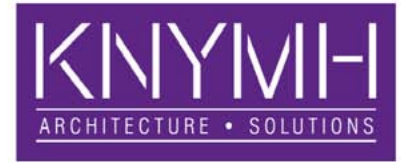


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SHADOW IMPACT ASSESSMENT

PROPOSED DEVELOPMENT

1 Old Ancaster Road
Dundas, Ontario

KNYMH File # 18080

Prepared by:
KNYMH INC.

Date: September 25, 2025

DESIGN IMPACT ANALYSIS

PROPOSED DEVELOPMENT

1 Old Ancaster Road
Dundas, Ontario

TABLE OF CONTENTS

SECTION 1.0 - DESIGN OBJECTIVE	-1
SECTION 2.0 - DESIGN EVALUATION METHODS	-1
SECTION 3.0 - SITE CONTEXT	-2
FIGURE 3.1 - SITE CONTEXT MAP	-3
SECTION 4.0 - METHOD OF ANALYSIS	-4
SECTION 4.1 - IMPACT ASSESSMENT CRITERIA	-4
SECTION 5.0 - GENERAL OBSERVATIONS	-5
SECTION 5.1 - SHADOW IMPACT ANALYSIS	-6
SECTION 6.0 - SUMMARY OBSERVATIONS	-8
APPENDIX 1.0 - SHADOW IMPACT SCHEDULE	-A1-1
FIGURE 1.1 - SHADOW IMPACT GRAPHICS MARCH 21	-A1.1-1 - A1.1-12

DESIGN IMPACT ANALYSIS

PROPOSED DEVELOPMENT

1 Old Ancaster Road
Dundas, Ontario

DOCUMENT REVISION HISTORY:

Version	Revision Date	Revision Summary	Tracking
1.0	2025.09.25	ISSUED: Initial report	0524.251

DISCLAIMER:

The Shadow Impact Analysis involves subjective analysis and exploration of design concepts and their potential impacts on surrounding neighbourhoods. The interpretations, opinions, and conclusions presented within the report are subjective and based on individual perspectives. They do not represent universally accepted design principles or practices.

While KNYMH strives to provide accurate and up-to-date information, we make no warranties or representations regarding the completeness, accuracy, reliability, or suitability of the information. The information may contain errors, omissions, or inaccuracies, and we disclaim any liability for such instances.

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SECTION 1.0 - DESIGN OBJECTIVE

The objective of this report is to analyse the impact of a proposed development upon the adjacent properties, streets, and public spaces at the above noted location. We will discuss and comment upon the impact associated with the architectural form and massing of the proposed development upon the adjacent properties.

The main goals of the design impact analysis are:

- 1) Assess and quantify the potential impacts on the surrounding environment and stakeholders, such as residents, businesses, and public spaces.
- 2) Identify potential conflicts or concerns and inform design strategies to mitigate the impact effectively.

SECTION 2.0 - DESIGN EVALUATION METHODS

The graphic analysis which we present within this report is developed using computer generated modelling software in conjunction with satellite imagery and survey information.

North Orientation: The satellite images are aligned with True North using a variant of the original Mercator projection that is oriented along the Earth's polar axis, and the massing model is centred upon the UTM Grid North at the latitude and longitude specified. We have provided graphics along with a Site Plan and Satellite imagery of the surrounding area.

SECTION 3.0 - SITE CONTEXT

Location: Dundas, Ontario, Canada

Geographic Coordinates:

Latitude: 43.262442 N

Longitude: 79.954109 W

SITE

The property is located in Dundas, Ontario, at the intersection of Ogilvie Street and Dundas Street. The lot is currently vacant of any buildings or structures and its total area is 1.90 hectares. The property is bisected by Spring Creek and its North boundary lies along Spencer Creek. 1.58 hectares of the lot area is subject to setbacks from Spencer and Spring Creeks as well as dedications to the conservation authority. Of the 1.90 hectares, 3205 sq.m. is available for development.

Neighbouring properties include:

2.1) TO THE EAST (Study Area 1): The property is subdivided into Eastern and Western parts roughly along the line of Spring Creek. The Eastern portion of the property from Spring Creek to Old Ancaster Road is comprised of Green Space zoned 'OS' as well as Light Industrial zoned 'I.L.-FP'. This area is densely forested and provides natural habitats and slopes upwards to the South and East. There are low density residential properties off of Old Ancaster Road and South Street W atop the hill, zoned Single Detached Residential zoned 'R1', R1/S-47' as well as Low-Density Residential - Large Lot zoned 'R2'.

