

REPORT - PART 1

1580-1650 DUNDAS STREET EAST (DUNDAS & MATTAWA)



SUN/SHADOW ANALYSIS

RWDI PROJECT #2101131
JULY 29, 2022

SUBMITTED TO

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INTRODUCTION



Rowan Williams Davies & Irwin Inc. (RWDI) was retained by Hazelview Investments to conduct a Sun Shadow Study for the proposed development in Mississauga, Ontario (Image1).

The objectives of this study were to illustrate the shadow patterns for the proposed development and determine the potential exposure to sunlight and shadow on and around the study site.

RWDI has conducted this analysis as per the requirements outlined in the City of Mississauga Standards for Shadow Studies.

This study involved the use of a three-dimensional (3D) computer model of the existing surroundings and the proposed development in place. The 3D model was used to produce renderings of the new shadows cast by the proposed development. The following report provides a discussion of the methodology and graphic results of the Sun/Shadow Study.

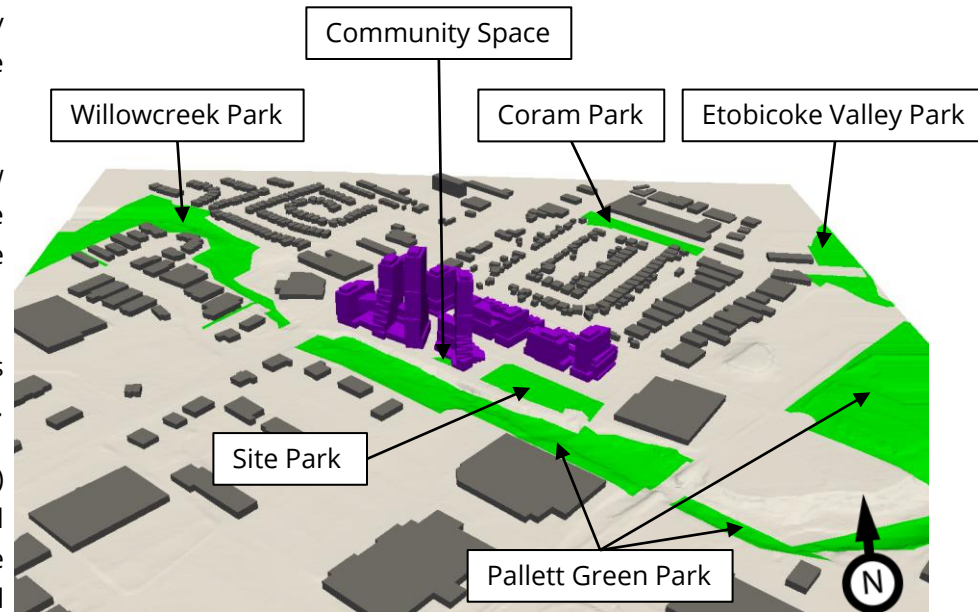


Image 1 – Rendering of the Proposed Project – View from the South

SITE & BUILDING INFORMATION



The proposed buildings are located on both sides of Mattawa Avenue on the south side of Dundas Street (see existing site in Image 2). The latitude and longitude of the project site is 43.613192° and -79.576297° respectively. The location was determined by a site plan provided by Hazelview Investments and Google Earth. All Images are oriented with true north pointing toward the top of the page and the north arrow compass located at the bottom of the page.

The heights of the proposed buildings range from approximately 12 stories (38 m) to 41 stories (132 m) (see site plan in Image 3).

Currently the site consists of low-rise mixed-use commercial buildings and a parking lot. The immediate surroundings consist of low-rise residential buildings along with commercial buildings and light industrial buildings. (see Image 2).

