REPORT

2172 WYECROFT ROAD

OAKVILLE, ON

PEDESTRIAN WIND STUDY

RWDI # 2408681

July 31, 2025

SUBMITTED TO

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EXECUTIVE SUMMARY

RWDI was retained to conduct a pedestrian wind assessment for the proposed 2172 Wyecroft Road in Oakville, ON. The assessment was based on the wind-tunnel testing conducted for the Existing and Proposed Configurations of the development site and surroundings. The results were analysed using the regional wind climate records and evaluated against the RWDI Pedestrian Wind Criteria for pedestrian comfort (pertaining to common wind speeds conducive to different levels of human activity) and pedestrian safety (pertaining to infrequent but strong gusts that could affect a person's footing). The predicted wind conditions are presented in Figures 1A through 3B and Table 1, and are summarized as follows:

- In the Existing Configuration, wind conditions on the sidewalks and walkways around the project site are generally appropriate for pedestrian use throughout the year, except in a localized area at the northwest corner of the site and farther away in the parking lot to the northeast of the site, where uncomfortable wind conditions are expected during the winter. The wind safety criterion is expected to be met at all assessed locations in the Existing Configuration.

- In the Proposed Configuration, wind speeds comfortable for the intended pedestrian use are expected at most locations during the summer. Uncomfortable wind conditions are anticipated at the northwest corner of the Parcel A, while the pre-existing uncomfortable conditions in the parking lot to the north would be mitigated.

- During the winter, due to seasonally stronger winds and building-induced wind effects, more locations with uncomfortable wind conditions are expected across the proposed development.

- The pedestrian wind safety criterion is expected to be exceeded at locations mostly near the northern corners of the proposed buildings.

- Wind speeds at the main entrances of the development are anticipated to be appropriate during the summer. In the winter, higher-than-desired wind speeds are expected at most of the entrances.

- Wind speeds in the playground and the sidewalk/landscaped private walkway area at the grade level are also expected to be higher than desired for passive use most time of the year.

- Conditions in outdoor amenity areas on Level 7 of Parcel A and B are anticipated to be generally windier than desired for passive and relaxing activities frequently during the year. The pedestrian wind safety criterion is expected to be exceeded in most of the areas of Level 7.

- RWDI acknowledges that the proposed grade level landscape plan incorporates a number of deciduous trees, along with a few evergreens, fence and retaining wall, as part of the wind control strategies. These are expected to provide wind mitigation, particularly during the summer months, and represent a positive step toward improving pedestrian comfort. Additional recommendations for improving wind conditions are discussed in the report.

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1 INTRODUCTION

RWDI was retained to conduct a pedestrian wind assessment for the proposed 2172 Wyecroft Road in Oakville, ON. This report presents the project objectives, approach and the main results from RWDI's assessment and provides conceptual wind control measures, where necessary. Our Statement of Limitations as it pertains to this study can be found in Section 4 of this report.

1.1 Project Description

The proposed development site is located on the east side of Wyecroft Road, and the west side of Bronte Go Station in Oakville (Image 1). The development will consist of multi-tower buildings on two parcels: Parcel A, which includes Tower A (35 storeys and 111.85 m in height) and Tower B (32 storeys and 103 m in height), and Parcel B, which includes Tower C (28 storeys and 91.2 m in height) and Tower D (25 storeys and 82.35 in height). The towers in each parcel will share 7-storey podiums, and outdoor amenity areas are proposed on the roofs of these podiums.

1.2 Objectives

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

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

2 BACKGROUND AND APPROACH

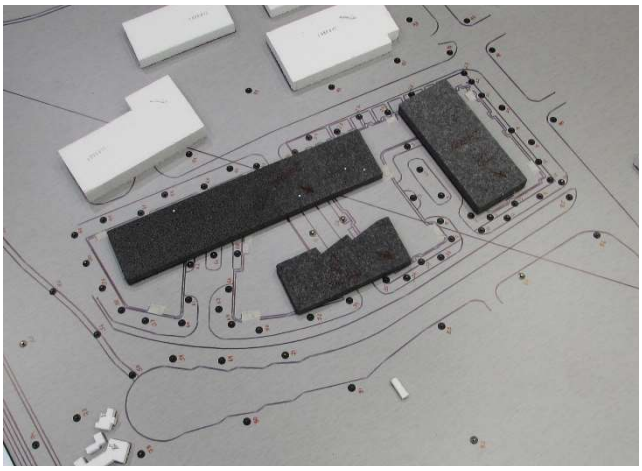
2.1 Wind Tunnel Study Model

To assess the wind environment around the proposed project, a 1:400 scale model of the project site and surroundings was constructed for the wind tunnel tests of the following configurations:

A - Existing: Existing site with existing surroundings (Image 2A), and

B - Proposed: Proposed project with existing surroundings (Image 2B).

The wind tunnel model included all relevant surrounding buildings and topography within an approximate 480 m radius around the study site. The wind and turbulence profiles in the atmospheric boundary layer beyond the modelled area were also simulated in RWDI's wind tunnel. The wind tunnel model was instrumented with 144 specially designed wind speed sensors to measure mean and gust speeds at a full-scale height of approximately 1.5 m above local grade in pedestrian areas throughout the study site. The placement of wind measurement locations was based on our experience and understanding of the pedestrian usage for this site. Wind speeds were measured for 36 directions in 10-degree increments. The measurements at each sensor location were recorded in the form of ratios of local mean and gust speeds to the mean wind speed at a reference height above the model.



