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January 29, 2024

**To: City of Guelph Planning Department**  
**RE: 317 Speedvale Ave E, Guelph, Ontario**  
**Sun and Shadow Study**

Accompanying this report, please see Shadow Study drawings A9.00, A9.01, A9.02 and A9.03.

Shadow Studies have been prepared Newton Group Ltd. utilizing Autodesk Revit 3D software to analyze the shadows of the existing and proposed building conditions at 317 Speedvale Ave East in Guelph. The software permits the following information to specifically be input into the program:

Latitude: 43.56487 Degrees N  
Longitude: 80.25891 Degrees W

Astronomic North was provided through a survey of the property completed by J.D. Barnes Ltd dated June 22, 2023. This document provided an initial base with which to start modeling the built context of the site. The final proposed grading of the site was not available at the time of the analysis, thus, the shadow model assumes the topography to be flat. The shadow studies were further enhanced by underlaying open source data from ArcGIS; AutoCAD Geolocation feature to trace streets and Google Earth to provide graphical context of the surrounding site.

#### DESCRIPTION, QUANTIFICATION AND ASSESSMENT OF AREAS WITH RESPECT TO SHADOW IMPACT CRITERIA

1. Residential Amenity Spaces – impact on surrounding residential amenity spaces (other properties) is minimal and within the requirements of the criteria. The proposed building does cast shadow over the proposed outdoor residential amenity spaces on the subject project for greater than one hour per day in the spring, summer and fall periods. On Sept 21, the east outdoor amenity space is in shadow from 1pm until sunset. On April 21, the west outdoor amenity space is in shadow from sunrise to 9am, and the the east outdoor amenity space is in shadow from 1pm to sunset. On June 21, the west outdoor amenity space is in shadow from sunrise to 10am and the east outdoor amenity space is in shadow from 2pm to sunset.
2. Places where Children play (schools, parks, etc) – n/a, no impact to places where children play
3. Public realm (sidewalks, open spaces, plazas, etc)
  - 3.1 Opposite sidewalk (North side of Speedvale) on Sept 21 has full sun 11am-6pm and meets the requirement. Opposite sidewalk (East side of Manhattan) on Sept 21 has full sun 9am to 2pm and meets the requirement.
  - 3.2 n/a – no impact to public open spaces and plazas



4. Community Gardens – n/a – no impact to community gardens
5. Cultural Heritage Resources – n/a – no impact to cultural heritage attributes

#### SUMMARY

All of the Shadow Impact Criteria outlined in the City of Guelph's Sun and Shadow Study Terms of Reference are met (or are not applicable) other than the requirement not to shade residential amenity spaces (on the subject property) for greater than 1 hour per day. The layout of the outdoor amenity spaces has been designed as a mitigating feature – rather than a single amenity space, two amenity spaces have been provided on separate sides of the proposed building (east and west). While one amenity space may be in shadow, the opposite amenity space is always in sun to provide an option for users. Furthermore, not all users desire direct sun and may prefer shade.

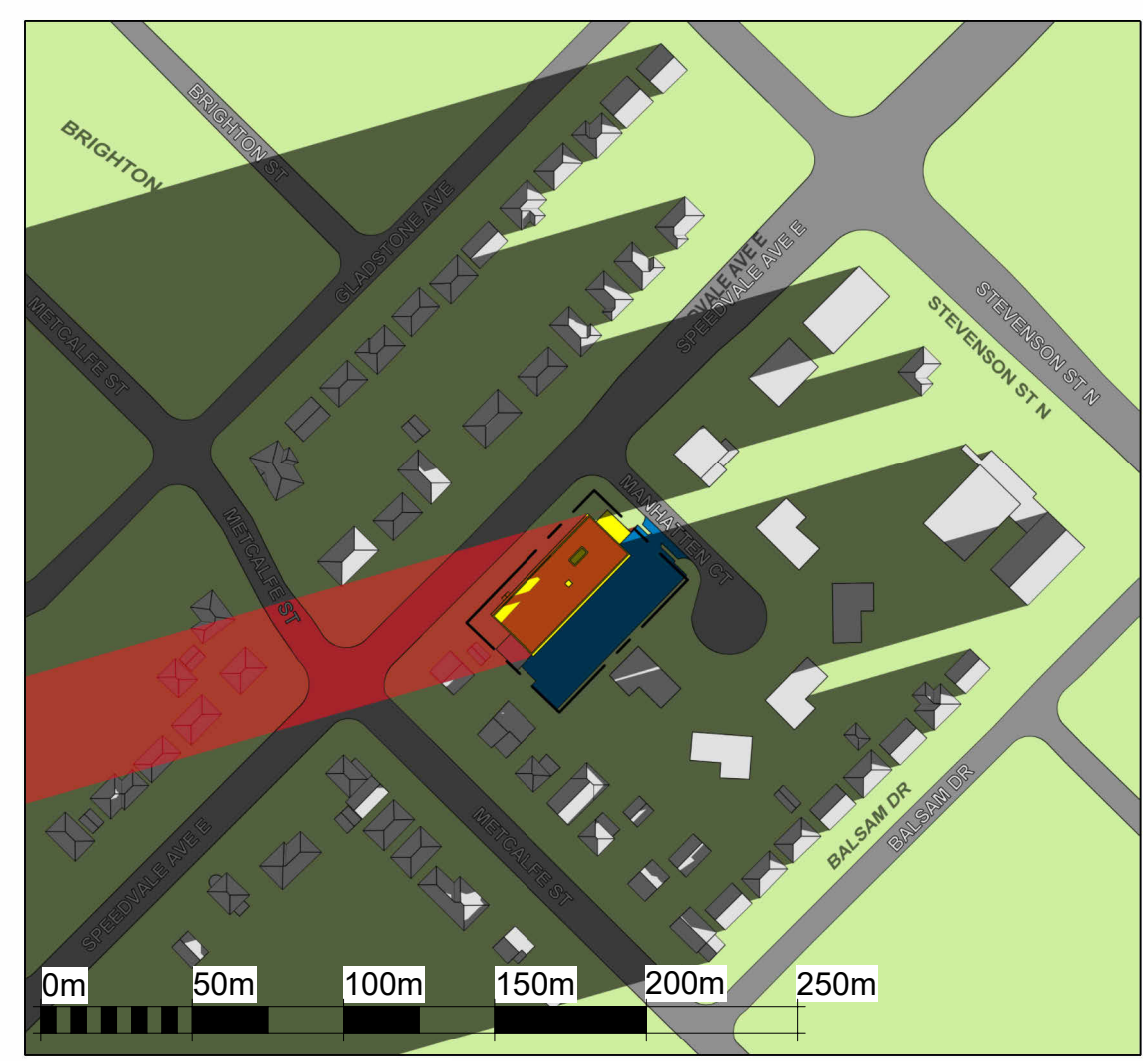
We trust that the above is understood. Should you have any questions with regard to the above please contact the undersigned.

Sincerely,

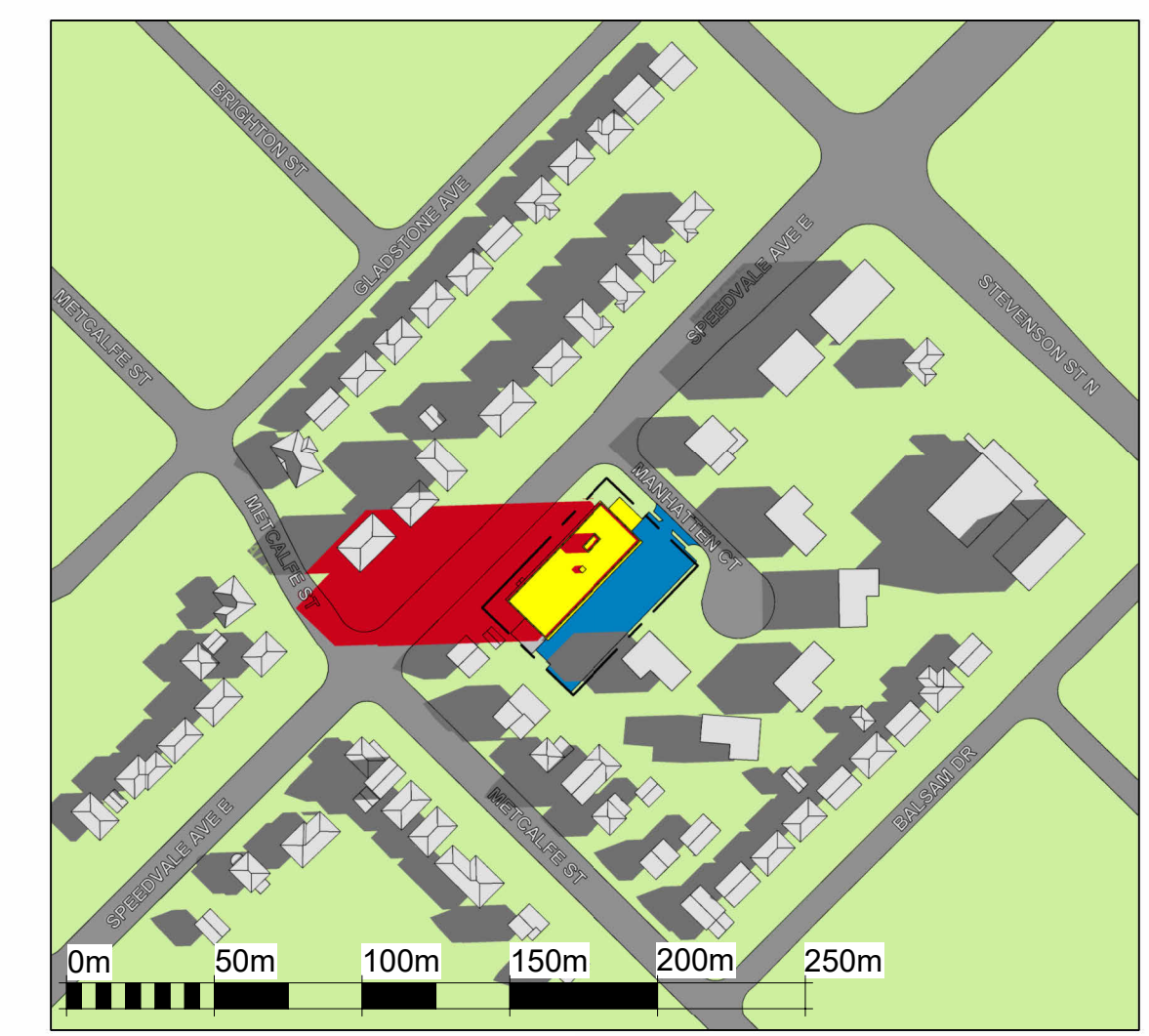
A handwritten signature in black ink, appearing to read 'Cam Krajcik', is written over a thin horizontal line.

Cam Krajcik, P.Eng, PMP, LEED AP  
Vice President, Design and Engineering  
Newton Group Ltd.

