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Re: 354 King Street West
Hamilton, ON
Pedestrian Wind Study
RWDI Project #1900884

Dear Ashley:

Rowan Williams Davies & Irwin Inc. (RWDI) has prepared this letter to comment on the potential altered wind effects that may be created based on the recent design revisions to the proposed development at 354 King Street West in Hamilton, Ontario. The updated drawings were prepared by SRM Architects Inc. for resubmission, dated August 9, 2020.

Wind tunnel tests for pedestrian wind conditions around the proposed development were conducted by RWDI in 2019 and our findings were summarized in the following report:

Pedestrian Wind Study – 354 King Street West, Hamilton, Ontario, RWDI # 1900884, December 19, 2019, by Yi (Leo) Zeng, Hanqing Wu and Dan Bacon.

The following was concluded from the 2019 report:

- The existing wind conditions around the 354 King Street West project site are expected to be suitable for the intended pedestrian use at most areas throughout the year, with the exception of an isolated location southeast of the project site and three locations to the northeast, where uncomfortable wind conditions are expected in the winter.
- With the addition of the proposed 354 King Street West development, wind speeds on the project site are expected to increase slightly. Appropriate wind conditions are expected at most entrance and sidewalk areas throughout the year. During the winter, uncomfortable wind conditions are expected in the parking areas between the residential building and hotel building, and between the residential building and



townhouses. Since these areas are parking lots, pedestrians are not expected to linger for an extended period of time.

- Wind conditions on the roof amenity areas are expected to be appropriate for the intended use in the summer when these areas are typically in use.
- Wind conditions on and immediately around the existing project site are expected to meet the safety criterion. With the addition of the proposed development, the criterion is predicted to be met at all but one location on the project site, in the parking lot between the residential and hotel buildings.

The wind tunnel model for the proposed project and surroundings was constructed using the drawings dated prior to June 26, 2019. According to the most recent drawings received by RWDI on August 27, 2020, a “break-up” has been introduced in the massing for the 25-storey residential building, based on the staff and public comments received. As shown in Images 1a and 1b, instead of one setback of the tower at Level 16 in the previous design, the current design includes setbacks at Levels 2, 7 and 13. The southeast corner of the upper portion of the building is now recessed, while the total height of the residential tower remains the same.

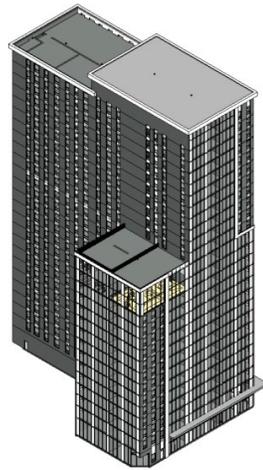


Image 1a: 3D model of the residential tower tested in wind tunnel in 2019



Image 1b: Current design with additional tower setbacks

It is well known that winds downwashing off of a tall building are one of the main causes for increased wind activity at grade. Podiums and stepped building forms are the most effective strategy to reduce the impact of downwashing flows on the ground level (see Image 2 for



illustration). It is our opinion that the proposed “break-ups” and recessed southeast tower corner are positive design features for wind control. As a result, the future wind speeds immediately around the residential tower are expected to be lower than or similar to the predicted conditions as presented in the 2019 report.



Image 2: Podium and tower setback for wind control

It should be noted that there are other positive wind control features in the current building design and they should be retained or enhanced in the final design. These include the orientation and vestibule of the main residential entrance, the recessed commercial entrances along King Street West, the large canopy along the south and east facades, as well as the proposed guardrails, trellises and other landscaping features for the seating area.

Overall, the current design of the proposed development at 354 King Street West will have wind speeds lower than or similar to those predicted in the 2019 report. No further wind study is required for the proposed development.

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

Yours truly,
RWDI

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Senior Technical Director / Principal

Dan Bacon
Senior Project Manager / Principal