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DESIGN IMPACT ANALYSIS

PROPOSED DEVELOPMENT

925 Main Street West, Hamilton, Ontario

KNYMH File # 21009

Prepared by: KNYMH INC.

Date: March 26, 2026

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DOCUMENT REVISION HISTORY:

Version	Revision Date	Revision Summary	Tracking
3.0	2026.03.16	REVISED: Massing height update. Tower "A" 29 storey & Tower "B" 26 storey. Revisions to graphics and the written report	0524.247
2.1	2024.11.18	EDIT: Added rooftop amenity space on subject lands to commentary. Update to terms of reference.	0524.247
2.0	2024.11.07	REVISED: Design update. Revisions to graphics and the written report	0524.247
1.1	2023.08.15	EDIT: Massing height updates. Test times for the study were revised to hourly based on solar noon for both test periods	0524.247
1.0	2023.05.24	ISSUED: Initial report	0524.247

DISCLAIMER:

The Design Impact Analysis involves subjective analysis and exploration of design concepts and their potential impact. 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.

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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 on 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 that we present within this report is developed using computer-generated modelling software in conjunction with satellite imagery and survey information.

North Orientation: The satellite imagery software references Google Maps and Google Earth; these 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 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.

The photography of existing conditions presented in this analysis is based on a stationary perspective that would be experienced by a person standing at various station points/viewpoints within the public realm. This report may feature photographs from varying times of year due to time constraints. It is desirable to use photographs taken in winter during 'leaf-off' conditions for the purposes of illustrating worst case scenario, and this is a consideration in the analysis of the site.

SECTION 3.0 - SITE CONTEXT

Location: Hamilton, Ontario, Canada
Geographic Coordinates:
Latitude: 43.252695 N
Longitude: 79.852173 W

SITE

The property is located in Hamilton, Ontario, south of the intersection between Main Street West and Bond Street South. The subject property has an area of 18,479 m² (1.8479 hectares) and is currently vacant land.

Neighbouring properties include:

2.1) TO THE EAST and NORTHEAST (Study Area 1): The property abuts Longwood Road South, which features a pedestrian sidewalk on the east side. Immediately across Longwood Road are commercial properties with frontage along Main Street, 2 storeys in height. These properties are zoned TOC2. Directly north of these properties on the Northeast corner of the Main Street / Longwood Road intersection is Westdale Secondary School at #700 Main Street West. The school yard for Westdale Secondary is located on the north side of the property.

2.2) TO THE NORTH (Study Area 2): The property abuts Main Street West, which features pedestrian sidewalks on the north and south sides. Immediately across Main Street is a mixed-use medium-density zone designated as 'TOC1'. Further north is a residential neighbourhood comprising primarily of single two (2) storey detached dwellings

2.3) TO THE WEST (Study Area 3): The property abuts twelve (12) storey residential properties at #981 and #1001 Main Street West. Further west is Columbia International College.

TOPOGRAPHY

The subject lands and neighbouring parcels generally appear to be uniform in grade along Main Street at the north property boundary. The south portion of the site drops down a range of 12m-14m to the Highway #403 corridor.

Refer to "FIGURE 3.3 - SITE CONTEXT MAP" on page 4.

SECTION 3.1 - ARCHITECTURAL FORM

ARCHITECTURAL FORM

The proposed development consists of a residential building featuring a six (6) storey podium supporting two residential towers identified as Tower “A” and Tower “B”.
Tower A rises to a height of twenty-nine (29) storeys, while Tower B rises to twenty-six (26) storeys, both situated above the shared podium structure.
The six (6) storey podium element connects the two towers and transitions in height to five (5) storey along the eastern portion of the site. The six (6) storey podium level incorporates outdoor rooftop amenity areas for residents.
The development contains a total of six hundred thirty-five (635) residential dwelling units on a site with an area of 18,479 m² (1.8479 hectares).

