

City of Toronto

Keele Finch Plus

Downsview Airport Operational
Needs Assessment

Executive Summary

October 24, 2016

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

ARUP

1 Executive Summary

1.1 Background

The TTC is currently constructing a subway station at the Keele Street and Finch Avenue West intersection, and Metrolinx is investing in the Finch West Light Rail Transit line (LRT). Both of these lines will result in improvements to public transit service to and from the Keele and Finch area. The subway and LRT lines will significantly improve mobility and transportation options while also bringing a number of city building opportunities.

In provincial planning policy documents, the Finch Avenue West corridor is identified as an "intensification corridor", and the area around Keele and Finch is identified as a "major transit station area" and a "Mobility Hub". This means that it should be planned to achieve "increased residential and employment densities that support and ensure the viability of existing and planned transit service levels", among other things.

Building heights in the area are limited by the flight path of the Downsview Airport, with greater heights permissible with greater distance from the airport. Current municipal zoning includes Schedule D of North York Zoning By-Law 7625 "Airport Hazard Map" which is used to help determine height limits in the Keele and Finch area.

Site specific applications have been approved for heights that (in at least one case) are more than twice what the height limit set out in Schedule D identify as a maximum height. Examples such as this suggest a disconnect between the zoning height permissions and the flight path/surface requirements for Downsview Airport operations and the need for a full review of the relationship between aerodrome and land use regulatory frameworks within the study area was identified.

1.2 Obstacle Limitation Surfaces

The objective of this study is to identify opportunities for potential increases in zoning height permissions that are compatible with Downsview Airport operations.

The primary mechanism for protecting airspace is to develop comprehensive mapping of aeronautical surfaces aligned with the runways and surrounding the aerodrome, known as obstacle limitation surfaces (OLS), and ensure that these surfaces are not penetrated by new obstacles. The Obstacle Limitation Surfaces are permanent and should form the basis for municipal zoning by-law controls.

Obstacle Limitation Surfaces are defined federally by Transport Canada in *TP312 Aerodrome Standards and Recommended Practices*. These standards are periodically updated. TP312 is currently in its 5th edition, which superseded the 4th edition on September 15th, 2015.

1.3 Governing Standard – TP312 4th Edition

OLS definition varies between the 4th and 5th edition and the implication on potential building heights were assessed for both. The Obstacle Limitation Surfaces defined by TP312 4th Edition should form the basis for municipal zoning by-law controls for the following reasons:

- Downsview Airport was certified under TP312 4th edition as such this will be the governing standard until such time as changes to airport facilities trigger the need to adhere to the latest standards.
- The Obstacle Limitation Surface requirements within TP312 4th Edition result in clearances which are less than TP312 5th Edition and as such represent the more restrictive standard.

The TP312 4th Edition obstacle limitation surfaces are comprised of 3 surfaces, shown in Figure 1:

- Outer Surface; a horizontal plane at 800ft above sea level
- Approach Surface; an inclined plane with a 1:50 slope
- Transitional Surface; an inclined plane with a 1:7 slope



Figure 1 Obstacle Limitation Surface TP312 4th Edition

Buildings and other obstacles must not penetrate any of these surfaces. Where surfaces overlap the lower surface will govern the maximum building heights.



Figure 2 TP312 4th Edition – Elevated Perspective of composite OLS surfaces.

It is important to note that the obstacle limitation surfaces are applicable to all objects including installations commonly found on roof tops (such as air handling equipment, satellite dishes, antenna and obstacle lights) as well as temporary installations including construction cranes.

1.4 Comparison to Current Zoning

Permissible building heights in the Keele and Finch area permitted under TP312 4th Edition were compared against the current municipal zoning per Schedule D of North York Zoning By-Law 7625 "Airport Hazard Map". In general permissible building heights under TP312 4th Edition are greater than the current municipal zoning. In the Keele Finch Plus Study area permissible building heights with respect to airport operations only (i.e. the OLS) are between 1.3 to 4.1 times greater depending on location.

1.5 Indicative Building Heights

TP312 4th Edition defines permissible heights relative to an elevation above sea level. The height of obstacles is ultimately governed by their maximum elevation above sea level, however in order to visualize the potential development heights in and around the study area an analysis of indicative building heights was assessed by city block.

The indicative building heights in Figure 3 reflect the minimum distance between current topography provided by the City of Toronto and the obstacle limitation surface in each area. In areas of lower topography greater building heights may be achievable, where building heights in excess of those noted below are proposed detailed assessment based on permissible height above sea level will be required.