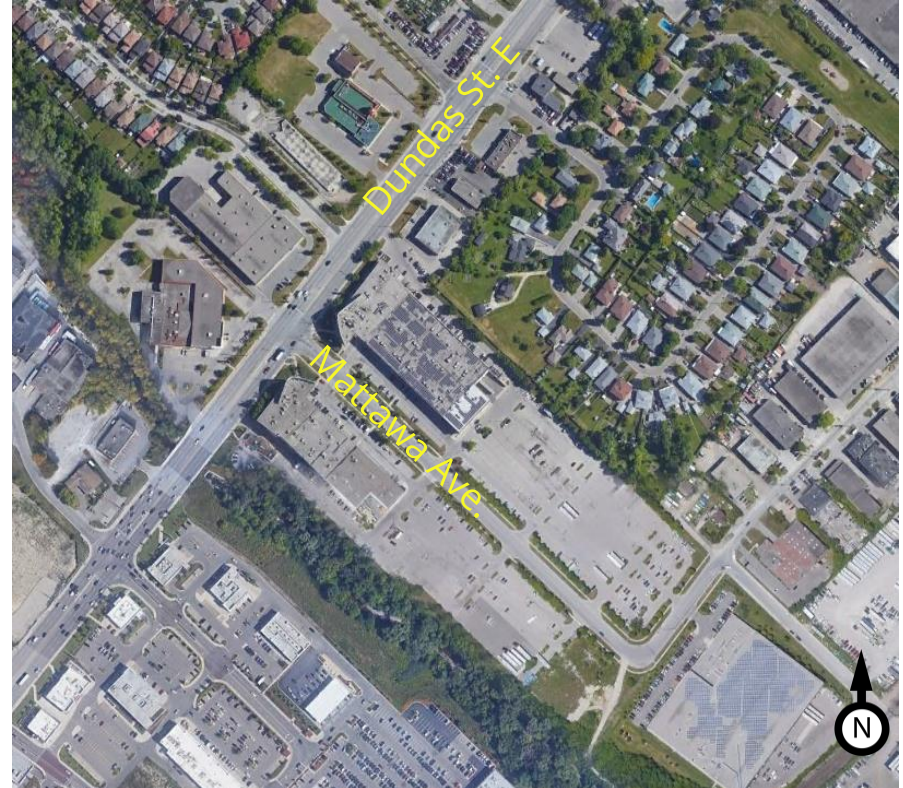


Image 2 – Aerial View of Existing Site and Surroundings
(Courtesy of Google Earth)