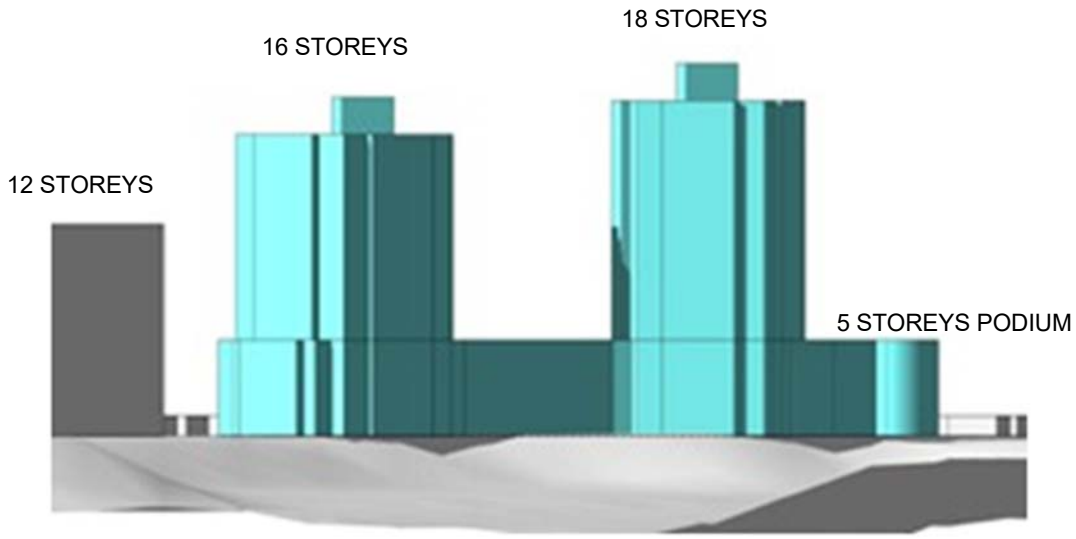
Refer to “FIGURE 3.3 - SITE CONTEXT MAP” on page.

FIGURE 3.1 - MASSING ELEVATIONS (PROPOSED)

NORTH-EAST ELEVATION:
(ALONG HIGHWAY #403 CORRIDOR)
The massing of the proposed building is oriented along Main Street West to reinforce the streetline. The facade features a five (5) storey podium transitioning the higher building portions to a more human scale.

FIGURE 3.2 - MASSING ELEVATIONS (AS-OF-RIGHT)

SOUTH ELEVATION:
(ALONG HIGHWAY #403 CORRIDOR)
The 'as of right' massing reflects the amended zoning restrictions approved for the subject lands. The approved multi-unit residential building featured a five (5) storey podium with a sixteen (16) storey west tower and eighteen (18) storey east tower.



