

# GRADIENTWIND

ENGINEERS & SCIENTISTS

January 12, 2022

Trim Road 1 LP Inc.  
115 Champagne Avenue South  
Ottawa, ON K1S 5V5

Attn: Martin Chénier  
[chenierm@live.ca](mailto:chenierm@live.ca)

Dear Mr. Chénier:

Re: Qualitative Pedestrian Level Wind Assessment  
1009 Tweddle Road, Ottawa  
Gradient Wind File 20-087-R1

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Gradient Wind Engineering Inc. (Gradient Wind) was retained by Trim Road 1 LP Inc. to undertake a qualitative pedestrian level wind (PLW) assessment to satisfy Zoning By-Law Amendment (ZBLA) application resubmission requirements for the proposed mixed-use residential redevelopment located at 1009 Tweddle Road in Ottawa, Ontario (hereinafter referred to as “subject site”). This report provides a qualitative assessment of pedestrian wind comfort and safety for the subject site based on architectural drawings provided by RLA Architecture in January 2022, consideration of existing and approved future surrounding buildings, statistical knowledge of the Ottawa wind climate, and experience with similar past projects in Ottawa. A qualitative PLW assessment was performed for the original architectural design of the proposed development to satisfy the first ZBLA application submission<sup>1</sup>.

In the early stages of design development, a qualitative wind assessment is useful to identify any significant massing features or design elements which may adversely impact pedestrian activities within the study area, and to provide initial recommendations for mitigation strategies, as may be required. Any recommended mitigation could be confirmed during design development.

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<sup>1</sup> Gradient Wind Engineering Inc., ‘1009 Trim Road, Ottawa – Qualitative Pedestrian Level Wind Assessment’, [Sep 11, 2020]

## 1. TERMS OF REFERENCE

The proposed development is located at 1009 Tweddle Road in Ottawa, Ontario. The subject site is situated on an irregular parcel of land bounded by Jeanne d’Arc Boulevard North to the south, Tweddle Road to the west, the Ottawa River to the north, and vacant land to the east. The intersection of Jeanne d’Arc Boulevard North and Trim Road is located at the southeast corner of the subject site.

The subject site comprises four proposed buildings: Tower A (28 storeys) at the northwest corner of the property, Tower B (32 storeys) at the southwest corner, Tower C (28 storeys) in the centre of the property, and Tower D (24 storeys) at the east end of the property. The four buildings, which share three levels of below-grade parking, are focused within the south side of the site, while green space and a body of water occupy the remaining land, north of the high-water mark.



*Rendering, Southwest Perspective  
(Courtesy of RLA Architecture)*

The minimum separation distance between Tower A and Tower B is 23 metres (m). The separation distance between Tower B and Tower C is 26.6 m, while the minimum distance between Tower C and Tower D is 23 m.

The ground level of Tower A has a triangular planform and comprises a residential lobby along the southeast elevation, and commercial spaces throughout the remainder of the level. Level 2 comprises office space and Levels 3 and above comprise residential space. At Level 5, the building steps back from the southwest corner, and at Level 6, the building steps back from all elevations. The tower rises with a constant planform from Levels 6 to 28.

The ground level of Tower B has a triangular planform and comprises a residential lobby at the southeast corner, and commercial spaces throughout the remainder of the level. Level 2 comprises office space and Levels 3 and above comprise residential space. At Level 7, the building steps back from the southeast corner, and at Level 8, the building steps back from all elevations. The tower rises with a constant planform from Levels 8 to 32.



The ground level of Tower C has a nearly rectangular planform and comprises a residential lobby along the south elevation, and commercial spaces throughout the remainder of the level. Levels 2 and above comprise residential space. At Level 5, the building steps back from the southwest corner, and at Level 6, the building steps back from all elevations. Additionally, the building steps back from the north elevation at Levels 4, 5, 27, and 28.

The ground level of Tower D has a nearly rectangular planform and comprises a residential lobby along the south elevation, and a spa throughout the remainder of the level. Levels 2 and above comprise residential space. The building steps back from the east elevation at Levels 4 and 5, from the west elevation at Levels 23 and 24, and from all elevations at Level 6.

At the exterior grade, the southwest corner of the site provides an entrance plaza. From the entrance plaza, there is a commercial terrace which runs between Towers A and B to a central plaza between Towers A, B, and C. Additional commercial terraces are located to the north of Towers A and C. Along the north elevation of Tower D, there is a spa terrace. There is a linear park along the south elevation of the subject site. Along the north elevation of the full proposed development, there is a nature path.

Regarding wind exposures, the near-field surroundings of the development (defined as an area falling within a 200-metre (m) radius of the site) include the Petrie's Landing high-rise development, which includes two existing buildings, one building currently under construction, and three future buildings approximately 200 m to the east-northeast, the city maintenance yard immediately across Jeanne d'Arc Boulevard to the south-southwest, the Ottawa River to the immediate northwest, and open green space for the remainder of the compass. The far-field surroundings (defined as the area beyond the near field and within a two-kilometer (km) radius) are characterized by a mix of open green space and low-rise suburban developments from the east-northeast clockwise to the southeast, by mostly low-rise suburban developments from the southeast clockwise to the west-southwest, and by the open exposures of Ottawa River and Petrie Island for the remaining compass directions. Notably, Trim Station is located approximately 350 m to the south-southeast of the subject site.