SITE & BUILDING INFORMATION

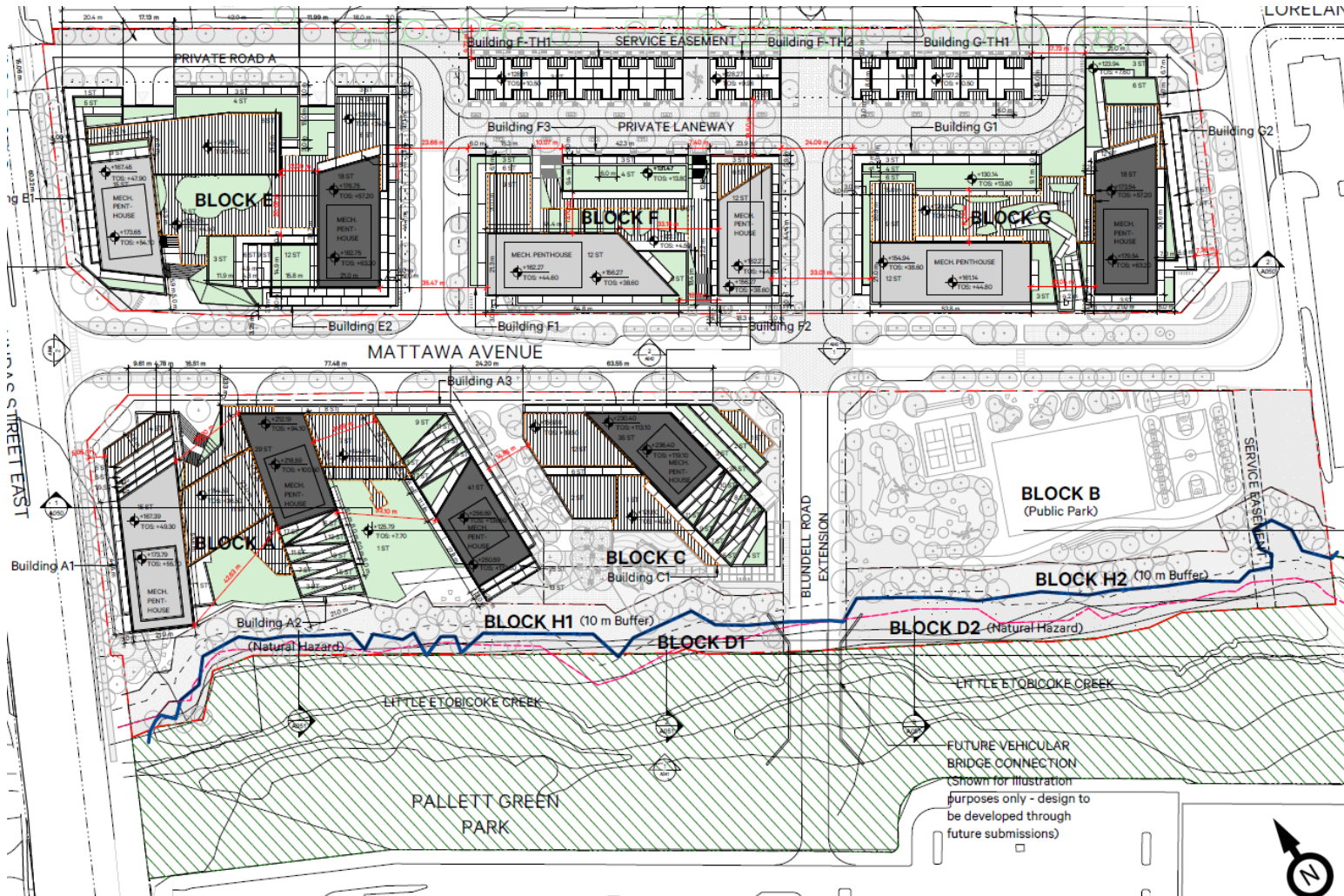


Image 3 – Site Plan

METHODOLOGY



The shadow plots illustrated in this report (found in Appendix A) were generated with the aid of RWDI's in-house proprietary *Eclipse* software. The software was configured to simulate the appropriate geographic characteristics and solar angles for this site.

Based on the concept plan prepared by SVN Architects (received by RWDI on June 22, 2021), a three-dimensional computer model of the study site was created by RWDI.

The computer-generated renderings exhibit the simulated shadow conditions anticipated to occur in the vicinity of the study site. The tests conducted in this study assume bright sunlight from sunrise to sunset to properly identify shadow patterns created by the proposed structure.

The output of this study illustrates the *net-new shadowing* created by the proposed development. That is to say, the shadowing created by the proposed development, less any shadows that occur due to the existing built environment.

Per standard industry practice, shadowing due to trees has been purposely neglected as a conservatism.

SUMMARY/CONCLUSIONS



Per the City of Mississauga requirements, the new shadows cast by the proposed building were predicted for every hour between 7:07 am EDT and 7:33 pm EDT on June 21, between 8:35 am EDT and 5:48 pm EDT on September 21, as well as for December 21 between 9:19 am EST and 5:15 pm EST.

Intermittent new shadowing from the proposed project was anticipated to fall across the residential properties to the east and south-east of the site in the afternoons and evenings on all the dates studied, although on December 21 shadows are also predicted to fall on residential areas to the north in the mornings. Shadowing falling on residential properties was mostly confined to the area south of Dundas St. and west of Mattawa Avenue. Shadows were also anticipated to fall onto the roofs of neighboring commercial properties.

No shadow impacts were predicted on the rear yard of the Church of St. Mina and St. Kyrillos Coptic Orthodox Church or on any sidewalks according to the public realm criteria in the Mississauga Terms of Reference.

There are currently four grade-level 'Communal Outdoor Amenity Areas' (Coram Park, Etobicoke Valley Park, Pallet Green Park, Willow Creek Park), and two proposed onsite parks in the proximity to the development (the site day care and the site Park). These areas are highlighted in green in Image 1. All six areas were

predicted to have Sun Access Factors above 50% on June 21, September 21 and December 21 and thus meet the criteria outlined by the City of Mississauga.

Various 'Residential Private Outdoor Amenity Spaces' to the east of the proposed building were predicted to have shadow during three consecutive hourly test times on September 21 within the "no Impact Zone", thus not meeting the criteria established by the City of Mississauga. These addresses include: 1687, 1673, 1667, 1659, 1657 and 1655 Coram Crescent. It should be noted that these three consecutive test times do not constitute 2 hours since they consist of the final three test times of the day.

Similarly, some exterior side walls and roofs of residential buildings with the potential to harvest solar energy were predicted to have shadow during three consecutive hourly test times on September 21 within the "no Impact Zone", also not meeting the criteria established by the City of Mississauga. These addresses include: 1673, 1657 and 1655 Coram Crescent. Again, it is the final three test times where this occurs, thus the duration of the impact is less than 2 hours.

GENERAL STATEMENT OF LIMITATIONS



This report entitled “20220729 RWDI 2101131 REP SunShadowAssesment 1580-1650DundasStreetEast” (dated July 29, 2022) was prepared by Rowan Williams Davies & Irwin Inc. (RWDI) for Hazelview Investments. The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein (“Project”). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared.