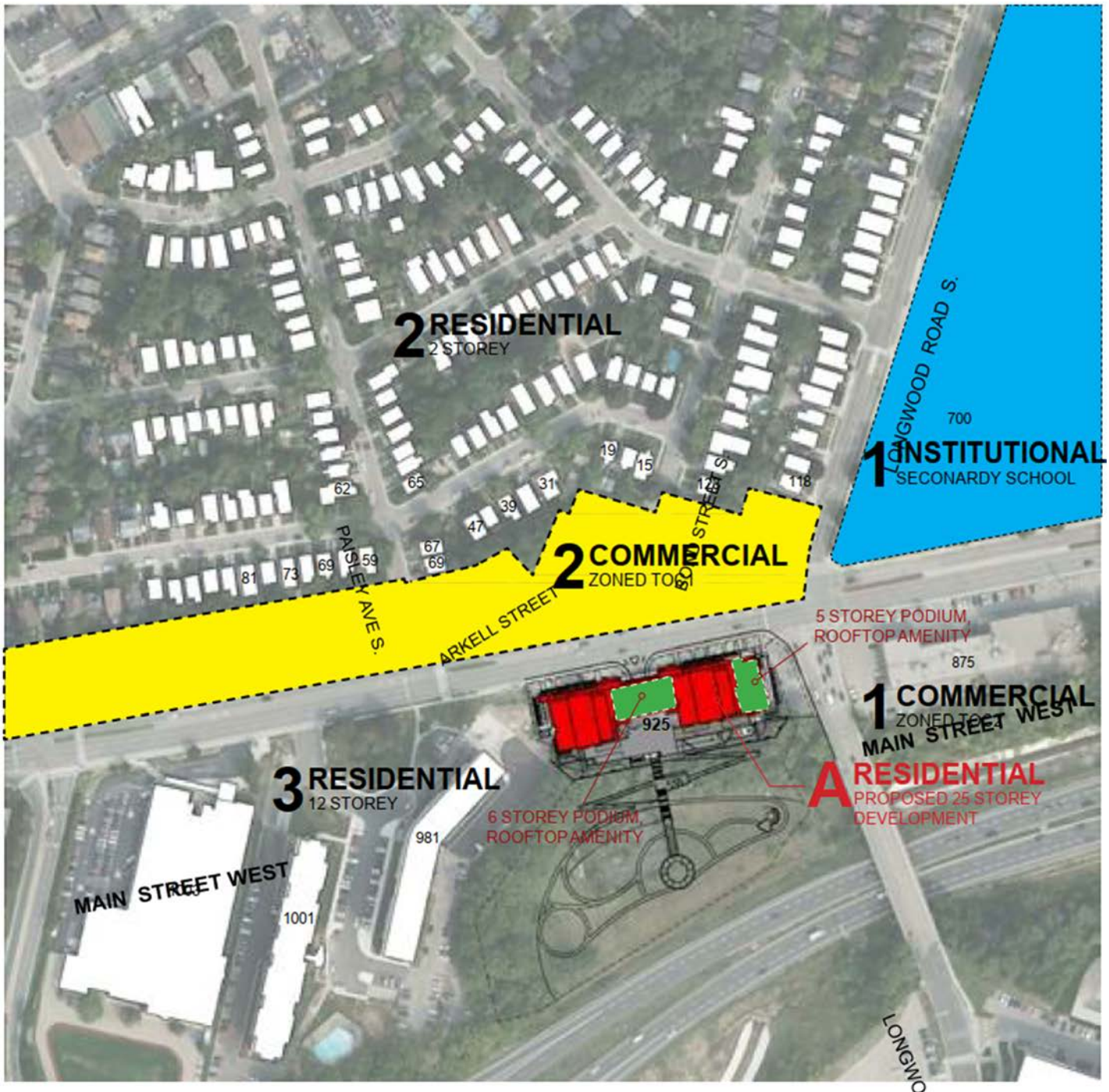


FIGURE 3.3 - SITE CONTEXT MAP

Latitude: 43.252695 N, Longitude: 79.852173 W

SECTION 4.0 – METHOD OF ANALYSIS

Shadow Impact
Geographic Coordinates: Latitude: 43.252695 N, Longitude: 79.852173 W
Standard Time: UTC -5:00
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 that we present within this report were developed with The following criteria are specified in the:
'*Development Application Guidelines for Sun Shadow Study*' developed by the City of Hamilton [Appendix "B31" to Report PED2212(d), Oct.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 on the north, east, and southeast sides 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.

SHADOW IMPACT SCHEDULE of this document for the proposed development.
The times for this period are under Eastern Daylight Time.
This commentary will include a comparative assessment against an 'as of right' (AoR) massing example permitted by the Zoning by-law for the subject land.

SUN / SHADOW STUDY: (MARCH 21 • Figure 1.1-1 to 1.1-11)

Study Area (3) Impact :
Shadow impact to the northeast corner of # 981Main St.W, clears at 12:00 pm test time. *No impact exceeding assessment criteria noted.*
Comparative 'As of Right' Example
The as-of-right example shows a similar impact on the residential properties at #Main St.W.

Study Area (2) Impact :
Morning shadow falls upon the residential properties at #47, 59, 63, 69, 71 & 73 Arkell St. and #67 & 69 Paisley Ave.S.
- Shadow clears #47, 59, 63, 69, 71 & 73 Arkell St. at 11:00 am test time.
- Shadow clears #67 & 69 Paisley Ave.S at 12:00 pm test time.

No impact exceeding assessment criteria noted.

Shadow impact to pedestrian sidewalk along Main St.W for the duration of the test period, and clears at 6:00 pm test time. *Impact exceeds assessment criteria noted along Main Street. W.*
Comparative 'As of Right' Example
The as-of-right example does not impact the residential properties north of the commercial zone.
The as-of-right example shows a similar impact on the sidewalk along Main St.W.