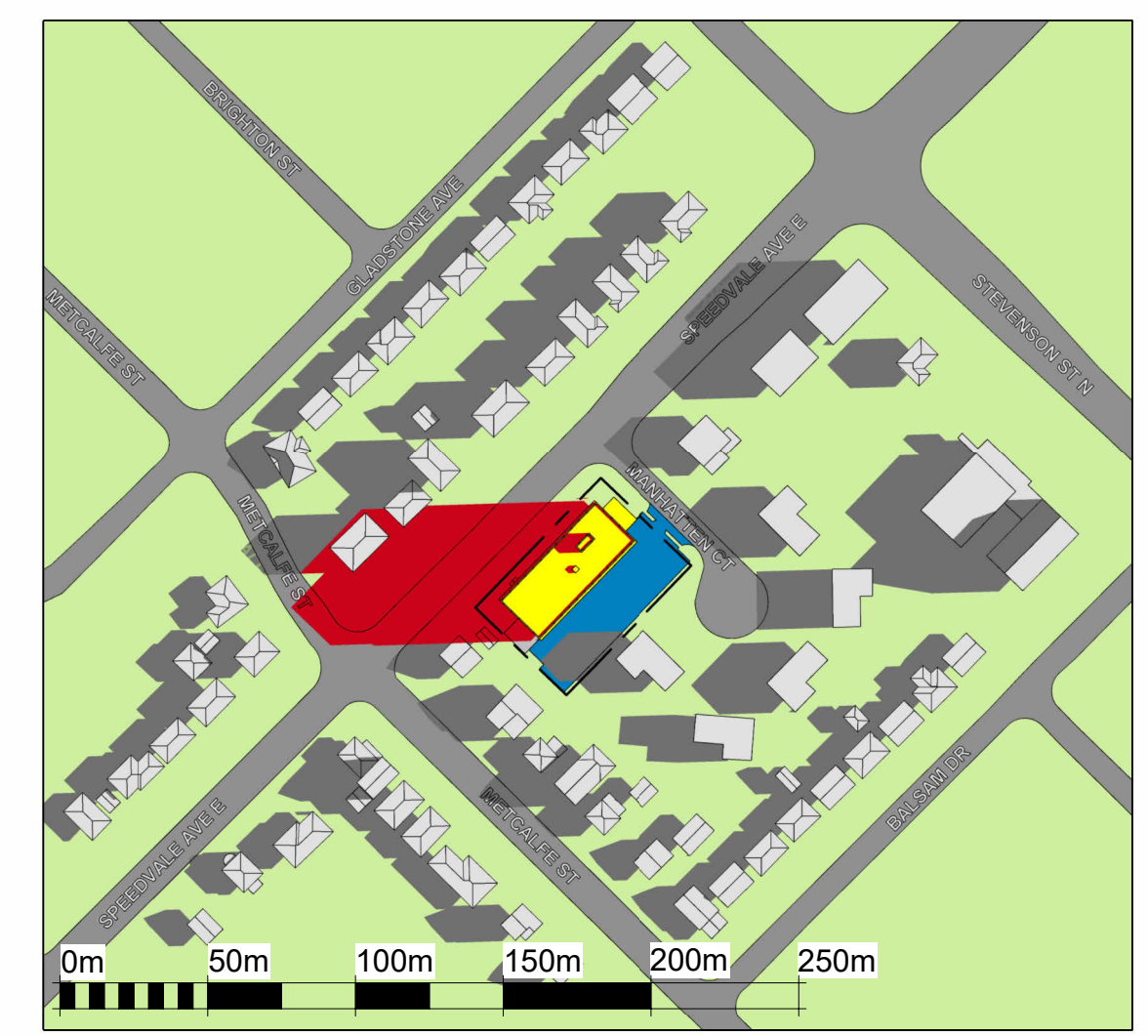




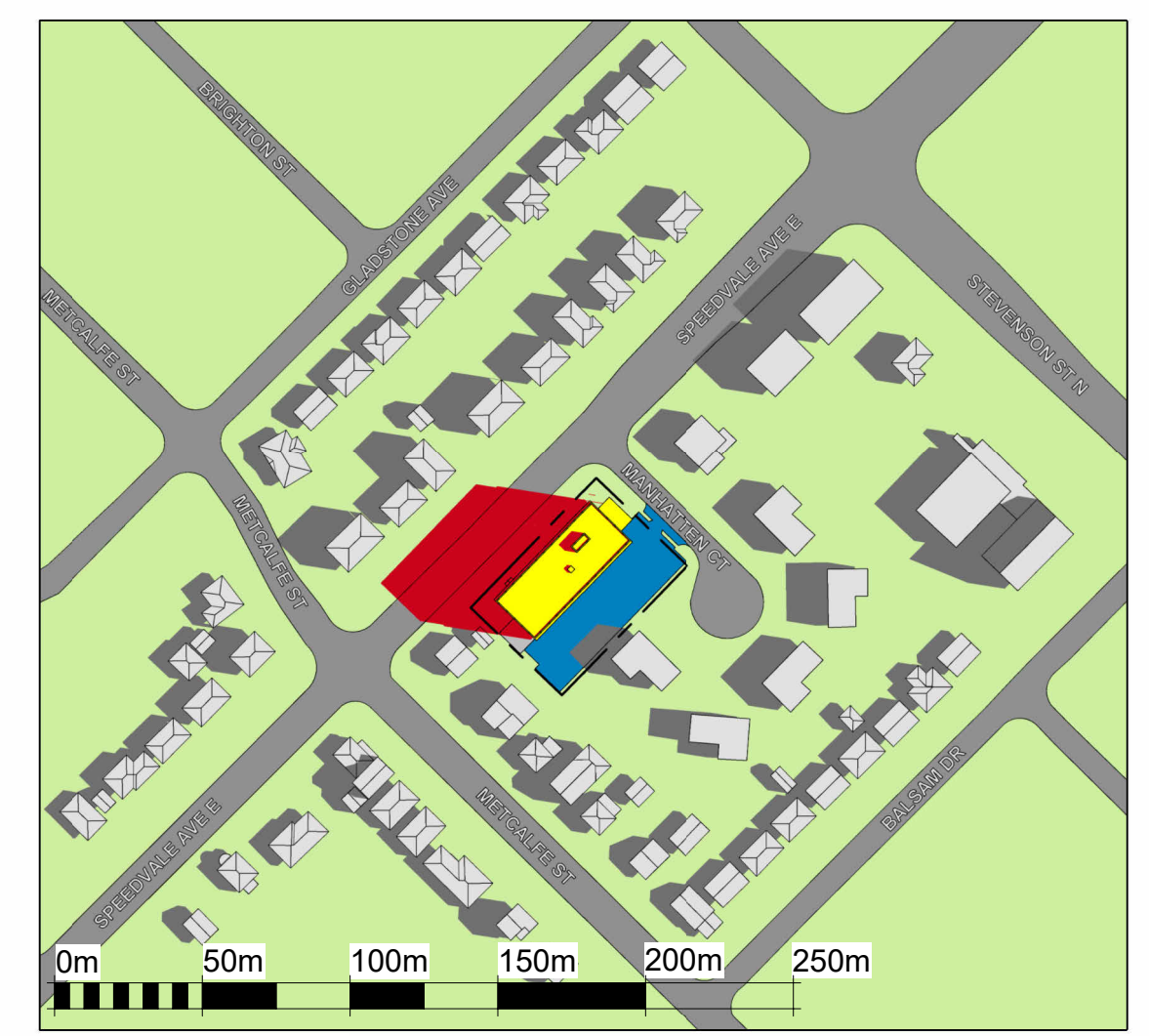
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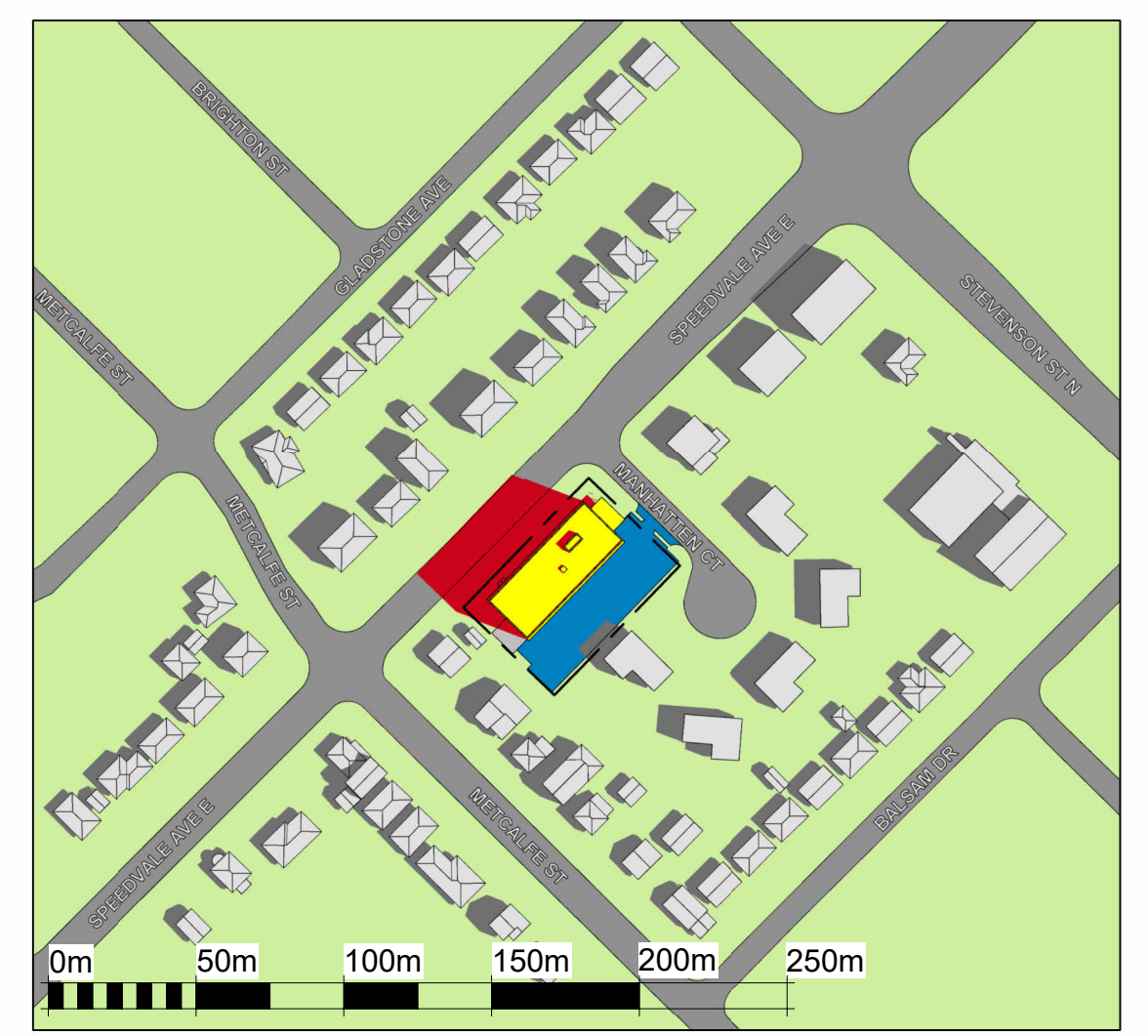
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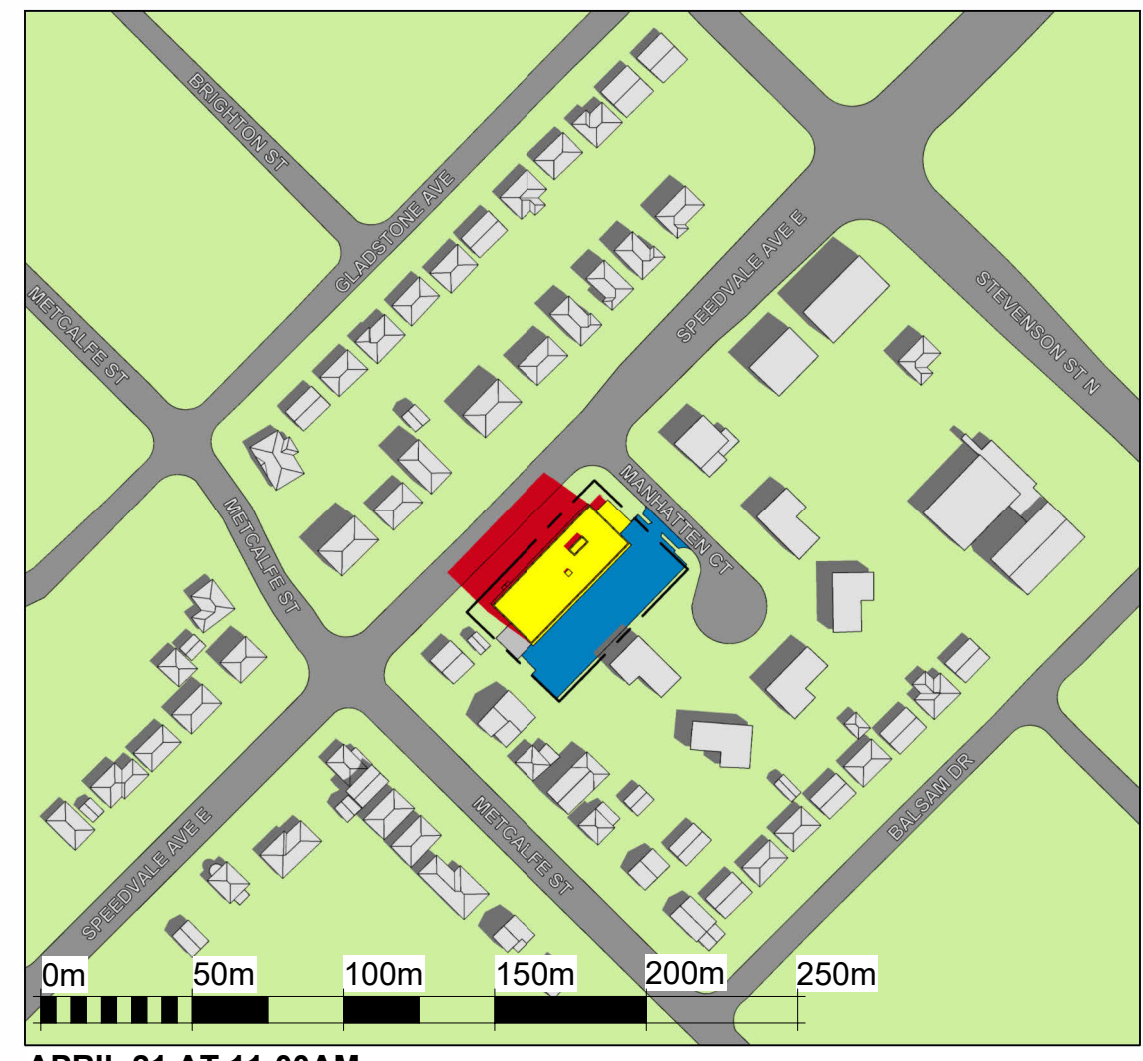
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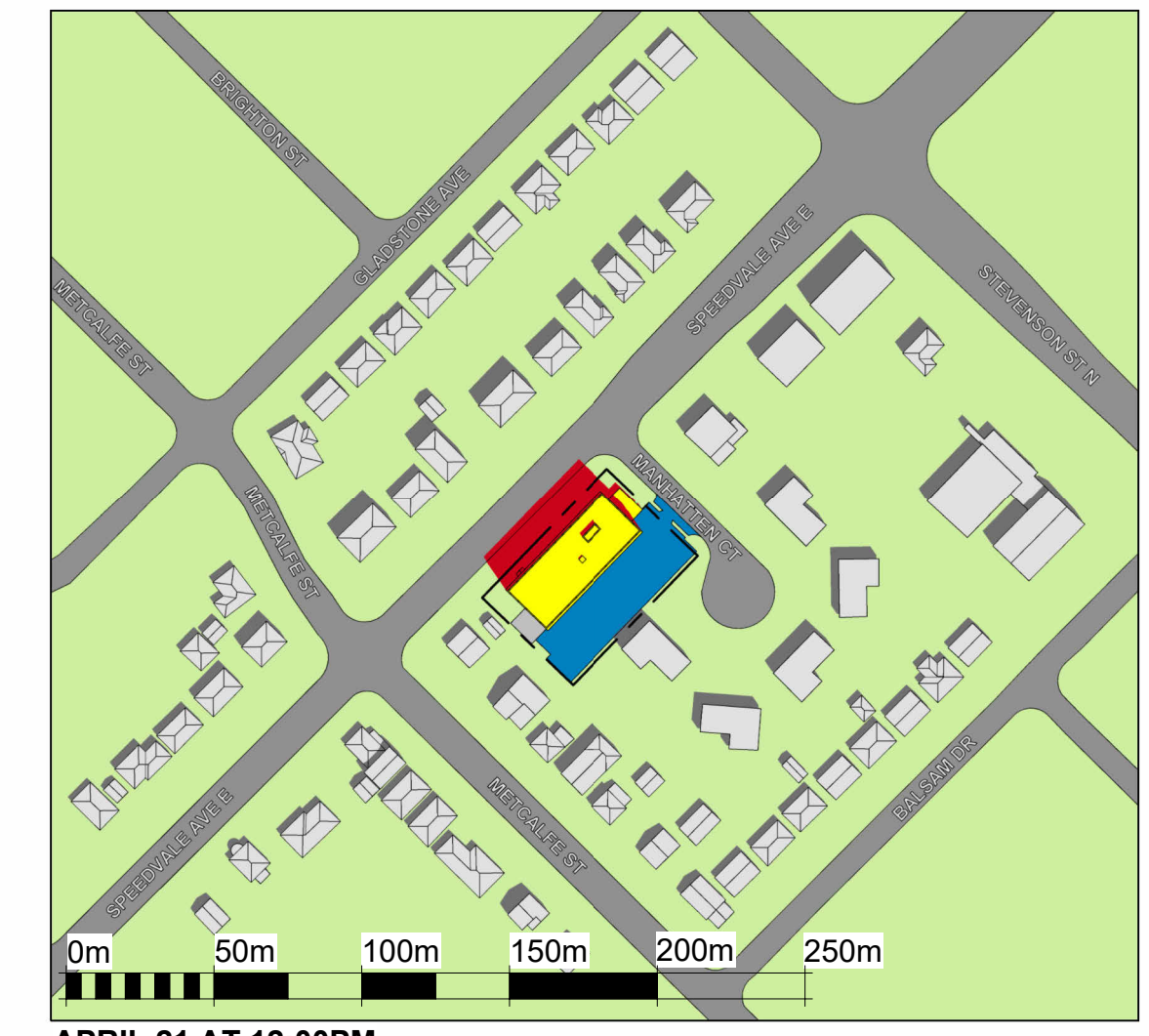
