



SUNSHADOW STUDY

7170 GOREWAY DRIVE
MISSISSAUGA

JULY 2021
FILE #7997



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I N T R O D U C T I O N

This Sun/Shadow Study has been prepared by Weston Consulting to illustrate the shadow impacts of the proposed residential development. The Study Area is located in the City of Mississauga in the Region of Peel, with frontages on Goreway Drive and Etude Drive. The Municipal address of the proposed development site is 7170 Goreway Drive Mississauga.

The scheme proposes a multi-building, pedestrian friendly, residential development. This compact development includes 34 surface parking spaces [2 per dwelling, 1 garage and 1 driveway space], 4 of which are visitor spaces at 0.25 per dwelling, including 1 accessible space. The development consists of three blocks of 3 storey street facing town-homes, at 12.8 metres in height. A common outdoor amenity area will be located to the southwest of the site measuring 233.1m². The parcel is currently vacant, and is abutted to the east, west and south by residential 1 and 2 storey dwellings [see Key Plan: Context]. To the north lie several commercial properties, including a grocery, KFC, pizza restaurant and a CIBC Bank. To the west lies the Malton Baptist Church at the perimeter of the Study Area. A local Brampton Transit bus route runs along Goreway Drive and Etude Drive, with nearby stops located at the intersection. To the east is located the Derry Greenway Park beyond the limits of the Study Area identified for this Sun/Shadow Study. There are no other green/open spaces within close proximity of the site.

The built form context of the surrounding area is generally low rise. The Terms of Reference for Sun/Shadow studies provided by the City of Mississauga sets out that buildings above 10.7m within the vicinity of proposed developments subject to Sun/Shadow Study requirements be identified. There are 2 buildings identified within the Study Area [see Key Plan: Context], however these buildings are not primarily residential.

The Shadow Study encompasses dates and times shown in Tables 2, 3 and 4 of the Urban Design Terms of Reference: Standards for Shadow Studies [2014], from 1.5 hours after sunrise to 1.5 hours before sunset. The base mapping encompasses the total extent of shadowing from the proposed development. The Study Area is identified as approximately 4.0 times the height of the development to the north, east and west at an approximate coverage of 51.2m, and 1.5 times the building height to the south at an approximate coverage of 19.2m.

The modeling produced to determine the shadow impacts of the proposed development includes the optional terracing at the uppermost level of the building, increasing the overall building heights by 3.05m. This has been included to illustrate the *optional maximum* build-out. *Note: 2 visitor spaces have been eliminated to provide adequate garbage storage from the shadow diagrams detailed in the Appendix.*

The following test times at sunrise and sunset have not been shown as no shadowing is visible during these times: June 21 at 5:27 and 21:03; September 21 at 7:05 and 19:18; and December 21 at 7:49 and 16:45.

References:

Base Plan Source: Mississauga Parcel Open Data 2016
Approximate Longitude/Latitude at 7170 Goreway Drive: 43.716489, -79.636481
Astronomic or True North determined using GPS Google Map Data 2020.

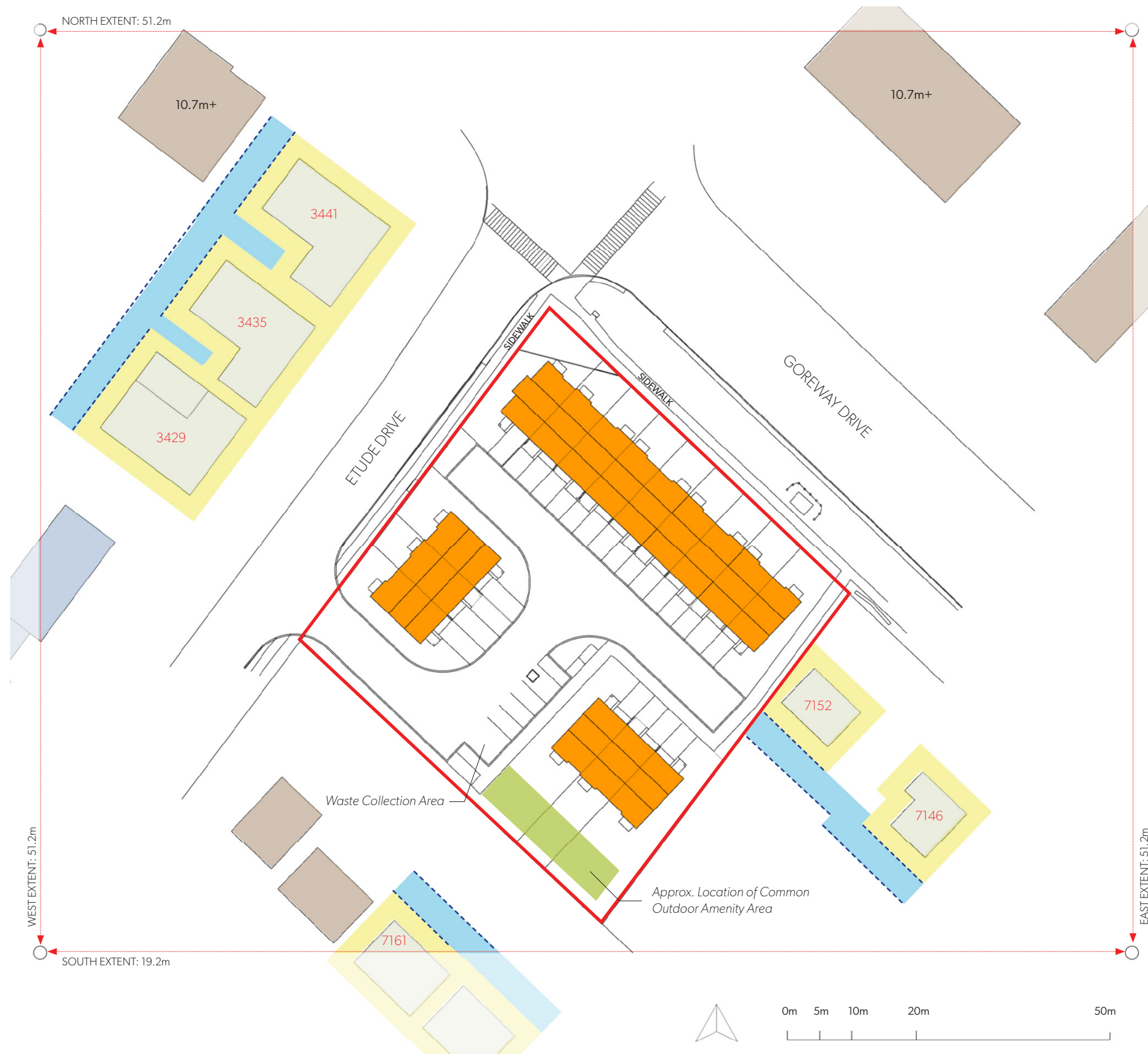


Figure 1: Key Plan: Context

- Property Boundary
- Proposed Buildings
- Commercial Buildings
- Residential Buildings
- Institutional Buildings
- 3m Solar Gain "no impact zone"
- 7.5m Residential Amenity "no impact zone"
- Line of Impact Assessment

KEY PLAN : CONTEXT

Address: 7170 Goreway Drive, Mississauga

Date: 10.01.2020

Scale: NTS



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S H A D O W . A N A L Y S I S

1.1 RESIDENTIAL PRIVATE OUTDOOR AMENITY SPACES

Residential Private Outdoor Amenity Spaces have been identified within the Study Area as indicated in the Key Map. These areas include rear yards, decks, patios, and pools of surrounding residential dwellings. A 7.5 metre “impact assessment” line has been identified in the Key Map at the rear yard of residential low-rise properties adjacent to the proposed development. These areas must receive adequate sunlight to meet the Shadow Study criteria.

This criterion has generally been met, as there are no more than two consecutive test times of shadowing identified within the “no impact zone”. The residential properties within the Study Area have access to at least two consecutive hours of direct sunlight during the test times. Minor impacts occur at the rear yard of 7161 Minotola Avenue, south of the property at 7:07 in June. The rear yards of 7152 and 7146 Goreway Drive also incur minor impacts in June towards late evening at 19:20 - 19:33. September sees impacts at the rear yard of 7152 Goreway Drive between 16:12 and 17:48.

1.2 COMMUNAL OUTDOOR AMENITY AREAS

The proposed amenity area within the subject lands is impacted by shadowing between 7:07 and 10:20 in both June and September. These impacts recede entirely by 11:20, and last for no more than 3 consecutive hours.

1.3 PUBLIC REALM

Areas within the Study Area identified as ‘the public realm’ include the sidewalk along Goreway Drive and Etude Drive. For the purposes of this exercise, both Goreway Drive and Etude Drive are considered to be mixed-use streets due to the presence of a range of commercial, service, and residential uses within the Study Area.

Goreway Drive

“Developments should be designed to allow full sunlight on the opposite boulevard including the full width of the sidewalk on September 21 as follows: for a total of at least 4 hours between 9:12 a.m. and 11:12 a.m. and between 3:12 p.m. and 5:12 p.m.”

This criterion is met as there is no incremental shade evident between 9:12 a.m., 10:12 a.m. and 11:12 a.m. and at 3:12 p.m., 4:12 p.m. Shadowing begins to impact the opposite boulevard of Goreway Drive at 17:48 on September 21 just before sundown. [See Shadow Diagrams in Appendix 1].