A site plan is provided in Figure 1, while a ground floor plan is provided in Figure 2. The roof plan is illustrated in Figure 3, which includes the potential podium rooftop terraces. Figures 2 and 3 include letter tags identifying wind sensitive pedestrian locations considered in this assessment.

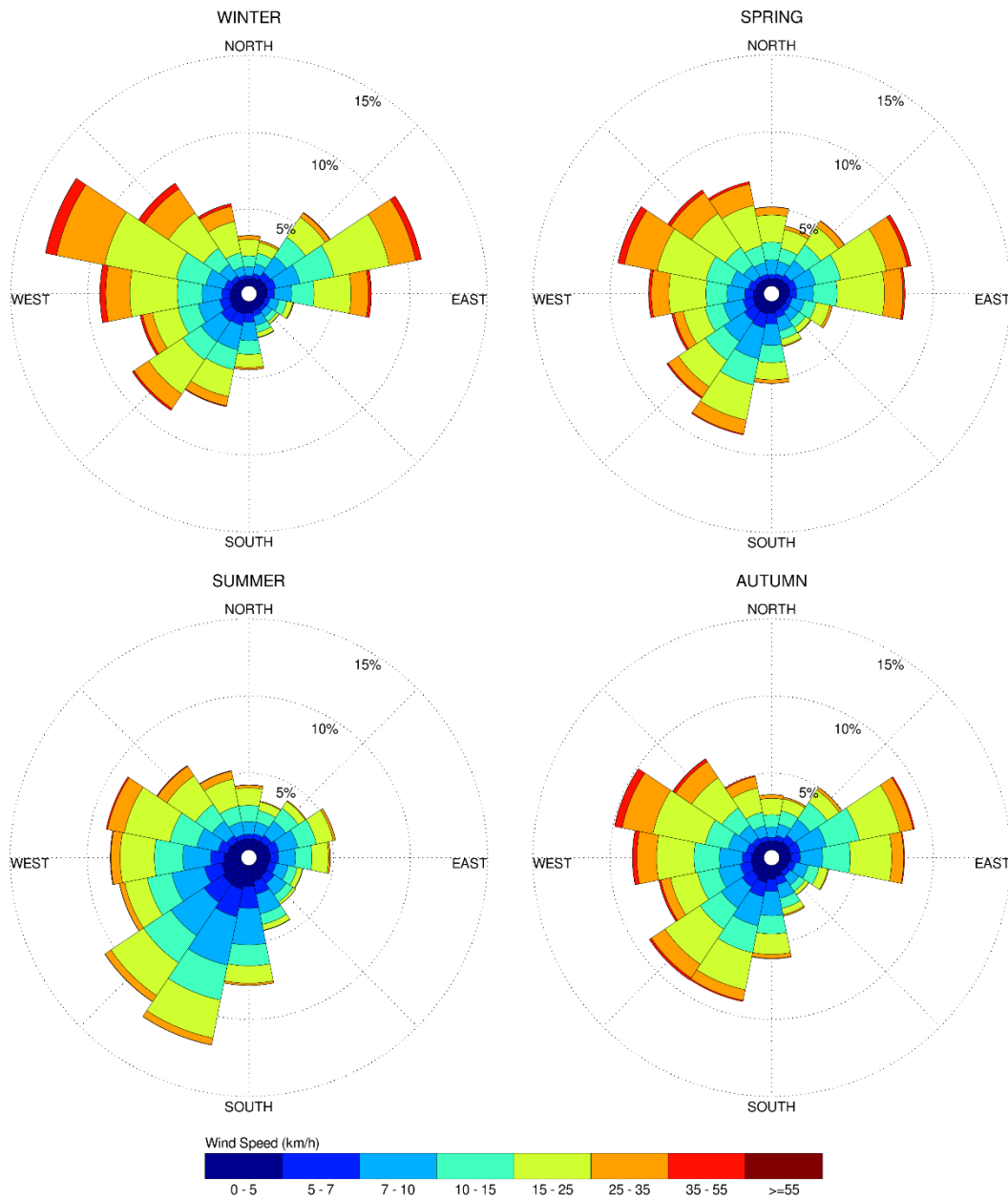
## **2. METHODOLOGY**

The main aspects of a qualitative pedestrian level wind assessment include (i) consideration of the statistical properties of the local wind climate; (ii) knowledge of wind flow behaviour in typical urban and suburban environments; and (iii) an understanding of how common wind conditions relate to typical pedestrian activity types.

### **2.1 Ottawa Wind Climate**

The statistical model of the Ottawa wind climate is illustrated on the following page and indicates the directional character of local winds on a seasonal basis. 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 a 40-year measurement period. The preferred 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 preference and relative magnitude of the wind speed varies somewhat from season to season, with the summer months displaying the calmest winds relative to the remaining seasonal periods.

