Urban Design Review Panel Report
6310 Hazeldean Road
August 25, 2025

Fotenn was retained by Scalia Properties, to prepare this Urban Design Review Panel (UDRP) Report in support of Minor Zoning By-law Amendment and Site Plan Control applications for the property municipally known as 6310 Hazeldean Road (the “subject property”).

The proposed development was subject to a review by the UDRP on June 6, 2025. Written recommendations from the Panel were received on June 13, 2025. A response to the recommendations is provided in the attached table, along with the previously submitted Urban Design Brief (Appendix 1) and the UDRP Recommendations (Appendix 2).

We trust that this Urban Design Review Panel Report satisfies the requirements for Minor Zoning By-law Amendment and Site Plan Control applications for the subject property.

Sincerely,



Patricia Warren, MCIP RPP
Planner

6310 Hazeldean Road

Response to UDRP Recommendations

UDRP Meeting Date: June 6, 2025

No.	Comment	Response
1.0	**Key Recommendations**	
1.1	The Panel supports the marked improvement from the previous submission and commends the overall design sophistication.	Noted.
1.2	The Panel raised concern about the development reading as a superblock. The Panel recommends further articulation or variation in massing, particularly in the middle building, to help visually break down the composition.	The midsection of Building 1 has been slightly recalibrated to accentuate the effect of fragmentation while preserving the intended monolithic character. The central white mass has been raised to six stories instead of five, thereby enhancing the presence of the two fissures on either side and, consequently, reinforcing the strategy of breaking down the structure's length along Hzaldean. In addition, we propose replacing the metallic cladding initially shown in black with a "gold-champagne" finish. This warmer tone, more capable of capturing daylight, will contribute, in our view, to reinforcing the perception of multiple, smaller volumes rather than that of a single monolithic block.
1.3	The Panel supports the strong architectural expression of the tower and recommends it be treated as a distinct architectural element. The Panel suggests the tower be designed as a building "in the round," recognizing its visibility from all sides and ensuring consistent architectural treatment across all elevations.	Our design strategy prioritizes urban-oriented massing - activating the street through a thoughtful framing approach that anchors the building within its context. This deliberate volumetric composition, responsive to surrounding scale, proportion, and site conditions, reinforces both visual continuity and placemaking. Altering Building 2 into an "in-the-round" form would compromise this carefully calibrated orientation, detaching the structure from its urban context. While such a form carries its own merits, in this case it would weaken connections to adjacent streetscapes and diminish the alignment of the massing with the public realm. By contrast, maintaining the current design language ensures the building remains rooted in its surroundings, enhancing façade articulation and reinforcing material expression. To address the panel's comments, however, we propose replacing the originally black metallic cladding with a warmer "gold-champagne" finish. Less contrastive, this color softens the overall composition, creating a more uniform yet still rich interplay of materials that adds depth and refinement to the architectural expression.
1.4	The Panel supports the setback and safe-edge treatment approach along Hazeldean and encourages maintaining a generous pedestrian buffer from the busy arterial.	Noted.
1.5	The Panel recommends minimizing the prominence of the vehicular drop-off from the street and emphasizing pedestrian connectivity. This can be achieved by enhancing the landscape and making the entry feel more like a street.	The pedestrian connectivity is emphasized by using pavers on both the pedestrian and vehicular pathways at the entrance circulation area. A crosswalk with an island refuge has been added to connect the two front entrances. Plants have been added to the islands at the front entrance as well as on the pedestrian pathways next to each building.
2.0	**Site Design and Public Realm**	

No.	Comment	Response
2.6	The Panel encourages reconsidering the treatment of the east and south setback areas, suggesting they could serve as active, biodiverse landscape spaces with pollinator gardens, walking paths, or informal amenity spaces for residents.	Pollinator species have been added to satisfy this comment in the two identified areas.
2.7	The Panel suggests that the future connection to the adjacent park (to the west of the site) should be planned to anticipate the residents desire for access and improved overall site permeability.	We will not create a connection to the park. There is an easement for the drainage ditch.
2.8	One Panel member supports the temporary use of an asphalt pathway along Hazeldean Road but recommends a more generous setback to create a comfortable, safe edge, especially for children and cyclists. Other panel members recommend that a minimum 2.1 concrete sidewalk be constructed now, to signal the emerging more urban context.	The City of Ottawa has agreed to a cost-sharing agreement with the Owner for the construction of a concrete sidewalk. The details will be dealt through the Site Plan Control.
2.9	The Panel appreciates the effective minimization of internal vehicular movement. However, continued attention is encouraged to preserve a pedestrian-prioritized experience. o The Panel suggests enhancing the entrance condition to reduce the prominence of vehicular movement and support pedestrian orientation.	Our design intent is to minimize vehicular movement within the site, while still accommodating essential access for fire and garbage trucks. To enhance pedestrian safety and connectivity, we've introduced sidewalks on both sides of the site entry. This dual-sidewalk configuration ensures continuous, protected walkways adjacent to both buildings, reinforcing a safe and accessible pedestrian environment oriented around the building entrances.
2.10	The Panel advises that above-grade parking levels should retain sufficient floor-to-ceiling heights to enable future adaptive reuse.	We have roughly 18.5' in height clearance, excluding the thickness of the concrete slab, between the two levels of overground parking (9.8' in P1 and 8.7' in P2) which can be adapted to a residential occupation in the future, if ever the use of parking is rendered obsolete.
2.11	The Panel suggests incorporating additional cycling infrastructure at-grade such as a bike repair station or shared utility room to further support active transportation.	We currently have interior and exterior bike storage racks. We currently do not plan to include a bike repair room or facility.
3.0	**Sustainability**	
3.12	The Panel commends the project's intention to pursue geothermal energy and encourages continued commitment to sustainability targets.	Noted.
3.13	The Panel supports low-carbon materials and temporary solutions where appropriate - such as the use of asphalt over concrete for the Hazeldean pathway.	Noted.
4.0	**Built Form and Architecture**	
4.14	The Panel appreciates the architectural articulation, especially the detailing of the precast elements and subtle modulation of the black and white palette.	Noted.

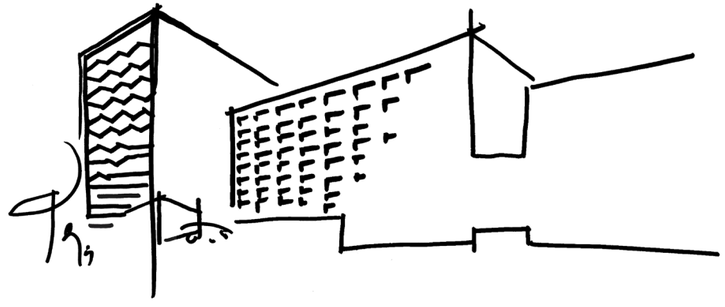
No.	Comment	Response
4.15	The Panel recommends careful attention be paid to detailing at material transitions, particularly where black materials meet white precast - use of reveals and careful joint design is recommended.	The façade material palette has been intentionally reduced to two primary elements: champagne-gold metal panels within recessed areas, and white precast concrete panels on projecting volumes. This streamlined approach minimizes material variety, clarifies transitions, and reinforces visual coherence. Precast concrete panels are strategically placed on extruded portions of the elevation to mediate between the metallic and concrete surfaces - ensuring a clean and seamless façade articulation. On the east and west elevations, continuous balconies introduce a deliberate break between precast panel segments. These elements provide a pragmatic transition between materials while preventing excessive detailing across the horizontal plane, thus preserving rhythm and coherence. Further refinement is achieved in the treatment of the metallic façades, where coplanar panels are used for horizontal bands, while subtly corrugated panels define the areas between windows. This nuanced detail, successfully implemented in a previous project, delivers a highly convincing result, enhancing both texture and depth without compromising the building's overall clarity.
4.16	The Panel recommends studying alternatives to the tower expression which pairs a similar expression on the east and west elevations and an alternative expression on the north and south elevations geometry of the tower by thinking about the tower expression as a cohesive form being "visible in the round". o The panel also recommends further grounding of the tower is encouraged to reinforce its role as a vertical landmark for the site.	The varying façade treatments between the east–west and north–south elevations respond thoughtfully to their distinct urban contexts - Hazeldean Road along the north façade, and the low-rise residential fabric at the rear - reinforcing pedestrian engagement and strengthening alignment with the surrounding urban fabric. By prioritizing these contextual cues, the building adapts both functionally and visually to adjacent spaces, supporting a human-centered urban integration. At ground level, the design employs double-height transparent glazing that draws pedestrians inward without imposing a monumental base. This approach creates balance: avoiding an overbearing hierarchy while ensuring the building feels approachable and connected at street level. In light of the jury's comments, we revisited the triangular balcony articulation at the tower's two narrow ends. We now propose an equally rich yet orthogonal treatment, ensuring greater coherence with the other balconies located within the "metallic" zones. This articulation continues to animate the pedestrian scale while also serving as a kind of "fifth façade" - a refined expression distinct enough from the base to echo a neoclassical logic of tower and plinth, yet without resorting to a literal podium.

No.	Comment	Response
4.17	The Panel recommends more significant differentiation in massing and articulation of the middle block to avoid visual monotony and reinforce the threebuilding concept. The Panel suggests the middle building having a singular design expression above the podium.	The central section of Building 1 has been elevated by one story and clad in champagne-gold metallic panels, which enhances its visual prominence along Hazeldean and reinforces the strategy of fragmenting massing. Importantly, these interventions remain part of a unified architectural composition - not separate buildings - preserving the continuity of form while enriching the street presence. Together, the increased height and warm-toned material unify the Hazeldean façade, contributing to a dynamic skyline along the main street and ensuring seamless integration into the urban fabric. **See also response for Item 1.2**
4.18	The Panel suggests the transition of balcony expression could be refined to maintain consistency between the tower and mid-rise blocks, with subtle language or geometry linkages. o The Panel advises that views from the underside of balconies should be considered - unfinished concrete may not be visually appropriate, and finishing should be planned where needed. o The Panel suggests a subtle nod in balcony design - perhaps an angular shift - on the black mid-rise volume to create a subtle connection with the tower.	The jury's comment is well taken, as there was indeed a degree of inconsistency between the triangular balconies at the tower's narrow façades and those positioned on the metallic elevations. In response, we have revisited this articulation and now propose an equally expressive yet orthogonal treatment, ensuring greater coherence with the other balconies in the "metallic" zones. This revised approach continues to enliven the pedestrian scale while also serving as a kind of "fifth façade," while reinforcing the overall compositional coherence. Particular attention will also be given to the uniformity of the concrete, with wooden inserts placed in the formwork to accentuate the play of projections and recesses along the continuous balconies.
4.19	The Panel suggests refining the gold/champagne insulated panels that meet grade, which may appear vulnerable, and recommends durable detailing.	Where the gold-champagne insulated panels meet the ground floor, we have raised the base of the panels 200 mm above grade. The lower portion of the wall will be in concrete, providing a resilient finish that complements the foundation insulation strategy. This robust transition layer not only protects against physical impact and weathering but also visually reinforces the building's base, in line with the panel's emphasis on durable detailing.
4.20	The Panel suggests repeating the champagne panel treatment at the other entrance to highlight and differentiate it from the base expression.	The champagne-gold panel treatment spans the entirety of the elevations, imparting a modern and celebratory aesthetic that feels both inviting and refined. The warm metallic contrast against white evokes a sense of luxury and visual depth—drawing attention without harshness and elevating overall engagement with the façade. Meanwhile, the white and gold pairing balances warmth and brightness. The white concrete surfaces reflect light effectively, enhancing material clarity and ensuring the composition remains luminous and visually coherent.
4.21	The Panel recommends considering how the facade expression might help break the perceived length of the white grid in elevation with strategic interruptions or compositional adjustment.	See also response in points 1.2 and 4.17

No.	Comment	Response
4.22	The Panel suggests enhancing the northwest corner with a stronger architectural gesture to better pick up and address the adjacent corridor and future road edge.	We understand the jury's comment, though we were of the view that the original composition was already coherent and well-articulated. Nevertheless, in response to the feedback, the ground-floor elevation has been reoriented perpendicular to the lot, allowing for a seamless continuation of the Hazeldean-facing façade. On the west elevation, the upper-level white volume has been extended by one additional bay to further emphasize the separation of massing and enrich the sense of approach from the west side of Building 1. We believe these subtle adjustments help to enhance the character of this corner.

Appendix 1
Urban Design Brief (June 6, 2025)

FOTENN



6310 HAZELDEAN RD. DEVELOPMENT

URBAN DESIGN BRIEF
JUNE 06, 2025

SCALIA ACDF ARCHITECTURE FOTENN Planning + Design JAMES B. LENNOX & ASSOCIATES INC. LANDSCAPE ARCHITECTS

INTRODUCTION AND CREDITS

ACDF Architecture was mandated by Scalia Properties to provide professional architectural services for this landmark project, which builds upon the massing work initiated during the rezoning process. This initial stage was led by the Figurr Architects Collective, whose work laid the groundwork for the site's urban composition.

The following document illustrates the current development of the project, designed in close collaboration with Scalia's development team and guided by the valuable insights of urban planning consultants at Fotenn.

Scalia Properties, ACDF Architecture, Fotenn, and all professionals involved are committed to delivering a project that is both emblematic and coherent—one that aspires to set a new benchmark in architectural quality for the future developments in this evolving district.

This document outlines an architectural approach that aims to contribute meaningfully at the territorial scale, through a distinctive silhouette, and at the pedestrian scale, through thoughtful ground-level experiences. We hope the composition principles presented herein clearly reflect this shared ambition.

PROJECT TEAM:
CLIENT, SCALIA Properties
ARCHITECTURE, ACDF architecture
URBAN PLANNING, Fotenn
LANDSCAPE, James B. Lennox & Associates
CIVIL, LRL Engineering

ONTARIO ASSOCIATION OF ARCHITECTS
JOAN RENAUD
LICENCE
10089

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Design proposal June 2024
Design proposal April 2025

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Sustainable strategies

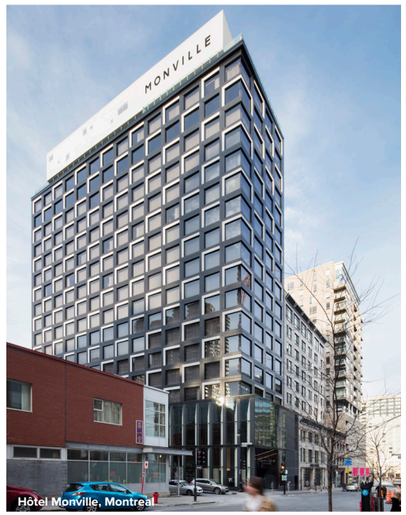
SUN STUDY

PROJECT STATISTICS

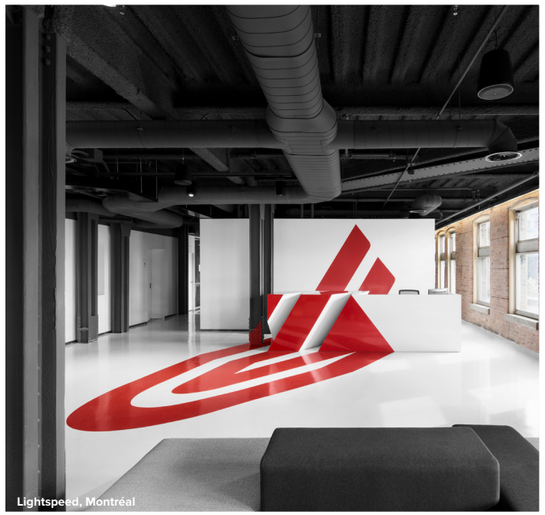
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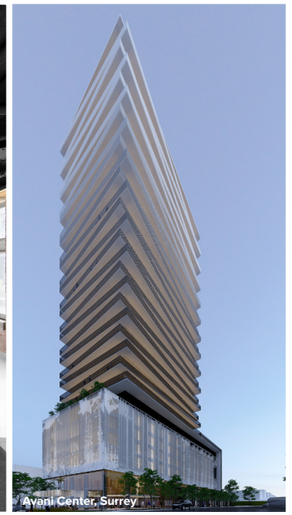
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ACDF ARCHITECTURE

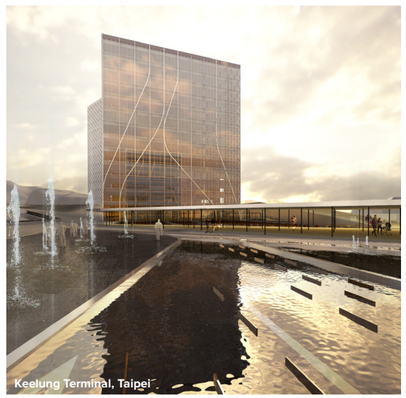


Hôtel Monville, Montreal

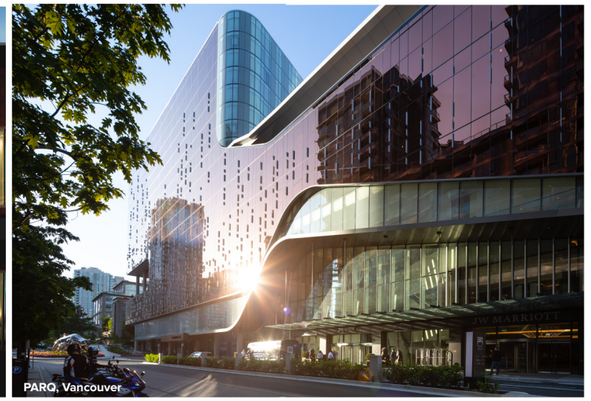

Lightspeed, Montréal


Avanti Center, Surrey

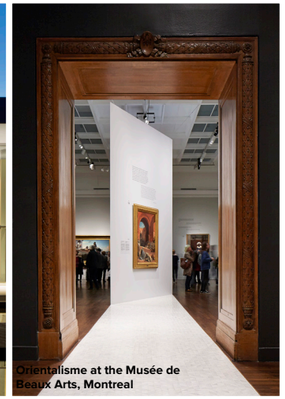

Grosvenor Pacific Tower, Vancouver


Keelung Terminal, Taipei


Égoûts St-Germain, St-Hubert


PARQ, Vancouver


Centre d'art Diane-Dufresne, Repentigny


Orientalisme at the Musée de Beaux Arts, Montreal


Samsung-AdGear Offices, Montréal

With its creative energy and its broad expertise, ACDF designs inspiring spaces in which North American pragmatism meets European flamboyance. Every creation is a careful response to the project's objectives and constraints in order to mobilize the full potential of the site and its surroundings. ACDF uses a clear and bold language that highlights the project's key design principles with sophisticated detailing and materials.

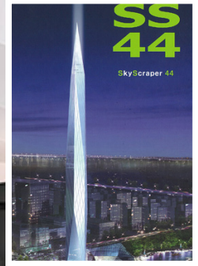
The firm's major achievements established its reputation in Quebec, Canada and around the world. The **86-people** team has a flexible structure that allows it to take on residential, commercial and institutional projects of every scale. This team structure encourages everyone in the firm to constantly reinvent themselves through design, research and experimentation. The firm's innovative work has been celebrated on many occasions. Among them, ACDF received in 2010 a Governor General's Medal in Architecture and in 2013, Maxime-Alexis Frappier, one of the firm's co-founders received the Young Architect Award from the Royal Architecture Institute of Canada.

PUBLICATIONS AND AWARDS



















PUBLICATIONS

Architecture Bois, october-november 2018, Maison sur le Lac

New York Times, 2018 september 1st, Hôtel Monville

Canadian Interiors, jully- august 2018, Monville Hotel

ID+C, august 2018, Monville Hotel

Diseno Interior, august 2018, Monville Hotel

Frame magazine, may june 2018, Lightspeed 2

Office MD magazine, may 2018, Lightspeed 2

Distrito oficina april 2018 : Playster

Diseno interior, april 2018 : Lightspeed 2

Hinge magazine, march 2018 : Lightspeed 2

ARTRAVEL Magazine,february 2018 : Maison sur le Lac

Diseno Interior, march2018 : Samsung Adgear

The other office 3 - Frame - Lightspeed 2

On Office, UK, No.123, September 2017, Playster

Yapi, Istanbul, No.431, October 2017, Playster

Id+C, Korea, No.278, October 2017, Adgear-Samsung

Divisare, Italy, january 2018, web : Lightspeed

HINGE, China, december 2017, Adgear-Samsung

I-Plus, Korea, No. 25, Playster

OnOffice, november 2017, magazine, Playster

Architectural Record, septembre 5 of 2017, magazine, Lightspeed 2

Architectural Record, june 23 2017, web, Maison sur le Lac

Designboom, june 15 2016 : «ACDF architects wraps lake house in canada with wooden band» Maison sur le Lac

Azure, Jun 2017, 8 pages on Adgear-Samsung offices

I-Housing, Archiworld,March 2017 : Korean Book, Chalet Blanche

Hinge Magazine, Mach 2017 : Diane-Dufresne Art Centre

DETAIL, FEBUARY 21FT : DIANE-DUFRESNE ART CENTRE

Hinge Magazine, Febuary 2017 : Chalet Blanche

C3 SPECIAL, DECEMBER 2016 : LIGHTSPEED, KOREA

INTERIORS, NOVEMBER/DECEMBER 2016 : LIGHTSPEED

MONOCLE, NOVEMBER 2016 :DIANE-DUFRESNE ART CENTRE

CANADIAN INTERIORS, OCTOBER 2016 : LIGHTSPEED

CANADIAN ARCHITECT, NOVEMBER 2016 : DIANE-DUFRESNE ART CENTRE

LA PRESSE, LE SOLEIL, OCTOBER 31, 2016 : CHALET BLANCHE

CONCEPT, OCTOBER 2016 : DIANE-DUFRESNE ART CENTRE

LA PRESSE, SEPTEMBER 15, 2016 : HÔTEL MONVILLE

INTERIOR DESIGN, AOÛT 2016 : CENTRE D'ART DIANE-DUFRESNE

ARCHDAILY, JULY 26, 2016 : CHALET BLANCHE

AWARDS

2018 Jury's award, Commercial Real Estate Awards : Parq
2018 Architizer award : Grosvenor
2018 Shaw Contract Design Award : Playster
2018 Finalist of the Dezeen Award, Workspace Interior category: Lightspeed 2
2018 Frame Award, jury's choice : Lightspeed 2
2018 Grand Prix du Design, office between 5 000 and 20 000ft ² : Playster office
2017 Best of Canada, Canadian Interiors Magazine : Playster office
2017 Interior Design Magazine Best of Year Awards: Lightspeed2 office
2017 Interior Design Magazine Best of Year Awards: Playster office
2017 Interior Design Magazine Best of Year Awards: Maison sur le Lac
2017 American Architecture Prize, Maison Sur Le Lac
2017 American Architecture Prize, Samsung Adgear office
2017 Prix Galla Constellation, category Service Company
2017 Finalist for the Award of excellence from the ordre des architectes du Québec(OAQ), Chalet Blanche
2017 Finalist for the Award of excellence from the ordre des architectes du Québec(OAQ), Bureaux Playster
2017 Finalist for the Award of excellence from the ordre des architectes du Québec(OAQ), Bureaux Samsung Adgear
2017 Finalist for the Award of excellence from the ordre des architectes du Québec(OAQ), Centre D'art Diane-Dufresne
2017 Grand Prix du Design, Non Categorized Special : Centre d'art Diane-Dufresne
2017 Finalist for the new aquatic centre of Laval
2016 Interior Design Magazine, Best of Year Awards: Chalet Blanche
2016 Grand Prix du Design, Office over 20 000ft : Lightspeed office
2016 Best of Canada, Canadian Interiors Magazine: Lightspeed office
2016 American Architecture Prize, Silver Prize, Interior Design / Interior house : Chalet Blanche
2015 Finalist for the excellence award from the ordre des architectes du Québec(OAQ), Interior Amenity Category
2015 Finalist for the excellence award from the ordre des architectes du Québec(OAQ), Non Categorized: Scenography for the Wonders and Mirages of Orientalism Exhibition at the Montreal Museum of Fine Arts
2015 Interior Design Magazine Best of Year Awards, Mid-Size Tech Office: Bureaux Lightspeed
2015 Make It Work Best Reception Desk, Américain Interior Design Magazine: Bureaux Lightspeed
2015 Make It Meet, Best Breakout, Américain Interior Design Magazine: Bureaux Lightspeed
2015 Make It Public, Budget Office, Américain Interior Design Magazine: Bureaux Lightspeed
2013 Young Architect Prize from the Royal Institute of Architecture of Canada, Maxime-Alexis Frappier
2013 Excellence award from the canadian institute of steel construction (CISC) : Guy-Bélisle de Saint-Eustache Library
2013 Finalist for the excellence award from the ordre des architectes du Québec (OAQ), Interior Design category : Maison de la culture du Maroc in Montreal
2013 Finalist for the excellence award from the ordre des architectes Du Québec (OAQ), Institutional Building Category: Centre aquatique Desjardins of St-Hyacinthe
2013 Finalist, architecture competition : Blainville's public library
2013 Architecture Prize from the conference of the library and information community of Quebec (ABQLA): Bibliothèque Laure-Conan in La Malbaie
2013 Honorable mention from the American society of heating, refrigerating and air-conditioning engineers (Ashrae) : Unité De Vie des Sœurs de Notre-Dame du Saint-Rosaire à Rimouski
2012 Excellence mention, international architecture competition: Keelung New Harbor Building, Taïwan
2011 Excellence award from the ordre des architectes du Québec (OAQ), residential architecture category : Unité De Vie Filles de la Charité Du Sacré-Coeur de Jésus, Sherbrooke

PROJECT DESCRIPTION

PROJECT DESCRIPTION

The Westwalk Hazeldean Road project, led by Montreal-based developer Scalia Properties, is a proposed residential development located in the Stittsville community of Ottawa. The project is situated along Hazeldean Road, a key east-west corridor, and aims to introduce higher-density housing.

The project has received a zoning amendment approval in September 2024. The current proposal includes two residential buildings with a total of 441 units. The development includes approximately 458 parking spaces (332 for residents and 89 for visitors). Additionally, a 1:1 bicycle parking ratio has been provided (441 spaces), in line with the approved zoning.

The current design proposal respects the massing, building footprint, and building height established during the zoning amendment process. Additionally, minor modifications have been made to the design for which a minor zoning amendment will be submitted. These design modifications will be elaborated further in this presentation, alongside the architectural concept and intentions.





PROJECT STATISTICS

PROJECT SUMMARY

UNIT TYPE

UNIT TYPE	COUNT	RATIO
1B	99	20%
1B+D	84	9%
2B	126	32%
2B+D	42	12%
3B	16	4%
3B+	24	12%
STUDIO	50	11%
Total :	**441**	**100%**

PARKING TYPE

PARKING TYPE	COUNT
2.4m x 4.6m (COMPACT)	55
2.4m x 5.2m (REGULAR)	302
3.4m x 5.2m + 1.5m (ACCESSIBLE TYPE A)	6
2.4m x 5.2m + 1.5m (ACCESSIBLE TYPE B)	6
VISITORS	89
Total :	**458**

UNIT STATS B1

UNIT TYPE	COUNT	RATIO
1B	59	25%
1B+D	66	28%
2B	62	26%
2B+D	17	7%
3B	8	3%
3B+	0	0%
STUDIO	28	12%
Total :	**240**	**100%**

BICYCLE PARKING

PARKING TYPE	COUNT
BIKE PARKING UNDERGROUND LEVEL	141
BIKE PARKING LEVEL 1	152
BIKE PARKING LEVEL 2	148
Total :	**441**

UNIT STATS B2

UNIT TYPE	COUNT	RATIO
1B	40	20%
1B+D	18	9%
2B	64	32%
2B+D	25	12%
3B	8	4%
3B+	24	12%
STUDIO	22	11%
Total :	**201**	**100%**

DESIGN DIRECTIVE

DESIGN POLICY ALIGNMENT SUMMARY

Summary and Response to Applicable City Design Policies

May 14, 2025

City of Ottawa Official Plan (2022)

The subject site is located within the Suburban Transect of the City of Ottawa and is designated Mainstreet Corridor on Schedule B5 – Suburban (West) Transect. Mainstreet Corridors are planned for a mix of residential and non-residential uses that integrate with a dense, mixed-use urban environment. Buildings along Mainstreet Corridors within the Suburban Transect will generally be characterized by low- to mid-density development, with high-rise development permitted where the lot fabric can provide a suitable transition to abutting low-rise areas. Within the Suburban Transect, Corridors shall support of range of dwelling unit sizes in multi-unit dwellings and a range of housing types. The proposed development achieves a mix of dwelling unit sizes and provides additional housing options for residents in the Stittsville neighbourhood, consistent with the policies of the Suburban Transect and Mainstreet Corridor designation.

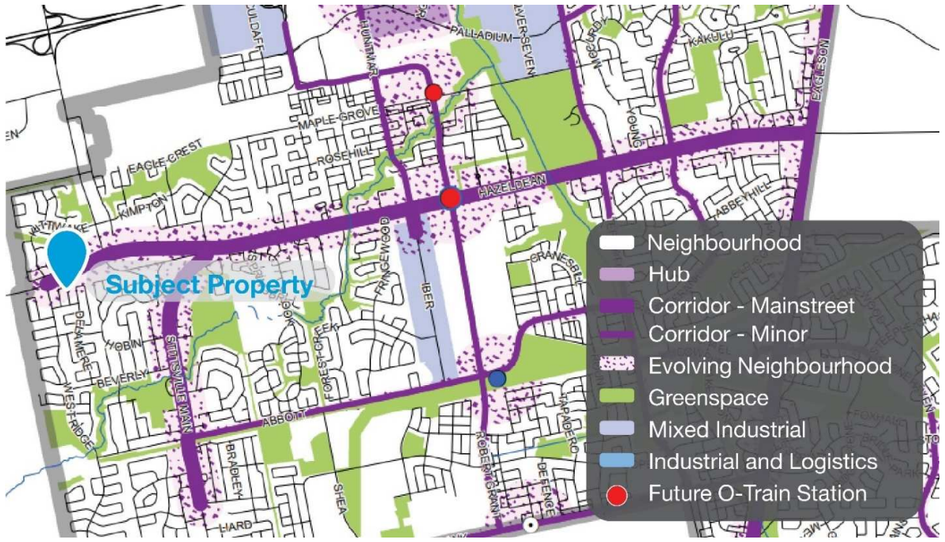


Figure 1. Extract of Schedule B5 - Suburban (West) Transect, City of Ottawa Official Plan

Section 4.6 of the Official Plan provides direction for urban design across the City. The proposed development responds to the City's urban design policies by proposing a development that responds to context and transect area policies. The proposed development improves the public realm by introducing landscaping features and pedestrian facilities, providing connectivity at an existing signalized intersection.

The proposed development minimizes impacts on neighbouring properties by locating the proposed towers as far away from the rear property line as possible, in accordance with Policy 1 of Section 4.6.6. A transition is provided between the two proposed buildings on the site, as well as between the full development and the existing low-rise residential neighbourhood at the rear of the property. This transition is achieved by the use of stepbacks, change in height and massing, and setbacks. Buildings on the site transition downwards in height from along the Hazeldean frontage as you move further away from the signalized intersection on the subject property.

Finally, the proposed development responds to Policy 9 of Section 4.6.6 by providing a tower floorplates of approximately 820 square metres for the point tower and 1,200 square metres for the bar building. While Policy 9 states tower floorplates should generally be 750 square metres, larger floorplates may be considered with larger separation distances. The proposed development provides a significant transition to the abutting low-rise residential neighbourhood at the rear of the property allowing for larger floorplate sizes to be considered. The proposed building and tower placement as they relate to the rear and interior side yard setbacks are consistent with the zoning schedule that was established as part of the previously approved Zoning By-law Amendment application.

