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DESIGN IMPACT ANALYSIS

PROPOSED DEVELOPMENT

416 Mohawk Road East
Hamilton, Ontario

KNYMH File # 25001

Prepared by:
KNYMH INC.

Date: January 30, 2026

DESIGN IMPACT ANALYSIS

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416 Mohawk Road East
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DOCUMENT REVISION HISTORY:

Version	Revision Date	Revision Summary	Tracking
1.0	2026.01.30	ISSUED: Initial report	0130.26

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.

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: Hamilton, Ontario, Canada

Geographic Coordinates:

Latitude: 43.241667 N

Longitude: 79.850000 W

SITE

The property is located in Hamilton, Ontario, southeast of the intersection between Mall Road and Mohawk Road. The site is currently occupied by a single-detached two (2) storey dwelling. The existing building will be removed as part of the scope in the proposed development.

Neighbouring properties include:

2.1) TO THE EAST (Study Area 1): The adjacent property, Neighbourhood Institutional (I1), is occupied by Our Lady of Lourdes Elementary School.

2.2) TO THE NORTH AND NORTHEAST (Study Area 2, 3 & 4): The properties directly across the street, Low Density Residential (R1) and Multiple Dwellings (DE-2), contain one (1) and two (2) storey dwellings, as well as a three (3) and six (6) storey residential building. Northeast of the subject property, Open Space (P4), is occupied by cemetery grounds.

2.3) TO THE WEST AND SOUTHEAST (Study Area 5): The property abuts a Mixed Use High Density (C4) area, which currently occupy a mix of residential dwellings, offices, retail, and other permitted uses.

TOPOGRAPHY

The subject lands and neighbouring parcels generally appear to be uniform in grade. For the purpose of this analysis the proposed development and adjacent properties are represented at the same elevation.

ARCHITECTURAL FORM

The proposed development labelled as building 'A', 'B', and 'C', consists of three (3) buildings upon the subject lands. Building 'A' features a thirteen (13) storey building with a four (4) storey podium, building 'B' features a twenty (20) storey building with a six (6) storey podium and building 'C' features a nineteen (19) storey building with a six (6) storey podium.

Refer to "FIGURE 3.1 - SITE CONTEXT MAP" on page 3.

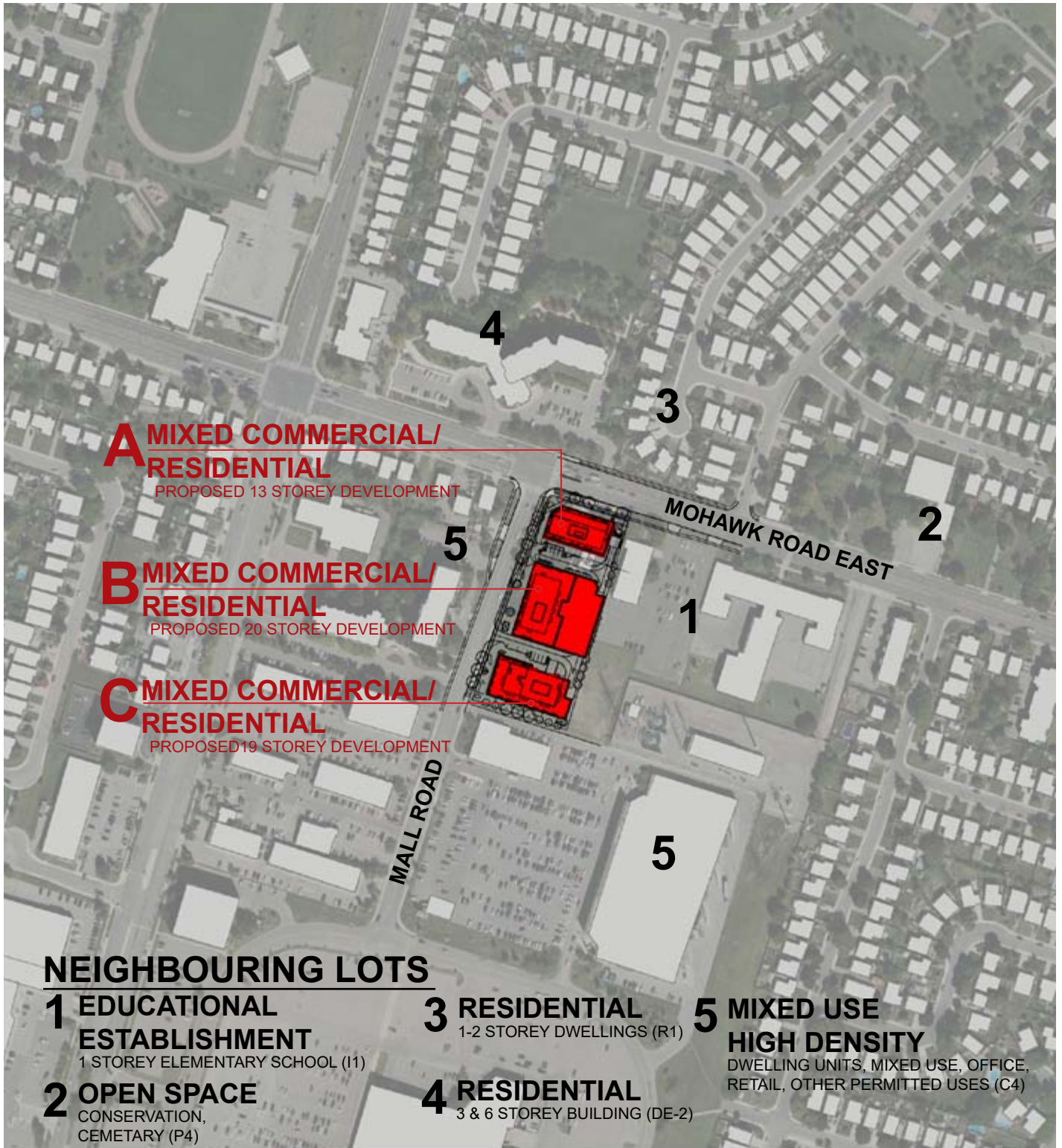


FIGURE 3.1 - SITE CONTEXT MAP

Latitude: 43.241667 N, Longitude: 79.850000 W



SECTION 4.0 - METHOD OF ANALYSIS

Shadow Impact

Geographic Coordinates: Latitude: 43.241667 N, Longitude: 79.850000 W

Time Zone: Eastern

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 which we present within this report is developed with the following criteria specified in the:

‘Development Application Guidelines Sun Shadow Study’ developed by the City of Hamilton
[v.Nov,2022]

SHADOW IMPACT ANALYSIS (Public Realm):

This category includes public sidewalks, public/private outdoor amenity spaces such as patios, sitting areas, and other similar programs. Shadows from a 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.

SHADOW IMPACT ANALYSIS (Common Amenity Areas):

This category includes public plazas, parks, open spaces, school yards, and 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 OBERVATIONS

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, southeast and west 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 (5) Impact: Shadow impact to the public realm sidewalk along Mall Road fully clear of shadow by 1:26pm test time. The analysis indicates that the property will receive a minimum of three (3) hours of sun coverage between 10:00am and 4:00pm.

Study Area (4) Impact: Shadow sweeps quickly across Mohawk Road. No impact noted.

Study Area (3) Impact: Shadow impact to the public realm sidewalk along Mohawk Road fully clear of shadow until 2:50pm test time. The analysis indicates that the property will receive a minimum of three (3) hours of sun coverage between 10:00am and 4:00pm.

Study Area (2) Impact: Shadow sweeps quickly across Mohawk Road until 6:03pm test time. No impact noted.

Study Area (1) Impact: Shadow impact to the adjacent school yard/playground is fully clear with 100% sun coverage prior to 4:03 pm, with only minimal shadow encroachment at the 4:03 pm test time. At the 5:03 pm test time, the approximate playground area shown on Drawing A1.1-11 visually demonstrates that the yard continues to receive at least 50% sun coverage, meeting the applicable requirement. At 6:03 pm, sun coverage is 40.6%, increasing to 41.6% when shadows cast by the existing school building are excluded from the calculation.

SECTION 6.0 - SUMMARY OBSERVATIONS

REGARDING SHADOW IMPACT OF DEVELOPMENT UPON THE SURROUNDING AREA

The shadow impact analysis of the public sidewalks, conducted for the period between 10:00 a.m. and 4:00 p.m. on March 21, demonstrates that the sidewalks opposite both Mohawk Road and Mall Road will receive the minimum required three (3) hours of sun coverage during the test period.

The shadow impact analysis indicates that the open spaces, schoolyards, and playgrounds opposite and adjacent to the subject property meet the minimum requirement of 50% sun coverage for the majority of the test period. With the exception of the 6:03 p.m. test time, the school playground maintains close to 50% sun coverage. By this time, regular school hours, including before- and after-school programs, will most likely have concluded. Access to the school playground may be restricted depending on the school's security measures.

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 Sun Shadow Study' developed by the City of Hamilton[v.Nov,2022]. The proposed development presents the ideal building typology for this site and mitigates sun shading impact upon the neighbouring residential properties and the public realm. These building forms and orientation produces narrow shadows that move quickly across the terrain. Based upon the analysis we suggest that the proposed design will not have a significant negative effect on the surrounding neighbourhood.

In our opinion, this development is compatible with the area and does not have a significant effect on the existing neighbourhood in general.

Sincerely,
KNYMH Inc.

DESIGN IMPACT ANALYSIS

416 Mohawk Road East, Hamilton, Ontario

KNYMH File # 25001 v.1.0

Date: January 30, 2026

APPENDIX 1.0 - SHADOW IMPACT SCHEDULE

Test Dates : March 21

Test Times: Solar Noon

Hourly intervals starting 1.5 hours after sunrise and ending 1.5 hours before sunset.