2.2) TO THE WEST (Study Area 2): Across Ogilvie Street and Governor's Road to the West there are several large buildings comprised of High Density Multiple Dwellings zoned 'RM4' and Medium Density Multiple Dwellings zoned 'RM3', as well as St. Joseph's Villa, a Public and Private Service complex zoned 'PPS/S-90'.

2.3) TO THE NORTH AND EAST (Study Area 3): Across Spencer Creek and Governor's Road there are multiple properties of Community Commercial type zoned 'C3'. These are comprised of single storey low density commercial and retail units and associated parking lots.

TOPOGRAPHY

The subject lands on the North side of Spring Creek are generally uniform in grade, with grade sloping down towards Spencer Creek on the North side and down to Spring Creek at the midpoint. South of Spring Creek the elevation rises along the slope of the valley towards Old Ancaster Road and South Street W.

ARCHITECTURAL FORM

The proposed development labelled as building 'A' consists of one (1) building upon the subject lands. The proposed development features twelve a (12) storey building with a four (4) storey podium.

DESIGN IMPACT ANALYSIS

1 Old Ancaster Road, Dundas, Ontario

KNYMH File # 18080 v.1.0

Date: September 25, 2025

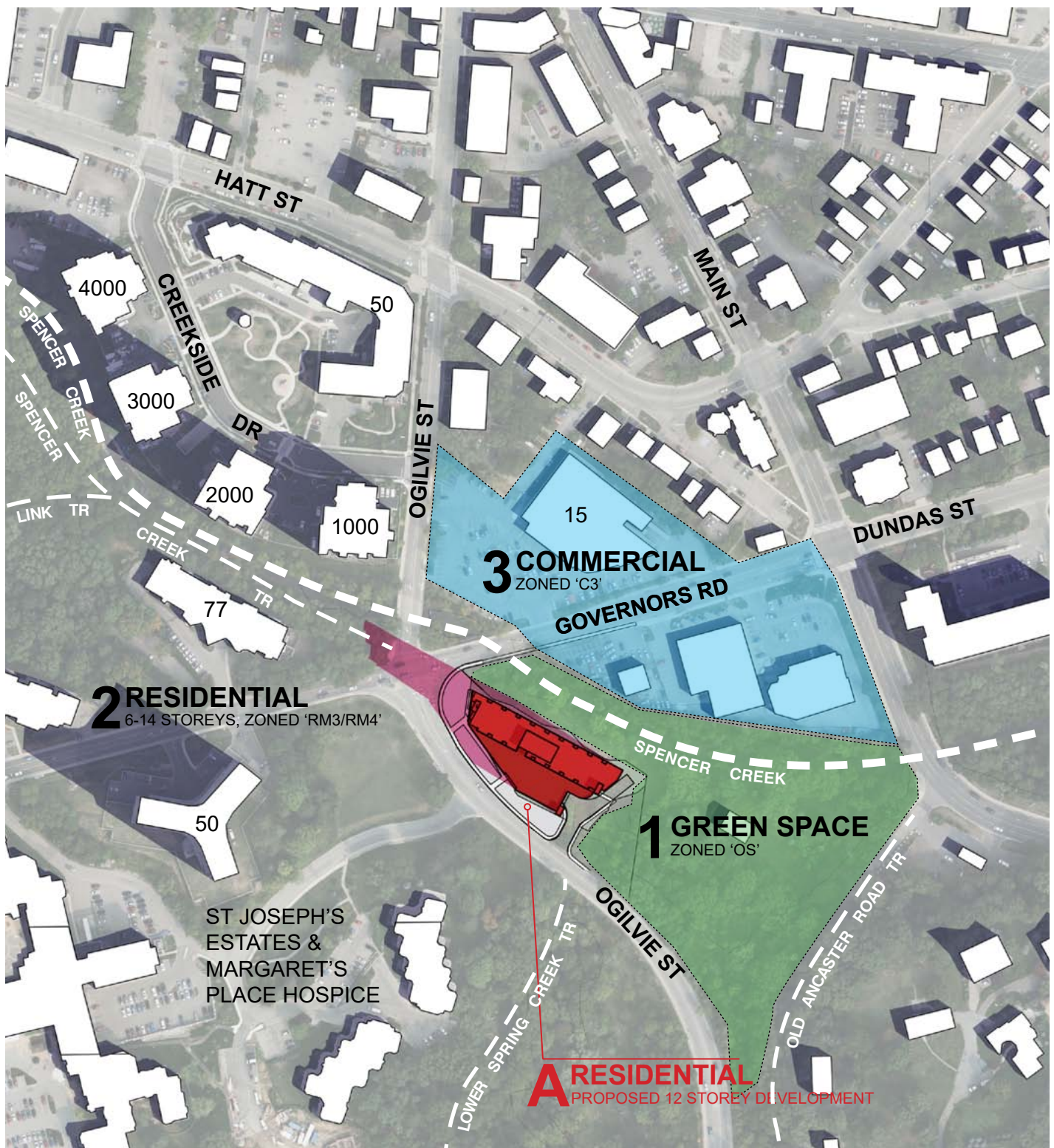


FIGURE 3.1 - SITE CONTEXT MAP

Latitude: 43.262442 N, Longitude: 79.954109 W



SECTION 4.0 - METHOD OF ANALYSIS

Shadow Impact

Geographic Coordinates: Latitude: 43.262442 N, Longitude: 79.954109 W

Daylight Savings Time: UTC -4:00

Test Dates and Times: Refer to "APPENDIX 1.0 - SHADOW IMPACT SCHEDULE" on page A1-1

SECTION 4.1 - IMPACT ASSESSMENT CRITERIA

The graphic analysis and impact assessment which we present within this report is developed with the following criteria specified in the:

'Development Application Guidelines - Appendix "B31" to Report PED22112(d)' developed by the City of Hamilton [v.Nov,2022]

Impact Criteria (Private Realm – Outdoor Amenity):

Shadows from proposed development shall allow for a minimum of 3 hours of sun coverage between 10:00 a.m. and 4:00 p.m. as measured on March 21st.

Impact Criteria (Public Realm – Public sidewalks, Outdoor Amenity):

Shadows from proposed development shall allow for a minimum of 3 hours of sun coverage between 10:00 a.m. and 4:00 p.m. as measured on March 21st.