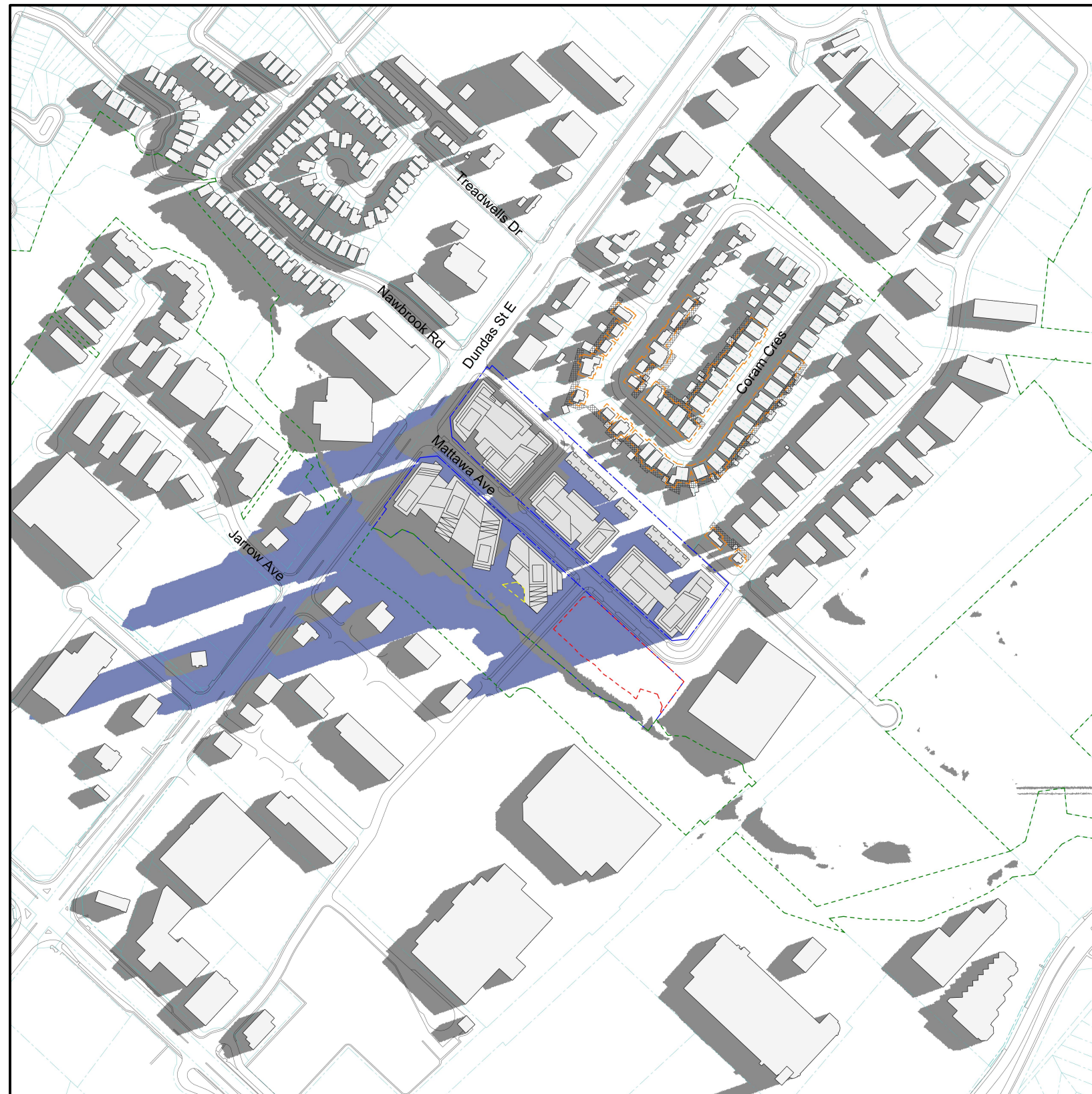
Because the contents of this report may not reflect the final design of the Project or subsequent changes made after the date of this report, RWDI recommends that it be retained by Client during the final stages of the project to verify that the results and recommendations provided in this report have been correctly interpreted in the final design of the Project.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilize the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and to understand the different factors which may impact the conclusions and recommendations provided.