References:

'Development Application Guidelines Sun Shadow Study' developed by the City of Hamilton
[v.Nov,2022]

Sunrise and Sunset information: <https://www.timeanddate.com/sun/>

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	
	8:50 AM
	9:50 AM
	10:50 AM
	11:50 AM
	12:50 PM
	1:26 PM
	2:03 PM
	3:03 PM
	4:03 PM
	5:03 PM
	6:03 PM

FIGURE A1.1 - SHADOW IMPACT GRAPHICS MARCH 21

SUN/SHADOW STUDY: (MARCH 21 • SPRING)

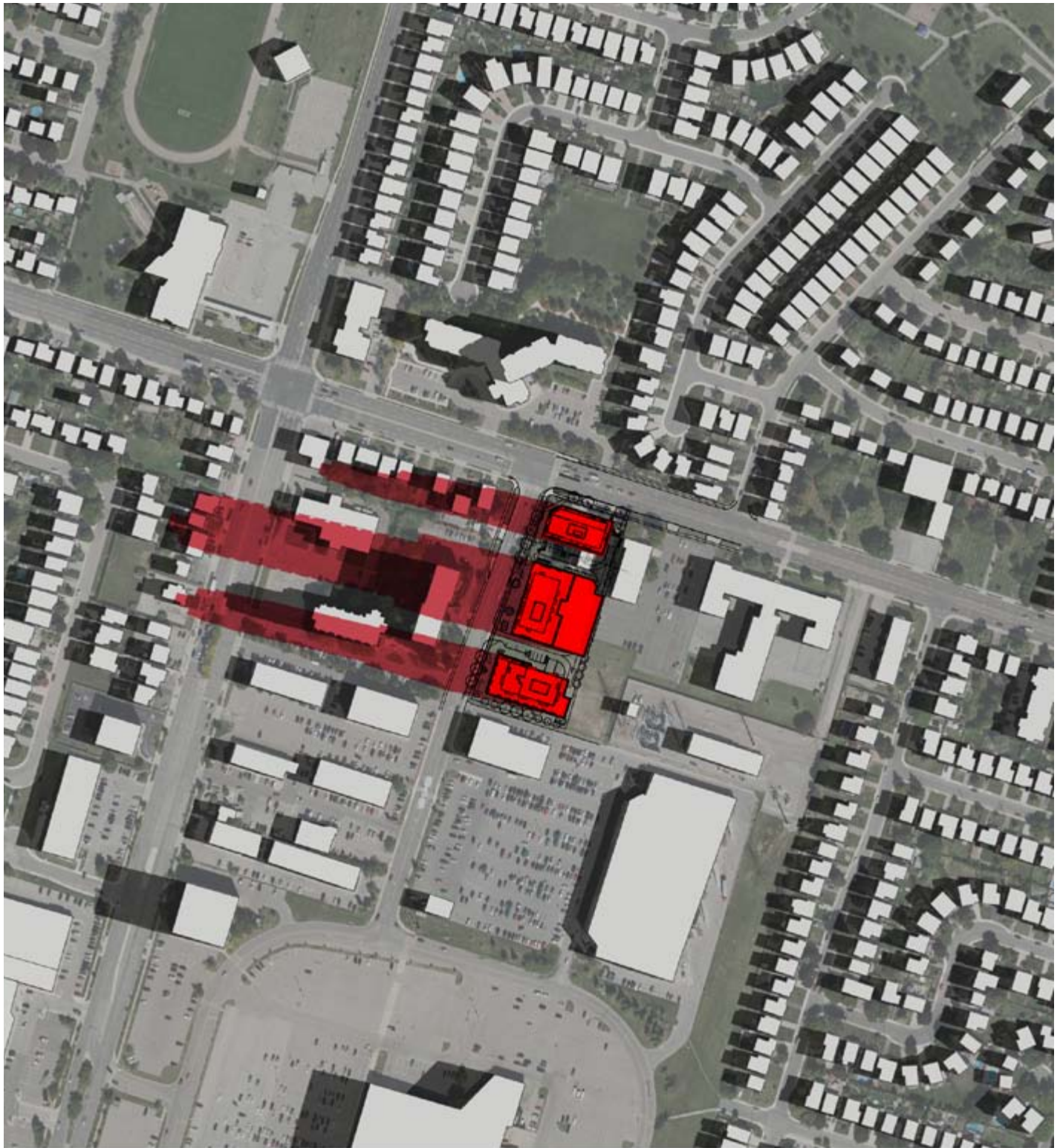
A summary of the Spring shadow effect of the proposal upon the surrounding area. This commentary will discuss the impact of the proposed building's shadows upon properties at the north, east, southeast, and west side of the subject property. The impact is studied at the specific time period and assessment 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

Address, Hamilton, Ontario

KNYMH File # 25001 v.1.0

Date: January 30, 2026



MARCH 21, 8:50 AM

UTC: (-04:00)

Latitude: 43.241667 N, Longitude: 79.850000 W

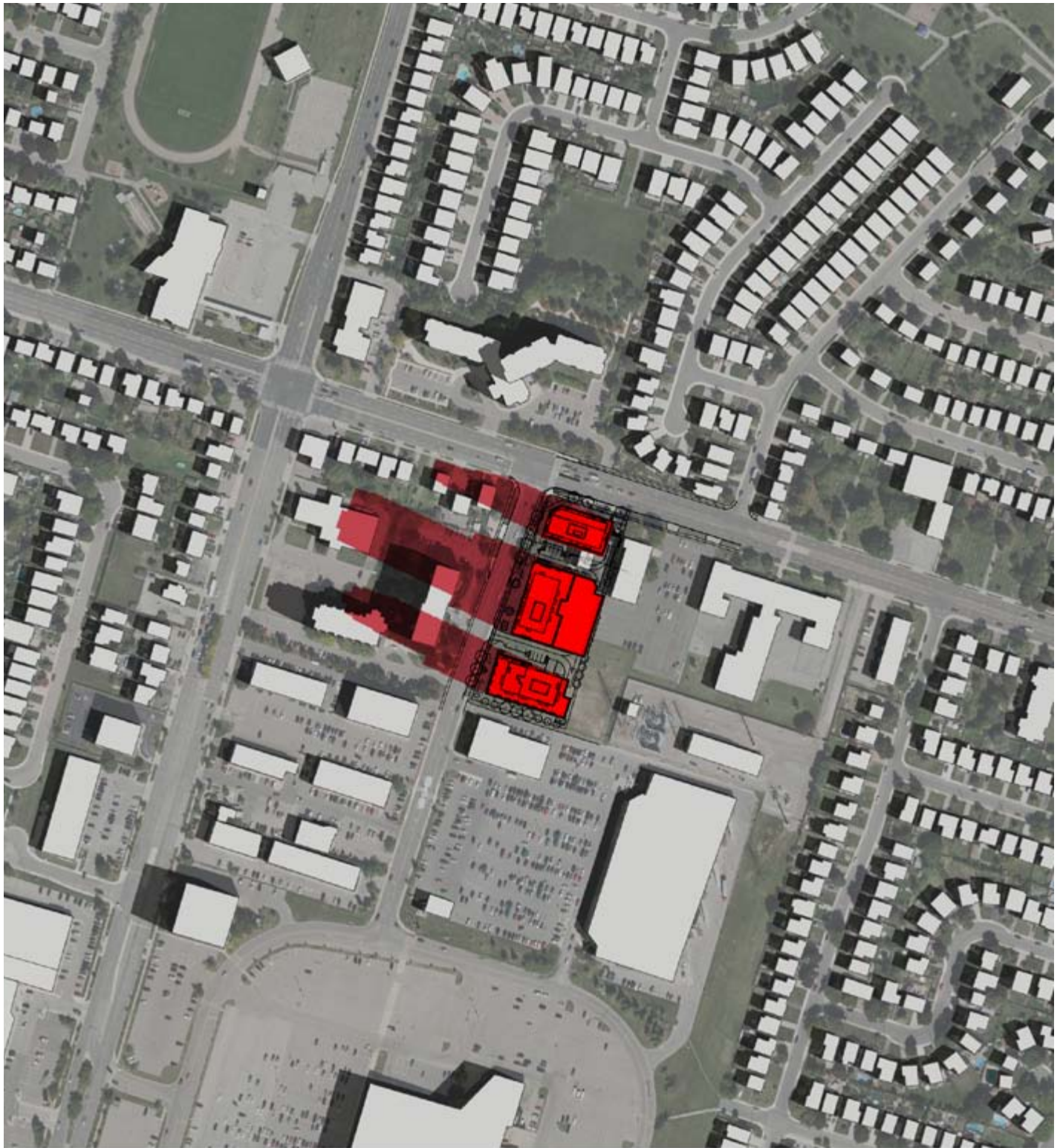


DESIGN IMPACT ANALYSIS

Address, Hamilton, Ontario

KNYMH File # 25001 v.1.0

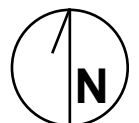
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MARCH 21, 9:50 AM

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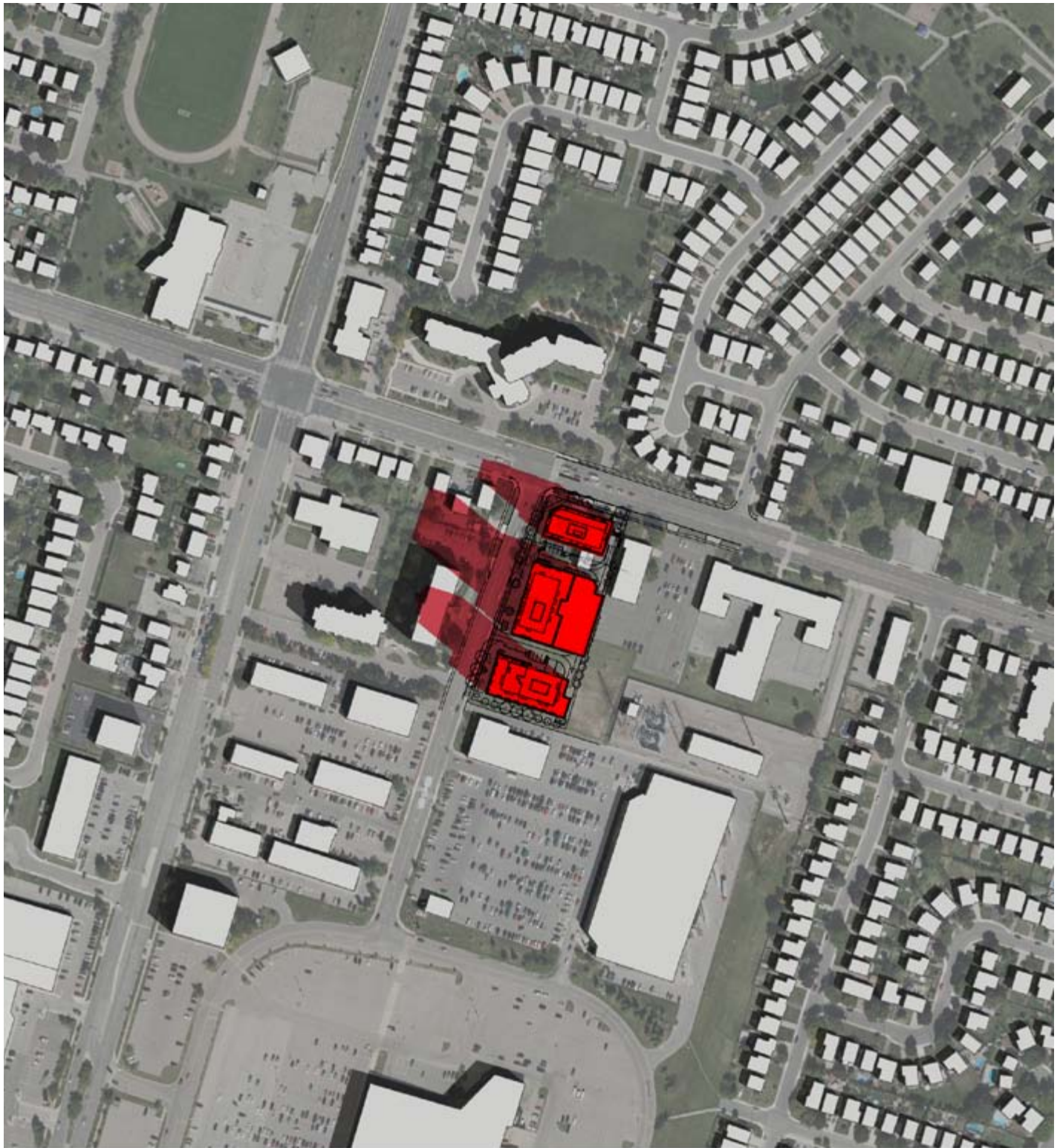