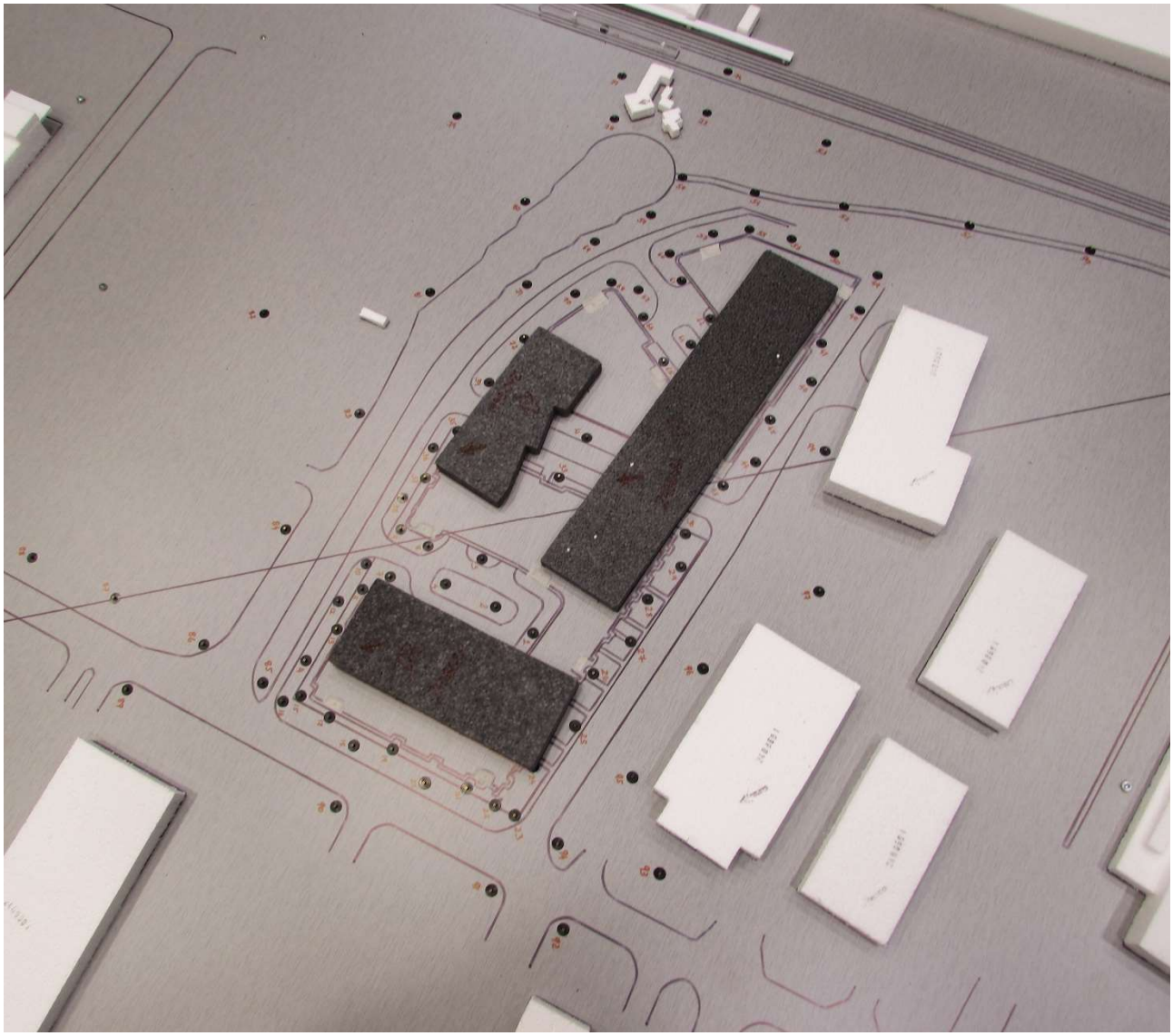


Image 2A: Wind Tunnel Study Model – Existing Configuration

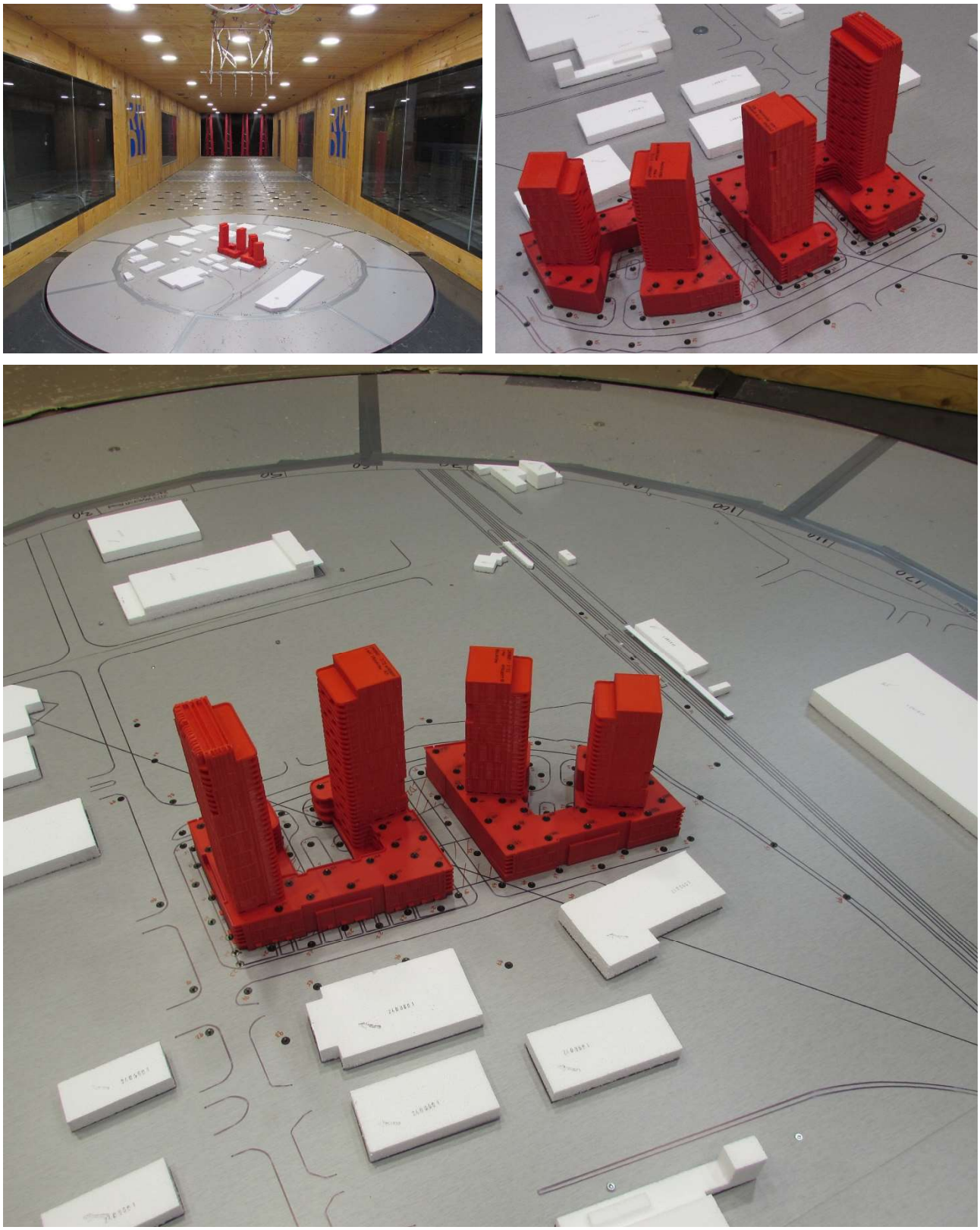
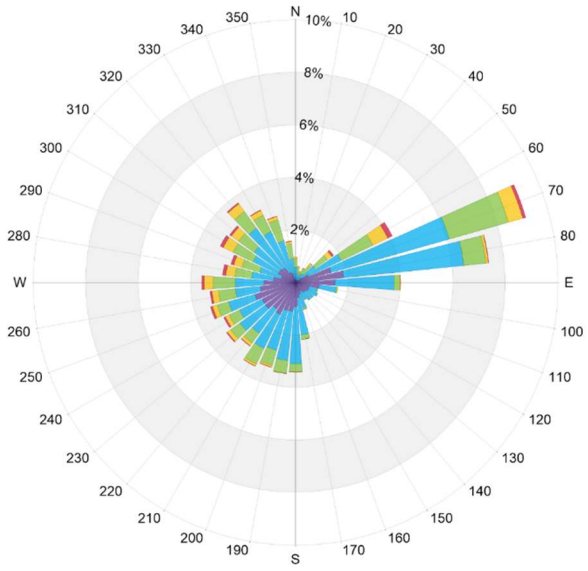


Image 2B: Wind Tunnel Study Model – Proposed Configuration

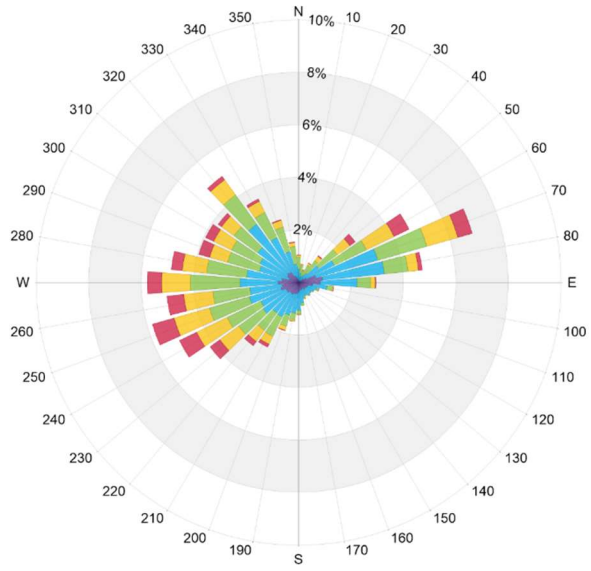
2.2 Wind Climate Data

Wind statistics recorded at Billy Bishop Toronto City Airport between 1993 and 2023, inclusive, were analyzed for the Summer (May through October) and Winter (November through April) seasons. Image 3 graphically depicts the directional distributions of wind frequencies and speeds for these two seasons. Winds from the east-northeast and westerly directions are predominant in both summer and winter, as indicated by the wind roses. Strong winds of a mean speed greater than 30 km/h measured at the airport (at an anemometer height of 10 m) occur for 6.7% and 22.5% of the time during the summer and winter seasons, respectively.

Wind statistics were combined with the wind tunnel data to predict the frequency of occurrence of full-scale wind speeds. The full-scale wind predictions were then compared with the wind criteria for pedestrian comfort and safety.



Summer (May – October)



Winter (November – April)

Wind Speed (km/h)	Probability (%) Summer	Winter
Calm	5.0	2.3
1-10	27.8	14.5
11-20	42.4	33.4
21-30	18.2	27.3
31-40	5.4	15.5
>40	1.3	7.0

Image 3: Directional Distribution of Winds Approaching Billy Bishop Toronto City Airport between 1993 and 2023

2.3 RWDI Pedestrian Wind Criteria

The RWDI pedestrian wind criteria, which have been developed by RWDI through research and consulting practice since 1974, are used in the current study. These criteria have been widely accepted by municipal authorities as well as by the building design and city planning community. Regional differences in wind climate and thermal conditions as well as variations in age, health, clothing, etc. can affect a person's perception of the wind climate. Therefore, comparisons of wind speeds for the existing and proposed building configurations are the most objective way in assessing local pedestrian wind conditions. In general, the combined effect of mean and gust speeds on pedestrian comfort can be quantified by a Gust Equivalent Mean (GEM).

Comfort Category	GEM Speed (km/h)	Description
Sitting	≤ 10	Calm or light breezes desired for outdoor restaurants and seating areas where one can read a paper without having it blown away
Standing	≤ 14	Gentle breezes suitable for main building entrances, bus stops, and other places where pedestrians may linger
Strolling	≤ 17	Moderate winds that would be appropriate for window shopping and strolling along a downtown street, plaza or park
Walking	≤ 20	Relatively high speeds that can be tolerated if one's objective is to walk, run or cycle without lingering
Uncomfortable	> 20	Strong winds of this magnitude are considered a nuisance for all pedestrian activities, and wind mitigation is typically recommended

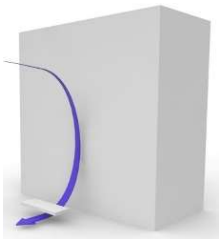
Notes:
(1) GEM Speed = max (Mean Speed, Gust Speed/1.85) and *Gust Speed = Mean Speed + 3*RMS Speed*;
(2) Wind conditions are considered to be comfortable if the predicted GEM speeds are within the respective thresholds for at least 80% of the time between 6:00 and 23:00. Nightly hours between 0:00 and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

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

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

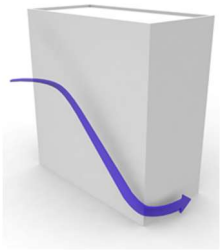
2.4 General Wind Flow Mechanisms

In the discussion of wind conditions, reference is made to the following wind flow mechanisms (Image 4):



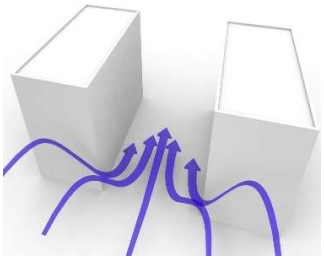
DOWNWASHING

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



CORNER ACCELERATION

When wind moves around the buildings a localized increase in the wind activity or corner acceleration can be expected around the exposed building corners at pedestrian level. The effect is intensified when the wind approaches at an oblique angle to a tall façade and are deflected down and around the exposed corners.



CHANNELLING EFFECT

Wind flow tends to accelerate through the space between buildings, under bridges or in passages through buildings due to channelling effect caused by the narrow gap. The effect is intensified if the channel is aligned with the predominant wind direction.

Image 4: General Wind Flow Mechanisms

If these building/wind combinations occur for prevailing winds, there is a greater potential for increased wind activity. Design details such as setting back a tall tower from the edges of a podium, deep canopies close to ground level, wind screens, tall trees with dense landscaping, etc. (Image 5) can help reduce wind speeds. The choice and effectiveness of these measures would depend on the exposure and orientation of the site with respect to the prevailing wind directions and the size and massing of the proposed buildings.

Podium/tower setback, canopy, landscaping and wind screens (left to right)

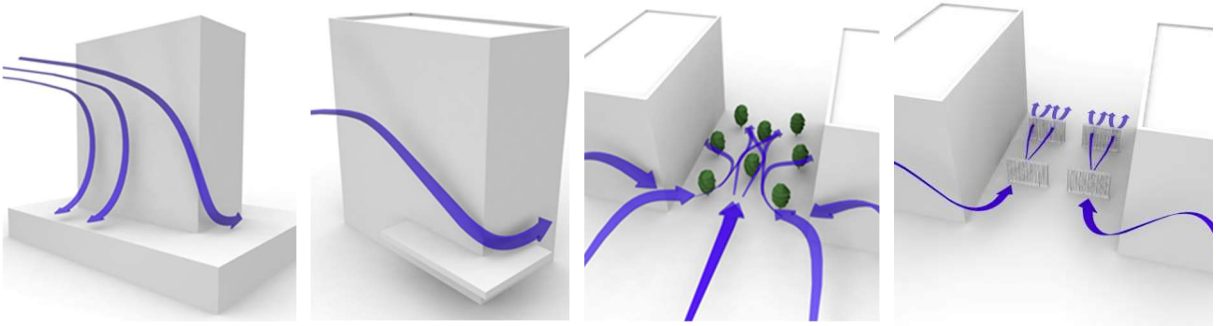


Image 5: Common Wind Control Measures

3 RESULTS AND DISCUSSION

The predicted wind conditions are shown on site plans in Figures 1A through 3B located in the "Figures" section of this report and the associated wind speeds are presented in Table 1, located in the "Tables" section of this report.