Etude Drive

“Developments should be designed to allow full sunlight on the opposite boulevard including the full width of the sidewalk on September 21 as follows: for a total of at least 5 hours that must include the 2 hour period between: 12:12 p.m. and 2:12 p.m. and an additional 2 hour period from either 9:12 a.m. to 11:12 a.m. or from 3:12 p.m. to 5:12 p.m.”

This criterion is met as there is no impact on the opposite boulevard and sidewalk between 12:12 and 14:12. The opposite boulevard and sidewalk of Etude Drive remains clear of shadowing between 15:12 and 17:12. [See Shadow Diagrams in Appendix 1].

1.4 TURF AND FLOWER GARDENS IN PUBLIC PARKS

There have been no turf or flower gardens identified within the Study Area.

1.5 BUILDING FACES TO ALLOW FOR THE POSSIBILITY OF USING SOLAR ENERGY

In order to allow for the possibility of harvesting solar energy, shadow impacts on roofs, front, rear and exterior side walls should be mitigated. This requires 3 metres of clearance as per Figure 7 in the Mississauga Terms of Reference for Shadow Studies. This “no impact zone” is illustrated in the Key Plan. Shadowing must not exceed 1 hour on the facades of residential dwellings during the times shown for September 21st.

The adjacent residential dwellings at 3429 and 3435 Etude Drive incur minor shadowing impacts at 8:35 on September 21. These impacts do not exceed 1 hour during the test times.

The rear facade of the residential property at 7152 Goreway Drive is impacted by shadow at 17:12 to sundown. These impacts do not exceed 1 hour in duration.

As incremental shadowing takes place in the early hours and late evening of September 21st, the incremental shadow illustrated does not represent an adverse or unacceptable shadowing condition.

1.6 SUMMARY

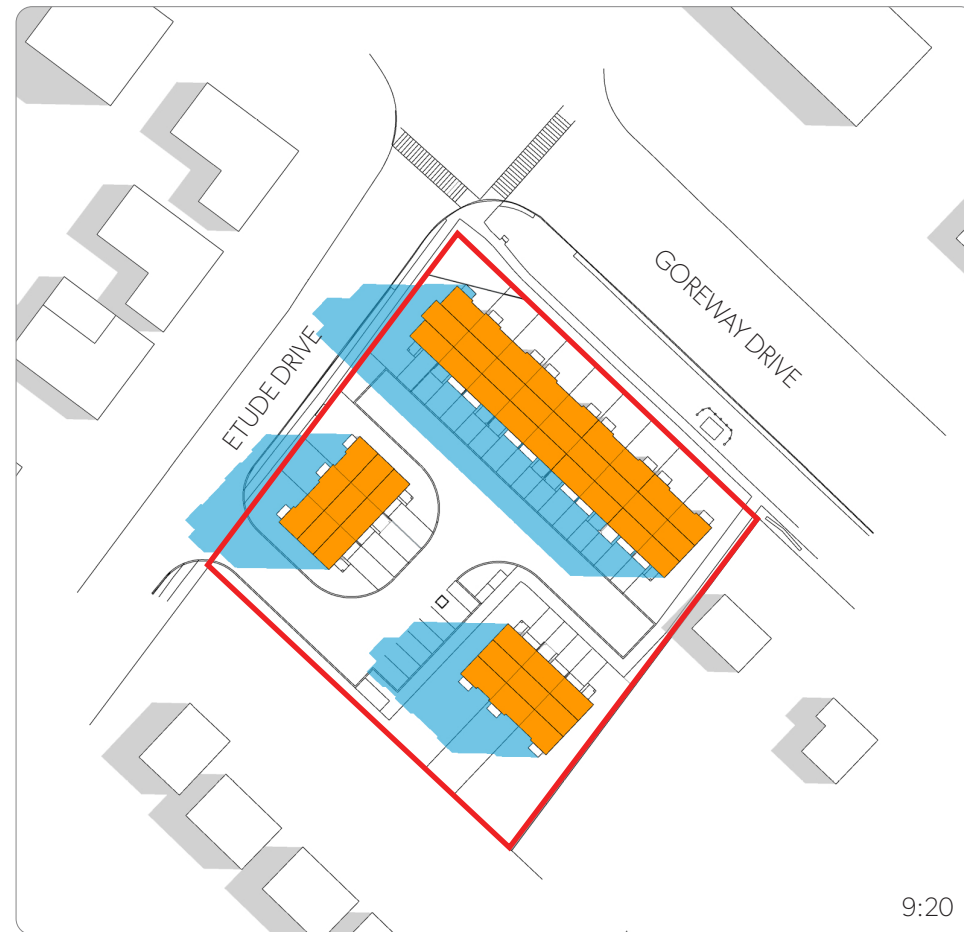
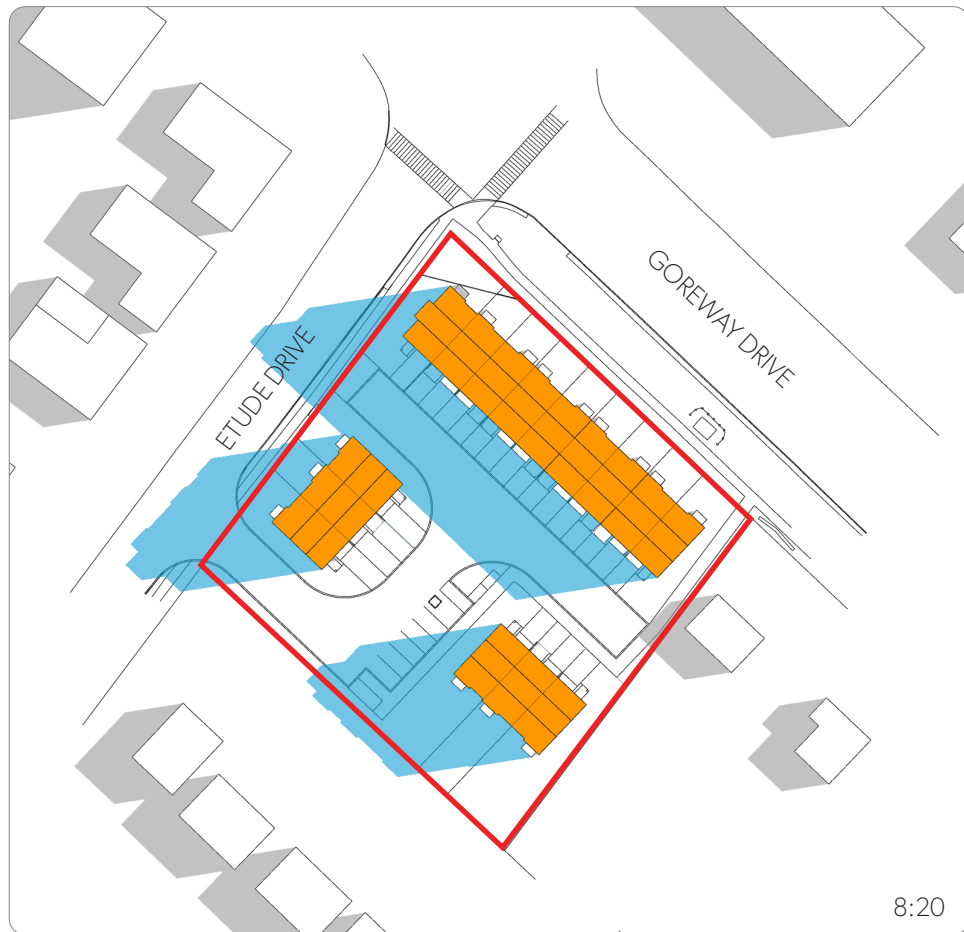
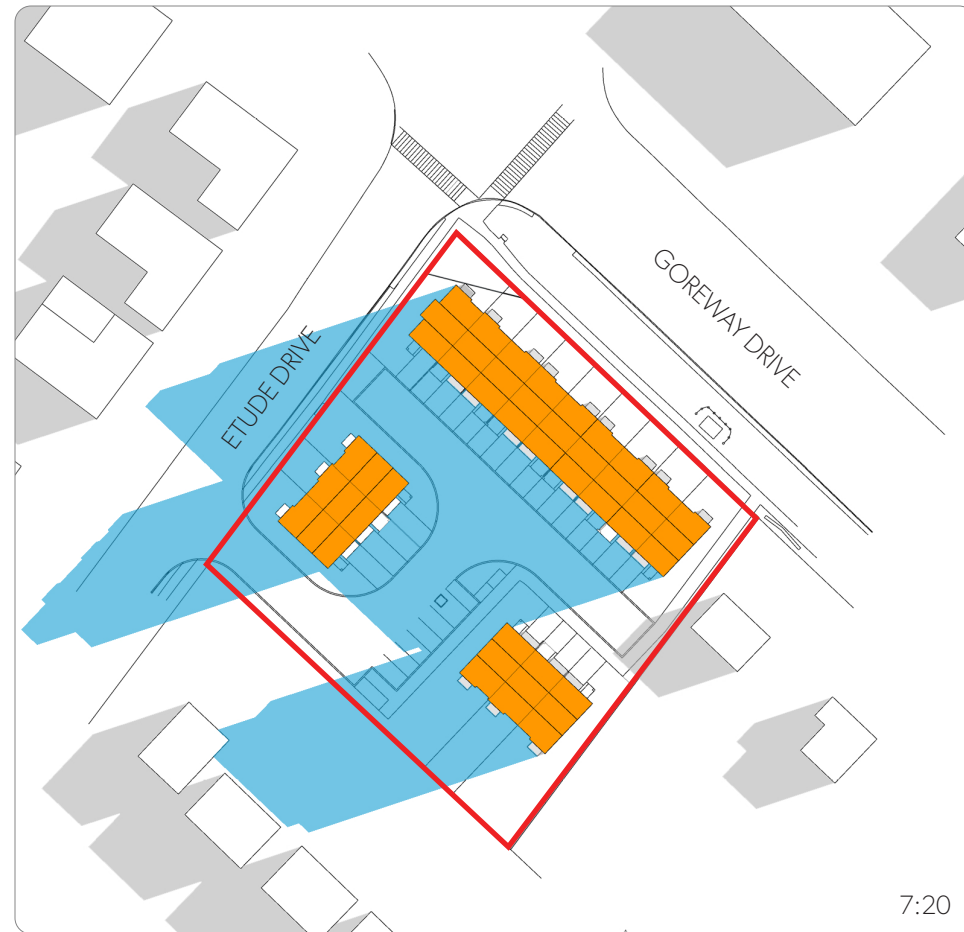
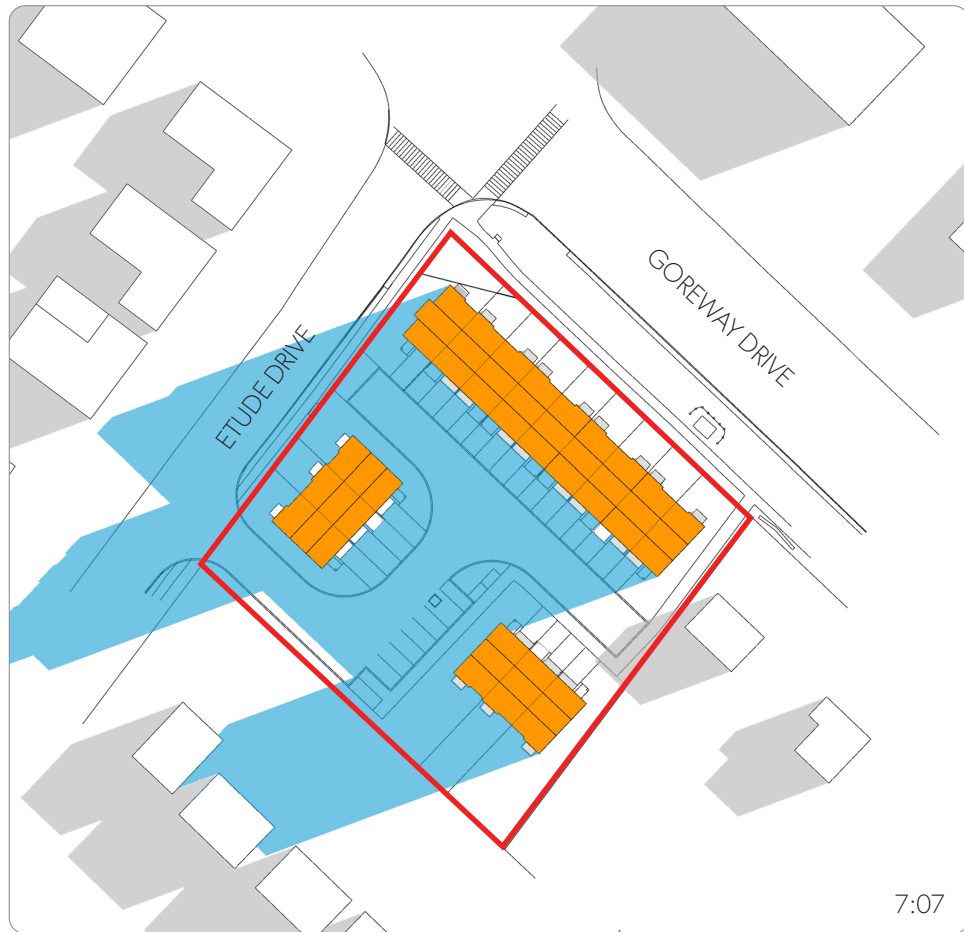
In summary, it can be concluded that shadow impacts upon neighbouring residential properties and the public realm are minor and of short duration. The shadows have a reasonably acceptable impact on neighbouring areas for the following reasons:

- The majority of shadowing falls within the proposed development site itself;
- Impacts on neighbouring residential properties are concentrated in the earlier hours of December 21, and early hours and late evening of September 21. During these hours, it is anticipated that rear yards will be in limited use.
- The sidewalk fronting the development on Goreway Drive is in shadow from approximately 14:12 to sundown on September 21. These impacts however do not reach the opposite sidewalk until just prior to sundown;
- Criteria 3.1 - 3.5 have been adequately met.

A P P E N D I X 1

S H A D O W . D I A G R A M S





- Property Boundary
- Proposed Buildings
- Existing Shadows
- Proposed Cumulative Shadows

JUNE 21

Address: 7170 Goreway Drive, Mississauga

Date: 10.01.2020

Scale: See Scale Bar



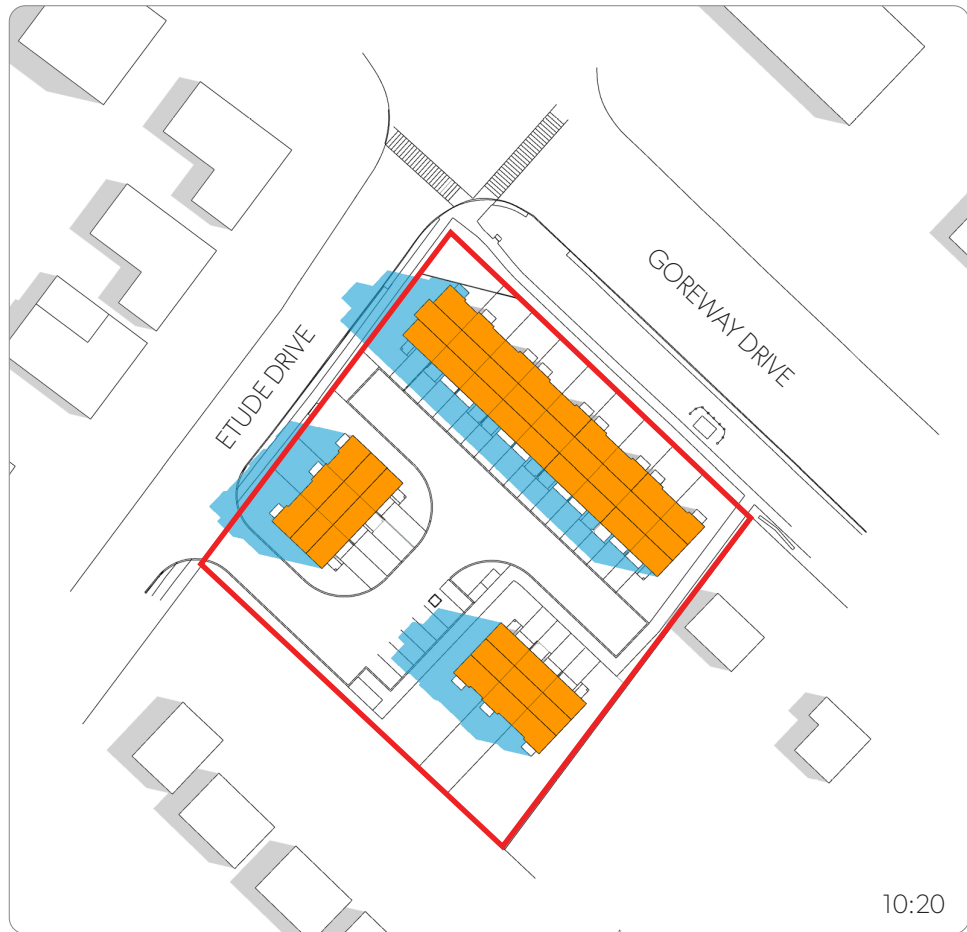
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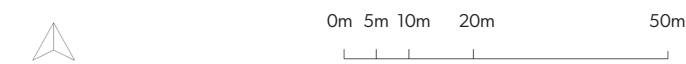
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JUNE 21