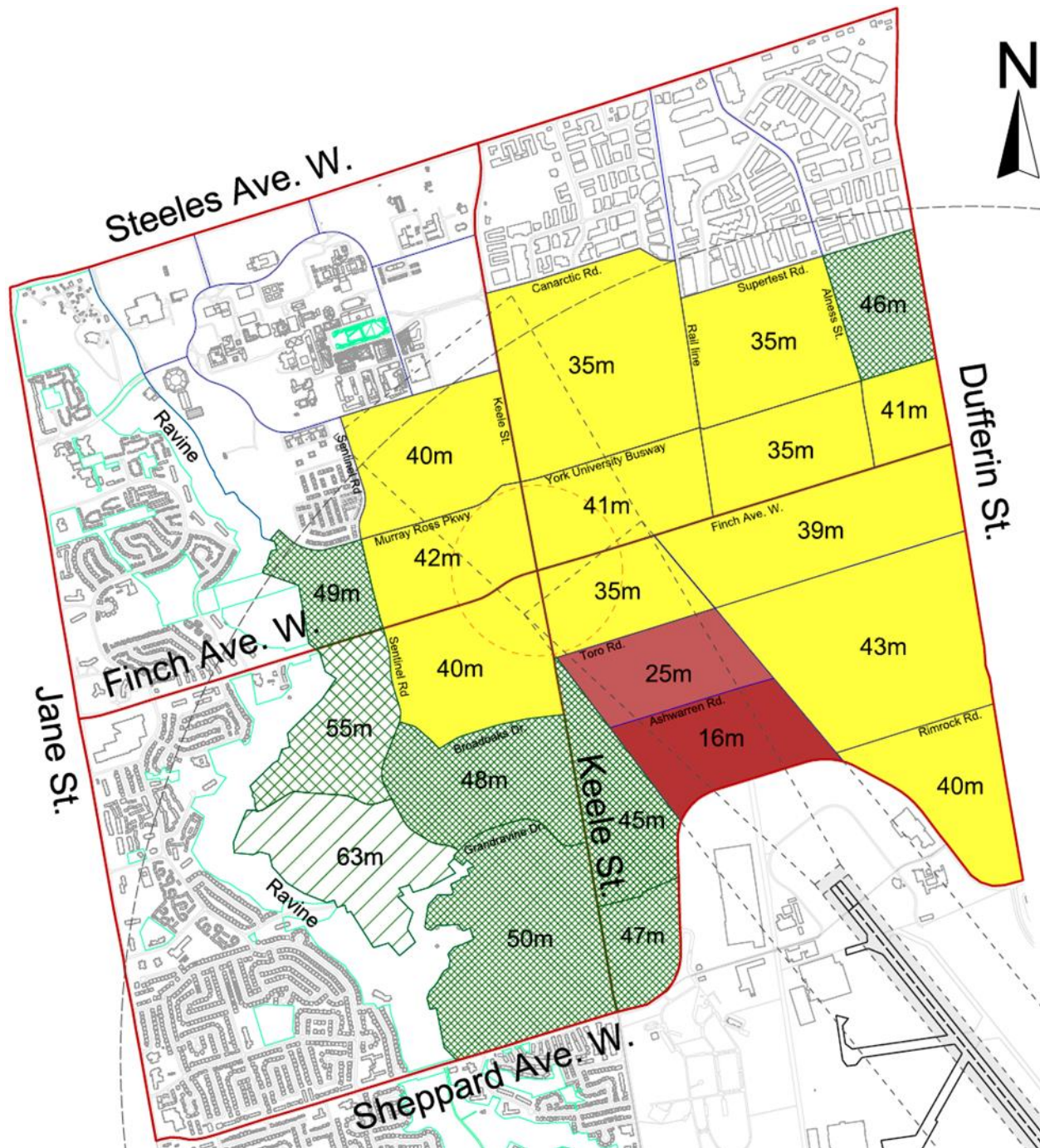


Figure 3 Diagram Indicative Buildable Heights (in meters), By Block

As this study focused more specifically on the development area around the intersection of Keele and Finch, the following visualization was prepared to illustrate maximum potential building heights, using 1315 Finch Avenue W as an example.

