16 July 2025

SmartCentres REIT
3200 Highway 7, Vaughan, ON, L4K5Z5
Attn: Daniel Orellana

1225 Dundas Street E (CPP#18913)
Pedestrian Wind Assessment – Mitigation Opinion Letter

Project Background

Cermak Peterka Petersen (CPP) was requested by SmartCentres REIT to provide our professional opinion regarding the impact of several wind mitigation features to be incorporated into the proposed 1225 Dundas Street E in Mississauga, Ontario to support the forthcoming OPA / ZBA application.

The project team intends to include various wind mitigation details to facilitate more favorable wind conditions around the development at the ground level corners of the development, within the central ground level breezeway / passage and throughout the main Level 10 amenity terrace where higher wind activity were identified in CPP's earlier conducted wind tunnel assessment of the project.

CPP's qualitative expert review is informed by the results of the previous quantitative wind tunnel study undertaken by CPP (findings summarized in the "Pedestrian Wind Assessment" report dated 27 September 2024) (see Figure 1 for reference) which was based on the 3D geometry of the development received on 22 July 2024 and was representative of the development as two 18-storey mixed used towers atop a shared 10-story podium, and four 2-storey townhome buildings. This evaluation provided an assessment of the Existing site condition (site and surroundings as they currently exist and any/all developments within the test radius currently under construction) and the Project site condition (development in the context of existing surrounding developments).

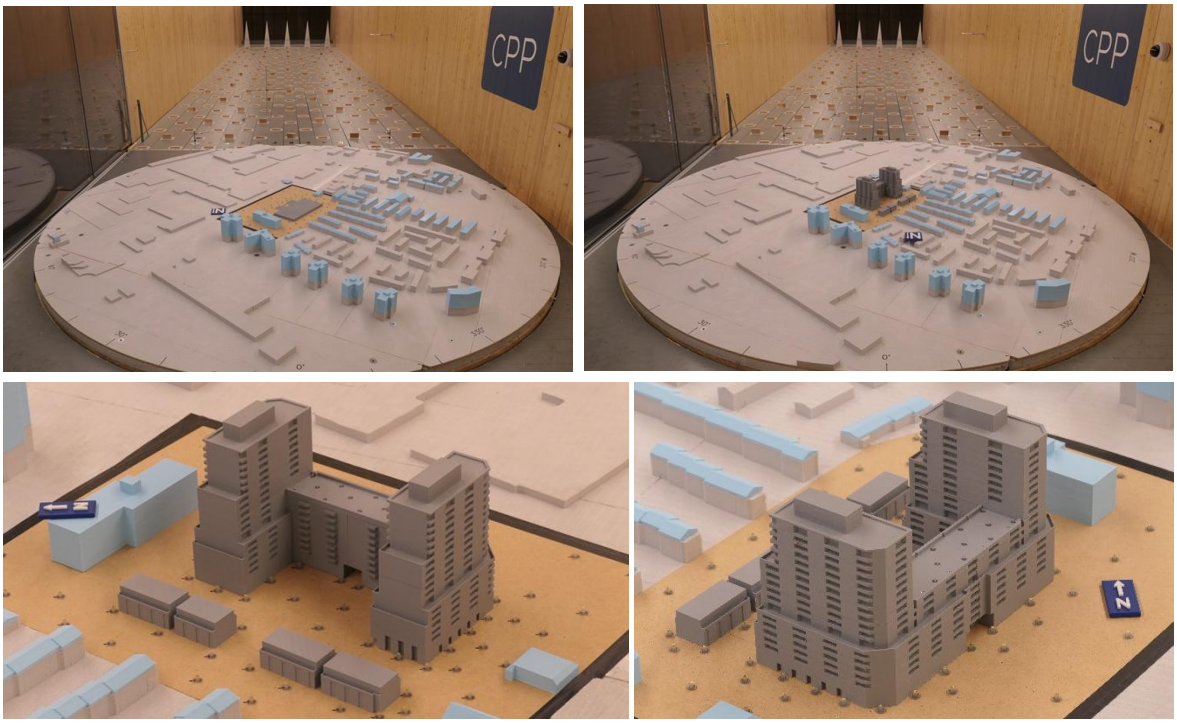

Figure 1: Photographs of Wind Tunnel Model in a CPP Boundary Layer Wind Tunnel

Summary of Wind Tunnel Study Findings

Existing Configuration

- During the summer, wind conditions around the existing site generally support a mix of passive and active uses (comfortable for Sitting and Standing with the most wind activity, rated comfortable for Walking, to occur to the northeast and southeast sides of the site).
- During the winter, increased wind activity is expected due to the seasonally stronger winds which are more prevalent, and in certain areas (along Queen Frederica Dr to the northeast of the site) wind conditions were determined to be uncomfortable.
- All grade level measurement locations are predicted to meet the wind safety criteria in the Existing configuration.