APPENDIX A

SHADOW PLOTS

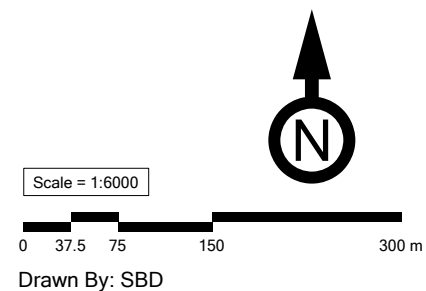


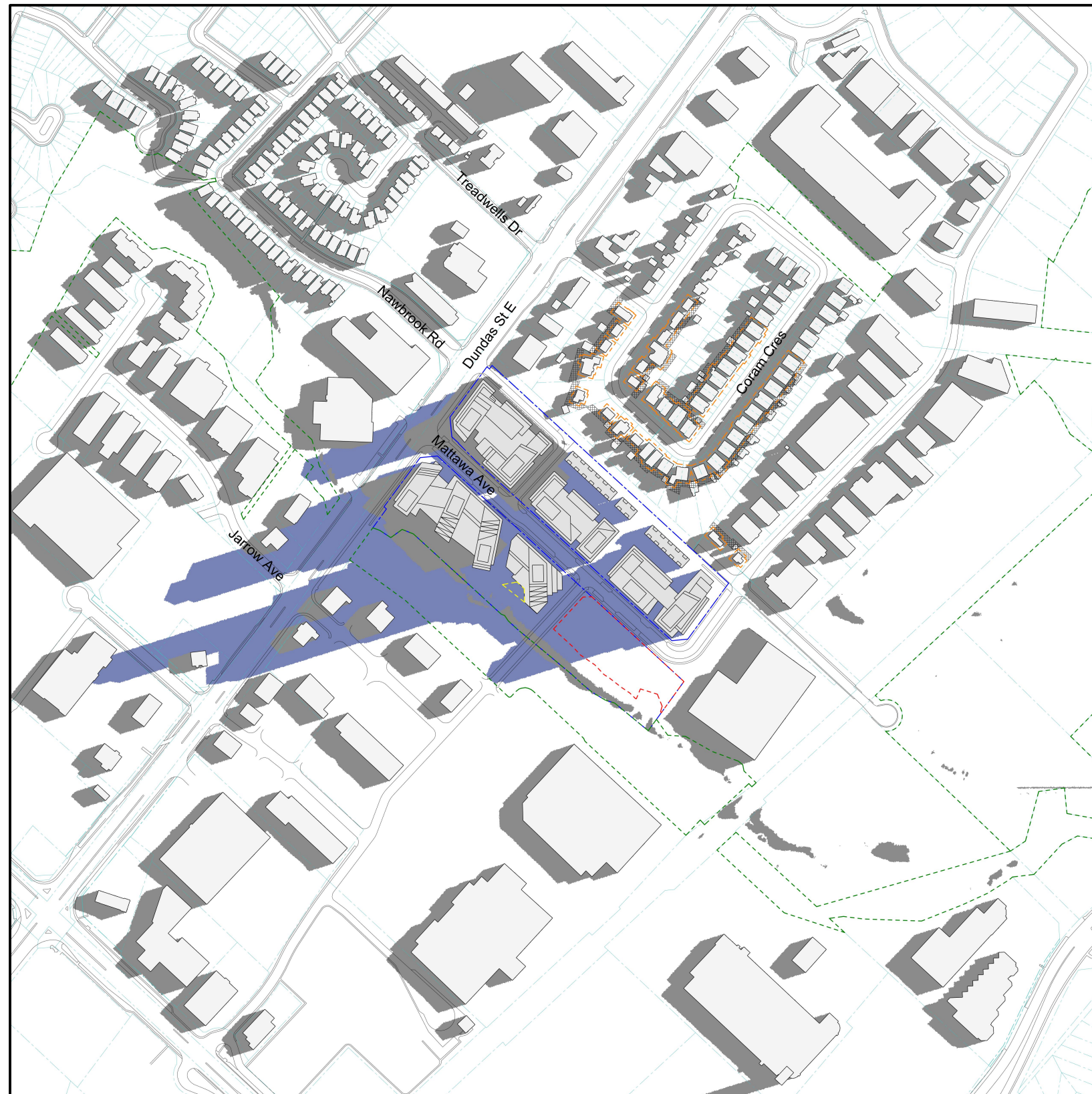
Sun/Shadow Analysis

Proposed Site Configuration | June 21st, 07:07 EDT

1530-1650 Dundas Street East (Dundas & Mattawa) - Mississauga, ON

Project # 2101131





- Net New Shadows Cast on Ground Surfaces
- Shadows Cast by Existing Buildings on All Surfaces
- Residential Private Outdoor Amenity Spaces
- Communal Outdoor Amenity Area
- Solar Energy Access
- Proposed Daycare Outdoor Playspace
- Proposed Public Park
- Proposed Site Property Line
- Surrounding Property Lines

