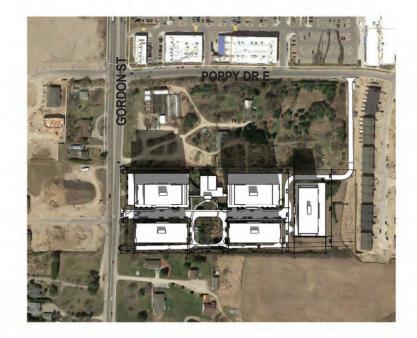


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SEP 21 - 8:18 AM



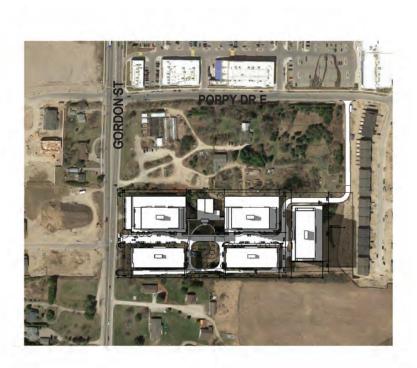
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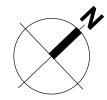


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SEP 21 - 6:18 PM

SCALE 1:5000



Shadow Studies - Spring/Fall Equinox (Mar. 21/Sep. 21)

Gordon St. Masterplan

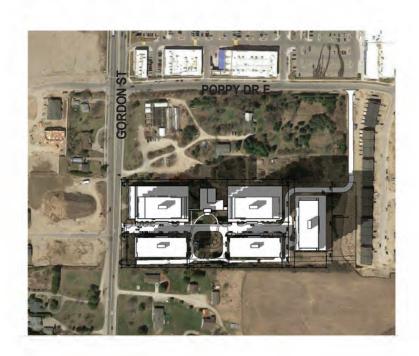
Guelph, ON, Canada

ASK-012-2 2016-12-14 PROJECT 180271



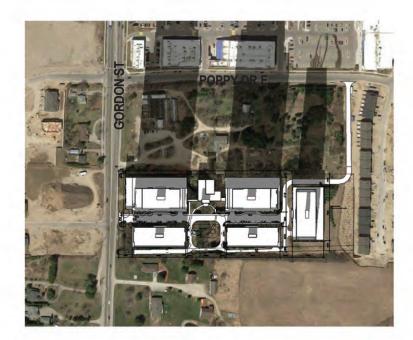


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DEC 21 - 10:18 AM



DEC 21 - 4:18 PM



**Shadow Studies - Winter Solstice (Dec. 21)** Gordon St. Masterplan Guelph, ON, Canada



DEC 21- 12:18 PM



DEC 21 - 6:18 PM



Appendix C renderings December 19, 2016

## Appendix C RENDERINGS









Street View Gordon St. Masterplan Guelph, ON, Canada ASK-902 2016-12-14 PROJECT 180271





Street View - Amenity and Plaza Gordon St. Masterplan Guelph, ON, Canada ASK-903 2016-12-14 PROJECT 180271





Street View - Amenity Rear Entrance Gordon St. Masterplan Guelph, ON, Canada ASK-904 2016-12-14 PROJECT 180271





Street View - Looking towards Gordon Street from BLDG 3
Gordon St. Masterplan
Guelph, ON, Canada