Address: 7170 Goreway Drive, Mississauga

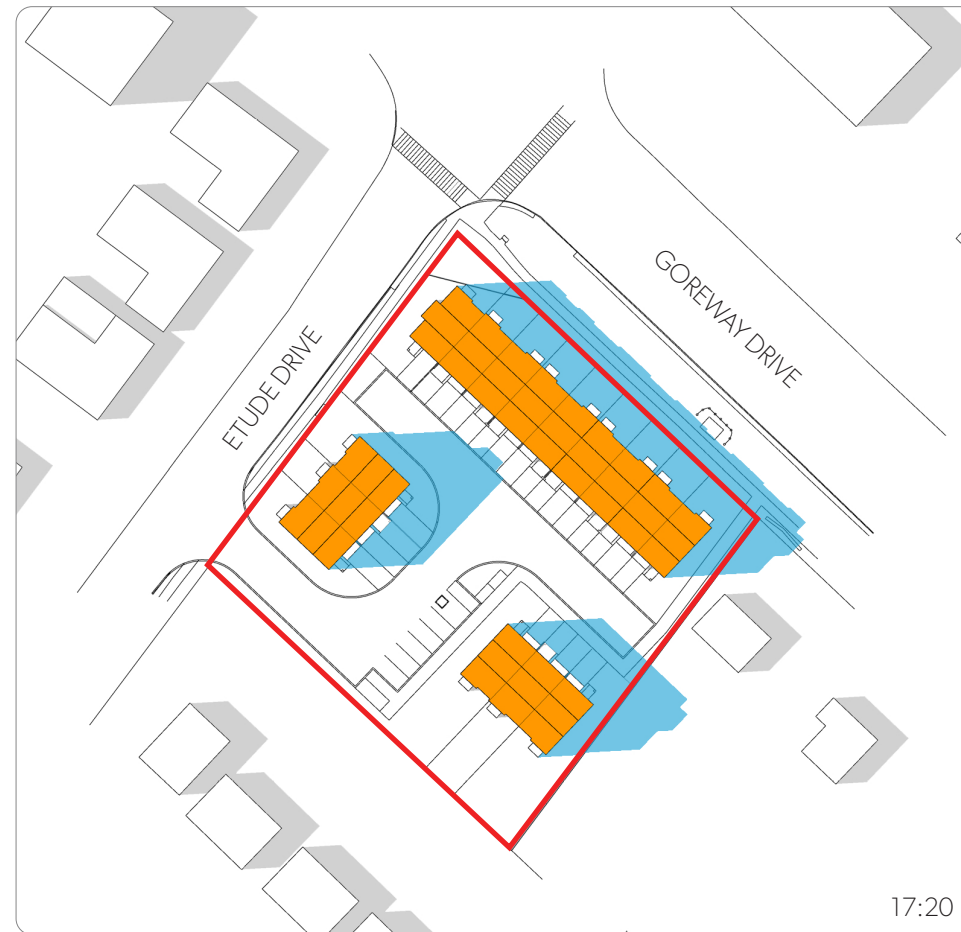
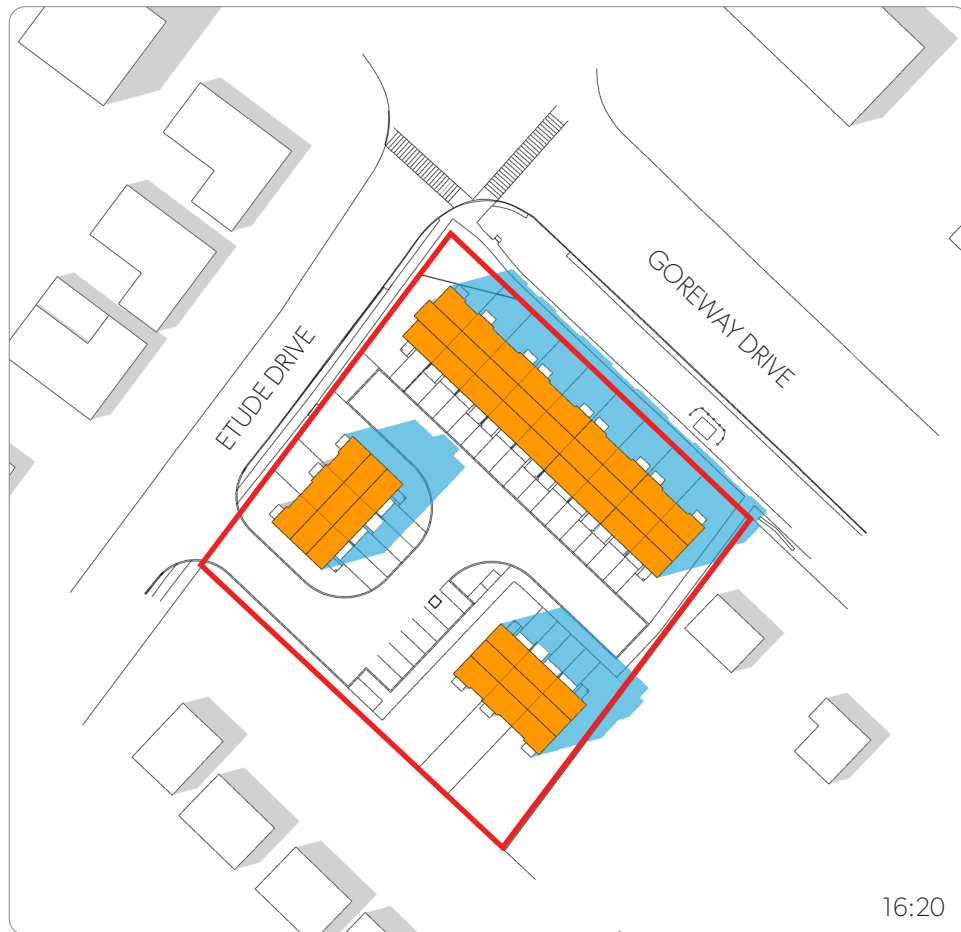
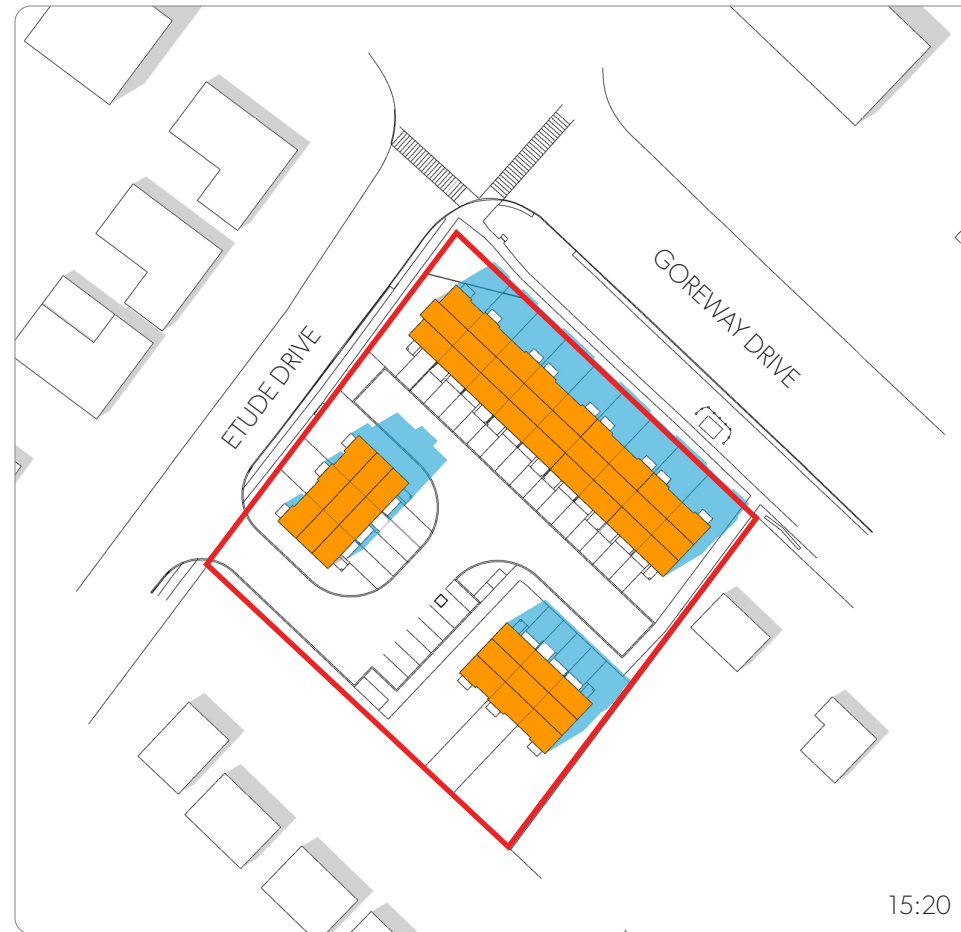
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Scale: See Scale Bar



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- Property Boundary
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- Proposed Cumulative Shadows