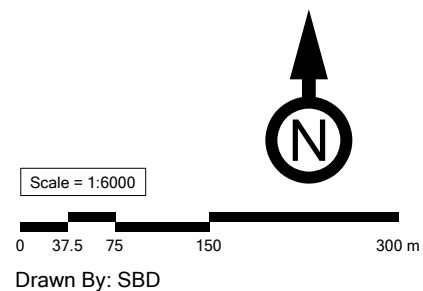


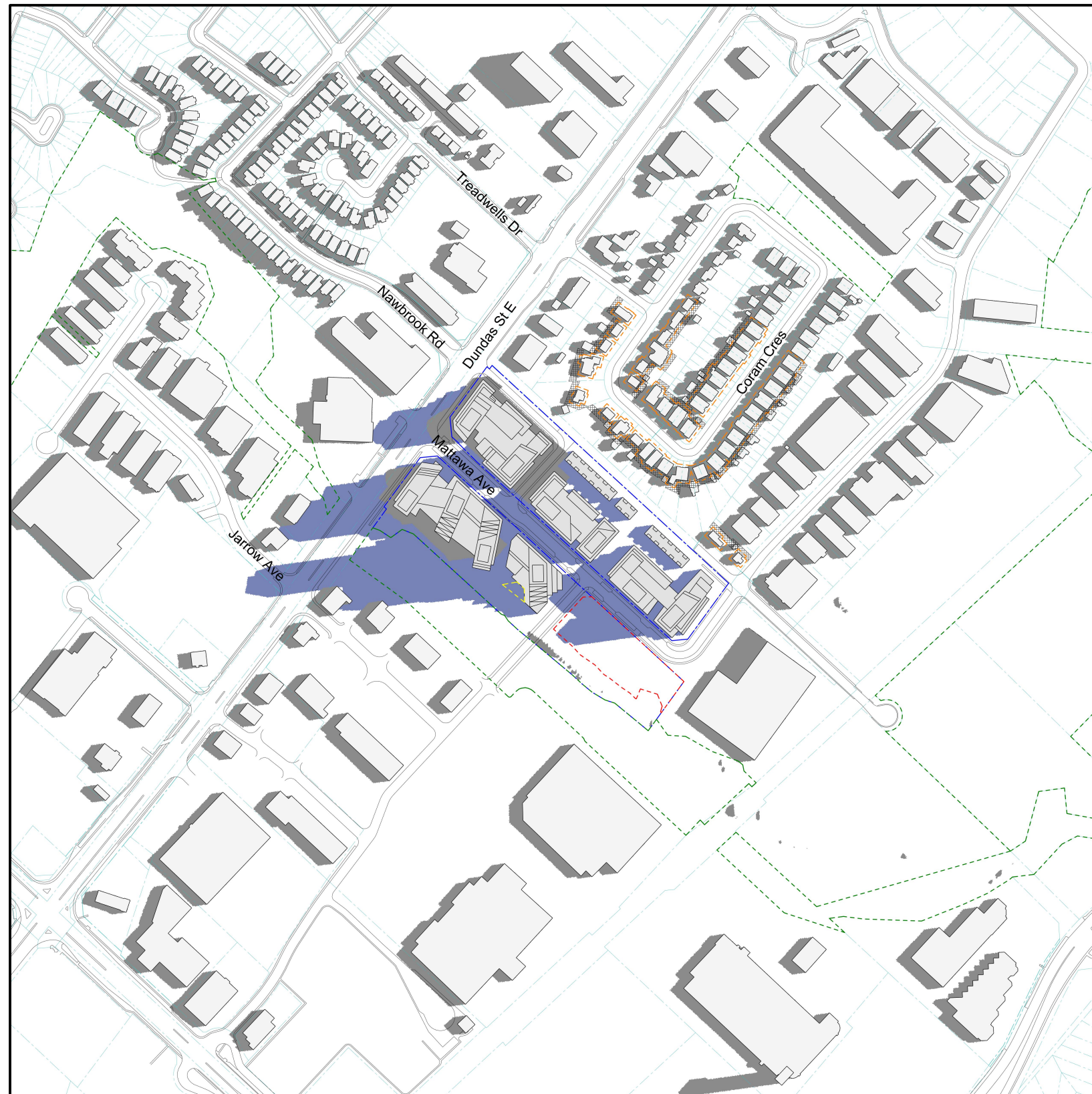
Sun/Shadow Analysis

Proposed Site Configuration | June 21st, 07:20 EDT

1530-1650 Dundas Street East (Dundas & Mattawa) - Mississauga, ON

Project # 2101131





- Net New Shadows Cast on Ground Surfaces
- Shadows Cast by Existing Buildings on All Surfaces
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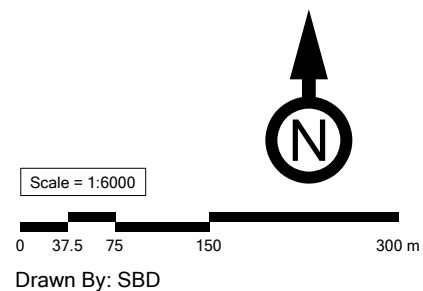


