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Re: Pedestrian Level Wind Assessment
1740 Granville Street
Halifax, Nova Scotia
RWDI Project 2002870

Dear Chris,

RWDI has prepared this letter to summarize the qualitative pedestrian wind assessment for the proposed 1740 Granville Street development in Halifax, Nova Scotia.

The following discussions describe the potential pedestrian wind conditions on and around the proposed development based on our reviews of local wind climate and the design information received by RWDI on February 24, 2020, combined with our engineering judgement, and experience with wind tunnel tests of projects in the Halifax area.

SITE INFORMATION

The proposed development is located on George Street, between Barrington Street and Granville Street, in Downtown Halifax, Nova Scotia (Image 1). Halifax Harbor and the Halifax Citadel are approximately 300 m to the east and west of the site, respectively.

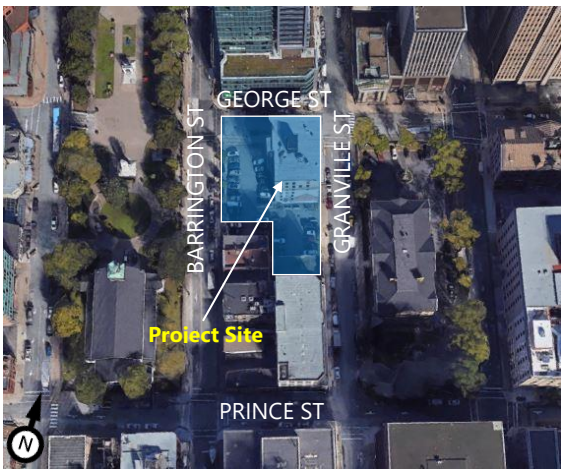


Image 1: Aerial View of the Project Site and Surroundings

The project consists of a mixed-use residential and retail building, comprising the Dennis building, Hansard building, and an adjacent parking lot forming the Truscan site. The site is immediately surrounded by mid- to high-rise buildings of downtown in all directions, with the Grand Parade to the west of the project. Between the Citadel and harbor, the land is sloped from west to east.

BUILDING INFORMATION

The proposed development is a 9-storey, approximately 30 m tall, L-shaped multi-unit building with stepped façades (see Image 2 and 3). The project site is currently occupied by existing historic buildings: 7-storey Dennis building to the north and 3-storey Hansard building to the south of the site. RWDI understands that the existing façades of these historic buildings must be maintained.

Pedestrian areas of interest on and around the site include public sidewalks along Granville, Barrington, and George Streets and the Grand Parade to the west of project across Barrington Street.

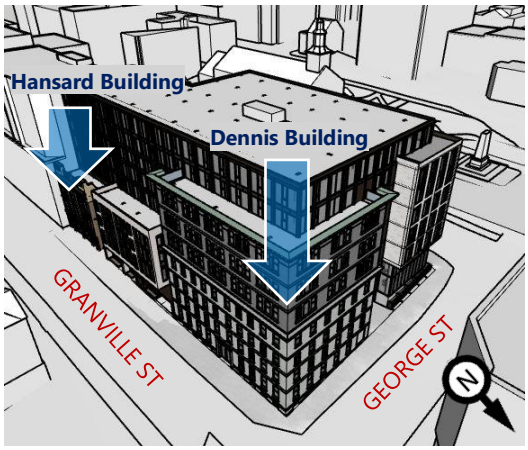
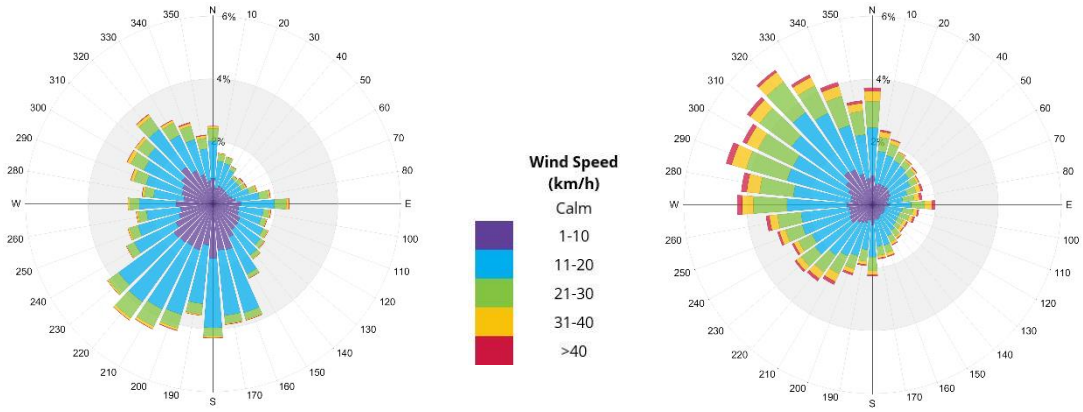