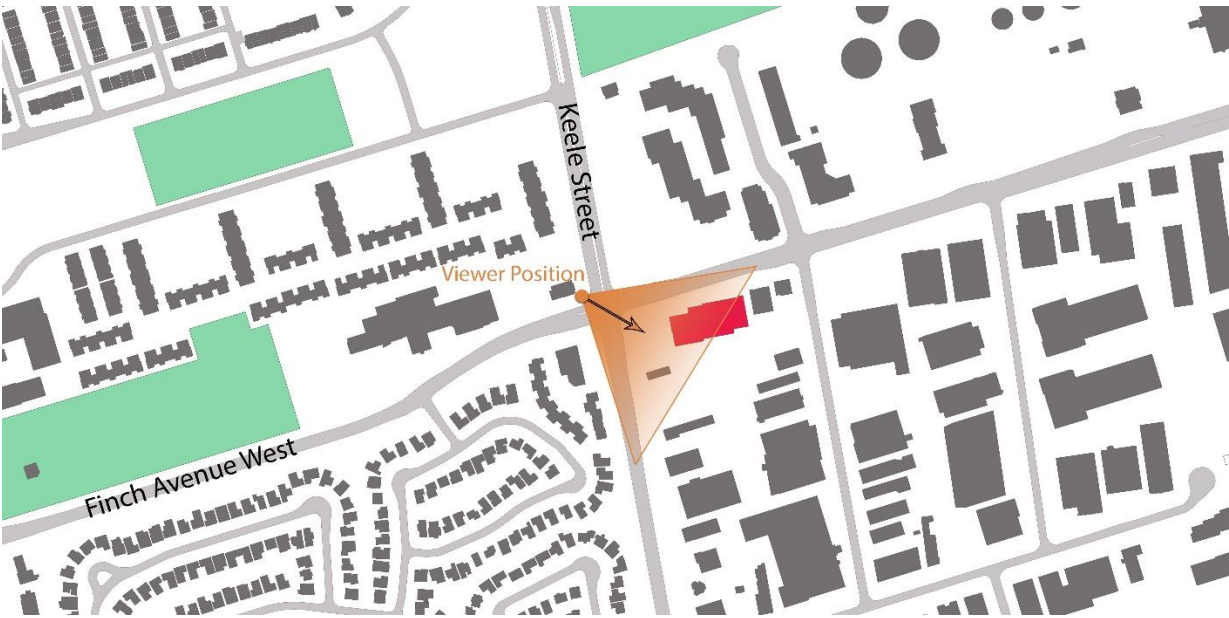


Figure 4 Keele Finch Plus Area Key Plan - 1315 Finch Avenue West

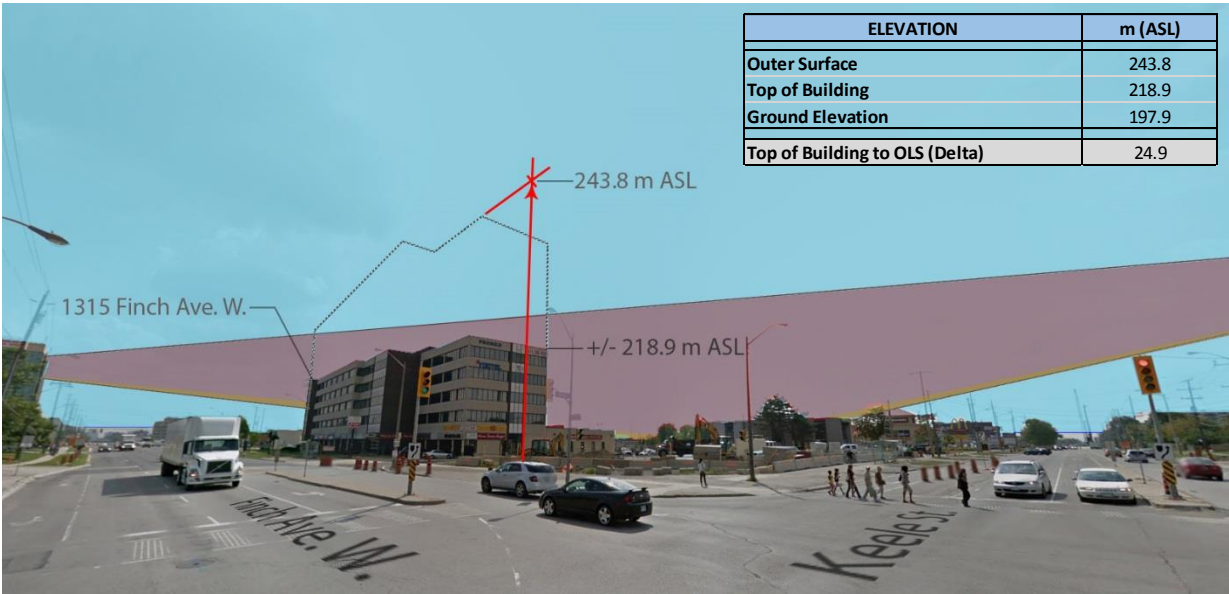


Figure 5 Keele & Finch Study Area Visualization – Maximum Buildable Height 1315 Finch Avenue West (southeast corner of Keele & Finch)

1.6 Conclusions

The Obstacle Limitation Surfaces defined by TP312 4th Edition should form the basis for municipal zoning by-law controls.

The majority of Keele Finch Plus area falls beneath the horizontal plane of the Outer Surface, with an Above Sea Level (ASL) height restriction of 243.8 m / 800 ft. The block in the southeast quadrant of the intersection falls beneath the sloped Approach and Transitional Surfaces, and therefore has a slightly more restrictive buildable heights ranging from 759 – 800 ft ASL.

Permissible building heights under TP312 4th Edition in the Keele Finch Plus Study area are significantly greater than the current municipal zoning, supporting the objective to increase residential and employment densities, subject to other municipal planning considerations.