City of Ottawa Urban Design Guidelines

The proposed development has considered the Urban Design Guidelines for Arterial Mainstreets and the Urban Design Guidelines for High-Rise Buildings in the preparation of the site plan. The proposed development has located the tallest portions of the buildings along Hazeldean Road, which has a street right-of-way width of approximately 41 metres. The proposed development continues to consider the low-rise residential neighbourhood at the rear of the property and provides ample setback and appropriate height transitions.

While the proposed 12-storey building is considered a high-rise building, the massing of this building is representative of a mid-rise building that is generally proportionate in height to the width of the abutting right-of-way. The proposed development uses materiality to further break up the massing of the buildings, creating architectural interest through stepbacks, the use of balconies, and placement of different materiality.

Overall, the proposed development responds well the City's approved urban design guidelines.

City of Ottawa Comprehensive Zoning By-law (2008-250)

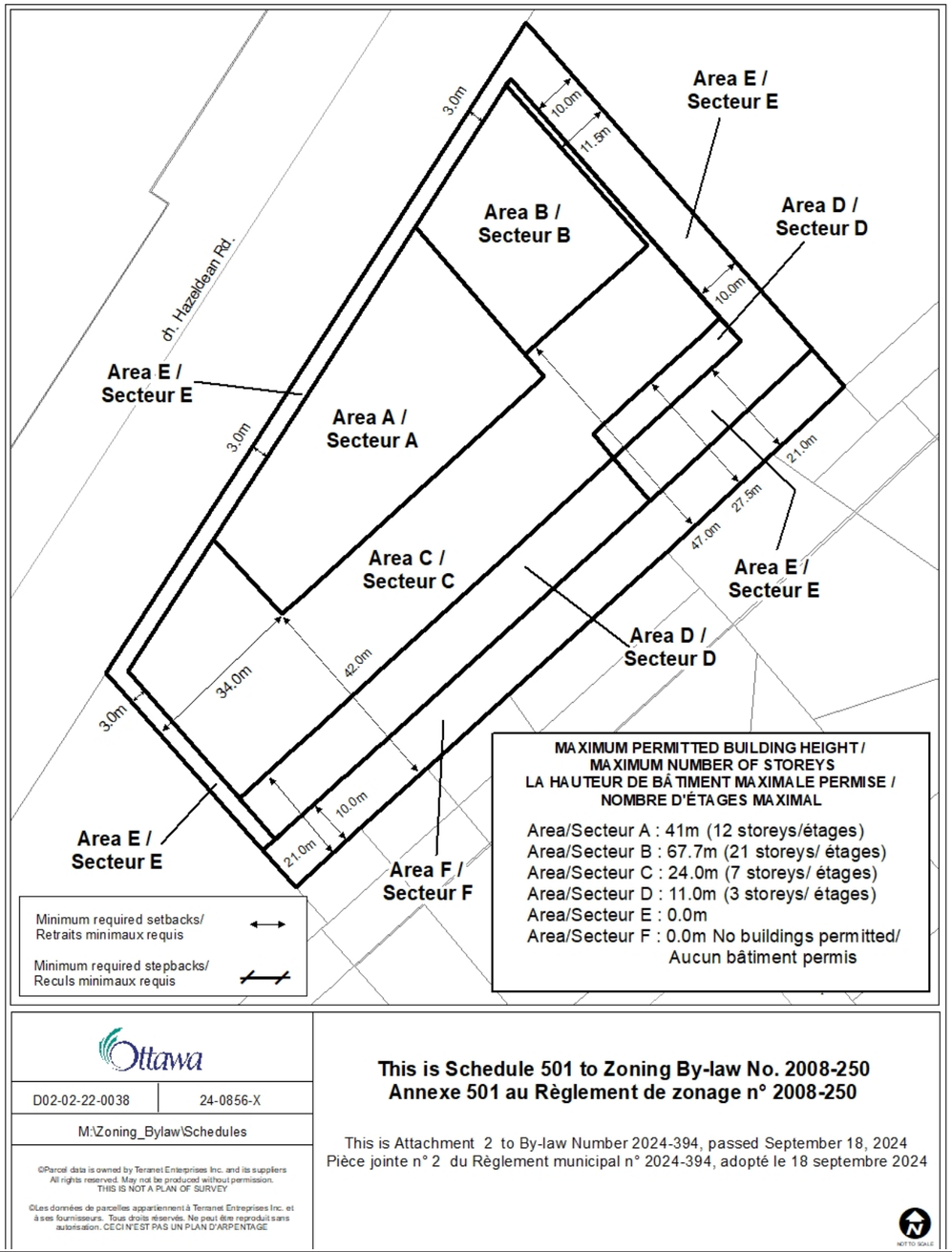
The subject property is zoned Arterial Mainstreet, Subzone 9, Urban Exception 2102, Schedule 501 (AM9[2101] S501). The AM zone and urban exception permits a variety of non-residential and residential uses, ranging from retail, commercial services and institutional uses to apartment dwelling, mid-rise and high-rise.

ZONING INFORMATION

Exceptions 2101-2120

I Exception Number	II Applicable Zones	III Exception Provisions - Additional Land Uses Permitted	IV Exception Provisions - Land Uses Prohibited	V Exception Provisions - Provisions
2101 **(By-law 2014-27)**	AM9[2101]			• A minimum rear yard setback of 5 metres is required for any building within 20 metres of a lot line abutting Stittsville Main Street. • minimum width of landscaped buffer along a lot line abutting a residential zone: 3 m
2102 ***(Subject to By-law 2024-394)*** **(By-law 2014-27)**	***AM9[2102] S501***	***- apartment dwelling, high-rise***		***i) Minimum required yard setbacks and maximum building heights are as per Schedule 501.*** ***ii) The properties identified on Schedule 501 are considered one lot for zoning purposes.*** ***iii) Subclauses 186(9)(c)(i) and (ii) do not apply.*** ***iv) Despite Clause 77(4)(d), minimum separation distance between towers on the same lot: 19m.*** ***v) Maximum number of towers: 2.*** ***vi) Within Areas A and B on Schedule 501, for any portion of a building ten storeys or more, the portion of the building above the fourth storey must be setback a minimum 1.5m more than the provided front yard setback.*** ***vii) Despite the maximum height in Area E on Schedule 501, structures such as vents, garage exhausts, are permitted to be no more than 1.5m high.*** ***viii) Permitted projections listed in Sections 64 and 65 are not subject to the heights and yard setbacks of Schedule 501.*** ***ix) Minimum required width of a landscaped area abutting the rear lot line: 10m.*** ***x) Despite Section 101:*** ***1) the minimum parking space rate for an apartment dwelling, mid-rise; apartment dwelling, high rise: 0.75 spaces per dwelling unit.*** ***2) no vehicle parking is required for any non-residential use with a gross floor area of 150m^2 or less.*** ***xi) Despite Section 111:*** ***1) the minimum bicycle parking space rate for an apartment dwelling, mid-rise; apartment dwelling, high-rise; dwelling unit in the same building as a non-residential use is: 1 space per dwelling unit.*** ***2) Table 111B, Subsections 111(8A), (8B), (10), and (11) do not apply. Stacked, vertical, horizontal bicycle parking or a combination thereof is permitted.*** ***xii) Section 131 does not apply to apartment dwelling, high-rise or apartment dwelling, mid-rise.*** ***xiii) Where a non-residential use with a gross floor area of 150m^2 or less is provided, the building will be considered a residential use building for zoning purposes. All provisions identified in (i) through (xii) will continue to apply.***

ZONING INFORMATION



COMPLIANCE WITH REGULATIONS



The following table evaluates the proposed development against the provisions of the AM9[2102] S501 zone.

Zoning Mechanism	AM9[2102] S501 Provisions	Proposed	Compliance (Y/N)
Minimum Lot Area Table 185	No minimum	12,014 m^2	Y
Minimum Lot Width Table 185	No minimum	154 m	Y
Minimum Front Yard Setback Schedule 501	3 m	Building 1: 0.48 m Building 2: 0.5 m	N
Minimum Interior Side Yard Setback Schedule 501	East: 10 m West: 3 m	Building 1 (West): 0.45 m Building 2 (East): 10 m	N Y
Minimum Rear Yard Schedule 501	10 m	8.2 m	N
Maximum Building Height Schedule 501	Area A: 41 m Area B: 67.7 m Area C: 24 m Area D: 11 m Area E: 0 m Area F: 0 m (no buildings permitted	Area A: 38.25 m Area B: 65.15 m Area C: 23 m Area D: 11 m Area E: 0 m Area F: 1.8 m	Y Y Y Y Y N

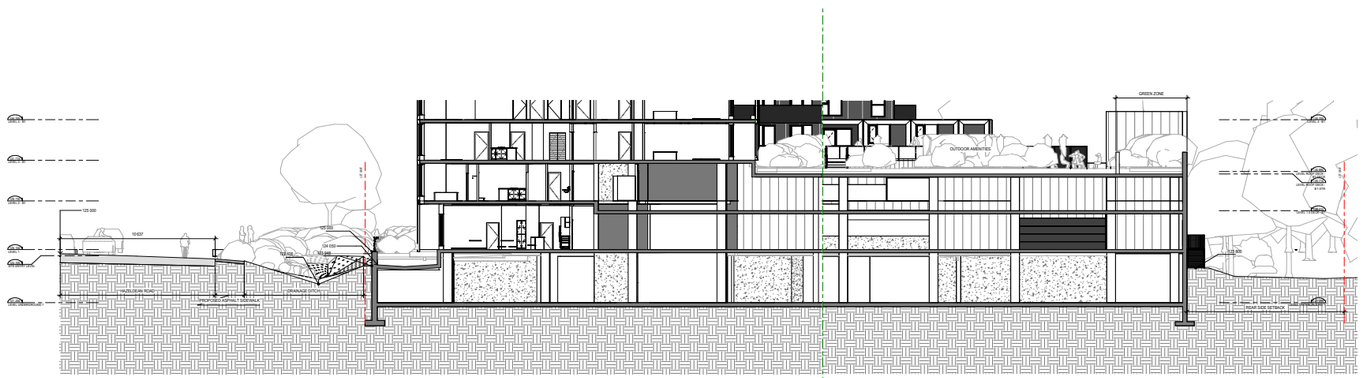
Zoning Mechanism		AM9[2102] S501 Provisions	Proposed	Compliance (Y/N)
Minimum Setback Above 4th Storey for any Portion of a Building 10 storeys or more Urban Exception 2102		1.5 m	Building 1: 1.5 m above 5th storey for a portion of building; no setback for remainder Building 2: 0 m (no setback is proposed)	N N
Maximum Floor Space Index Table 185		None	n/a	-
Amenity Area Section 137 Apartment Building Mid-High Rise		Total: 6 m^2 / dwelling unit (2,646 m^2) Communal: 50% of the required total amenity area (1,323 m^2)	Private Balconies: 2,667 m^2 Communal: 5,658 m^2 Total: 8,325 m^2	Y
Minimum Lot Area for High-Rise Buildings Section 77 Area B on Schedule 402		1,800 m^2	12,014 m^2	Y
Minimum Interior Side and Rear Yard Setback Section 77 Area B on Schedule 402		11.5 m	11.5 m	Y
Minimum Separation Distance between Towers on the Same Lot Urban Exception 2102		19 m	19 m	Y
Minimum Width of a Landscaped Area abutting the Rear Lot Line		10 m	Variable between 10 m, and 8.1 m	N
Minimum Vehicle Parking Space Rate Urban Exception 2102		0.75 spaces/unit (331.5 spaces)	458 spaces	Y
Minimum Visitor Parking Space Rate Section 102 Area C on Schedule 1A Apartment dwelling, mid-high rise		0.2 spaces /dwelling unit (86.2 spaces)	89 spaces	Y
Minimum Parking Space Size Section 106		2.6 m wide x 5.2 long 50% of spaces may be reduced to 2.4 m x 4.6 m for compact cars	2.6 m x 5.2 m and 2.4 m x 4.6 m	Y
Minimum Aisle and Driveway Size Section 107	**Aisle**	6 m	6 m	Y
	Driveway (double traffic,	Min: 6 m Max: 6.7 m	6 m	Y

COMPLIANCE WITH REGULATIONS

Zoning Mechanism	AM9[2102] S501 Provisions	Proposed	Compliance (Y/N)
parking garage)			
Minimum Landscaping Provisions for Parking Lots Section 110	15% of the area of any parking lot provided as perimeter or interior landscaped area	Complies	Y
	1.5 m landscaped buffer	Complies	Y
Outdoor Refuse Section 110	Located 3 m (minimum) from a lot line Screened from view by an opaque screen with a height of 2 m	13.53 m setback	Y
Minimum Bicycle Parking Space Rates Urban Exception 2102	1 space / dwelling unit (441 spaces)	441 spaces	Y
Location of Bicycle Parking Spaces Section 111	A maximum of 50% of the required bicycle spaces or 15 spaces, whichever is greater, may be located in a landscaped area	Complies	Y
Minimum Bicycle Parking Space Provisions Section 111	Horizontal: 0.6 m x 1.8 m Vertical: 0.5 m x 1.5 m Stacked: 0.37 m x 1.8 m	Will comply	Y
	Aisle: 1.5 m	1.5 m	Y

Required Zoning By-law Amendments

Hazeldean Road is currently characterized by a rural cross-section, which includes a ditch along the entire frontage of the site. This ditch, sitting approximately 2.6 metres below the edge of the road at the lowest point, encroaches onto the subject property. It is understood that the City will urbanize the portion of Hazeldean Road in front of the subject property on the east side of the signalized intersection (in front of Building 2), but urbanization of Hazeldean Road on the west side of the signalized intersection (in front of Building 1) has no determined timeline. In order to mitigate the risk of flooding the runoff from the street to the buildings' ground floor, the building grade must be above the street level. As a result, the proposed underground garage now projects above grade for approximately 1.5 metres within the required setbacks for the front, interior side (west), and rear yards.



SITE SECTION

In addition to the grading challenges on the site, the architectural details of the proposed development has been refined, resulting in the removal of the required 1.5 metre stepback above the fourth floor. On Building 1, the 1.5 metre stepback will be provided for a portion of the building above the fifth floor, while it will be removed in its entirety for Building 2.

These amendments will be addressed through a Minor Zoning By-law Amendment application, which will be submitted concurrently with the forthcoming Site Plan Control application. It is understood that both applications can be processed through delegated authority to City Planning staff.

The following amendments to the previously approved urban exception and site-specific schedule for the site, are required:

- Reduce the minimum front yard setback to 0.45 metres from 3 metres due to the projection of the underground garage above-ground. The buildings containing residential units continue to respect the 3 metres setback requirement.
- Reduce the minimum interior side yard setback to 0.4 metres from 3 metres due to the projection of the underground garage above-ground. The building containing residential units continues to respect the 3 metre setback requirement.
- Reduce the rear yard setback to 8.1 metres from 10 metres for a length of 52 metres due to the projection of the underground garage above-ground.
- Reduce the minimum width of a landscaped area abutting the rear lot line to 8.1 metres for a length of 52 metres due to the projection of the underground garage above-ground.
- Increase the maximum permitted building height from 0 metres to 1.8 metres within Area F for the portion of the underground parking garage that projects above-ground.
- Remove the requirement for a 1.5 metre setback above the fourth (4th) storey on Building 2 (21-storey building).
- Remove the requirement for a 1.5 metre setback above the fourth (4th) storey for part of the high-rise portion of Building 1 (12-storey building) and permit the provided 1.5 setback to be located above the (5th) storey whereas it is currently required to be provided above the fourth (4th) storey.



NORTH VIEW- HAZELDEAN ROAD



WEST VIEW

PRE-CONSULTATION MEETING COMMENTS REVIEW JUNE 2024

COMMENTS:

1. Staff acknowledge that the proposal has evolved during the zoning by-law amendment process, resulting in several changes to the proposal to reflect community comments. As a result of responding to those concerns, the tower has been lowered and the density has been redistributed resulting in a tower 21-storeys tall with a floorplate of 820 m2, a 12-storey tower with a floorplate of 1190 m2 and a reduced tower separation of 19m at the narrowest point when 23m it typically expected. Generally staff would be seeking a proposal that adheres closer to the City's Urban Design Guidelines for High Rise Buildings but understand the proposal has responded to community comments.

2. Please refine the building façade treatments and articulation to have a strong podium base and have materials wrap around the buildings. Further work is needed to break up Building 2 within the middle portion and providing a larger setback above the podium.

RESPONSE:

1. In the city's urban design Guidelines for high rise buildings, it was stated that larger tower floor plates may be considered in suburban locations with design features to mitigate shadow and wind impacts, maintain sky views, and allow for access to natural lights.
To mitigate the impact of the 820 m^2 floor plate, the design team has conducted a wind study, a shadow study, and carefully integrated considerations for the sky view into the design. These strategies are further detailed in the proposed design section. Specifically in the design principles, Sun study and, Annex C wind study report
The stepped-down height strategy for both buildings was approved in the zoning amendment and will be maintained in the current design proposal.

2. The design aim primarily to:
Podium Base and Façade Articulation
The current design establishes a strong podium presence through volumetric recesses and subtractions that define the public realm and main entry points. Rather than a uniform horizontal plinth, the podium is conceived as a fragmented, articulated base, enhanced by contrasting materials and a dynamic silhouette. This approach prioritizes an urban-oriented massing that activates the street, frames key thresholds, and integrates the building into its context.

On Building 1, this fragmentation strategy also serves to break down the building’s overall length into distinct volumetric expressions of varying heights, reinforcing the perception of multiple smaller buildings rather than a continuous linear mass. This avoids the impression of a long, uninterrupted base or “wall” and instead creates a rhythmic, more human-scaled presence along the street front. Materials and articulation wrap around each volume, ensuring continuity and a cohesive architectural language on all frontages.

Fragmentation and Setbacks on building 2
We acknowledge the City’s suggestion to further fragment the middle portion of Building 2 and introduce larger setbacks above the podium. While we are not proposing a physical break or increased setback in that specific portion, our design introduces a deliberate transition in massing and material language that addresses the intent of the guideline. On the north end of the site, on Hazeldean, the white materiality associated with Building 1’s podium evolves into a vertical architectural marker, a white landmark that will contributes to the skyline and reinforcing the civic presence of this new developpement.

This white volume is elevated above a recessed dark base, creating a distinctive silhouette defined by a strong contrast—a “black interstice” that visually separates the volumes. A second white mass projects outward at the southeast corner, re-engaging with the pedestrian scale and reconnecting the gesture with the surrounding urban context.

PRE-CONSULTATION MEETING COMMENTS REVIEW JUNE 2024

While we are not introducing a setback or dividing the mass centrally, this composition offers an alternate fragmentation strategy through vertical offset, material contrast, and volumetric hierarchy. These elements create a clear architectural inflection that serves the same objectives: breaking down the scale, reinforcing corner identity, and contributing to a dynamic yet coherent streetscape. To ensure consistency across the development, these gestures are intentionally expressed through simple, legible massing and a restrained envelope strategy, reinforcing the overall architectural clarity and maintaining programmatic efficiency while addressing the City's urban design priorities.

3. Please ensure that trees within the site have sufficient soil cells for soil volume to ensure longevity.

3. A tree conservation report was prepared, and the design team conducted a site visit to identify existing trees and integrate them into the proposed design, as shown in Annex A – Landscape Design. The landscape architect will ensure the existing trees have adequate soil and root space to support their long-term health, which will be appropriately reflected in the design

4. Please ensure elevations have articulation along building facades that will abut future development (east and west).

4. The abutting property to the north proposes a development consisting of four main building masses with heights of 14, 9, 5, and 9 storeys. Our design emphasizes a smooth height transition by placing the 21-storey tower adjacent to this development, separated by a park and an 11.5-meter setback. This arrangement creates a coherent and readable urban skyline, enhancing the community experience along Hazeldean. Future development on the south side will benefit from a well-defined and easily integrated skyline.

5. Please provide details in the Landscape Plan for the green wall.

5. The 15-foot green zone at the rear of the rooftop amenities will feature cascading vines that create a green curtain along the wall. Additional trees will be planted to increase vegetation density.

6. Please demonstrate on plans the extent of excavation and if it would impact any existing (to be retained) trees.

6. Further plans will be provided at the time of submission. Our intention is to preserve as many trees as possible within the 10-meter rear setback

SITE AND CONTEXT ANALYSIS

SITE CONTEXT





SOUTH



WEST

The site development is situated alongside Hazeldean Road, in the Stittsville community within the boundary of the Ottawa's urban area. Hazeldean acts as East-West connection that links the city's urban core at Eagleson Road to Spruce Ridge Road at rural edge. The surrounding context includes a mix of uses, with commercial areas to the north and east, and established residential neighbourhoods to the south and west.

The immediate context is composed predominantly of low-rise, residential buildings. In this setting, introducing a higher-density development presents both a significant opportunity and an important responsibility. It offers a chance to promote, sustainable urban growth along a key corridor, while also calling for thoughtfully integration with the existing neighbourhood fabric.

To ensure a successful and respectful integration into the area, the project must be guided by strong design principles. This includes a sensitive gradation of building heights for smooth transitions to nearby low-rise homes, and massing strategies that minimize shadows and preserve sunlight access for adjacent properties and public spaces. Thoughtful management of building form and shadow impact is essential to maintaining quality of life and avoiding conflicts with existing land uses

Equally important is the creation of a pedestrian-friendly environment. This will be achieved through active street-level frontages, human-scaled architectural details, and a well-designed public realm that promotes walkability and contributes to a vibrant, engaging streetscape.

We also acknowledge that another development is underway on the adjacent site, highlighted in yellow in the accompanying image. Together, these two projects will bring renewed vitality to the area and support the cohesive, dynamic evolution of the surrounding urban landscape.

Finally, while Hazeldean Road is currently a rural road, the municipality has plans to urbanize it in the future, further supporting the transformation of the area

SITES PHOTOS





A



B



C

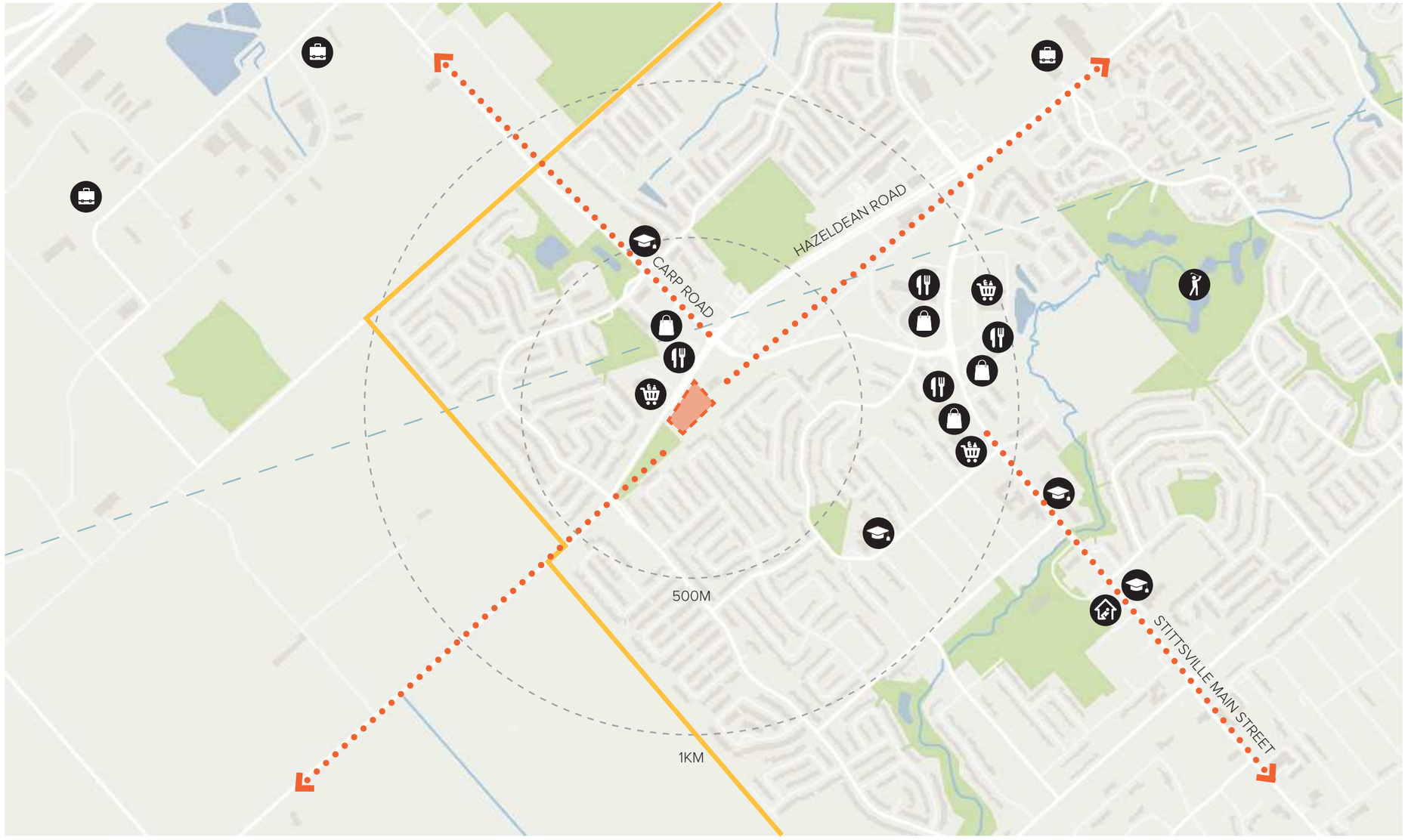


D



E

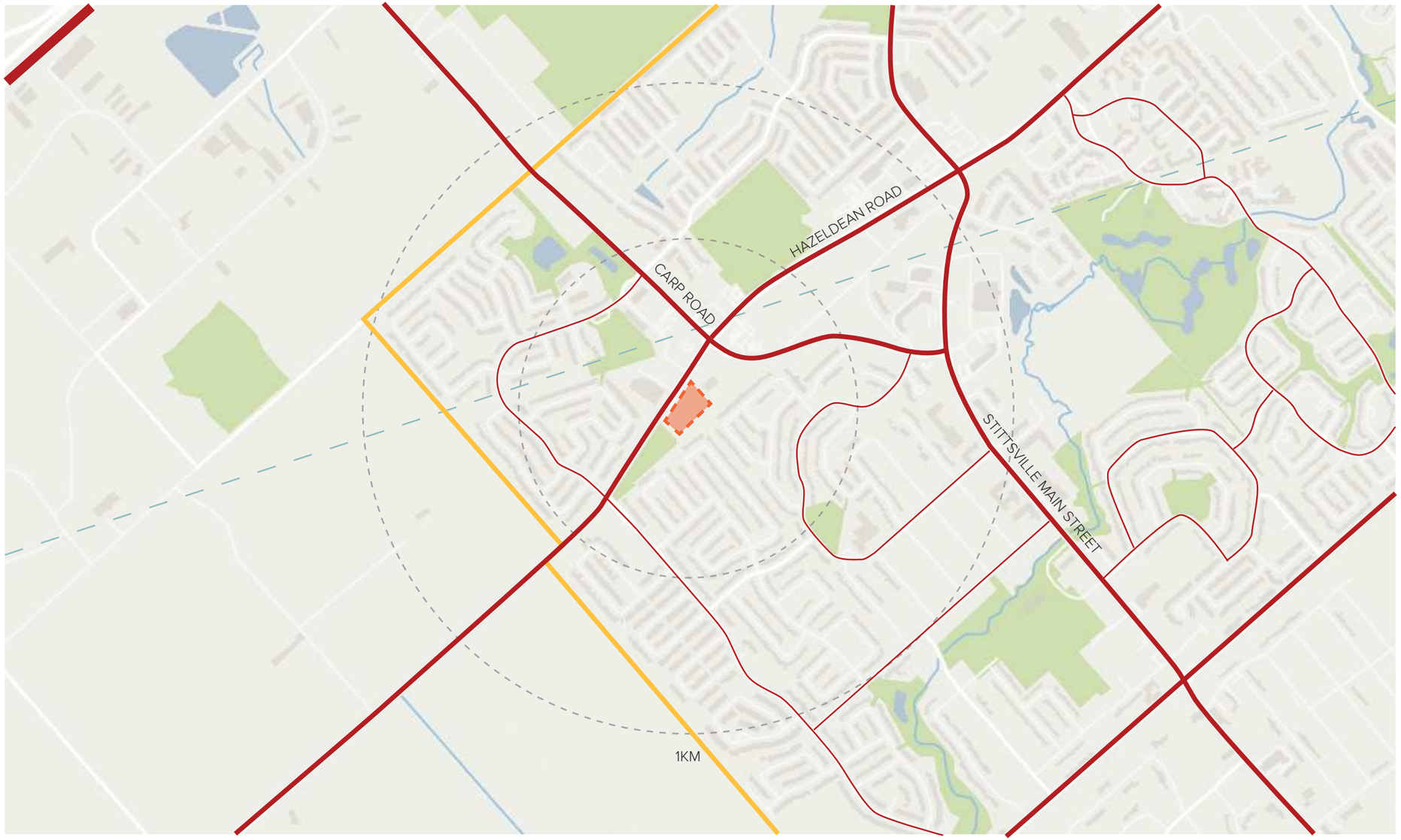
SITE ANALYSIS



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- SUBJECT PROPERTY
- SCHOOL
- PLACE OF WORSHIP
- GROCERY
- COMMERCIAL
- RESTAURANT
- GOLF COURSE
- INDUSTRIAL
- URBAN BOUNDARY
- HYDRO CORRIDOR

SITE ANALYSIS

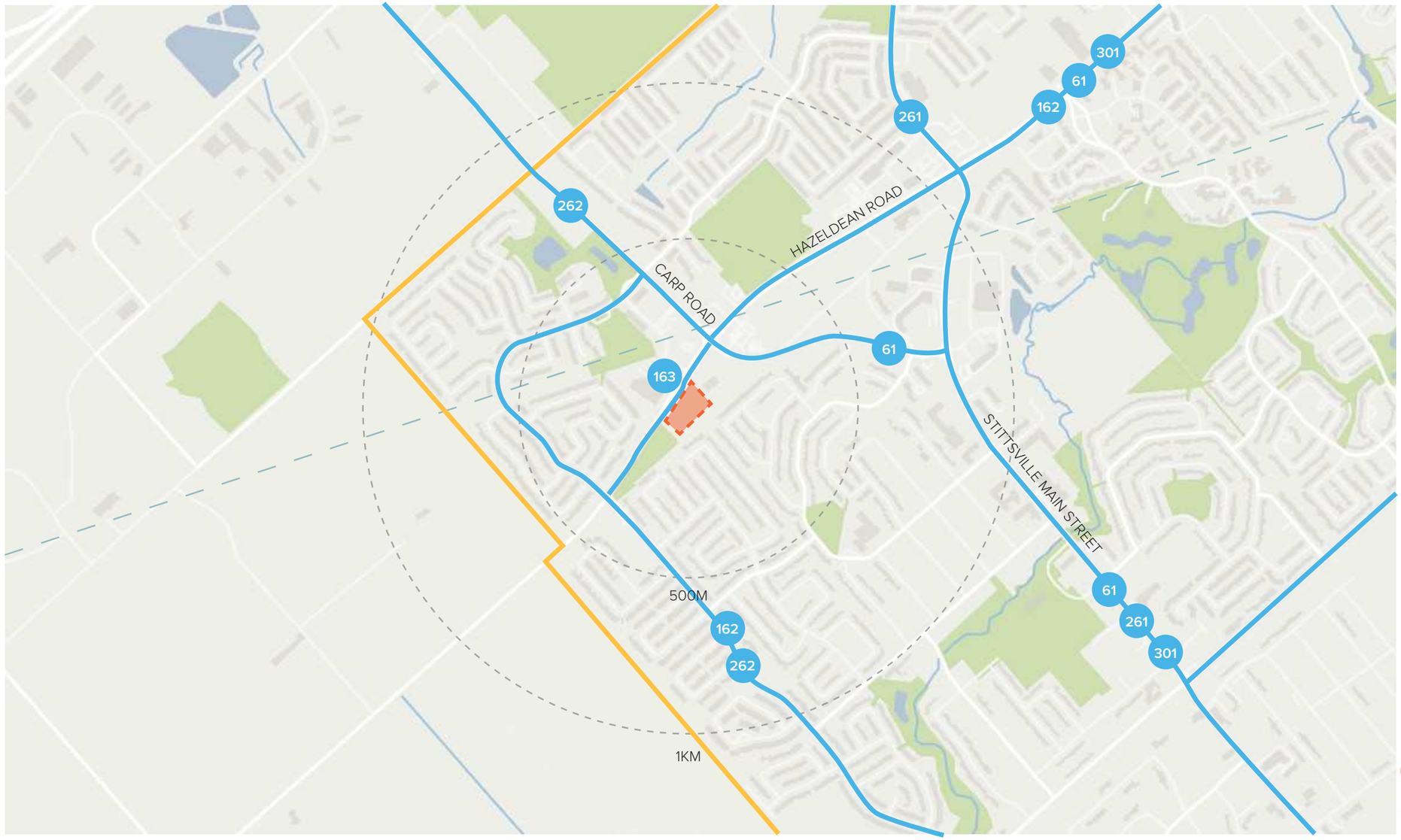


ROAD NETWORK

The site faces Hazeldean Road to the north-west, which is identified as an Arterial Road in Schedule C4 – Urban Road Network of Ottawa's New Official Plan. Hazeldean Road is a four-lane, two-way corridor that plays a vital role in facilitating east-west movement across the city. As a major arterial route, it is designed to handle significant traffic volumes over extended distances and serves as a key element of Ottawa's broader transportation framework. In addition to supporting vehicular traffic, Hazeldean Road functions as a multi-modal corridor, accommodating public transit, pedestrian and cyclist activity, as well as essential utilities and infrastructure.