DESIGN IMPACT ANALYSIS

Address, Hamilton, Ontario

KNYMH File # 25001 v.1.0

Date: January 30, 2026



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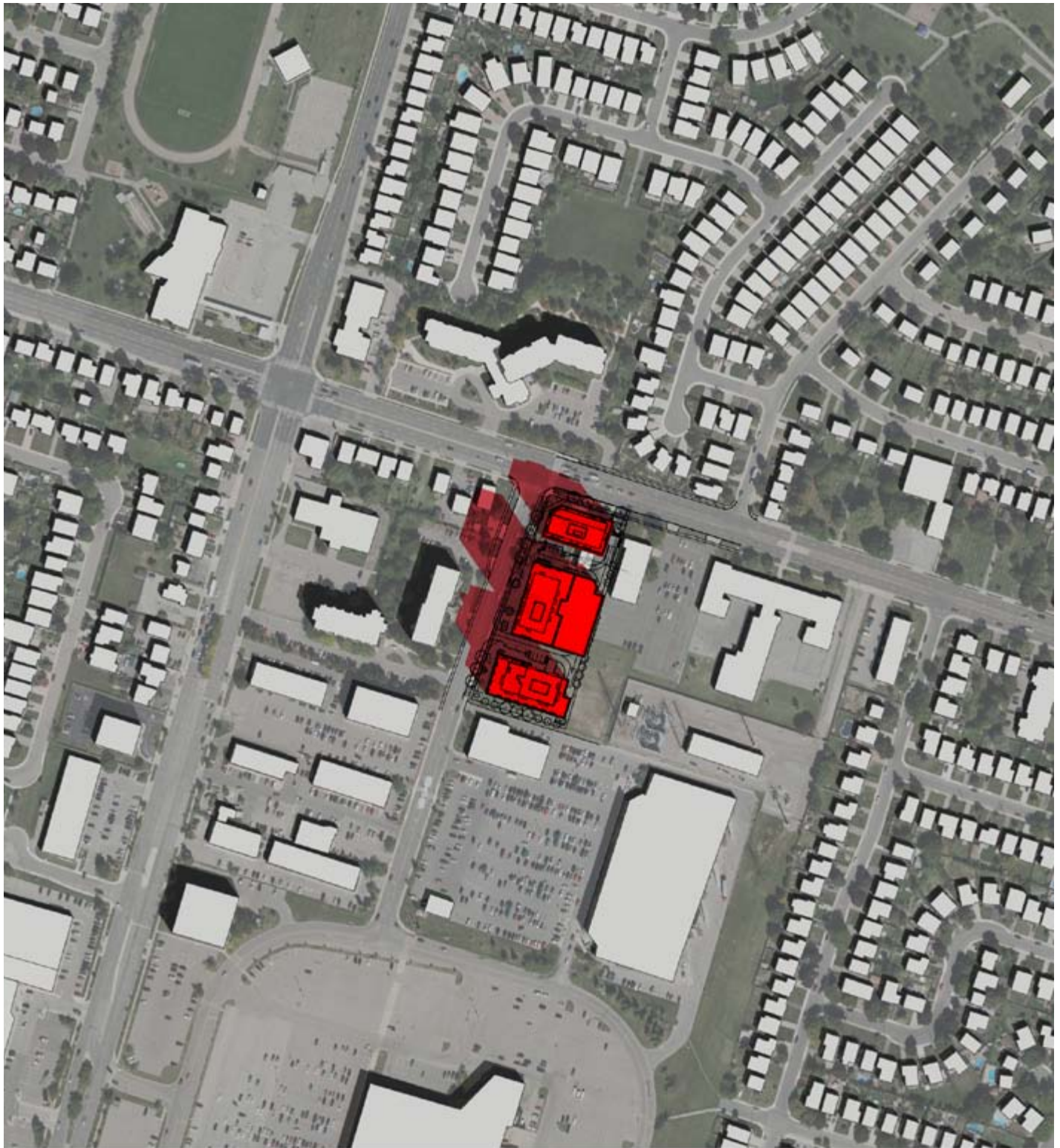


DESIGN IMPACT ANALYSIS

Address, Hamilton, Ontario

KNYMH File # 25001 v.1.0

Date: January 30, 2026



MARCH 21, 11:50 AM

UTC: (-04:00)

Latitude: 43.241667 N, Longitude: 79.850000 W

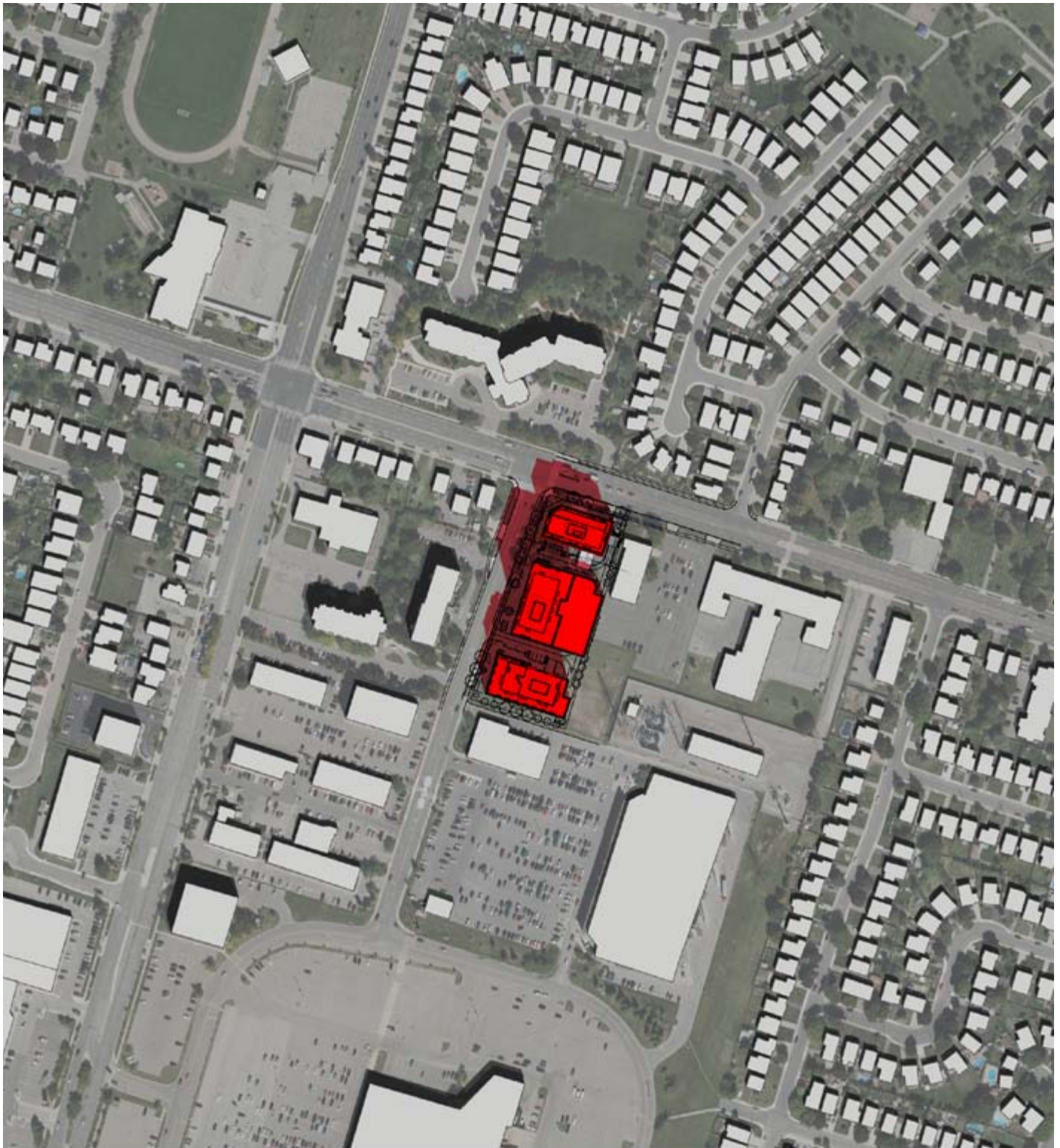


DESIGN IMPACT ANALYSIS

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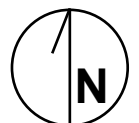
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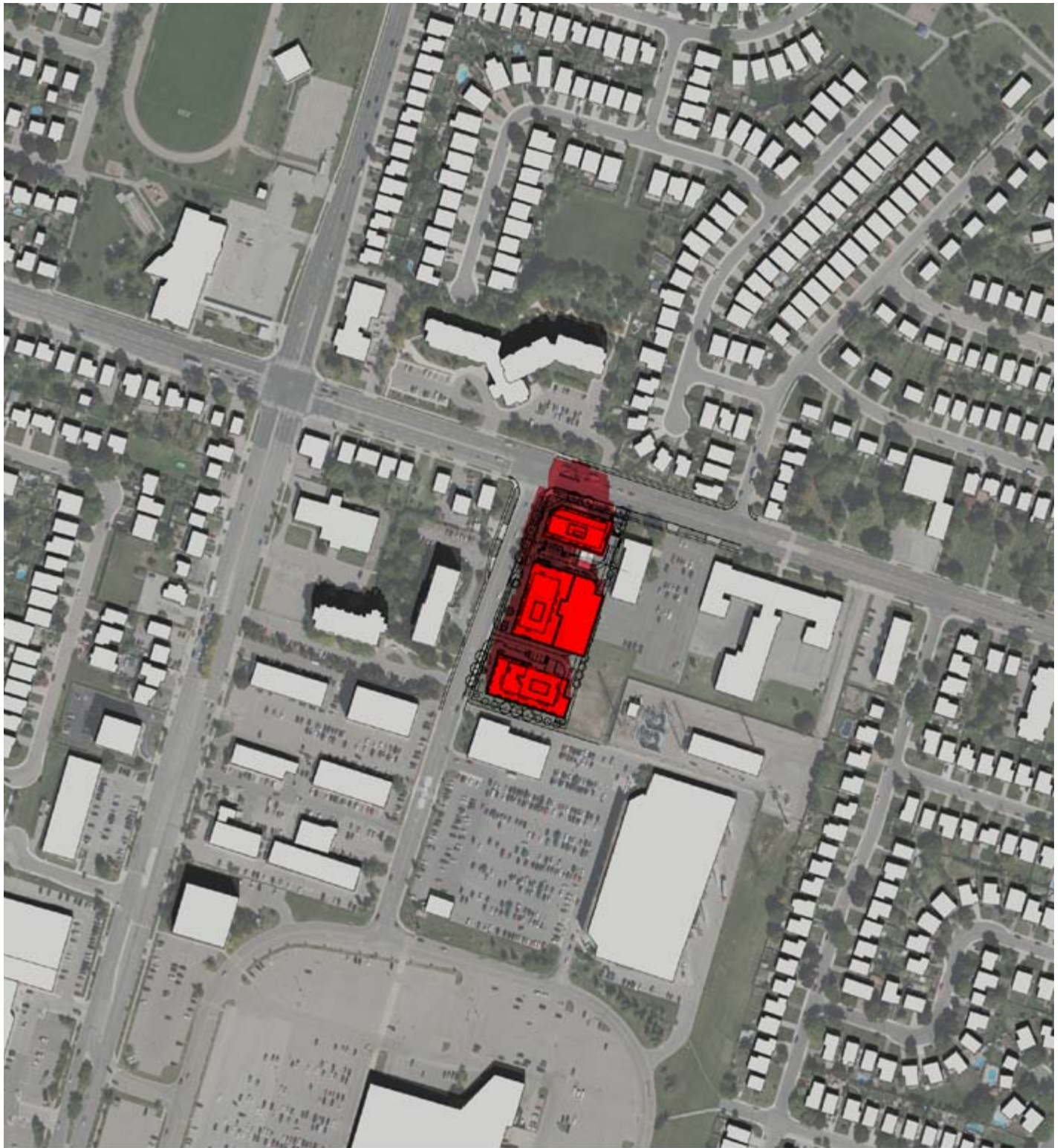