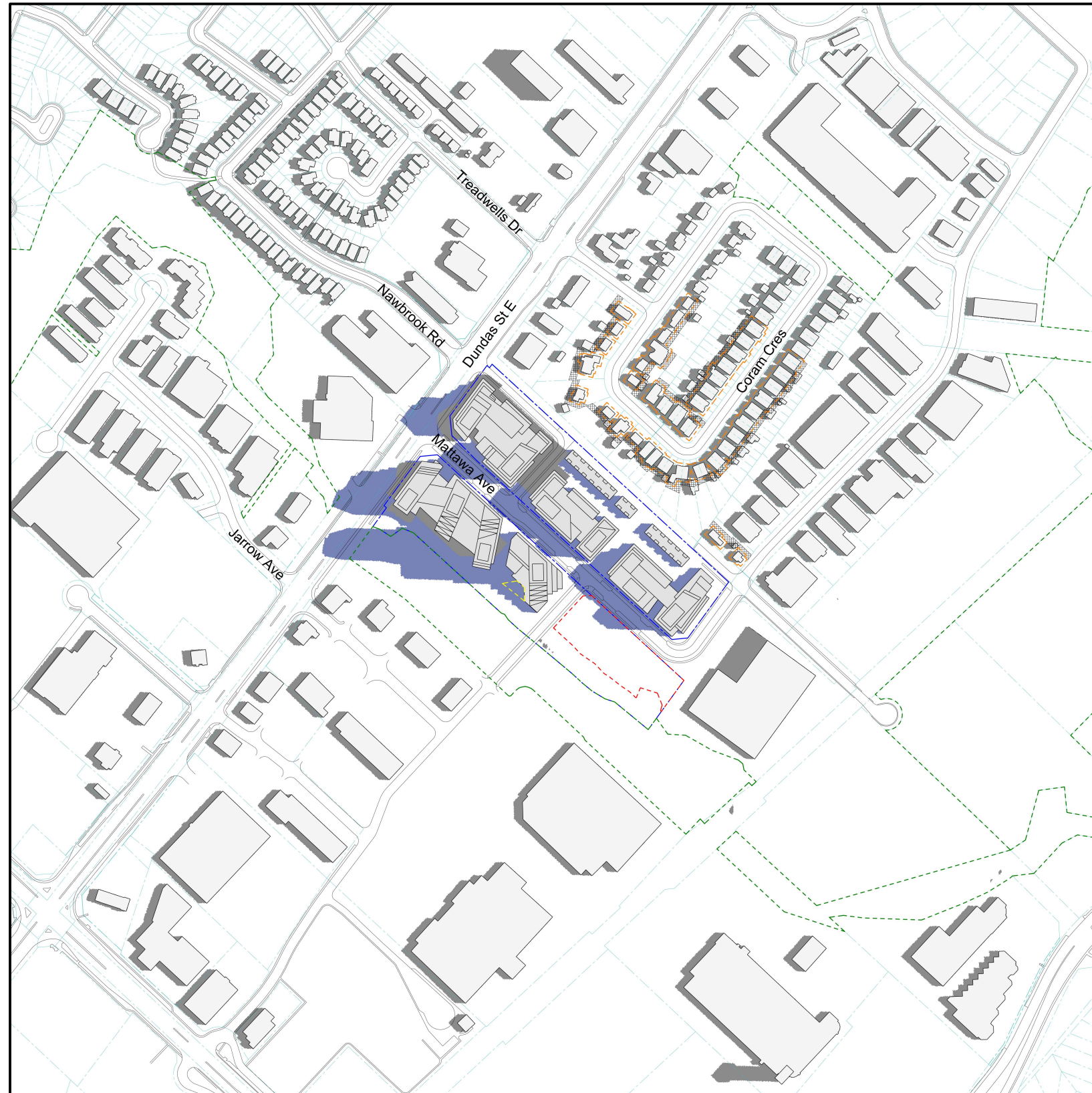
Sun/Shadow Analysis

Proposed Site Configuration | June 21st, 08:20 EDT

1530-1650 Dundas Street East (Dundas & Mattawa) - Mississauga, ON

Project # 2101131





- Net New Shadows Cast on Ground Surfaces
- Shadows Cast by Existing Buildings on All Surfaces
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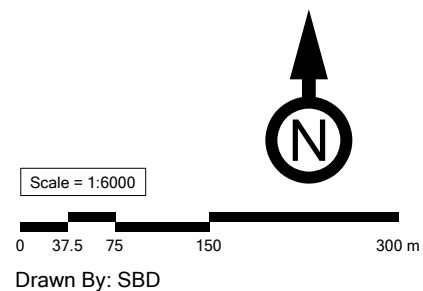