Impact Criteria (Public Realm – plazas, parks, open spaces, school yards & playgrounds):

Shadows from the proposed development shall allow for a minimum of 50% sun coverage at all times of the day as measured on March 21st.

SECTION 5.0 - GENERAL OBSERVATIONS

SECTION 5.1 - SHADOW IMPACT ANALYSIS

A summary of the shadow effect of the proposal upon the surrounding area. This commentary will discuss the impact of the proposed building's shadows upon properties at the north, east and southeast side of the subject property. The impact is studied at the specific time period and assessment criteria noted in SECTION 4.1 - IMPACT ASSESSMENT CRITERIA and APPENDIX 1.0 - SHADOW IMPACT SCHEDULE of this document of the proposed development. The times for this period are under Eastern Daylight Time.

SUN / SHADOW STUDY: (MARCH 21 • Figure A1.1-1 to A1.1-11)

Study Area (1) Impact :

Shadows fall upon part of the Open Space 'OS' lands. There is no impact exceeding assessment criteria.

Study Area (2) Impact :

Shadows primarily fall upon public sidewalks and street surfaces. There is no impact exceeding assessment criteria.

Study Area (3) Impact :

Shadow falls primarily upon sidewalk and parking lot areas. There is no impact exceeding assessment criteria.

SECTION 6.0 - SUMMARY OBSERVATIONS

REGARDING SHADOW IMPACT OF DEVELOPMENT UPON THE SURROUNDING AREA

The shadow impact analysis was performed with the results interpreted through the lens of 1) effects on the public realm - sidewalks, outdoor amenity spaces such as sitting areas, or patios, 2) effects on common amenity areas - public plazas, parks, open spaces, school yards, and playgrounds. The third category of impact criteria and considerations (primary gathering spaces in downtown Hamilton) do not apply to this proposal.

1) Shadow Impacts on Public Realm

The shadow impact analysis of the public sidewalks and outdoor amenity spaces demonstrates that all surrounding sidewalks and public amenity areas will receive not less than 3 hours of sun coverage between 10:00am and 4:00pm as measured on March 21st and meet the assessment criteria.

2) Shadow Impacts on Common Amenity Areas

The shadow impact analysis of the common amenity areas such as public plazas, parks, and open spaces demonstrates that the proposed building will allow a minimum of 50% sun coverage at all times of day as measured on March 21st.

