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July 19, 2022

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**Re: Pedestrian Wind Assessment – Letter of Opinion
Avenue Road & Lawrence Avenue West
Toronto, ON
RWDI Project #2001282**

Dear Chris:

Rowan Williams Davies & Irwin Inc. (RWDI) has prepared this letter to comment on the potential wind effects that may be created by recent design changes to the proposed development at Avenue Road & Lawrence Avenue West in Toronto, Ontario.

ORIGINAL WIND ASSESSMENT COMPLETED MARCH 2020

A wind assessment using a Computational Fluid Dynamics (CFD) tool was conducted by RWDI in 2020 to predict pedestrian wind comfort and safety conditions. Wind conditions for the Existing and Proposed building (2020 design) configurations (Image 1) were simulated and the results were compared to the RWDI wind comfort and safety criteria. Our findings were summarized in Image 2, as presented in the final report submitted to you on March 24, 2020. In general,

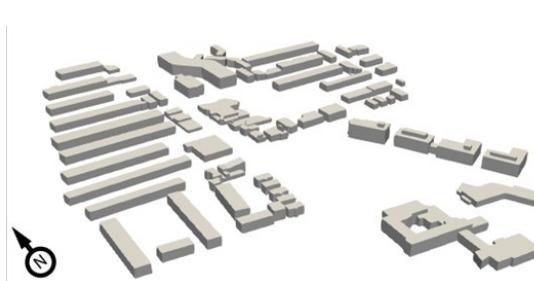


Image 1a: Computer Model - Existing

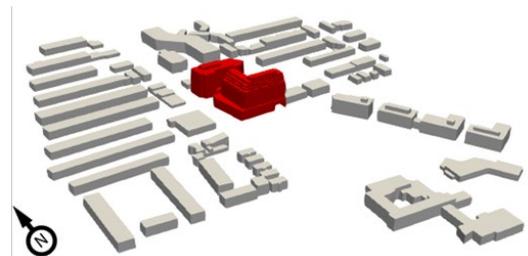


Image 1b: Computer Model - Proposed



- The proposed development includes several positive design features such as podium setbacks, stepped facades, landscaping, and chamfered building corners. As such, appropriate wind conditions are anticipated at the publicly accessible open space, most sidewalks, walkways and entrances throughout the year, and at most areas of outdoor amenities during the summer.
- High wind speeds are predicted at the sidewalks of Avenue Rd. close to the west facing corners of the proposed buildings and at some entrances during the winter. Slightly higher than desired wind speeds are also expected at parts of Level 3 amenity area of Building B and rooftop amenity area of Building A during the summer.

Existing



Proposed

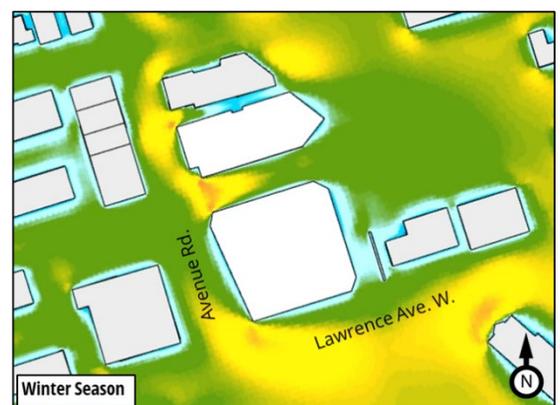
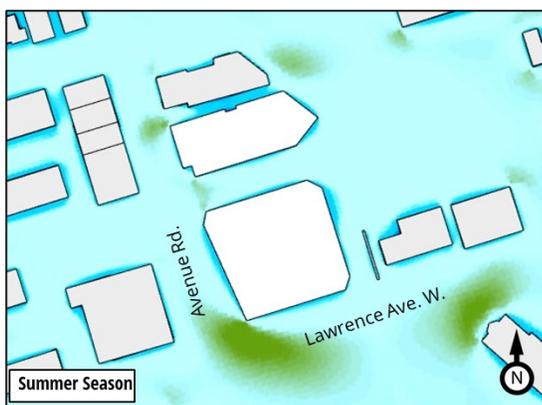


Image 2: Predicted Wind Conditions at Grade in 2020



- Wind mitigation measures have been recommended, which will help to reduce the wind speeds at areas where accelerated winds are expected. These mitigation measures will be reviewed in greater detail during the detailed design stage of the development approvals process.