SUBJECT PROPERTY
HIGHWAY
ARTERIAL ROAD
COLLECTOR ROAD
URBAN BOUNDARY
HYDRO CORRIDOR

SITE ANALYSIS



TRANSIT NETWORK

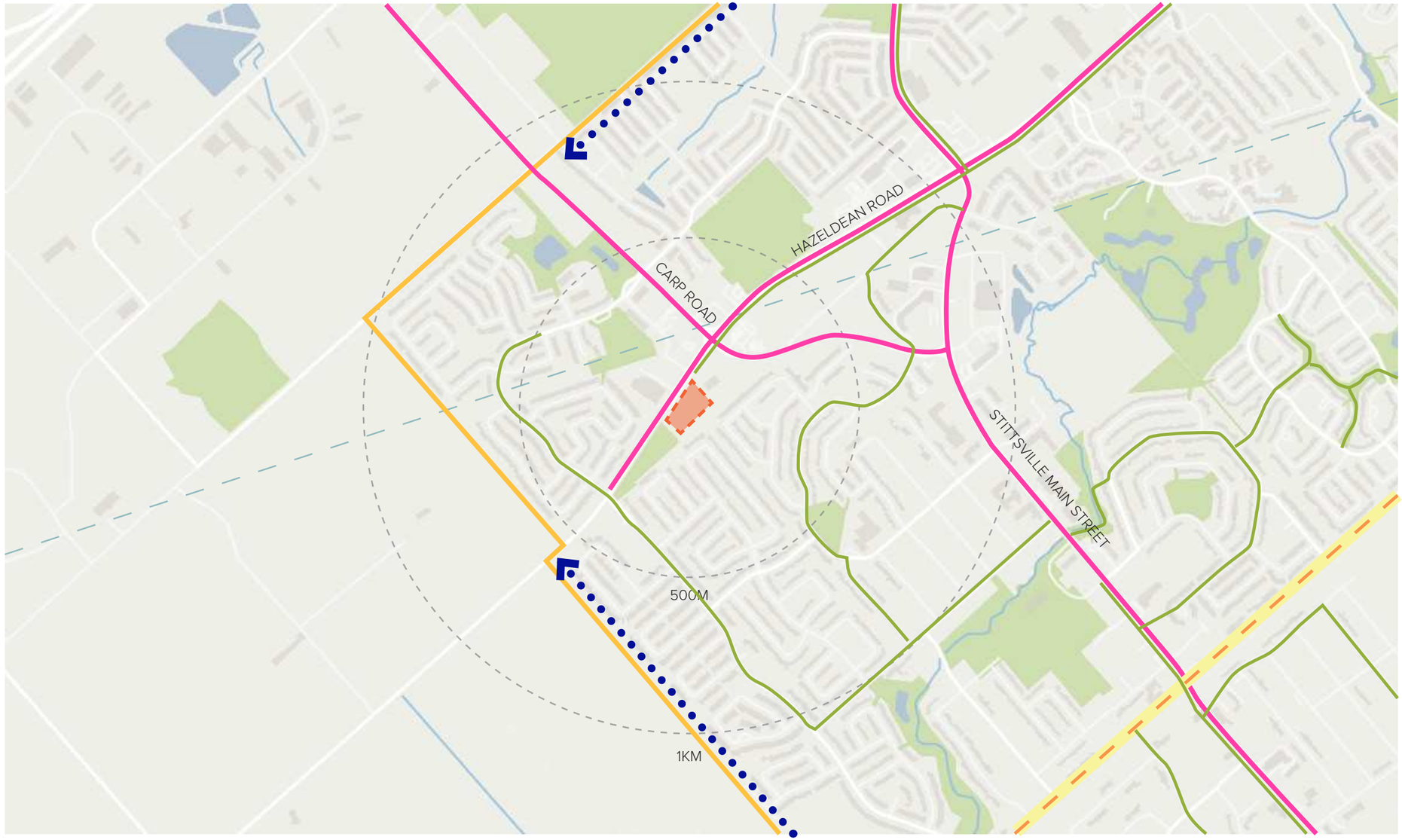
The site is accessible via local OC Transpo bus routes that connect to Ottawa's broader rapid transit network. The closest stop, Route 163, is located directly across the street in front of Farm Boy. This route was recently added to the transit network on April 27, 2024, and provides a direct connection between Stittsville and Kanata.

Another nearby stop is approximately 250 metres away, at the intersection of Hazeldean Road and Carp Road, served by Routes 61 and 162. Route 61 offers an east-west connection between Stittsville and downtown Ottawa, with a key transfer point at Tunney's Pasture station for access to the city's rapid transit system. Route 162 runs north-south, linking Stittsville and Kanata, and is designed to integrate with the future bus rapid transit network currently under development.

While the site is not immediately adjacent to a rapid transit station, the existing transit options provide convenient and reliable access to the wider transportation network.

SUBJECT PROPERTY
LOCAL BUS ROUTE
162 BUS LINE NUMBER
URBAN BOUNDARY
HYDRO CORRIDOR

SITE ANALYSIS

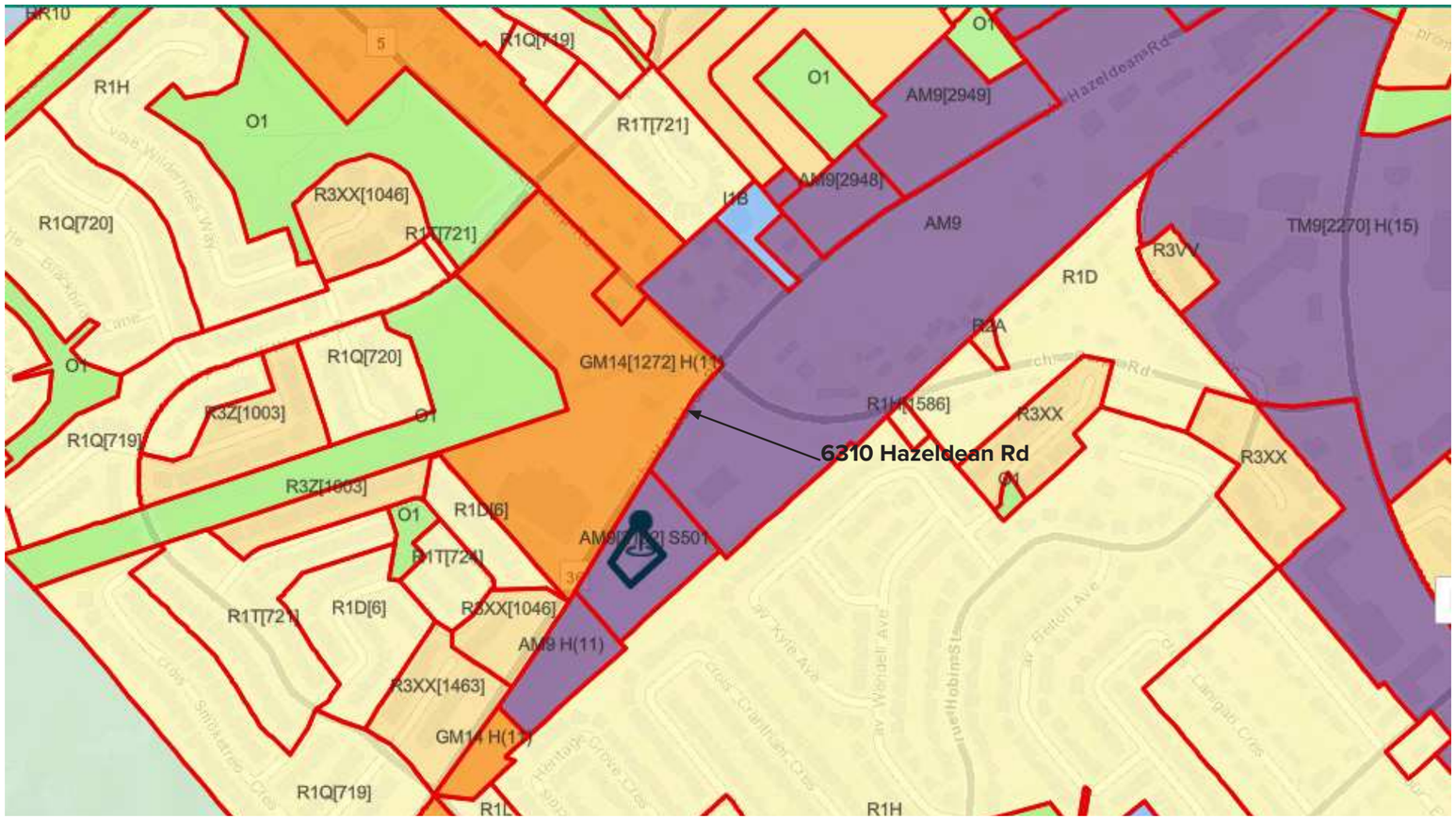


CYCLING ROUTES AND PARKS SPACE

In addition to public transit, Hazeldean Road is identified as a Cycling Spine Route on Map 1 of the City's Transportation Master Plan. These spine routes are located along major roadways and serve as key connectors between cross-town bikeways, multi-use paths, and local cycling networks. They typically feature dedicated cycling infrastructure—such as protected bike lanes or buffered cycling tracks—though specific designs may vary depending on site conditions. A designated bike lane currently runs along Hazeldean Road, providing a direct cycling connection from the site to the eastern parts of the city. Future plans call for this lane to be extended westward as development along the corridor continues.

- SUBJECT PROPERTY
- SPINE ROUTE
- MAJOR PATHWAY
- CROSS-TOWN BIKEWAY
- TRANS CANADA TRAIL
- MULTI-USE PATHWAY
- URBAN BOUNDARY
- HYDRO CORRIDOR

ZONING BY-LAW AMENDMENT



- R1 - Residential Zones
- R2 - Residential Zones
- R3 - Residential Zones
- R4 - Residential Zones
- R5 - Residential Zones
- GM, LC - Mixed Use Commercial Zones I
- RM - Mobile Home Park Zone
- MC, MD, TD - Mixed Use Commercial Zones II
- AM, TM - Arterial & Traditional Mainstreet Zones
- IG, T1, T2 - Transportation Zones
- I1, I2 - Institutional Zones
- L1, L2, L3, O1 - Open Space and Leisure Zones
- V1, V2, V3 - Village Residential Zones
- VM - Village Mixed Use Zone
- RR - Rural Residential Zone
- DR - Development Reserve Zone
- AG - Agricultural Zone
- RU - Rural Countryside Zone
- RC - Rural Commercial Zone
- IH, IL, IP, RG, RH - Industrial Zones
- RI - Rural Institutional Zone
- ME - Mineral Extraction Zones
- MR - Mineral Aggregate Reserve Zone
- EP - Environmental Zones

The proposed development was considered by Planning and Housing Committee on September 11, 2024 and was approved at City Council on September 18, 2024

The proposed development included two residential buildings (12 and 21 storeys) totaling 431 units (225 units in Building 1 and 216 units in Building 2). A parking ratio of 0.75 spaces per unit was sought, along with an increased bicycle parking ratio of one (1) space per unit. Additionally, the proposed zoning included provisions to permit up to 150 square metres of non-residential use at the ground floor with no additional parking requirements.

Through the Zoning By-law Amendment application, a letter of undertaking was prepared by the Owner, committing to the construction of a municipal sidewalk, including associated landscaping, along the entire frontage of Hazeldean Road. The details of this sidewalk are being refined through the Site Plan Control process.

SURVEY PLAN

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE DAY OF , 20 .

_____ ***JOHN GAUTHIER***
DATE ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER XXXXXXX.

MONUMENTATION:

SSIBS HAVE BEEN SET IN LIEU OF SIBS DUE TO SHALLOW OVERBURDEN AND/OR THE PRESENCE OF SUBSURFACE UTILITIES.

DISTANCES:

DISTANCES SHOWN ON THIS PLAN ARE GROUND DISTANCES AND CAN BE USED TO COMPUTE GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999910.

BEARINGS:

BEARINGS ARE MTM GRID BEARINGS, DERIVED BY REAL TIME NETWORK GNSS OBSERVATIONS ON OBSERVED REFERENCE POINTS 'A' AND 'B' SHOWN HEREON, AND ARE REFERRED TO THE NAD83 ORIGINAL MTM ZONE 9 COORDINATE SYSTEM.

BEARING ROTATION:

FOR THE PURPOSE OF COMPARISON, ASTRONOMIC BEARINGS HAVE BEEN ROTATED AS FOLLOWS:

PLAN	ROTATION	DIRECTION
(p4),(p5)	0° 17' 15"	COUNTER CLOCKWISE

INTEGRATION DATA:

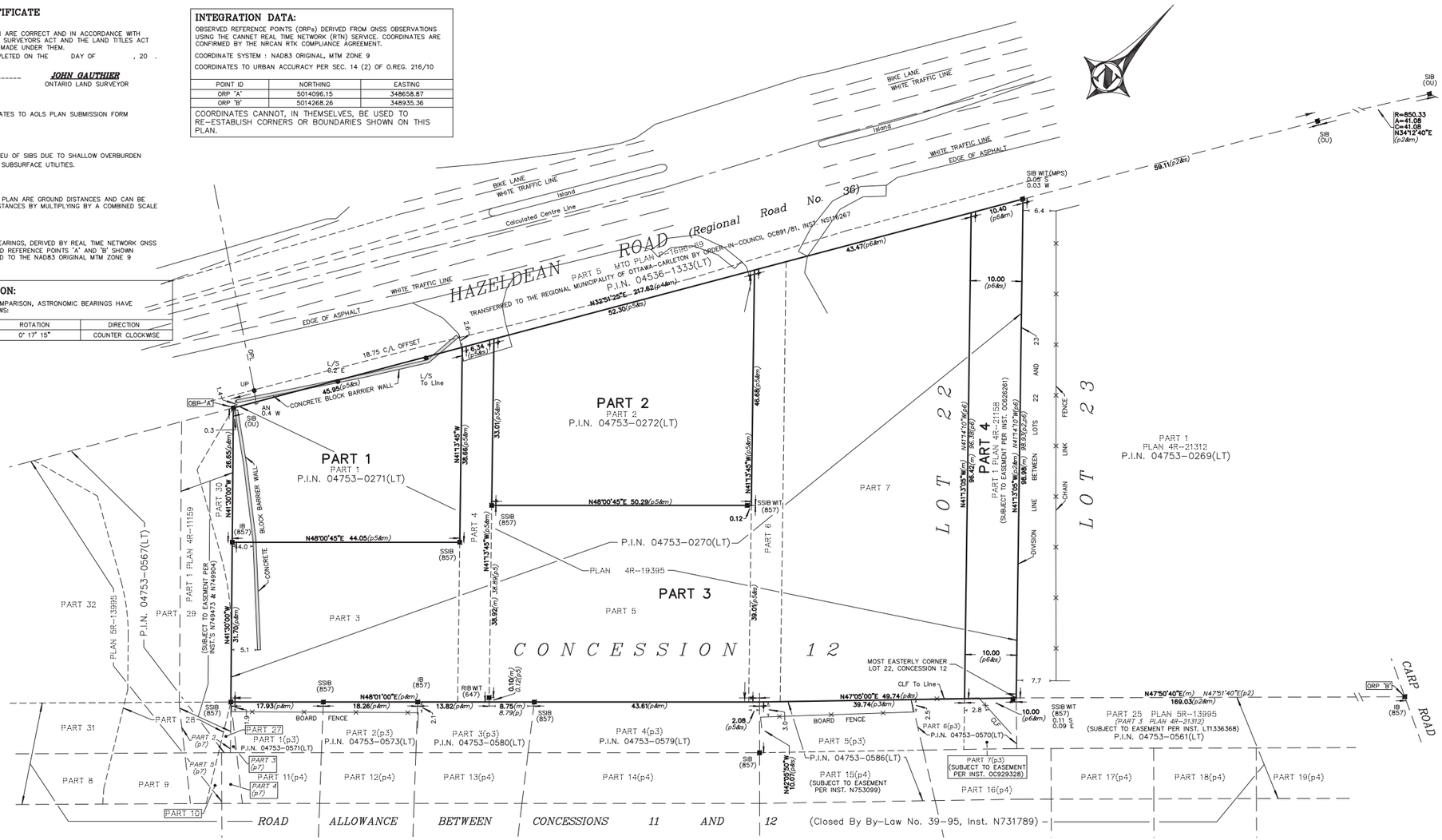
OBSERVED REFERENCE POINTS (ORPs) DERIVED FROM GNSS OBSERVATIONS USING THE CANNET REAL TIME NETWORK (RTN) SERVICE. COORDINATES ARE CONFIRMED BY THE NRCAN RTK COMPLIANCE AGREEMENT.

COORDINATE SYSTEM : NAD83 ORIGINAL, MTM ZONE 9

COORDINATES TO URBAN ACCURACY PER SEC. 14 (2) OF O.REG. 216/10

POINT ID	NORTHING	EASTING
ORP 'A'	5014096.15	348658.87
ORP 'B'	5014268.26	348935.36

COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.



SCHEDULE				
PART	LOT	CON	P.I.N	AREA(sq.m)
1	Pt of 22	12	All of 04753-0271(LT)	1441.2
2			All of 04753-0272(LT)	2003.9
3			Pt of 04753-0270(LT)	7596.5
4			Pt of 04753-0270(LT)	977.1

NOTE: 1) PARTS 3 AND 4 COMPRISE ALL OF P.I.N. 04753-0270(LT).
2) PART 4 IS SUBJECT TO EASEMENT PER INST. OC626261.

PLAN OF SURVEY OF PART OF LOT 22, CONCESSION 12 GEOGRAPHIC TOWNSHIP OF GOULBOURN CITY OF OTTAWA

McINTOSH PERRY SURVEYING INC

SCALE 1 : 400

0 10 20 30 40 Metres

THE INTENDED PLOT SIZE OF THIS PLAN IS 914mm IN WIDTH BY 457mm IN HEIGHT WHEN PLOTTED AT A SCALE OF 1 : 400.

METRIC :

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

SQUARE METRES CAN BE CONVERTED TO SQUARE FEET BY MULTIPLYING BY 10.7639

HECTARES CAN BE CONVERTED TO ACRES BY MULTIPLYING BY 2.471.

LEGEND AND NOTES

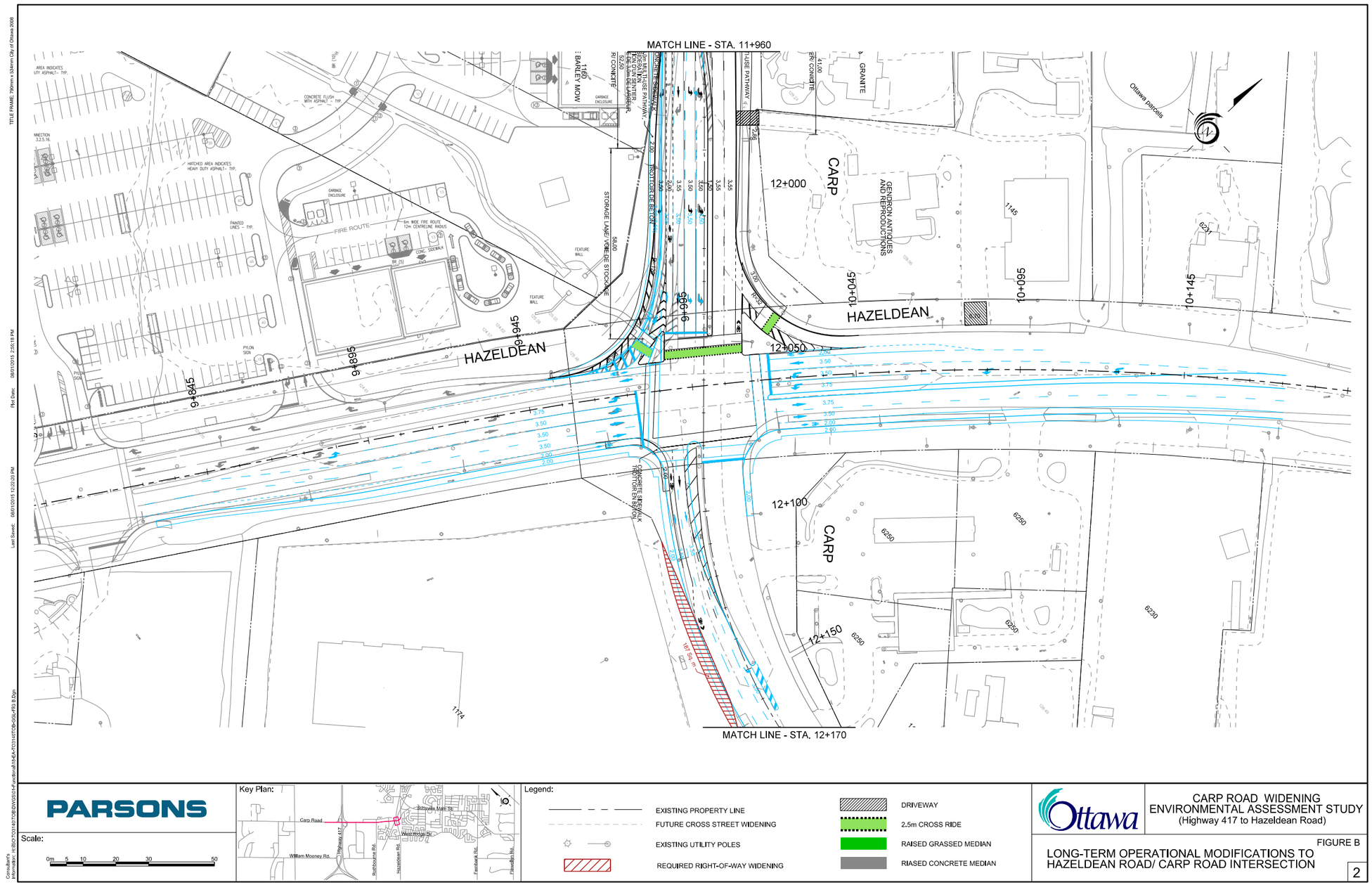
□	DENOTES	MONUMENT PLANTED
■	DENOTES	MONUMENT FOUND
IB	DENOTES	IRON BAR
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
RIB	DENOTES	ROUND IRON BAR
(m)	DENOTES	MEASURED
(s)	DENOTES	SET
(p)	DENOTES	PLAN OF TOPOGRAPHIC SURVEY BY McINTOSH PERRY SURVEYING INC., DATED APRIL 18, 2018
(p2)	DENOTES	PLAN 4R-21312
(p3)	DENOTES	PLAN 4R-23111
(p4)	DENOTES	PLAN 5R-13995
(p5)	DENOTES	PLAN 4R-19395
(p6)	DENOTES	PLAN 4R-21158
(p7)	DENOTES	PLAN 4R-11159
(647)	DENOTES	H.R. FARLEY, OLS
(857)	DENOTES	FAIRHALL, MOFFATT & WOODLAND LIMITED
(MPS)	DENOTES	McINTOSH PERRY SURVEYING INC.
(OU)	DENOTES	ORIGIN UNKNOWN
WIT	DENOTES	WITNESS
N,S,E,W	DENOTES	NORTH, SOUTH, EAST, WEST
CLF	DENOTES	CHAIN LINK FENCE
UP	DENOTES	UTILITY POLE
AN	DENOTES	ANCHOR
OPL	DENOTES	OVERHEAD POWER LINE
L/S	DENOTES	LIGHT STANDARD
ORP	DENOTES	OBSERVED REFERENCE POINT

JOB No. 24-1449	DRAWING: D24-1449
THIS PLAN WAS PREPARED FOR: 4329163 CANADA INC.	

McINTOSH PERRY SURVEYING INC.
3240 Drummond Con. 5A, R.R. #7
Perth, ON K7H 3C9
Tel: 613-267-6524 Fax: 613-267-7992
www.mcintoshperry.com

CHECKED:	CAD: JB & DL

HAZELDEAN ROAD / CARP ROAD INTERSECTION



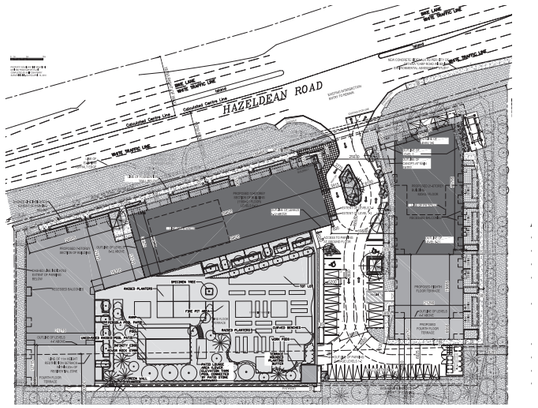
DESIGN RESEARCH

ALTERNATIVE MASSING AND SITE PLAN OPTIONS- JUNE 2024











PROPERTY DESCRIPTION	
NINE STOREY AND TWENTIY-FIVE STOREY RESIDENTIAL BUILDINGS	
CITY OF OTTAWA PIN NUMBER	04753 0270, 0271, 0272
MUNICIPAL ADDRESS	6310 HAZELDEAN ROAD

SITE INFORMATION	
LOT AREA:	12,014m²
LOT FRONTAGE:	152m
LOT DEPTH:	78.5m

BUILDING INFORMATION	
BUILDING AREA:	BLDG 1 : 5,037m² BLDG 2: 1,372m²
BUILDING FLOOR AREA (Above Grade):	46,351m²
PROPOSED USE:	APARTMENT DWELLING, MID-RISE AND HIGH-RISE
UNIT BREAKDOWN: A: BUILDING 01: B: BUILDING 02: Total	 225 UNITS 216 UNITS 431 UNITS

ZONING TABLE	AM9[2102]	
CITY OF OTTAWA ZONING BY-LAW No. 2008-250	REQUIRED	PROPOSED
MINIMUM LOT AREA	No minimum	12,014m²
MINIMUM LOT WIDTH	No minimum	154m
FRONT YARD SETBACK	Residential use building: 3m	3.59m - BLDG 1 3.69m - BLDG 2
HYDRO SETBACK	6m	N/A
ROAD WIDENING EASEMENT (ROW)	37.5m	Provided
MINIMUM INTERIOR SIDE YARD SETBACK	No minimum	Building 01: 3.625m Building 02: 13.535m
MINIMUM REAR YARD SETBACK	7.5m	10m
BUILDING WALLS ALONG STREET FRONTAGE	30% of the lot width within 3 metres of the front lot line, must be occupied by building walls if the lot is 90 metres in width or wider	71% of lot width has building fronting at their street setbacks
MAXIMUM BUILDING HEIGHT	Within 20 metres of a residential zone: 11m All other cases: 15m	Building 01: 10.04m Building 02: n/a Building 01: 39.5 m Building 02: 66 m
LANDSCAPED AREA	Where abutting a residential zone: 10 meters and an opaque screen with a minimum height of 1.5m must be provided between the residential zone and landscaped area. Other cases: No minimum, except where a yard is provided and not used for required driveways, aisles, parking, loading spaces or outdoor commercial patio, the whole yard must be landscaped.	Continuous 10m green buffer zone has been provided at the rear lot line. New opaque fence will be provided.
VEHICLE PARKING REQUIREMENTS (AREA C, SCHEDULE 1A)	1.2 per dwelling unit = 517.2 spaces required	389 spaces
VISITOR PARKING REQUIREMENTS (AREA Y, SCHEDULE 1A)	0.2 per dwelling unit = 86.2 spaces required	86 spaces
AMENITY AREA REQUIREMENTS	6m² per dwelling unit = 2,586m² Communal = 1,293m² (a minimum of 50% of the required total area)	Private balconies = 1,293m² Communal = 3,385m² Total = 4,678m²
BICYCLE PARKING SPACES	0.5 per dwelling unit = 216	436 interior storage spaces (344 floor mounted, 51 stacked) 10 exterior spaces Total = 446 Ratio: 1.03 per dwelling unit

PROJECT SUMMARY

UNIT TYPE	COUNT	RATIO
1B	111	25.8%
1B + D	100	23.2%
2B	109	25.3%
2B + D	56	13.0%
3B	52	12.1%
STUDIO	3	0.7%

TOTAL UNITS: 431

PARKING TYPE	COUNT
2.4m X 4.6m SMALL	67
BARRIER FREE PARKING	4
BARRIER FREE PARKING - VISITOR	2
REGULAR PARKING	318
VISITOR PARKING	84

TOTAL PARKING SPOTS: 475

PARKING TO UNIT RATIO
0.90

VISITOR PARKING TO UNIT RATIO
0.20

UNIT STATS - BLDG_1

UNIT TYPE	COUNT
1B	30
1B + D	66
2B	50
2B + D	11
3B	19
STUDIO	3

TOTAL UNITS: 179

UNIT STATS - BLDG_2

UNIT TYPE	COUNT
1B	81
1B + D	34
2B	59
2B + D	45
3B	33

TOTAL UNITS: 252

PARKING TYPE	COUNT
BIKE PARKING	316
BIKE PARKING - STACKED	79 (x2)
TOTAL BICYCLE PARKING:	474

BICYCLE PARKING TO UNIT RATIO:
1.09

DESIGN EVOLUTION













The architectural development of the project has been carried out in full continuity with the approved massing, with only minor variations. These adjustments reflect our intent to more clearly articulate the volumetric gradation in height—enhancing the tower's integration within the overall composition.