JUNE 21

Address: 7170 Goreway Drive, Mississauga

Date: 10.01.2020

Scale: See Scale Bar



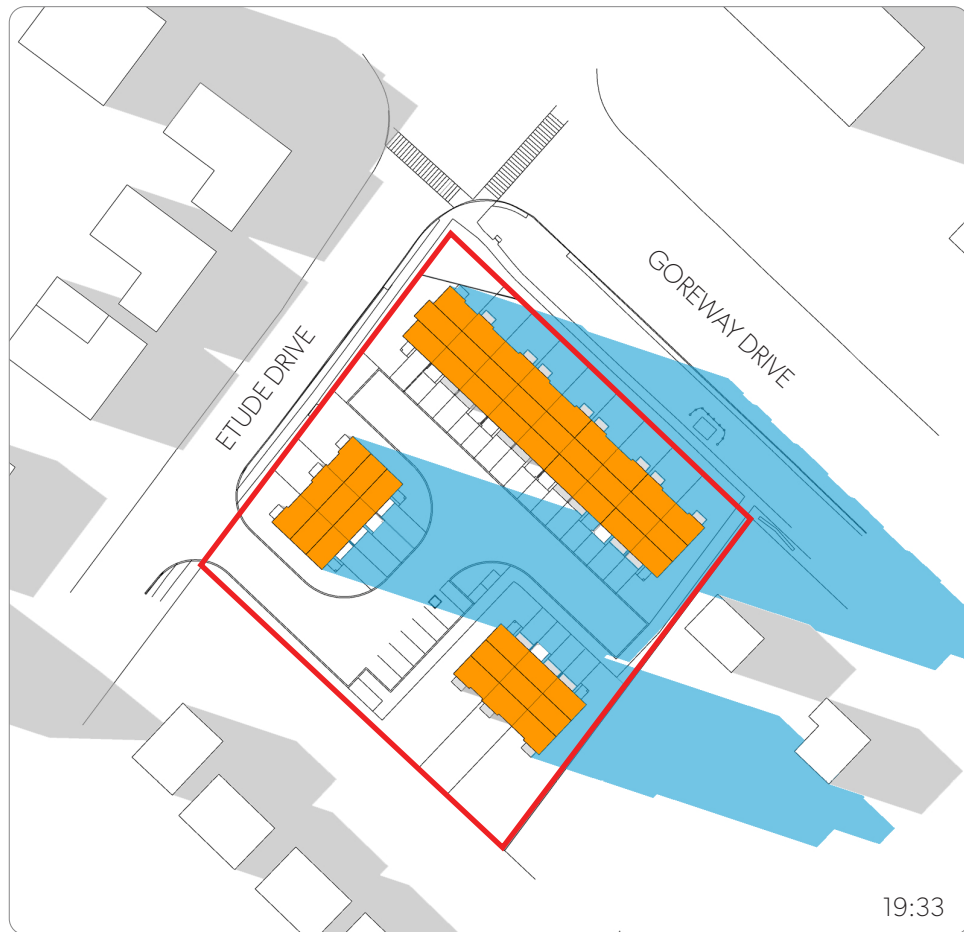
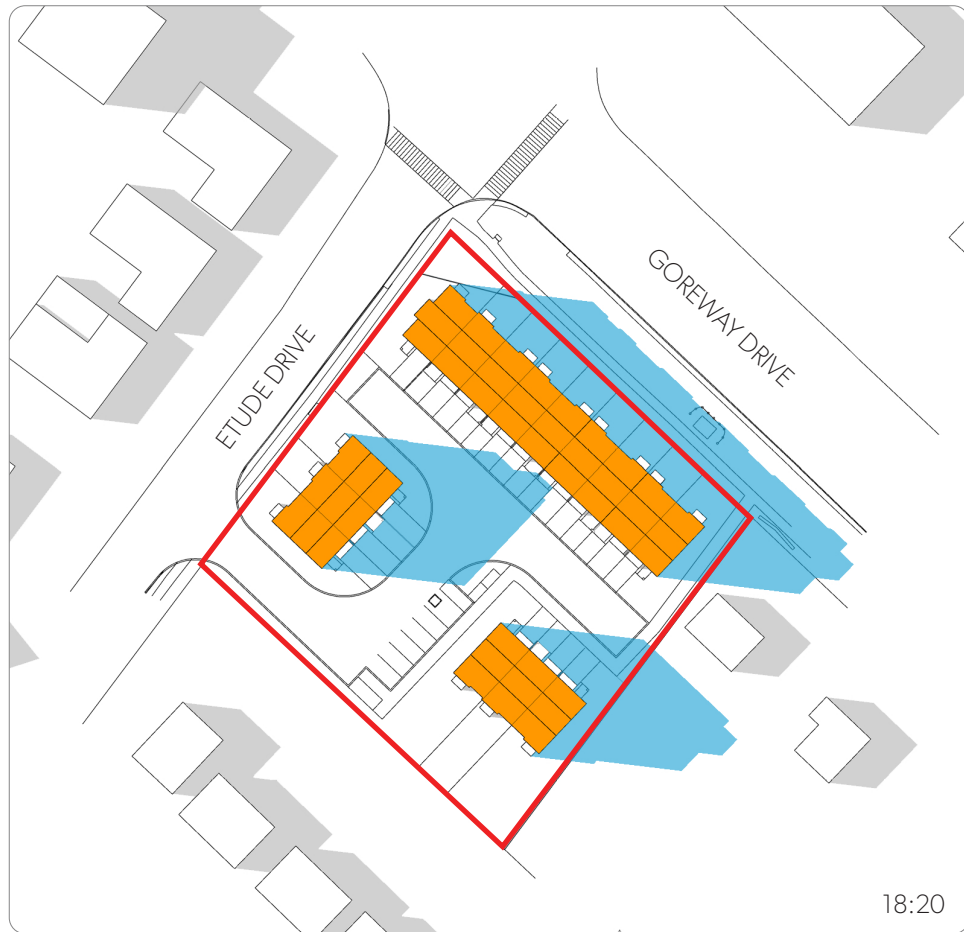
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JUNE 21

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Scale: See Scale Bar



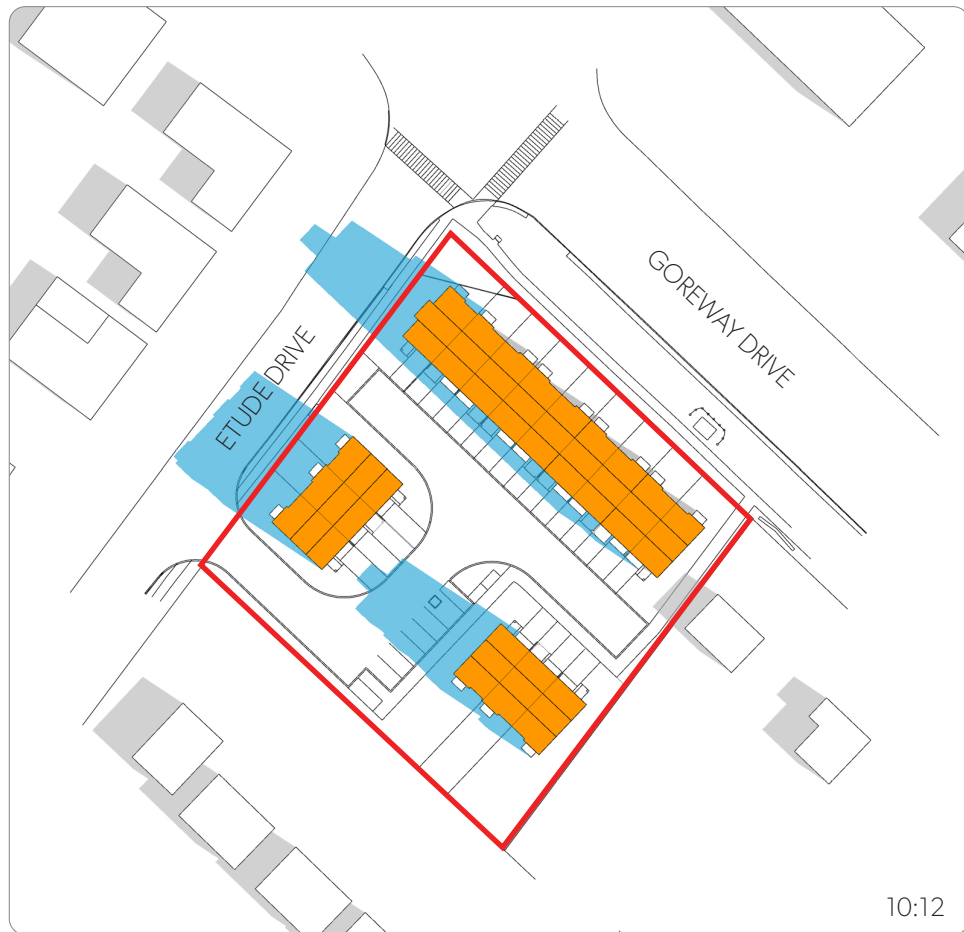
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- Property Boundary
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SEPTEMBER 21