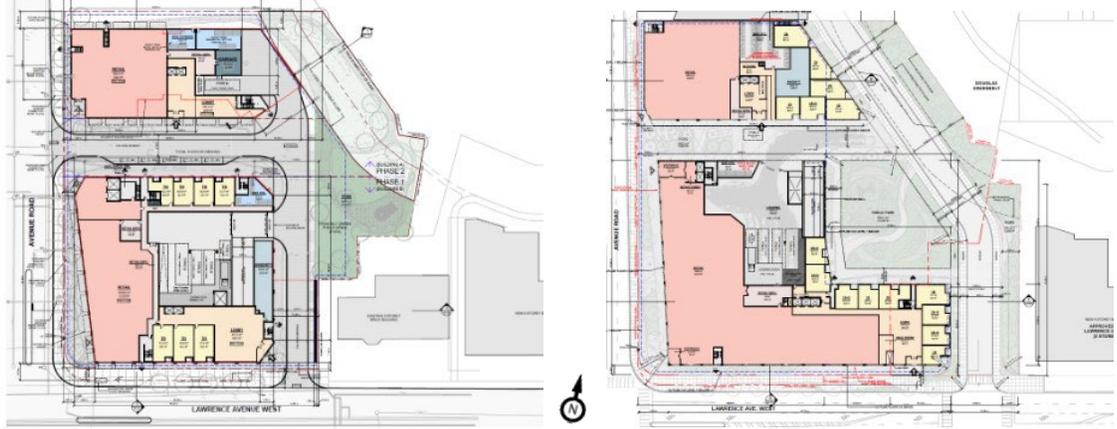
BUILDING MASSING DESIGN CHANGES (2022)

The most up-to-date design drawings received by RWDI on July 13, 2022 indicate a similar building massing to that used in the 2020 CFD assessment. As a result, the predicted wind conditions around the proposed development are expected to be similar to those presented in Image 2 and *no negative wind impact is expected to the surrounding areas*. However, there are several design changes (outlined below) to the building shapes and dimensions that may alter the wind conditions immediately around the proposed buildings (see comparisons in Image 3):

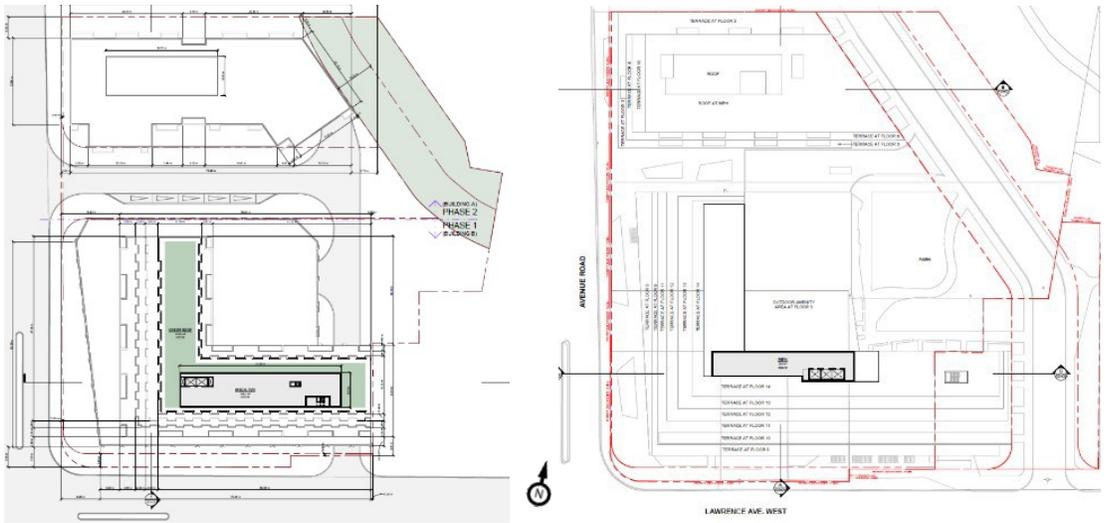
- While Building A remains at 10 storeys, Building B is now 14 storeys, versus 13 storeys in the 2020 design.
- The setback at the southeast corner of Building A is reduced and Building A has an “acute angle” at the southeast corner throughout the height.
- The existing 3-storey brick building to the immediate east of Building B is now removed and the proposed road is relocated east. As a result, the Lawrence Avenue wing of Building B is longer than that in the 2020 design and the road underneath Building B is now located around the east end of the building.
- Tower setbacks for Building B are also altered slightly.
- A POPS is added to the west end of the laneway between Buildings A and B, and the shape and location of the park at the east end of the laneway is also modified.
- The lobby entrance to Building A is unchanged, but the lobby entrance to Building B is now on the south façade (rather than at the southeast corner of the building). In addition, there are changes in architectural details to the retail entrances at the southwest corner of Building A and the northwest corner of Building B.