The adjacent sketch illustrates the conceptual intent,The parti diagram at the bottom of the page reflect our intention to create a dynamic silhouette—one that is recognizable from a distance and contributes to enhancing the skyline of the area.

The parti digram, is a purely conceptual representation of an urban skyline, illustrating a dynamic and progressive variation in building heights. It captures the spirit in which we intend to develop the project—a composition that embraces vertical gradation to create a vibrant and distinctive architectural presence within the cityscape.

DESIGN EVOLUTION

MASSING FONDAMENTALS

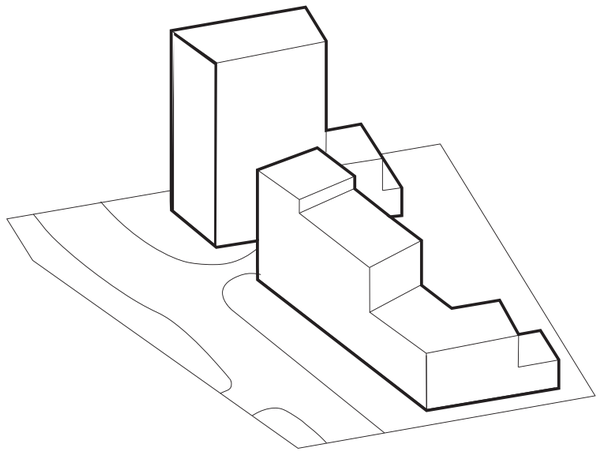
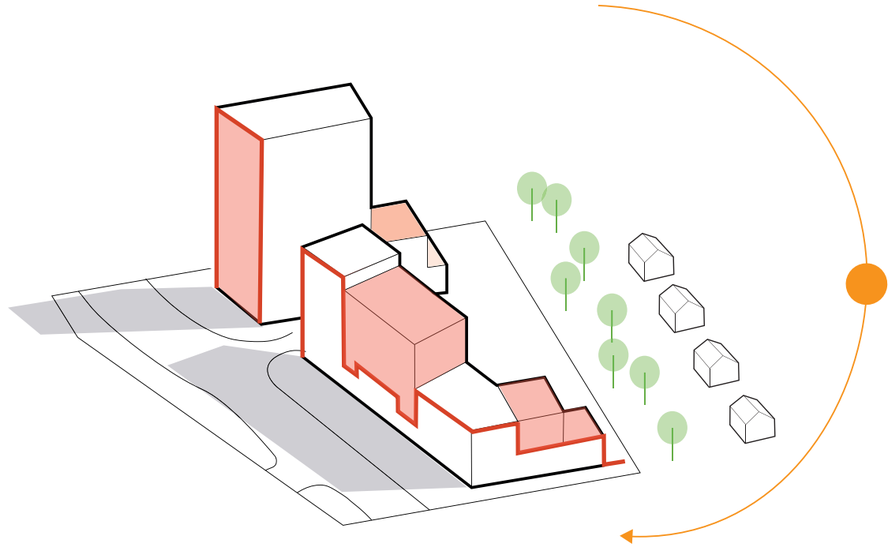


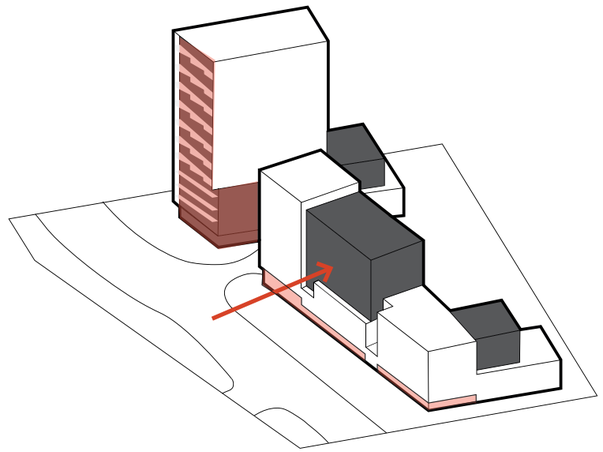
Diagram illustrating the volumetric principles that supported the rezoning of the site.
Our project builds upon the established massing principles, which aim primarily to ensure a gradual height transition toward the low-rise residential area located to the south of the site. The design also respects the setback guideline for the tower, maintaining an appropriate distance from the adjacent homes to preserve their privacy and minimize visual impact.

DYNAMIC SILHOUETTE



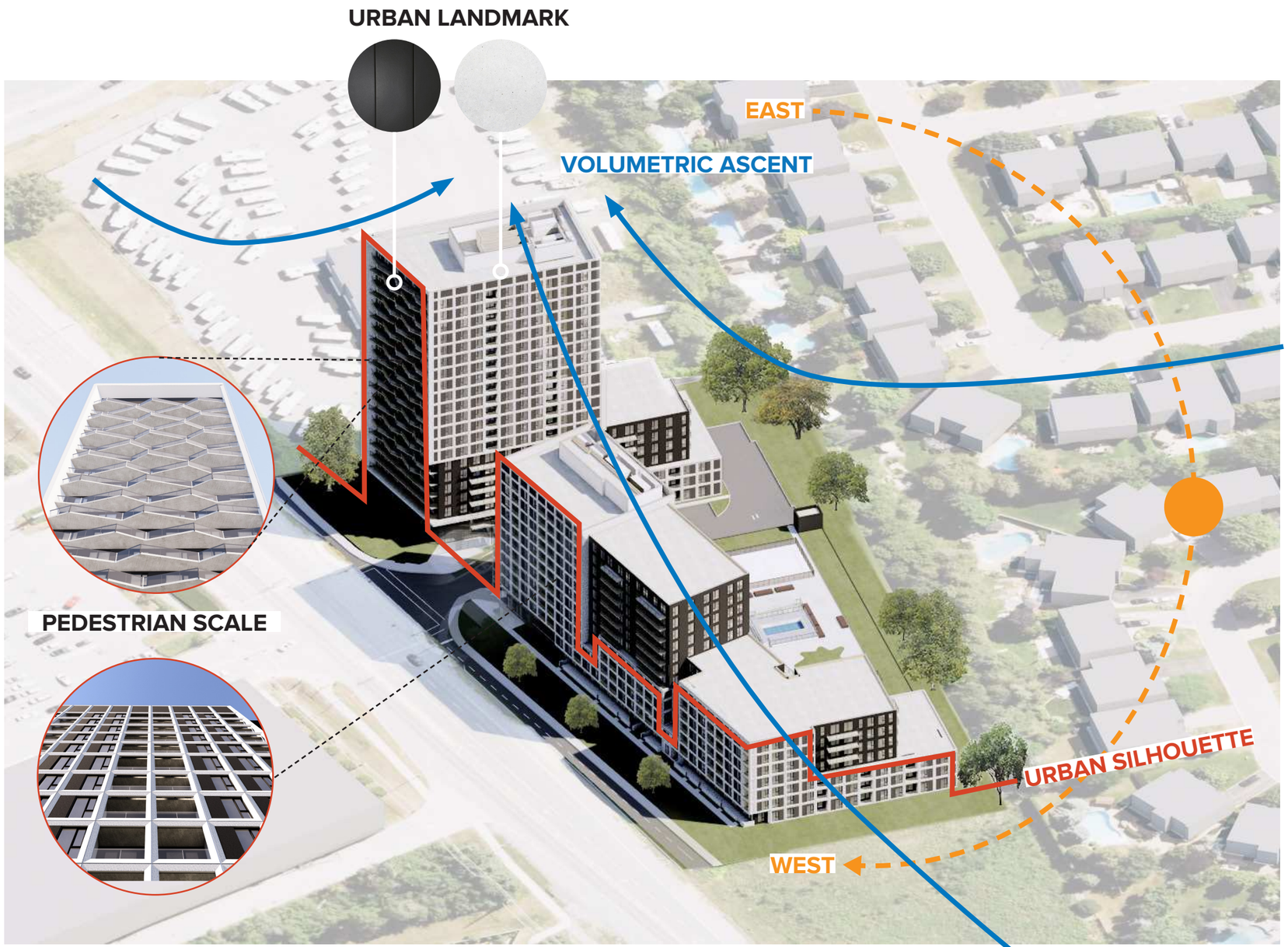
In a second design phase, we introduced a fragmentation line across the base volumes to create a more dynamic silhouette and break up the overall length of the massing. This articulated skyline also marks the transition between two distinct envelope strategies, allowing the architectural expression to respond more sensitively to its context and programmatic needs.

RHYTHM, RECESS, AND ARCHITECTURAL PRESENCE



Finally, we carried out a series of volumetric subtractions at the lower levels to activate the public realm, highlight the presence of the lobbies, and enhance the gateway effect between Phase 1 and Phase 2 of the project. The darker sections were also generally recessed in relation to the main body of the building, which serves as the primary architectural element—like the melody to which all other parts respond in rhythm and tone.

DESIGN EVOLUTION



The proposed residential project features a 21-storey tower located within an urban fabric characterized by low-rise buildings. As such, this project will set the architectural tone for future developments in the neighborhood, and as such, we wish to provide sensible and elevated architectural design

Fully aware of this challenge, we paid particular attention to the volumetric composition of the project. The result is a bold yet carefully controlled silhouette—one that asserts its role as a territorial marker while expressing our intention to achieve a respectful and coherent transition with the surrounding built environment.

IIn addition, a series of interventions were developed to respond to the immediate context, including studies on shadow casting, light diffusion, wind control, and volume transitions. The tower is set back from the street, while the adjacent L-shaped volume steps down gradually to create a smooth transition in scale and reduce impacts on neighboring properties. The façades, rendered in predominantly light tones, effectively reflect natural light and contribute to a refined, timeless aesthetic

Equally important is the pedestrian scale, which is central to our design approach. Despite its height, the tower is designed to engage meaningfully with the public realm. The balconies evolve progressively in form, subtly shifting as they rise to create the impression of responding to the wind. This dynamic texture enhances the pedestrian experience while reinforcing the tower's iconic presence within the broader landscape.

The prefabricated concrete cladding is designed as a quilt of beveled frames featuring two distinct textures. This interplay of depth and material, animated by natural light, gives the building a contemporary yet refined architectural expression. The beveled articulation captures light throughout the day, enhancing the experience at both the pedestrian level and from a distance

DEVELOPMENT INTEGRATION WITH THE SITE



DEVELOPMENT INTEGRATION WITH THE SITE



NORT-EAST VIEW FROM HAZELDEAN ROAD



NORTH-WEST VIEW FROM HAZELDEAN ROAD



PEDESTRIAN VIEW



ENTRANCE OF THE SITE



NORTH-EAST VIEW FROM HAZELDEAN ROAD



SOUTH-EAST VIEW



ENTRANCE BUILDING 1



ENTRANCE BUILDING 2



EXTERIOR AMENITIES



EXTERIOR AMENITIES



EXTERIOR PARKING

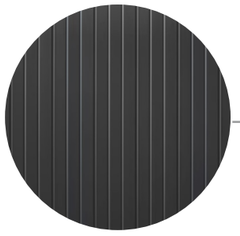


MATERIALITY



ANTHRACITE-COLORED ALUMINUM
PANELS (PANFAB TYPE)





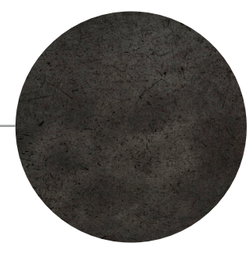
PRE-PAINTED STEEL CLADDING,
ANTHRACITE COLOR
(VICWEST AD300 TYPE)



DARK BRICK



PREFABRICATED LIGHT-COLORED
CONCRETE PANEL, SANDBLASTED FINISH



PREFABRICATED DARK-COLORED
CONCRETE PANEL, SANDBLASTED FINISH

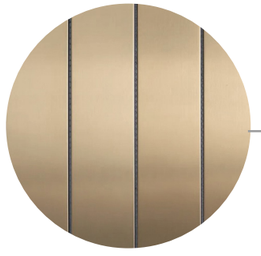
MATERIALITY



PREFABRICATED DARK-COLORED
CONCRETE PANEL, SANDBLASTED FINISH

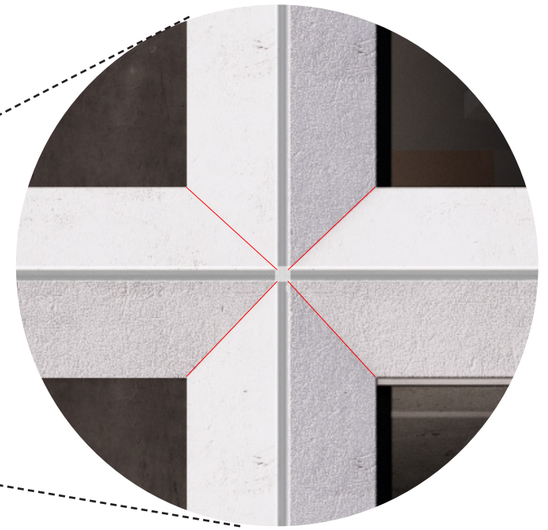


PREFABRICATED LIGHT-COLORED
CONCRETE PANEL, SANDBLASTED FINISH



INSULATED PANELS, CHAMPAGNE
METALLIC BRONZE COLOR



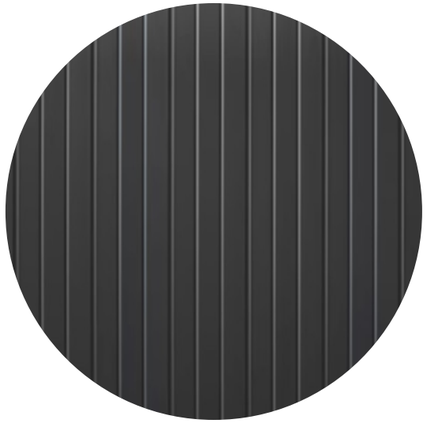


BEVELED PREFABRICATED LIGHT-
COLORED CONCRETE PANEL

MATERIALITY



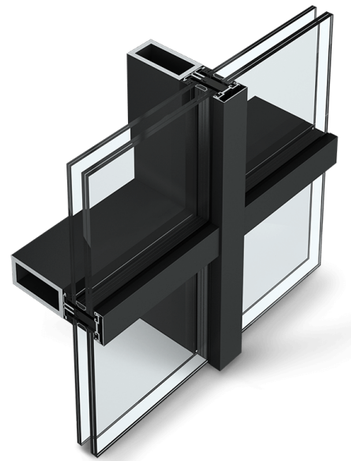
(1) PREFABRICATED LIGHT-COLORED CONCRETE PANEL, SANDBLASTED FINISH



(2) PRE-PAINTED STEEL CLADDING, ANTHRACITE COLOR (VICWEST AD300 TYPE)



(3) DARK BRICK



BLACK ALUMINIUM CURTAIN WALL



(4) PREFABRICATED DARK-COLORED CONCRETE PANEL, SANDBLASTED FINISH

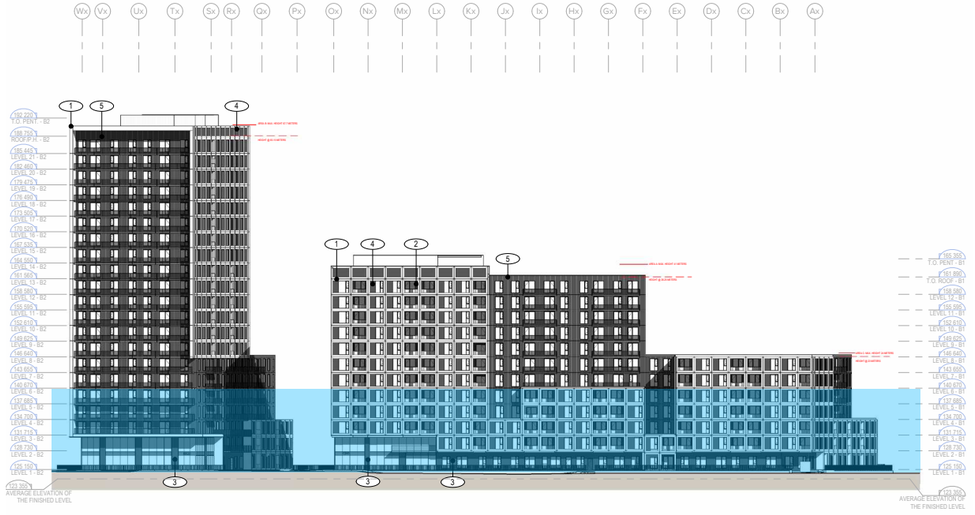


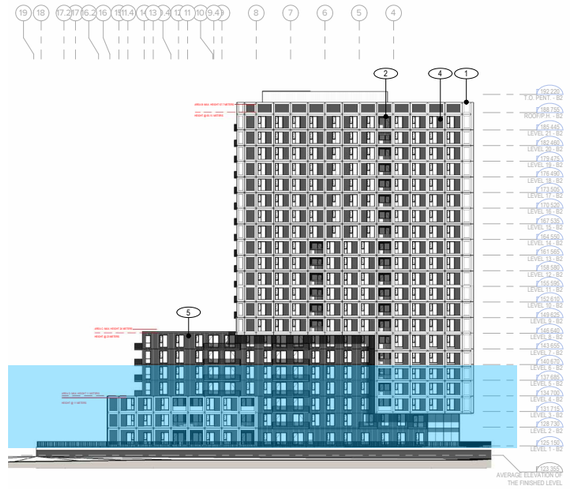
(5) ANTHRACITE-COLORED ALUMINUM PANELS (PANFAB TYPE)

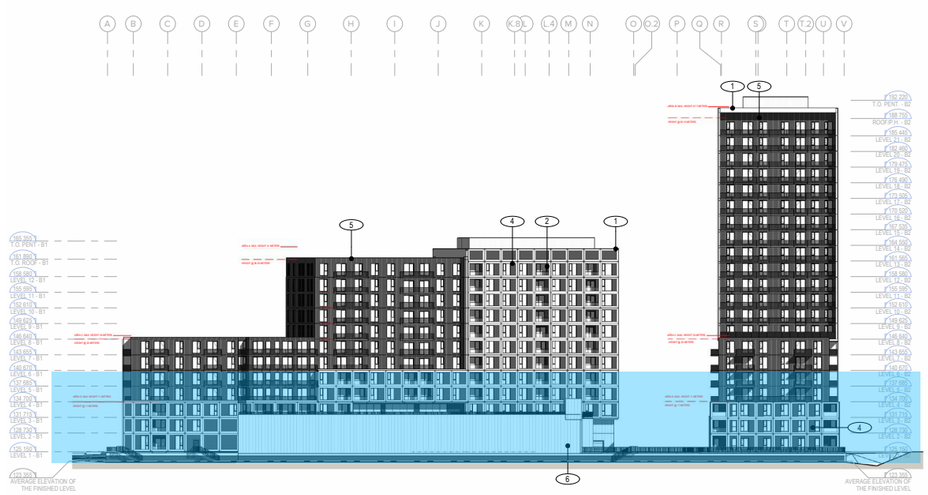


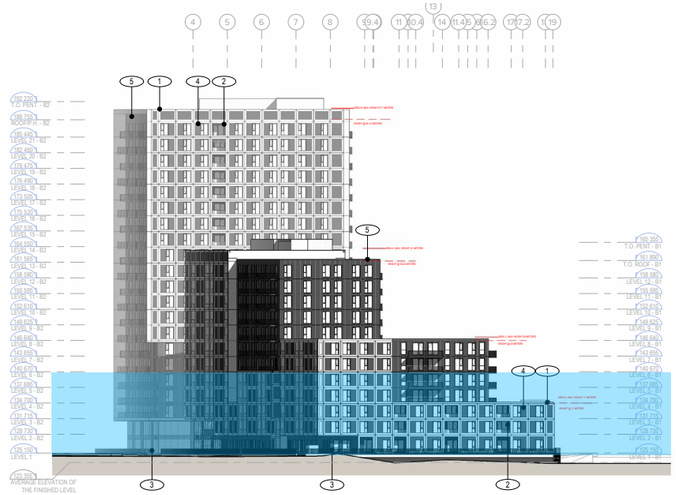
(6) INSULATED PANELS, CHAMPAGNE METALLIC BRONZE COLOR

BIRD-SAFE DESIGN GUIDELINES COMPLIANCE









ZONE UNDER BIRD-SAFE SPECIFICATIONS

Bird-Friendly Design Considerations

The proposed design acknowledges the importance of bird-safe architecture, especially given that portions of the site are densely vegetated with existing bushes and trees that create an ideal habitat for local species.

Glass:

As shown in the elevations, a 16-meter zone has been identified. All fenestration within this zone will use glass that minimizes reflectivity and transparency to reduce the risk of bird collisions.

Exterior Lighting:

Exterior artificial lighting will be designed to minimize light trespass at night. Motion detectors will be considered to further reduce light pollution and bird strike risks while supporting energy-efficient design. Low-wattage fixtures will be used on the 21-storey tower, and visual impact will be minimized as much as possible.

Interior Lighting:

The following strategies will be considered during the interior lighting design:

Use of blinds to prevent light spill during nighttime hours

Motion detectors to limit unnecessary lighting

Implementation of localized task lighting to reduce overall brightness

Landscape and Environmental Context:

The existing vegetation and trees on the south and east side of the project provide a natural habitat for local bird species. These native plantings will be preserved as part of the landscape design.

SUSTAINABLE STRATEGIES

This project will explore multiple possible solutions to contribute a sustainable design to the local context. Through careful responses to existing site conditions, the proposed project will transform a suburban site into a landscaped, green, walkable, and connected development.

Located in Ontario, the project will be subject to SB-10 of the Ontario Building Code that requires the building's energy performance levels to beat the National Energy Code by 30% for standard projects of this type. This requirement helps stakeholders meet energy efficiency requirements in the Building Code and came into force on January 1, 2017. Ontario continues to promote some of the most progressive regulations in North America for reductions of Green House Gas (GHG) emissions and improvements for energy conservation in buildings. To meet these high standards, the project must provide an energy model that looks at the balance between the use of high-performance building envelope systems, the percentage amount of glazing and the mechanical systems required to heat and cool the building through the 4 seasons.

As it stands., the project will target a 60% reduction in energy and a 90% reduction in greenhouse gas emissions

The project is adjacent to bus stops and future bike lanes to offer active transportation options to residents.

Bicycle parking will be provided in both buildings at a ratio of 1:1 per unit.

Currently, the project is looking into providing a car sharing service for residents to reduce their need to own a car

The landscaping across the site will introduce a generous amount of trees along the rear of the property. Coniferous trees will be planted strategically to mitigate the effect of wind in the winter and contribute to the privacy of neighbouring properties.

Part of the site design strategies is to continue to use a natural stormwater drainage ditch running along the north-east property line. The design will include this as a natural feature of the landscape design approach.

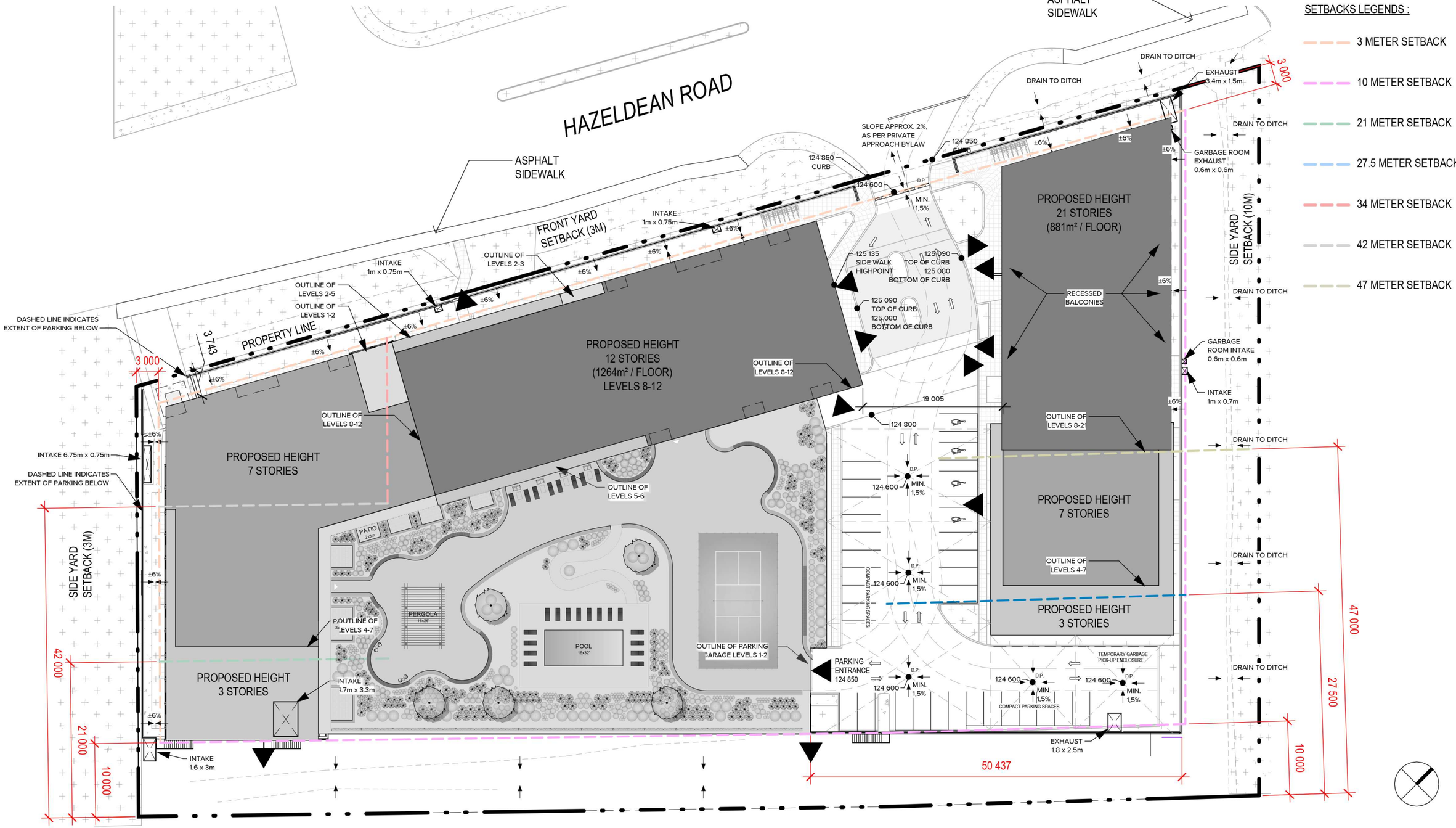
It is also the intent of the client to explore the use of a geothermal system.

Building 01 of the project offers a sizeable programmed terrace on the third level above the parkade. The terrace will offer abundant planting and activity spaces for residents.

Other aspects that will be considered include bird safe glazing, as well as the use of white reflective roofing membranes to minimize the heat island effect created from sun absorption at the roofs' horizontal surfaces.