Based on the impact observations measured against the assessment criteria relating to this site, the proposed development meets the impact criteria prescribed in the Development Application Guidelines - Appendix "B31" to Report PED22112(d)' developed by the City of Hamilton [v.Nov,2022].

The Proposed development presents a suitable building typology for this site and mitigates sun shading impact upon the neighbouring properties and the public realm. This building form and orientation produces narrow shadows that move quickly across the terrain and do not meaningfully shade any public or private realm spaces. Based upon the analysis we suggest that the proposed design will not have a significant shadow impact on the surroundings.

In our opinion, this development is compatible with the area and neighbourhood.

Sincerely,
KNYMH Inc.

APPENDIX 1.0 - SHADOW IMPACT SCHEDULE

Test Dates : March 21
Test Times: Hourly intervals starting 1.5 hours after sunrise and ending 1.5 hours before sunset.
Test time interval is based on Solar Noon and terminates at nearest time to period end or start for each of the test dates.

References:
'Development Application Guidelines - Appendix "B31" to Report PED22112(d)' developed by the City of Hamilton [v.Nov,2022]

MARCH 21	
Sunrise (+1.5)	7:20 AM (8:50)
Sunset (-1.5)	7:33 PM (6:03)
Solar Noon	1:26 PM
Test Times	
	8:26 AM
	9:26 AM
	10:26 AM
	11:26 AM
	12:26 PM
	1:26m PM
	2:26 PM
	3:26 PM
	4:26 PM
	5:26 PM

FIGURE A1.1 - SHADOW IMPACT GRAPHICS MARCH 21

SUN/SHADOW STUDY: (MARCH 21 • SPRING)

A summary of the Spring shadow effect of the proposal upon the surrounding area. This commentary demonstrates the impact of the proposed building's shadows upon properties at the north, east and southeast side of the subject property. The impact is studied at the specific time period and assessment criteria noted in SECTION 4.1 - IMPACT ASSESSMENT CRITERIA and APPENDIX 1.0 - SHADOW IMPACT SCHEDULE of this document of the proposed development. The times for this period are under Eastern Daylight Time. (UTC -4:00)

DESIGN IMPACT ANALYSIS

1 Old Ancaster Road, Dundas, Ontario

KNYMH File # 18080 v.1.0

Date: September 25, 2025



MARCH 21, 8:26 AM

UTC: (-04:00)

Latitude: 43.262442 N, Longitude: 79.954109 W

0 25 50 100m



DESIGN IMPACT ANALYSIS

1 Old Ancaster Road, Dundas, Ontario

KNYMH File # 18080 v.1.0

Date: September 25, 2025



MARCH 21, 9:26 AM

UTC: (-04:00)

Latitude: 43.262442 N, Longitude: 79.954109 W

0 25 50 100m



DESIGN IMPACT ANALYSIS

1 Old Ancaster Road, Dundas, Ontario

KNYMH File # 18080 v.1.0

Date: September 25, 2025



MARCH 21, 10:26 AM

UTC: (-04:00)

Latitude: 43.262442 N, Longitude: 79.954109 W

0 25 50 100m



DESIGN IMPACT ANALYSIS

1 Old Ancaster Road, Dundas, Ontario

KNYMH File # 18080 v.1.0

Date: September 25, 2025



MARCH 21, 11:26 AM

UTC: (-04:00)

Latitude: 43.262442 N, Longitude: 79.954109 W

0 25 50 100m



DESIGN IMPACT ANALYSIS

1 Old Ancaster Road, Dundas, Ontario

KNYMH File # 18080 v.1.0

Date: September 25, 2025



MARCH 21, 12:26 PM

UTC: (-04:00)

Latitude: 43.262442 N, Longitude: 79.954109 W

0 25 50 100m



DESIGN IMPACT ANALYSIS

1 Old Ancaster Road, Dundas, Ontario

KNYMH File # 18080 v.1.0

Date: September 25, 2025



MARCH 21, 1:26m PM

UTC: (-04:00)

Latitude: 43.262442 N, Longitude: 79.954109 W

0 25 50 100m



DESIGN IMPACT ANALYSIS

1 Old Ancaster Road, Dundas, Ontario

KNYMH File # 18080 v.1.0

Date: September 25, 2025



MARCH 21, 2:26 PM

UTC: (-04:00)