Study Area (1) Impact :
The shadow falls upon the adjacent institutional property at 700 Main St. at 4:00 pm test time and clears at 6:00 pm. The peak coverage area is 2.7% of the schoolyard. *No impact exceeding assessment criteria noted.* Impact to pedestrian sidewalk along Longwood Rd.S starting at 3:00 pm test time and clear at 5:00 pm.
Comparative 'As of Right' Example
The as-of-right example shows less impact on the property at #700 Main St.W.
The as-of-right example shows a similar impact on the sidewalk along Longwood Rd.S.

Subject lands :
The shadow falls upon the central rooftop amenity space (6 storey) at the start of the test period and clears at 1:00 pm. The east rooftop amenity space (5 storeys) is impacted by shade at 2:00 pm until the end of the test period. *No impact exceeding assessment criteria noted.*

SECTION 6.0 - SUMMARY OBSERVATIONS

REGARDING THE SHADOW IMPACT OF DEVELOPMENT UPON THE SURROUNDING AREA

The shadow impact on public sidewalks, plazas, parks, school yards, and non-residential outdoor amenity areas on March 21.

- The shadow analysis demonstrates that during the test periods, the opposing public sidewalk along Main Street West will not experience 3 hours of continuous sunlight between 10:00 a.m. and 4:00 p.m.

The shadow impact on residential amenity spaces on March 21.

- The Residential amenity spaces in the surrounding area will experience long periods of continuous sunlight meeting and exceeding the criteria of 3 hours between 10:00 a.m. and 4:00 p.m.
- The rooftop amenity spaces on the subject lands will experience continuous sunlight meeting the criteria of 3 hours between 10:00 a.m. and 4:00 p.m.

The shadow impact on public plazas, parks, and open spaces, school yards, and playgrounds
areas at all times of day on March 21.

- The school yard in the surrounding area will experience long periods of continuous sunlight meeting and exceeding the criteria of 50% min. coverage at all times of day.

COMPARATIVE SUMMARY – 'As of Right'
Both the proposed development and 'as of right' massing impact the opposing sidewalk along Main Street West in a similar manner. One notable difference is that the 'as of right' has a reduced shadow impact on the residential properties to the north, the impact of both massing is meets and exceeds the assessment criteria.

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 for Sun Shadow Study' developed by the City of Hamilton [Appendix "B31" to Report PED2212(d), Oct.2022]". The proposed development presents a building typology for this site that mitigates sun shading impact upon the neighbouring residential properties and the public realm by utilizing slender tower building forms. This building form and orientation are optimal for the solar character of the site, plus help to reinforce the intersection at Main Street West and Longwood Road South. Based on the analysis, we suggest that the proposed design will not have a significant negative effect on the surrounding 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 the nearest time to period end or start for each of the test dates.