PLANS

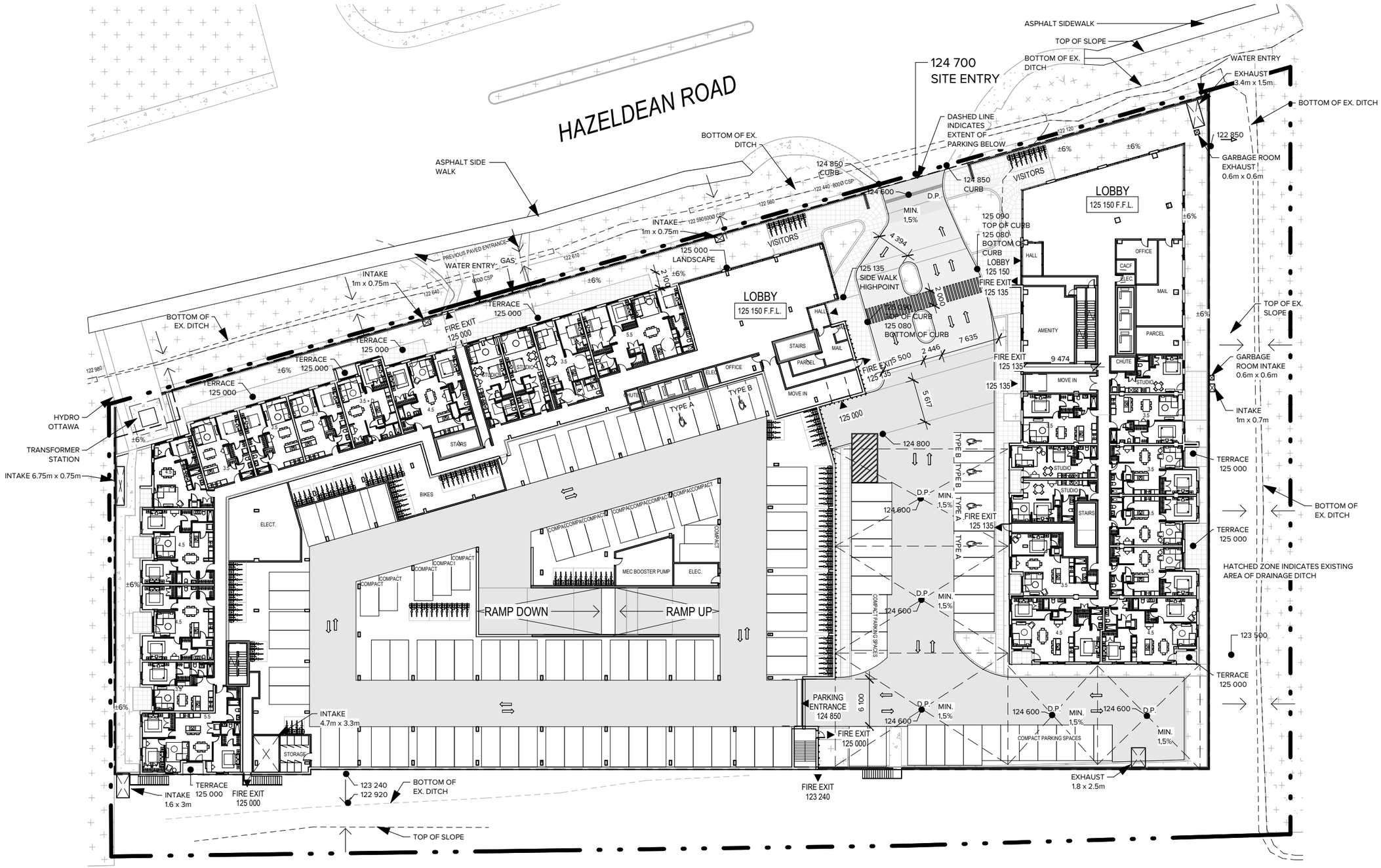
SITE PLAN IN RELATION TO ZONING HEIGHTS AND SETBACKS



SETBACKS LEGENDS :

- 3 METER SETBACK
- 10 METER SETBACK
- 21 METER SETBACK
- 27.5 METER SETBACK
- 34 METER SETBACK
- 42 METER SETBACK
- 47 METER SETBACK

SITE PLAN IN RELATION TO GROUNDFLOOR



UNDERGROUND PARKING PLAN

AREA

- CIRCULATION
- COMMON
- CORRIDOR
- MEP
- PARKING

PARKING - UNDERGROUND LEVEL	
Total	**Type**
20	**2.4 x 4.6m (COMPACT)**
231	**2.4 x 5.2m**
3	**2.4 x 5.2m + 1.5m (ACCESSIBLE- TYPE B)**
3	**3.4 x 5.2m + 1.5m (ACCESSIBLE- TYPE A)**

TOTAL: 257

BICYCLES - UNDERGROUND LEVEL			
Racks	**Bikes**	**Niveau**	**Type**
43	**172**	**LEVEL UNDERGROUND 1**	**VÉLO MODULE - 4 PLACES**

TOTAL : 172



ACDF | SCALIA

ÉCHELLE : 1 : 400

GROUND FLOOR PLAN

AREA

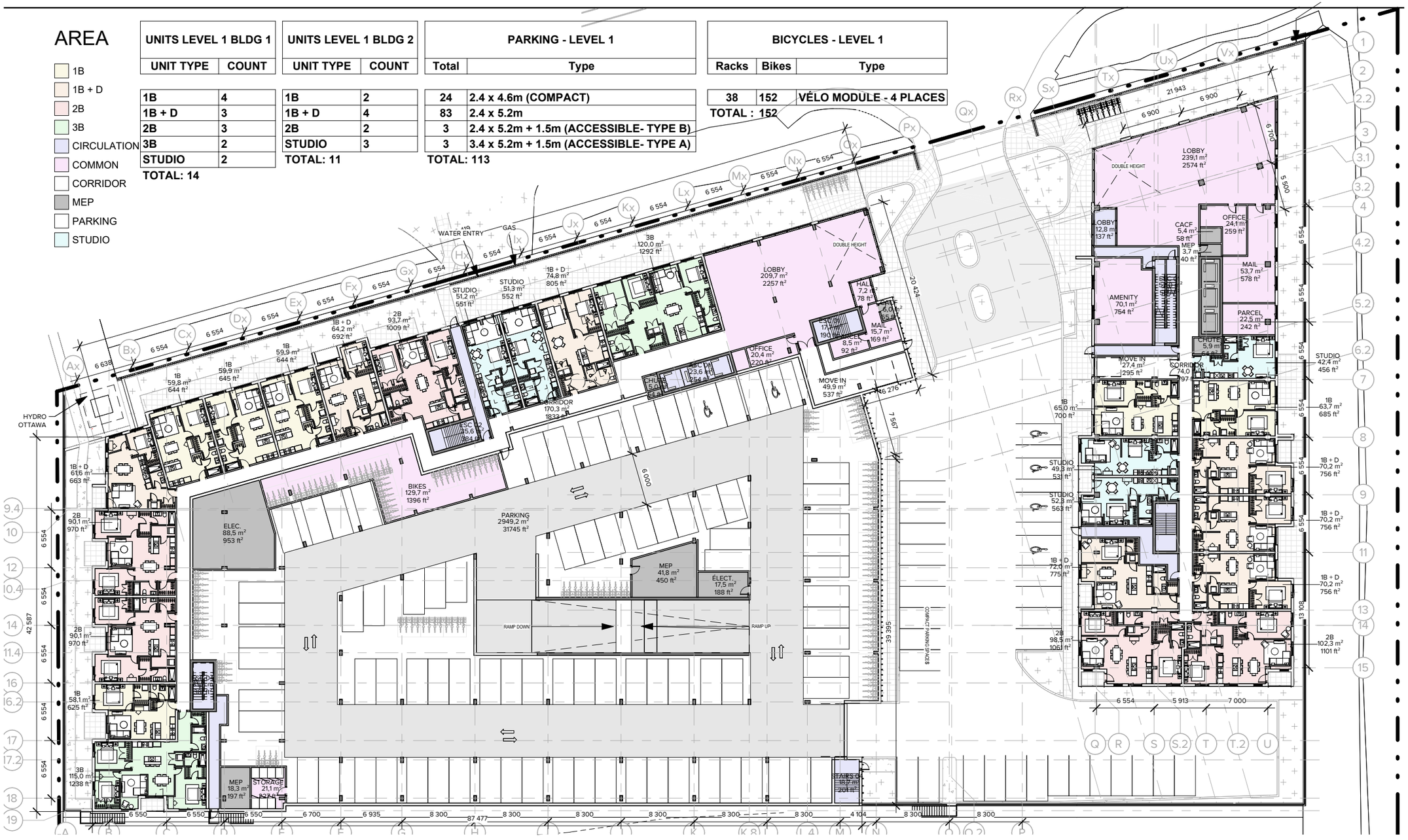
- 1B
- 1B + D
- 2B
- 3B
- CIRCULATION
- COMMON
- CORRIDOR
- MEP
- PARKING
- STUDIO

UNITS LEVEL 1 BLDG 1	
UNIT TYPE	COUNT
1B	4
1B + D	3
2B	3
3B	2
STUDIO	2
TOTAL: 14	

UNITS LEVEL 1 BLDG 2	
UNIT TYPE	COUNT
1B	2
1B + D	4
2B	2
STUDIO	3
TOTAL: 11	

PARKING - LEVEL 1	
Total	Type
24	2.4 x 4.6m (COMPACT)
83	2.4 x 5.2m
3	2.4 x 5.2m + 1.5m (ACCESSIBLE- TYPE B)
3	3.4 x 5.2m + 1.5m (ACCESSIBLE- TYPE A)
TOTAL: 113	

BICYCLES - LEVEL 1		
Racks	Bikes	Type
38	152	VÉLO MODULE - 4 PLACES
TOTAL : 152		



LEVEL 2 FLOOR PLAN

AREA

- 1B
- 1B + D
- 2B
- CIRCULATION
- COMMON
- CORRIDOR
- MEP
- PARKING

UNITS LEVEL 2 BLDG 1	
UNIT TYPE	COUNT
1B	2
1B + D	10
2B	5
TOTAL: 17	

UNITS LEVEL 2 BLDG 2	
UNIT TYPE	COUNT
1B	3
1B + D	5
2B	5
STUDIO	4
TOTAL: 17	

PARKING - LEVEL 2	
Total	Type
11	2.4 x 4.6m (COMPACT)
77	2.4 x 5.2m
TOTAL: 88	

BICYCLES - LEVEL 2		
Racks	Bikes	Type
37	148	VÉLO MODULE - 4 PLACES
TOTAL : 148		



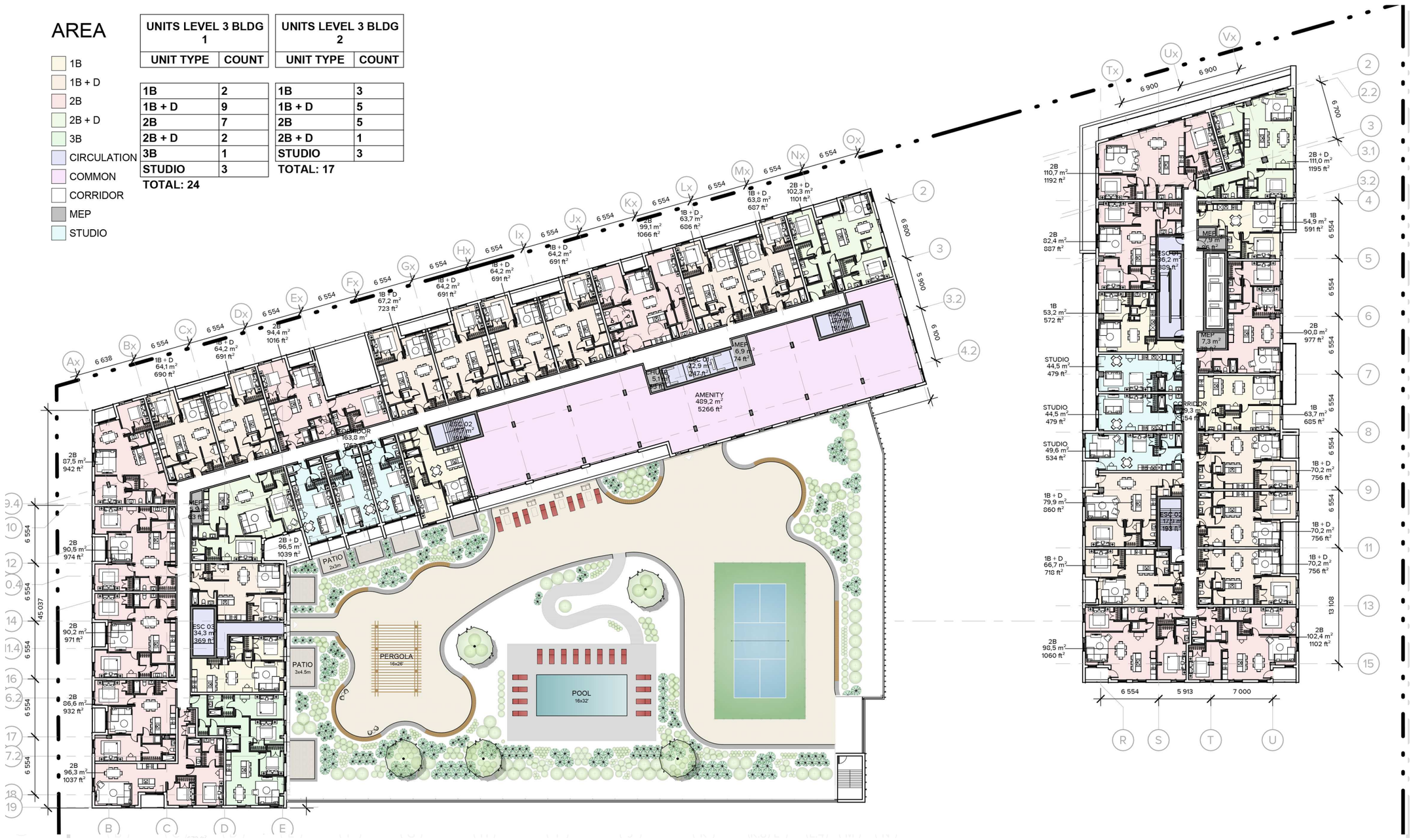
LEVEL 3 FLOOR PLAN

AREA

- 1B
- 1B + D
- 2B
- 2B + D
- 3B
- CIRCULATION
- COMMON
- CORRIDOR
- MEP
- STUDIO

UNITS LEVEL 3 BLDG 1	
UNIT TYPE	COUNT
1B	2
1B + D	9
2B	7
2B + D	2
3B	1
STUDIO	3
TOTAL: 24	

UNITS LEVEL 3 BLDG 2	
UNIT TYPE	COUNT
1B	3
1B + D	5
2B	5
2B + D	1
STUDIO	3
TOTAL: 17	



LEVEL 4 FLOOR PLAN

AREA

- 1B
- 1B + D
- 2B
- 2B + D
- CIRCULATION
- CORRIDOR
- MEP
- STUDIO

UNITS LEVEL 4 BLDG 1	
UNIT TYPE	COUNT
1B	4
1B + D	10
2B	6
2B + D	3
STUDIO	6
TOTAL: 29	

UNITS LEVELS 4-5 BLDG 2	
UNIT TYPE	COUNT
1B	5
1B + D	1
2B	5
2B + D	1
STUDIO	3
TOTAL: 15	



LEVEL 5, TYPICAL FLOOR PLAN

AREA

- 1B
- 1B + D
- 2B
- 2B + D
- CIRCULATION
- CORRIDOR
- MEP
- STUDIO

UNITS LEVEL 5 BLDG 1	
UNIT TYPE	COUNT
1B	4
1B + D	10
2B	6
2B + D	3
STUDIO	6

TOTAL: 29



LEVELS 6-7, TYPICAL FLOOR PLAN

AREA

- 1B
- 1B + D
- 2B
- 2B + D
- CIRCULATION
- CORRIDOR
- MEP
- STUDIO

UNITS LEVELS 6-7 BLDG 1	
UNIT TYPE	COUNT
1B	9
1B + D	5
2B	7
2B + D	2
STUDIO	6
TOTAL: 29	

UNITS LEVELS 6-7 BLDG 2	
UNIT TYPE	COUNT
1B	5
1B + D	1
2B	5
2B + D	1
STUDIO	3
TOTAL: 15	



LEVELS 8 TO 12, TYPICAL FLOOR PLAN

AREA

- 1B
- 1B + D
- 2B
- 2B + D
- 3B
- CIRCULATION
- MEP

UNITS LEVEL 8 BLDG 1	
UNIT TYPE	COUNT
1B	5
1B + D	3
2B	4
2B + D	1
3B	1

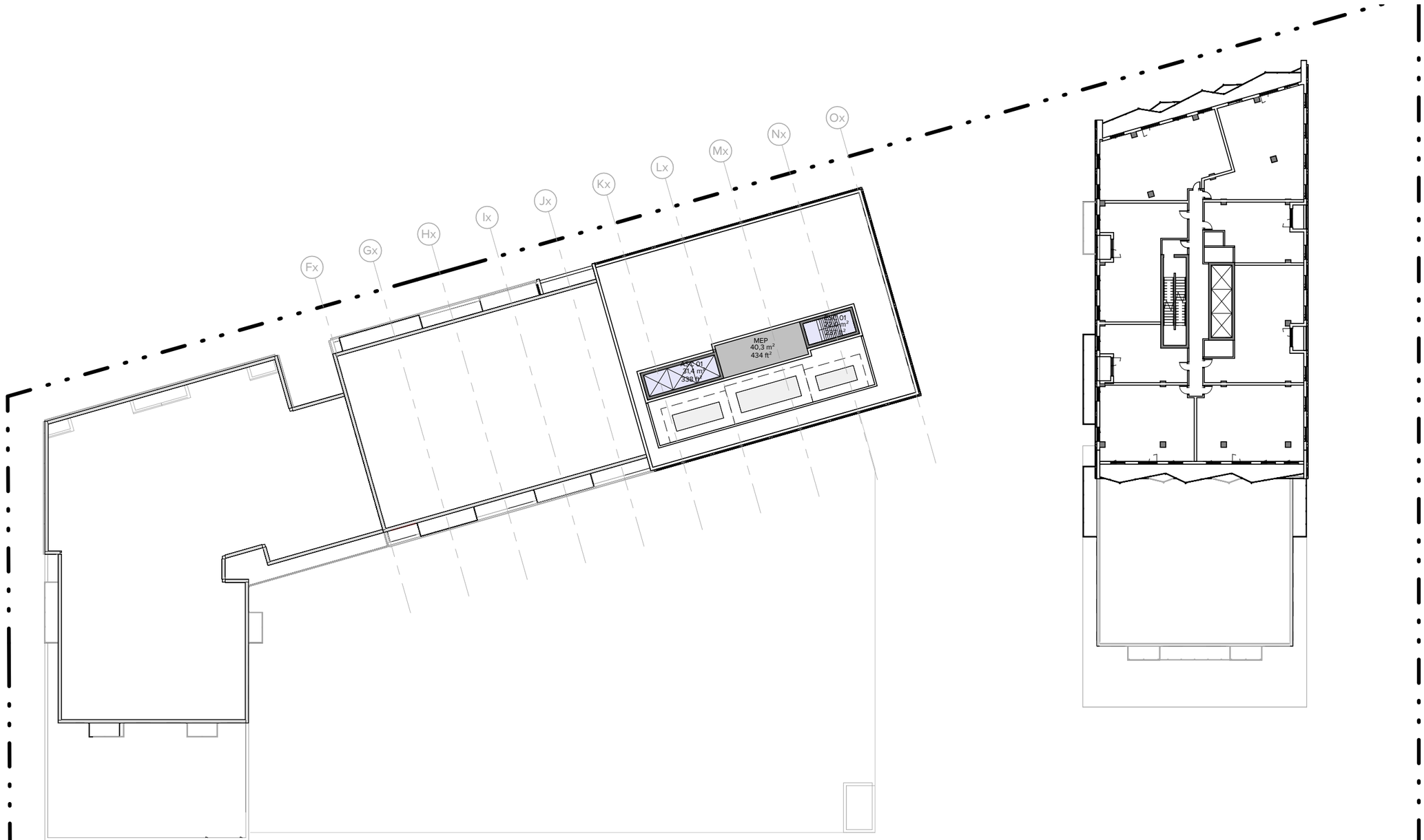
TOTAL: 14

UNITS LEVEL 8 BLDG 2	
UNIT TYPE	COUNT
1B	2
2B	4
2B + D	2

TOTAL: 8



ROOFTOP - PHASE 1



LEVELS 9-13, TYPICAL FLOOR PLAN - PHASE 2



AREA

- 1B
- 2B
- 2B + D
- CIRCULATION
- CORRIDOR
- MEP

UNITS LEVELS 9-13 BLDG 2	
UNIT TYPE	COUNT
1B	2
2B	5
2B + D	2
TOTAL: 9	

LEVELS 14-21, TYPICAL FLOOR PLAN - PHASE 2



AREA

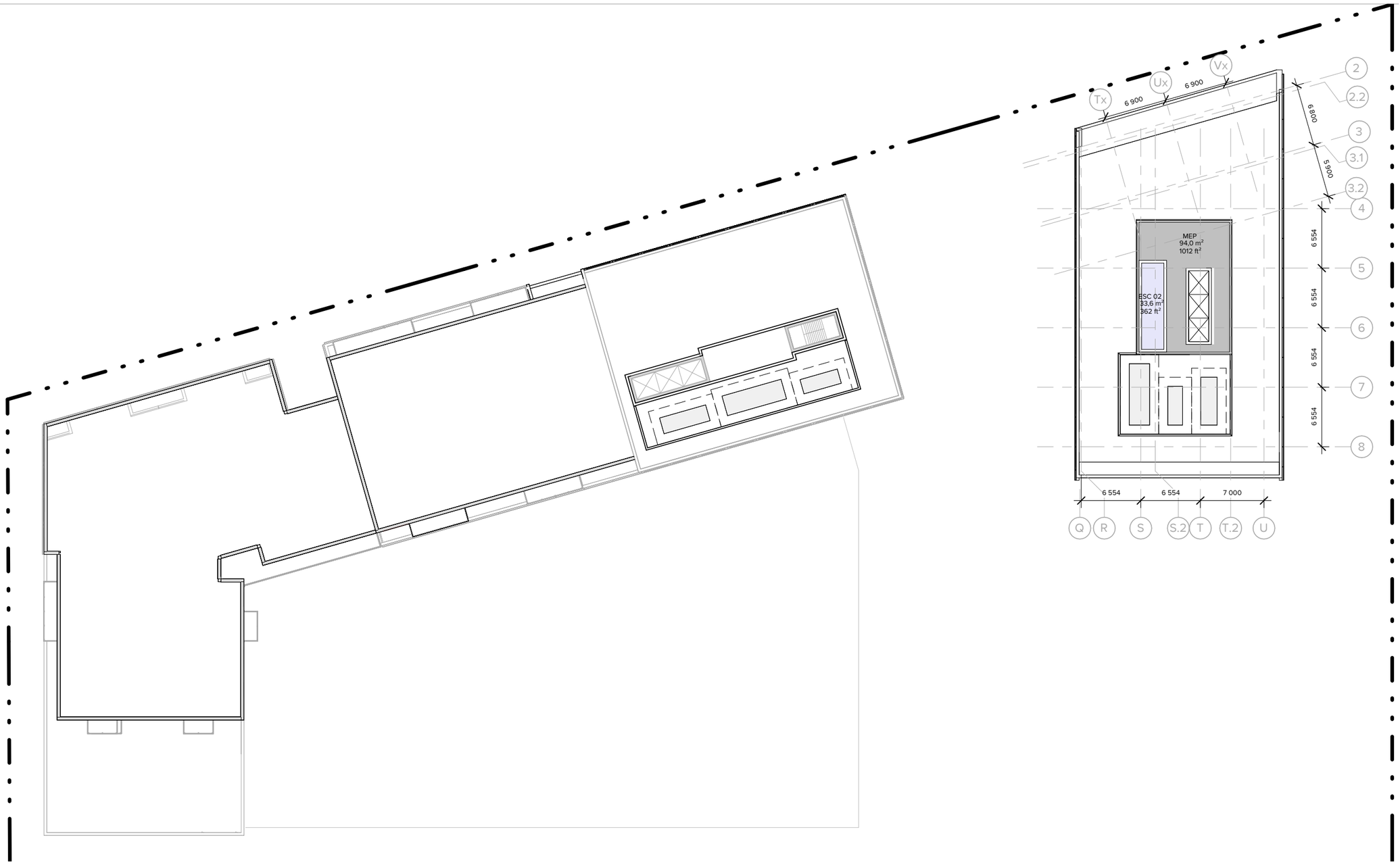
- 2B
- 2B + D
- 3B
- 3B+
- CIRCULATION
- CORRIDOR
- MEP

UNITS LEVELS 14-21 BLDG 2

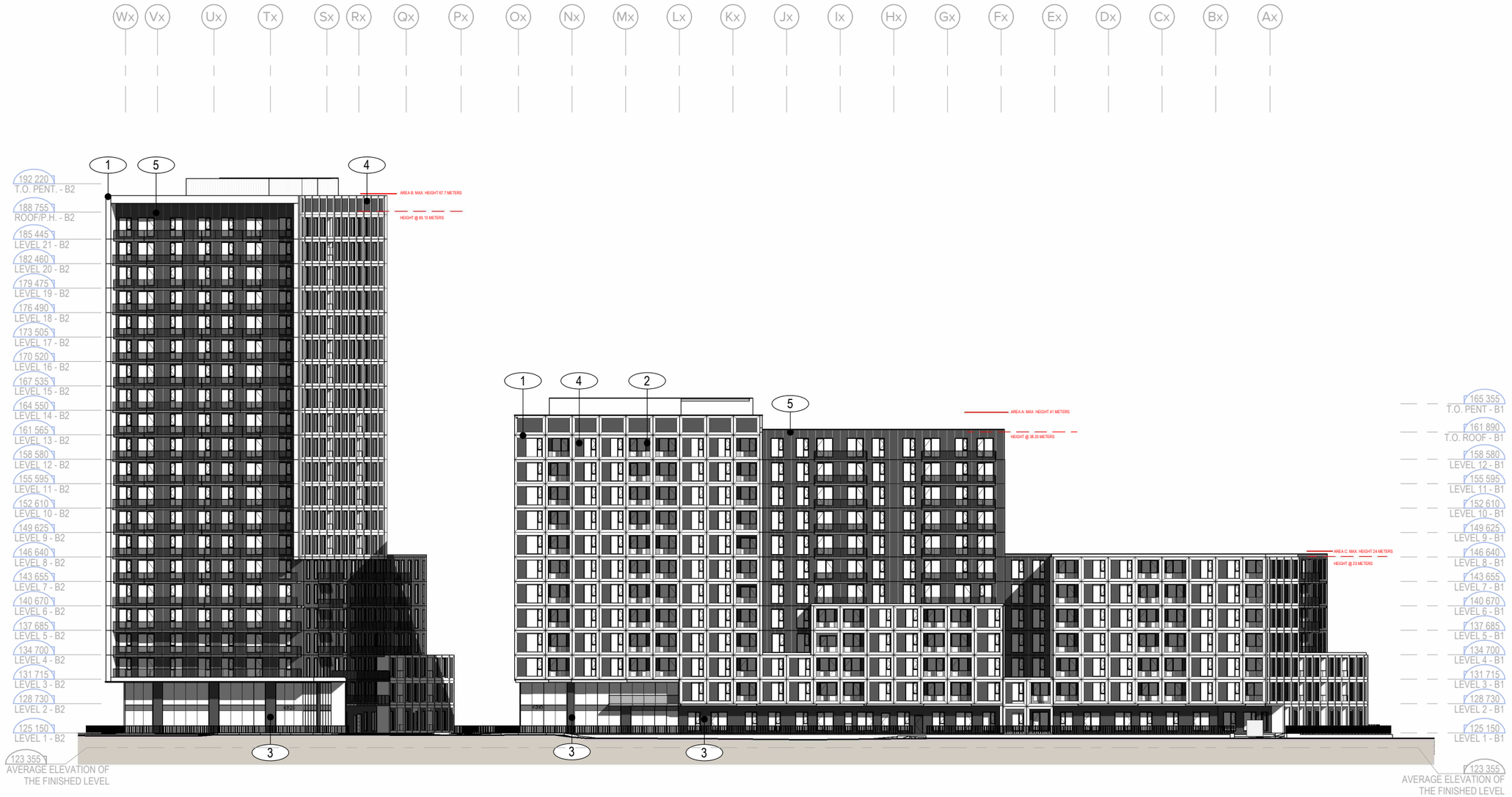
UNIT TYPE	COUNT
2B	1
2B + D	1
3B	1
3B+	3

TOTAL: 6

ROOFTOP - PHASE 2

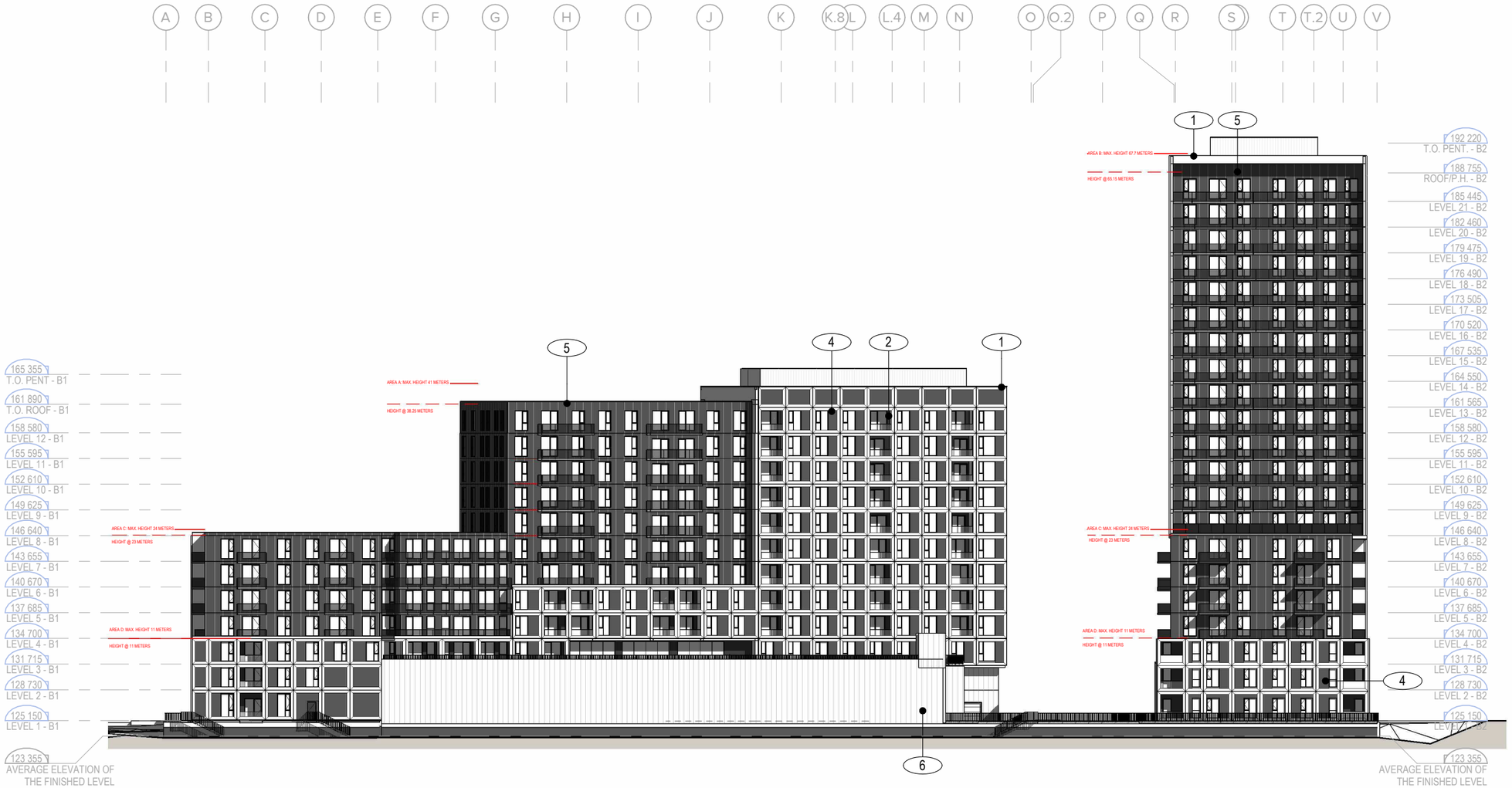


NORTH ELEVATION



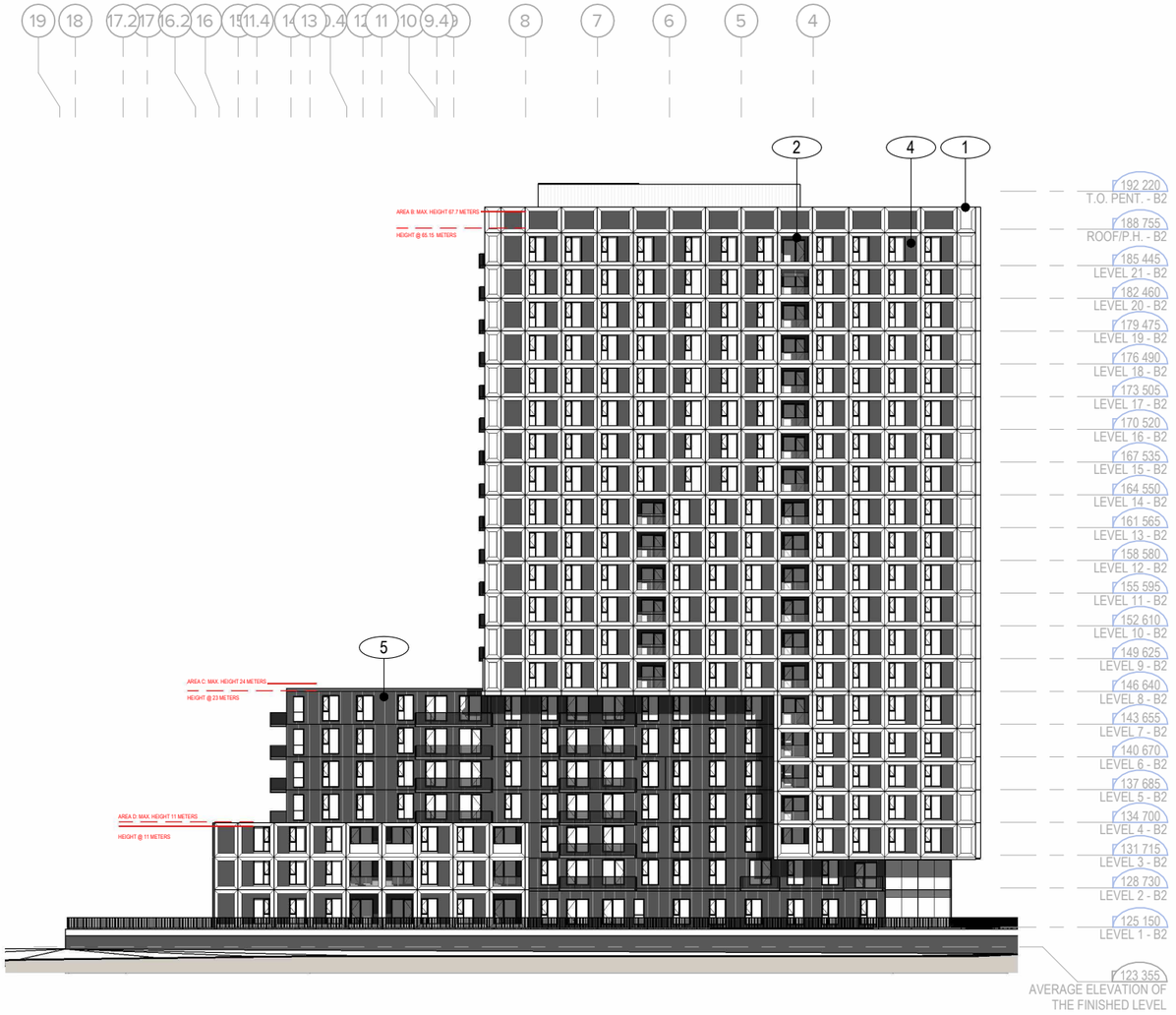
Buildings height are taken from the average elevation of the finished level of the ground adjoining all the walls of the building average elevation height at 123 700