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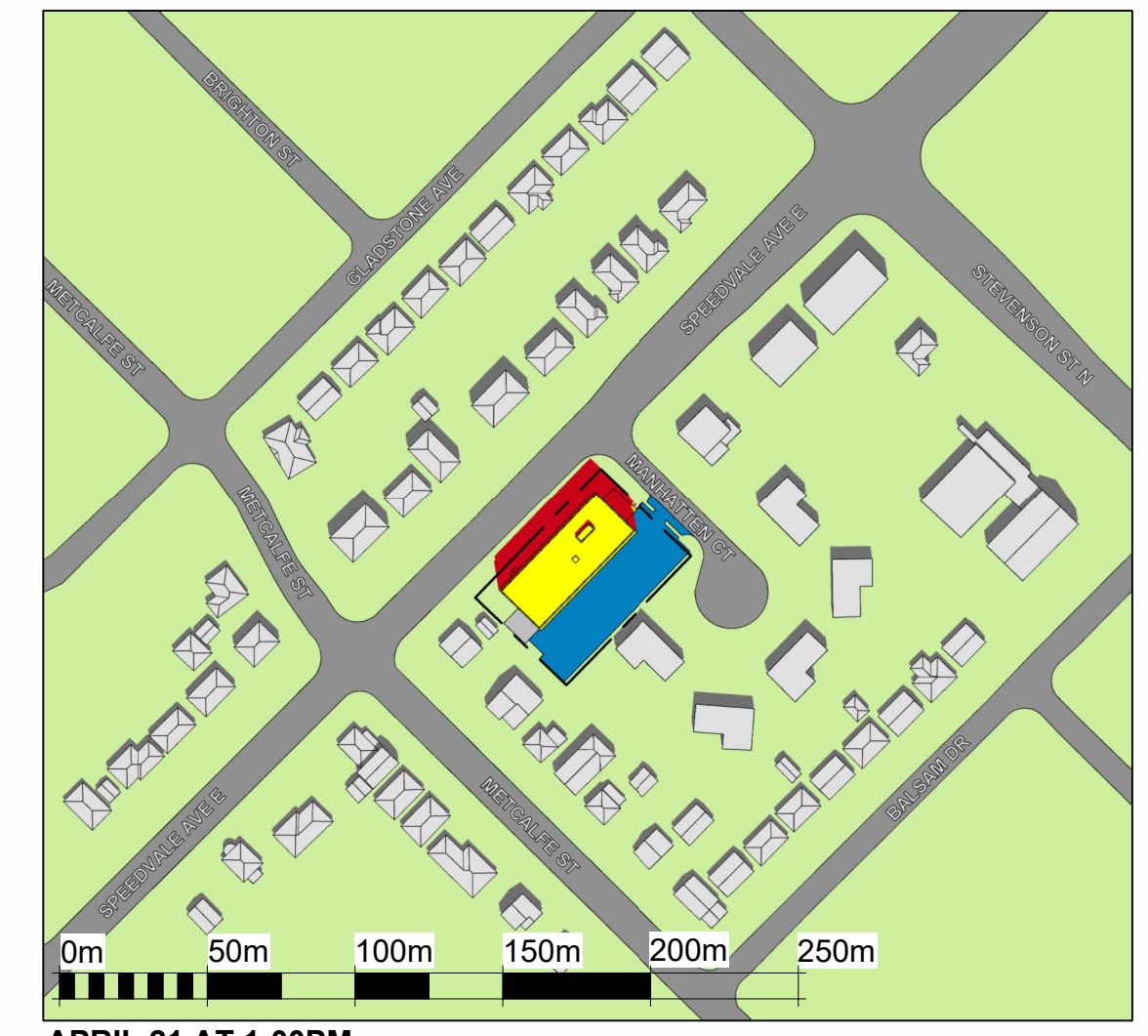
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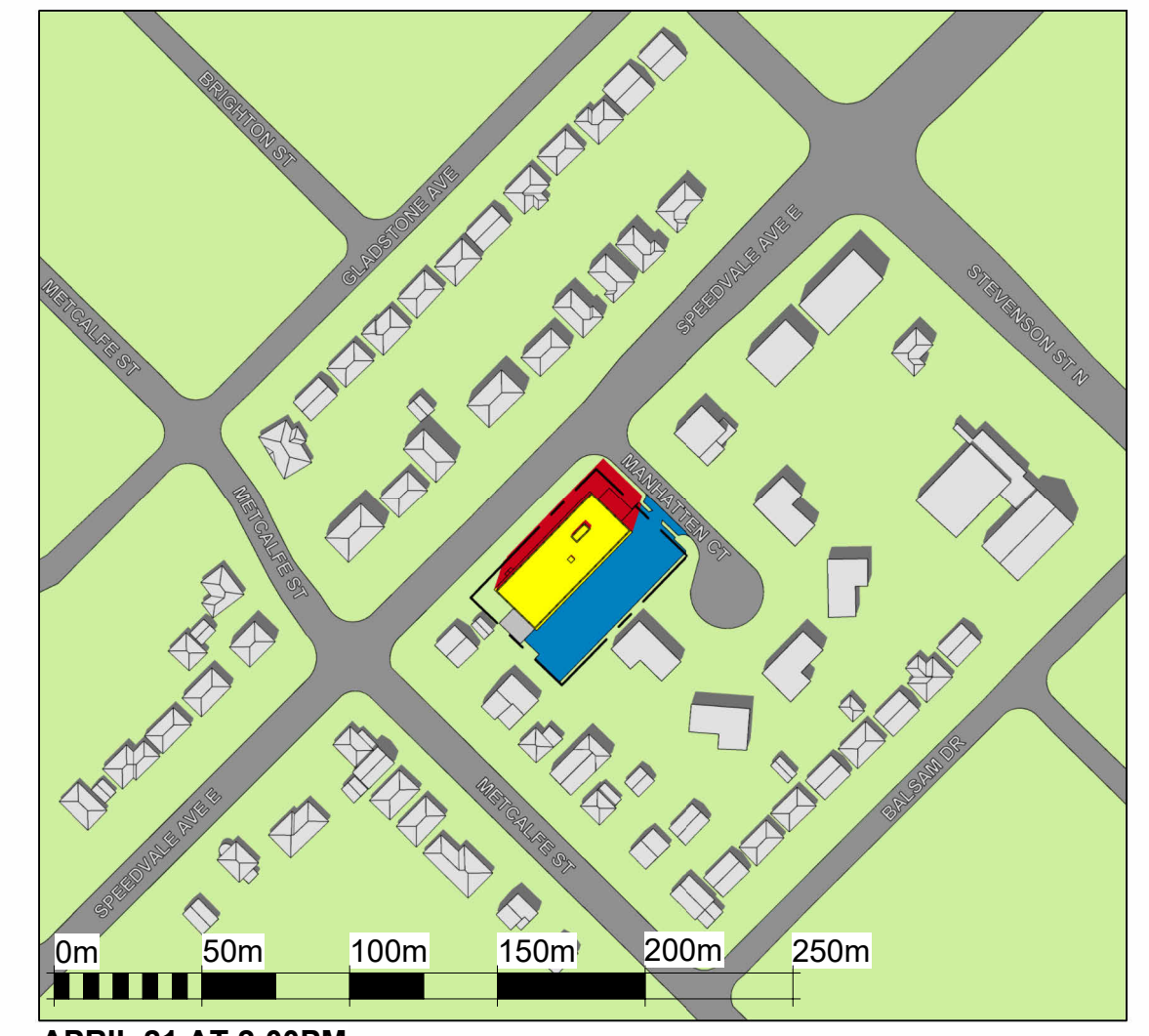
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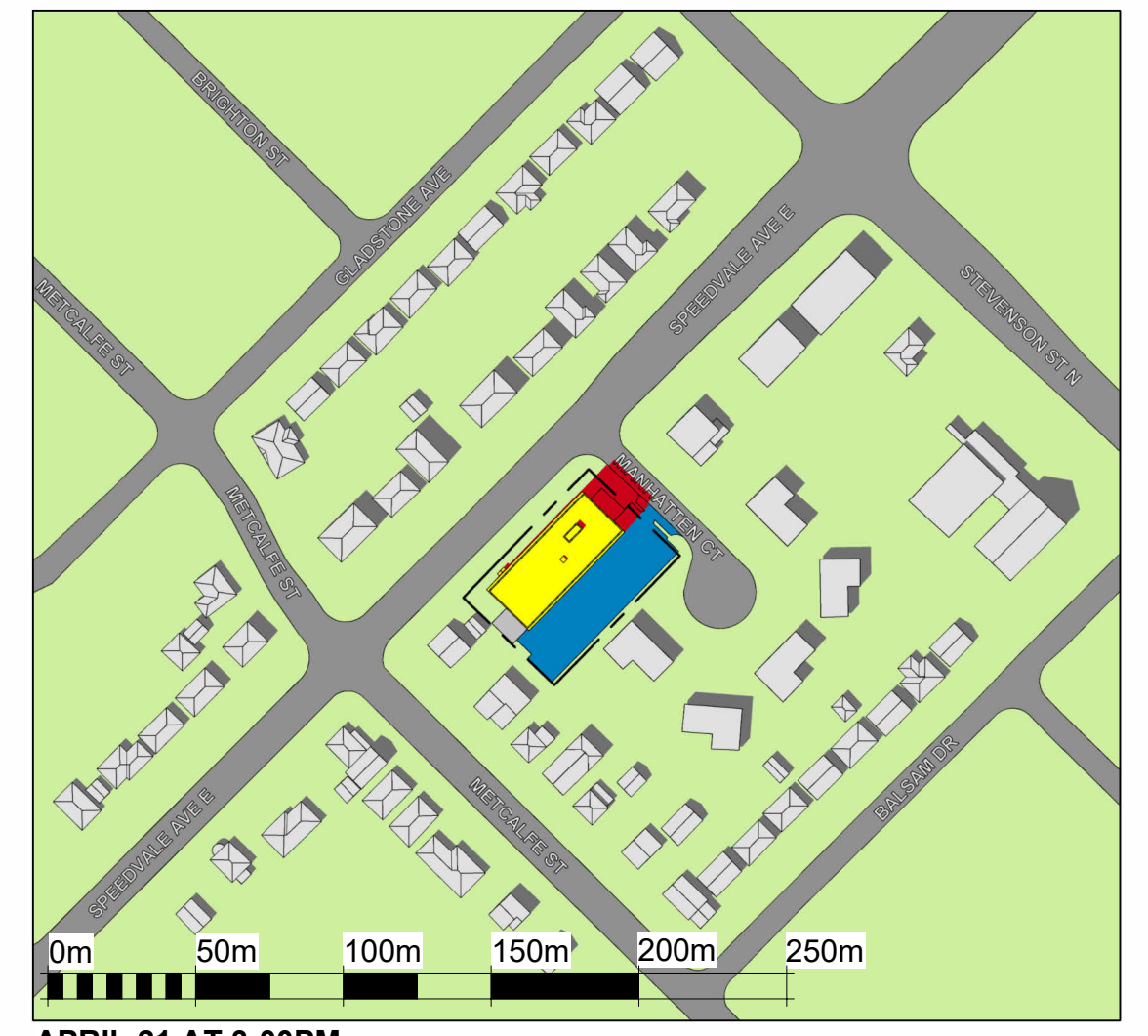
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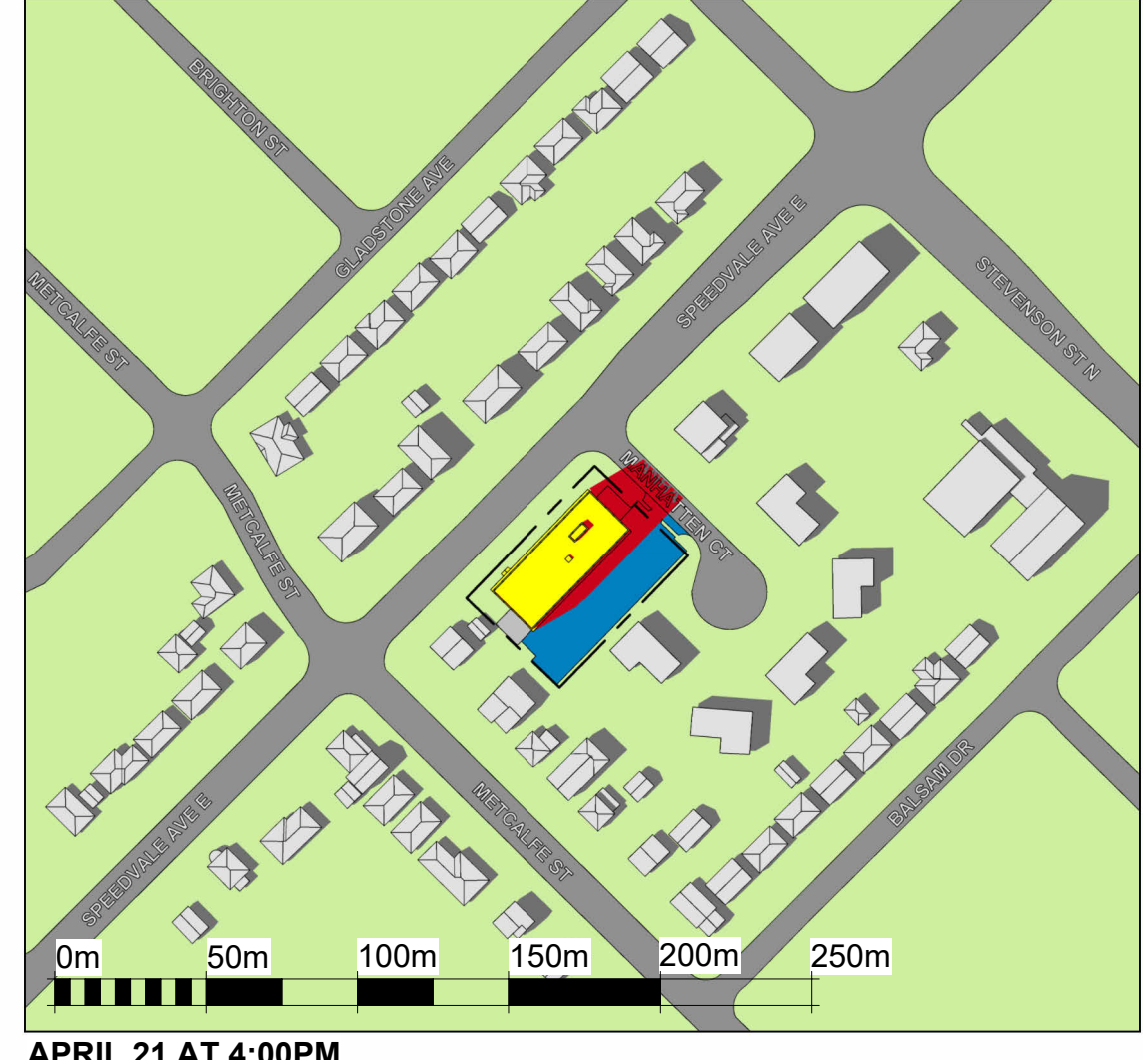
