

**Attention:** **Andrea Dear, MCIP, RPP**  
 Senior Planner  
 Development Planning, Heritage and Urban Design \_ Urban Team  
 Planning and Economic Development Department  
 City of Hamilton, 71 Main St W, 5<sup>th</sup> Floor, LP9 4Y5

**Date:** September 21, 2020

**Regarding:** **18025, 354 King St West - Shadow Study**

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Site latitude and longitude was established using Revit software which can accurately locate the project based on the address. This is the same as the latitude of N43 degrees and longitude of W79 degrees established within the Terms of Reference. The True north was determined through the use of a survey. The base plan used was a 2018 satellite image sourced from Google Earth.

Between the hours of 10:00AM and 4:00PM on March 21<sup>st</sup> and September 21<sup>st</sup>, the shadow study indicates that the proposed development allows for 6 hours of sun coverage on nearby public and private amenity spaces including the outdoor amenity space at 400 King Street West and 75 Queen Street North. Additionally, the patio space on the proposed development’s site receives 5 hours of full sun coverage from 10:00AM to 3:00PM to as measured from March 21<sup>st</sup> to September 21<sup>st</sup>.

Furthermore, between 10:00AM and 4:00PM on March 21<sup>st</sup> and September 21<sup>st</sup>, the proposed development meets the minimum 3 hours of full sun coverage requirement as the proposed development casts shadows on public sidewalks north of the site as shown in the table below:

Time	Street	~Area of Proposed Development Shadow	Time	Street	~Area of Proposed Development Shadow
March 21 <sup>st</sup> 10:51AM	Ray St N & Market St Intersection	2136.37 Sq. metres	Sept 21 <sup>st</sup> 10:51AM	Ray St N & Market St Intersection	2306.07 Sq. metres
March 21 <sup>st</sup> 11:51AM	Market St	1355.45 Sq. metres	Sept 21 <sup>st</sup> 11:51AM	Market St	2519 Sq. metres
March 21 <sup>st</sup> 12:51PM	Market St	1206.0 Sq. metres	Sept 21 <sup>st</sup> 12:51 PM	Market St	1437.29 Sq. metres
March 21 <sup>st</sup> 1:27PM	Market St	1329.24 Sq. metres	Sept 21 <sup>st</sup> 1:27PM	Market St	732.03 Sq. metres
March 21 <sup>st</sup> 1:51PM	Market St	1394.35 Sq. metres	Sept 21 <sup>st</sup> 1:51PM	Market St	1370.271 Sq. metres
March 21 <sup>st</sup> 2:51PM	Queen St N	2713.9 Sq. metres	Sept 21 <sup>st</sup> 2:51PM	Queen St N	2413.6 Sq. metres
March 21 <sup>st</sup> 3:51PM	Queen St N & Market St	3896.3 Sq. metres	Sept 21 <sup>st</sup> 3:51PM	Queen St N & Market St Intersection	3964.56 Sq. metres

	Intersection, Napier St				
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The majority of shadows are shown to be cast onto the sidewalks on Market St. However, with the 8 proposed townhouse dwellings located along Market St on the northern-most edge of the site, avoiding casting any shadows onto Market St sidewalks would be difficult to achieve. While the proposed development casts shadows onto the sidewalks at the Ray St N and Market St intersection (March 21<sup>st</sup> 10:51AM, Sept 21<sup>st</sup>, 10:51AM) and the Queen St N and Market St intersection (March 21<sup>st</sup> 3:51PM, Sept 21<sup>st</sup> 3:51PM), the proposed 25-storey dwelling avoids casting even more adverse shadows by being situated along the southern edge of the site (1.96 – 2.00 metres from the King St W street line), in between Ray St N and Queen St N.

The proposed development allows for at least 50% sun coverage on all public plazas, parks and open spaces, school yards, and playgrounds during all test times.

During all test times the proposed development avoids casting any shadow effects on all key downtown civic gathering spaces listed in the Terms of Reference. In addition, during the test times with the most potential for adverse shadow impacts where the sun is lowest (i.e. March 21<sup>st</sup> 5:51 PM, 6:03 PM, September 21<sup>st</sup> 5:36PM, 5:49PM) the majority of the proposed development’s shadows overlap with the existing shadows cast by larger buildings east of the site.