The following is a detailed discussion of the suitability of the predicted wind conditions for the anticipated pedestrian use of each area of interest.

3.1 Existing Configuration

The existing buildings on site are low-rise and do not redirect winds to create any notable impact across most of the site. The open surroundings would cause a speed-up effect on the approaching winds. The strong winds thus created close to ground level accelerates around the existing building to cause windiness at the northwest corner of the site.

Wind conditions on and around the site are generally comfortable for sitting or standing in the summer (Figure 1A) and comfortable for strolling or walking in the winter (Figure 2A). Uncomfortable wind conditions occur at localized areas around the site; Locations 14, 15, and 16 at the northwest corner of the existing building, near Wyecroft Road, and Locations 76 and 79 in the parking lot to the northeast of the site during the winter (Figure 2A). Wind speeds at all assessed locations of the project site are expected to meet the pedestrian wind safety criterion (Figure 5A).

3.2 Proposed Configuration

3.2.1 Grade Level (Locations 1 through 99)

The proposed development is taller than the surroundings in all directions. As a result, winds intercepted by the towers at high elevations are expected to downwash to ground level, accelerating around building corners and though the gaps between the towers. The resultant on-site wind speeds at grade are expected to be generally higher than those in the Existing Configuration. These effects are expected to be moderated to some degree by the tower podiums which act as horizontal elements that interrupt the downwashing flow (see Image 5).

During the summer, wind conditions on most sidewalks and walkways on and around the site are expected to be comfortable for standing or strolling, which is appropriate (Figure 1B). Uncomfortable wind conditions are expected at the northwest corner of Parcel A (Locations 15 and 16 in Figure 1B), while the pre-existing uncomfortable conditions to the northeast of the project site (at Location 76 and 79) are expected to be eliminated.

In the winter, wind speeds comfortable for walking or strolling are anticipated at many locations along the building facades, on the south side of the proposed development and across the street to the north. Seasonally stronger winds combined with building-induced wind effects, explained in Section 2.4, are expected to result in more locations with uncomfortable wind conditions across the site compared to the existing configuration (see Figure 2B).

Wind speeds in the playground area northeast of Tower A (Locations 6, 7, and 11), and in the sidewalk/landscaped private walkway area southeast of Tower C (Locations 66, 67, and 68) are expected to be elevated frequently during the year, limiting their suitability for passive pedestrian use (see Figures 1B and 2B).

Main entrances of the proposed building are situated near Locations 1, 26, 45, and 63 in Figures 1B and 2B. In the summer, wind conditions at these entrances are expected to be comfortable for sitting or standing. However, in the winter, higher-than-desired wind speeds are anticipated at all entrances except Location 1 in Parcel A (Figure 2B).

The wind safety criterion is expected to be met in most of the areas assessed. The criterion would be exceeded at several locations around the northern corners of the proposed buildings, between towers C and D and to the north and east of Parcel B (Figure 3B).

3.2.2 Outdoor amenity areas / roof at Level 7 (Locations 100 through 144)

Outdoor amenity areas are located on the south portion of the Parcel A podium roof (Level 7) and across most of the Parcel B podium roof (Level 7). Some portions of the podium roof are not currently planned for patron access (identified as “roof” in the figures. It is generally desirable for wind conditions in areas intended for passive activities to be comfortable for sitting or standing more than 80% of the time in the summer.

In the summer, wind speeds in the outdoor amenity area on the Parcel A podium are predicted to be comfortable for standing or strolling, which is considered windier than desired for frequent and prolonged use for passive activities. Winds in the south portion of the Parcel B podium roof are expected to be comfortable for sitting or standing (see Figure 1B), making the space suitable for passive use. However, higher-than-desired wind speeds are expected across the other portions of the Parcel B amenity area and the “roof” areas on both buildings.

In the winter, uncomfortable wind conditions are predicted across most areas on the Parcel A and B podium roofs (see Figure 2B). The annual wind safety criterion is expected to be exceeded at several areas of Level 7 close to each of the towers (see Figure 3B).

3.3 Wind Control Recommendations

3.3.1 Proposed Landscape Plan for the Grade Level

RWDI received the latest landscape plan on July 10, 2025, which proposes a large number of deciduous trees, along with some existing trees (see Image 6). These are expected to improve wind conditions for the intended pedestrian use, particularly in the playground and the sidewalk/landscaped private walkway areas, during the summer. The plan also includes a 1 m tall retaining wall along the property line on west and south of the site, a few coniferous trees and a tree protection fence to the south, which are not expected to have a significant impact on wind conditions on their own (Image 8). These are positive design approaches, and we recommend enhancing the landscape plan with the addition of perennial wind control features that can address wind comfort in the winter months as well.

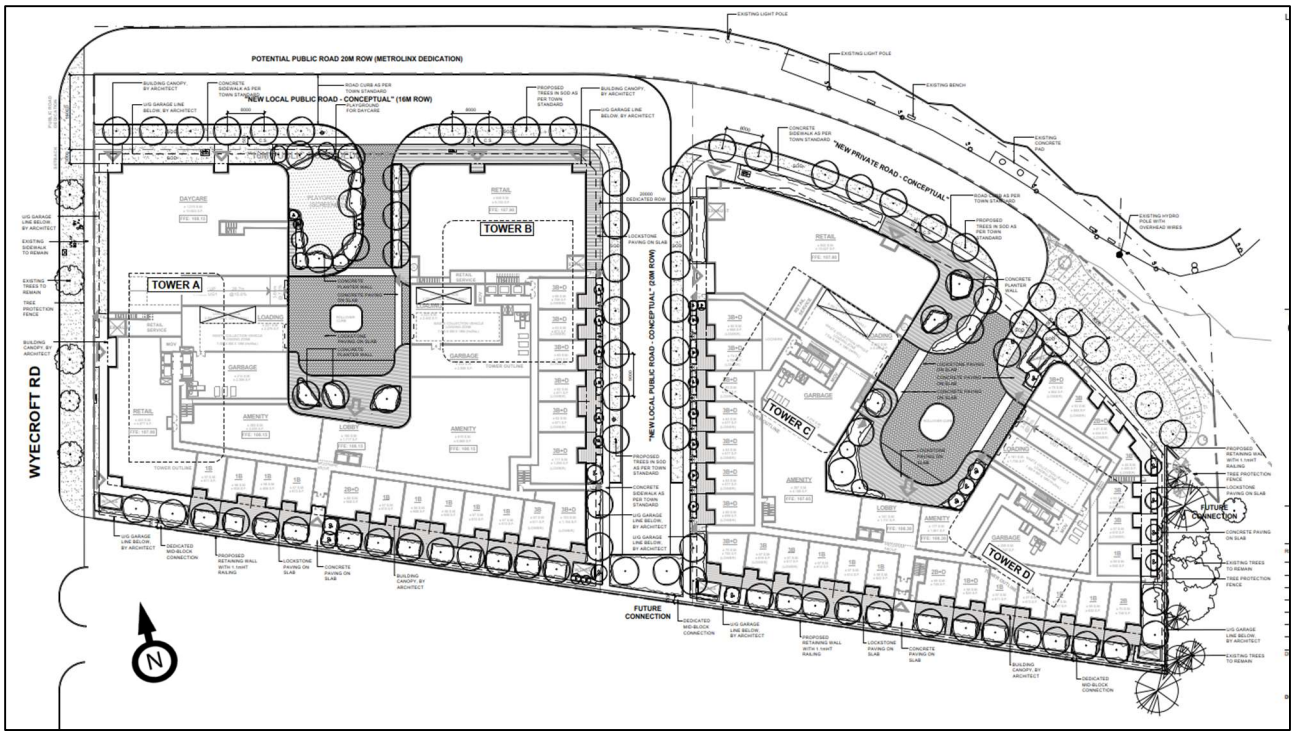


Image 6: Proposed Grade Level Landscape Plan

3.3.2 Additional Recommendations for the Grade Level

To address the high wind speeds anticipated during the winter, the installation of tall wind screens in combination with evergreen landscaping along sidewalks, walkways, and in the spaces between the developments is recommended. These screens should be at least 2 m tall and incorporate a small open area (up to 30%) to reduce wind speeds effectively as air passes through. Additionally, selecting tall coniferous or marcescent trees for the sidewalks, especially in areas where uncomfortable wind conditions are predicted, can help mitigate adverse effects. Large trees with dense foliage that retain their leaves through the winter months can be effective in improving wind conditions locally around them. Some examples of the recommended wind mitigation measures are presented in Image 7.

Additional wind control measures may be required at the main entrances to address seasonal wind comfort in the winter. Recessing the entrances into the façade or installing wind screens or tall planters on both sides can help reduce wind exposure, creating more sheltered and comfortable doorways for pedestrian access (see examples in Image 7). RWDI can help with the selection and location of wind control features. The effectiveness of these features can be evaluated quantitatively through wind tunnel testing as the design evolves to the next submission.