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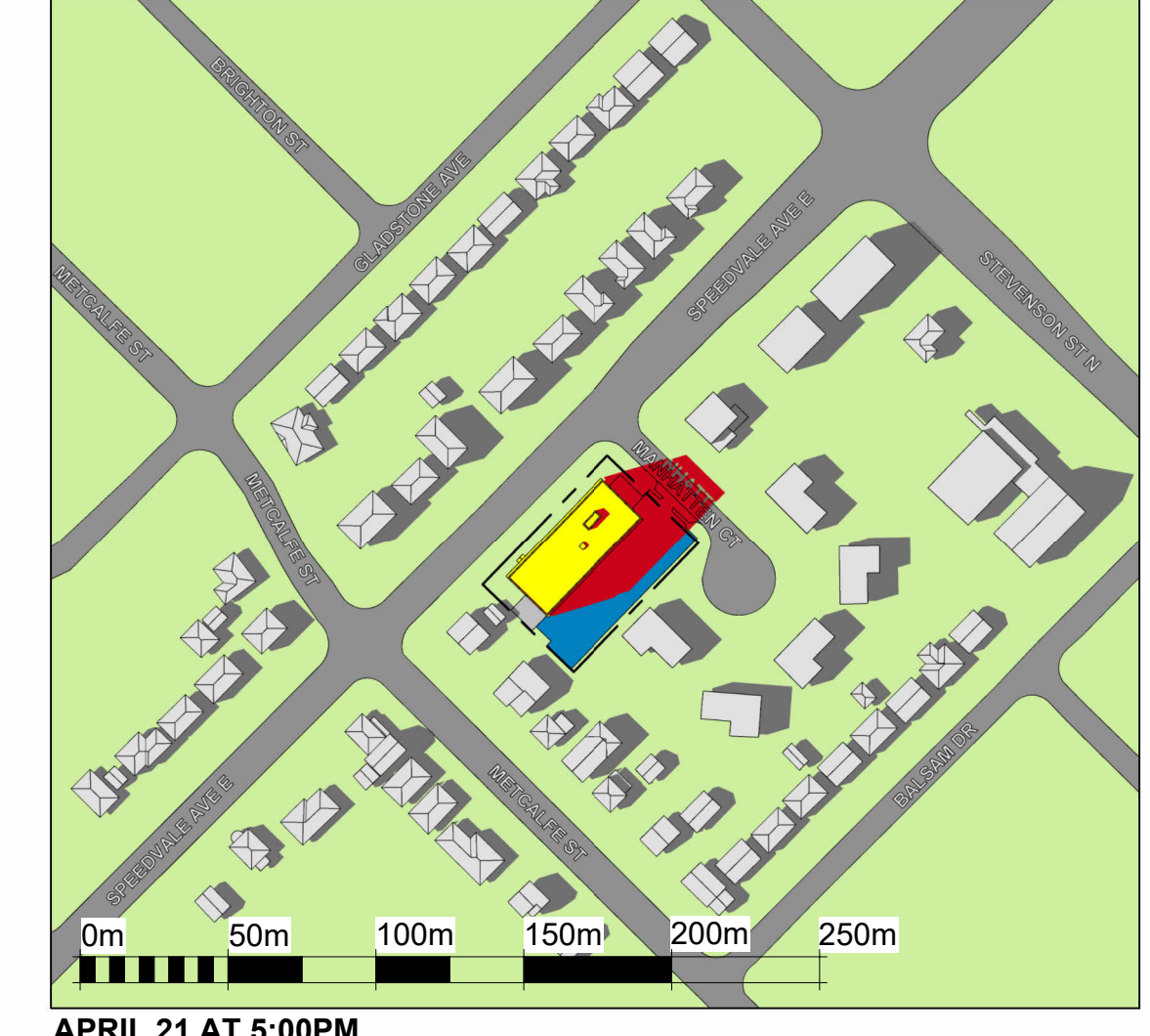
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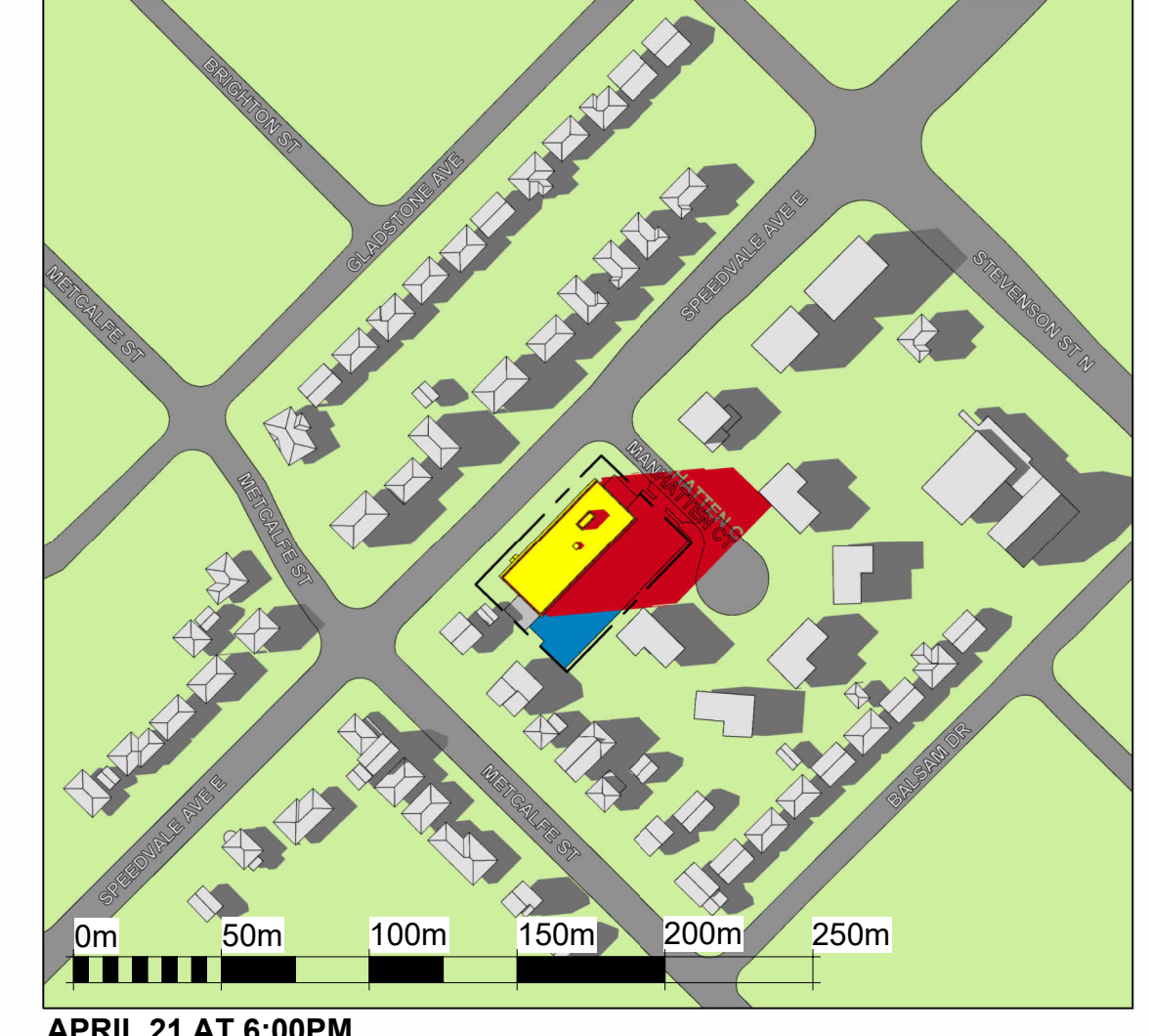
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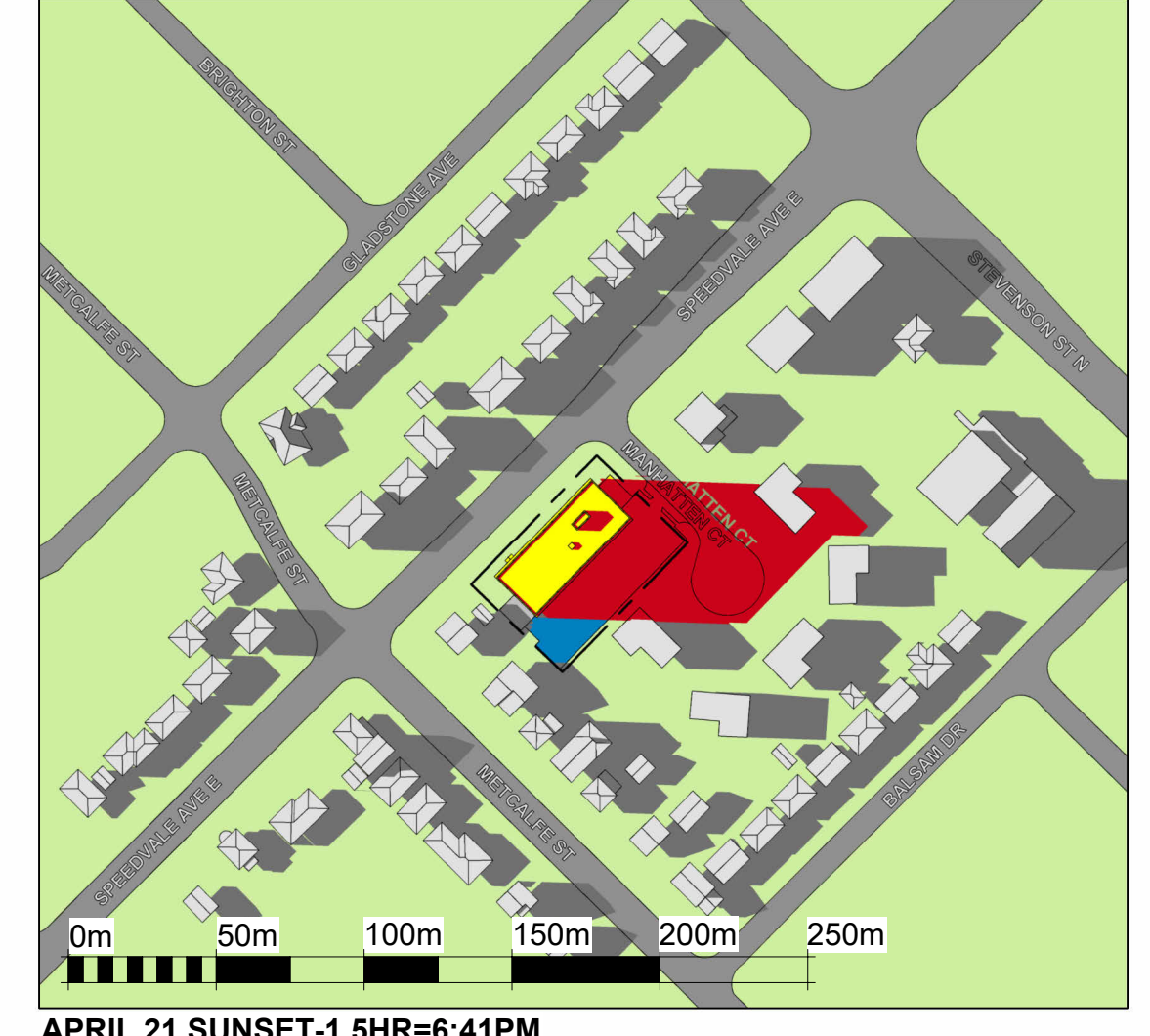
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APRIL 21 AT 5:00PM



