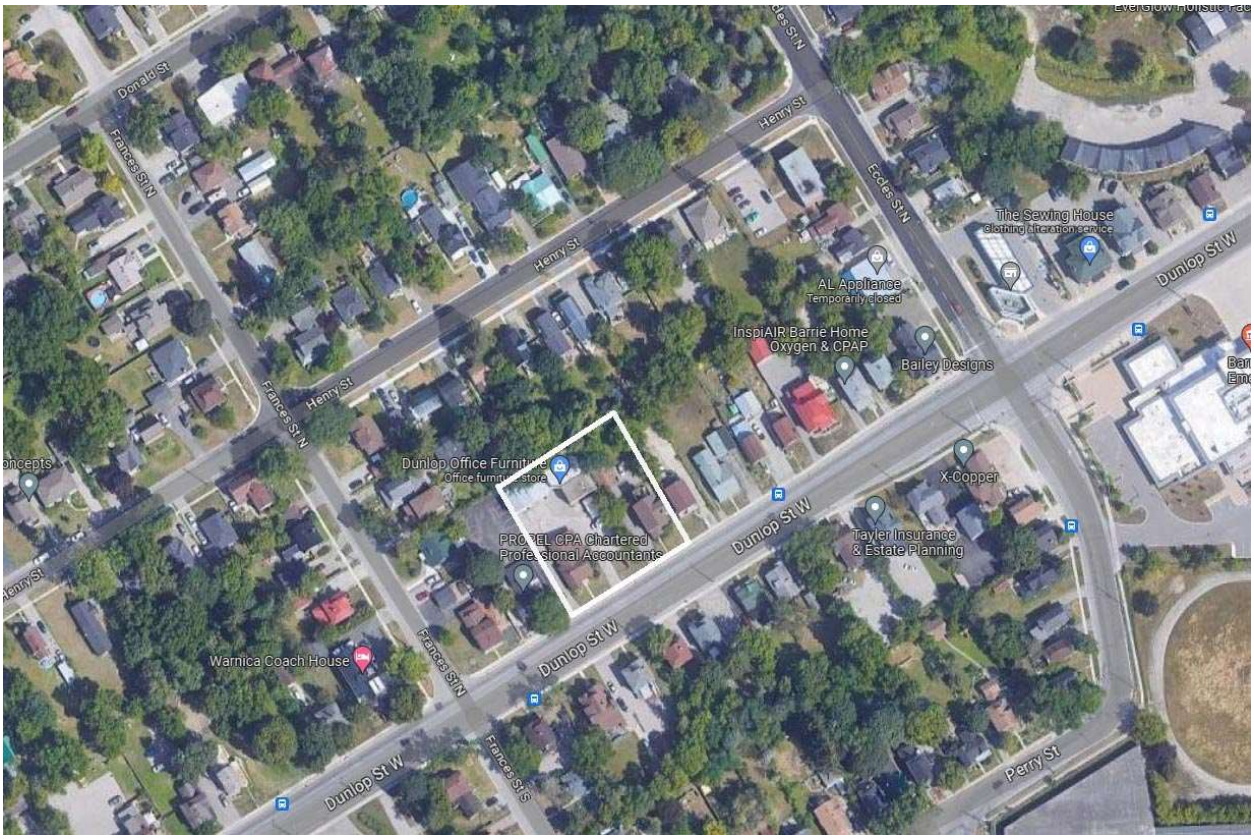
SHADOW/SHADING STUDY

4-STOREY RESIDENTIAL APARTMENT
196-202 DUNLOP STREET WEST
CITY OF BARRIE

OCTOBER 05, 2023
Updated: APRIL 04, 2024



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SUMMARY

This shadow analysis has been prepared in accordance with the City of Barrie Terms of Reference for Shadow/Shading Study (October 2018) in support of the Development Application for the lands located at 196-202 Dunlop Street West in the City of Barrie.

The analysis demonstrates the shadows cast by the proposed development throughout the year on the lands adjacent to the subject property by the proposed 4-storey mixed use residential apartment.

The analysis has been conducted using a 3D Sketchup model which has been geolocated to Latitude: 44.385473N Longitude: 79.699661W. Daylight savings time has been accounted for in the months of April, June, and September.

APRIL

In early morning, shadows are cast on the rear of the adjacent west property. That area is currently utilized as a parking lot for the adjacent residential conversion to commercial unit. Throughout the afternoon the shadows are predominantly within the rear of the subject lot, which is a proposed surface parking area. Late afternoon/early evening shadows are limited to the immediate rear of the adjacent dwelling to the east, with the majority of that rear yard unimpeded.

JUNE

Similar to April, the morning shadows are cast on the adjacent rear parking lot and are then limited to the subject lot parking lot through the afternoon. Late afternoon shadows do not impact the rear yards immediately east, and early evening shading is limited to the Dunlop Street and partial front yards on the south side of the street.

SEPTEMBER

The lower angle shadows in autumn cast early morning shadows on the rear lots north of the subject lands after sunrise and are then limited to the boundary of the subject lands until mid afternoon. By late afternoon, the shadows cast to the east are limited to the rooftops of tightly spaced dwellings along Dunlop Street, with no cast into the rear yards.

DECEMBER

As is common in winter months, the very low angle after sunrise casts the furthest shadows north. By 11:30am, those shadows are limited to the subject property parking lot. In the late afternoon and prior to sunset, the winter sun angle presents long cast to the east. Given the low sun angle, this is common for all structures regardless of height.

CONCLUSION

This area of Dunlop Street is within an intensification corridor and is in a transition form of development – from the existing low-density single housing and small commercial uses, to higher density mixed-use developments. This aligns with new Official Plan (OP) policies which allow for 6-storeys in SEED designated areas. The proposal of a 4-storey apartment is modest in comparison to the OP and has been design with a pitched roof style to align with the architectural language in the neighbourhood. Locating the structure close to the front Dunlop Street property line has limited the impact of shadows to the north properties. Lastly, this study has not taken into account the large, mature trees which are abundant throughout the area, especially in the rear yards of the properties surrounding the subject site. The limited shadows cast by the proposed building blend with the shade created by the existing dense branches and foliage in the area. Given these points and the analysis provided, this infill development proposal is desirable for this intensification area and does not cause undue shadow impact on open spaces, private amenity areas, or surrounding streets.