ASK-907 2016-12-14 PROJECT 180271

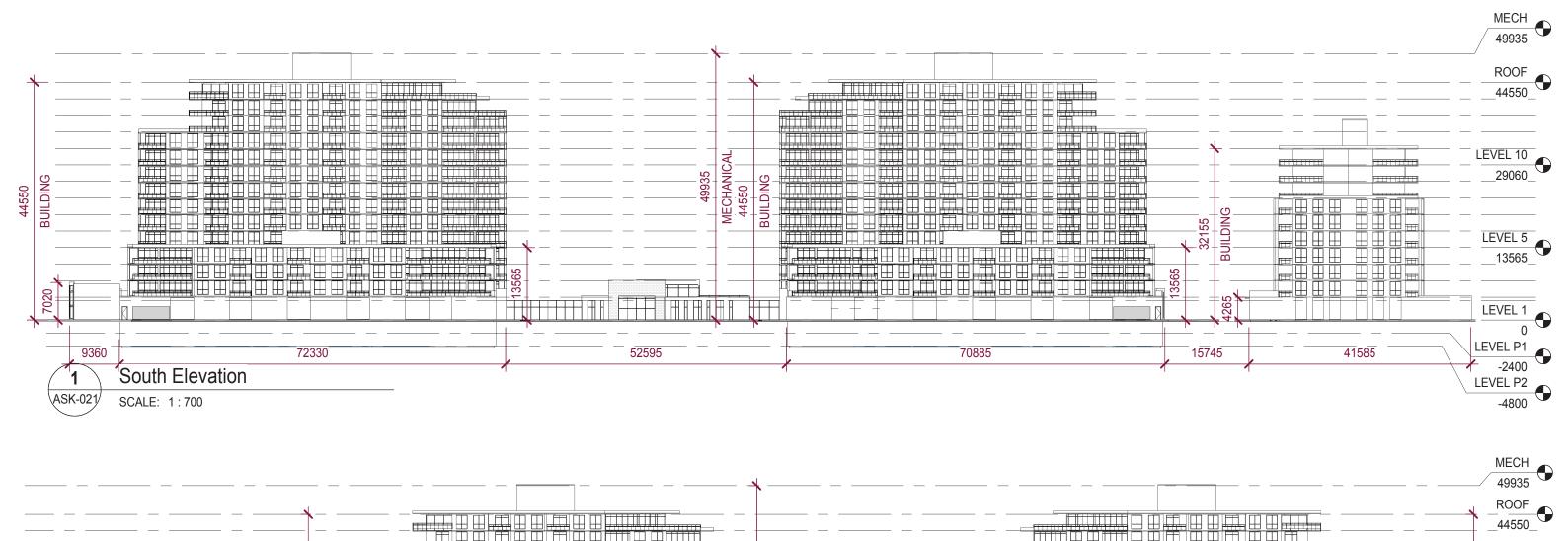


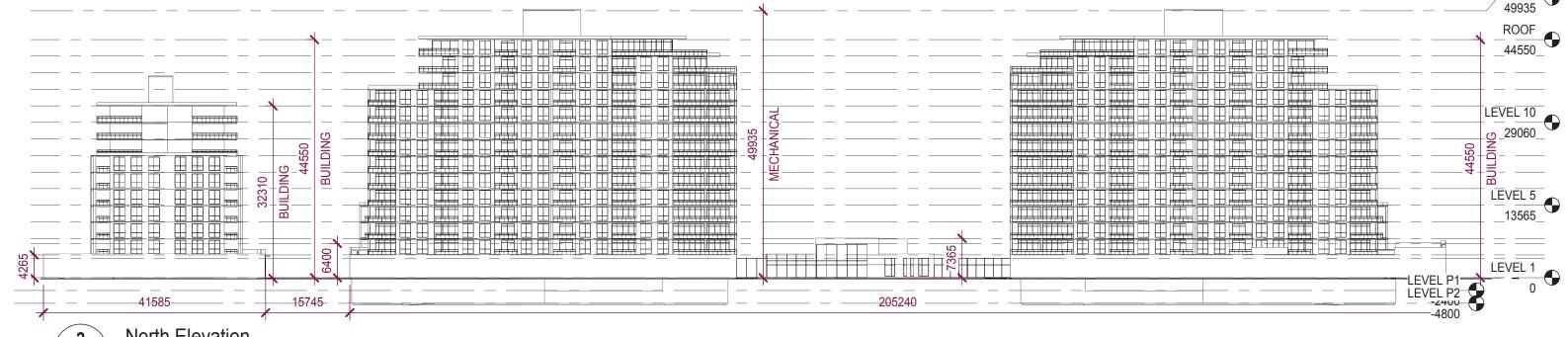
Appendix D Elevations December 19, 2016

## Appendix D **ELEVATIONS**







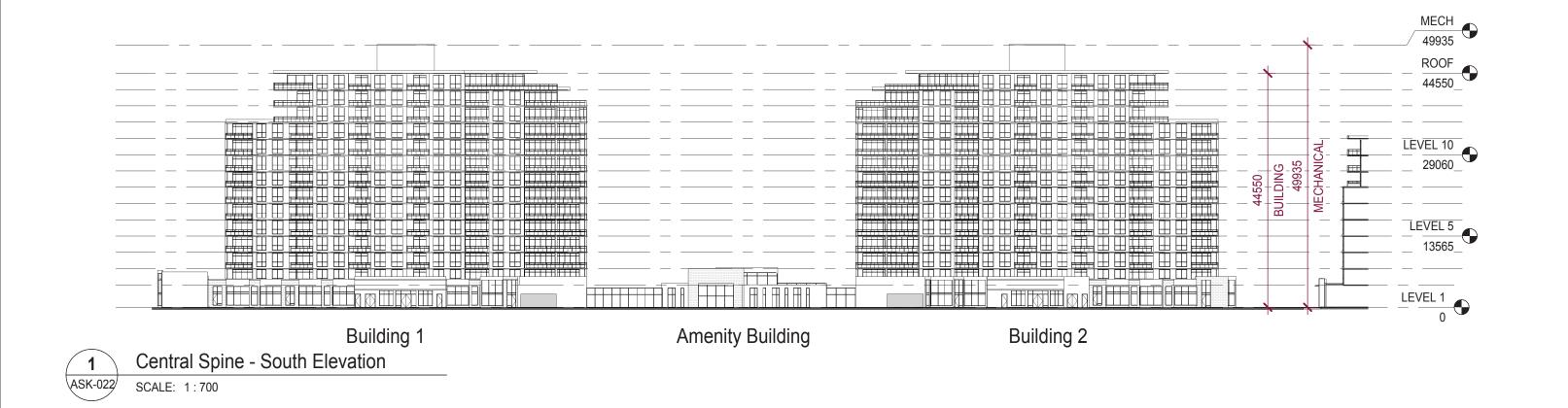