Latitude: 43.262442 N, Longitude: 79.954109 W

0 25 50 100m



DESIGN IMPACT ANALYSIS

1 Old Ancaster Road, Dundas, Ontario

KNYMH File # 18080 v.1.0

Date: September 25, 2025



MARCH 21, 3:26 PM

UTC: (-04:00)

Latitude: 43.262442 N, Longitude: 79.954109 W

0 25 50 100m



DESIGN IMPACT ANALYSIS

1 Old Ancaster Road, Dundas, Ontario

KNYMH File # 18080 v.1.0

Date: September 25, 2025



MARCH 21, 4:26 PM

UTC: (-04:00)

Latitude: 43.262442 N, Longitude: 79.954109 W

0 25 50 100m



DESIGN IMPACT ANALYSIS

1 Old Ancaster Road, Dundas, Ontario

KNYMH File # 18080 v.1.0

Date: September 25, 2025



MARCH 21, 5:26 PM

UTC: (-04:00)

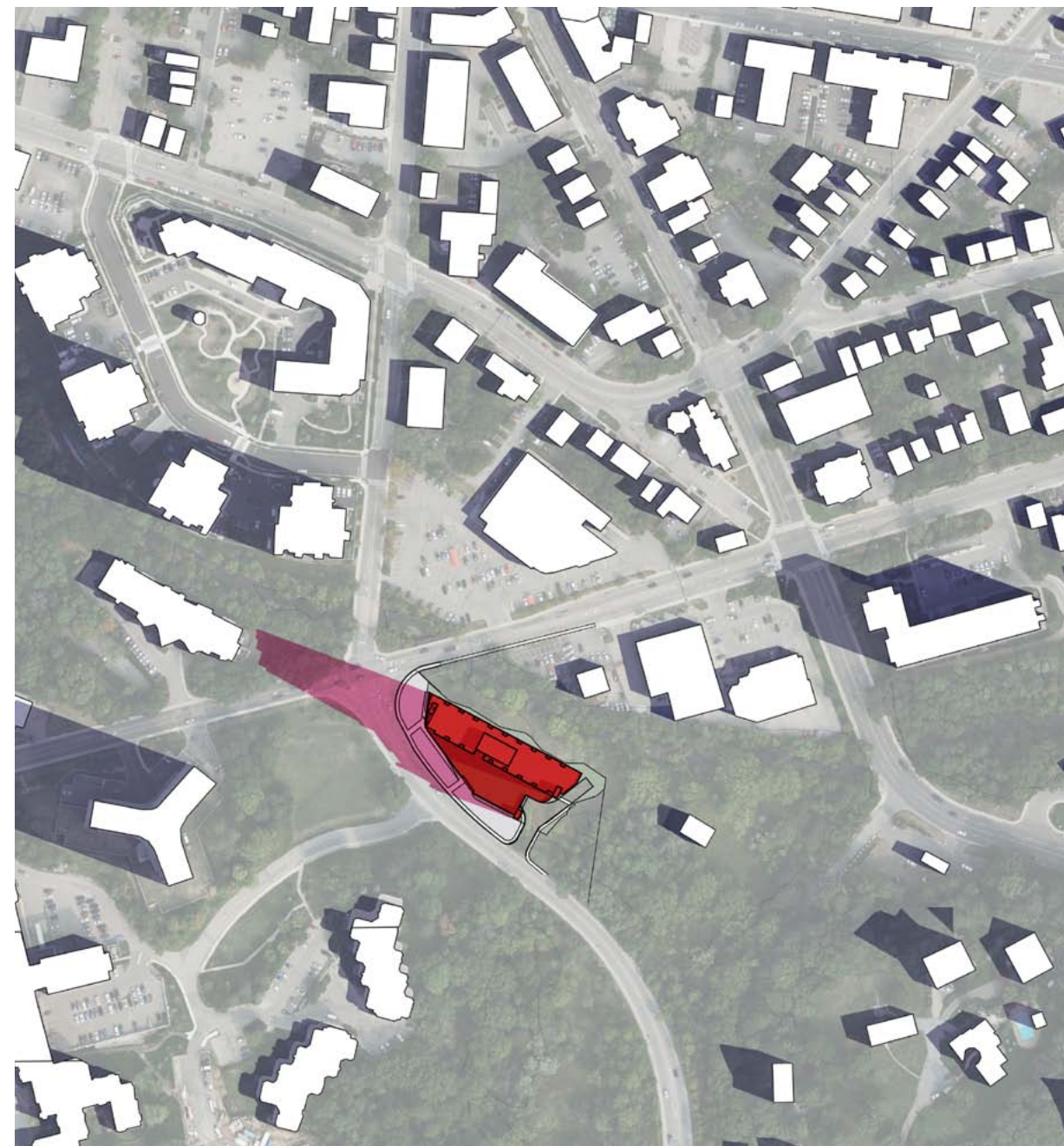
Latitude: 43.262442 N, Longitude: 79.954109 W