Project Configuration

- During the summer, the addition of the Project is predicted to increase wind activity with wind comfort conditions to degrade by roughly one comfort category and be primarily comfortable for Walking. These wind conditions are appropriate for the sidewalks around the development but may be considered windier than desired in areas intended for more passive use.
- During the winter, the addition of the Project is expected to result in increased wind activity, particularly in areas at the base of the development, and along Arena Rd and Dundas St E where conditions are predicted to degrade by roughly one comfort category to conditions rated Uncomfortable.
- Despite areas of increased wind speeds (relative to the existing site), the predicted wind conditions are consistent with the wind climate for the Mississauga area where conditions rated Uncomfortable are not uncommon during the winter.
- The increased wind activity around the project are the result of winds from the westerly and southeasterly directions intercepting the development, down-washing to grade level areas and accelerating, particularly at the building corners and within the central grade level breezeway.
- With the addition of the 1225 Dundas St E development, several locations around the site (the central grade level breezeway, along the Dundas St E and Arena Rd sidewalks, the central drop-off area, and the south, west and north corners of the development) are predicted to exceed the wind safety criteria on an annual basis. Of note, the higher wind speeds associated with majority of the predicted wind safety exceedance locations are associated with the seasonally higher wind speeds during the winter.

Level 10 Terrace

- During the summer, wind comfort conditions on the Level 10 terrace are predicted to be comfortable for Standing on the west and east sides of the terrace (nearest the towers) but comfortable for Walking in the more central areas. These conditions are considered slightly windier than desired for areas to be used for seating, but appropriate as a gathering space to be used on days when weather is favorable. An active walking track is also being considered in this outdoor amenity space and these wind conditions are considered appropriate and favorable for this intended use.
- During the winter, seasonally stronger winds will occur and cause an increase to wind speeds resulting in wind conditions generally comfortable for Walking. These conditions are less suitable for typical amenity use however as the use of this terrace is assumed to be more limited during the winter, these increased wind speeds are not considered problematic and relatively typical for terraces on developments of similar size in the Mississauga area.
- With regards to wind safety, two locations along the southeast perimeter of the Level 10 terrace are predicted to exceed the wind safety criterion. These locations coincide with areas where degraded wind comfort conditions are also anticipated. All other measurement locations within the Level 10 terrace are predicted to meet the wind safety criterion.

Description of Wind Mitigation Features

Since the issuance of CPP's previous report ("Pedestrian-Level Wind Assessment" report dated 27 September 2024), several wind mitigation features have been incorporated into the development to address areas of higher wind activity and improve the overall development from a wind perspective. The following section provides an overview of these wind mitigation features and the anticipated impact on pedestrian wind comfort and safety conditions around and on the development.

Figure 2: Predicted Wind Comfort Conditions – Summer (Left) & Winter (Middle) and Predicted Wind Safety Conditions – Annual (Right) – Grade Level

- As noted in CPP's Pedestrian Wind Assessment (and summarized in Figure 2 above) increased wind activity (conditions rated Uncomfortable and/or may exceed the wind safety criteria) is predicted at several areas at grade around the development including building corners, sidewalks areas along Arena Road and Dundas Street E, within the central courtyard / drop-off, and through the central passage / breezeway.

Canopies

- To mitigate higher wind speeds, the team has integrated overhead canopy features which extend around the south corner of the building, along the southeast facades, and around the east corner of the building (see Figure 3). These features are to project from the façade ~1.8m except for the section of canopy that extends around the south corner which is to project ~2.4m.

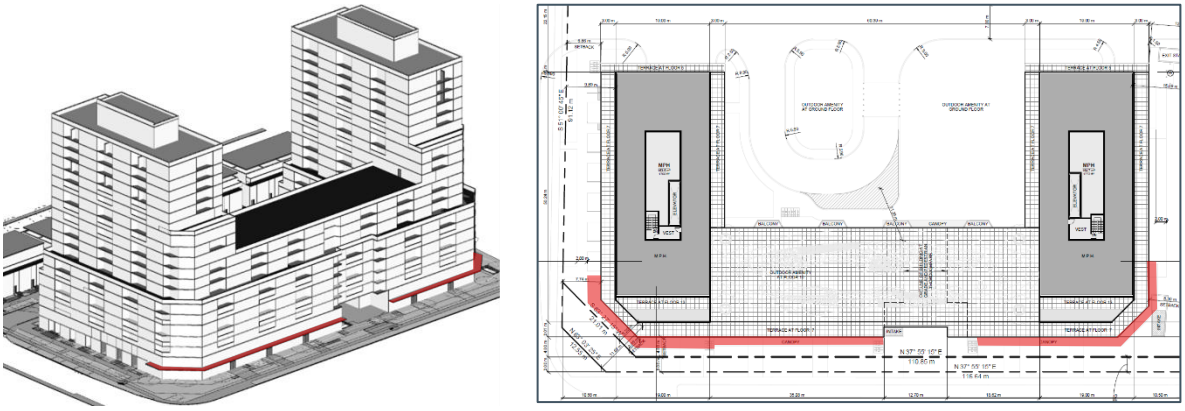

Figure 3: 3D Model of Development (Received 24 June 2025) (Left) and Drawing SPA161 – MPH (Received 11 July 2025) (Right)