Ground-Floor Plans



Roof Plans



East-West Sections of Building B

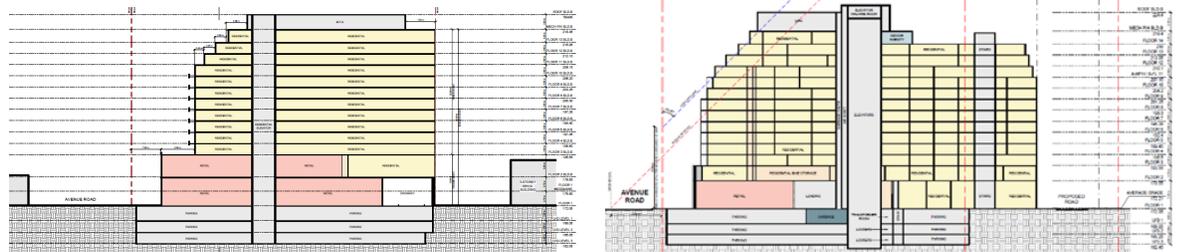


Image 3: Plans and Sections in 2020 (left) and 2022 (right)



Chris Atkins
First Capital Asset Management LP
RWDI#2001282
JULY 19, 2022

POTENTIAL WIND IMPACT

Based on our CFD wind assessment in 2020, the recent design changes discussed above, and our wind tunnel experience with similar building projects in Toronto, it is our opinion that:

- The massing change at the southeast corner of Building A and the expansion of Building B to the east *will not* alter the wind conditions significantly, because they occur in the downwind areas of the proposed buildings for the prevailing west and northwest winds. The one-storey increase in the height of Building B is also considered minor for a 13-storey building.
- The reduction in Building B setbacks from Avenue Road and at various levels along the west façade may cause slightly higher wind speeds at the western corners of Building B. Given the favorable wind conditions predicted in the CFD assessment in 2020, the resultant wind speeds around these two building corners are *still expected to be suitable* for sidewalks throughout the year.
- Wind activity in the newly proposed POPS at the west end of the laneway between Buildings A and B is likely higher than desired for passive use such as sitting and standing. The two retail entrances at the southwest corner of Building A and the northwest corner of Building B are also predicted to be windy in the winter. Local wind control measures can be developed to improve these wind conditions to appropriate levels.
- If desired, wind-tunnel testing may be completed at a later design stage to quantify these wind conditions.

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

Yours truly,

RWDI

A handwritten signature in black ink, appearing to read 'Hanqing Wu'.

Hanqing Wu, Ph.D., P.Eng.
Senior Technical Director / Principal

A handwritten signature in blue ink, appearing to read 'Peter Soligo'.

Peter Soligo, P.Eng.
Project Manager

HW/PMJS/smd