APRIL 21 AT 6:00PM



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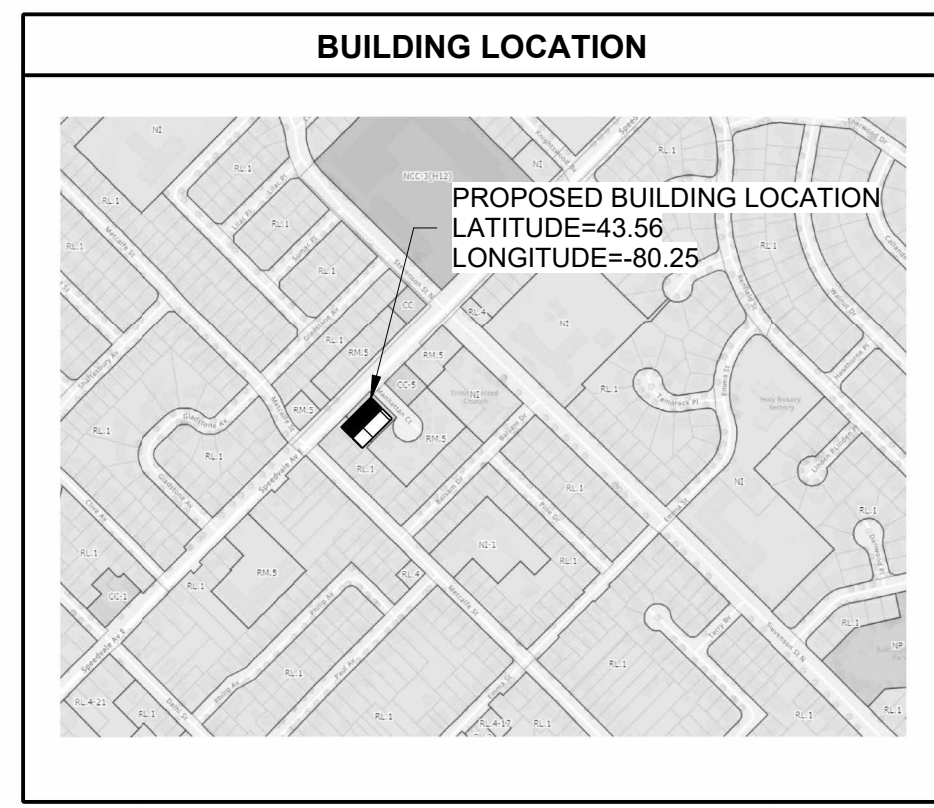
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B	23-12-19	ISSUED FOR SPA PRE-CONSULTATION	CVL
A	23-08-25	ISSUED FOR SPA PRE-CONSULTATION	CVL
#	DATE	DESCRIPTION	BY

**PROJECT**  
**SPEEDVALE AFFORDABLE HOUSING**  
MANHATTAN COURT & SPEEDVALE AVE E  
GUELPH, ON  
POSTAL CODE [TBD]

**DRAWING**  
**SUN PATH STUDY - PROPOSED APRIL 21**

PROJECT NO.: 23136  
PROJECT DATE: 2023-07-20  
DRAWN BY: CVL  
CHECKED BY: CK/PH  
SCALE: As Indicated

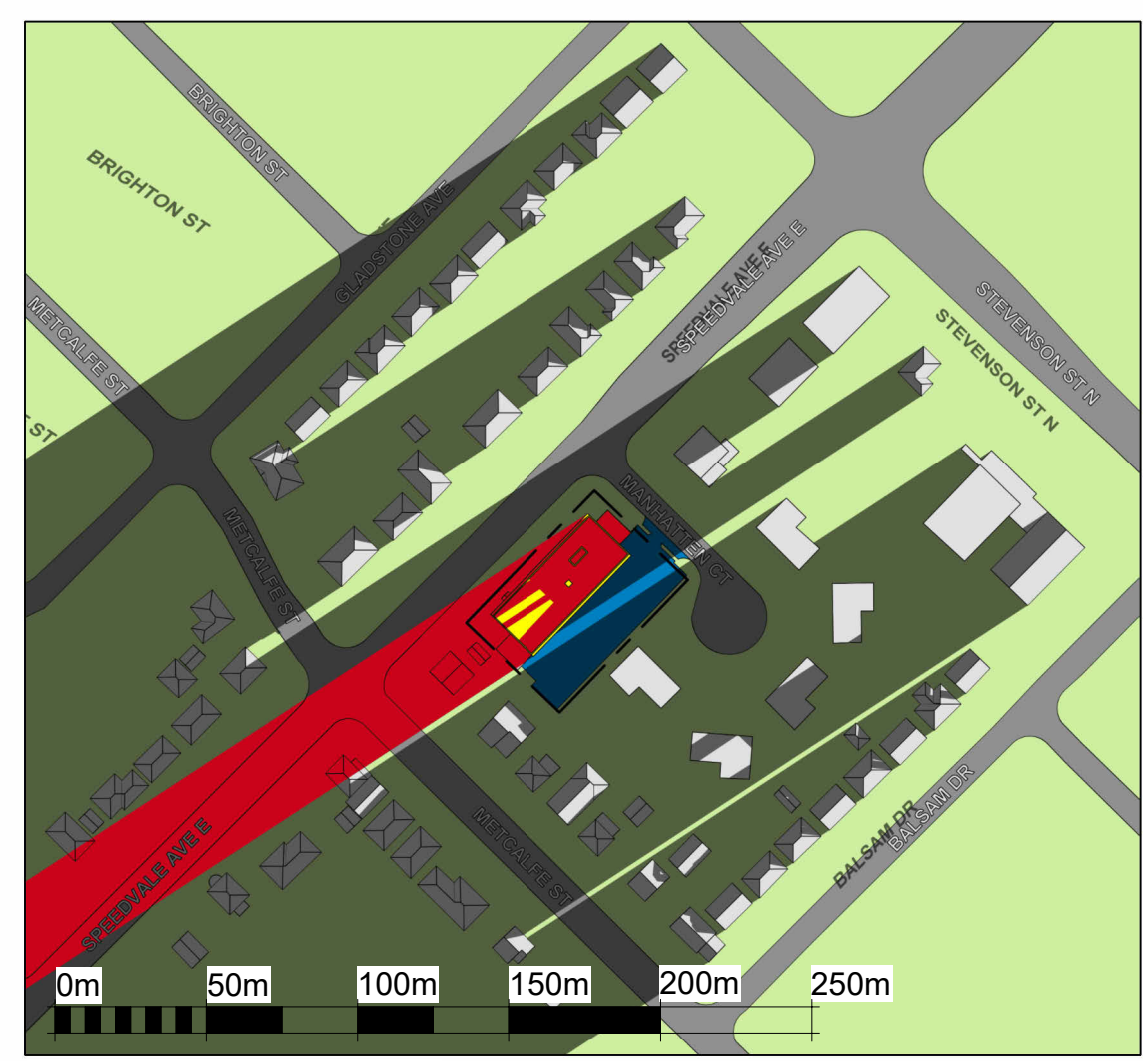
DRAWING NO. **A9.00**



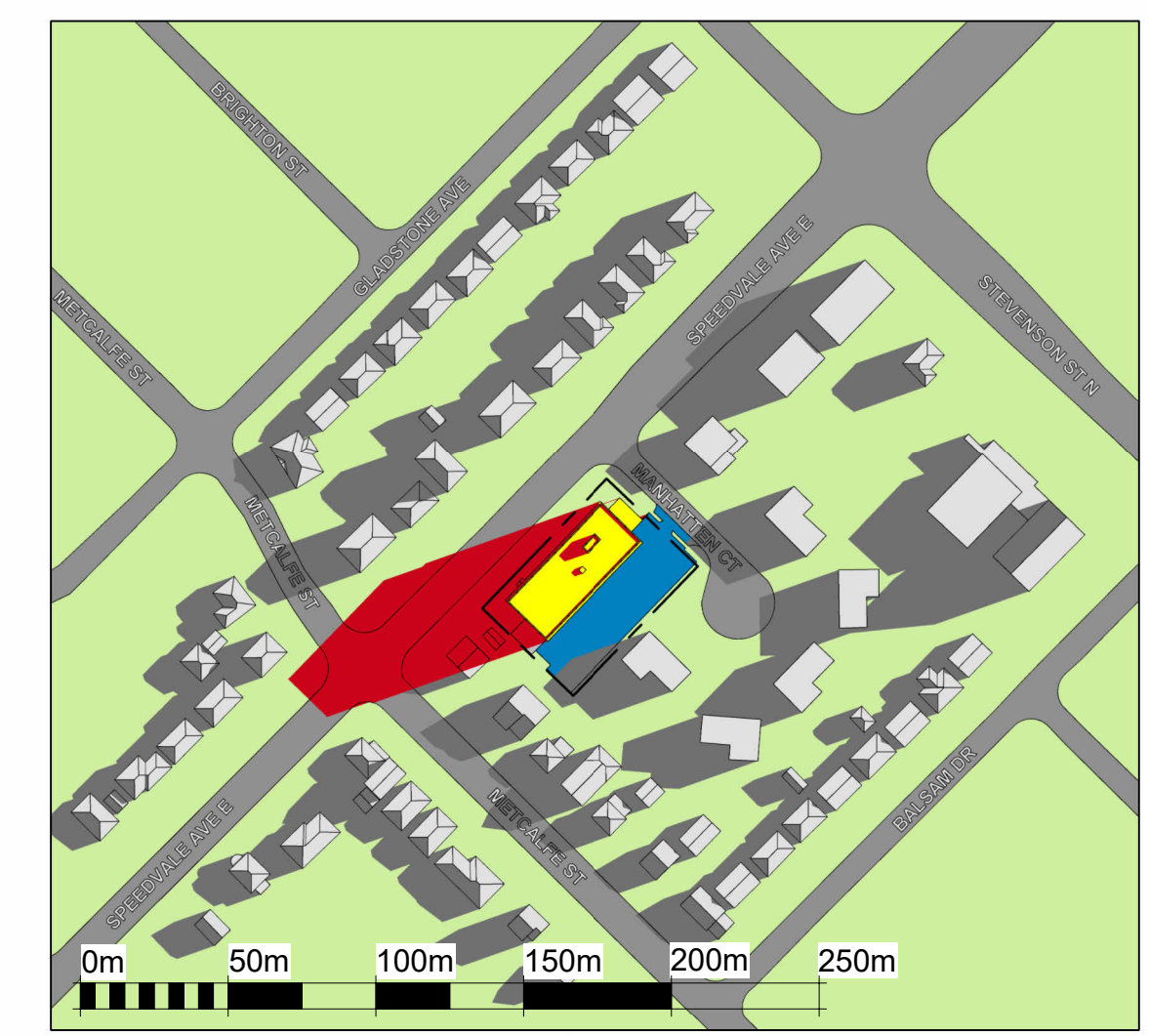
**SHADOW STUDY LEGEND**

	UNDERLAY ROADWAYS		PROPOSED BUILDING
	UNDERLAY GRASS AREAS		SHADOW CAST PROPOSED
	SHADOW CAST EXISTING		MODELED SURROUNDING BUILDINGS
	UNDERLAY PARKING AREA		