- While the design of these canopy features have not been finalized it is worth noting that canopies of porous materiality would be expected to be more beneficial in providing improvement to the wind conditions in the areas below by dissipating the energy from intercepted winds as opposed to if the top

surfaces of the canopies were "solid" which may otherwise intercept and re-direct winds and lead to increased wind activity elsewhere. If a porous materiality is pursued, it is encouraged that these features be 20-30% open to be most effective.

- The inclusion of these canopy features is expected to lead to a roughly one category of improvement in wind conditions in the areas protected below (i.e. Uncomfortable to Walking, Walking to Standing etc.) but offer diminishing improvement to sidewalk areas along Arena Road and Dundas St E.

Townhome (TH) Wind Screens

- A series of privacy / wind screens (6' tall) are to be added between the TH units along Arena Rd (see adjacent Figure 4). These features are positive and will disrupt winds which is expected to lead to more favorable wind conditions for patrons at the TH units.

- While the design of these features is still in flux, it is worth noting that screens of porous materiality (20-30% open) would be more beneficial in providing improvement to the wind conditions in the areas in lee by dissipating the energy from intercepted winds as opposed to screens of solid materiality which may otherwise intercept and re-direct winds, leading to increased wind activity elsewhere.

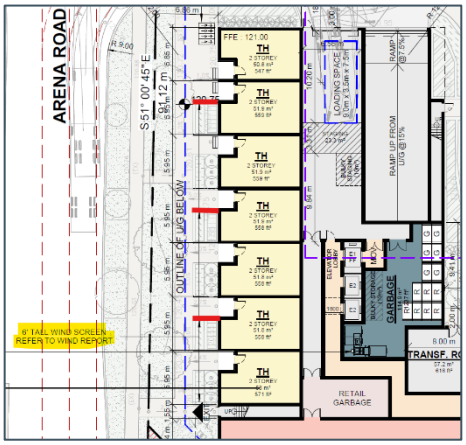

Figure 4: Drawing SPA151 – Floor 1 (Received 11 July 2025)

Tunnel Wind Screens

- A series of wind screens (6' tall) are also to be added in the central tunnel through the building (see adjacent Figure 5). These features are positive and anticipated to disrupt winds channeling and accelerating through the passage from both the northerly and southerly directions.

- While the design of these features is still in flux, it is worth noting that screens of porous materiality (20-30% open) are expected to provided more wind dissipation then wind baffling elements of solid materiality.

- In addition to the wind screens proposed centrally within the passage, the team has also incorporated a series of wind screen features on either side of both vestibule entries in order to protect the doors from being caught by the wind and minimizing challenges for pedestrians to open / close the doors when entering and exiting the building.

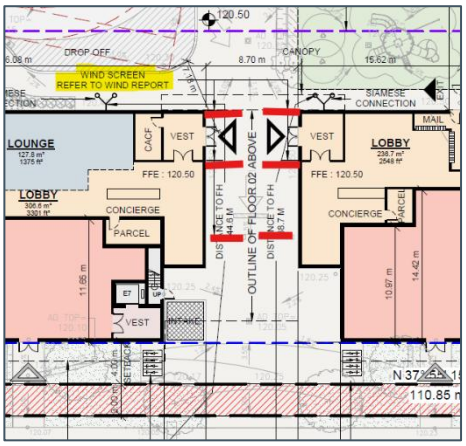

Figure 5: Drawing SPA151 – Floor 1 (Received 11 July 2025)