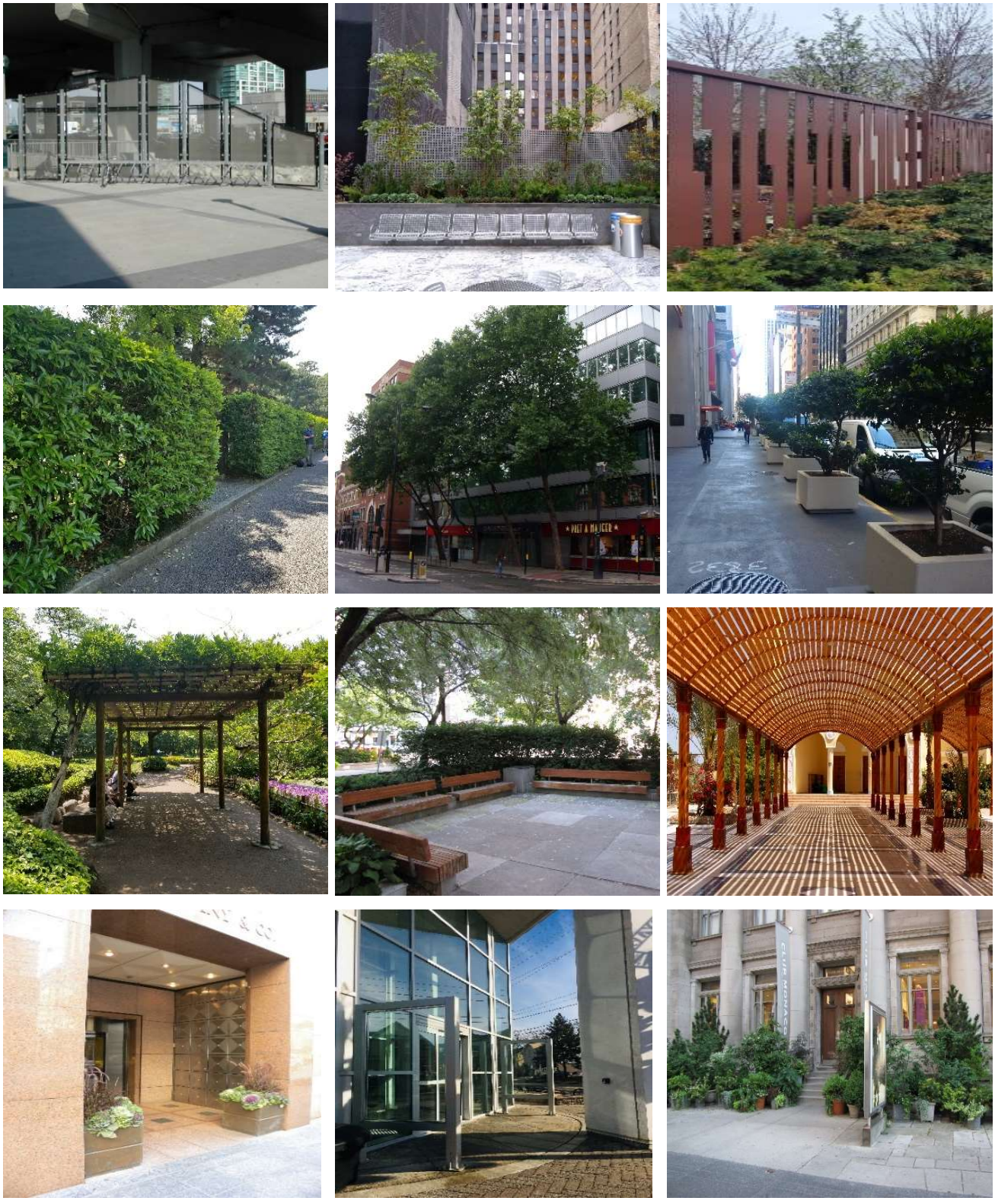


Image 7: Examples of Wind Control Features at Grade Area and Entrances

3.3.3 Recommendations for Level 7

To improve wind conditions at Level 7, the design team may consider a strategic combination of wind control features to reduce exposure to higher-than-desired wind speeds. These measures may include large overhead structures (canopies/trellises) at the base of each tower to diffuse downwashing wind flows, in addition to tall vertical screens, partitions, and/or planters to diffuse the horizontal wind flows through each space to create sheltered zones for occupants. Tall perimeter railings are also recommended around the amenity areas to reduce direct exposure to the incoming wind. Vertical wind control features should be at least 2 m tall and at most 30% porous to wind to be effective for wind control. When implemented, these features are expected to reduce wind speeds during the summer, when the frequency of users in the outdoor areas is higher. Examples of these measures are presented in Image 8.

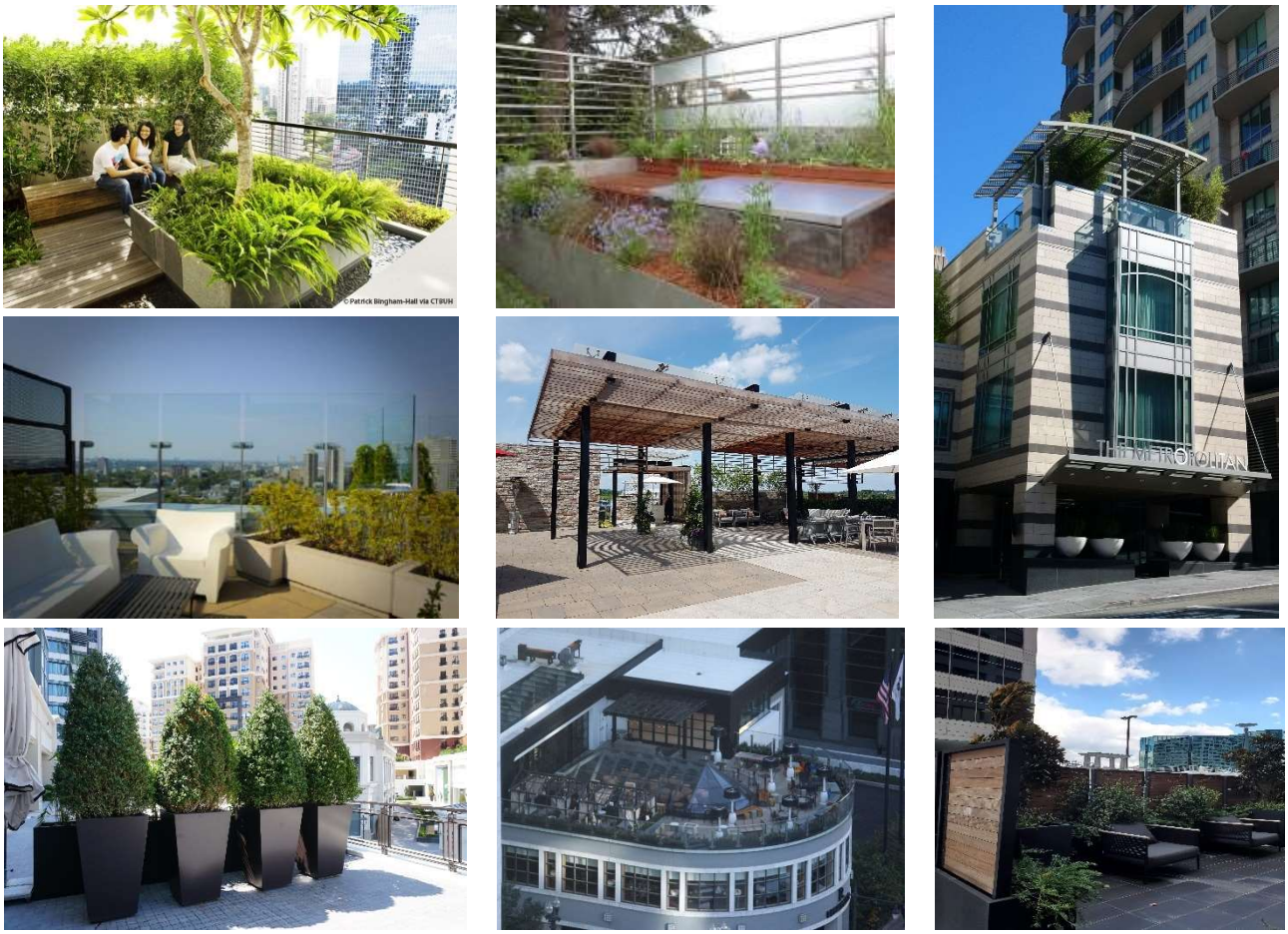


Image 8: Examples of Wind Control Measures in Outdoor Areas at Terraces

3.4 Impact of Future Developments in the Surroundings

We understand from the information provided by NBIM 2172 Wyecroft LP that the preliminary conceptual master plan for the Bronte GO Major Transit Station Area will include several high-rise developments to the south and west of the proposed site. Although the exact massing details are just concepts at this point, increased surrounding density is anticipated to disrupt the local flow field and provide shielding effects to the proposed site, which may help mitigate some of the wind exposure around the proposed development over time.

4 STATEMENT OF LIMITATIONS

Limitations

This report was prepared by Rowan Williams Davies & Irwin, Inc. ("RWDI") for NBIM 2172 Wyecroft LP ("Client"). The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein ("Project"). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilize the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and to understand the different factors which may impact the conclusions and recommendations provided.

Design Assumptions

RWDI confirms that the pedestrian wind assessment (the "**Assessment**") discussed herein was performed by RWDI in accordance with generally accepted professional standards at the time when the Assessment was performed and in the location of the Project. No other representations, warranties, or guarantees are made with respect to the accuracy or completeness of the information, findings, recommendations, or conclusions contained in this Report. This report is not a legal opinion regarding compliance with applicable laws.

The findings and recommendations set out in this report are based on the following information disclosed to RWDI. Drawings and information listed below were received from Turner Fleischer Architects and used to construct the scale model of the proposed 2172 Wyecroft Road development **("Project Data**")

File Name	File Type	Date Received (dd/mm/yyyy)
2024-08-28 - Exterior design DSK 2	SKP	23/09/2024
23230P01-ARCH-TF-ZZ-WIP-XX_RZ Set	PDF	30/09/2024
240806_L1-Landscape Masterplan-L1	PDF	10/07/2025

The recommendations and conclusions are based on the assumption that the Project Data and Climate Data are accurate and complete. RWDI assumes no responsibility for any inaccuracy or deficiency in information it has received from others. In addition, the recommendations and conclusions in this report are partially based on historical data and can be affected by a number of external factors, including but not limited to Project design, quality of materials and construction, site conditions, meteorological events, and climate change. As such, the conclusions and recommendations contained in this report do not list every possible outcome.

The opinions in this report can only be relied upon to the extent that the Project Data and Project Specific Conditions have not changed. Any change in the Project Data or Project Specific Conditions not reflected in this report can impact and/or alter the recommendations and conclusions in this report. Therefore, it is incumbent upon the Client and/or any other third party reviewing the recommendations and conclusions in this report to contact RWDI in the event of any change in the Project Data and Project Specific Conditions in order to determine whether any such change(s) may impact the assumptions upon which the recommendations and conclusions were made.

5 REFERENCES

1. ASCE Task Committee on Outdoor Human Comfort (2004). *Outdoor Human Comfort and Its Assessment*, 68 pages, American Society of Civil Engineers, Reston, Virginia, USA.

2. Williams, C.J., Hunter, M.A. and Waechter, W.F. (1990). "Criteria for Assessing the Pedestrian Wind Environment," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol.36, pp.811-815.

3. Williams, C.J., Soligo M.J. and Cote, J. (1992). "A Discussion of the Components for a Comprehensive Pedestrian Level Comfort Criteria," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol.41-44, pp.2389-2390.

4. Soligo, M.J., Irwin, P.A., and Williams, C.J. (1993). "Pedestrian Comfort Including Wind and Thermal Effects," *Third Asia-Pacific Symposium on Wind Engineering*, Hong Kong.

5. Soligo, M.J., Irwin, P.A., Williams, C.J. and Schuyler, G.D. (1998). "A Comprehensive Assessment of Pedestrian Comfort Including Thermal Effects," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol.77&78, pp.753-766.

6. Williams, C.J., Wu, H., Waechter, W.F. and Baker, H.A. (1999). "Experiences with Remedial Solutions to Control Pedestrian Wind Problems," *Tenth International Conference on Wind Engineering*, Copenhagen, Denmark.

7. Lawson, T.V. (1973). "Wind Environment of Buildings: A Logical Approach to the Establishment of Criteria", *Report No. TVL 7321*, Department of Aeronautic Engineering, University of Bristol, Bristol, England.