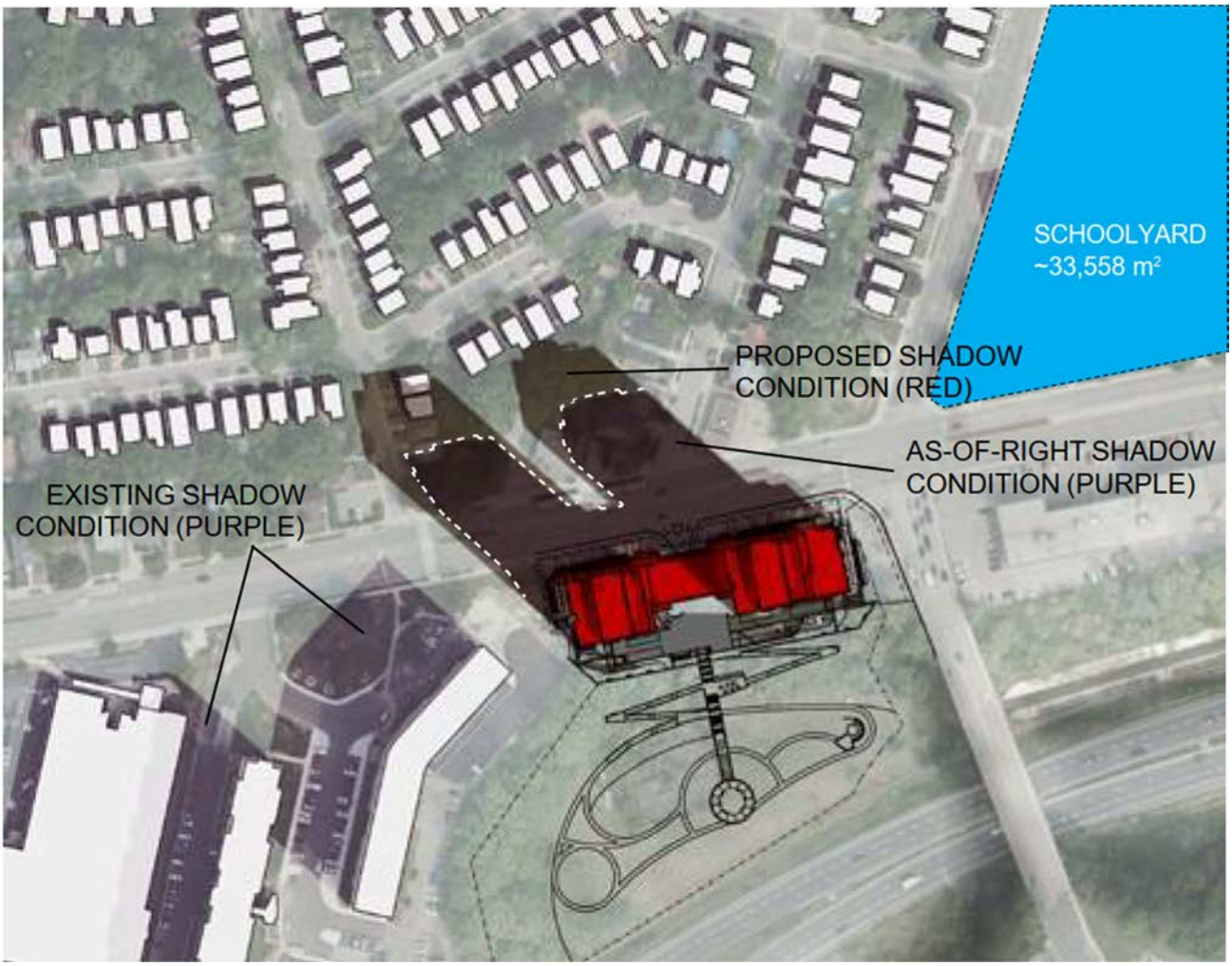
References:
'Development Application Guidelines for Sun Shadow Study' developed by the City of Hamilton [Appendix "B31" to Report PED2212(d), Oct.2022]

MARCH 21	
Su	7:2
Su	7:3
Sol	1:2
Test Times	
	9:0
	10:
	11:
	12:
	1:0
	2:0
	3:0
	4:0
	5:0
	6:0

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 will discuss the impact of the proposed building's shadows upon properties at the north, east, and southeast sides 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 for the proposed development. The times for this period are under Eastern Daylight Time. (UTC -4:00)



EXAMPLE FIGURE

Schoolyard area calculation
Site area: *(+/-)* **46,043 m²** **Building area:** *(+/-)* **7,700 m²** **Parking Area:** *(+/-)* **4,785 m² Schoolyard Area:** *(+/-)* **33,558 m²** (46,043 - 7,700 - 4,78)