Address: 7170 Goreway Drive, Mississauga

Date: 10.01.2020

Scale: See Scale Bar



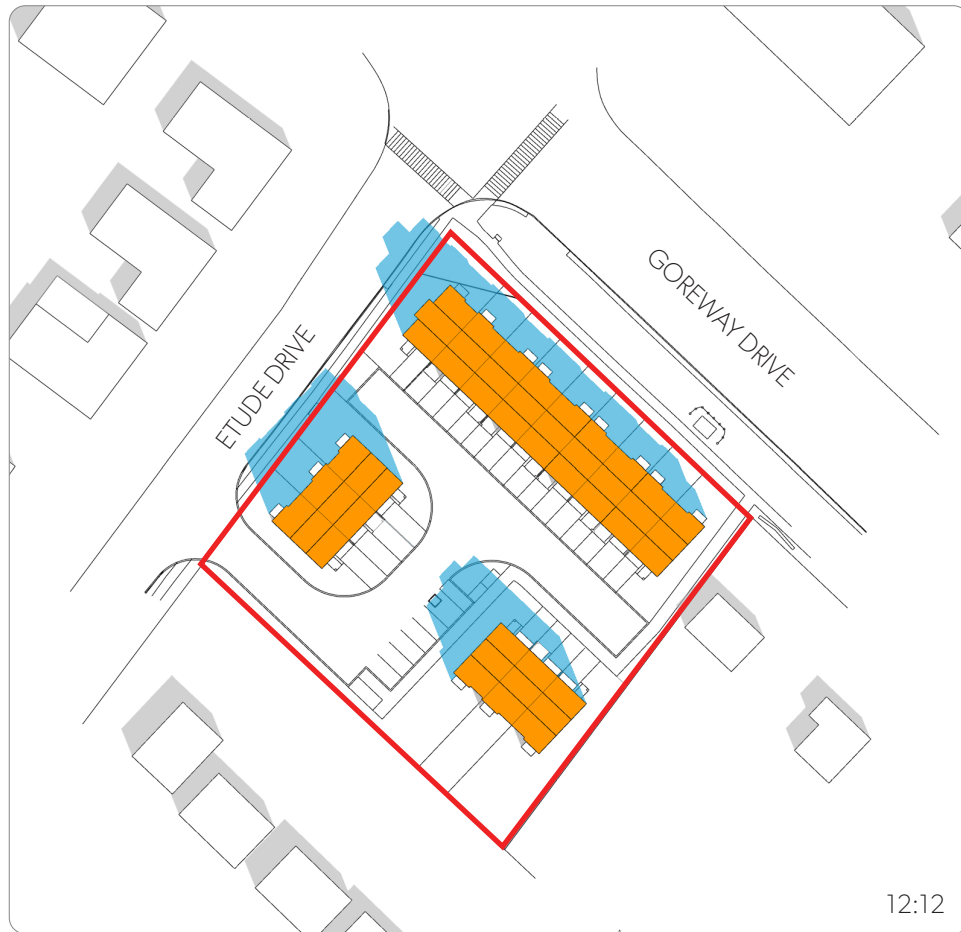
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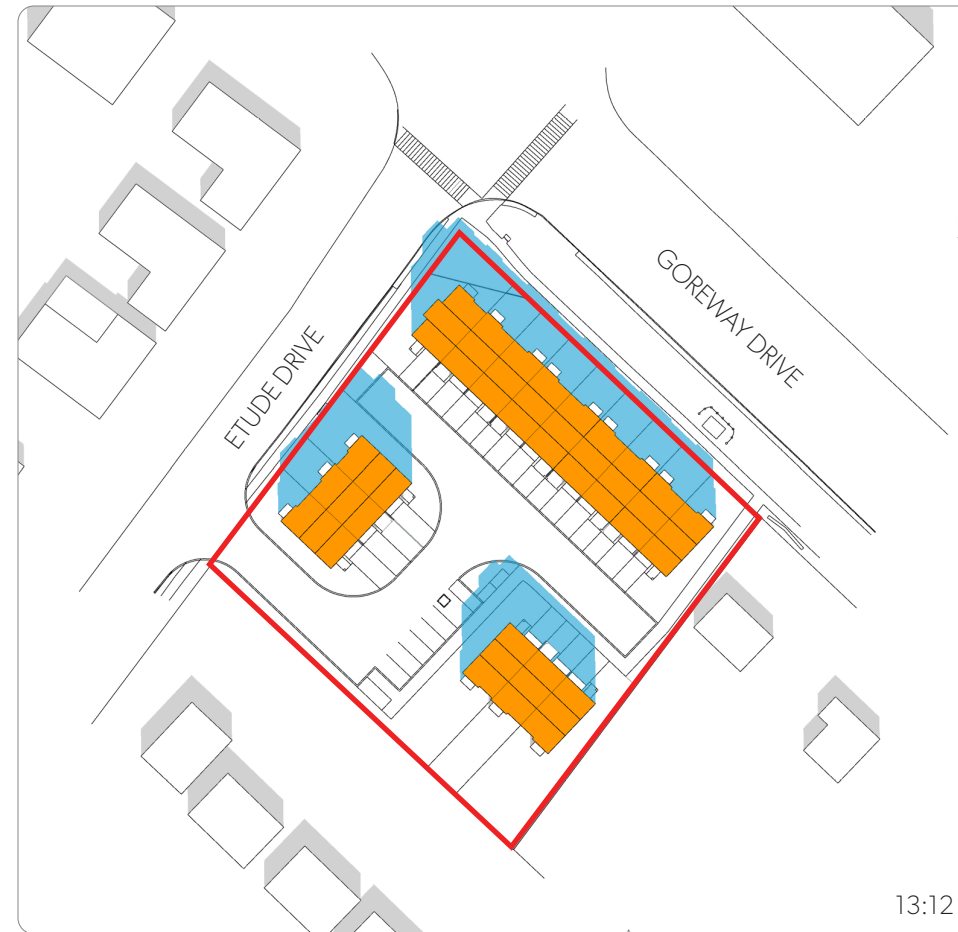
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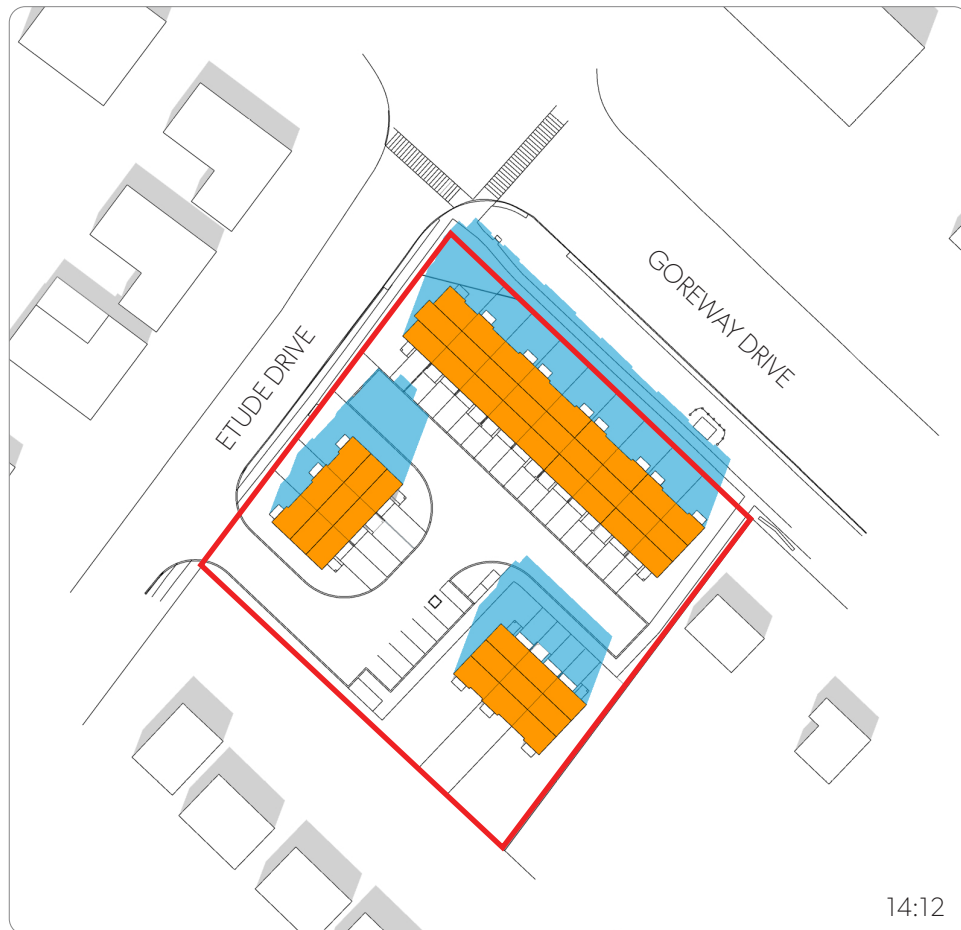
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12:12



13:12



14:12



15:12

- Property Boundary
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- Proposed Cumulative Shadows