8. Durgin, F. H. (1997). "Pedestrian Level Wind Criteria Using the Equivalent average", *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 66, pp.215-226.

9. Wu, H. and Kriksic, F. (2012). "Designing for Pedestrian Comfort in Response to Local Climate", *Journal of Wind Engineering and Industrial Aerodynamics*, Vol.104-106, pp.397-407.

10. Wu, H., Williams, C.J., Baker, H.A. and Waechter, W.F. (2004), "Knowledge-based Desk-Top Analysis of Pedestrian Wind Conditions", *ASCE Structure Congress 2004,* Nashville, Tennessee.

FIGURES

WYECROFT ROAD

BRONTE GO STATION

SPEERS ROAD

LEGEND:

COMFORT CATEGORIES:

- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

Grade Level Sensor

0 30 60m

Pedestrian Wind Comfort Conditions

Existing Configuration

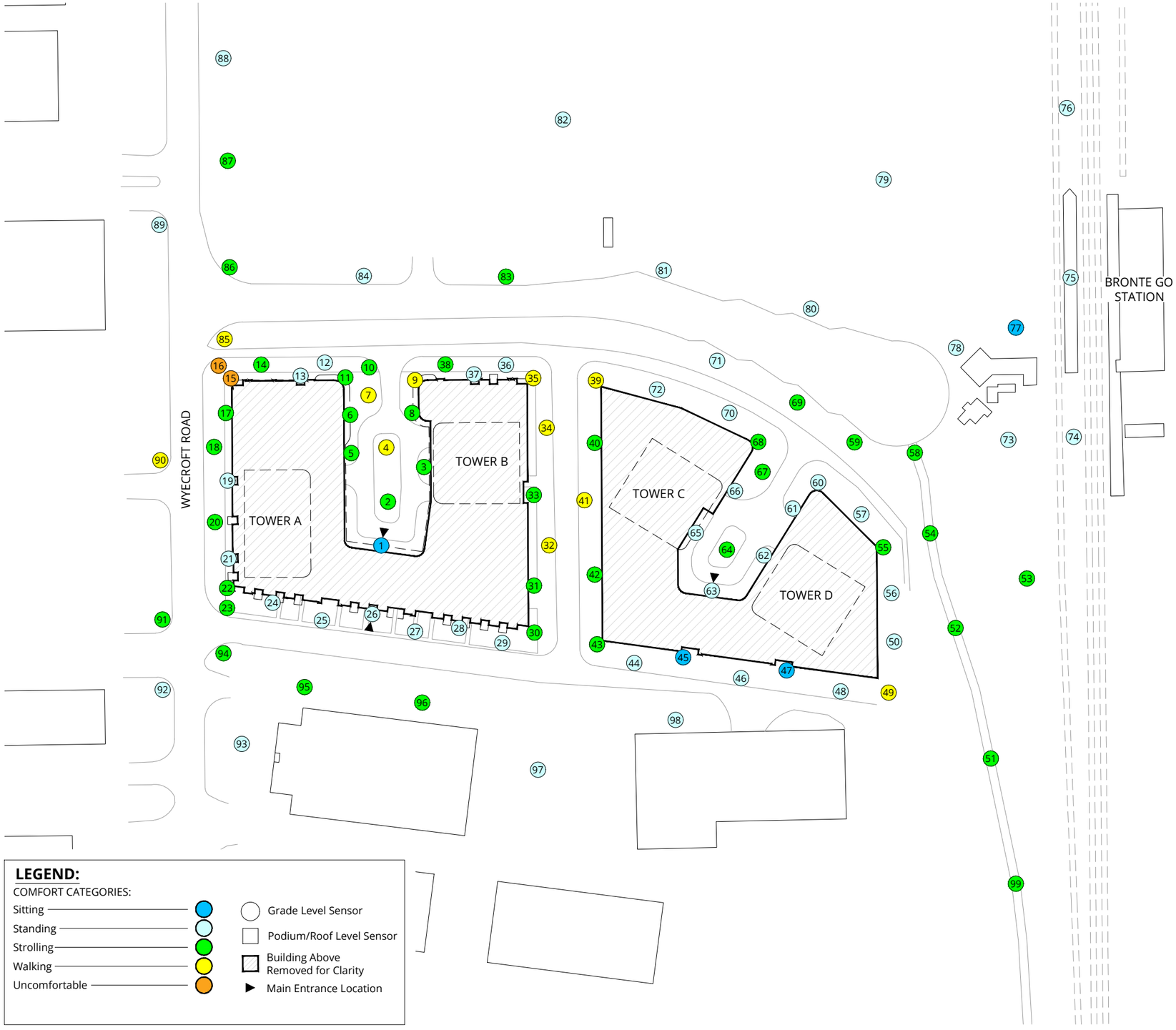
Summer (May to October, 6:00 to 23:00)

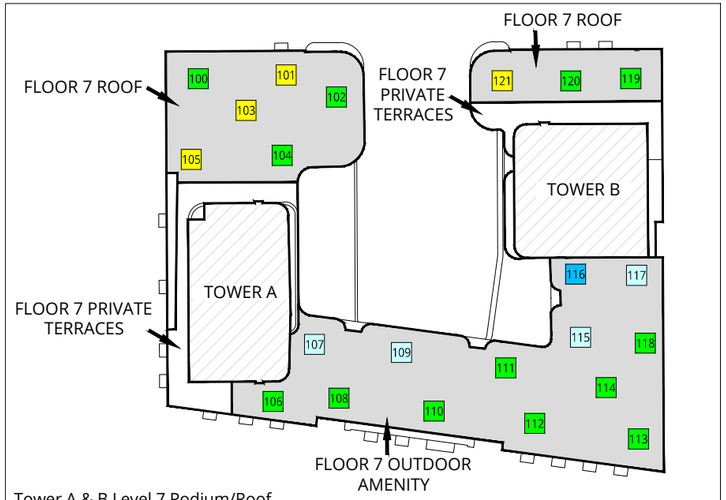
2172 Wyecroft Road - Oakville, ON

True North

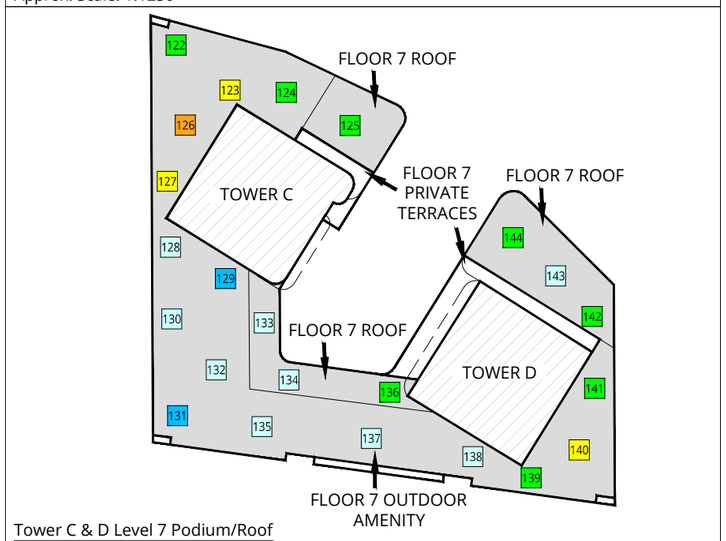
Project #2408681

Drawn by:	DUC	Figure:	1A
Approx. Scale:	1:1500		
Date Revised:	Oct. 28, 2024		





Tower A & B Level 7 Podium/Roof
Approx. Scale: 1:1250



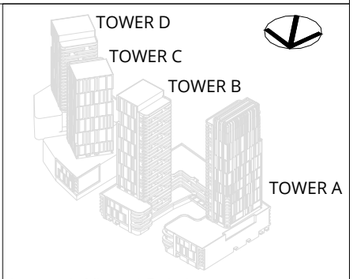
Tower C & D Level 7 Podium/Roof
Approx. Scale: 1:1250

LEGEND:

COMFORT CATEGORIES:

- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

- Grade Level Sensor
- Podium/Roof Level Sensor
- Building Above Removed for Clarity
- Main Entrance Location



Isometric View of Buildings

0 30 60m

Pedestrian Wind Comfort Conditions

Proposed Configuration

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

2172 Wyecroft Road - Oakville, ON

True North

Project #2408681

Drawn by: DUC	Figure:	1B
Approx. Scale:		1:1500
Date Revised:		Oct. 28, 2024

WYECROFT ROAD

BRONTE GO STATION

SPEERS ROAD

LEGEND:

COMFORT CATEGORIES:

- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

Grade Level Sensor

0 30 60m

Pedestrian Wind Comfort Conditions

Existing Configuration

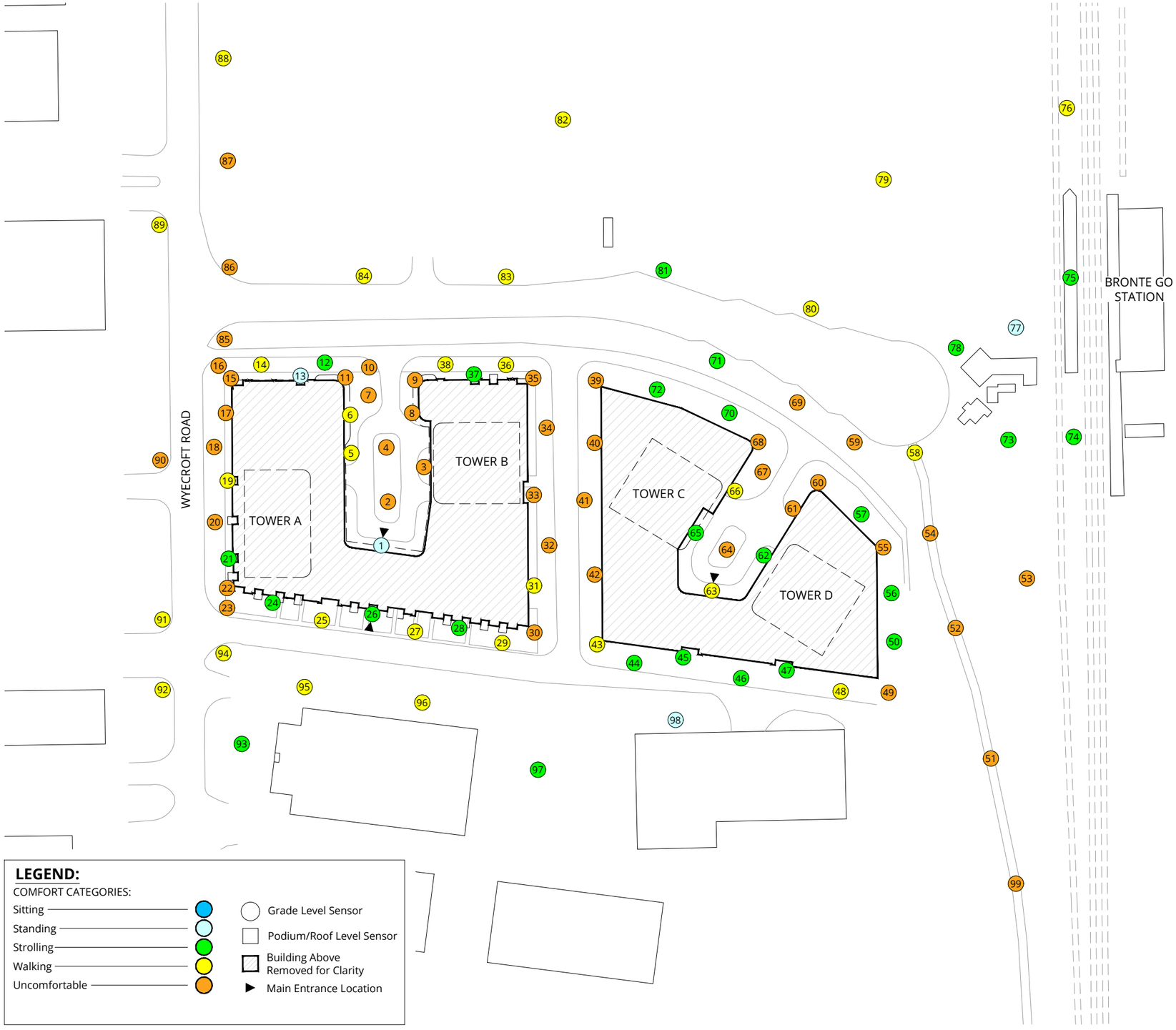
Winter (November to April, 6:00 to 23:00)

