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August 2, 2024

Kara Green
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First Capital
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Toronto, Ontario M6K 3S3

Re: Pedestrian Wind Conditions – Letter of Opinion
1 Clair Road East (Pergola Commons) – Guelph, ON
RWDI Reference No. 2401100

Dear Kara,

Rowan Williams Davies & Irwin Inc. (RWDI) was retained by First Capital in 2023 to conduct a pedestrian wind study for the proposed Pergola Commons development at 1 Clair Road East in Guelph, Ontario. The wind study was completed based on wind-tunnel testing of a scale model of the project. Our findings are summarized in the following report:

> *1 Clair Road East, Guelph, ON – Pedestrian Wind Study, RWDI Project #2401100, December 21, 2023, by Mu'taz Suleiman, Hanqing Wu, Rose Babaei and Maja Bokara.*

The wind-tunnel model was constructed using the drawings received by RWDI on November 16 and 17, 2023. The proposed development consisted of five buildings. Buildings A, B1, C and D were 14 storeys and Building B2 was 10 storeys. Buildings A, C and D sat atop 6-storey podiums, while Buildings B1 and B2 shared a podium, also at 6 storeys (Image 1). The architectural design has since been revised, and landscaping plan has been updated following the wind-tunnel testing, as indicated by the updated drawings received by RWDI on July 23, 2024. RWDI has prepared this letter to comment on the potential effects of the design updates on the predicted pedestrian wind conditions.

Image 1: Wind-Tunnel Model (December 2023)

Wind-Tunnel Predicted Wind Conditions

As indicated in our 2023 wind-tunnel report, wind conditions were expected to be appropriate for the intended pedestrian use at all pedestrian areas assessed, including all main entrances, public sidewalks and walkways, as well as most outdoor amenity areas at and above grade, throughout the year. Slightly higher-than-desired wind speeds are predicted along the public plaza between Buildings C and D and on the Level 7 terraces around the northeast corners of Buildings C and D.

Proposed Design Updates and Their Potential Impact

The updated architectural set received by RWDI on July 23, 2024 indicates no changes to the building massing and heights (Image 2) when compared to the model used for wind tunnel testing in 2023. The landscaping plan in Image 3 shows the slightly revised ground floor plan and significant landscaping between and around the proposed buildings. Image 4 includes added residential terraces at Level 3 and landscaped outdoor amenities at Level 7. Several architectural and landscaping revisions may affect the predicted wind conditions:

Image 2: Rendering of the Current Design (July 2024)

- The proposed landscaping (Images 2 and 3), which was not included in the wind-tunnel modelling, is expected to improve the wind conditions on and around the site, especially in the summer. As a result, improved and suitable wind conditions are now predicted along the public plaza between Buildings C and D.

- The main entrances to Buildings C and D are recessed, and the main entrances to Buildings A and B1 are protected by the proposed corner canopies and landscaping (Image 3). Suitable wind conditions are predicted for these entrances throughout the year.