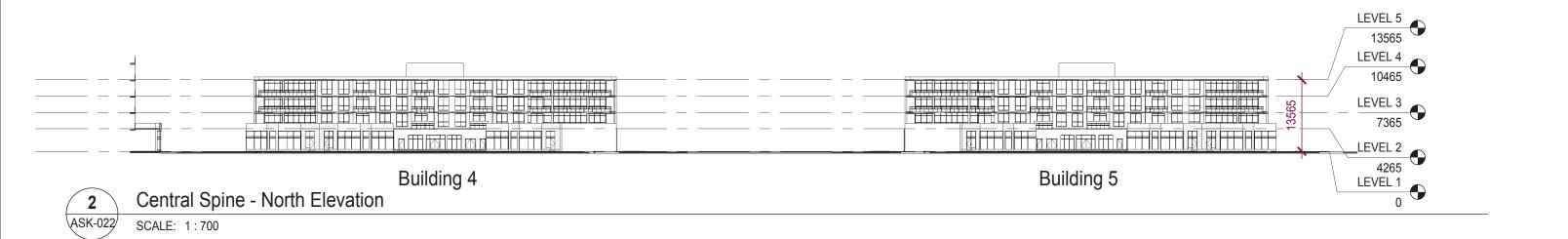
North Elevation

ASK-021 SCALE: 1:700

South and North Elevations Gordon St. Masterplan Guelph, ON, Canada ASK-021 2016-12-14 PROJECT 180271