Image 2: Northeast View

Image 3: Southwest View

WIND DATA

Wind data from Shearwater Airport were used as a reference for the current project (refer to the wind roses in Image 4). This is the nearest weather station with long-term, reliable wind data, located 5 km to the southeast of the site.



Summer Winds (May to October)

Winter Winds (November to April)

Image 4: Direction Distribution of Winds Recorded at Shearwater Airport between 1987 and 2017

When all winds are considered, winds from the southwest and northwest quadrants are predominant during the summer and winter, respectively. Strong winds of a mean speed greater than 30 km/h

measured at the airport (red and yellow bands) are more frequent during the winter. These winds are evenly distributed among all directions in the summer; however, they are most frequent from the west through the north during the winter.

PEDESTRIAN WIND ASSESSMENT

To provide an opinion on the overall wind conditions expected on and around the proposed development, RWDI reviewed the long-term meteorological data for the area, drawings of the proposed development, and information regarding the surrounding buildings. These data, in conjunction with our recent experience in the area and our engineering judgment, allowed us to qualitatively predict the wind conditions on the project site as summarized below.

Sidewalks

The proposed development has a relatively low height (only 2-storeys taller than the existing Dennis building on the site) and is similar or lower in height to the other surrounding buildings. Additionally, the taller neighbor buildings to the north, northeast, south, and southwest are expected to provide shelter from winds blowing from those directions. The stepped façades of the proposed building are also positive as they can contribute to disorganizing the down-washed winds before reaching the ground level.

By the addition of the proposed development, reduced wind speeds, compared to the existing conditions, are expected along the sidewalks of Granville Street as it is located downwind of the strong western winds in the winter and sheltered by the massing connecting the Dennis and Hansard buildings. This will also result in wind conditions around the Province House, to the east of project across Granville Street, to be similar to or slightly improved compared to the existing conditions. However, the addition of the project may slightly increase wind speeds on the windward side of the building in the winter, along the sidewalks of Barrington and George Streets, with wind conditions remaining suitable for the intended pedestrian use.

In general wind conditions comfortable for standing are predicted along all surrounding sidewalks in the summer months. In the winter, higher wind speeds, comfortable for walking or strolling, are predicted along the sidewalks, which are considered appropriate.

Grand Parade

Although the addition of the project will result in slightly higher wind speeds at the sidewalks of Barrington Street to the west of the project, the extent of its impact is not expected to reach the Grand Parade area. During the summer, the protection from tall deciduous trees around the perimeter of the Grand Parade will provide calm wind speeds comfortable for standing in the area. Wind speeds comfortable for strolling or walking are predicted in the winter. These conditions are expected to be similar to what is currently experienced in this area throughout the year.

CONCLUSION

As a result of the moderate height of the proposed development, combined with the sheltering from taller surrounding buildings, the addition of the proposed development is not expected to significantly impact the wind conditions around the site. Appropriate conditions are expected at all surrounding sidewalks and the Grand Parade throughout the year.

CLOSING

We trust the enclosed meets your present requirements. Should you have any questions or require additional information, please do not hesitate to contact us.

Yours truly,
RWDI