## SEASONAL DISTRIBUTION OF WIND OTTAWA MACDONALD-CARTIER INTERNATIONAL AIRPORT



### Notes:

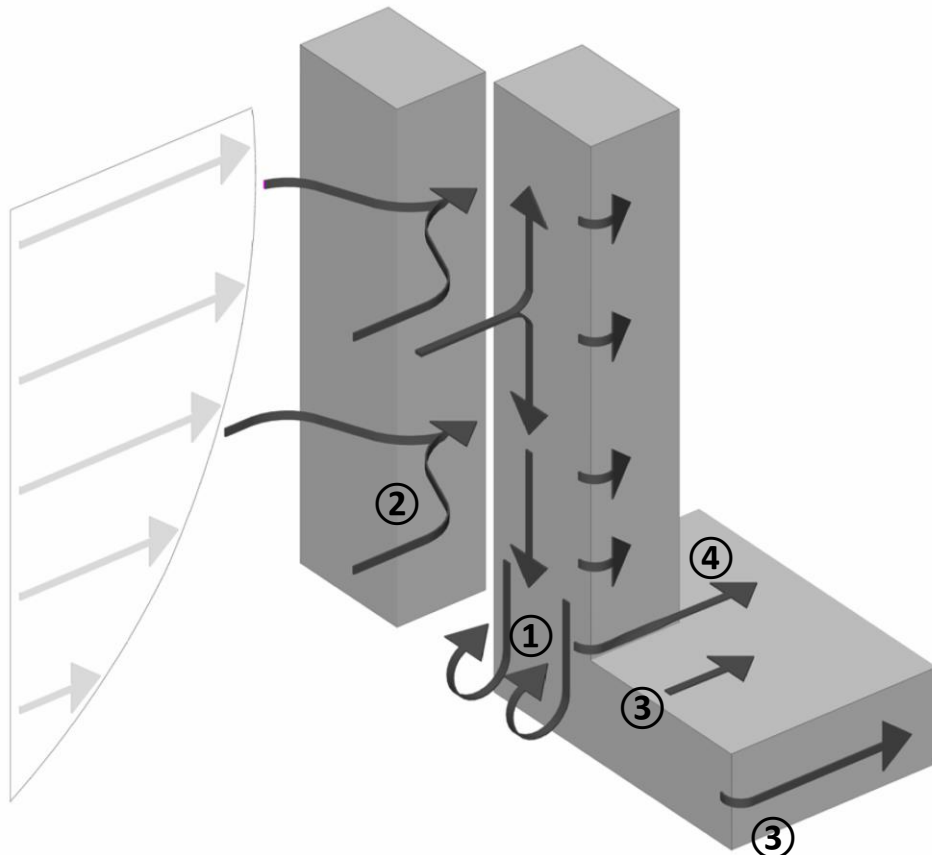
1. Radial distances indicate percentage of time of wind events.
2. Wind speeds are mean hourly in km/h, measured at 10 m above the ground.



## 2.2 Massing vs. Climate – Geometric Effects

The physical features of a development site that are most influential to the local wind conditions include the massing and relative spacing of surrounding buildings, the geometry and orientation of the study building, and the alignment of the study building with respect to statistically prominent wind directions.

Wind flow characteristics which combine to determine how conditions will develop include phenomena known as downwash, channelling coupled with acceleration, and shielding, as illustrated in the image below. Downwash ① relates to the effect of winds against a tall building, whereby much of the impinging flow on the windward side of the building, nominally below two-thirds of the total height, is directed to lower levels. Taller buildings with smooth façades and no podiums produce the strongest downwash effects at grade, while the presence of protruding balconies and a tower setback from the podium edge mitigates downwash effects at the ground level. Channelling ② refers to acceleration of wind through gaps between buildings, while acceleration of wind ③ occurs around building corners. Shielding ④ relates to calm zones on the leeward side of buildings, protected from prevailing winds.



### 2.3 Pedestrian Wind Comfort and Safety Criteria – City of Ottawa

Pedestrian comfort and safety criteria are based on the mechanical effects of wind without consideration of other meteorological conditions (i.e., temperature, relative humidity). The comfort criteria assume that pedestrians are appropriately dressed for a specified outdoor activity during any given season. Five pedestrian comfort classes are based on 80% non-exceedance mean wind speed ranges, which include (1) Sitting; (2) Standing; (3) Strolling; (4) Walking; and (5) Uncomfortable. More specifically, the comfort classes and associated mean wind speed ranges are summarized as follows:

- 1) **Sitting:** 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.
- 2) **Standing:** 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.
- 3) **Strolling:** 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.
- 4) **Walking:** 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.
- 5) **Uncomfortable:** 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.

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. The gust speeds, and equivalent mean speeds, are selected based on 'The Beaufort Scale', presented on the following page, which describes the effects of forces produced by varying wind speed levels on objects. Gust speeds are included because 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.

### THE BEAUFORT SCALE

Number	Description	Gust Wind Speed (km/h)	Description
2	Light Breeze	9-17	Wind felt on faces
3	Gentle Breeze	18-29	Leaves and small twigs in constant motion; wind extends light flags
4	Moderate Breeze	30-42	Wind raises dust and loose paper; small branches are moved
5	Fresh Breeze	43-57	Small trees in leaf begin to sway
6	Strong Breeze	58-74	Large branches in motion; Whistling heard in electrical wires; umbrellas used with difficulty
7	Moderate Gale	75-92	Whole trees in motion; inconvenient walking against wind
8	Gale	93-111	Breaks twigs off trees; generally impedes progress

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 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 desired comfort classes, which are dictated by the location type for each region (i.e., a sidewalk, building entrance, amenity space, or other). An overview of common pedestrian location types and their desired comfort classes are summarized on the following page.