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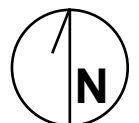
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MARCH 21, 1:26 PM

UTC: (-04:00)

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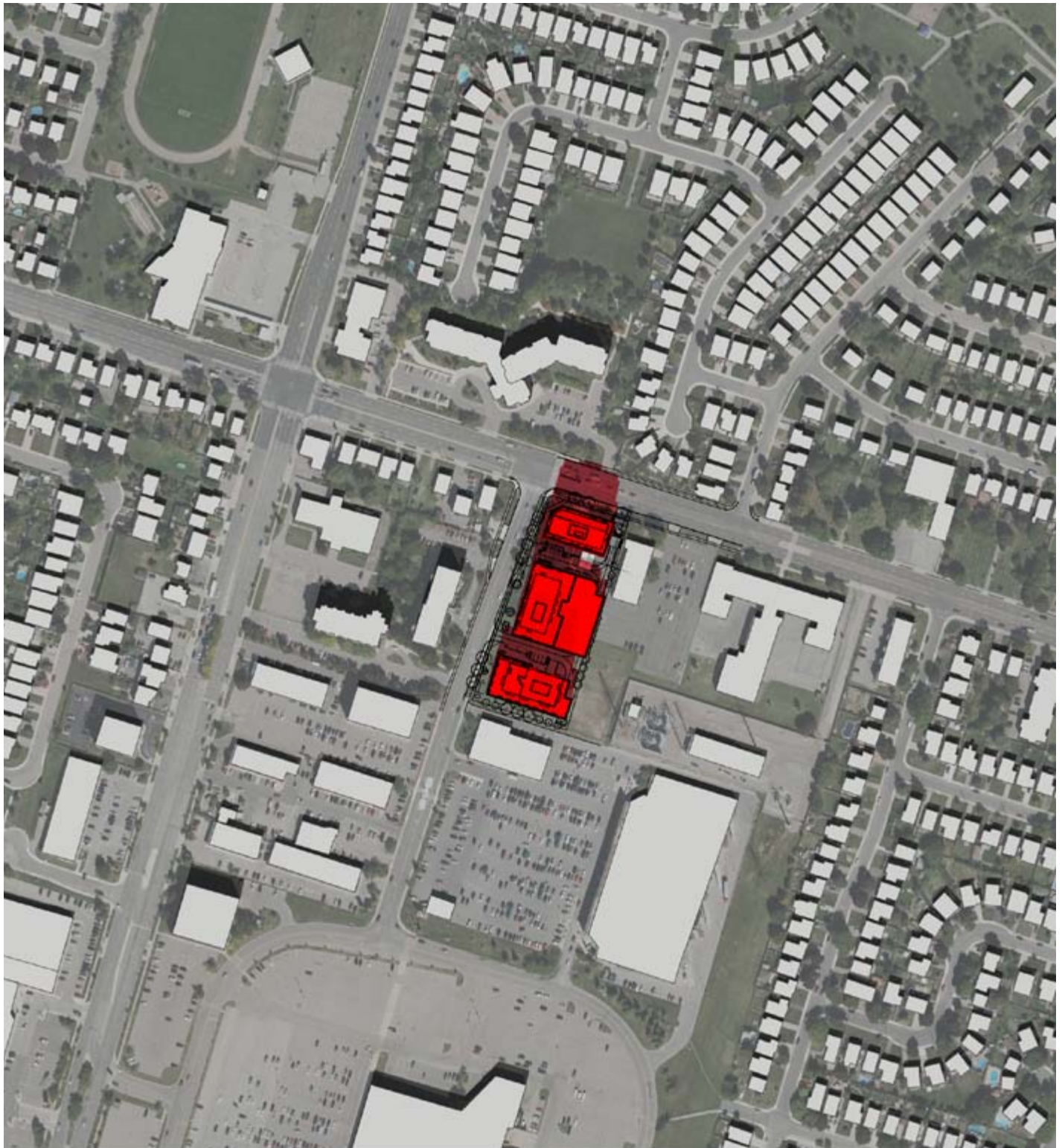


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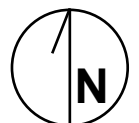
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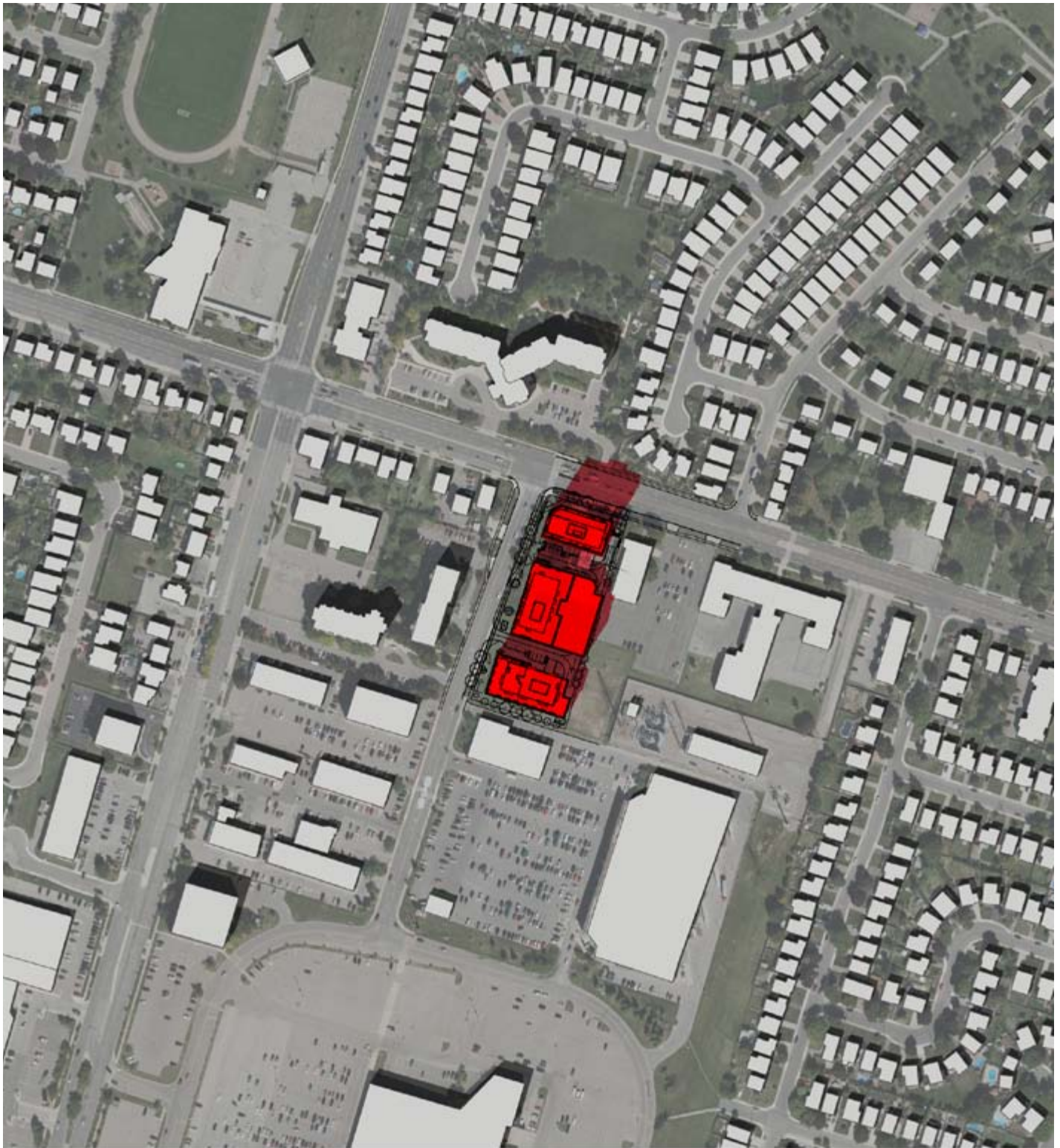


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Address, Hamilton, Ontario

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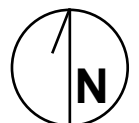
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MARCH 21, 3:03 PM

UTC: (-04:00)

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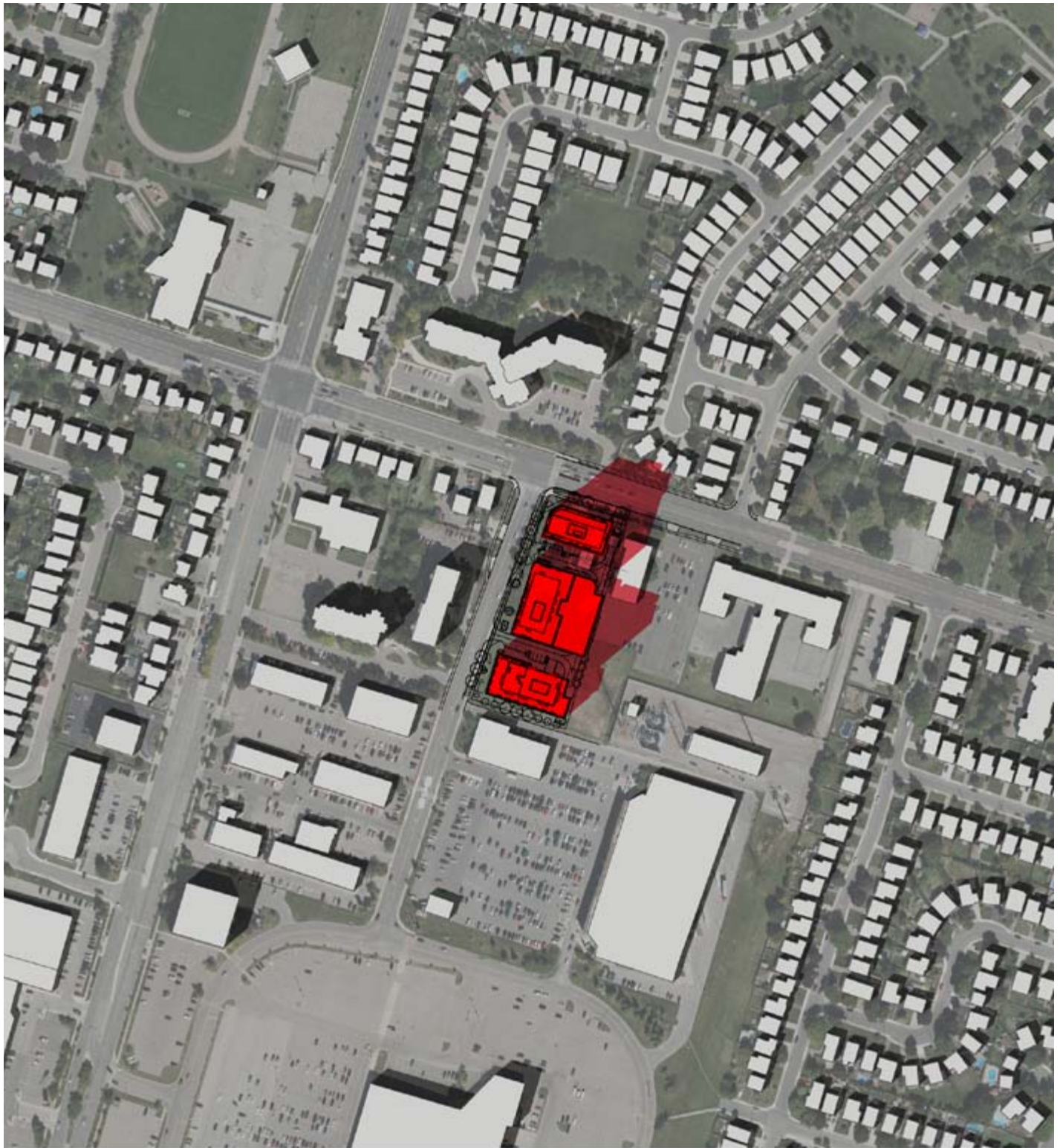