SOUTH ELEVATION



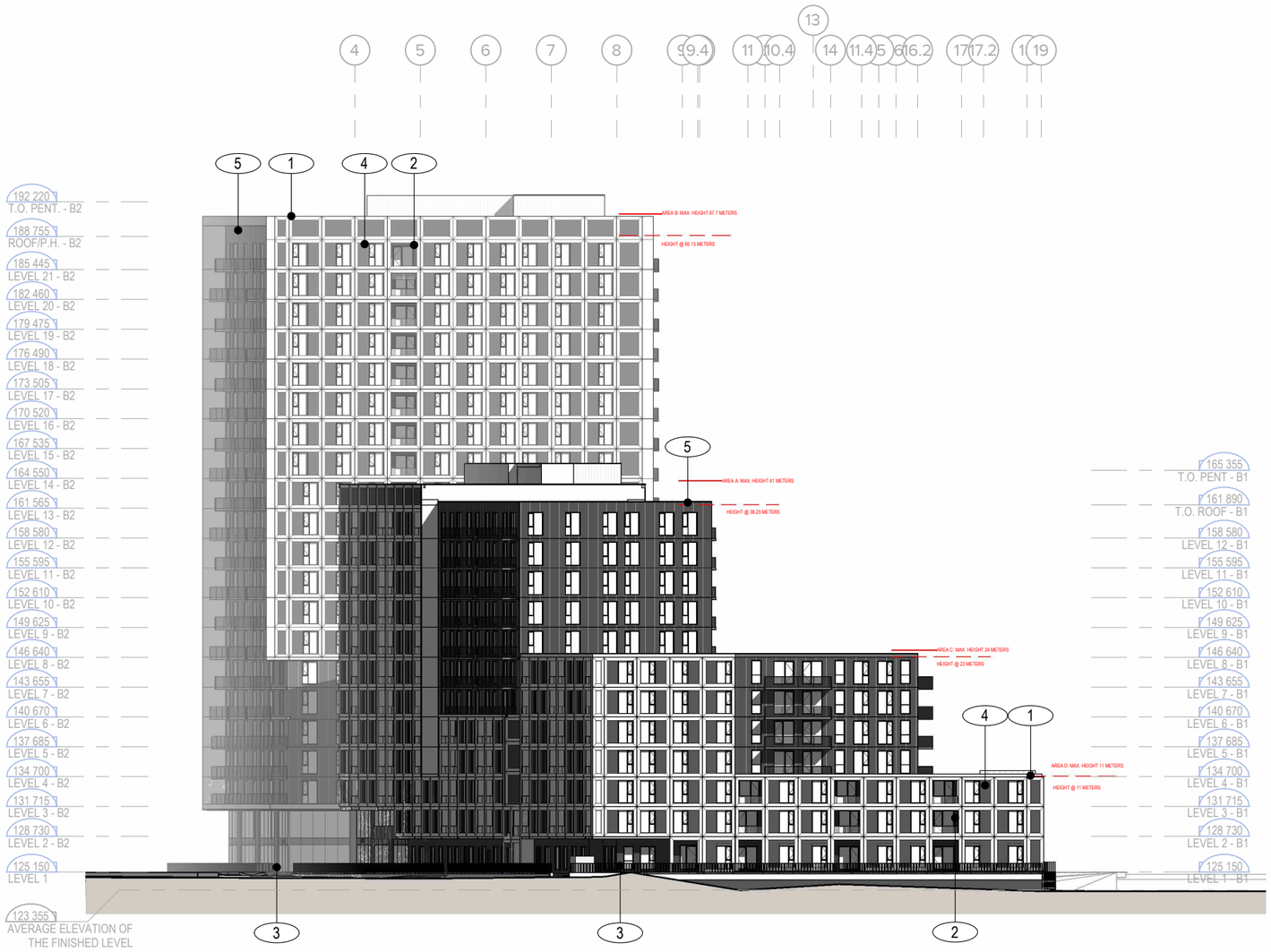
Buildings height are taken from the average elevation of the finished level of the ground adjoining all the walls of the building average elevation height at 123 700

EAST ELEVATION



Buildings height are taken from the average elevation of the finished level of the ground adjoining all the walls of the building
average elevation height at 123 700

WEST ELEVATION



Buildings height are taken from the average elevation of the finished level of the ground adjoining all the walls of the building average elevation height at 123 700

SHADOW ANALYSIS

SUMMER SOLSTICE (JUNE 21)



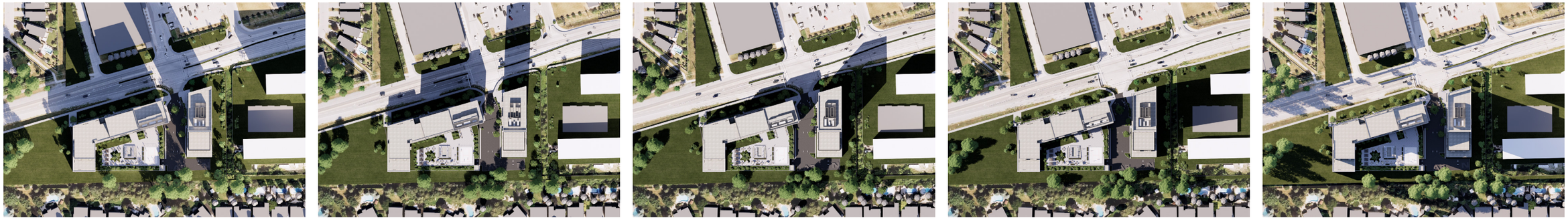
8:00 10:00 12:00 14:00 16:00

WINTER SOLSTICE (DECEMBER 21)



8:00 10:00 12:00 14:00 16:00

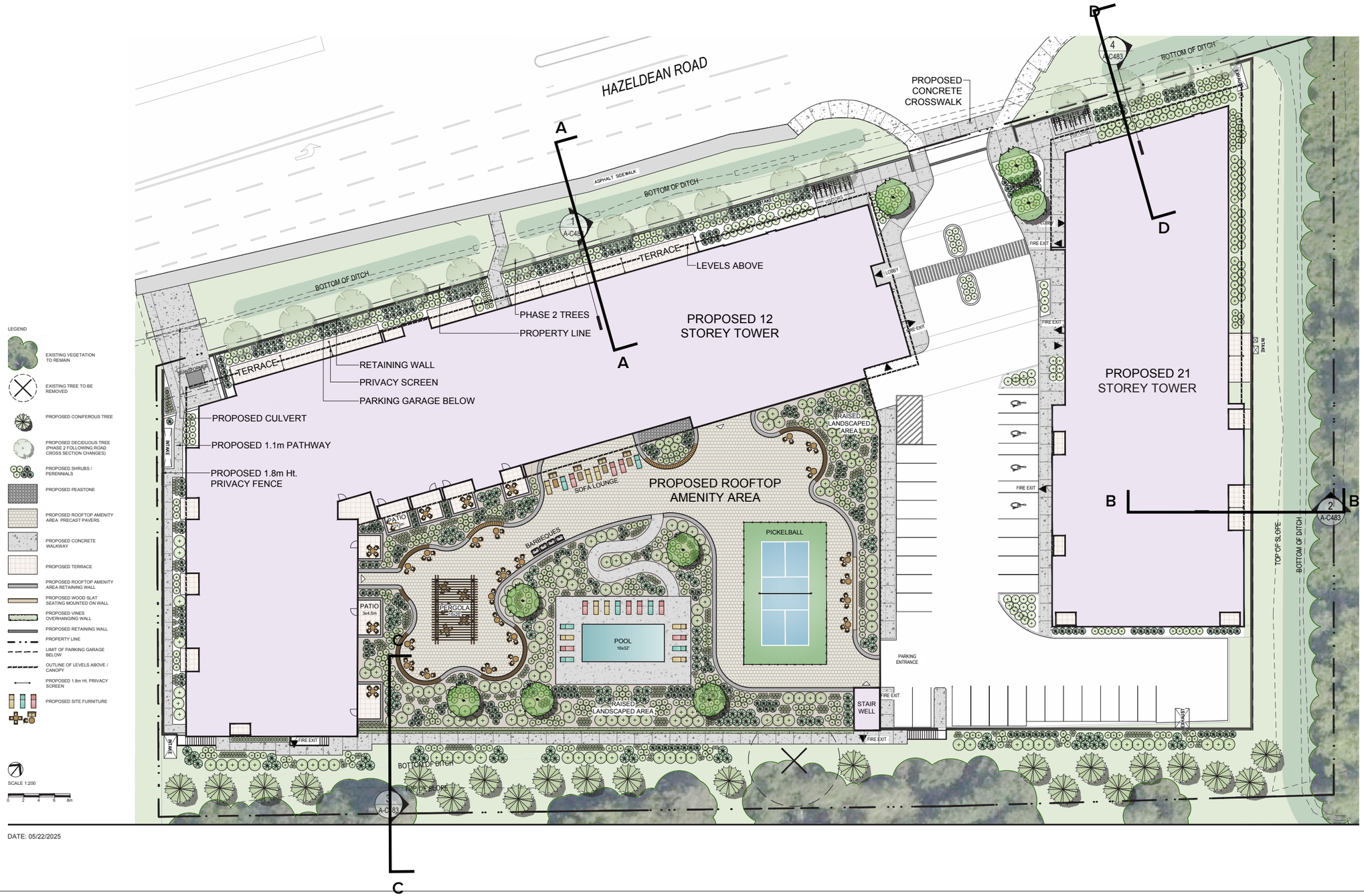
FALL EQUINOX (SEPTEMBER 21)



8:00 10:00 12:00 14:00 16:00

ANNEX A : LANDSCAPE CONCEPT

ANNEX A : PROPOSED LANDSCAPE- SITE



LEGEND

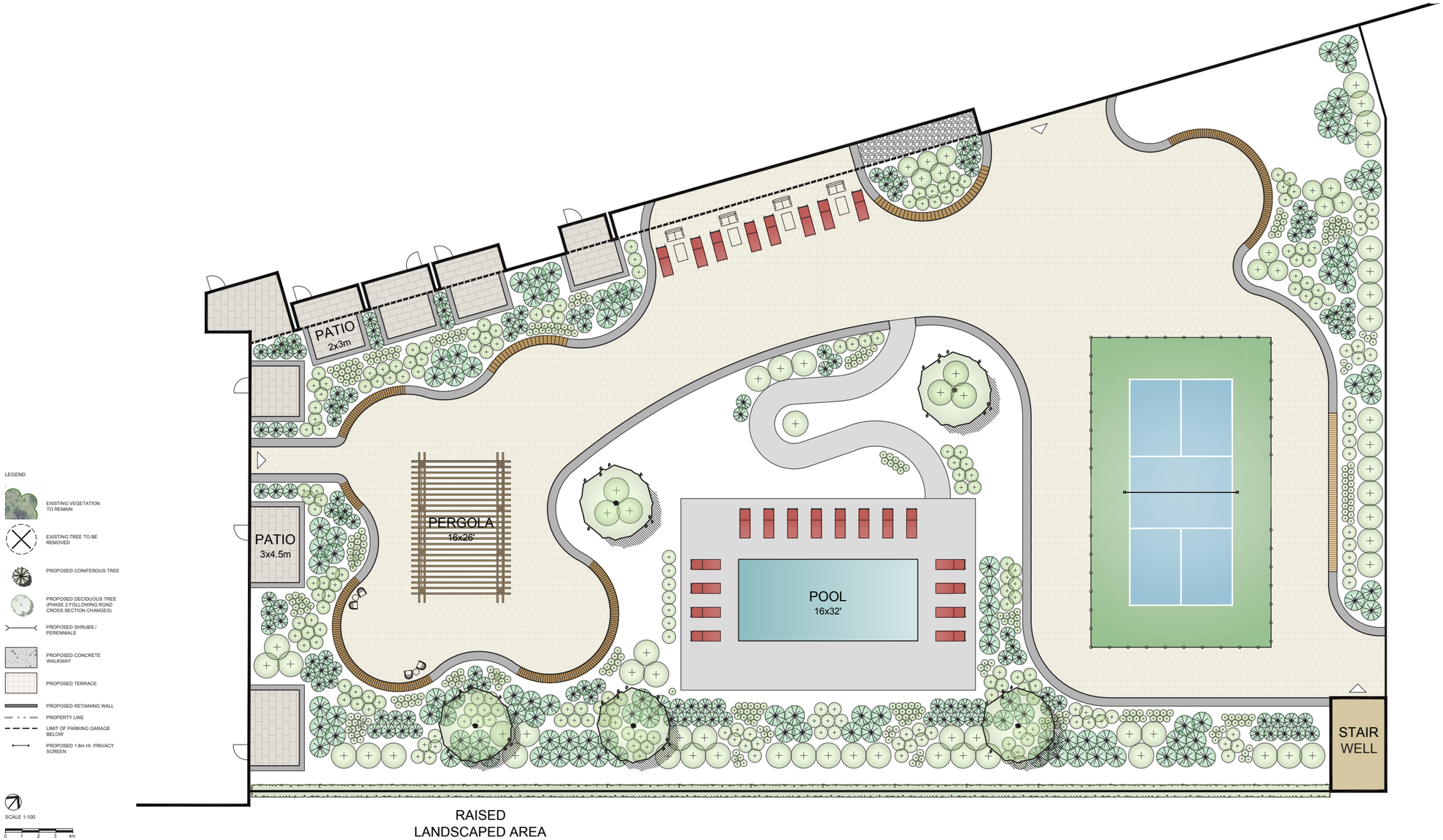
- EXISTING VEGETATION TO REMAIN
- EXISTING TREE TO BE REMOVED
- PROPOSED CONIFEROUS TREE
- PROPOSED DECIDUOUS TREE (PHASE 2 FOLLOWING ROAD CROSS SECTION CHANGES)
- PROPOSED SHRUBS / PERENNIALS
- PROPOSED PEASTONE
- PROPOSED ROOFTOP AMENITY AREA PRECAST PAVERS
- PROPOSED CONCRETE WALKWAY
- PROPOSED TERRACE
- PROPOSED ROOFTOP AMENITY AREA RETAINING WALL
- PROPOSED WOOD SLAT SEATING MOUNTED ON WALL
- PROPOSED VINES OVERHANGING WALL
- PROPOSED RETAINING WALL
- PROPERTY LINE
- LIMIT OF PARKING GARAGE BELOW
- OUTLINE OF LEVELS ABOVE / CANOPY
- PROPOSED 1.8m Ht. PRIVACY SCREEN
- PROPOSED SITE FURNITURE

SCALE 1:200

0 2 4 6 8m

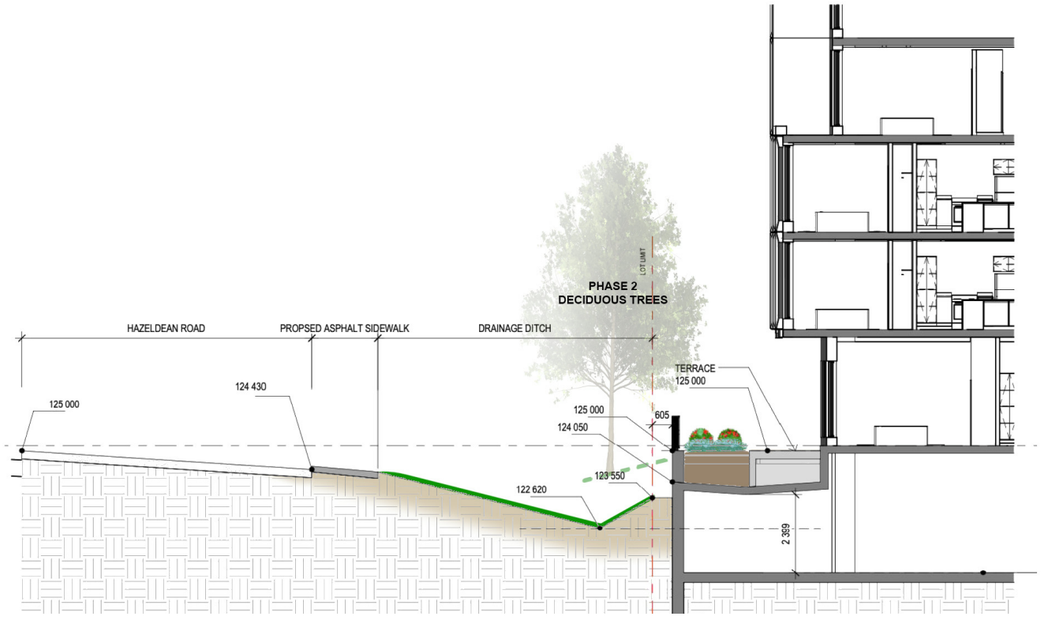
DATE: 05/22/2025

ANNEX A : PROPOSED LANDSCAPE-ROOF PATIO

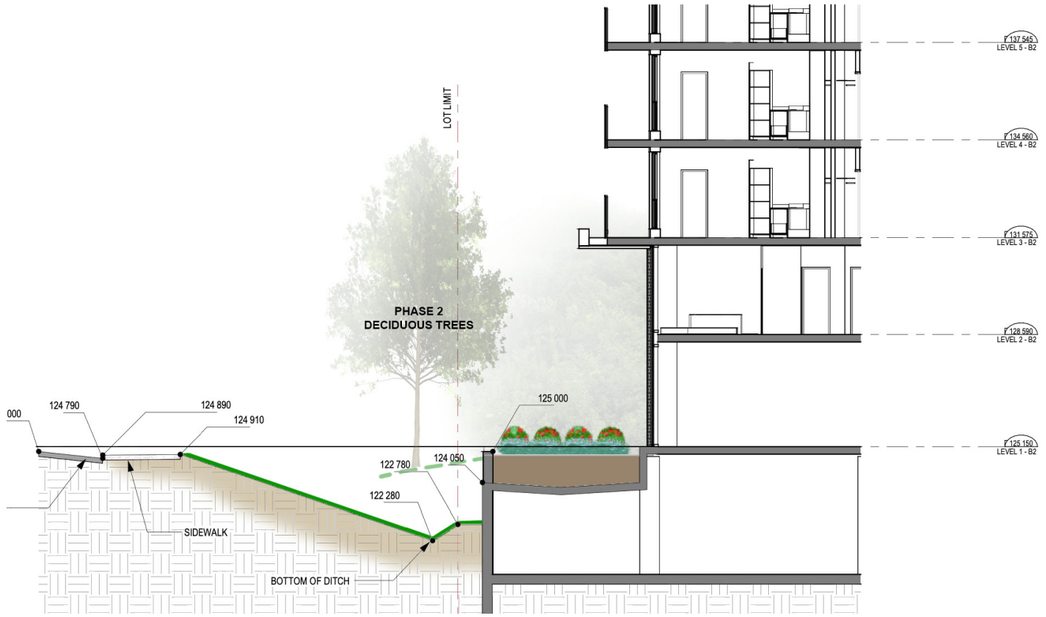


DATE: 05/21/2025

ANNEX A : NORTH-WEST (FRONT) SECTIONS THROUGH HAZELDEAN

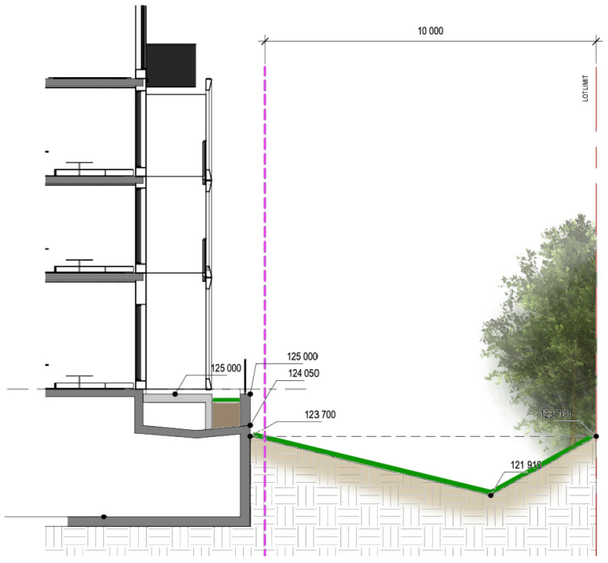


SECTION A

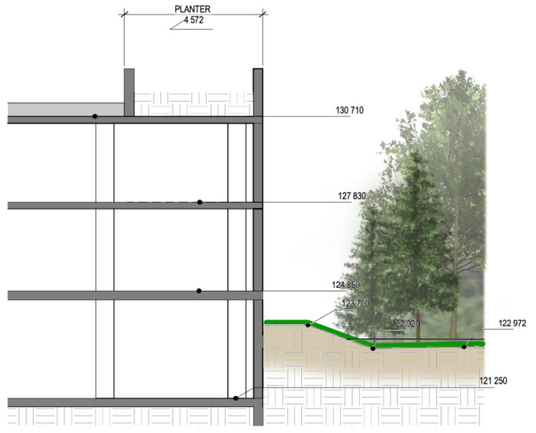


SECTION B

ANNEX A : NORTH & EAST ELVATION SECTIONS

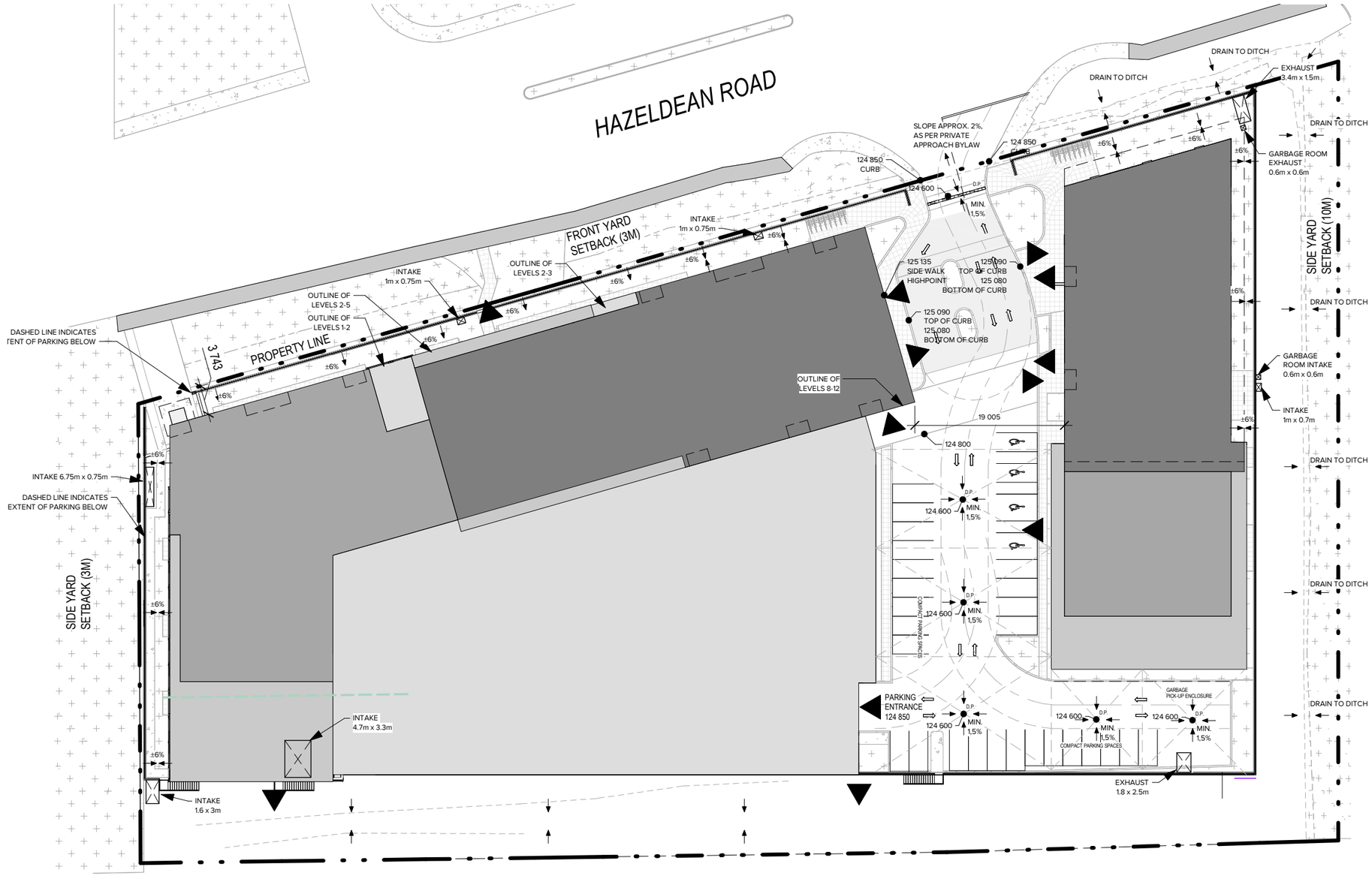


SECTION C

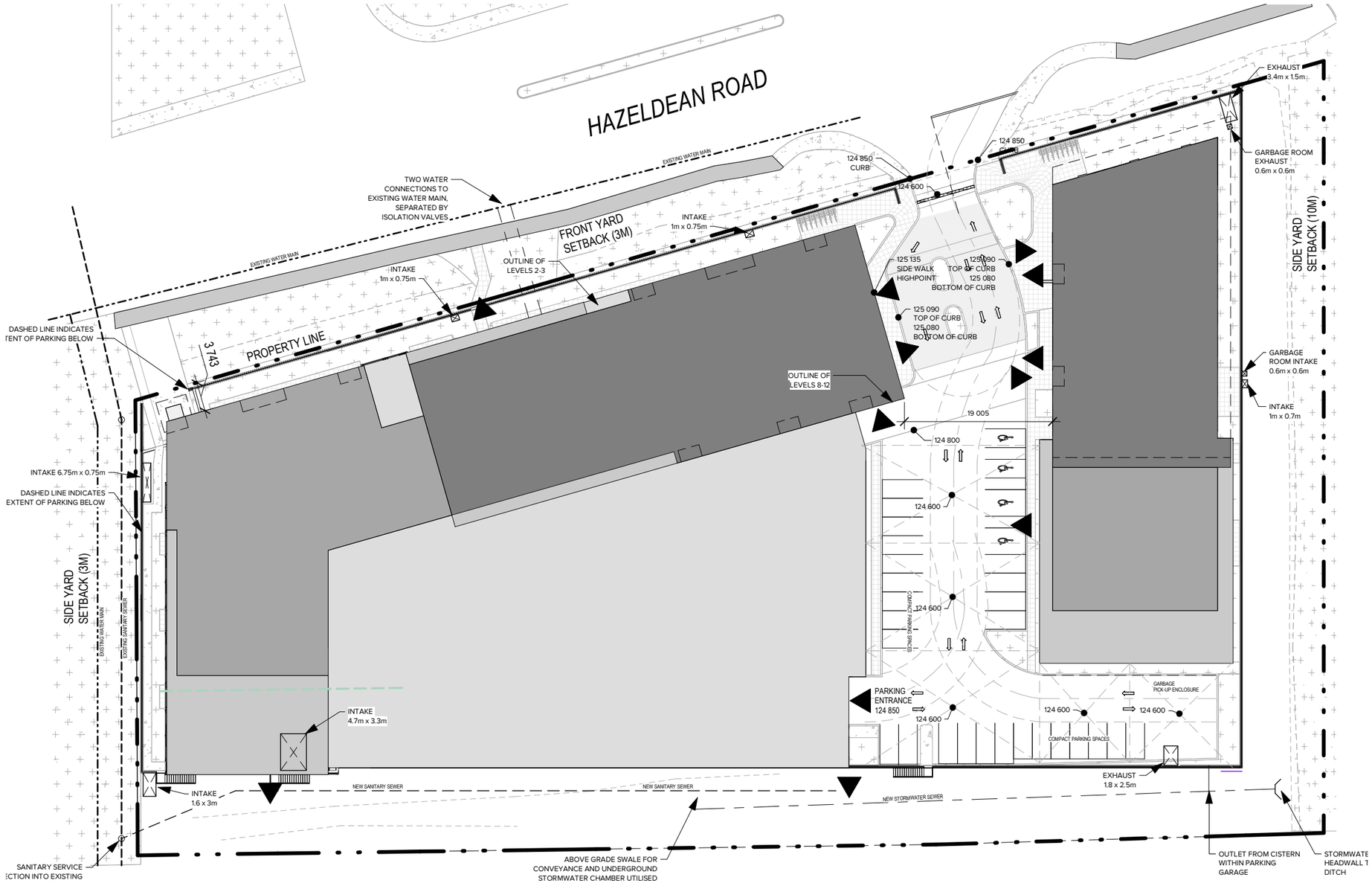


SECTION D

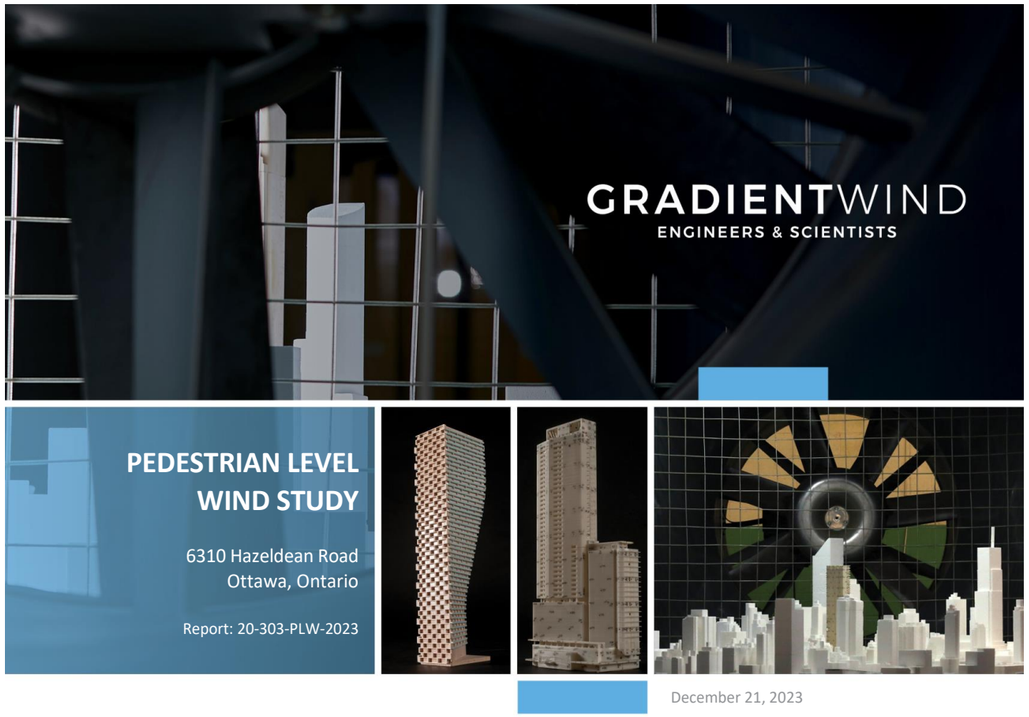
ANNEX B: GRADING PLAN



ANNEX B: SERVICES PLAN



ANNEX C : WIND STUDY



PREPARED FOR
9441-6302 Quebec Inc.
5139 De Courtrai, Suite 300
Montréal, QC H3W 0A9

PREPARED BY
Sunny Kang, B.A.S., Project Coordinator
Daniel Davalos, MESc., Wind Scientist
Justin Ferraro, P.Eng., Principal

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EXECUTIVE SUMMARY

This report describes a pedestrian level wind (PLW) study to satisfy Zoning By-law Amendment (ZBLA) application requirements for the proposed residential development located at 6310 Hazeldean Road in Ottawa, Ontario (hereinafter referred to as “subject site” or “proposed development”). Our mandate within this study is to investigate pedestrian wind conditions within and surrounding the subject site, and to identify areas where wind conditions may interfere with certain pedestrian activities so that mitigation measures may be considered, where required.