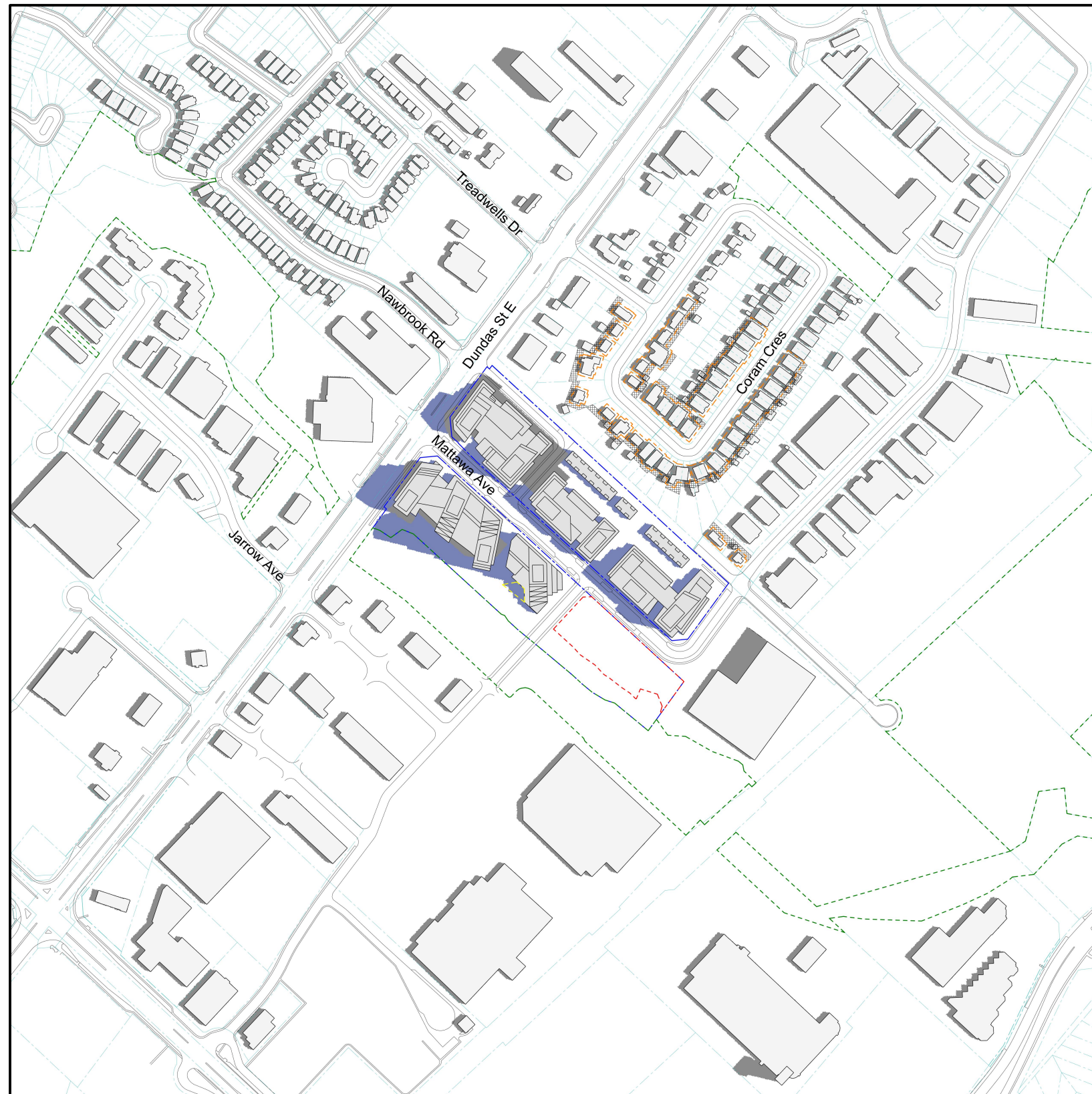
Sun/Shadow Analysis

Proposed Site Configuration | June 21st, 09:20 EDT

1530-1650 Dundas Street East (Dundas & Mattawa) - Mississauga, ON

Project # 2101131





- Net New Shadows Cast on Ground Surfaces
- Shadows Cast by Existing Buildings on All Surfaces
- Residential Private Outdoor Amenity Spaces
- Communal Outdoor Amenity Area
- Solar Energy Access
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- Proposed Public Park
- Proposed Site Property Line
- Surrounding Property Lines



Sun/Shadow Analysis

Proposed Site Configuration | June 21st, 10:20 EDT

1530-1650 Dundas Street East (Dundas & Mattawa) - Mississauga, ON

Project # 2101131