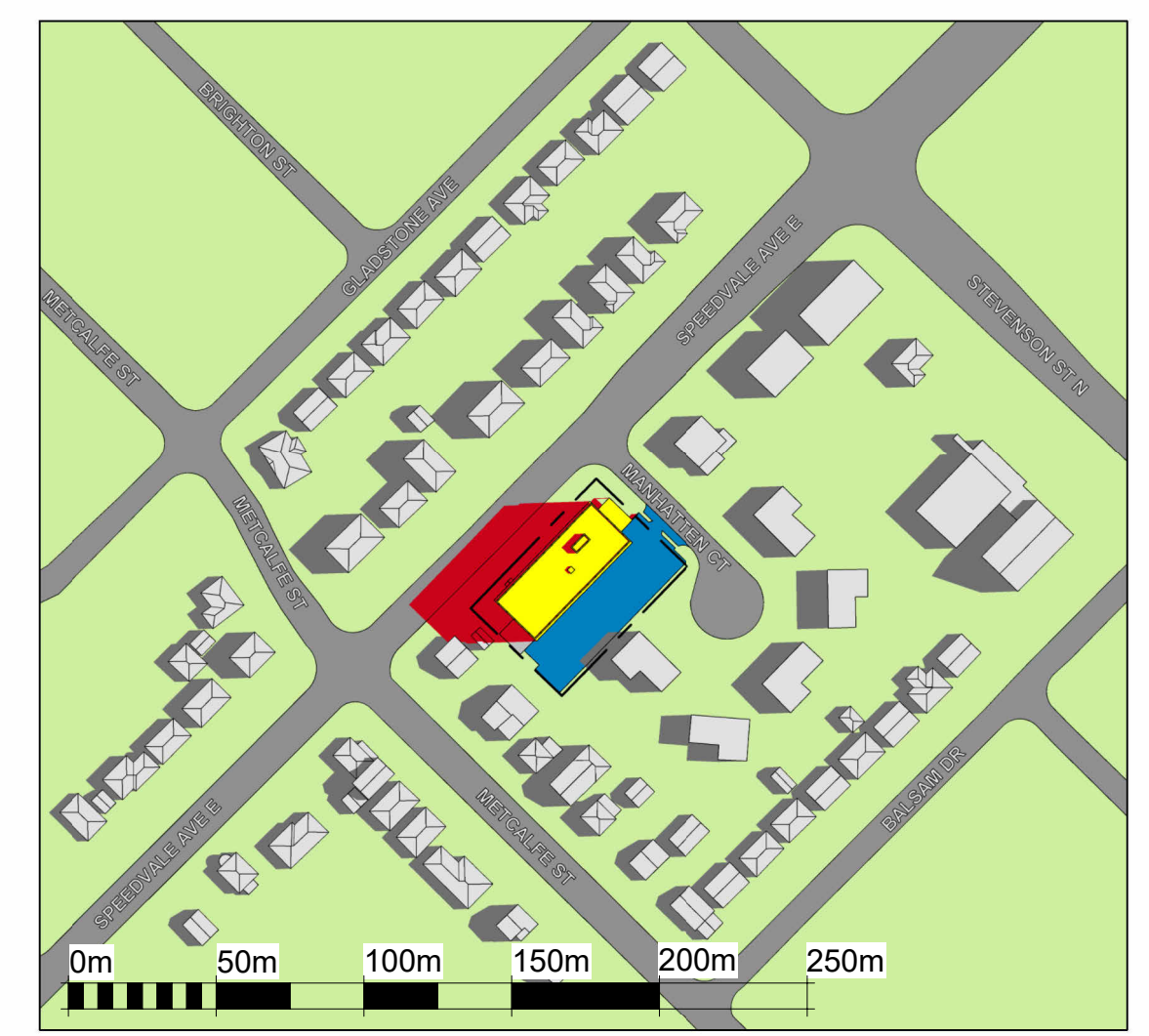
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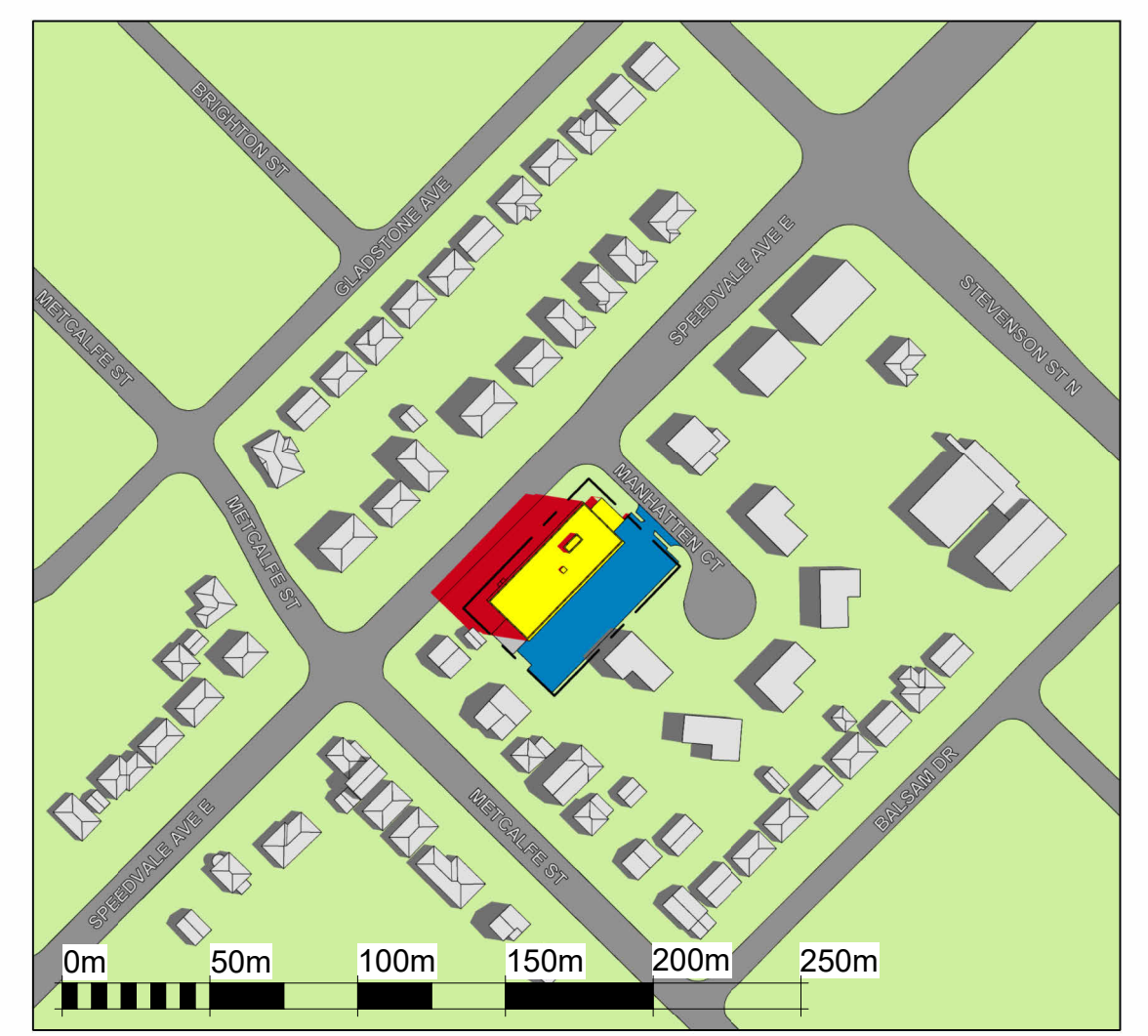
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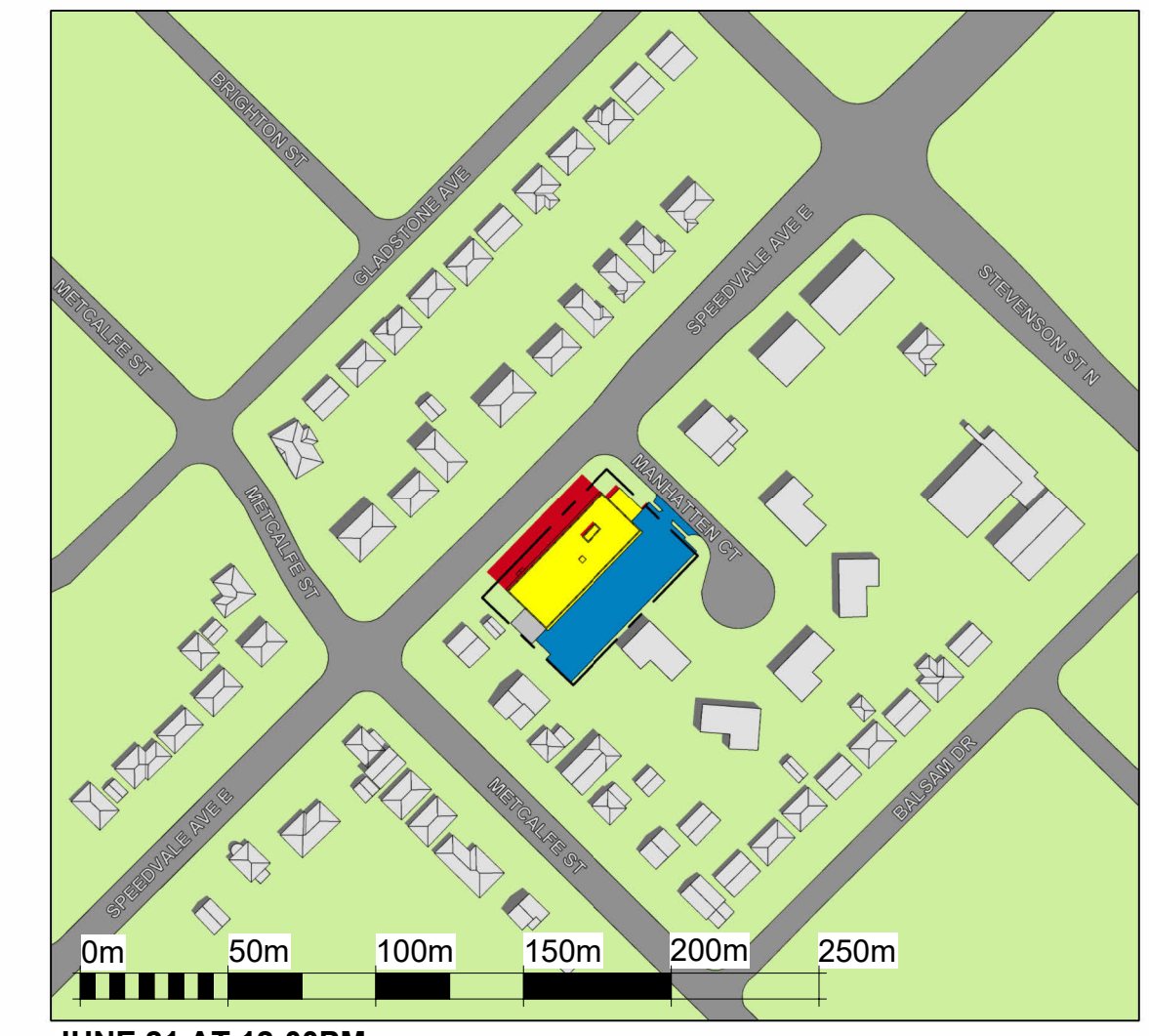
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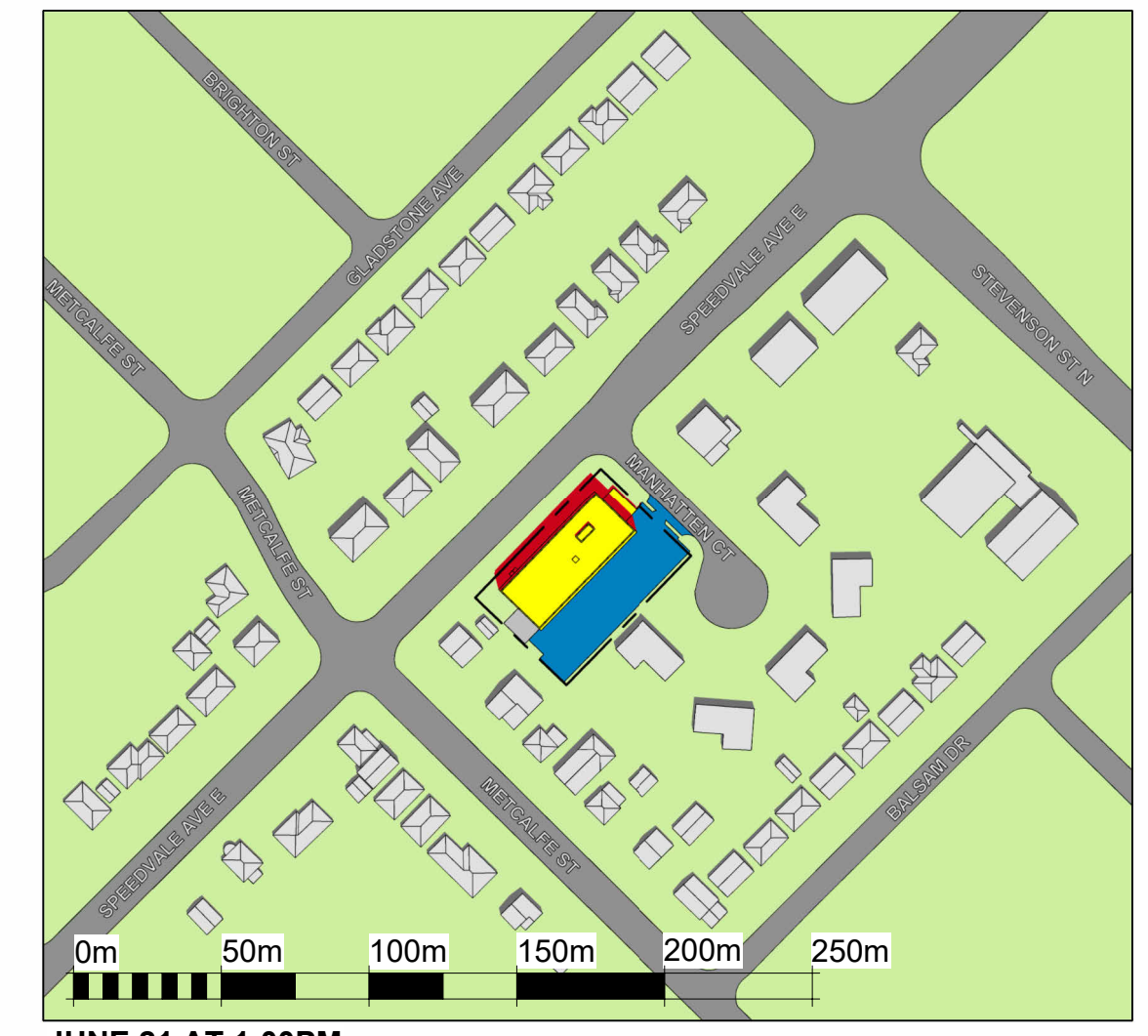
