

Shadow Study:**3115 Hurontario Street, Mississauga**

The following information has been prepared by Sweeny & Co. Architects and is to be read in conjunction with the shadow drawings provided in Appendix A and architectural drawings.

Introduction**Site Latitude and Longitude**

Acquired through Google Maps by entering address: 3115 Hurontario Street and right-clicking on pin.

Latitude: 43.58284

Longitude: -79.61939

Time Zone

Daylight Saving Time GMT-4/Standard Time GMT-5

Reference Bearing for Hurontario Street:

Approximately N46°39'06"W

Astronomic North and Software Use to Prepare Shadow Analysis

The North Arrow in the survey was used to set up the True North in Revit 2023.

This survey was prepared by:

R-PE Surveying Ltd. Ontario Land Surveyors on October 19, 2021

The base plan originated from the survey above and the base map was taken from Google Maps with coloured regions noted in Revit.

The project address was entered into Autodesk Revit 2020 which geolocates the site and the orientation to astronomical north established accurate shadows of the development.

3.1 Residential Private Outdoor Amenity Spaces

Private residential outdoor amenity spaces near the development comprise of:

- a) four communal swimming pools to the east of the site that belong to adjacent apartment buildings,
 - b) communal outdoor tennis courts along Kirwin, east of the site, which is also a shared amenity of the adjacent apartment building.
 - c) The proposed development rooftop amenity spaces
 - d) The proposed development site amenity spaces (charity outdoor amenity)
- These are noted on each of the shadow studies with labels. The criterion is met if there is no shadow impact from the development for no more than two consecutive hourly test times in the No Impact Zone.

June 21:

- There is no shadow impact on the above private outdoor amenity spaces

a) and b) on any of the test times therefore the criteria has been met.

- On proposed development rooftop amenity space (c): the outdoor amenity on L40 rooftop never gets any shadow throughout the day as it's on L40. As for the other outdoor amenity rooftops proposed, the east amenity terrace on L7 is not impacted between 1:20pm and 3:20pm, and only partially impacted from 4:20pm to 5:20. It is advantageous that the project is arranged with a west and east outdoor amenity terrace, as the west amenity terrace is inverse to the east terrace, not having impacts from 2:20 to 5:20. As such, this means the project is configured in a way where at any point during the day there is a roof amenity that is not impacted. As such, criterion is met since there is no shadow impact from the development for more than two consecutive hourly test times.

- On the proposed development site amenity space (d): it should be noted that the Charity outdoor space is not counted towards the Residential Amenity requirement; it is not impacted for about an hour around 12:20pm.

Sept 21:

- The only test time where the development casts a shadow on the (a) swimming pools to the north-east is at 5:48 pm. These occurrences are not consecutive and therefore the criteria has been met. The other Private Outdoor Amenity Spaces (b) (tennis court) have no shadow impact from the development.

- On proposed development rooftop amenity space (c): The L40 rooftop amenity is not affected for most of the day until 5:12pm, so meets the criteria. The east amenity terrace is not affected from 12:12pm to 4:12pm so meets the criteria. The west amenity terrace is not affected from 3:12pm to 5:48pm therefore meets the criteria.

- On the proposed development site amenity space (d): it should be noted that the Charity outdoor space is not counted towards the Residential Amenity requirement. It is impacted for most of the day.

3.2 Communal Outdoor Amenity Areas

Communal outdoor amenity spaces within the project development vicinity are

- TL Kennedy Secondary School to the west with their outdoor fields further westward

- John C Price Park, closer to the intersection of Kirwin and Dundas.

These are noted on each of the shadow studies. According to the Terms of Reference, shadows from the proposed development should allow for full sun on the above places with a Sun Access Factor of at least 50% sun coverage on June 21, Sept 21 and Dec 21.

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June 21:

- There is no shadow impact on the above communal outdoor amenity areas; Sun Access Factor is 100% from the development site.

Sept 21:

- The TL Kennedy Secondary School located to the west of the development site has Sun Access Factor of 100%

Dec 21:

- There is no shadow impact on the TL Kennedy Secondary School; Sun Access Factor is 100% from the development site.

- There is no shadow impact on the John C Price Park, Sun Access Factor 100%

All the communal outdoor amenity areas have a Sun Access Factor above 0.5 and therefore the development is in accordance with the criteria.

3.3 Public Realm

The area of Hurontario and Kirwin is considered *Mixed Use, Commercial, Employment and High-Density Residential Streets*. Terms of Reference for shadow studies notes that developments should allow for full sunlight on the opposite boulevard including the full width of the sidewalk on Sept 21, for at least 5 hours that must include the 2 hour period between 12:12pm and 2:12pm and an additional 2 hour period on either side of that time interval.

Impact on Streets:

There is no shadow impact of the development site on the opposite side of Hurontario during the above times and therefore is in accordance with the

criteria. There is some, limited shadow impact of the development site on the opposite side of Kirwin Ave. for 1 hour between 12:12 and 1:12pm; please also note the “green” shadow of the approved/not yet constructed site.

Impact on Public Open Spaces, Parks and Plazas (Criterion 3b):

The development occurs on the east side of Hurontario Street, and is not immediately adjacent to Kirwin Avenue and therefore the angular plane views have no maximum angular plane limit for the former condition and are not applicable for the latter condition.

3.4. Turf and flower gardens in Public Parks

The public park John C Price Park to the south and has full sun on September 21 from 1.5 hours after sunrise to 2.5 hours before sunset and therefore is in accordance with this standard.

3.5. Building Faces to allow for the possibility of using solar energy

Shadow impacts from the proposed development onto lowrise context buildings (1-4 storeys) do not exceed one hour. As such, the shadow analysis shows that the development site is in accordance with this standard.

Conclusion

To conclude, the proposed development meets the shadow impact criteria for all existing amenity areas and public spaces, and the development's proposed amenity areas. Effort has been made to improve the shadow impact by locating amenity areas with sun exposure in mind, along the south edges of roofs and the site, and as previously mentioned, there is a west terrace and east terrace to utilize the different times of day as well as the Level 40 amenity roof which does not get any shadow impact.

Regards,
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APPENDIX A – SHADOW STUDIES