Level 10 Outdoor Amenity

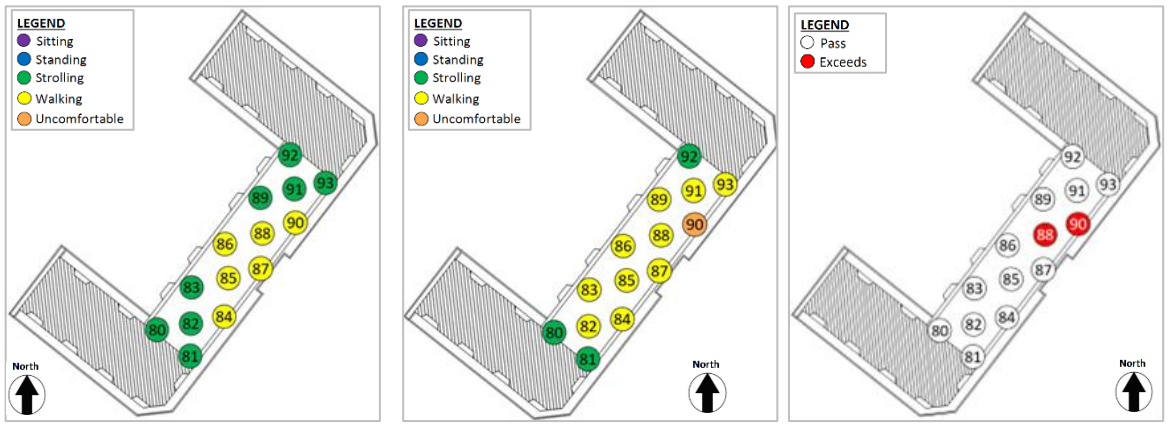

Figure 6: Predicted Wind Comfort Conditions – Summer (Left) & Winter (Middle) and Predicted Wind Safety Conditions – Annual (Right) – Level 10 Outdoor Amenity

- As noted in CPP's Pedestrian Wind Assessment (and summarized in Figure 6 above) increased wind activity is anticipated throughout the main Level 10 outdoor amenity due to the overall exposure to approaching winds as well as a component of winds which intercept the towers, down-wash and flow throughout the terrace.

- The programming of the Level 10 outdoor amenity is primarily a walking track around the perimeter with several seating areas sited on the long ends closer to the towers (see Figure 7 for reference). The wind conditions throughout the amenity during the warmer summer months are already considered suitable for use as a walking track.

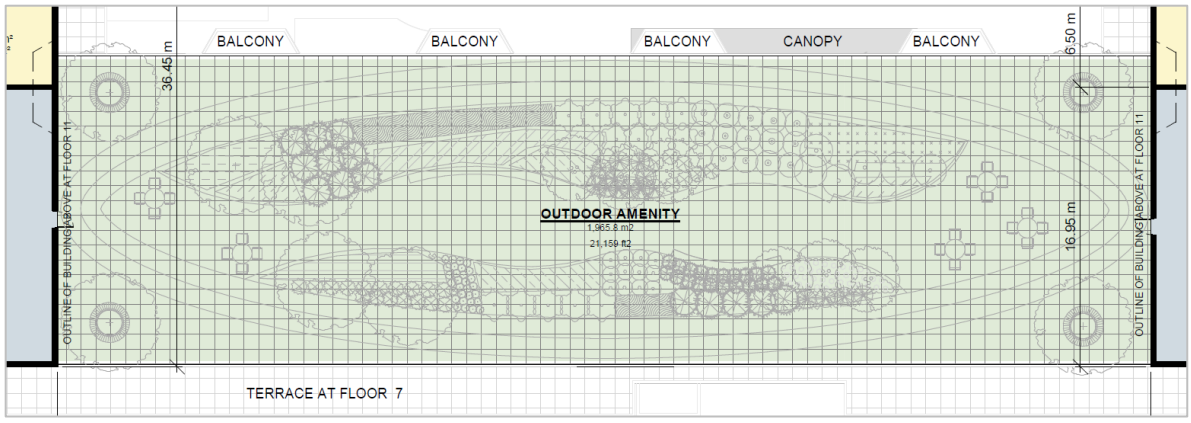

Figure 7: Drawing SPA157 – Floor 10 (Received 11 July 2025)

- Although the mix of trees and dense underplanting's centrally within the space are expected to assist in disrupting winds (particularly during the summer / warmer months when the space is to be used most frequently), the seating areas on either side of the amenity are likely to be more wind exposed and less favorable for seating / dining.

- CPP encourages the team to consider localized wind protection elements (i.e. wind screens trellis features, etc.) around these spaces to provide additional shelter from approaching winds.

Closing

It is CPP's opinion that based on the results of previous wind tunnel tests conducted and our experience that the various wind mitigation details incorporated into the development are expected to be beneficial and provide a notable improvement to wind conditions at the numerous areas of increased wind activity and these measures are suitable for the current Zoning By-law Amendment (ZBA) phase. Additional wind tunnel testing can and will be conducted during the Site Plan Approval (SPA) and detailed design stages to validate and optimize the effectiveness of the proposed wind mitigation strategies.

We trust this satisfies your requirements for the project. Should you have any questions or require additional information, please do not hesitate to contact us.

With best regards,

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Senior Engineer

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Associate Principal