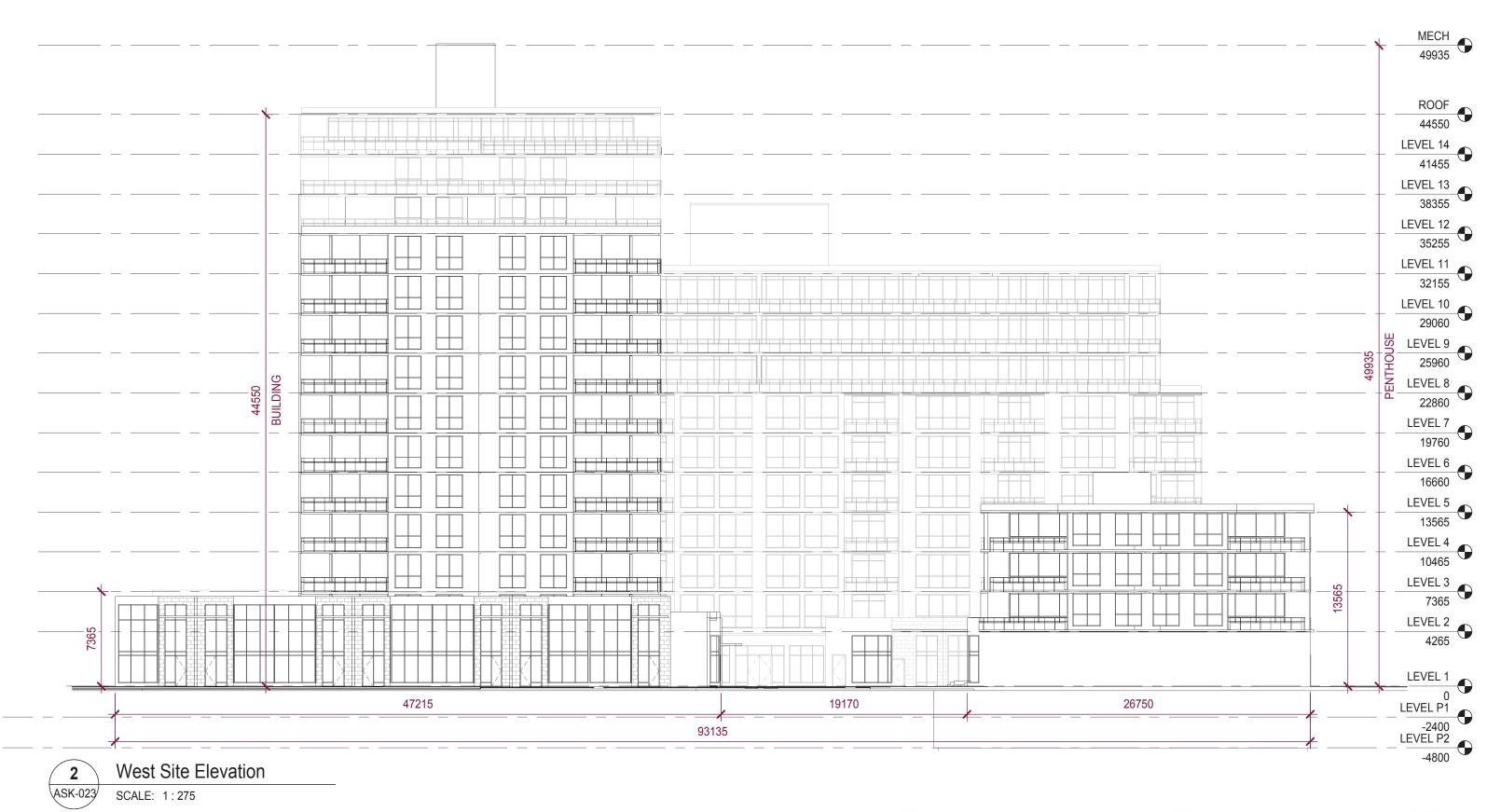




South and North Elevations
Gordon St. Masterplan
Guelph, ON, Canada

**ASK-022** 2016-12-14 PROJECT 180271

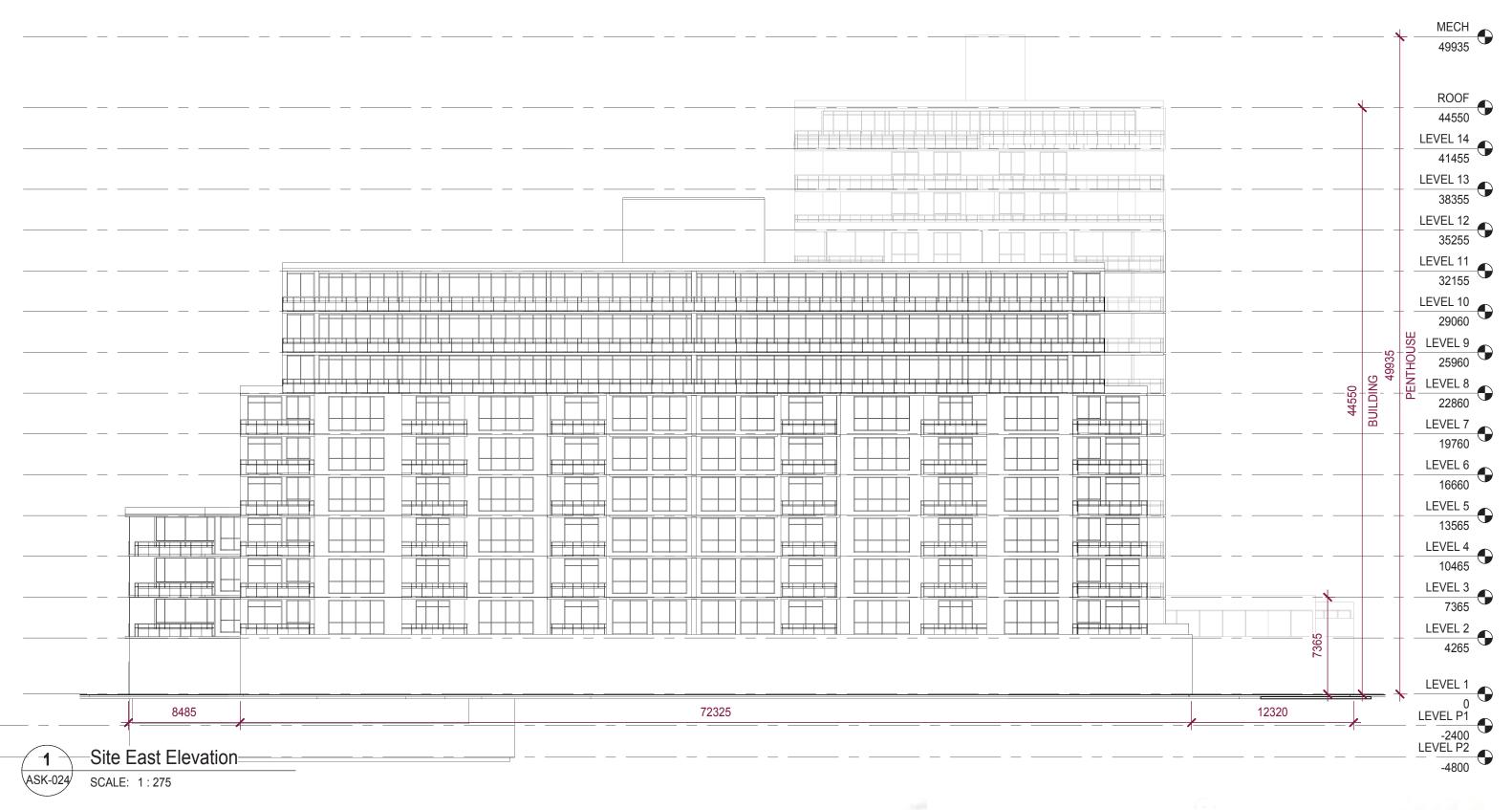




Site West Eleavtion Gordon St. Masterplan Guelph, ON, Canada

ASK-023 2016-12-14 PROJECT 180271





Site East Elevation Gordon St. Masterplan Guelph, ON, Canada **ASK-024** 2016-12-14 PROJECT 180271



Appendix E Community Energy Initiative December 19, 2016

## **Appendix E COMMUNITY ENERGY INITIATIVE**





Appendix E Community Energy Initiative December 19, 2016

## SITE SUSTAINABILITY OVERVIEW

Urban Development	A dense and well utilized site serviced by vehicular and
orban bevelopmen	active transportation to the downtown core. Integrates an
	active pedestrian connection between new and existing
	development.
Existing and Proposed Trees	New trees on site and in the public right of way will
Lasting and Proposed frees	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.
Site Lighting	Site lighting will be designed to direct to the ground and
Sile Lighting	not to the sky.
Alternative Transportation	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.
Carbon Dioxide	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.
Landscape and Exterior	The proposed open space area exceed the zoning
Design	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.
Heat Island	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.
Exterior Design	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
	energy efficient design will be synergized in an
	aesthetically pleasing and sustainable structure.





Appendix E Community Energy Initiative December 19, 2016

Building Sustainability	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.
Stormwater Management	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**

Water Efficient Landscaping	Drought resistant landscape material will be specified as much as possible.
Reduced Water Consumption - Domestic Use	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.
Reduced Water Consumption - Heating & Cooling	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 minimalized, even more than a conventional heating and cooling system.

## **ENERGY & ATMOSPHERE**

HEROT & AIMOSI HERE		
Design Features – Mechanical Systems	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.	
Design Features – Electrical	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 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.	





Appendix E Community Energy Initiative December 19, 2016

Electrical Metering and	Utilities will be separately metered for individual units
Controls	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**

MAILKIALS & KLSOUKCLS	
Regional Materials	The vast majority of materials are available locally (800km radius as defined in LEED standard), limiting environmental impact of source supply transportation.
Low Emitting Materials	Low VOC materials will be used where possible, including, membranes, soy based polyurethane insulation, paints, carpeting, etc.
Collection of Recyclables	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.
Building Materials	High recycled content material to be specified where possible. Renewable finishes (such as flooring) will be offered as choices to purchasers of residential units.
Construction Waste Management	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**

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

## **INNOVATION & DESIGN PROCESS**

Sustainable Consultants	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.	