DESIGN IMPACT ANALYSIS

Address, Hamilton, Ontario

KNYMH File # 25001 v.1.0

Date: January 30, 2026



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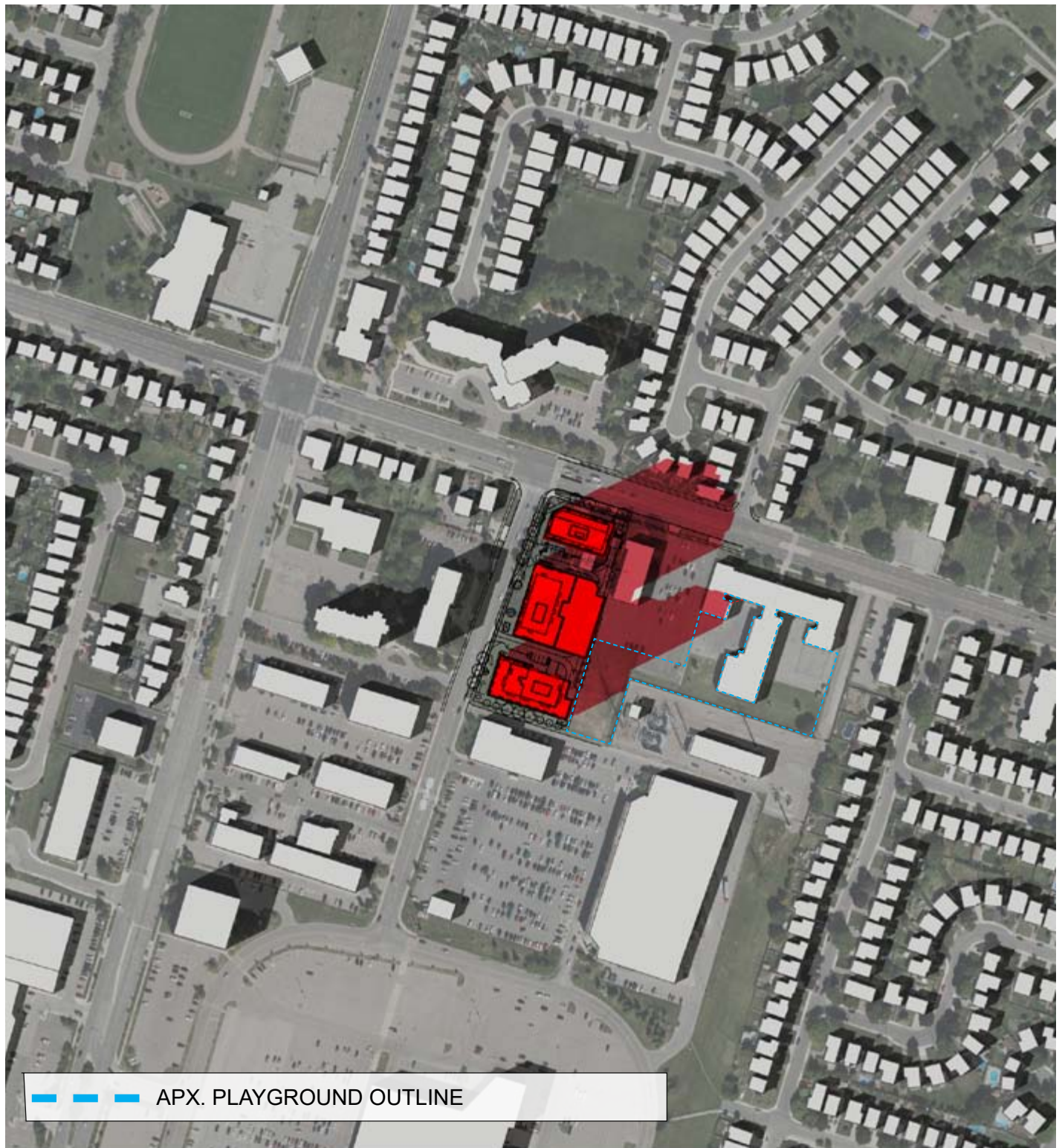


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Address, Hamilton, Ontario

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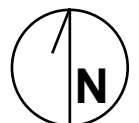
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MARCH 21, 5:03 PM

UTC: (-04:00)

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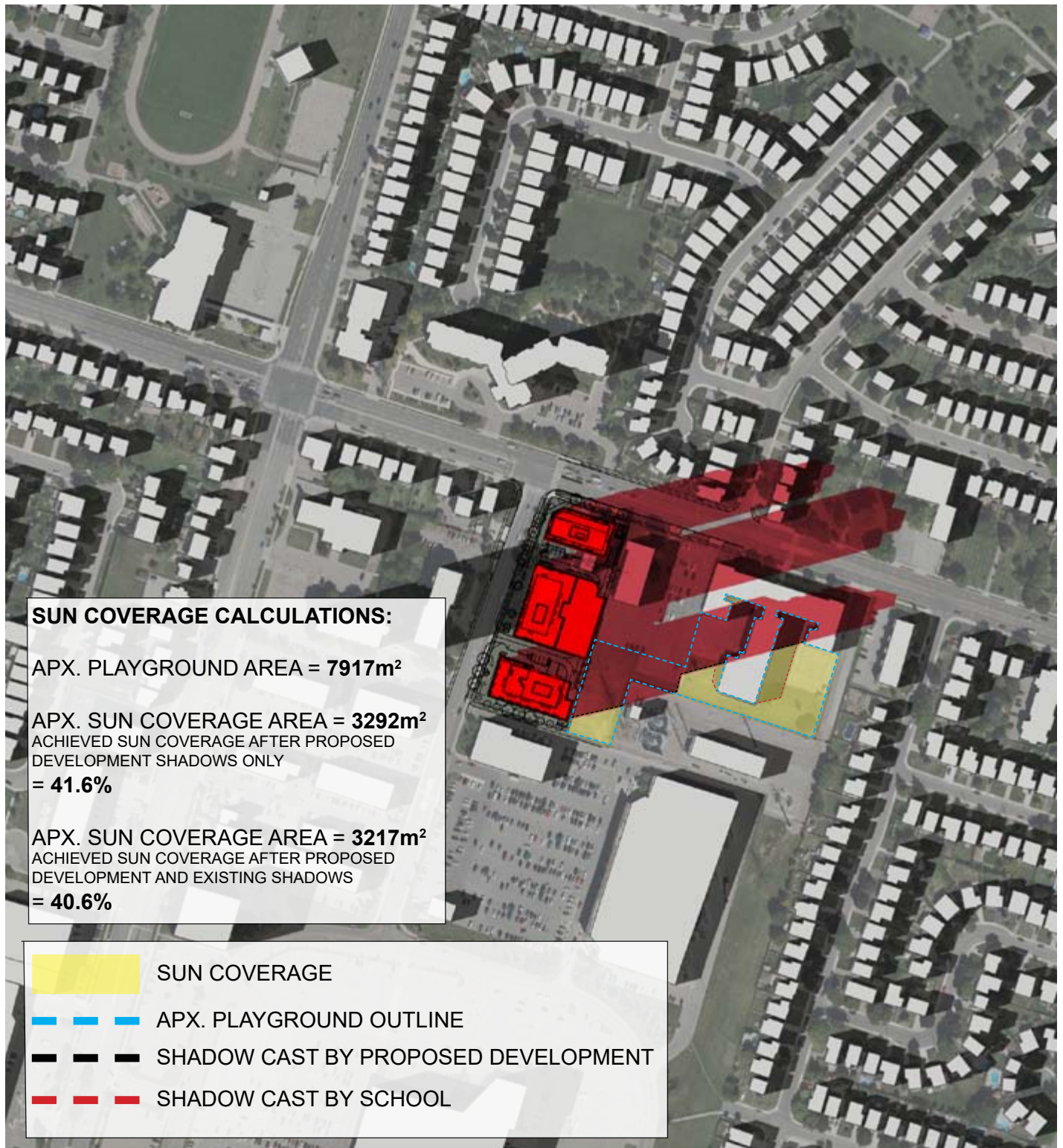