**DESIRED PEDESTRIAN COMFORT CLASSES FOR VARIOUS LOCATION TYPES**

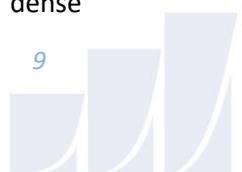
Location Types	Desired Comfort Classes
Primary Building Entrance	Standing
Secondary Building Access Point	Standing / Strolling / Walking
Primary Public Sidewalk	Strolling / Walking
Secondary Public Sidewalk / Bicycle Path	Walking
Outdoor Amenity Space	Sitting / Standing / Strolling
Café / Patio / Bench / Garden	Sitting
Transit Stop (No Shelter)	Sitting / Standing
Public Park / Plaza	Sitting / Standing / Strolling
Garage / Service Entrance	Walking
Parking Lot	Strolling / Walking
Vehicular Drop-Off Zone	Standing / Strolling / Walking

### 3. ANTICIPATED PEDESTRIAN WIND COMFORT

Based on consideration of the subject site, surrounding building massing, and the relationship to the local wind climate, the statements below summarize our assessment of pedestrian wind comfort and safety at key pedestrian areas.

**Sidewalk, Linear Park, and Building Entrances along Jeanne d’Arc Boulevard North (Figure 2, Tag A):** The proposed development is expected to provide protection from prominent northwesterly winds over the sidewalk along Jeanne d’Arc Boulevard. Downwash effects due to higher level winds are not expected, due to the low frequency of southeasterly winds.

Overall, conditions along the sidewalk are expected to be suitable for strolling, or better, during the summer and autumn season, becoming suitable for walking, or better, during the spring and winter. Owing to the protection provided by the building façade, conditions in the vicinity of building entrances are expected to be suitable for sitting during the summer and autumn, becoming suitable for standing, or better, during the spring and winter. These conditions are considered acceptable for the sidewalk and building entrances. To ensure conditions within the linear park are suitable for the intended pedestrian uses, landscaping features such as wind barriers, topographical depressions and berms, and dense



arrangements of coniferous plantings may be installed around sensitive areas to improve conditions during the typical use period of late spring through early autumn.

**Transit Stops along Jeanne d’Arc Boulevard North (Figure 2, Tag B):** The proposed development is expected to provide protection from prominent northwesterly winds in the vicinity of the nearby transit stops along Jeanne d’Arc Boulevard North. Overall, conditions are expected to be suitable for standing, or better, during the spring, summer, and autumn, becoming suitable for strolling, or better, during the winter. Since the noted conditions are close to the desired comfort level for a transit stop without a shelter (standing), a standard shelter would be beneficial, but may not be necessary.

**Sidewalk and Building Entrances along Tweddle Road (Figure 2, Tag C):** Since the sidewalk along Tweddle Road will be exposed to direct northwesterly winds, conditions are expected to be windy. Downwash effects due to higher level winds will be reduced somewhat due to the setback of Tower A from its podium at Level 6 and from its balconies at higher levels.

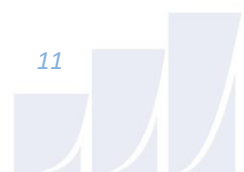
Overall, conditions along the sidewalk are expected to be suitable for strolling, or better, during the summer, becoming suitable for walking, or better, throughout the remainder of the year. During the winter, conditions near the northwest and southwest corners of Tower A may occasionally be considered uncomfortable for walking. Although pedestrian activity along Tweddle Road, which does not currently include a paved sidewalk, is expected to be limited, mitigation may be required to improve conditions at grade. Mitigation strategies will be developed in collaboration with the design team during design development to ensure the comfort criteria are satisfied. Some potential strategies may include landscaping features to protect against direct winds, and canopies or podium setbacks to reduce the effects of higher-level winds. A quantitative PLW study will be performed for the future Site Plan Control application submission.

Owing to the protection provided by the building façade, conditions in the vicinity of building entrances along Tweddle Road are expected to be suitable for standing, or better during the summer and autumn, becoming suitable for strolling, or better, during the spring and winter. The noted conditions are considered acceptable for secondary building entrances. If any entrances along the west elevation of Tower A are intended as primary entrances, it is recommended that they be recessed into the façade or protected by canopies to ensure conditions are suitable for standing, or better, throughout the year.

**Entrance Plaza and Commercial Terrace between Tower A and Tower B (Figure 2, Tag D):** Tower A will provide some protection from direct northerly winds over the entrance plaza and commercial terrace between Tower A and Tower B. Regarding higher level winds, while some downwash effects over Tower A may accelerate around the southwest corner of the site, downwash effects over Tower B will be reduced by the shelter provided by Tower A. Overall, conditions are expected to be mostly suitable for a mix of sitting and standing during the summer, becoming suitable for a mix of standing and strolling during the spring and autumn, and suitable for walking, or better, during the winter. The windiest conditions are expected near the southwest corners of Tower A and Tower B. The noted conditions are considered acceptable within the commercial terrace. To ensure conditions within the plaza are suitable for sitting during the typical use period, mitigation may be required around sensitive areas to protect from direct northwesterly winds, as well as winds accelerating around the southwest corners of Tower A and Tower B. Mitigation strategies will be developed in collaboration with the design team during design development to ensure the comfort criteria are satisfied. Some potential strategies may include tall wind barriers (e.g., glazed guards and dense coniferous plantings), topographical berms, or locating more sedentary programming away from windier regions of the amenity space. A quantitative PLW study will be performed for the future Site Plan Control application submission.