MARCH 21, 9:00 AM

UTC: (-04:00)
Latitude: 43.252695 N, Longitude: 79.852173 W

0 20 50 100m N

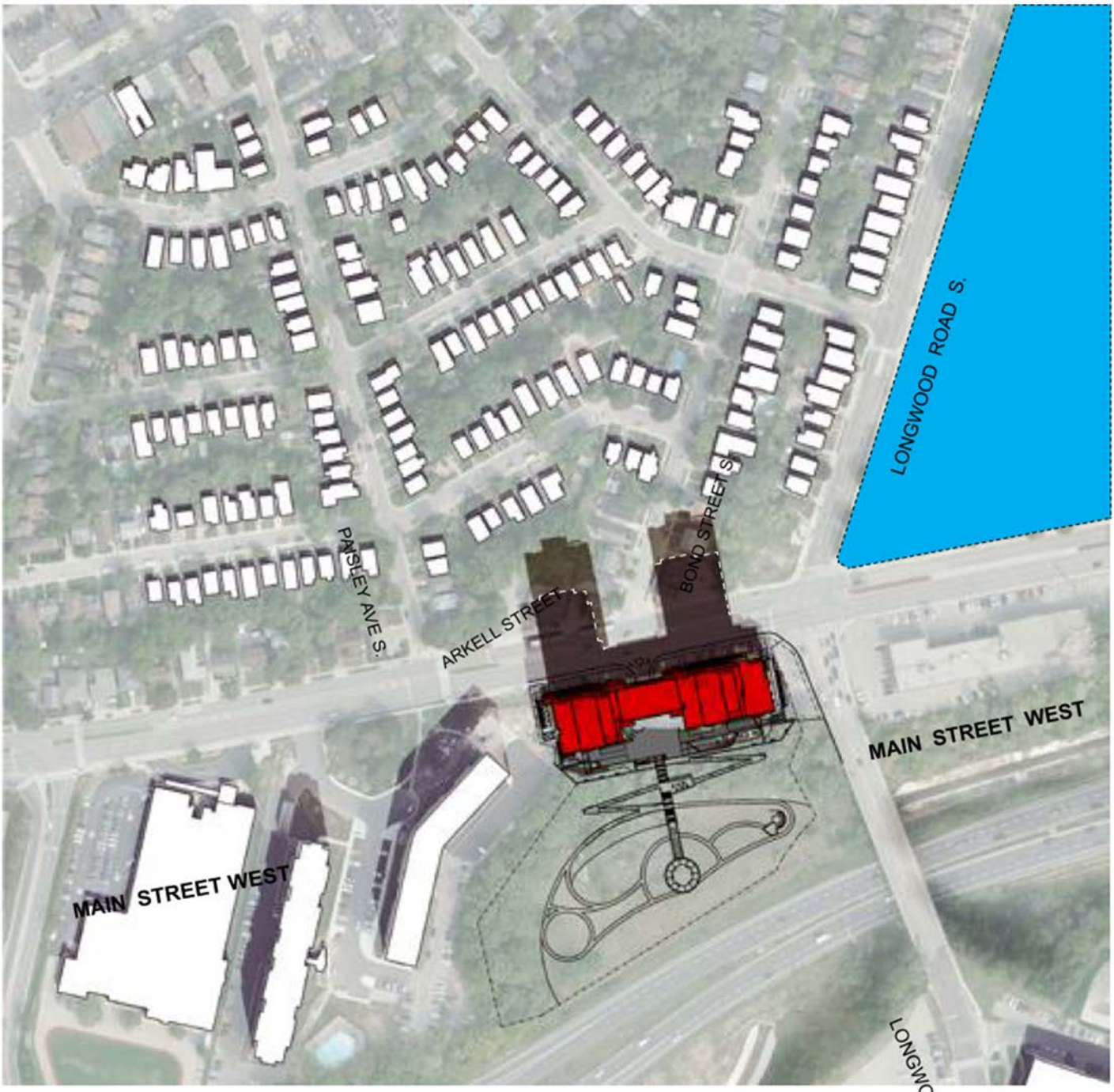
MARCH 21, 10:00 AM

UTC: (-04:00)
Latitude: 43.252695 N, Longitude: 79.852173 W

MARCH 21, 11:00 AM

UTC: (-04:00)
Latitude: 43.252695 N, Longitude: 79.852173 W

MARCH 21, 12:00 PM
UTC: (-04:00)
Latitude: 43.252695 N, Longitude: 79.852173 W



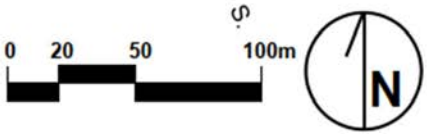
MARCH 21, 1:00 PM
UTC: (-04:00)
Latitude: 43.252695 N, Longitude: 79.852173 W

MARCH 21, 2:00 PM

UTC: (-04:00)
Latitude: 43.252695 N, Longitude: 79.852173 W

MARCH 21, 3:00 PM
UTC: (-04:00)
Latitude: 43.252695 N, Longitude: 79.852173 W

MARCH 21, 4:00 PM
UTC: (-04:00)
Latitude: 43.252695 N, Longitude: 79.852173 W



MARCH 21, 5:00 PM
UTC: (-04:00)
Latitude: 43.252695 N, Longitude: 79.852173 W

MARCH 21, 6:00 PM
UTC: (-04:00)
Latitude: 43.252695 N, Longitude: 79.852173 W