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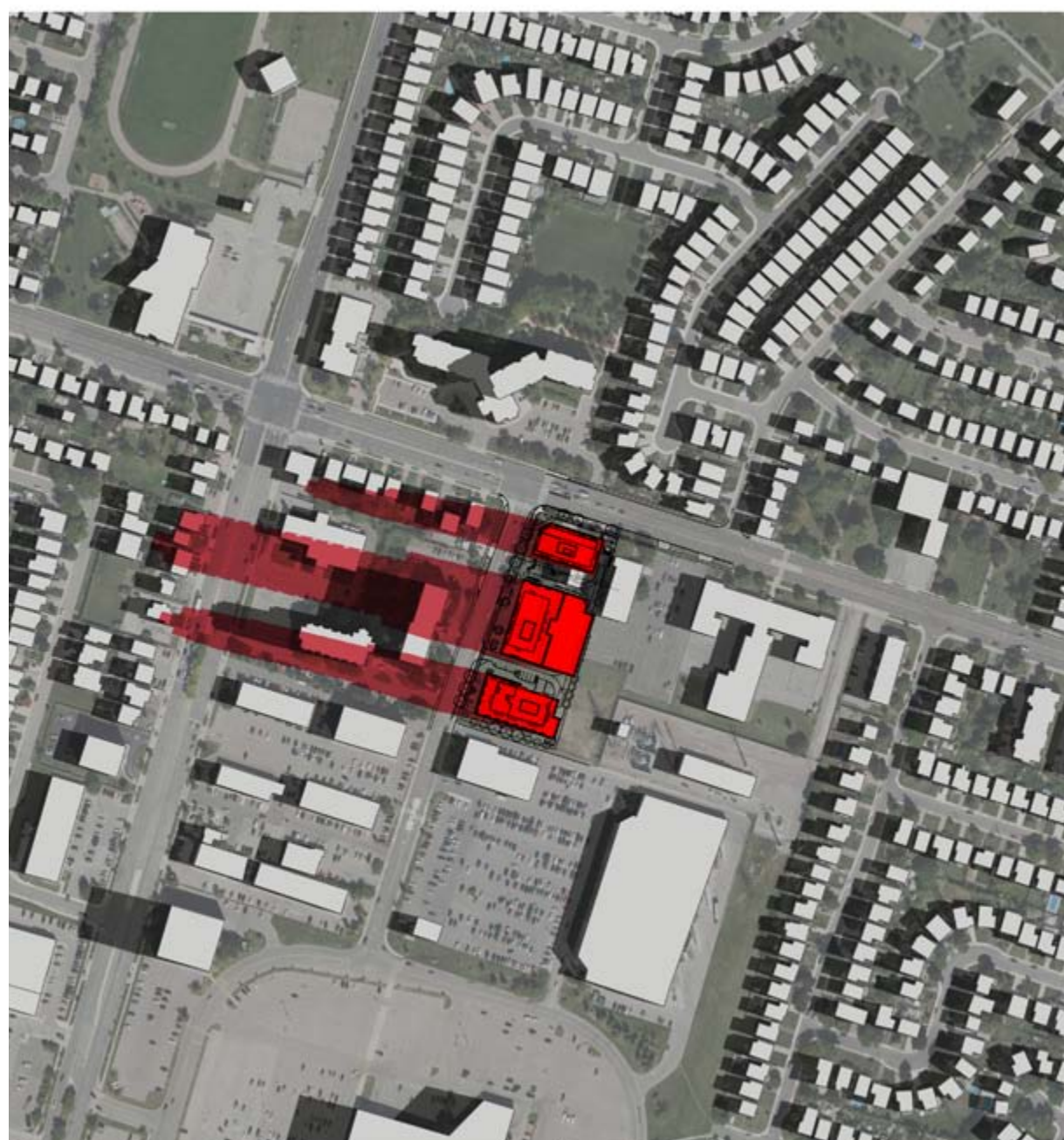


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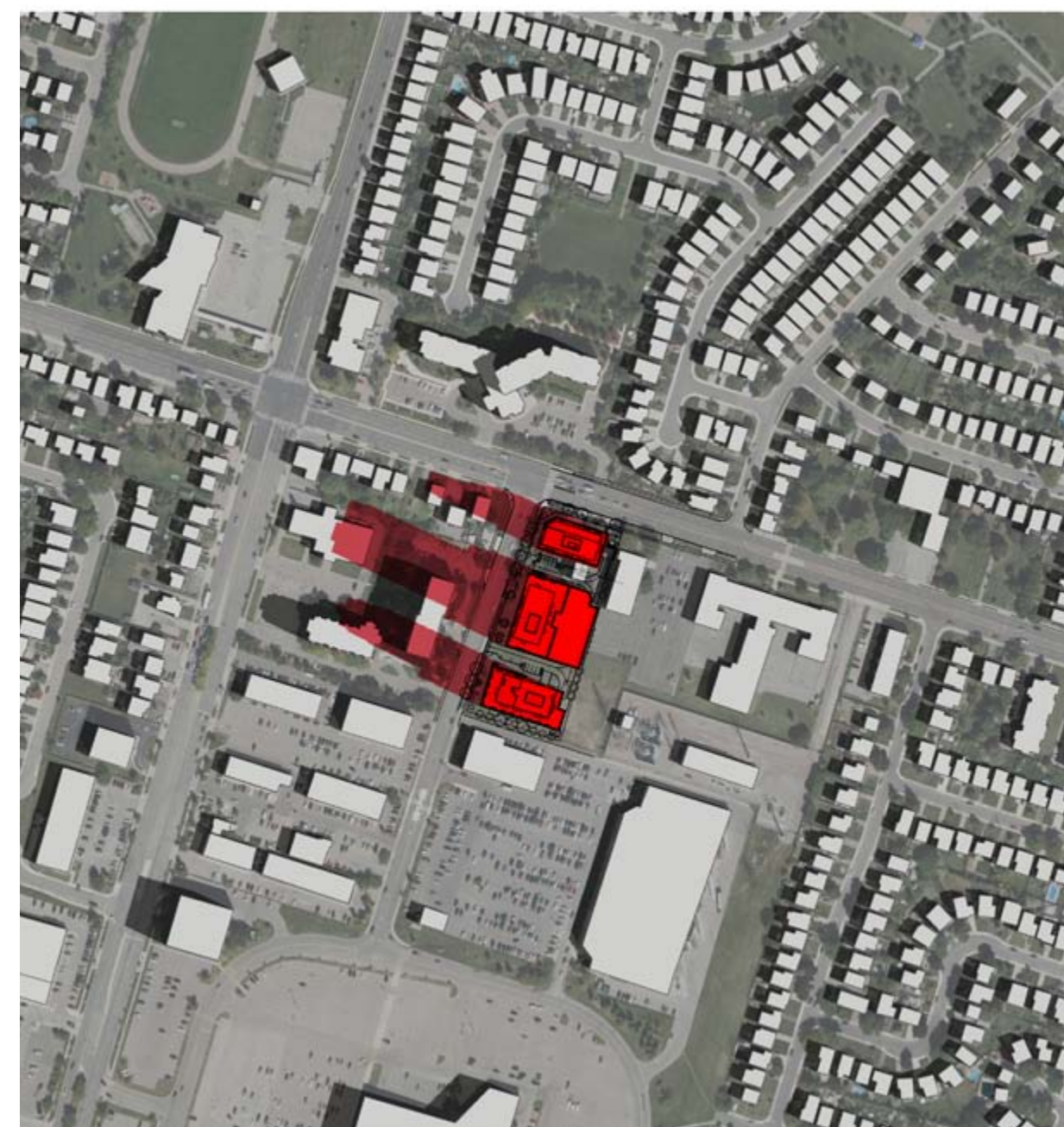
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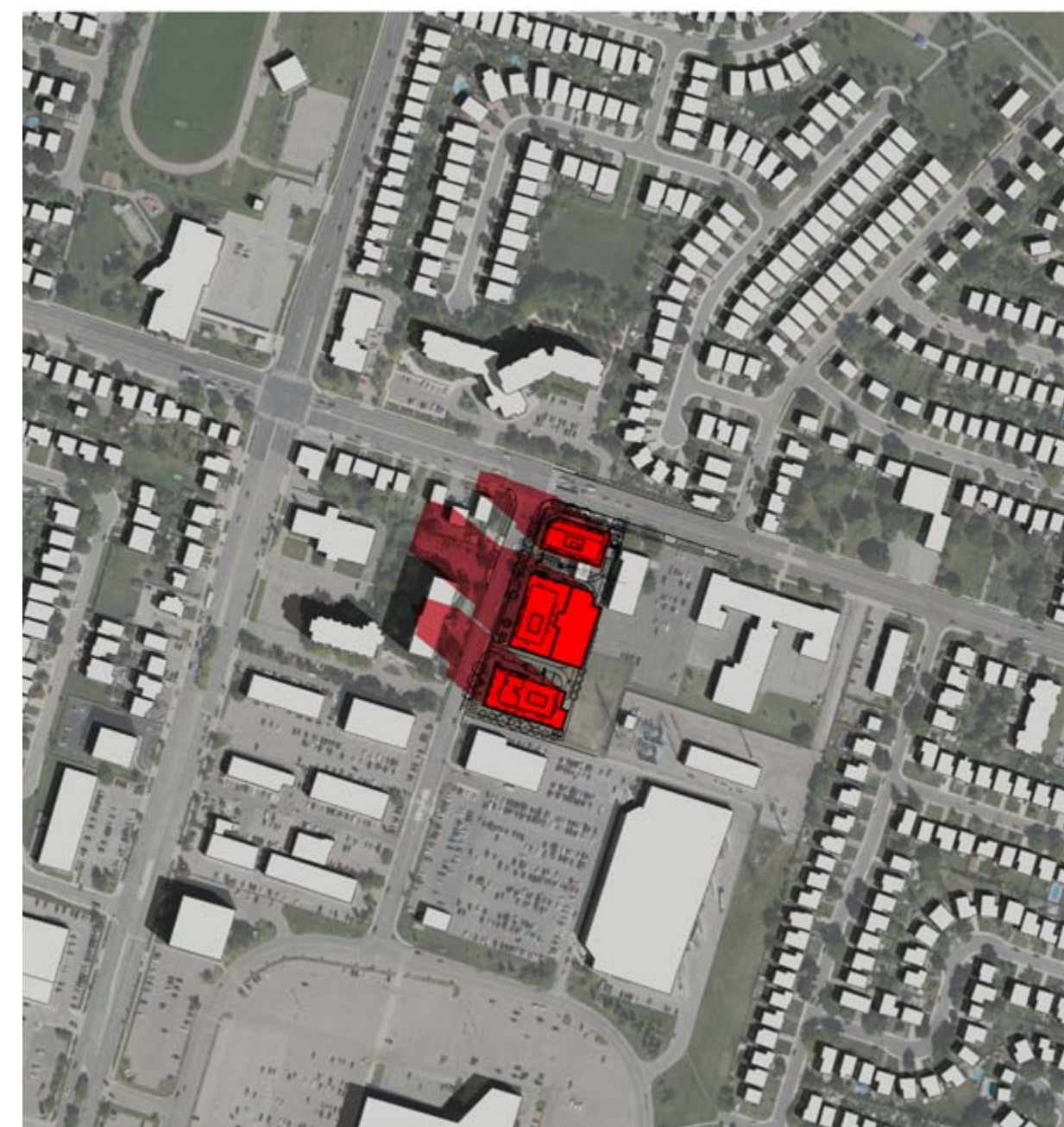