The study involves simulation of wind speeds for selected wind directions in a three-dimensional (3D) computer model using the computational fluid dynamics (CFD) technique, combined with meteorological data integration, to assess pedestrian wind comfort and safety within and surrounding the subject site according to City of Ottawa wind comfort and safety criteria. The results and recommendations derived from these considerations are detailed in the main body of the report (Section 5), illustrated in Figures 3A-5, and summarized as follows:

1) Most grade-level areas within and surrounding the subject site are predicted to experience conditions that are considered acceptable for the intended pedestrian uses throughout the year. Specifically, conditions over surrounding sidewalks, laneway, surface parking, walkways, green spaces to the east and south, and in the vicinity of building access points, are considered acceptable. The areas that are predicted to experience windy conditions are described as follows:

    a. **Northwest Corner of Building B**. Following the introduction of the proposed development, the above noted area is predicted to experience uncomfortable wind conditions, exceeding the walking threshold by a maximum of approximately 3% of the time during the winter season. While the noted conditions, which are illustrated in Figure 3D, are predicted to impact a section of the proposed walkway adjacent to the northwest corner of Building B, the majority of the windier conditions are mostly located over the road surface where pedestrian access is expected to be limited.

ANNEX C : WIND STUDY

- Notably, landscaping elements that could not be implemented in the simulation model, specifically the proposed trees at the north corner of the development, may improve wind comfort conditions at the northwest corner of Building B.
- Comfort conditions may be further improved with the implementation of mitigation in the form of a canopy along a portion of the north and west elevations of Building B, as well as wind screens strategically placed near the northwest corner of the building to reduce downwash effects incident on the 25-storey tower and to reduce corner acceleration effects, respectively.
- As noted in the addendum below, following the current study, a canopy at the northwest corner of Building B has been adopted by the design team.
- The mitigation strategy for the noted area will continue to be developed in collaboration with the building and landscape architects for the future Site Plan Control application submission.

b. **Building Access Points Serving Building B**: Due to the windy conditions predicted to occur near the northwest corner of Building B, it is recommended that the building access point serving Building B at the northwest corner be either recessed into the façade by at least 1.5 m or be relocated further to the east where conditions are suitable for standing, or better, throughout the year. Regarding the building access points serving Building B along its south elevation, conditions are considered acceptable in the vicinity of these access points as they serve as secondary access points, and an increase in the separation distance between Building B and the parking podium serving Building A would be expected to provide some improvement in the wind conditions between the two buildings.

    - As noted in the addendum below, following the current study, the building access at the northwest corner of Building B has been relocated to the east.

2) Regarding the common amenity terrace serving Building A at Level 3, conditions during the typical use period are predicted to be suitable for sitting. The noted conditions are considered acceptable.

3) The foregoing statements and conclusions apply to common weather systems, during which no dangerous wind conditions, as defined in Section 4.4, are expected anywhere over the subject site. During extreme weather events, (for example, thunderstorms, tornadoes, and downbursts), pedestrian safety is the main concern. However, these events are generally short-lived and infrequent and there is often sufficient warning for pedestrians to take appropriate cover.

Addendum: The PLW study was completed based on architectural drawings that were prepared by Figurr Architects Collective in September 2023. An updated architectural design was distributed to the consultant team in December 2023. In the updated architectural design, the parking podium to the rear of Building A has been shifted to the southwest, increasing the separation distance between the parking podium and Building B. In addition, a canopy above grade has been added to the northwest corner of Building B and the building access point serving the indoor amenity at the northwest corner of Building B has been relocated to the east, which incorporate the recommendations of the current study.

Notably, the noted changes are expected to result in a minor improvement in the predicted wind conditions between Buildings A and B, and the results and recommendations provided in this study are expected to be representative of the current architectural design. No formal updates to the PLW study are required.

ANNEX C : WIND STUDY

GRADIENTWIND
ENGINEERS & SCIENTISTS

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1. INTRODUCTION

Gradient Wind Engineering Inc. (Gradient Wind) was retained by 9441-6302 Quebec Inc. to satisfy Zoning By-law Amendment (ZBLA) application requirements for the proposed residential development located at 6310 Hazeldean Road in Ottawa, Ontario (hereinafter referred to as “subject site” or “proposed development”). A PLW study was conducted in March 2022[1] for a previous architectural design of the proposed development. The noted study includes detailed descriptions of the predicted wind conditions under the existing massing conditions. Our mandate within this study is to investigate pedestrian wind conditions within and surrounding the subject site, and to identify areas where conditions may interfere with certain pedestrian activities so that mitigation measures may be considered, where required.

Our work is based on industry standard computer simulations using the computational fluid dynamics (CFD) technique and data analysis procedures, City of Ottawa wind comfort and safety criteria, architectural drawings prepared by Figurr Architects Collective in September 2023, surrounding street layouts and existing and approved future building massing information obtained from the City of Ottawa, recent satellite imagery, and experience with numerous similar developments.

2. TERMS OF REFERENCE

The subject site is located at 6310 Hazeldean Road in Ottawa, situated centrally on a triangular parcel of land at the southwest intersection of Hazeldean Road and Carp Road. The parcel of land is bound by Hazeldean Road to the northwest, an existing low-rise building and Carp Road to the northeast, and existing low-rise dwellings and green spaces within the remaining compass directions. The proposed development comprises two buildings, referred to as “Building A” and “Building B” throughout this report. Building A rises to nine storeys, inclusive of a 2-storey podium, to the south of the subject site while Building B rises to 25 storeys, inclusive of a 9-storey podium, to the north of the subject site. The two buildings share a below-grade underground parking level. Surface parking is located central to the subject site and to the east of Building B.

The ground floor of Building A is nearly trapezoidal shaped and includes residential units along the south and west elevations, a main entrance at the northwest corner, and indoor parking spaces throughout the

[1] Gradient Wind Engineering Inc., ‘6310 Hazeldean Road– *Pedestrian Level Wind Study*’, [Mar 25, 2022]

remainder of the level. Access to the indoor parking is provided by an entrance near the northeast corner and access to below-grade parking is provided by a ramp nearly central within Building A, via a laneway from Hazeldean Road. Level 2 includes residential units along the south and west elevations and indoor parking spaces throughout the remainder of the level. Level 3 includes indoor amenities to the east and residential units throughout the remainder of the level. The building steps back from the east elevation at Level 3 to accommodate an amenity terrace. Levels 4-9 are reserved for residential occupancy. The building steps back from the east elevation at Level 4 accommodate private terraces. A building setback is located to the south at Level 7.

Building B is nearly rectangular, and the ground floor includes a main entrance at the southwest corner, an indoor amenity at the northwest corner, residential units along the north and east elevations, and shared building support spaces along the south elevation. Residential units occupy all upper levels of Building B. The northwest corner of the building extends at Level 2 and the building steps back from the south elevation at Level 3 and from the east elevation at Levels 4 and 10.

Regarding wind exposures, the near-field surroundings (defined as an area falling within a 200-metre (m) radius of the subject site) include three low-rise commercial buildings with surface parking to the northeast, north, and northwest, respectively, low-rise dwellings from the east clockwise to south-southwest, green space to the southwest, and low-rise dwellings to the west. The far-field surroundings (defined as the area beyond the near field and within a 2-kilometre (km) radius) are characterized primarily by suburban exposures to the northwest, as well as north-northeast clockwise to south-southeast, and by hybrid open-suburban exposures for the remaining compass directions. Notably, a future mixed-use subdivision comprising 20 single-detached dwellings, townhouse dwellings, five low-rise apartment buildings, and a nine-storey mixed-use building is proposed at 6171 Hazeldean Road (Application #D07-16-20-0026), located approximately 450 m to the northeast of the subject site.

A site plan for the proposed massing scenario is illustrated in Figure 1, while Figures 2A-2D illustrate the computational model used to conduct the study.

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3. OBJECTIVES

The principal objectives of this study are to (i) determine pedestrian level wind conditions at key areas within and surrounding the development site; (ii) identify areas where wind conditions may interfere with the intended uses of outdoor spaces; and (iii) recommend suitable mitigation measures, where required.

4. METHODOLOGY

The approach followed to quantify pedestrian wind conditions over the site is based on CFD simulations of wind speeds across the subject site within a virtual environment, meteorological analysis of the Ottawa area wind climate, and synthesis of computational data with City of Ottawa wind comfort and safety criteria[2]. The following sections describe the analysis procedures, including a discussion of the noted pedestrian wind criteria.

4.1 Computer-Based Context Modelling

A computer based PLW study was performed to determine the influence of the wind environment on pedestrian comfort over the proposed development site. Pedestrian comfort predictions, based on the mechanical effects of wind, were determined by combining measured wind speed data from CFD simulations with statistical weather data obtained from Ottawa Macdonald-Cartier International Airport. The general concept and approach to CFD modelling is to represent building and topographic details in the immediate vicinity of the subject site on the surrounding model, and to create suitable atmospheric wind profiles at the model boundary. The wind profiles are designed to have similar mean and turbulent wind properties consistent with actual site exposures.

An industry standard practice is to omit trees, vegetation, and other existing and planned landscape elements from the model due to the difficulty of providing accurate seasonal representation of vegetation. The omission of trees and other landscaping elements produces slightly stronger wind speeds.

[2] City of Ottawa Terms of References: Wind Analysis
https://documents.ottawa.ca/sites/default/files/torwindanalysis_en.pdf

ANNEX C : WIND STUDY

4.2 Wind Speed Measurements

The PLW analysis was performed by simulating wind flows and gathering velocity data over a CFD model of the site for 12 wind directions. The CFD simulation model was centered on the proposed development, complete with surrounding massing within a radius of 480 m. The process was performed for the proposed massing scenario, as noted in Section 2.

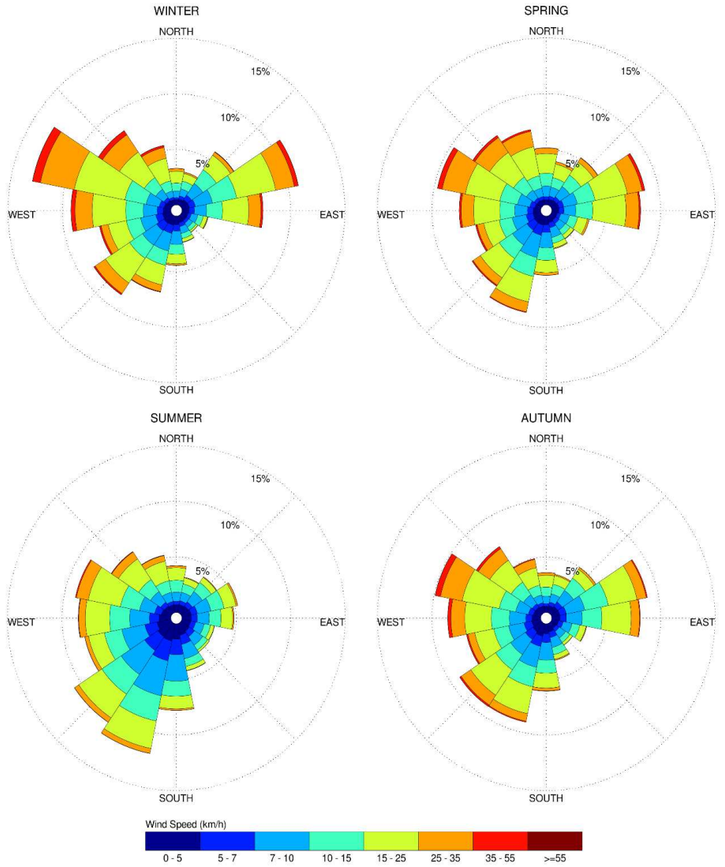
Mean and peak wind speed data obtained over the subject site for each wind direction were interpolated to 36 wind directions at 10° intervals, representing the full compass azimuth. Measured wind speeds approximately 1.5 m above local grade and the common amenity terrace serving Building A at Level 3 were referenced to the wind speed at gradient height to generate mean and peak velocity ratios, which were used to calculate full-scale values. Gradient height represents the theoretical depth of the boundary layer of the earth's atmosphere, above which the mean wind speed remains constant. Further details of the wind flow simulation technique are presented in Appendix A.

4.3 Historical Wind Speed and Direction Data

A statistical model for winds in Ottawa was developed from approximately 40 years of hourly meteorological wind data recorded at Ottawa Macdonald-Cartier International Airport and obtained from Environment and Climate Change Canada. Wind speed and direction data were analyzed for each month of the year to determine the statistically prominent wind directions and corresponding speeds, and to characterize similarities between monthly weather patterns.

The statistical model of the Ottawa area wind climate, which indicates the directional character of local winds on a seasonal basis, is illustrated on the following page. The plots illustrate seasonal distribution of measured wind speeds and directions in kilometers per hour (km/h). Probabilities of occurrence of different wind speeds are represented as stacked polar bars in sixteen azimuth divisions. The radial direction represents the percentage of time for various wind speed ranges per wind direction during the measurement period. The prominent wind speeds and directions can be identified by the longer length of the bars. For Ottawa, the most common winds occur for westerly wind directions, followed by those from the east, while the most common wind speeds are below 36 km/h. The directional prominence and relative magnitude of wind speed changes somewhat from season to season.

SEASONAL DISTRIBUTION OF WIND
OTTAWA MACDONALD-CARTIER INTERNATIONAL AIRPORT



Notes:

1. Radial distances indicate percentage of time of wind events.
2. Wind speeds are mean hourly in km/h, measured at 10 m above the ground.

ANNEX C : WIND STUDY

4.4 Pedestrian Wind Comfort and Safety Criteria – City of Ottawa

Pedestrian wind comfort and safety criteria are based on the mechanical effects of wind without consideration of other meteorological conditions (that is, temperature and relative humidity). The comfort criteria assume that pedestrians are appropriately dressed for a specified outdoor activity during any given season. Five pedestrian comfort classes based on 20% non-exceedance mean wind speed ranges are used to assess pedestrian comfort: (1) Sitting; (2) Standing; (3) Strolling; (4) Walking; and (5) Uncomfortable. The gust speeds, and equivalent mean speeds, are selected based on the Beaufort scale, which describes the effects of forces produced by varying wind speed levels on objects. Wind conditions suitable for sitting are represented by the colour blue, standing by green, strolling by yellow, and walking by orange; uncomfortable conditions are represented by the colour magenta. Specifically, the comfort classes, associated wind speed ranges, and limiting criteria are summarized as follows:

PEDESTRIAN WIND COMFORT CLASS DEFINITIONS

Wind Comfort Class	GEM Speed (km/h)	Description
SITTING	≤ 10	Mean wind speeds no greater than 10 km/h occurring at least 80% of the time. The equivalent gust wind speed is approximately 16 km/h.
STANDING	≤ 14	Mean wind speeds no greater than 14 km/h occurring at least 80% of the time. The equivalent gust wind speed is approximately 22 km/h.
STROLLING	≤ 17	Mean wind speeds no greater than 17 km/h occurring at least 80% of the time. The equivalent gust wind speed is approximately 27 km/h.
WALKING	≤ 20	Mean wind speeds no greater than 20 km/h occurring at least 80% of the time. The equivalent gust wind speed is approximately 32 km/h.
UNCOMFORTABLE	> 20	Uncomfortable conditions are characterized by predicted values that fall below the 80% target for walking. Brisk walking and exercise, such as jogging, would be acceptable for moderate excesses of this criterion.

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Regarding wind safety, the pedestrian safety wind speed criterion is based on the approximate threshold that would cause a vulnerable member of the population to fall. A 0.1% exceedance gust wind speed of 90 km/h is classified as dangerous. From calculations of stability, it can be shown that gust wind speeds of 90 km/h would be the approximate threshold wind speed that would cause an average elderly person in good health to fall. Notably, pedestrians tend to be more sensitive to wind gusts than to steady winds for lower wind speed ranges. For strong winds approaching dangerous levels, this effect is less important because the mean wind can also create problems for pedestrians.

Experience and research on people's perception of mechanical wind effects has shown that if the wind speed levels are exceeded for more than 20% of the time, the activity level would be judged to be uncomfortable by most people. For instance, if a mean wind speed of 10 km/h (equivalent gust wind speed of approximately 16 km/h) were exceeded for more than 20% of the time most pedestrians would judge that location to be too windy for sitting. Similarly, if mean wind speed of 20 km/h (equivalent gust wind speed of approximately 32 km/h) at a location were exceeded for more than 20% of the time, walking or less vigorous activities would be considered uncomfortable. As these criteria are based on subjective reactions of a population to wind forces, their application is partly based on experience and judgment.

Once the pedestrian wind speed predictions have been established throughout the subject site, the assessment of pedestrian comfort involves determining the suitability of the predicted wind conditions for discrete regions within and surrounding the subject site. This step involves comparing the predicted comfort classes to the target comfort classes, which are dictated by the location type for each region (that is, a sidewalk, building entrance, amenity space, or other). An overview of common pedestrian location types and their typical windiest target comfort classes are summarized on the following page. Depending on the programming of a space, the desired comfort class may differ from this table.

TARGET PEDESTRIAN WIND COMFORT CLASSES FOR VARIOUS LOCATION TYPES

Location Types	Comfort Classes
Primary Building Entrance	Standing
Secondary Building Access Point	Walking
Public Sidewalk / Bicycle Path	Walking
Outdoor Amenity Space	Sitting / Standing
Café / Patio / Bench / Garden	Sitting / Standing
Transit Stop (Without Shelter)	Standing
Transit Stop (With Shelter)	Walking
Public Park / Plaza	Sitting / Standing
Garage / Service Entrance	Walking
Parking Lot	Walking
Vehicular Drop-Off Zone	Walking

5. RESULTS AND DISCUSSION

The following discussion of the predicted pedestrian wind conditions for the subject site is accompanied by Figures 3A-3D, which illustrate conditions at grade level for the proposed massing scenario, and by Figures 4A-4D, which illustrate conditions over the common amenity terrace serving Building A at Level 3. Conditions are presented as continuous contours of wind comfort within and surrounding the subject site and correspond to the various comfort classes noted in Section 4.4.

Wind comfort conditions are also reported for the typical use period, which is defined as May to October, inclusive. Figure 5 illustrates wind comfort conditions over the Level 3 common amenity terrace serving Building A, consistent with the comfort classes in Section 4.4. The details of these conditions are summarized in the following pages for each area of interest.

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5.1 Wind Comfort Conditions – Grade Level

Sidewalks along Hazeldean Road: Following the introduction of the proposed development, wind comfort conditions over the nearby public sidewalks along Hazeldean Road are predicted to be suitable for a mix of sitting and standing during the summer, becoming suitable for strolling, or better, during the autumn, and suitable for a mix of standing and strolling with isolated regions suitable for walking during the spring and winter. The noted conditions are considered acceptable.

While the introduction of the proposed development produces windier conditions over Hazeldean Road in comparison to existing conditions (refer to Section 5 of the noted previous PLW report mentioned in Section 1 for a detailed description of the predicted wind comfort conditions for the existing massing scenario), wind comfort conditions are nevertheless considered acceptable.

Green Space East and South of Subject Site: Following the introduction of the proposed development, wind comfort conditions over the green space to the east, situated between the subject site and low-rise dwellings to the east, and to the south of the subject site are predicted to be suitable mostly for sitting during the summer, becoming suitable standing, or better, throughout the remainder of the year with small, isolated regions suitable for walking during the winter and spring. The noted conditions are considered acceptable.

While the introduction of the proposed development produces windier conditions over the noted green spaces in comparison to existing conditions (refer to Section 5 of the noted previous PLW report mentioned in Section 1 for a detailed description of the predicted wind comfort conditions for the existing massing scenario), wind comfort conditions are nevertheless considered acceptable.

Private Laneway, Surface Parking, and Walkways Within Subject Site: Wind comfort conditions over the private laneway situated central to the subject site are predicted to be suitable for standing during the summer, becoming suitable for strolling, or better, during the autumn, and suitable for walking, or better, during the winter and spring. Conditions over the surface parking between Building A and Building B are predicted to be suitable for standing during the summer, becoming suitable for a mix of standing and strolling during the autumn, and suitable for a mix of strolling and walking during the winter and spring. Conditions over the surface parking to the east of Building B are predicted to be suitable for standing, or better, during the summer, becoming suitable for a mix of standing and strolling during the spring and

autumn, and suitable for a mix of standing, strolling, and walking during the winter. While the noted areas are predicted to experience windy conditions owing to channelling effects and downwash incident on the 25-storey tower, the wind comfort conditions are considered satisfactory for the intended pedestrian uses throughout the year.

Conditions over the walkways within the subject site are predicted to be suitable for a mix of sitting and standing with a small, isolated region suitable for strolling near the northwest corner of Building B during the summer, becoming suitable for strolling, or better, with a small, isolated region suitable for walking near the northwest corner of Building B during the autumn, and suitable for walking, or better, during the winter and spring. The windiest conditions are situated near the northwest corner of Building B, where an isolated region of uncomfortable conditions is predicted to occur during the winter. Specifically, conditions during the winter season at the northwest corner of Building B are predicted to be suitable for walking for approximately 77% of the time, representing a 3% exceedance of the walking threshold. While the noted conditions are predicted to impact a section of the proposed walkway, the majority of the windier conditions are mostly located over the road surface where pedestrian access is expected to be limited.

Notably, landscaping elements that could not be implemented in the simulation model, specifically the proposed trees at the north corner of the development, may improve the wind comfort conditions at the northwest corner of Building B. Comfort conditions may be further improved with the implementation of mitigation in the form of a canopy along a portion of the north and west elevations of Building B, as well as wind screens strategically placed near the northwest corner of the building to reduce downwash effects incident on the 25-storey tower and to reduce corner acceleration effects, respectively. An appropriate mitigation strategy will be developed in collaboration with the building and landscape architects for the future Site Plan Control application submission.

Building Access Points: Conditions in the vicinity of all building access points serving Building A, and in the vicinity of the main building access at the southwest corner of Building B are predicted to be suitable for standing, or better, throughout the year. The noted conditions considered acceptable.

Conditions in the vicinity of the building access points serving Building B along the south elevation are predicted to be suitable for standing during the summer and autumn, becoming suitable for a mix of standing and strolling during the winter and spring. As the noted building access points along the south elevation serve as secondary entrances and exits to Building B, the noted conditions are considered acceptable.

Conditions in the vicinity of the indoor amenity access near the northwest corner of Building B are predicted to be suitable for a mix of mostly sitting and standing throughout the year, with conditions that may be considered uncomfortable for walking near the northwest corner of Building B. Due to the windy conditions predicted to occur near the northwest corner of Building B, it is recommended that the noted building access point be recessed into the façade by at least 1.5 m to provide calmer wind conditions, or relocated further to the east along the north elevation of Building B to where conditions are suitable for standing, or better, throughout the year.

5.2 Wind Comfort Conditions – Level 3 Common Amenity Terrace

Wind comfort conditions within the common amenity terrace serving Building A at Level 3 are predicted to be suitable for sitting during the typical use period, as illustrated in Figure 5. The noted conditions are considered acceptable.

ANNEX C : WIND STUDY

5.3 Wind Safety

Within the context of typical weather patterns, which exclude anomalous localized storm events such as tornadoes and downbursts, no pedestrian areas within or surrounding the subject site are expected to experience conditions that could be considered dangerous, as defined in Section 4.4.

5.4 Applicability of Results

Pedestrian wind comfort and safety have been quantified for the specific configuration of existing and foreseeable construction around the subject site. Future changes (that is, construction or demolition) of these surroundings may cause changes to the wind effects in two ways, namely: (i) changes beyond the immediate vicinity of the subject site would alter the wind profile approaching the subject site; and (ii) development in proximity to the subject site would cause changes to local flow patterns.

6. CONCLUSIONS AND RECOMMENDATIONS

A complete summary of the predicted wind conditions is provided in Section 5 of this report and illustrated in Figures 3A-5. Based on computer simulations using the CFD technique, meteorological data analysis, and experience with numerous similar developments, the study concludes the following:

1) Most grade-level areas within and surrounding the subject site are predicted to experience conditions that are considered acceptable for the intended pedestrian uses throughout the year. Specifically, conditions over surrounding sidewalks, laneway, surface parking, walkways, green spaces to the east and south, and in the vicinity of building access points, are considered acceptable. The areas that are predicted to experience windy conditions are described as follows:

    a. **Northwest Corner of Building B**. Following the introduction of the proposed development, the above noted area is predicted to experience uncomfortable wind conditions, exceeding the walking threshold by a maximum of approximately 3% of the time during the winter season. While the noted conditions, which are illustrated in Figure 3D, are predicted to impact a section of the proposed walkway adjacent to the northwest corner of Building B, the majority of the windier conditions are mostly located over the road surface where pedestrian access is expected to be limited.

- Notably, landscaping elements that could not be implemented in the simulation model, specifically the proposed trees at the north corner of the development, may improve wind comfort conditions at the northwest corner of Building B.
- Comfort conditions may be further improved with the implementation of mitigation in the form of a canopy along a portion of the north and west elevations of Building B, as well as wind screens strategically placed near the northwest corner of the building to reduce downwash effects incident on the 25-storey tower and to reduce corner acceleration effects, respectively.
- As noted in the addendum below, following the current study, a canopy at the northwest corner of Building B has been adopted by the design team.
- The mitigation strategy for the noted area will continue to be developed in collaboration with the building and landscape architects for the future Site Plan Control application submission.

    b. **Building Access Points Serving Building B**: Due to the windy conditions predicted to occur near the northwest corner of Building B, it is recommended that the building access point serving Building B at the northwest corner be either recessed into the façade by at least 1.5 m or be relocated further to the east where conditions are suitable for standing, or better, throughout the year. Regarding the building access points serving Building B along its south elevation, conditions are considered acceptable in the vicinity of these access points as they serve as secondary access points, and an increase in the separation distance between Building B and the parking podium serving Building A would be expected to provide some improvement in the wind conditions between the two buildings.

        - As noted in the addendum below, following the current study, the building access at the northwest corner of Building B has been relocated to the east.

2) Regarding the common amenity terrace serving Building A at Level 3, conditions during the typical use period are predicted to be suitable for sitting. The noted conditions are considered acceptable.

ANNEX C : WIND STUDY

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3) The foregoing statements and conclusions apply to common weather systems, during which no dangerous wind conditions, as defined in Section 4.4, are expected anywhere over the subject site. During extreme weather events, (for example, thunderstorms, tornadoes, and downbursts), pedestrian safety is the main concern. However, these events are generally short-lived and infrequent and there is often sufficient warning for pedestrians to take appropriate cover.

Sincerely,

Gradient Wind Engineering Inc.