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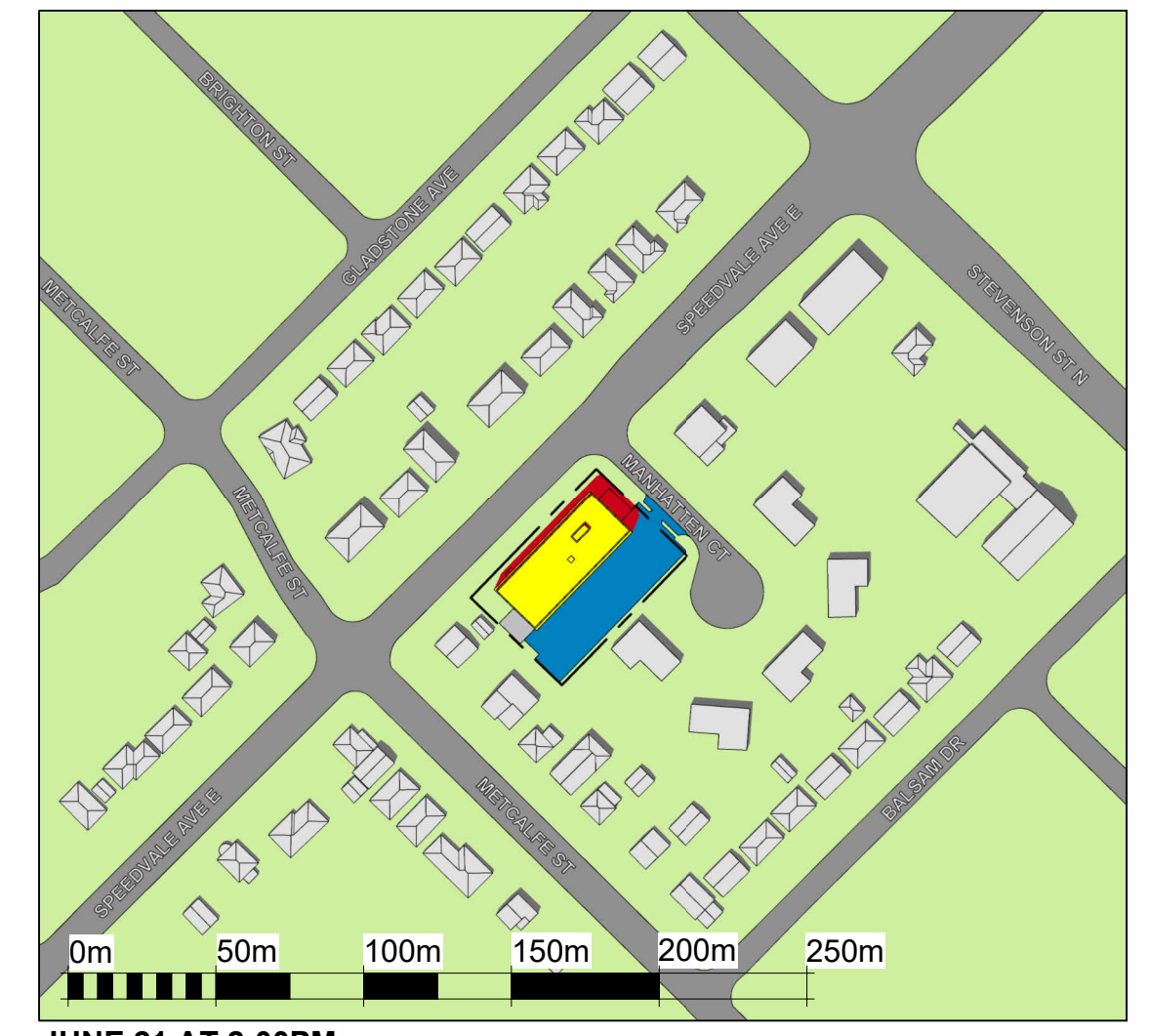
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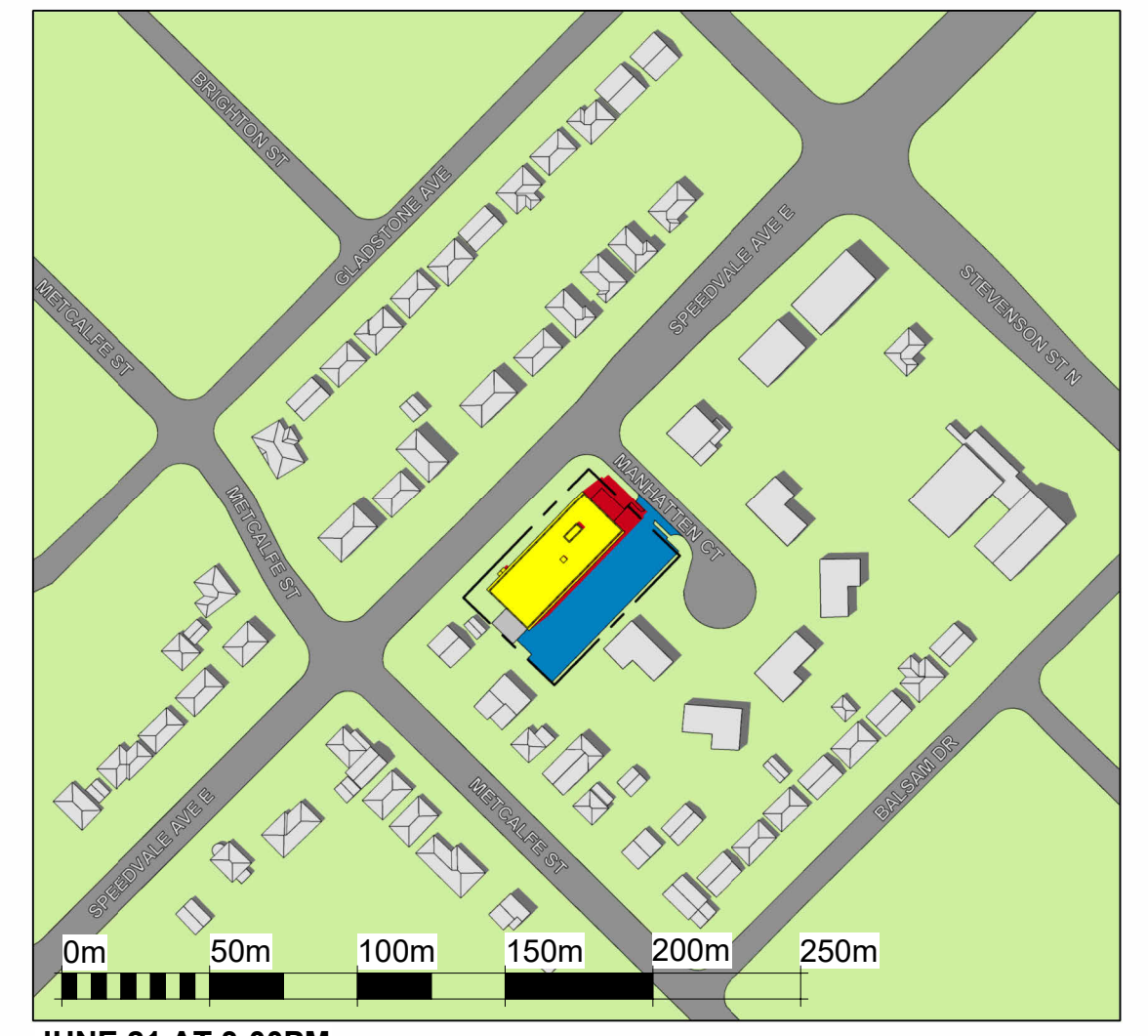
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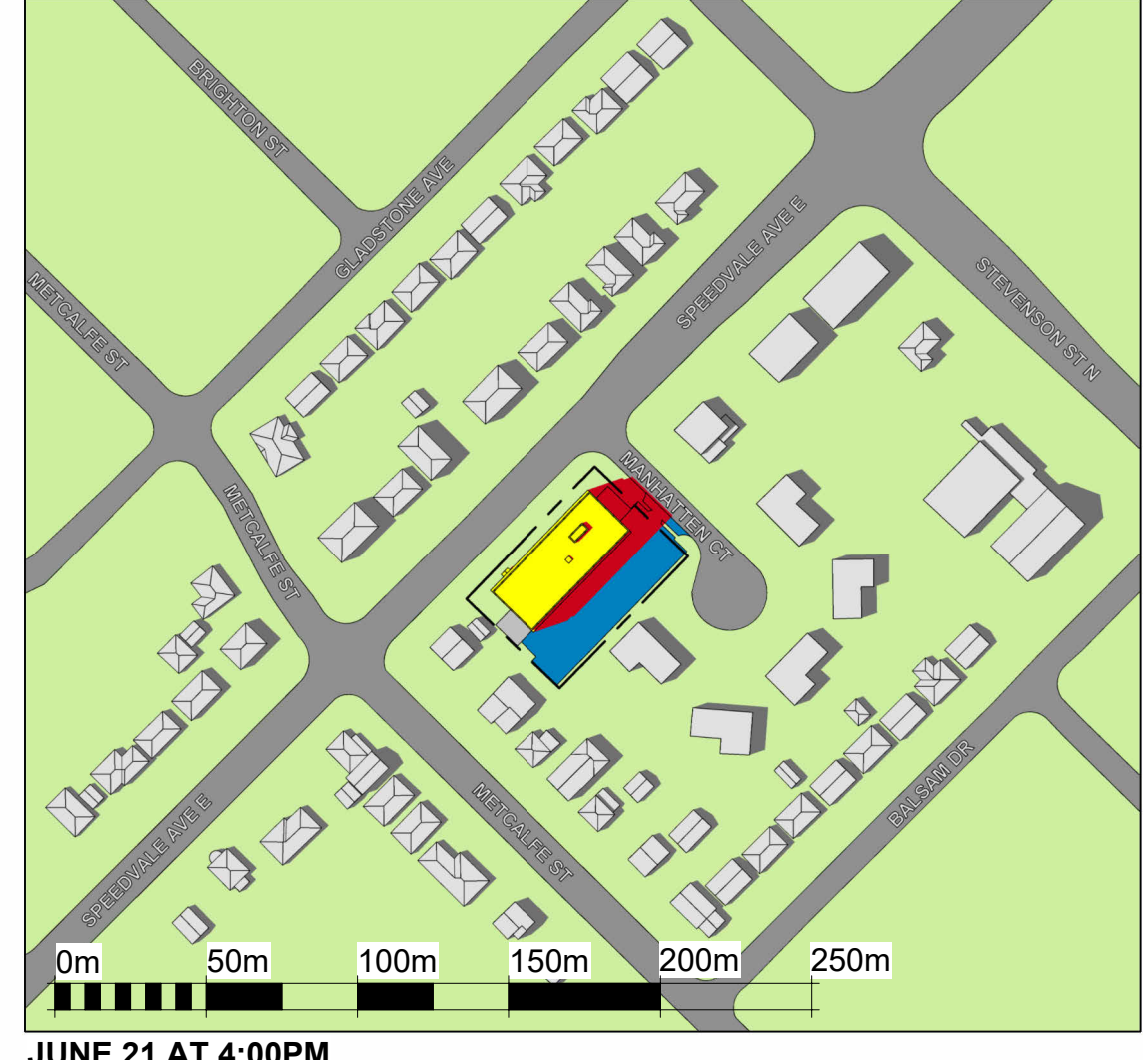
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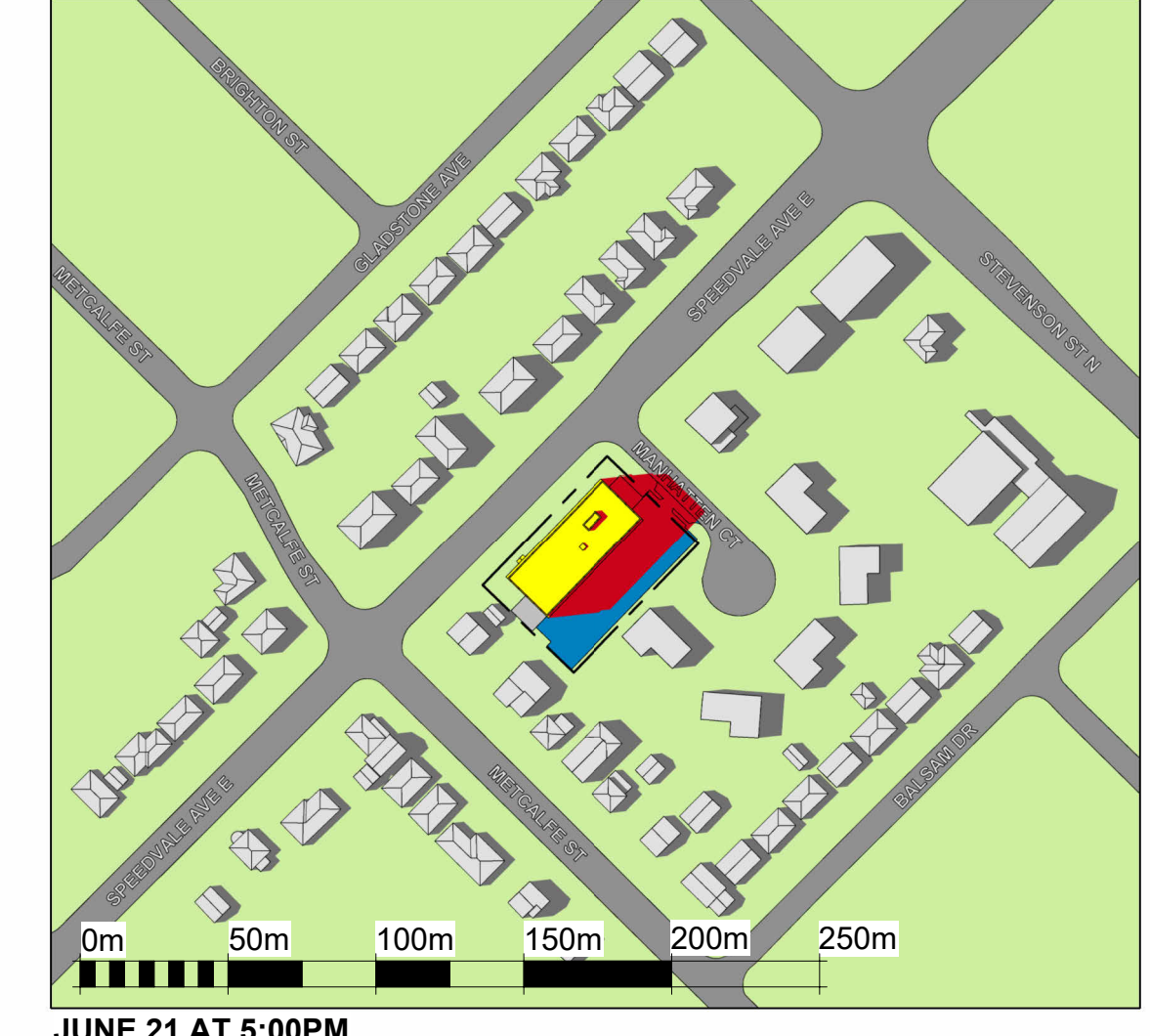