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MARCH 21, 9:50 AM



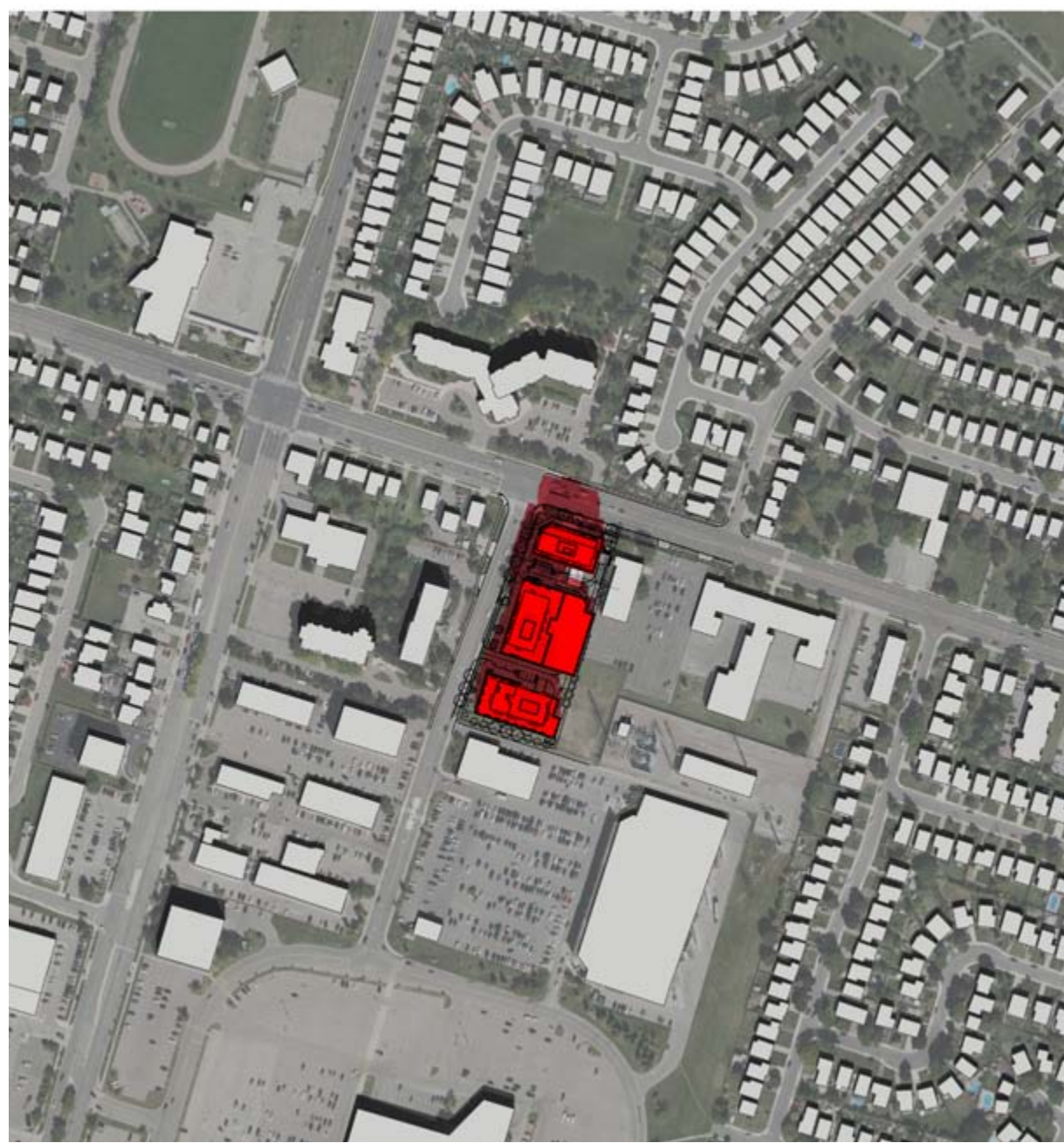
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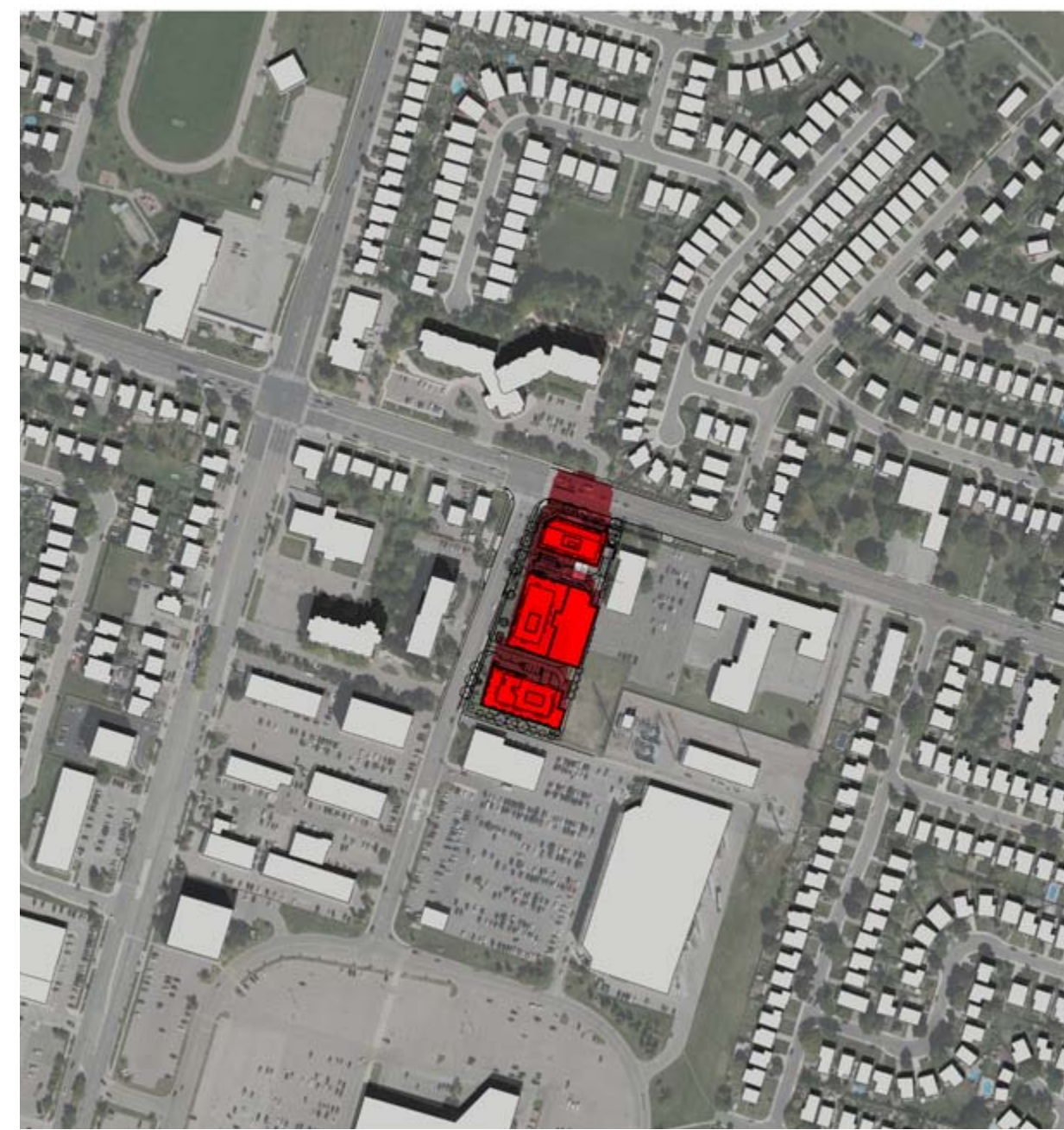
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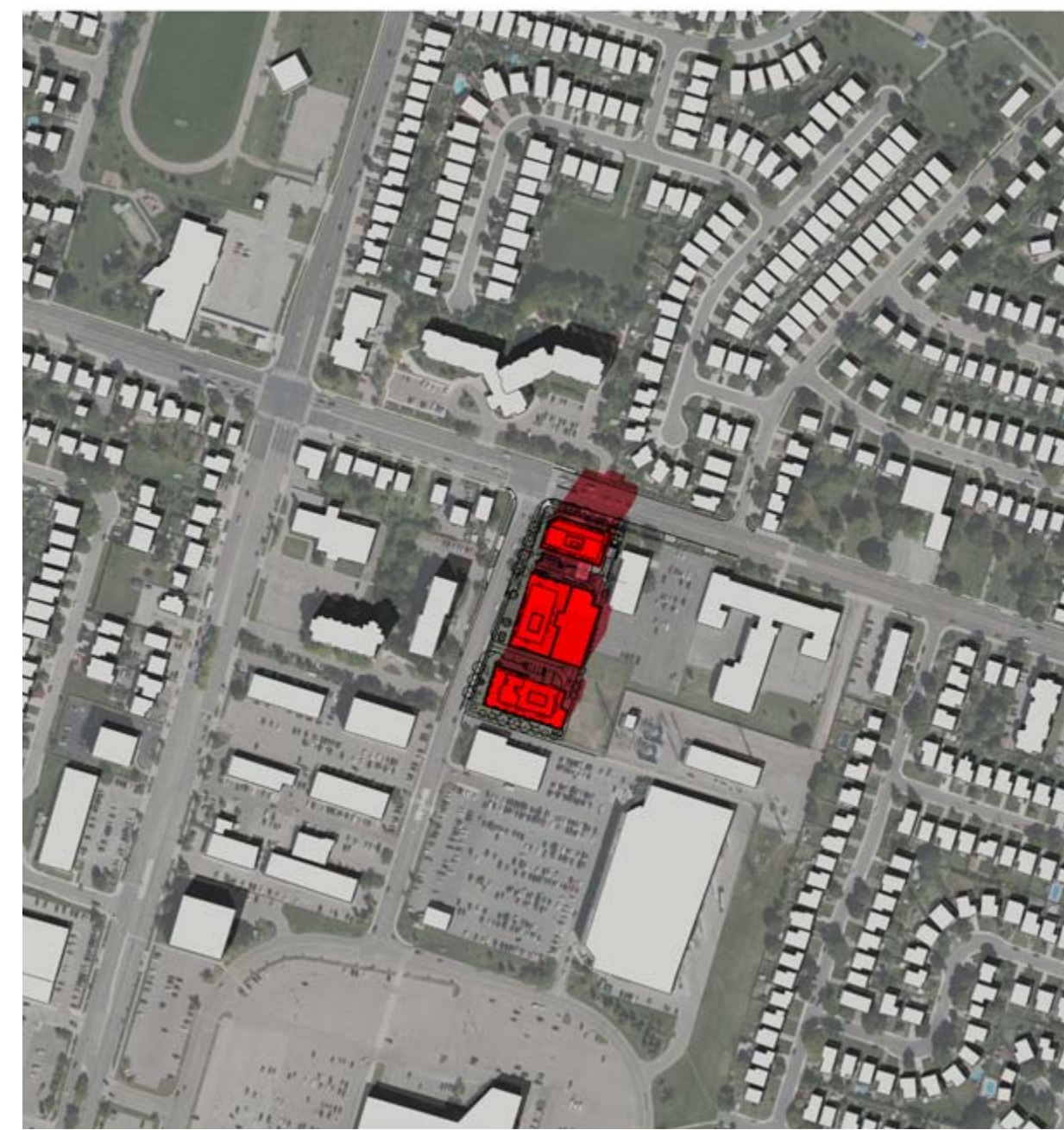
