



SUN & SHADOW STUDY Terms of Reference

1.0 PURPOSE

A Sun/Shadow Study is a technical document that provides a visual model and written description of the impact of shadows cast by a proposed development on the subject lands and on surrounding streets, parks, and properties including residential areas, community outdoor amenity areas (such as children play areas, school yards, tot lots and amenity areas associated with commercial and employment areas), and the public realm (sidewalks, open spaces, parks and plazas). These studies are done to evaluate the impact of shadows at various times of day throughout the year.

The submission of a Sun/Shadow Study with development applications would complement the City's development review process and demonstrate the shadow impacts of development proposals internally and on surrounding property. This terms of reference provides guidance on what should be included in a Sun/Shadow Study.

2.0 WHEN A SUN/SHADOW STUDY IS REQUIRED

A Sun/Shadow Study will be submitted as part of a development application for a Zoning Bylaw Amendment or Site Plan for development projects over 6-storeys in height, including mid- and high-density projects, as well as mixed-use or commercial/retail proposals.

Sun/Shadow tests may also be requested for developments lower than 6-storeys, in particular on rezoning applications where additional height is applied for near shadow sensitive areas (including adjacent residential properties, parks, etc).

3.0 REQUIRED CONTENTS

As part of the Sun/Shadow Study, visual models and a summary letter should be provided to support the proposed development. The shadow drawings and report must be prepared by individuals qualified and/or experienced in this field.

a. Model

The model should clearly indicate the following:

- Development site;
- Property boundaries;
- Building foot prints and mass within the test site;
- Streets; and,
- Adjacent public parks, amenity spaces, cemeteries and/or accessible open spaces.



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The model should show the proposed development in its context, to a distance adequate to show the shadow impacts during the requested test times. In addition to existing buildings, the proposed development context should also include other approved but not built buildings within the model area. These should be indicated graphically as different from the proposal and the built context.

b. Summary Letter

In addition to the model, a letter that summarizes the study and the sun/shadow impacts of the proposed development is required. This should include a summary outlining how the shadow impact evaluation has been met and a description of any mitigating features that have been incorporated into the site and building design. If applicable, a description and assessment of all locations or uses not meeting the shadow impact evaluation should also be provided.

4.0 TEST TIMES

In order to measure the hours of sunlight window, Sun/Shadow tests should be done at the following dates/hours:

- March 21st, June 21st & September 21st –
1:00 p.m., 3:00 p.m., 5:00 p.m. and 7:00 p.m.
- December 21st –
9:00 a.m., 11:00 a.m., 1:00 p.m. and 3:00 p.m.

Additional dates and times may be requested at the discretion of the City of Richmond Hill.

5.0 EVALUATION

In order to achieve the goals of the City of Richmond Hill Official Plan, a Sun/Shadow Study should demonstrate that at least 5 consecutive hours of full sunlight (between the hours of the test times) is available on:

- surrounding residential properties during spring, summer, fall;
- a minimum of 50% of community outdoor amenity areas (children's play areas, school yards, tot lots, amenity areas associated with commercial and employment areas) throughout all four seasons;
- the opposite boulevard including the full width of the sidewalk during spring and fall; and,
- a minimum of 50% of public open spaces, parks, plaza during spring and fall.

In addition to surrounding locations and uses, the development proposal will also be evaluated on the shadow impacts created within the development site in order to ensure comfort and use of any proposed outdoor amenity spaces.