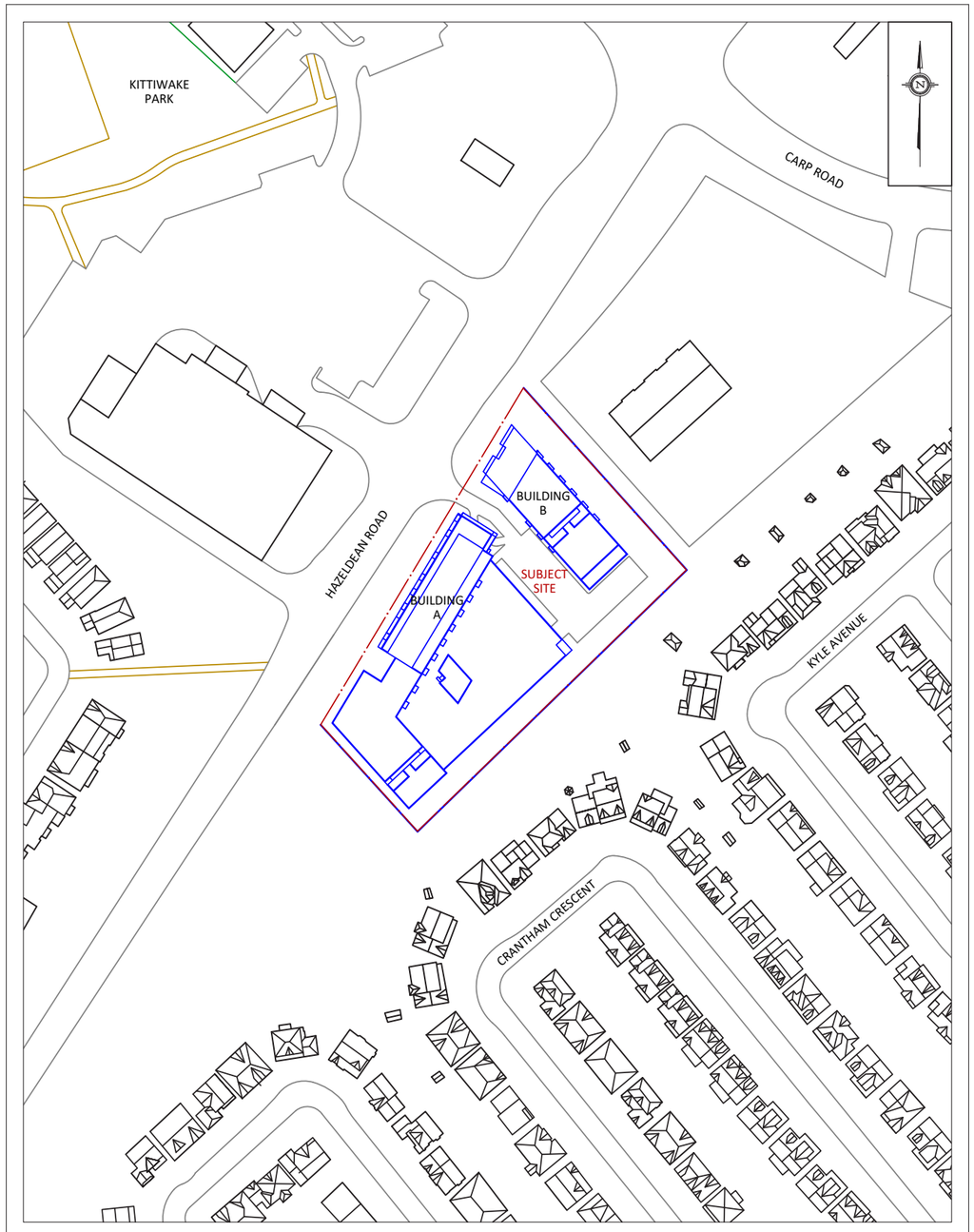
LICENSED PROFESSIONAL ENGINEER
J. D. FERRARO
100158495
Dec 21, 2023
PROVINCE OF ONTARIO

Daniel Davalos, MESc.
Wind Scientist

Justin Ferraro, P.Eng.
Principal

Sunny Kang

Sunny Kang, B.A.S.
Project Coordinator



GRADIENTWIND ENGINEERS & SCIENTISTS | PROJECT: 6310 HAZELDEAN ROAD, OTTAWA PEDESTRIAN LEVEL WIND STUDY | DESCRIPTION: FIGURE 1: | SCALE: 1:1500 | DRAWING NO.: 20-303-PLW-2023-1

ANNEX C : WIND STUDY

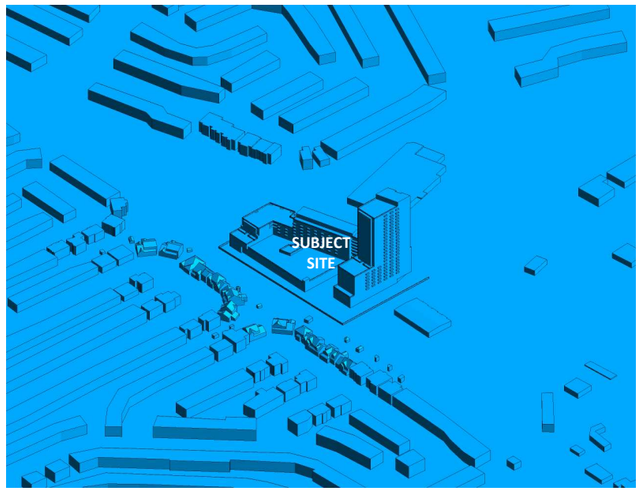


FIGURE 2A: COMPUTATIONAL MODEL, PROPOSED MASSING, EAST PERSPECTIVE

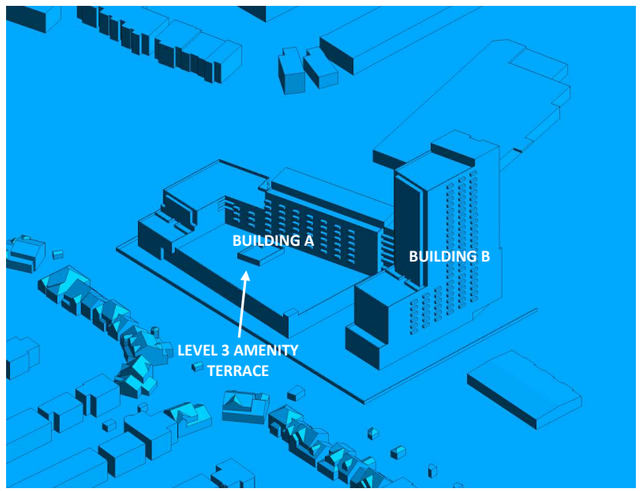


FIGURE 2B: CLOSE-UP VIEW OF FIGURE 2A

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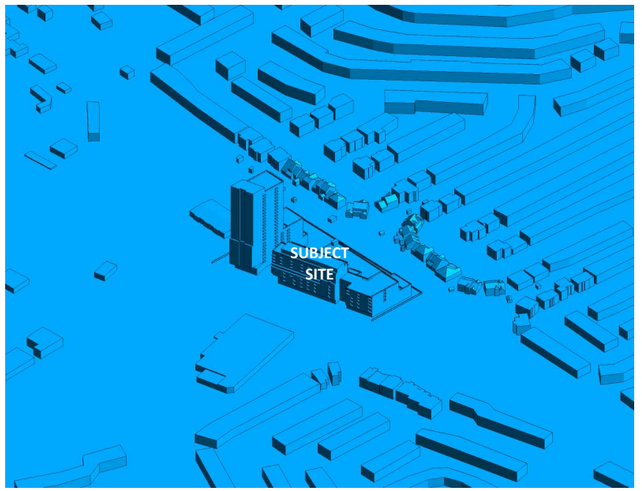


FIGURE 2C: COMPUTATIONAL MODEL, PROPOSED MASSING, WEST PERSPECTIVE

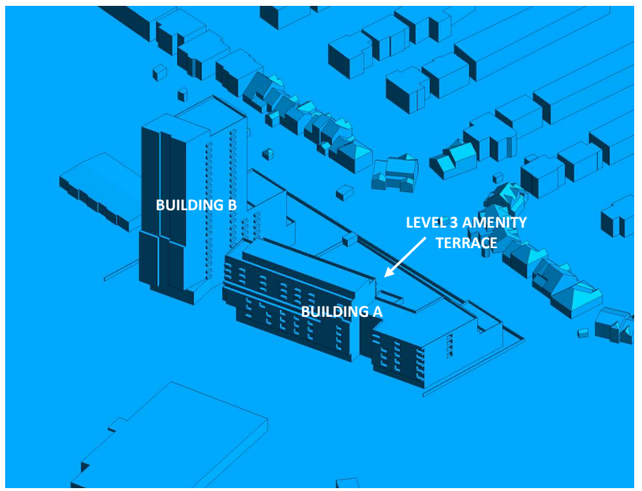


FIGURE 2D: CLOSE-UP VIEW OF FIGURE 2C

ANNEX C : WIND STUDY

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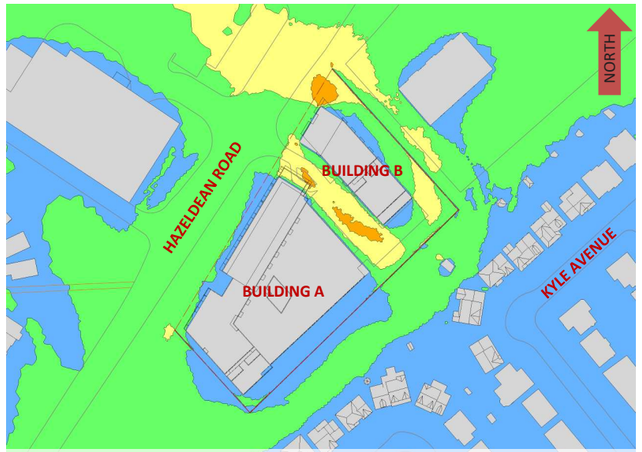


FIGURE 3A: SPRING – WIND COMFORT, GRADE LEVEL – PROPOSED MASSING

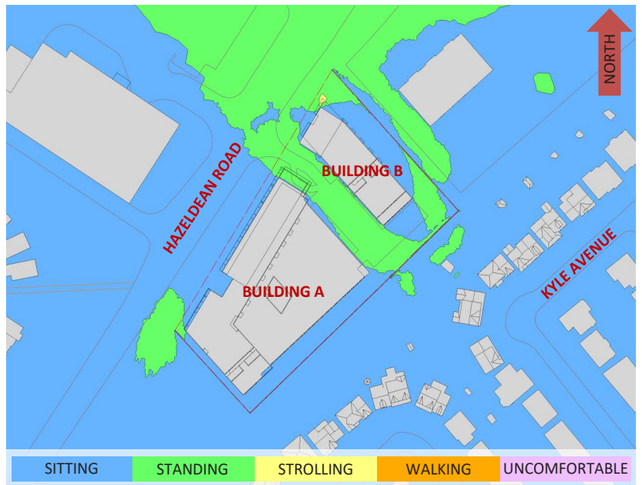


FIGURE 3B: SUMMER – WIND COMFORT, GRADE LEVEL – PROPOSED MASSING

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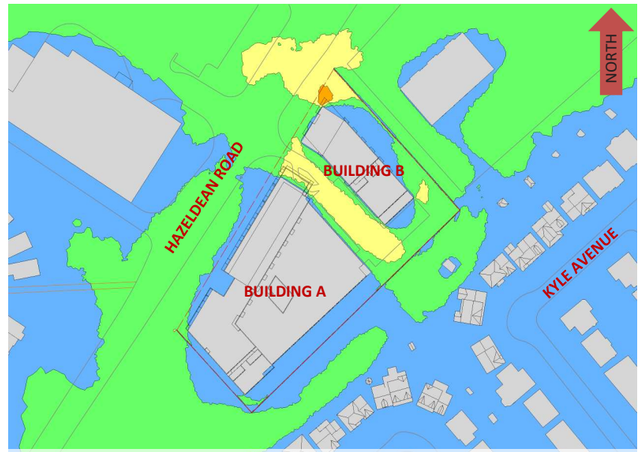


FIGURE 3C: AUTUMN – WIND COMFORT, GRADE LEVEL – PROPOSED MASSING

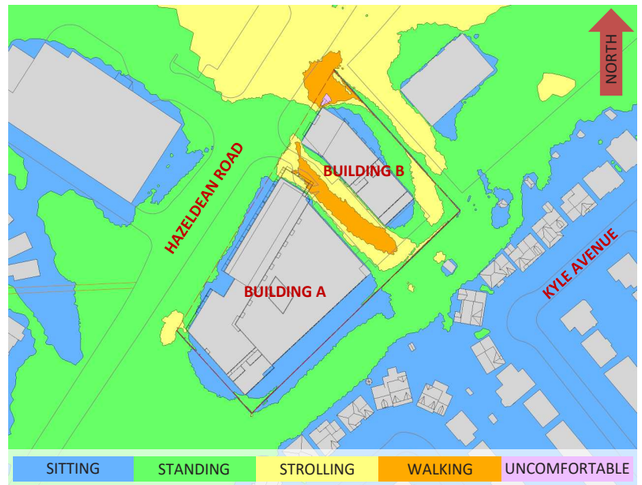


FIGURE 3D: WINTER – WIND COMFORT, GRADE LEVEL – PROPOSED MASSING

ANNEX C : WIND STUDY

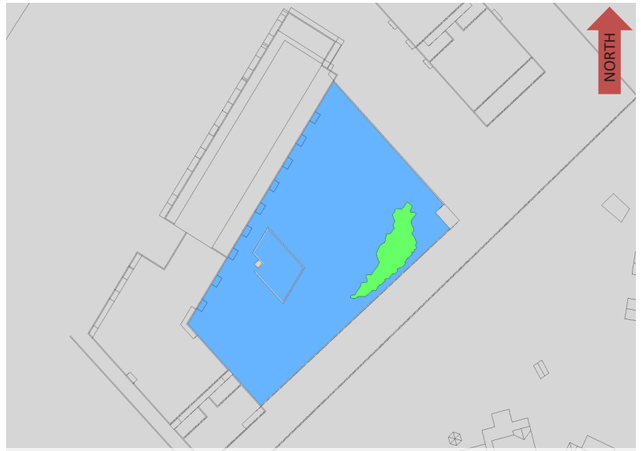


FIGURE 4A: SPRING – WIND COMFORT, LEVEL 3 COMMON AMENITY TERRACE

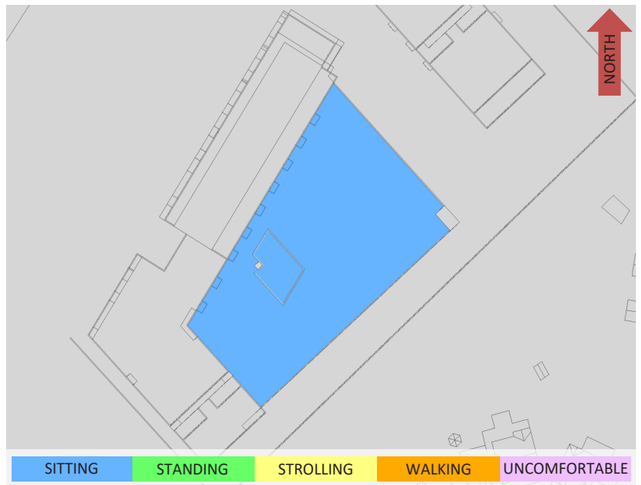


FIGURE 4B: SUMMER – WIND COMFORT, LEVEL 3 COMMON AMENITY TERRACE

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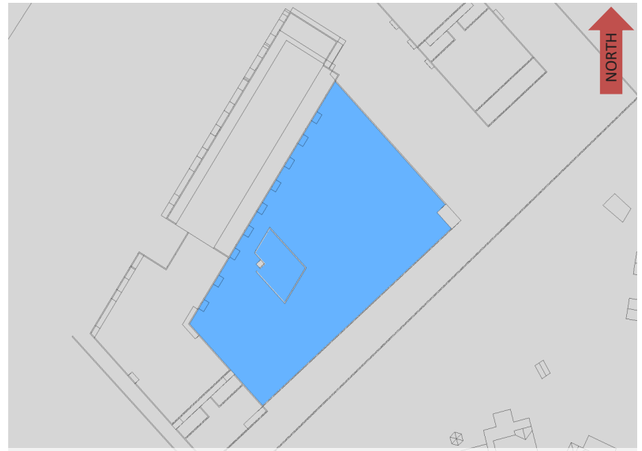


FIGURE 4C: AUTUMN – WIND COMFORT, LEVEL 3 COMMON AMENITY TERRACE

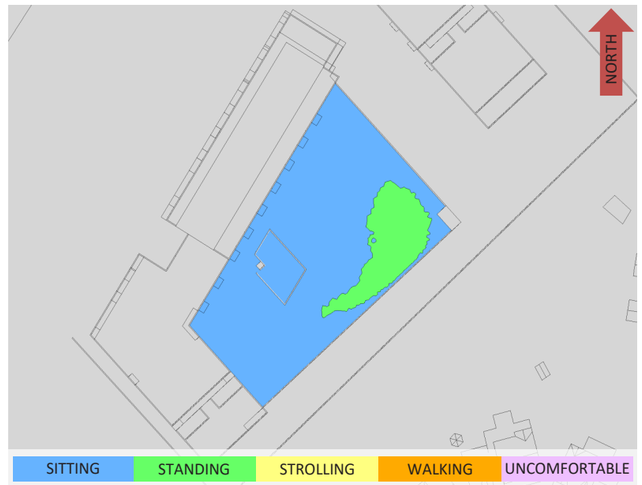


FIGURE 4D: WINTER – WIND COMFORT, LEVEL 3 COMMON AMENITY TERRACE

ANNEX C : WIND STUDY

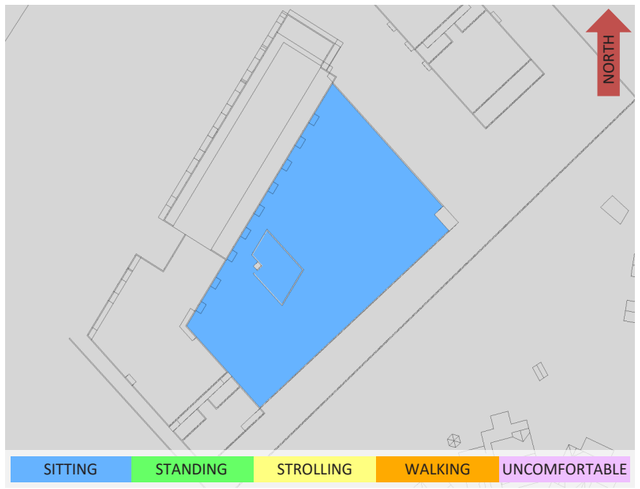
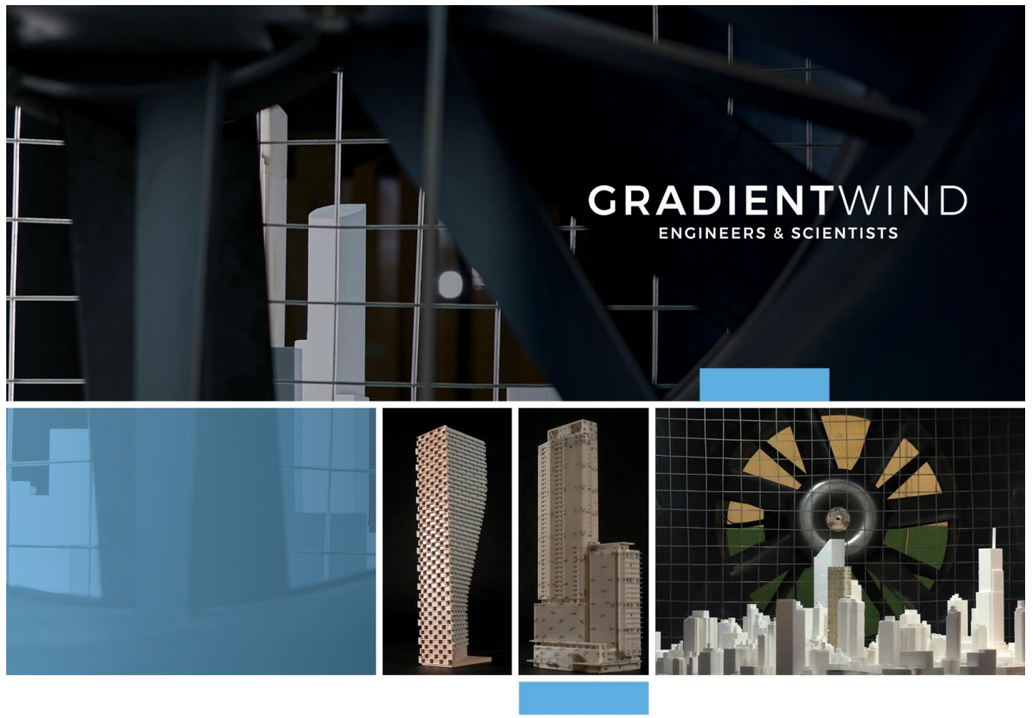


FIGURE 5: TYPICAL USE PERIOD – WIND COMFORT, LEVEL 3 COMMON AMENITY TERRACE



APPENDIX A

SIMULATION OF THE ATMOSPHERIC BOUNDARY LAYER

ANNEX C : WIND STUDY

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SIMULATION OF THE ATMOSPHERIC BOUNDARY LAYER

The atmospheric boundary layer (ABL) is defined by the velocity and turbulence profiles according to industry standard practices. The mean wind profile can be represented, to a good approximation, by a power law relation, Equation (1), giving height above ground versus wind speed (1), (2).

$$U = U_g \left(\frac{Z}{Z_g}\right)^{\alpha} \qquad \text{Equation (1)}$$

where, $\boldsymbol{U}$ = mean wind speed, $\boldsymbol{U_g}$ = gradient wind speed, $\boldsymbol{Z}$ = height above ground, $\boldsymbol{Z_g}$ = depth of the boundary layer (gradient height), and $\boldsymbol{\alpha}$ is the power law exponent.

For the model, U_g is set to 6.5 metres per second (m/s), which approximately corresponds to the 60% mean wind speed for Ottawa based on historical climate data and statistical analyses. When the results are normalized by this velocity, they are relatively insensitive to the selection of gradient wind speed.

Z_g is set to 540 m. The selection of gradient height is relatively unimportant, so long as it exceeds the building heights surrounding the subject site. The value has been selected to correspond to our physical wind tunnel reference value.

α is determined based on the upstream exposure of the far-field surroundings (that is, the area that it not captured within the simulation model).

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Table 1 presents the values of α used in this study, while Table 2 presents several reference values of α. When the upstream exposure of the far-field surroundings is a mixture of multiple types of terrain, the α values are a weighted average with terrain that is closer to the subject site given greater weight.

TABLE 1: UPSTREAM EXPOSURE (ALPHA VALUE) VS TRUE WIND DIRECTION

Wind Direction (Degrees True)	Alpha Value (α)
0	0.20
49	0.22
74	0.22
103	0.23
167	0.20
197	0.19
217	0.19
237	0.19
262	0.19
282	0.19
301	0.20
324	0.20

TABLE 2: DEFINITION OF UPSTREAM EXPOSURE (ALPHA VALUE)

Upstream Exposure Type	Alpha Value (α)
Open Water	0.14-0.15
Open Field	0.16-0.19
Light Suburban	0.21-0.24
Heavy Suburban	0.24-0.27
Light Urban	0.28-0.30
Heavy Urban	0.31-0.33

ANNEX C : WIND STUDY

The turbulence model in the computational fluid dynamics (CFD) simulations is a two-equation shear-stress transport (SST) model, and thus the ABL turbulence profile requires that two parameters be defined at the inlet of the domain. The turbulence profile is defined following the recommendations of the Architectural Institute of Japan for flat terrain (3).

$$I(Z) = \begin{cases} 0.1\left(\frac{Z}{Z_g}\right)^{-\alpha-0.05}, & Z > 10\ \text{m} \\ 0.1\left(\frac{10}{Z_g}\right)^{-\alpha-0.05}, & Z \leq 10\ \text{m} \end{cases} \quad \text{Equation (2)}$$

$$L_t(Z) = \begin{cases} 100\ \text{m}\sqrt{\frac{Z}{30}}, & Z > 30\ \text{m} \\ 100\ \text{m}, & Z \leq 30\ \text{m} \end{cases} \quad \text{Equation (3)}$$

where, I = turbulence intensity, L_t = turbulence length scale, Z = height above ground, and α is the power law exponent used for the velocity profile in Equation (1).

Boundary conditions on all other domain boundaries are defined as follows: the ground is a no-slip surface; the side walls of the domain have a symmetry boundary condition; the top of the domain has a specified shear, which maintains a constant wind speed at gradient height; and the outlet has a static pressure boundary condition.

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REFERENCES

[1] P. Arya, "Chapter 10: Near-neutral Boundary Layers," in *Introduction to Micrometeorology*, San Diego, California, Academic Press, 2001.

[2] S. A. Hsu, E. A. Meindl and D. B. Gilhousen, "Determining the Power-Law WInd Profile Exponent under Near-neutral Stability Conditions at Sea," vol. 33, no. 6, 1994.

[3] Y. Tamura, H. Kawai, Y. Uematsu, K. Kondo and T. Okhuma, "Revision of AIJ Recommendations for Wind Loads on Buildings," in *The International Wind Engineering Symposium, IWES 2003*, Taiwan, 2003.

ANNEX C : WIND STUDY

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May 20, 2025

SEC Hazeldean
5139 ave de Courtrai, suite 300
Montréal, QC H3W 0A9

Attn: Félix Allaire
felix@scalia.ca

Dear Mr. Allaire:

Re: Pedestrian Level Wind Study Addendum
6310 Hazeldean Road, Ottawa, ON
Gradient Wind File 20-303

Gradient Wind Engineering Inc. (Gradient Wind) completed a computational pedestrian level wind (PLW) study to satisfy Zoning By-law Amendment (ZBLA) application submission requirements for the proposed development located at 6310 Hazeldean Road in Ottawa, Ontario[1]. The study was conducted based on architectural drawings provided by Figurr Architects Collective in September 2023[2]. Subsequently, an updated set of architectural drawings was provided to the consultant team in December 2023[3] which included some differences to the massing design that were described in the noted PLW study. Furthermore, an addendum letter was provided in March 2024[4] to address further massing changes.

As compared to the massing considered in the 2023 PLW study, the current architectural drawings, which were distributed to the consultant team in May 2025[5], include several modest changes. Of note, the May 2025 massing remains similar to the March 2024 massing, which was described in the above-noted March 2024 addendum letter.

[1] Gradient Wind Engineering Inc., '*6310 Hazeldean Road – Pedestrian Level Wind Study*', [Dec 21, 2023]
[2] Figurr Architects Collective, '*6310 Hazeldean Road*', [Sep 8, 2023]
[3] Figurr Architects Collective, '*6310 Hazeldean Road – SPC Rezone*', [Nov 29, 2023]
[4] Gradient Wind Engineering Inc., '*6310 Hazeldean Road – Pedestrian Level Wind Study Addendum*', [Mar 27, 2024]
[5] ACDF Architecture, '*Scalia, Stittsville-Hazeldean*', [May 9, 2025]

Considering Hazeldean Road as project north-northwest, the height of Building A has increased from 9 to 12 storeys, while the west wing has increased from 6 to 7 storeys and the extension along the east elevation from Level 3 to the MPH Level has been removed. The height of Building B has decreased from 25 to 21 storeys. Furthermore, the northeast corner of Building A is no longer accessible to pedestrians.

The original PLW study concluded that most grade-level areas within and surrounding the subject site were predicted to experience conditions that were considered acceptable for the intended pedestrian uses throughout the year, inclusive of the nearby public sidewalks, laneways, surface parking, walkways, green spaces, and in the vicinity of building access points. Wind conditions within the common amenity terrace serving Building A at Level 3 were predicted to be suitable for sitting during the typical use period (that is, from May to October, inclusive), which was considered acceptable. Regarding the building access point near the northeast corner of Building B, considering Hazeldean Road as project north-northwest, wind comfort conditions in the immediate vicinity were predicted to exceed the walking threshold by a maximum of approximately 3% of the time during the winter season.

From a wind engineering perspective, the differences in the 2023 and the 2025 massing designs are considered modest. Conditions at grade within and surrounding the subject site are expected to be similar for the current massing and may be slightly improved due to the reduction in height of Building A. Regarding the wind comfort conditions within the Level 3 amenity terrace serving Building A, conditions are expected to remain calm and suitable for sitting during the typical use period. As the northeast corner of the subject site is no longer accessible to pedestrians, mitigation such as the proposed canopy and entrance relocation is not required for this corner.

In summary, the conclusions as detailed in the original PLW study are expected to remain mostly representative for the proposed design presented in May 2025 and wind conditions within and surrounding the proposed development are expected to remain suitable for the intended pedestrian uses.

Sincerely,

Gradient Wind Engineering Inc.

David Huitema, M.Eng., P.Eng.
CFD Lead Engineer



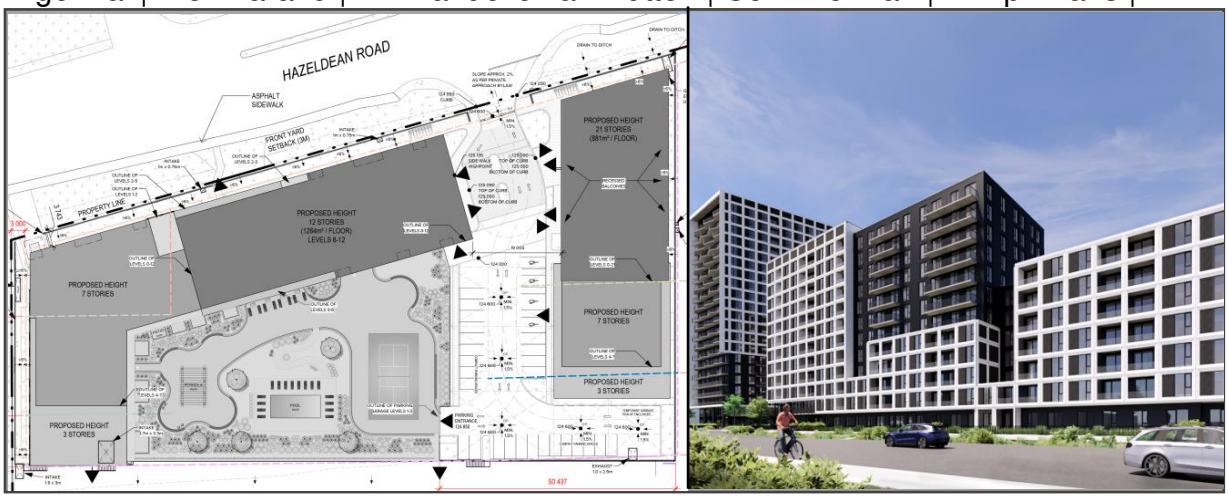
Appendix 2
UDRP Recommendations

FOTENN

URBAN DESIGN REVIEW PANEL RECOMMENDATIONS
June 6th, 2025

6310 Hazeldean Road | Informal Pre-Consultation Review | Site Plan Control & Minor Zoning By-Law | SCALIA Properties, ACDF Architecture, James B. Lennox & Associates and Fotenn Planning + Design

Panel Members in Attendance: David Leinster | James Parakh | Heather Rolleston | Nigel Tai | Alex Taranu | Emmanuelle van Rutten | Colin Berman | Philip Evans |



Key Recommendations

- The Panel supports the marked improvement from the previous submission and commends the overall design sophistication.
- The Panel raised concern about the development reading as a superblock. The Panel recommends further articulation or variation in massing, particularly in the middle building, to help visually break down the composition.
- The Panel supports the strong architectural expression of the tower and recommends it be treated as a distinct architectural element.
    - The Panel suggests the tower be designed as a building "in the round," recognizing its visibility from all sides and ensuring consistent architectural treatment across all elevations.
- The Panel supports the setback and safe-edge treatment approach along Hazeldean and encourages maintaining a generous pedestrian buffer from the busy arterial.
- The Panel recommends minimizing the prominence of the vehicular drop-off from the street and emphasizing pedestrian connectivity. This can be achieved by enhancing the landscape and making the entry feel more like a street.

Site Design & Public Realm

- The Panel encourages reconsidering the treatment of the east and south setback areas, suggesting they could serve as active, biodiverse landscape spaces with pollinator gardens, walking paths, or informal amenity spaces for residents.
- The Panel suggests that the future connection to the adjacent park (to the west of the site) should be planned to anticipate the residents desire for access and improved overall site permeability.
- One Panel member supports the temporary use of an asphalt pathway along Hazeldean Road but recommends a more generous setback to create a comfortable, safe edge, especially for children and cyclists. Other panel members recommend that a minimum 2.1 concrete sidewalk be constructed now, to signal the emerging more urban context.
- The Panel appreciates the effective minimization of internal vehicular movement. However, continued attention is encouraged to preserve a pedestrian-prioritized experience.
    - The Panel suggests enhancing the entrance condition to reduce the prominence of vehicular movement and support pedestrian orientation.
- The Panel advises that above-grade parking levels should retain sufficient floor-to-ceiling heights to enable future adaptive reuse.
- The Panel suggests incorporating additional cycling infrastructure at-grade such as a bike repair station or shared utility room to further support active transportation.

Sustainability

- The Panel commends the project's intention to pursue geothermal energy and encourages continued commitment to sustainability targets.
- The Panel supports low-carbon materials and temporary solutions where appropriate — such as the use of asphalt over concrete for the Hazeldean pathway.

Built Form & Architecture

- The Panel appreciates the architectural articulation, especially the detailing of the precast elements and subtle modulation of the black and white palette.
- The Panel recommends careful attention be paid to detailing at material transitions, particularly where black materials meet white precast — use of reveals and careful joint design is recommended.

- The Panel recommends studying alternatives to the tower expression which pairs a similar expression on the east and west elevations and an alternative expression on the north and south elevations geometry of the tower by thinking about the tower expression as a cohesive form being “visible in the round”.
    - The panel also recommends further grounding of the tower is encouraged to reinforce its role as a vertical landmark for the site.
- The Panel recommends more significant differentiation in massing and articulation of the middle block to avoid visual monotony and reinforce the three-building concept. The Panel suggests the middle building having a singular design expression above the podium.
- The Panel suggests the transition of balcony expression could be refined to maintain consistency between the tower and mid-rise blocks, with subtle language or geometry linkages.
    - The Panel advises that views from the underside of balconies should be considered— unfinished concrete may not be visually appropriate, and finishing should be planned where needed.
    - The Panel suggests a subtle nod in balcony design—perhaps an angular shift—on the black mid-rise volume to create a subtle connection with the tower.
- The Panel suggests refining the gold/champagne insulated panels that meet grade, which may appear vulnerable, and recommends durable detailing.
- The Panel suggests repeating the champagne panel treatment at the other entrance to highlight and differentiate it from the base expression.
- The Panel recommends considering how the façade expression might help break the perceived length of the white grid in elevation with strategic interruptions or compositional adjustment.
- The Panel suggests enhancing the northwest corner with a stronger architectural gesture to better pick up and address the adjacent corridor and future road edge.