**Central Plaza between Tower A, Tower B, and Tower C (Figure 2, Tag E):** While the central plaza will be exposed to northerly winds accelerating around Tower A and Tower C, the proposed development will provide protection from direct westerly and southwesterly winds. Overall, conditions are expected to be suitable for a mix of sitting and standing during the typical use period, becoming suitable for strolling, or better, during the colder months. It is recommended that landscaping features such as wind barriers, topographical berms, or dense arrangements of coniferous plantings be used to extend sitting conditions around sensitive areas. Mitigation strategies will be developed in collaboration with the design team during design development to ensure the comfort criteria are satisfied. A quantitative PLW study will be performed for the future Site Plan Control application submission.

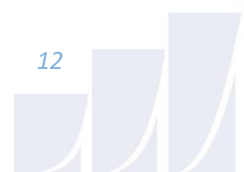
**Commercial Terraces along North Elevation of Tower A and Tower C (Figure 2, Tag F):** While the commercial terraces along the north elevation of Tower A and Tower C will be exposed to direct northwesterly winds, as well as westerly winds accelerating around the northwest corner of Tower A, the setback of Tower A from its podium at Level 6 and the setbacks of Tower C from the north elevation



combined with the balconies on both towers will reduce the downwash of higher level winds. Overall, conditions are expected to be suitable for strolling, or better, during the typical use period, becoming suitable for walking, or better, during the colder months. To improve conditions, it is recommended that landscaping features such as wind barriers, topographical berms, or dense arrangements of coniferous plantings be installed around sensitive areas. Mitigation strategies will be developed in collaboration with the design team during design development to ensure the comfort criteria are satisfied. A quantitative PLW study will be performed for the future Site Plan Control application submission.

**Spa Terrace along North Elevation of Tower D (Figure 2, Tag G):** Since the spa terrace along the north elevation of Tower D will be exposed to direct northwesterly winds, conditions are expected to be windy. Downwash effects due to higher level winds will be reduced somewhat due to the setback of Tower D from its podium at Level 6 and from its balconies at higher levels. Overall, conditions are expected to be suitable for a mix of standing and strolling during the typical use period, becoming suitable for walking, or better, during the colder months. Mitigation is recommended to ensure conditions are suitable for the intended use. This mitigation is expected to include a combination of landscaping features to protect against direct winds and canopies or podium setbacks to protect against higher level winds. Mitigation strategies will be developed in collaboration with the design team during design development to ensure the comfort criteria are satisfied. A quantitative PLW study will be performed for the future Site Plan Control application submission.

**Nature Path along North Elevation of Subject Site (Figure 2, Tag H):** While the nature path along the north elevation of the subject site will be exposed to direct northwesterly winds, the influence of the proposed development on the wind conditions over the promenade are expected to be small, due to the large distance of the towers from the promenade. Overall, conditions are expected to be suitable for a mix of sitting and standing during the summer, becoming suitable for mostly standing during the spring and autumn, and suitable for strolling, or better, during the winter. Since the anticipated level of activity is mostly standing or strolling during the typical use period, these conditions are considered acceptable. If seating areas are desired along the path, it is recommended they be strategically located to be protected by landscaping features such as topographical depressions or berms, wind barriers, or dense arrangements of coniferous plantings.



**Walkways and Building Entrances throughout Subject Site (Figure 2, Tag I):** The proposed development will provide shelter from direct winds over the various walkways throughout the subject site. These walkways are expected to be suitable for standing, or better, during the summer, becoming suitable for strolling, or better, during the spring and autumn, and suitable for walking, or better, during the winter. The noted conditions are considered acceptable.

Owing to the protection provided by the building façade, conditions in the vicinity of building entrances throughout the subject site are expected to be somewhat calmer than over the adjacent walkways. Notably, the proposed development includes insets at grade around the primary building entrances, which are expected to provide additional protection against the wind. Except where noted above, wind conditions are expected to be suitable for sitting during the summer and autumn, becoming suitable for standing, or better, during the winter and spring. The noted conditions are considered acceptable.

**Podium Rooftop Terraces (Figure 3, Tags J, K, L & M):** If the podium rooftop terraces are intended to accommodate amenity spaces, it is recommended that the areas include wind barrier around their perimeters to protect the spaces from direct horizontal winds. Additionally, a canopy may be necessary to protect the areas over the Level 4 roof (Tag J) serving Tower A from downwash of higher-level winds from the northwest, which will accelerate around the southwest corner of the tower. Canopies may also be required for Tower B (Tag K), Tower C (Tag L), and Tower D (Tag M). Mitigation strategies will be developed in collaboration with the design team during design development to ensure the comfort criteria are satisfied. A quantitative PLW study will be performed for the future Site Plan Control application submission.