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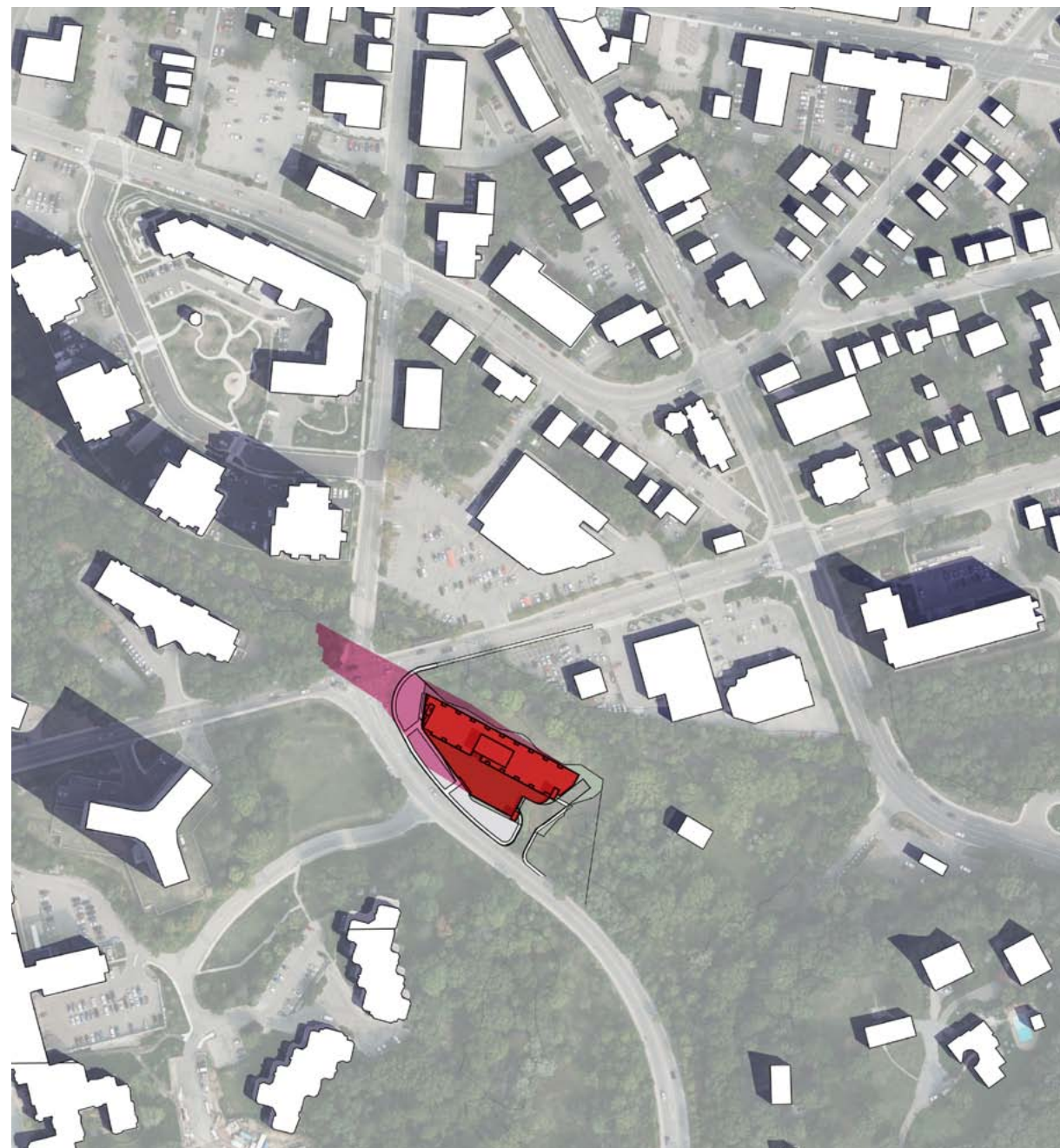