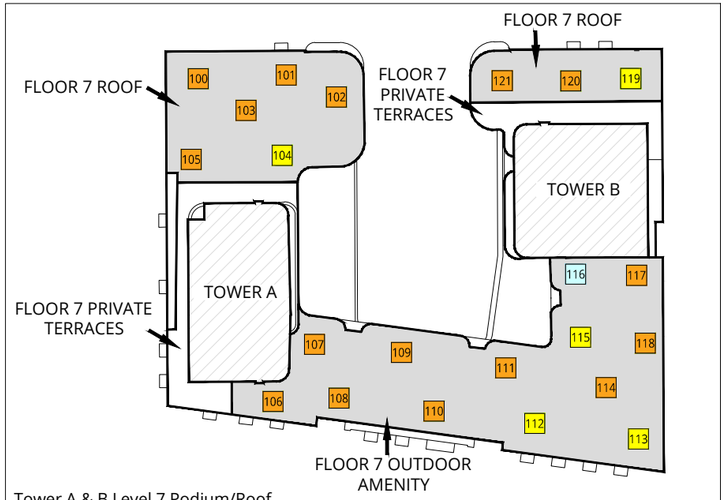
2172 Wyecroft Road - Oakville, ON

True North

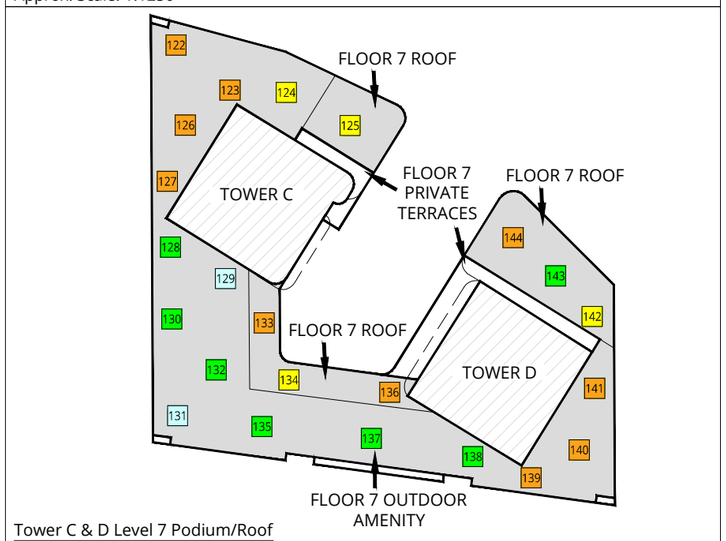
Project #2408681

Drawn by: DUC	Figure: 2A
Approx. Scale:	1:1500
Date Revised:	Oct. 28, 2024





Tower A & B Level 7 Podium/Roof
Approx. Scale: 1:1250



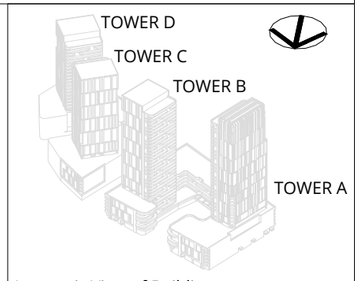
Tower C & D Level 7 Podium/Roof
Approx. Scale: 1:1250

LEGEND:

COMFORT CATEGORIES:

- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

- Grade Level Sensor
- Podium/Roof Level Sensor
- Building Above Removed for Clarity
- Main Entrance Location



Isometric View of Buildings

0 30 60m

Pedestrian Wind Comfort Conditions

Proposed Configuration
Winter (November to April, 6:00 to 23:00)

2172 Wyecroft Road - Oakville, ON

True North

Project #2408681

Drawn by: DUC	Figure:	2B
Approx. Scale:		1:1500
Date Revised:		Oct. 28, 2024

WYECROFT ROAD

SPEERS ROAD

BRONTE GO STATION

LEGEND:

SAFETY CATEGORIES:

Pass

Exceeded

Grade Level Sensor

0 30 60m

Pedestrian Wind Safety Conditions

Existing Configuration

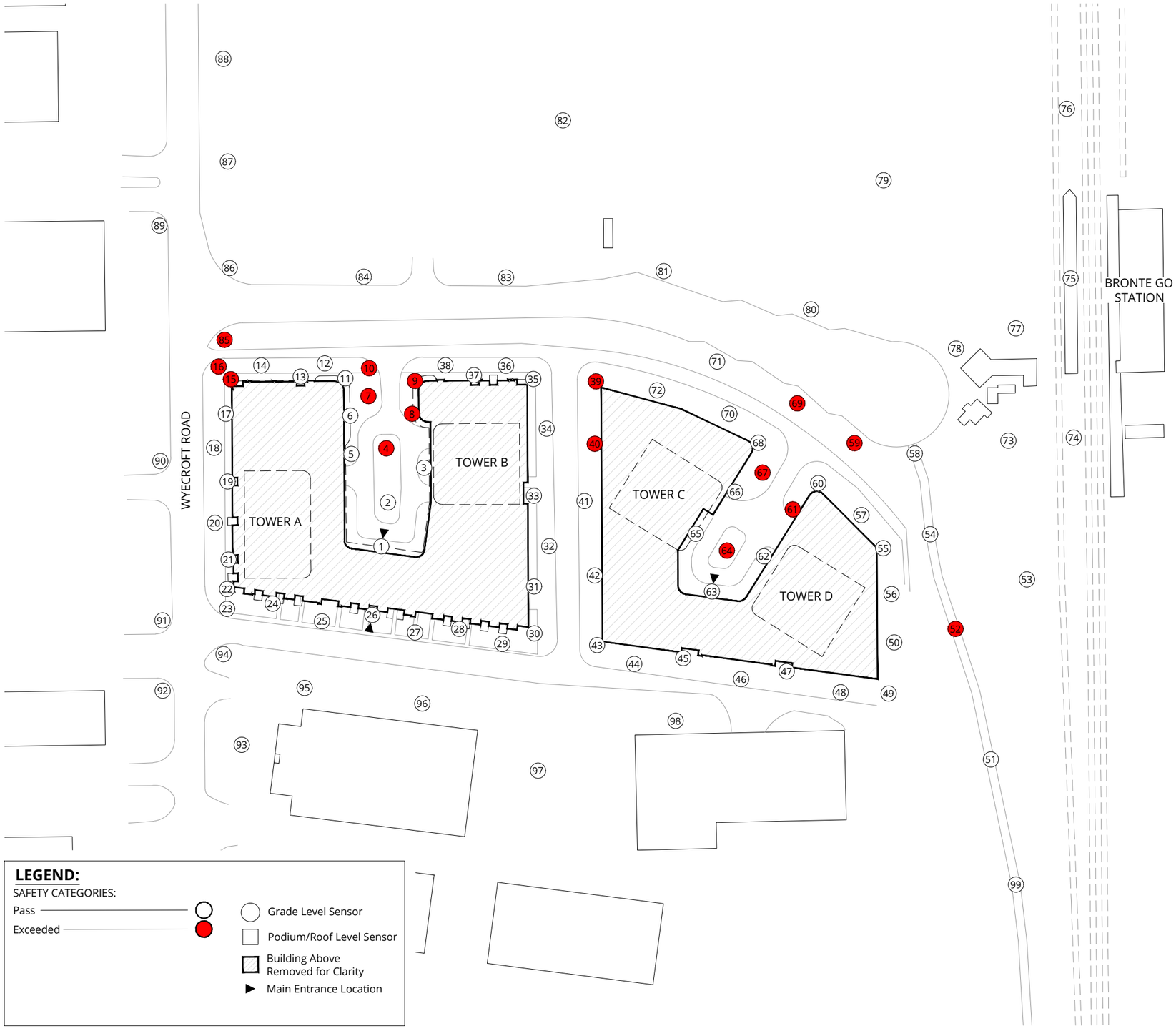
Annual (January to December, 0:00 to 23:00)