### 3.1 Applicability of Qualitative PLW Assessment

Pedestrian wind comfort has been qualitatively assessed for the specific configuration of existing and foreseeable construction around the subject site. Future changes (i.e., 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 site; and (ii) development in proximity to the subject site would cause changes to local flow patterns.



### 3.2 Pedestrian Wind Safety

The foregoing statements and conclusions apply to common weather systems, during which no dangerous or consistently strong wind conditions are expected anywhere over the subject site. During such extreme weather events, (e.g., 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.

## 4. SUMMARY AND RECOMMENDATIONS

Based on a qualitative analysis of architectural drawings, surrounding building massing, and the Ottawa wind climate, the following general statements summarize our prediction of future wind conditions for the subject site at 1009 Tweddle Road in Ottawa, Ontario.

1. While the introduction of tall buildings to an area with open terrain is expected to produce windy conditions, wind comfort within most grade-level pedestrian-sensitive locations across the subject site are expected to be suitable for the anticipated uses without mitigation on a seasonal basis. The areas include nearby building entrances, walkways, and public sidewalks. Exceptions are noted below.
  - a. Windy conditions in several areas are expected to require mitigation to ensure acceptable conditions. Specifically, the Tweddle Road sidewalk, building entrances along the west elevation of Tower A, the entrance plaza at the southwest corner, the transit stops near the southwest corner, the linear park along the south elevation, the central plaza, the commercial terraces along the north elevation of Tower A and Tower C, the spa amenity along the north elevation of Tower D, and any seating areas near the nature path along the north end of the subject site are expected to require mitigation to ensure the comfort criteria are satisfied.
  - b. Mitigation of the above areas is expected to include a combination of massing changes, landscaping features, and/or canopies. Beneficial massing changes could include additional setbacks of the podia at Levels 2, 3, or 4, particularly along the north and west elevations, or rotation of the towers to reduce downwash of prominent northwesterly winds over the broad faces of the towers. Beneficial landscaping features could include wind barriers, topographical depressions or berms, or dense arrangements of coniferous plantings.



- c. Mitigation strategies will be developed in collaboration with the design team during design development to ensure the comfort criteria are satisfied. A quantitative PLW study will be performed, either with a physical scale model in a wind tunnel or with a computational model using CFD software, for the future Site Plan Control application submission.
2. If amenity spaces are desired atop the podia, wind mitigation will be required. Strategies will be developed in collaboration with the building and landscape architects during the detailed design stage to ensure the comfort criteria are satisfied.
3. Pedestrian wind comfort has been qualitatively assessed for the specific configuration of existing and foreseeable construction around the subject site. Future changes (i.e., 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 site; and (ii) development in proximity to the subject site would cause changes to local flow patterns.

The foregoing statements and conclusions apply to common weather systems, during which no dangerous or consistently strong wind conditions are expected anywhere over the subject site. During such extreme weather events, (e.g., 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,