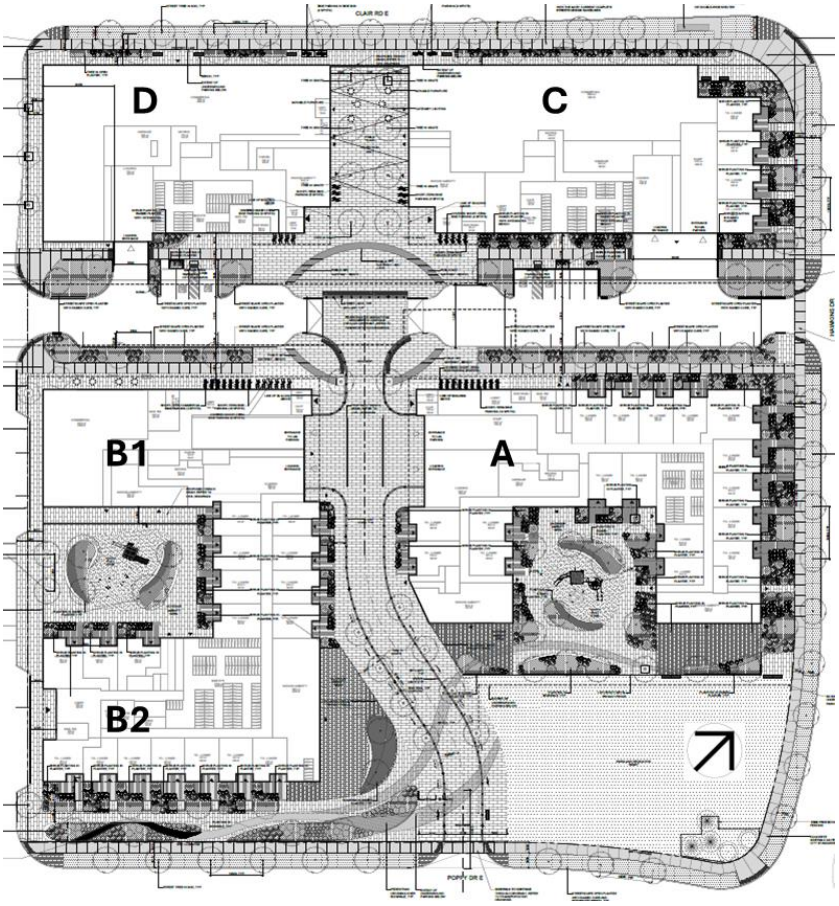

Image 3: Landscaping Plan (July 2024)

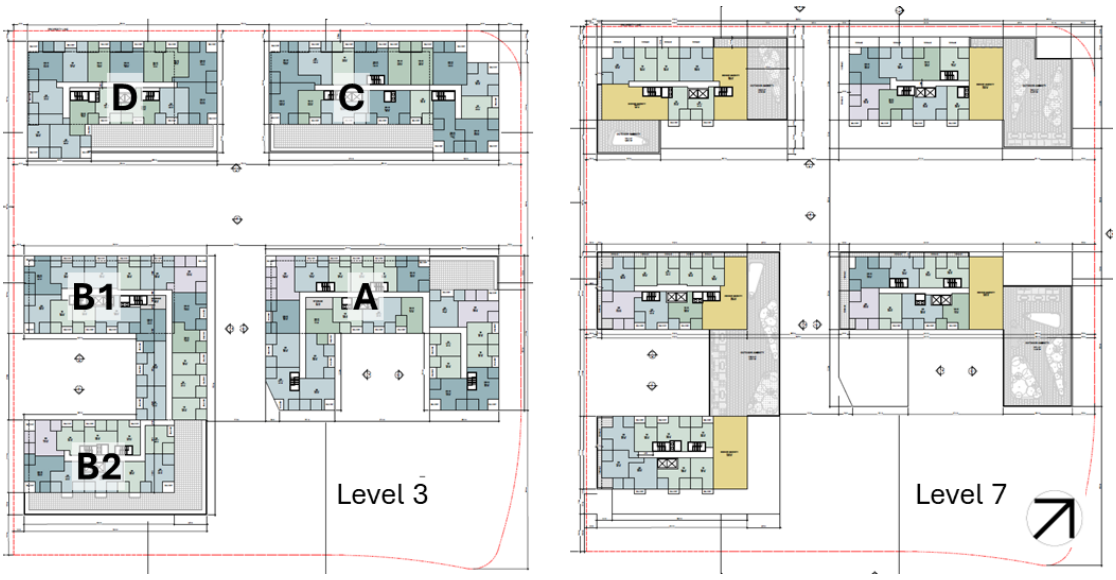

Image 4: Residential Terrace at Level 3 (left) and Outdoor Amenity at Level 7 (right) - July 2024

- Added landscaping on the Level 7 outdoor amenities (right plan in Image 4) will also improve the wind conditions in the summer when these areas are typically in use.

- The updated drawings show four residential terraces at Level 3 (left plan in Image 4). Terraces around Buildings B2, C and D are sheltered by the buildings themselves from the prevailing westerly winds and suitable wind conditions are expected throughout the year.

- The Level 3 terrace around Building A is sheltered by Buildings C and D but can be affected by winds accelerating around the northeast corner of Building A, similar to those at Level 7 around Buildings C and D. If desired, lower wind speeds can be achieved by using local landscaping and/or taller guardrails.

Closing

We trust the above assessment satisfies your requirements for the project currently. Should you have any questions or require additional information, please do not hesitate to reach out.

Yours truly,
RWDI

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