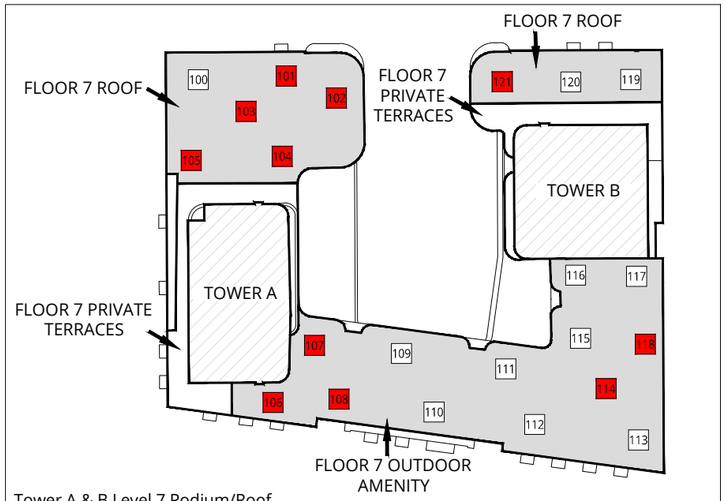
2172 Wyecroft Road - Oakville, ON

True North

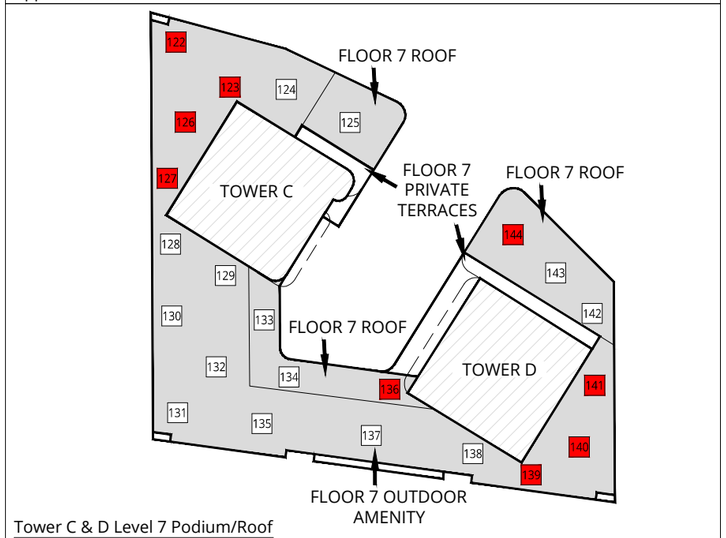
Project #2408681

Drawn by:	DUC	Figure:	3A
Approx. Scale:	1:1500		
Date Revised:	Oct. 28, 2024		

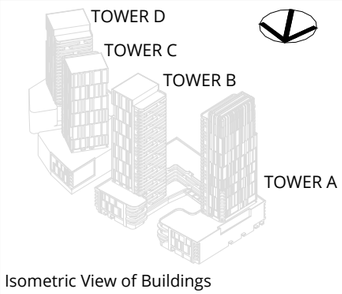




Tower A & B Level 7 Podium/Roof
Approx. Scale: 1:1250



Tower C & D Level 7 Podium/Roof
Approx. Scale: 1:1250



Isometric View of Buildings

LEGEND:

SAFETY CATEGORIES:

Pass

Exceeded

Grade Level Sensor

Podium/Roof Level Sensor

Building Above Removed for Clarity

Main Entrance Location

0 30 60m

Pedestrian Wind Safety Conditions

Proposed Configuration

Annual (January to December, 0:00 to 23:00)

2172 Wyecroft Road - Oakville, ON

True North

Project #2408681

Drawn by:	DUC	Figure:	3B
Approx. Scale:	1:1500		
Date Revised:	Oct. 28, 2024		

TABLES

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
1	Exisiting	12	Standing	18	Walking	70	Pass
	Proposed	10	Sitting	14	Standing	55	Pass
2	Exisiting	12	Standing	18	Walking	66	Pass
	Proposed	16	Strolling	25	Uncomfortable	90	Pass
3	Exisiting	11	Standing	17	Strolling	64	Pass
	Proposed	15	Strolling	21	Uncomfortable	81	Pass
4	Exisiting	11	Standing	16	Strolling	60	Pass
	Proposed	20	Walking	28	Uncomfortable	91	Exceeded
5	Exisiting	-	-	-	-	-	-
	Proposed	15	Strolling	18	Walking	65	Pass
6	Exisiting	-	-	-	-	-	-
	Proposed	15	Strolling	18	Walking	68	Pass
7	Exisiting	11	Standing	15	Strolling	61	Pass
	Proposed	18	Walking	25	Uncomfortable	93	Exceeded
8	Exisiting	12	Standing	17	Strolling	63	Pass
	Proposed	17	Strolling	26	Uncomfortable	98	Exceeded
9	Exisiting	13	Standing	18	Walking	63	Pass
	Proposed	20	Walking	26	Uncomfortable	99	Exceeded
10	Exisiting	12	Standing	16	Strolling	56	Pass
	Proposed	17	Strolling	24	Uncomfortable	95	Exceeded
11	Exisiting	10	Sitting	13	Standing	49	Pass
	Proposed	16	Strolling	22	Uncomfortable	82	Pass
12	Exisiting	10	Sitting	14	Standing	53	Pass
	Proposed	13	Standing	16	Strolling	73	Pass
13	Exisiting	11	Standing	13	Standing	54	Pass
	Proposed	12	Standing	14	Standing	64	Pass
14	Exisiting	15	Strolling	21	Uncomfortable	68	Pass
	Proposed	15	Strolling	18	Walking	75	Pass
15	Exisiting	15	Strolling	21	Uncomfortable	69	Pass
	Proposed	22	Uncomfortable	30	Uncomfortable	107	Exceeded
16	Exisiting	15	Strolling	21	Uncomfortable	68	Pass
	Proposed	22	Uncomfortable	31	Uncomfortable	99	Exceeded
17	Exisiting	14	Standing	20	Walking	68	Pass
	Proposed	15	Strolling	24	Uncomfortable	86	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
18	Exisiting	12	Standing	18	Walking	64	Pass
	Proposed	15	Strolling	23	Uncomfortable	84	Pass
19	Exisiting	11	Standing	16	Strolling	59	Pass
	Proposed	13	Standing	19	Walking	71	Pass
20	Exisiting	12	Standing	17	Strolling	61	Pass
	Proposed	15	Strolling	21	Uncomfortable	90	Pass
21	Exisiting	12	Standing	16	Strolling	58	Pass
	Proposed	12	Standing	17	Strolling	68	Pass
22	Exisiting	12	Standing	17	Strolling	59	Pass
	Proposed	17	Strolling	21	Uncomfortable	80	Pass
23	Exisiting	13	Standing	17	Strolling	60	Pass
	Proposed	17	Strolling	23	Uncomfortable	82	Pass
24	Exisiting	-	-	-	-	-	-
	Proposed	11	Standing	15	Strolling	71	Pass
25	Exisiting	10	Sitting	15	Strolling	62	Pass
	Proposed	13	Standing	19	Walking	76	Pass
26	Exisiting	12	Standing	19	Walking	70	Pass
	Proposed	11	Standing	16	Strolling	66	Pass
27	Exisiting	11	Standing	16	Strolling	61	Pass
	Proposed	13	Standing	20	Walking	76	Pass
28	Exisiting	10	Sitting	14	Standing	57	Pass
	Proposed	11	Standing	15	Strolling	60	Pass
29	Exisiting	11	Standing	15	Strolling	58	Pass
	Proposed	13	Standing	19	Walking	71	Pass
30	Exisiting	10	Sitting	15	Strolling	60	Pass
	Proposed	17	Strolling	22	Uncomfortable	84	Pass
31	Exisiting	-	-	-	-	-	-
	Proposed	15	Strolling	18	Walking	76	Pass
32	Exisiting	-	-	-	-	-	-
	Proposed	18	Walking	23	Uncomfortable	85	Pass
33	Exisiting	13	Standing	17	Strolling	64	Pass
	Proposed	16	Strolling	22	Uncomfortable	73	Pass
34	Exisiting	-	-	-	-	-	-
	Proposed	18	Walking	26	Uncomfortable	82	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
35	Exisiting	10	Sitting	13	Standing	56	Pass
	Proposed	18	Walking	24	Uncomfortable	82	Pass
36	Exisiting	11	Standing	14	Standing	55	Pass
	Proposed	14	Standing	20	Walking	75	Pass
37	Exisiting	13	Standing	20	Walking	69	Pass
	Proposed	12	Standing	17	Strolling	71	Pass
38	Exisiting	13	Standing	19	Walking	66	Pass
	Proposed	15	Strolling	18	Walking	72	Pass
39	Exisiting	10	Sitting	13	Standing	54	Pass
	Proposed	18	Walking	26	Uncomfortable	92	Exceeded
40	Exisiting	-	-	-	-	-	-
	Proposed	17	Strolling	25	Uncomfortable	92	Exceeded
41	Exisiting	14	Standing	18	Walking	68	Pass
	Proposed	19	Walking	26	Uncomfortable	82	Pass
42	Exisiting	-	-	-	-	-	-
	Proposed	16	Strolling	22	Uncomfortable	79	Pass
43	Exisiting	11	Standing	14	Standing	56	Pass
	Proposed	15	Strolling	20	Walking	72	Pass
44	Exisiting	13	Standing	17	Strolling	60	Pass
	Proposed	11	Standing	16	Strolling	62	Pass
45	Exisiting	12	Standing	15	Strolling	56	Pass
	Proposed	10	Sitting	15	Strolling	64	Pass
46	Exisiting	15	Strolling	20	Walking	75	Pass
	Proposed	11	Standing	16	Strolling	63	Pass
47	Exisiting	14	Standing	20	Walking	79	Pass
	Proposed	10	Sitting	15	Strolling	58	Pass
48	Exisiting	14	Standing	19	Walking	74	Pass
	Proposed	12	Standing	20	Walking	75	Pass
49	Exisiting	14	Standing	19	Walking	63	Pass
	Proposed	20	Walking	29	Uncomfortable	90	Pass
50	Exisiting	12	Standing	15	Strolling	60	Pass
	Proposed	14	Standing	17	Strolling	77	Pass
51	Exisiting	14	Standing	19	Walking	66	Pass
	Proposed	16	Strolling	23	Uncomfortable	72	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
52	Exisiting	14	Standing	18	Walking	64	Pass
	Proposed	16	Strolling	24	Uncomfortable	91	Exceeded
53	Exisiting	14	Standing	19	Walking	66	Pass
	Proposed	15	Strolling	22	Uncomfortable	80	Pass
54	Exisiting	14	Standing	19	Walking	63	Pass
	Proposed	16	Strolling	21	Uncomfortable	72	Pass
55	Exisiting	14	Standing	17	Strolling	59	Pass
	Proposed	17	Strolling	21	Uncomfortable	84	Pass
56	Exisiting	12	Standing	16	Strolling	60	Pass
	Proposed	14	Standing	17	Strolling	73	Pass
57	Exisiting	13	Standing	16	Strolling	59	Pass
	Proposed	12	Standing	16	Strolling	59	Pass
58	Exisiting	14	Standing	18	Walking	60	Pass
	Proposed	15	Strolling	20	Walking	76	Pass
59	Exisiting	14	Standing	18	Walking	63	Pass
	Proposed	16	Strolling	22	Uncomfortable	92	Exceeded
60	Exisiting	13	Standing	17	Strolling	60	Pass
	Proposed	14	Standing	21	Uncomfortable	87	Pass
61	Exisiting	12	Standing	16	Strolling	61	Pass
	Proposed	14	Standing	22	Uncomfortable	94	Exceeded
62	Exisiting	9	Sitting	12	Standing	47	Pass
	Proposed	11	Standing	17	Strolling	68	Pass
63	Exisiting	-	-	-	-	-	-
	Proposed	12	Standing	18	Walking	78	Pass
64	Exisiting	10	Sitting	13	Standing	47	Pass
	Proposed	15	Strolling	21	Uncomfortable	92	Exceeded
65	Exisiting	11	Standing	14	Standing	59	Pass
	Proposed	11	Standing	16	Strolling	64	Pass
66	Exisiting	12	Standing	16	Strolling	63	Pass
	Proposed	14	Standing	19	Walking	75	Pass
67	Exisiting	12	Standing	16	Strolling	60	Pass
	Proposed	16	Strolling	25	Uncomfortable	98	Exceeded
68	Exisiting	12	Standing	16	Strolling	60	Pass
	Proposed	17	Strolling	23	Uncomfortable	85	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
69	Exisiting	14	Standing	18	Walking	63	Pass
	Proposed	17	Strolling	25	Uncomfortable	98	Exceeded
70	Exisiting	13	Standing	16	Strolling	60	Pass
	Proposed	12	Standing	16	Strolling	60	Pass
71	Exisiting	14	Standing	18	Walking	61	Pass
	Proposed	13	Standing	17	Strolling	67	Pass
72	Exisiting	9	Sitting	13	Standing	50	Pass
	Proposed	12	Standing	16	Strolling	67	Pass
73	Exisiting	12	Standing	18	Walking	65	Pass
	Proposed	11	Standing	16	Strolling	69	Pass
74	Exisiting	14	Standing	19	Walking	67	Pass
	Proposed	13	Standing	17	Strolling	69	Pass
75	Exisiting	13	Standing	18	Walking	61	Pass
	Proposed	13	Standing	17	Strolling	61	Pass
76	Exisiting	15	Strolling	21	Uncomfortable	67	Pass
	Proposed	14	Standing	18	Walking	65	Pass
77	Exisiting	10	Sitting	14	Standing	54	Pass
	Proposed	10	Sitting	14	Standing	55	Pass
78	Exisiting	13	Standing	19	Walking	66	Pass
	Proposed	11	Standing	16	Strolling	61	Pass
79	Exisiting	15	Strolling	21	Uncomfortable	67	Pass
	Proposed	14	Standing	18	Walking	66	Pass
80	Exisiting	15	Strolling	20	Walking	65	Pass
	Proposed	14	Standing	19	Walking	72	Pass
81	Exisiting	14	Standing	20	Walking	66	Pass
	Proposed	12	Standing	17	Strolling	72	Pass
82	Exisiting	15	Strolling	20	Walking	65	Pass
	Proposed	14	Standing	20	Walking	70	Pass
83	Exisiting	14	Standing	20	Walking	64	Pass
	Proposed	15	Strolling	19	Walking	80	Pass
84	Exisiting	14	Standing	18	Walking	62	Pass
	Proposed	14	Standing	20	Walking	74	Pass
85	Exisiting	14	Standing	20	Walking	66	Pass
	Proposed	18	Walking	28	Uncomfortable	95	Exceeded