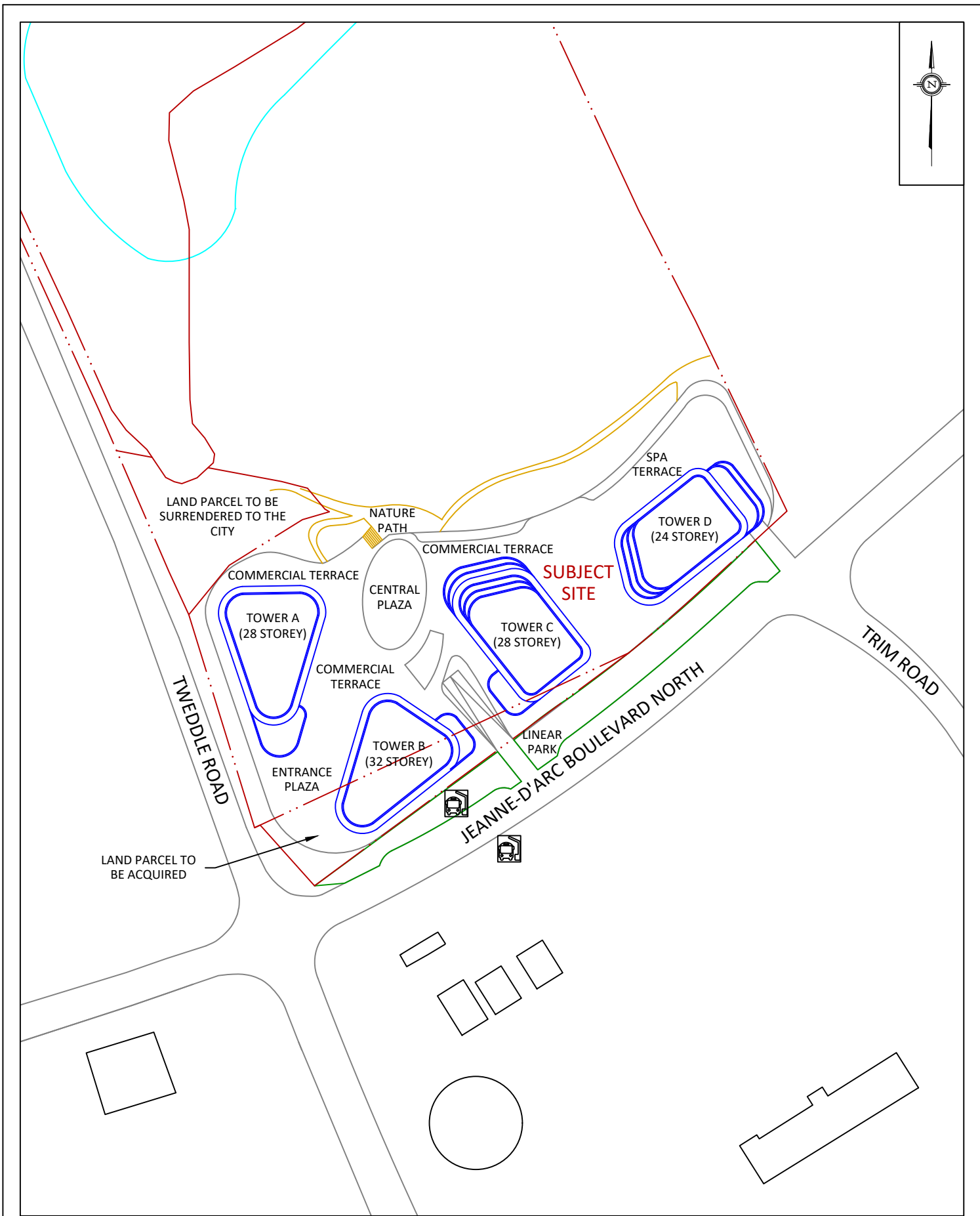
***Gradient Wind Engineering Inc.***



Steven Hall, M.A.Sc., P.Eng.  
Senior Wind Engineer

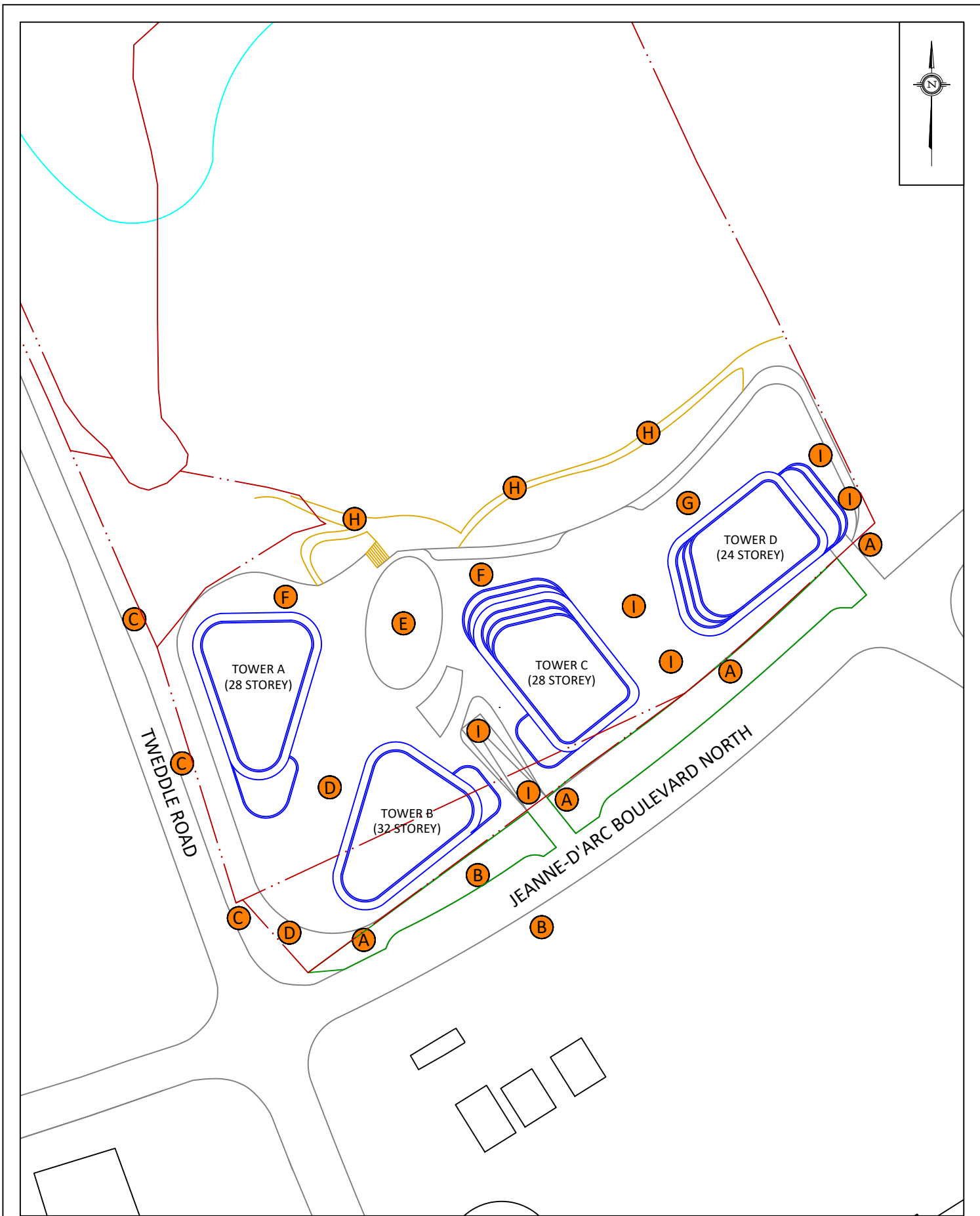
Justin Ferraro, P.Eng.  
Principal

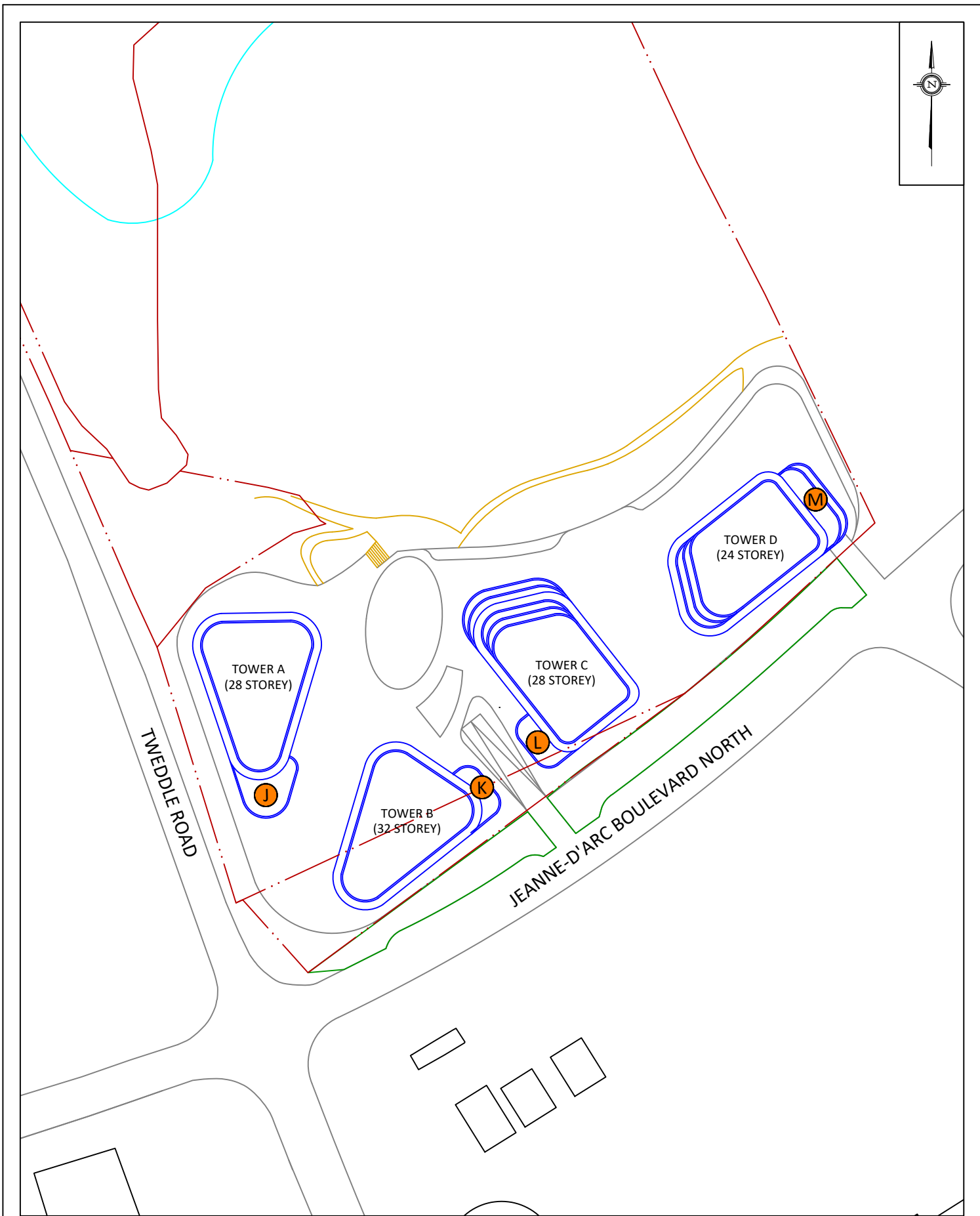




<b>GRADIENTWIND</b> ENGINEERS & SCIENTISTS 127 WALGREEN ROAD, OTTAWA, ON 613 836 0934 • GRADIENTWIND.COM	PROJECT	1009 TWEDDLE ROAD, OTTAWA QUALITATIVE PEDESTRIAN LEVEL WIND ASSESSMENT		DESCRIPTION
	SCALE	1:1500	DRAWING NO.	20-087-DTPLW-1
	DATE	JANUARY 12, 2022	DRAWN BY	S.K.
	FIGURE 1: SITE PLAN AND SURROUNDING CONTEXT			







<b>GRADIENTWIND</b> ENGINEERS & SCIENTISTS 127 WALGREEN ROAD, OTTAWA, ON 613 836 0934 • GRADIENTWIND.COM	PROJECT	1009 TWEDDLE ROAD, OTTAWA QUALITATIVE PEDESTRIAN LEVEL WIND ASSESSMENT		DESCRIPTION
	SCALE	1:1250	DRAWING NO.	20-087-DTPLW-3
	DATE	JANUARY 12, 2022	DRAWN BY	S.K.
	<b>FIGURE 3:</b> TERRACE PLAN WITH REFERENCE MARKERS			