SEPTEMBER 21

Address: 7170 Goreway Drive, Mississauga

Date: 10.01.2020

Scale: See Scale Bar



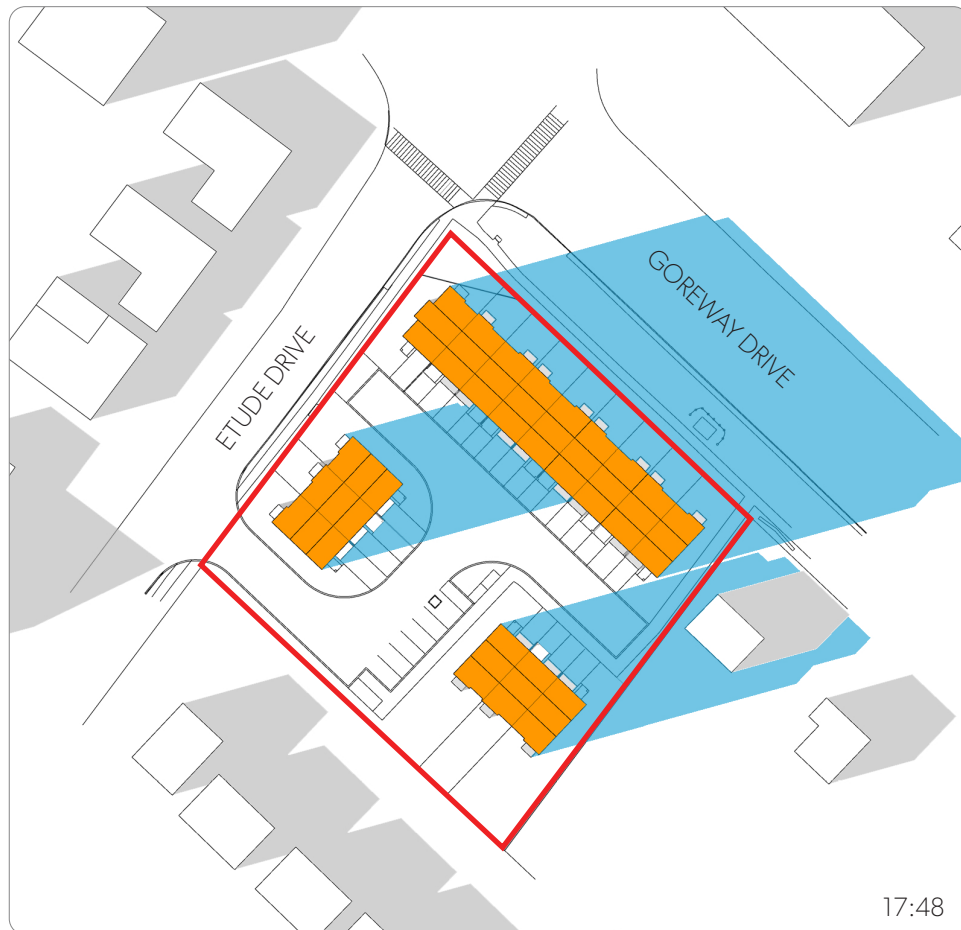
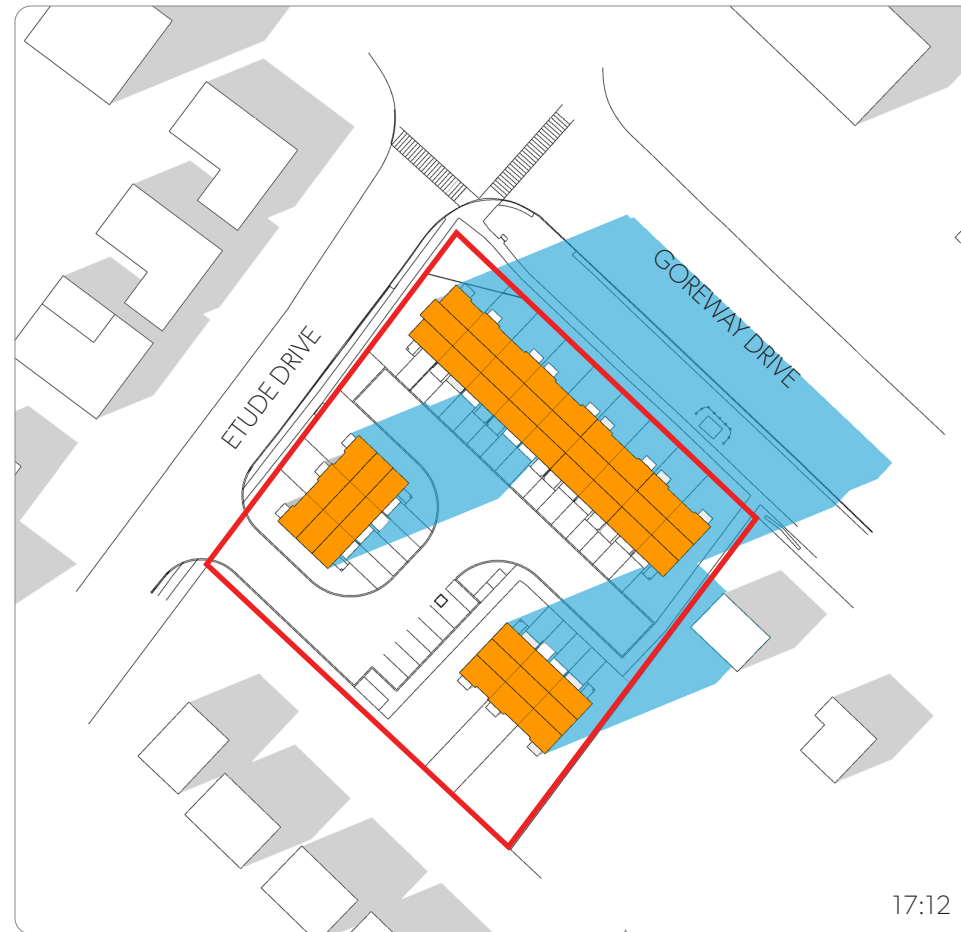
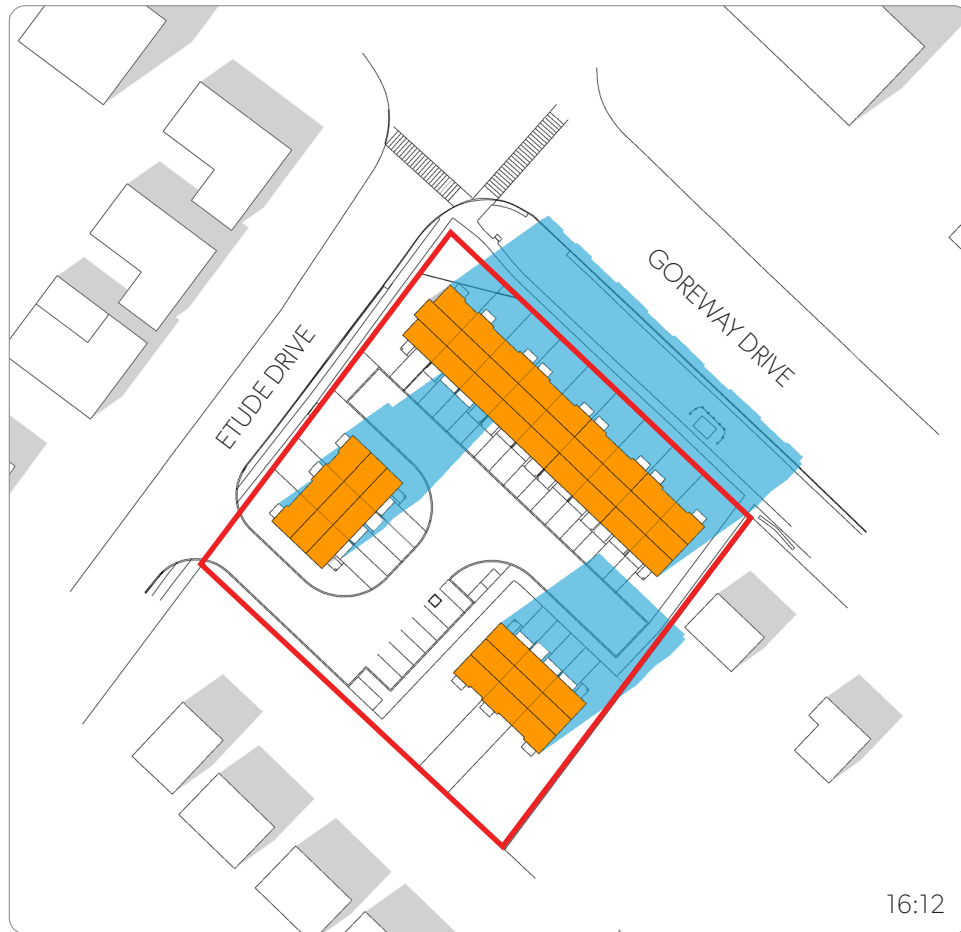
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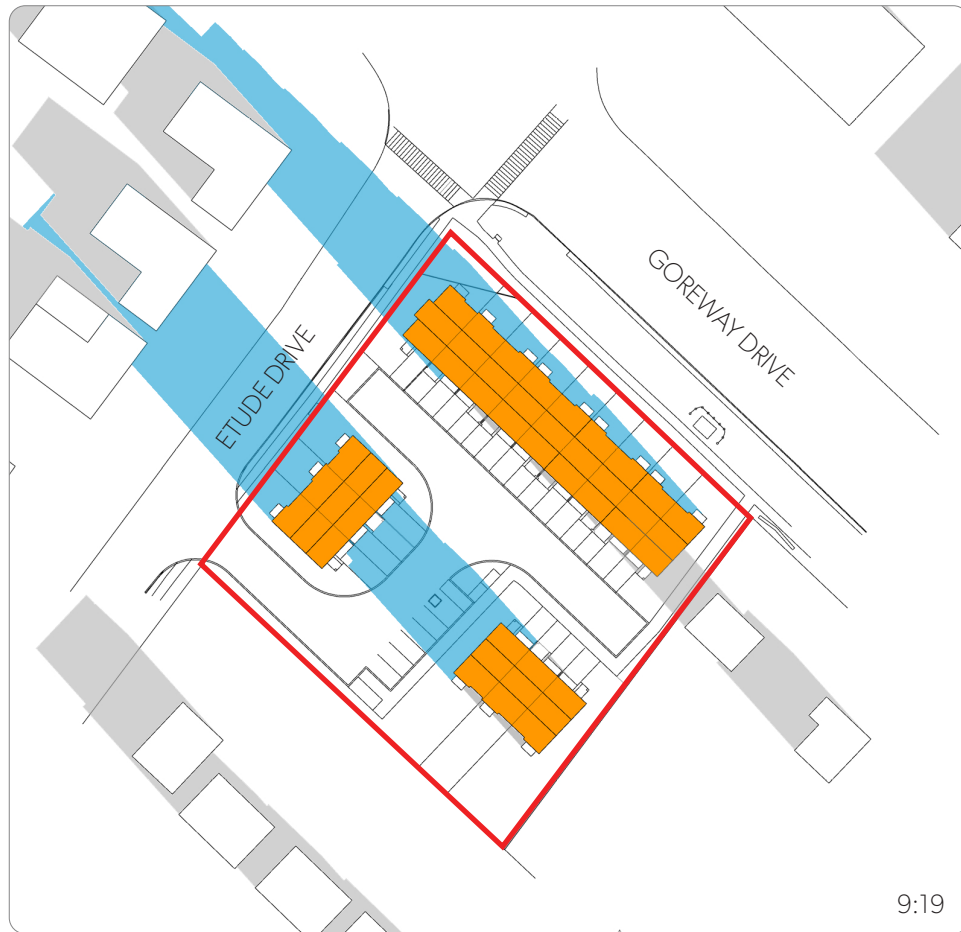
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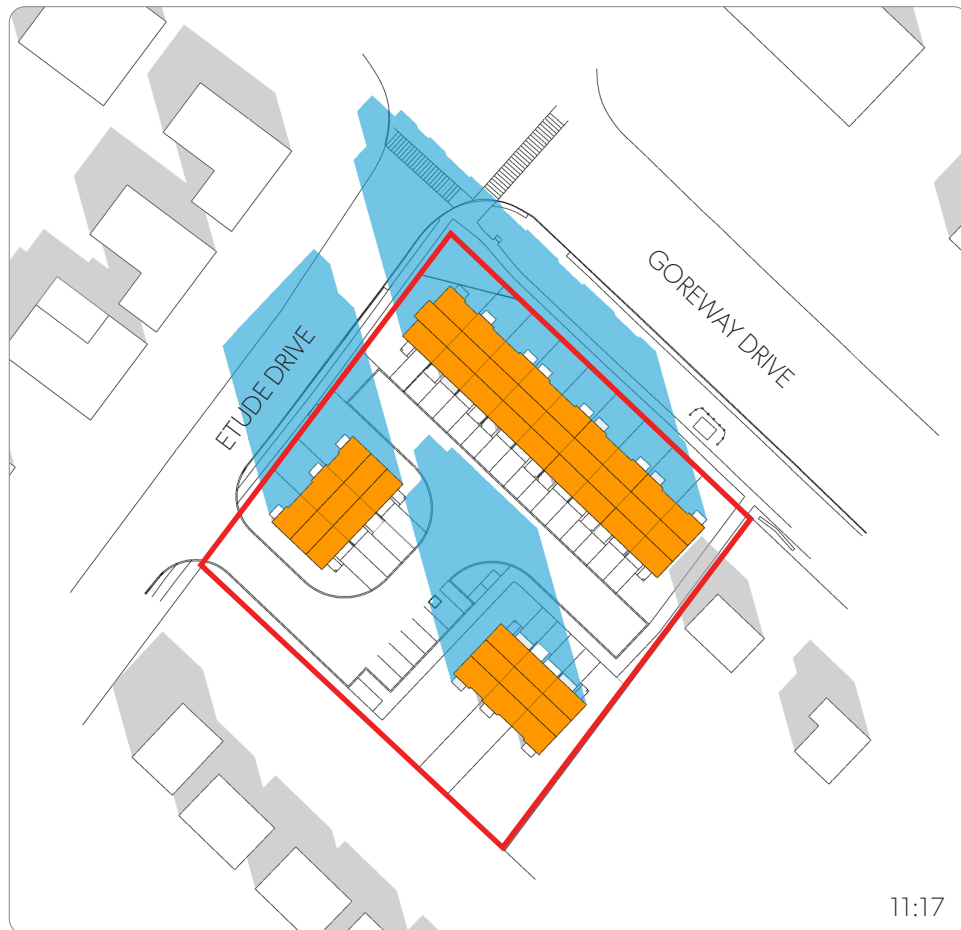
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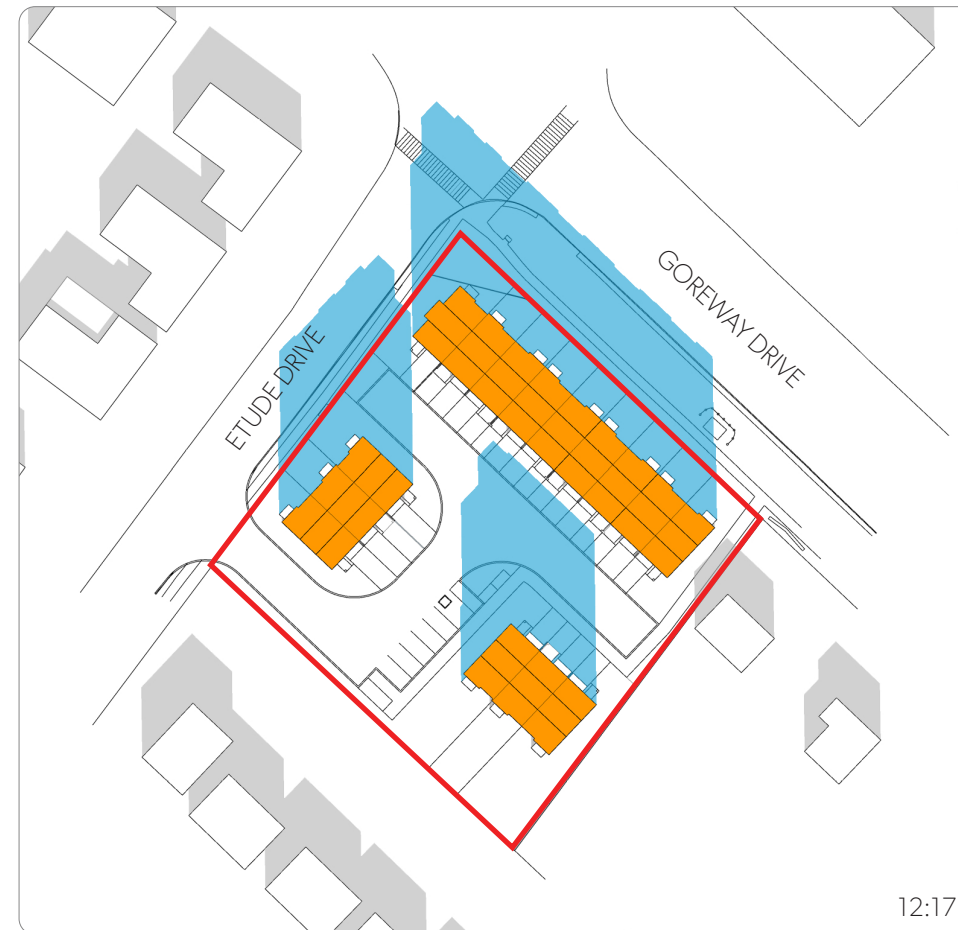
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10:17