MARCH 21, 8:26 AM



MARCH 21, 9:26 AM



MARCH 21, 10:26 AM



MARCH 21, 11:26 AM



MARCH 21, 12:26 PM



MARCH 21, 1:26m PM



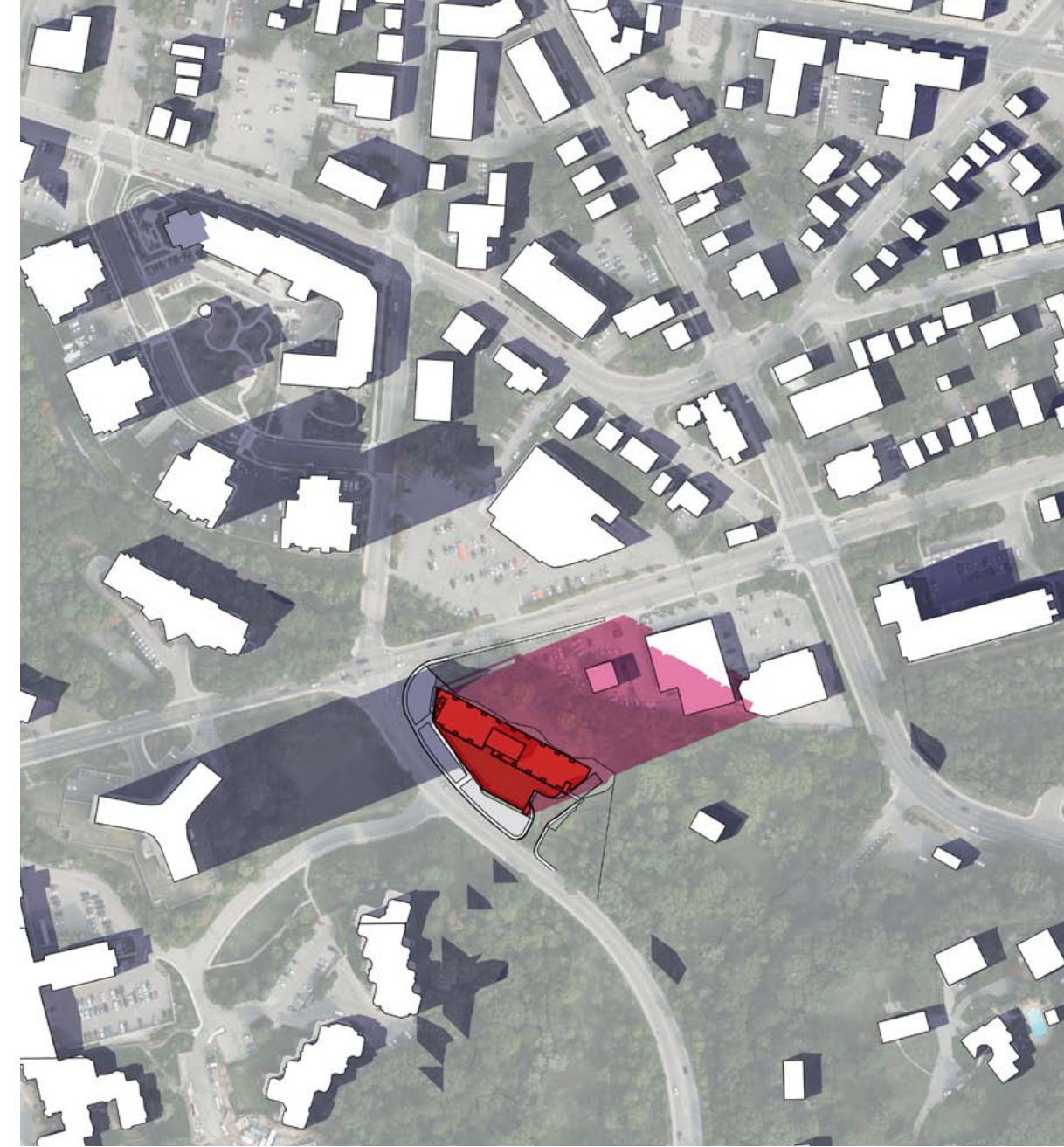
MARCH 21, 2:26 PM



MARCH 21, 3:26 PM



MARCH 21, 4:26 PM



MARCH 21, 5:26 PM

