July 9, 2024

Parkway House Development LP
400-300 Richmond Road
Ottawa, ON K1Z 6X6

Attn: Ross Farris, Senior Development Manager
ross.farris@windmilldevelopments.com

Dear Mr. Farris:

Re: Pedestrian Level Wind Study Addendum
2475 Regina Street, Ottawa
Gradient Wind File 22-068

Gradient Wind Engineering Inc. (Gradient Wind) completed a computational pedestrian level wind (PLW) study to satisfy Zoning By-Law Amendment application requirements for the proposed development located at 2475 Regina Street in Ottawa, Ontario, followed by a subsequent study to satisfy Site Plan Control application submission requirements[1,2]. The 2024 study was conducted based on architectural drawings of the proposed development provided by Diamond Schmitt Architects[3] and landscape drawings provided by Stantec Consulting Ltd.[4] in January 2024.

The current architectural drawings, which were distributed to the consultant team in June 2024[5] in preparation for a resubmission of the Site Plan Control application, include several changes to the architectural design of Building A1 within the proposed development. Most notably, A1 now comprises a nominally rectangular planform at grade level and has been extended towards the east. This massing change affects the layout of the surface parking to the south of A1 and eliminates the common amenity terrace that was proposed for A1 at Level 3.

[1] Gradient Wind Engineering Inc., '*2475 Regina Street – Pedestrian Level Wind Study*', [May 12, 2022]
[2] Gradient Wind Engineering Inc., '*2475 Regina Street – Pedestrian Level Wind Study*', [Feb 6, 2024]
[3] Diamond Schmitt Architects, '*Parkway Plans'*, [Jan 11, 2024]
[4] Stantec Consulting Ltd., '*Landscape Plan'*, [Jan 15, 2024]
[5] Diamond Schmitt Architects, '*Parkway House*', [June 21, 2024]

A1 also now steps back from the east elevation at Level 2 to accommodate a common amenity terrace, and steps back from the west elevation to accommodate private terraces at Levels 4 and 6 instead of Levels 5, 6, and 7.

The February 2024 study concluded that most grade-level areas within and surrounding the subject site were predicted to experience conditions considered acceptable for the intended pedestrian uses throughout the year, inclusive of the Pinecrest Creek Pathway to the north, internal driveways, surface parking, and loading areas, most internal walkways serving the subject site, the terrace to the west of A1, and in the vicinity of most building access points. While windier conditions were predicted to the northeast of the subject site over a portion of the Pinecrest Creek Pathway during the winter months, conditions were considered satisfactory over this area as the pathway was not expected to receive winter maintenance. Similarly, windier conditions that were predicted to the south of Tower T2 during the winter were considered satisfactory given the marginal exceedance of the walking comfort threshold and the limited extent of the windy conditions. Additionally, it was recommended that the primary building entrance at the northeast corner of Tower T1 be recessed into the building façade by at least 1.5 m.

During the typical use period, (that is, May to October, inclusive) wind conditions within the community green and exterior communal amenity spaces situated to the northwest and southwest of T2, respectively, were predicted in the February 2024 study to be suitable for mostly standing with conditions suitable for sitting closer to the building façade. It was concluded that the noted conditions may be considered acceptable if seating and lounging activities were located away from the noted windier areas. If required by programming, it was recommended to implement common landscaping elements around sensitive areas, such as tall wind screens and coniferous plantings in dense arrangements, in combination with other local wind mitigation.

Regarding the common amenity terraces serving A1 at Level 3 and T1 and T2 at Level 2, conditions were predicted in the 2024 study to be suitable for sitting during the typical use period, which was considered acceptable. Wind comfort conditions within the common amenity terrace serving T2 at the MPH Level, which was modelled with 1.8-m-tall wind screens along the full perimeter of the terrace, were predicted to be suitable for mostly sitting during the typical use period, and conditions within the terrace were considered acceptable.

In the February 2024 study, conditions within the common amenity terrace serving T1 at the MPH Level, which was modelled with 1.8-m-tall wind screens along the full perimeter of the terrace, were predicted to be suitable for mostly sitting during the typical use period with conditions suitable for standing near the northwest and southwest corners of the tower. It was concluded that the noted conditions may be considered acceptable if sensitive-use activities were located away from the noted windier areas. If required by programming, it was recommended to implement targeted inboard wind barriers and canopies around sensitive areas within the terrace.

The differences in the February 2024 and the June 2024 architectural designs are considered modest, and conditions within and surrounding the subject site are expected to be mostly similar for the current massing. The conclusions and recommendations as detailed in the February 2024 PLW study are expected to remain mostly representative of the current architectural design, inclusive of the above-noted programming dependent recommendations regarding mitigation around sensitive areas within the community green and grade-level amenity spaces to the west of T2 and within the MPH Level amenity terrace serving T1. It is recommended to implement 1.8-m-tall wind screens along the perimeters of the MPH Level amenity terraces, and it is recommended that the primary building entrance at the northeast corner of Tower T1 be recessed into the building façade by at least 1.5 m. Notably, mitigation in the form of canopies, wind screens, or dense arrangements of coniferous plantings that are targeted around sensitive areas between A1 and T2 may help to improve the comfort conditions at benches or other designated seating spaces in this area.

Furthermore, the City of Ottawa provided the applicant, Parkway House Development LP, with the following comments:

Urban Design, Comment 4:

"The wind study identifies uncomfortable area south of T2 in spring, fall and winter. The uncomfortable area is fairly large in the winter and overlaps with the pedestrian connection to the Pine Crest Pathway. The wind study offers more nuanced comments on such conditions and concludes that in the majority of the time, the pathway is safe to use. However, given the importance of this pathway connection, mitigation measures should be introduced to ensure this very important pedestrian access location is safe and comfortable to walk with a greater margin of satisfactory."

During the winter season, a portion of the pedestrian connection to the Pine Crest Pathway to the south of T2 is predicted to exceed the walking comfort threshold for approximately 1% of the time during the winter season. Wind barriers such as dense arrangements of coniferous trees at the southwest corner of T2 and along the southern elevation of the pedestrian connection would be expected to improve the wind conditions over the pedestrian connection.

Urban Design, Comment 5:

"Windy conditions are also identified northeast of T2 around the Pine Crest Pathway. Landscaping mitigation measures should be introduced to ensure this very important pedestrian/cycling infrastructure will be safe and comfortable to use even though it is not maintained in the winter."

To improve wind comfort conditions during the winter season to the northeast of T2, wind barriers such as coniferous trees in dense arrangements may be implemented near the northeast corner of T2, in the proximity of the property line to the north and northeast of T2, to diffuse the wind accelerations around the tower.

Sincerely,

Gradient Wind Engineering Inc.

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