11:17



12:17

- Property Boundary
- Proposed Buildings
- Existing Shadows
- Proposed Cumulative Shadows

DECEMBER 21

Address: 7170 Goreway Drive, Mississauga

Date: 10.01.2020

Scale: See Scale Bar



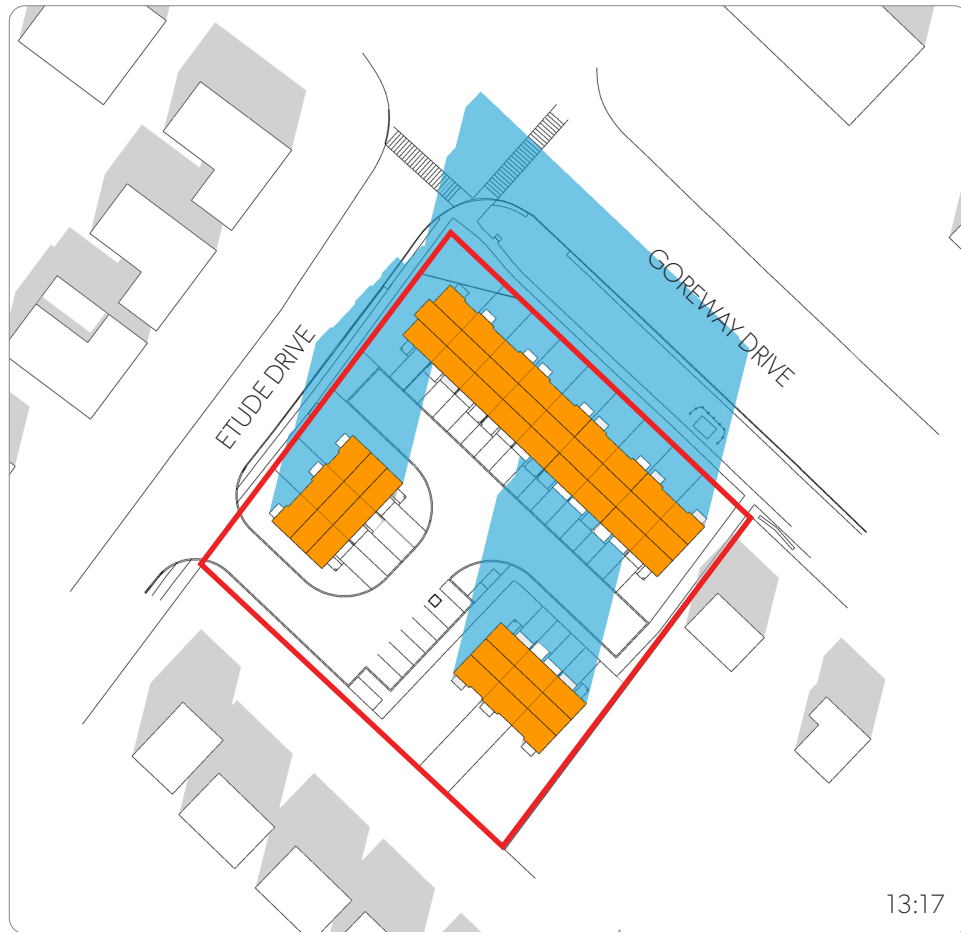
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- Property Boundary
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DECEMBER 21

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