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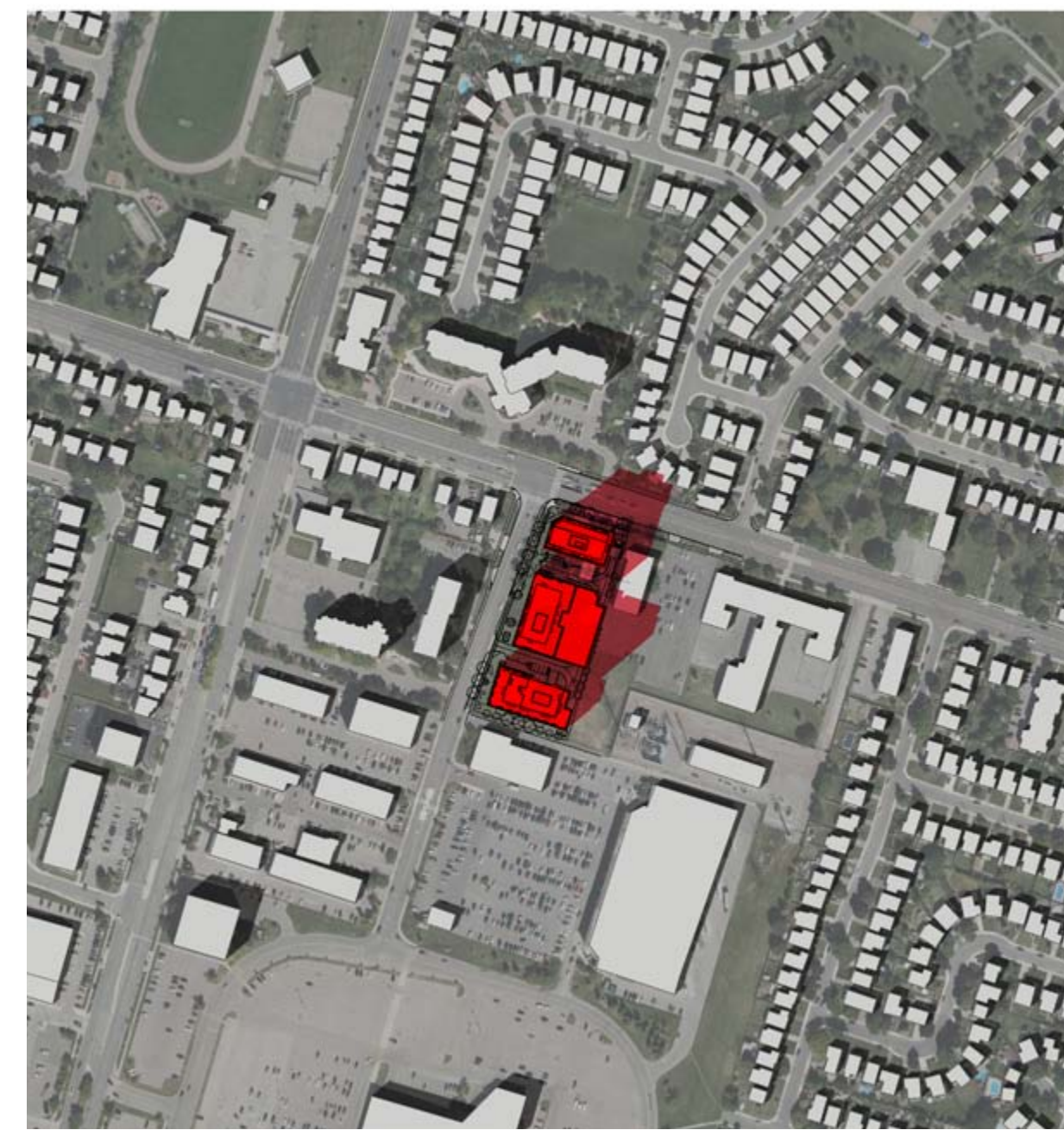
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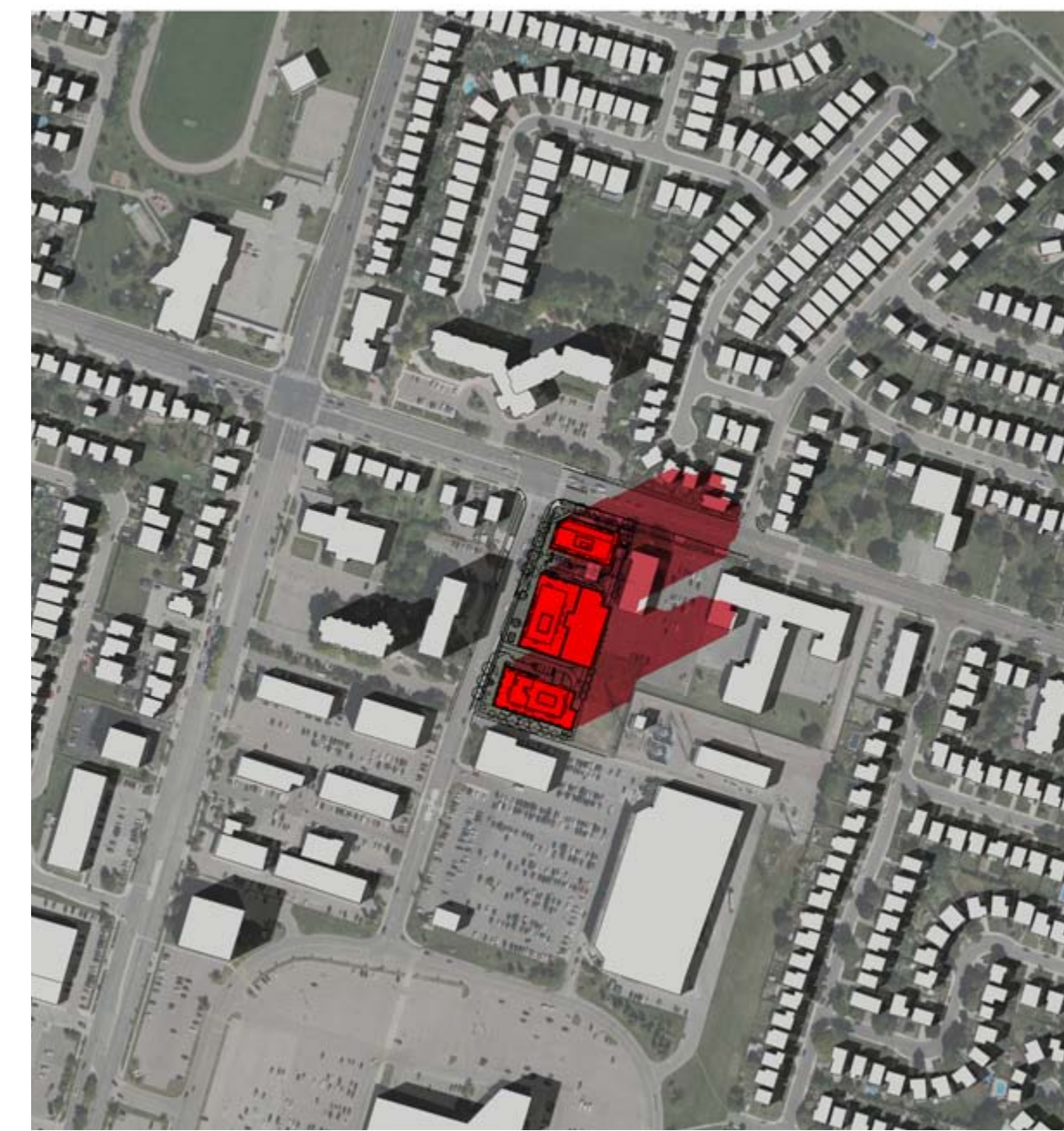
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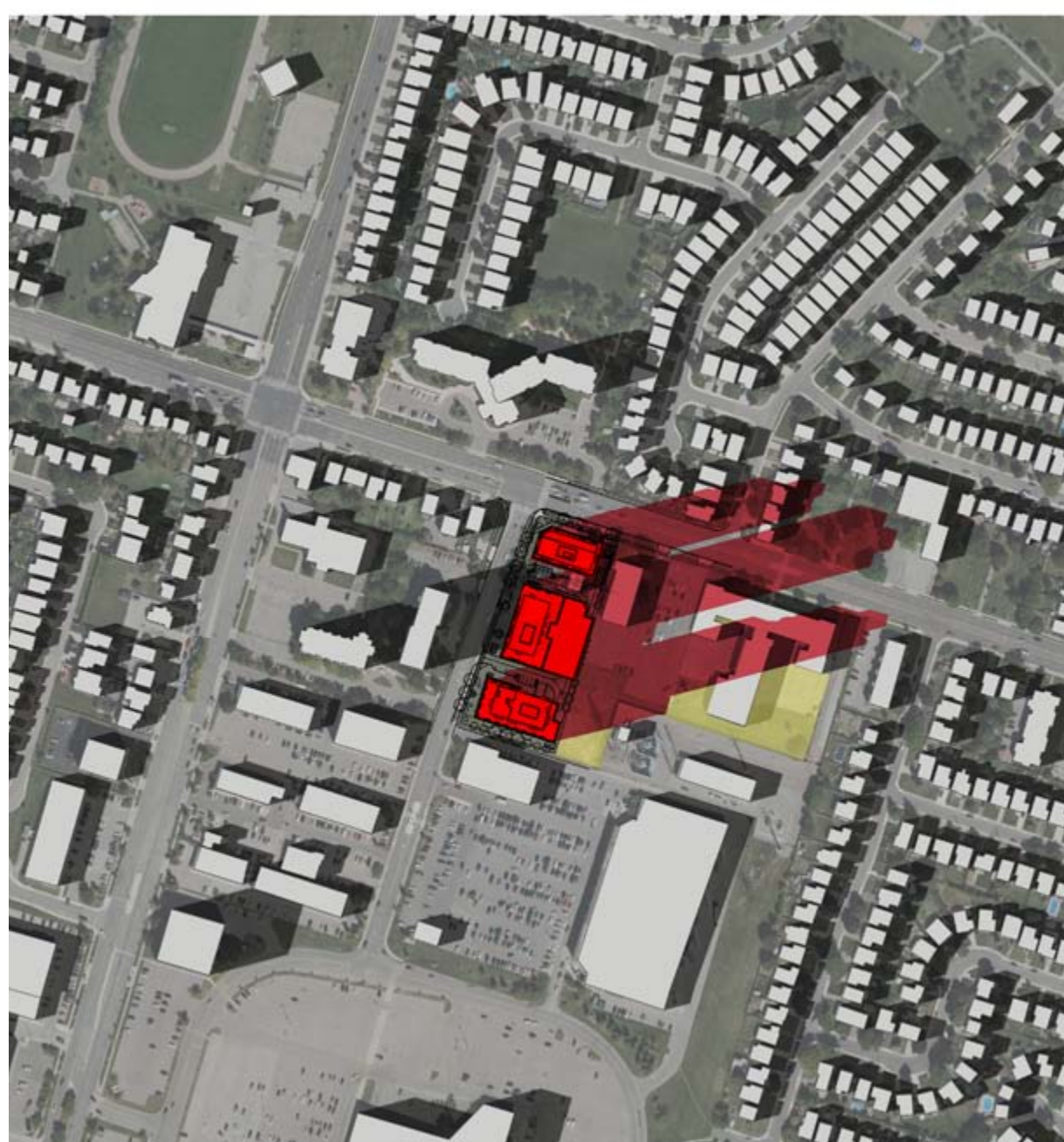
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MARCH 21, 4:03 PM



MARCH 21, 5:03 PM



MARCH 21, 6:03 PM