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
86	Exisiting	14	Standing	19	Walking	67	Pass
	Proposed	16	Strolling	24	Uncomfortable	86	Pass
87	Exisiting	14	Standing	19	Walking	65	Pass
	Proposed	15	Strolling	21	Uncomfortable	73	Pass
88	Exisiting	14	Standing	19	Walking	67	Pass
	Proposed	14	Standing	20	Walking	69	Pass
89	Exisiting	13	Standing	16	Strolling	61	Pass
	Proposed	13	Standing	18	Walking	64	Pass
90	Exisiting	14	Standing	20	Walking	66	Pass
	Proposed	18	Walking	24	Uncomfortable	82	Pass
91	Exisiting	14	Standing	19	Walking	65	Pass
	Proposed	16	Strolling	20	Walking	88	Pass
92	Exisiting	13	Standing	18	Walking	64	Pass
	Proposed	14	Standing	18	Walking	84	Pass
93	Exisiting	11	Standing	17	Strolling	64	Pass
	Proposed	11	Standing	15	Strolling	57	Pass
94	Exisiting	13	Standing	18	Walking	63	Pass
	Proposed	15	Strolling	20	Walking	74	Pass
95	Exisiting	13	Standing	19	Walking	67	Pass
	Proposed	16	Strolling	20	Walking	74	Pass
96	Exisiting	11	Standing	15	Strolling	58	Pass
	Proposed	15	Strolling	20	Walking	80	Pass
97	Exisiting	11	Standing	14	Standing	54	Pass
	Proposed	13	Standing	16	Strolling	78	Pass
98	Exisiting	13	Standing	18	Walking	75	Pass
	Proposed	11	Standing	14	Standing	55	Pass
99	Exisiting	15	Strolling	20	Walking	66	Pass
	Proposed	15	Strolling	21	Uncomfortable	68	Pass
100	Exisiting	-	-	-	-	-	-
	Proposed	17	Strolling	24	Uncomfortable	90	Pass
101	Exisiting	-	-	-	-	-	-
	Proposed	19	Walking	26	Uncomfortable	94	Exceeded
102	Exisiting	-	-	-	-	-	-
	Proposed	17	Strolling	22	Uncomfortable	91	Exceeded

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
103	Exisiting	-	-	-	-	-	-
	Proposed	18	Walking	27	Uncomfortable	103	Exceeded
104	Exisiting	-	-	-	-	-	-
	Proposed	15	Strolling	20	Walking	95	Exceeded
105	Exisiting	-	-	-	-	-	-
	Proposed	18	Walking	26	Uncomfortable	94	Exceeded
106	Exisiting	-	-	-	-	-	-
	Proposed	15	Strolling	26	Uncomfortable	109	Exceeded
107	Exisiting	-	-	-	-	-	-
	Proposed	14	Standing	23	Uncomfortable	108	Exceeded
108	Exisiting	-	-	-	-	-	-
	Proposed	16	Strolling	25	Uncomfortable	103	Exceeded
109	Exisiting	-	-	-	-	-	-
	Proposed	13	Standing	22	Uncomfortable	90	Pass
110	Exisiting	-	-	-	-	-	-
	Proposed	15	Strolling	21	Uncomfortable	81	Pass
111	Exisiting	-	-	-	-	-	-
	Proposed	15	Strolling	21	Uncomfortable	82	Pass
112	Exisiting	-	-	-	-	-	-
	Proposed	16	Strolling	20	Walking	88	Pass
113	Exisiting	-	-	-	-	-	-
	Proposed	15	Strolling	18	Walking	85	Pass
114	Exisiting	-	-	-	-	-	-
	Proposed	17	Strolling	21	Uncomfortable	103	Exceeded
115	Exisiting	-	-	-	-	-	-
	Proposed	14	Standing	19	Walking	72	Pass
116	Exisiting	-	-	-	-	-	-
	Proposed	10	Sitting	14	Standing	51	Pass
117	Exisiting	-	-	-	-	-	-
	Proposed	14	Standing	23	Uncomfortable	82	Pass
118	Exisiting	-	-	-	-	-	-
	Proposed	17	Strolling	22	Uncomfortable	101	Exceeded
119	Exisiting	-	-	-	-	-	-
	Proposed	16	Strolling	19	Walking	70	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
120	Exisiting	-	-	-	-	-	-
	Proposed	17	Strolling	21	Uncomfortable	86	Pass
121	Exisiting	-	-	-	-	-	-
	Proposed	19	Walking	27	Uncomfortable	99	Exceeded
122	Exisiting	-	-	-	-	-	-
	Proposed	16	Strolling	24	Uncomfortable	91	Exceeded
123	Exisiting	-	-	-	-	-	-
	Proposed	19	Walking	27	Uncomfortable	100	Exceeded
124	Exisiting	-	-	-	-	-	-
	Proposed	15	Strolling	20	Walking	84	Pass
125	Exisiting	-	-	-	-	-	-
	Proposed	15	Strolling	19	Walking	81	Pass
126	Exisiting	-	-	-	-	-	-
	Proposed	21	Uncomfortable	31	Uncomfortable	124	Exceeded
127	Exisiting	-	-	-	-	-	-
	Proposed	20	Walking	30	Uncomfortable	125	Exceeded
128	Exisiting	-	-	-	-	-	-
	Proposed	12	Standing	16	Strolling	67	Pass
129	Exisiting	-	-	-	-	-	-
	Proposed	10	Sitting	13	Standing	57	Pass
130	Exisiting	-	-	-	-	-	-
	Proposed	12	Standing	17	Strolling	65	Pass
131	Exisiting	-	-	-	-	-	-
	Proposed	10	Sitting	14	Standing	56	Pass
132	Exisiting	-	-	-	-	-	-
	Proposed	12	Standing	16	Strolling	61	Pass
133	Exisiting	-	-	-	-	-	-
	Proposed	13	Standing	22	Uncomfortable	88	Pass
134	Exisiting	-	-	-	-	-	-
	Proposed	14	Standing	20	Walking	78	Pass
135	Exisiting	-	-	-	-	-	-
	Proposed	11	Standing	15	Strolling	58	Pass
136	Exisiting	-	-	-	-	-	-
	Proposed	17	Strolling	23	Uncomfortable	97	Exceeded

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
137	Exisiting	-	-	-	-	-	-
	Proposed	13	Standing	17	Strolling	69	Pass
138	Exisiting	-	-	-	-	-	-
	Proposed	11	Standing	15	Strolling	65	Pass
139	Exisiting	-	-	-	-	-	-
	Proposed	16	Strolling	25	Uncomfortable	96	Exceeded
140	Exisiting	-	-	-	-	-	-
	Proposed	19	Walking	28	Uncomfortable	116	Exceeded
141	Exisiting	-	-	-	-	-	-
	Proposed	17	Strolling	22	Uncomfortable	110	Exceeded
142	Exisiting	-	-	-	-	-	-
	Proposed	16	Strolling	18	Walking	82	Pass
143	Exisiting	-	-	-	-	-	-
	Proposed	13	Standing	16	Strolling	69	Pass
144	Exisiting	-	-	-	-	-	-
	Proposed	15	Strolling	25	Uncomfortable	110	Exceeded

Season	Months	Hours
Summer	May - October	6:00 - 23:00 for comfort
Winter	November - April	6:00 - 23:00 for comfort
Annual	January - December	0:00 - 23:00 for safety
Configurations		
Existing	Existing site and surroundings	
Proposed	Project with existing surroundings	

Comfort Speed (km/h)	
(20% Seasonal Exceedance)	
≤ 10	Sitting
11 - 14	Standing
15 - 17	Strolling
18 - 20	Walking
> 20	Uncomfortable

Safety Speed (km/h)	
(0.1% Annual Exceedance)	
≤ 90	Pass
> 90	Exceeded