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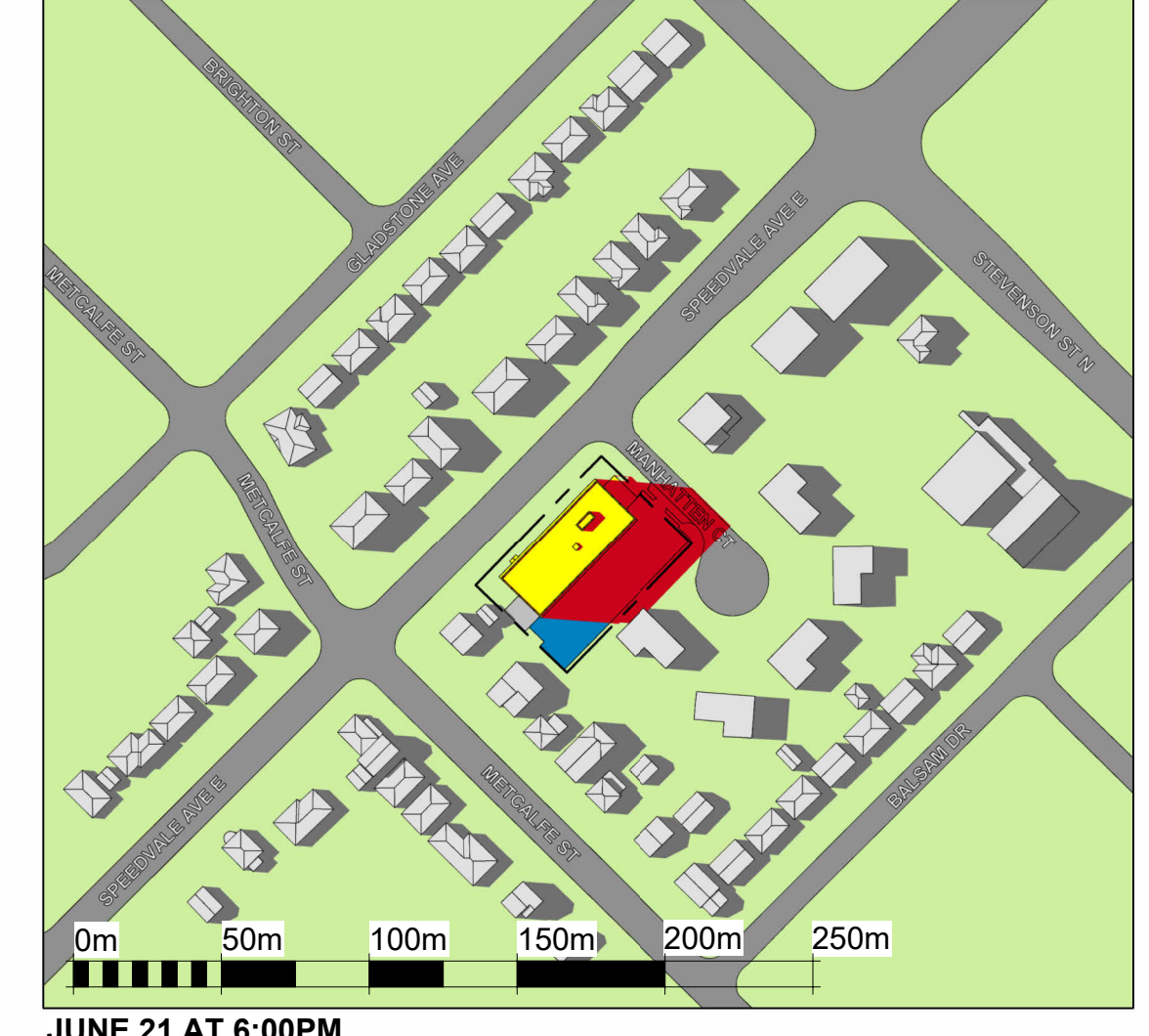
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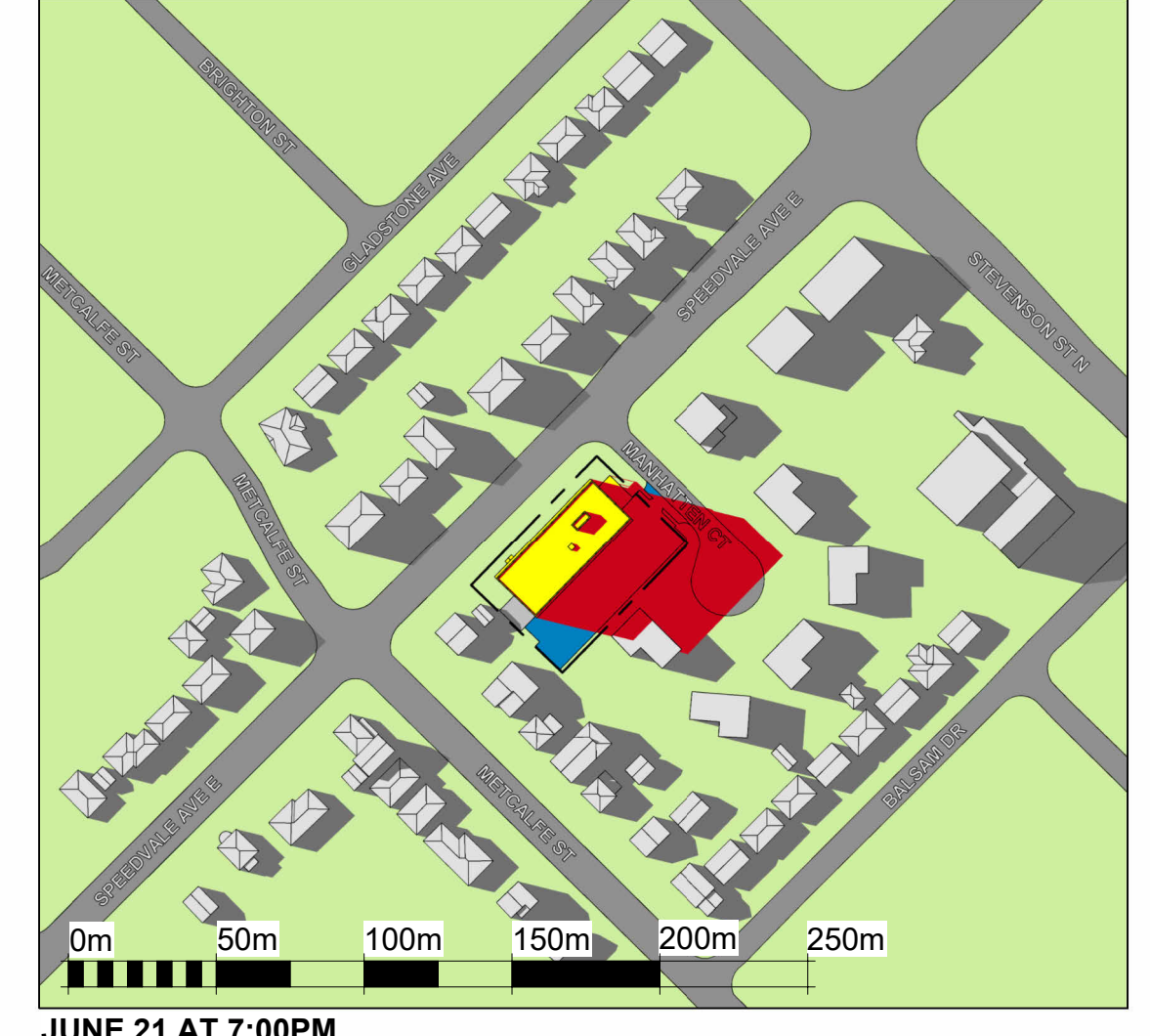
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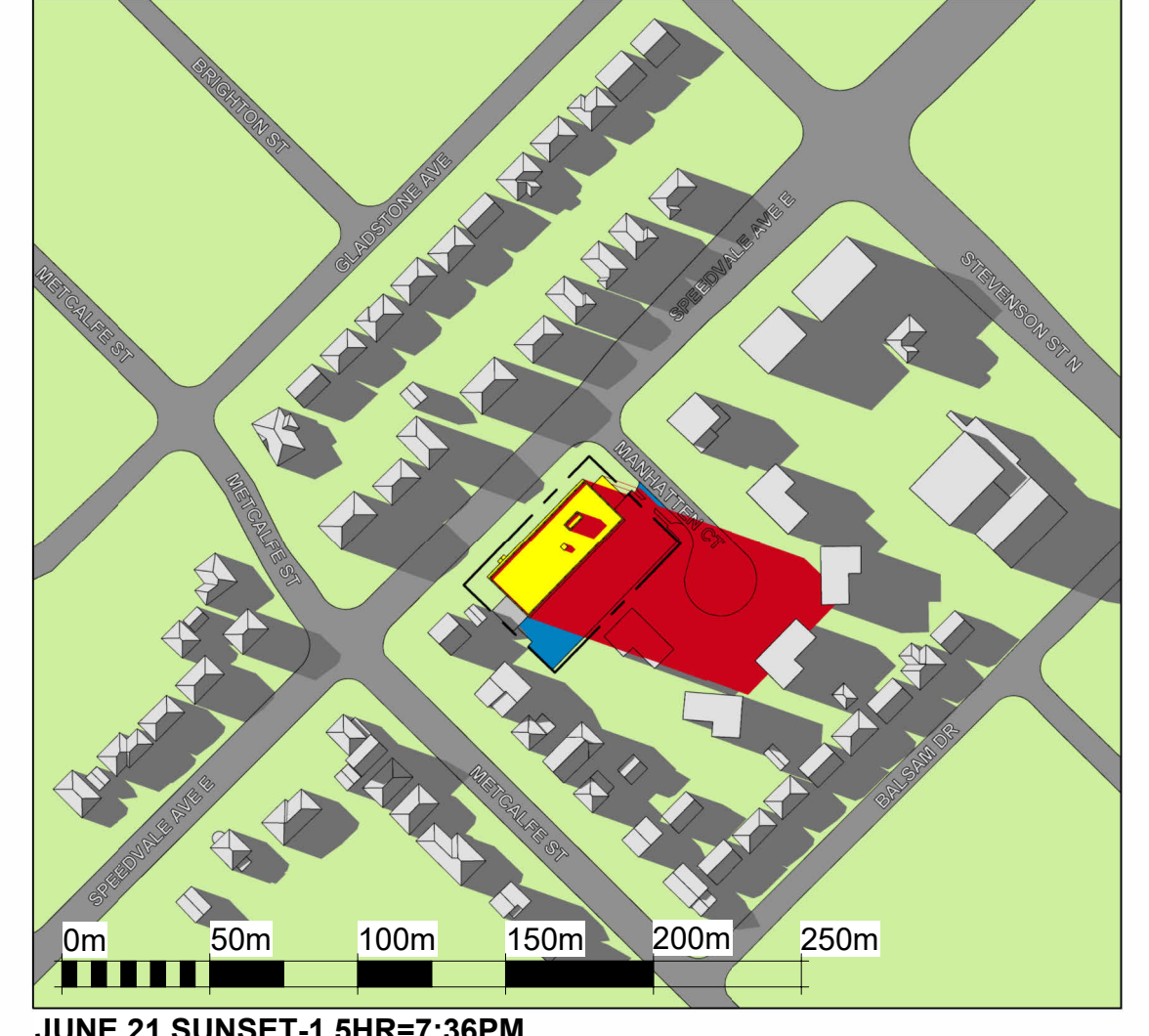
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JUNE 21 AT 6:00PM



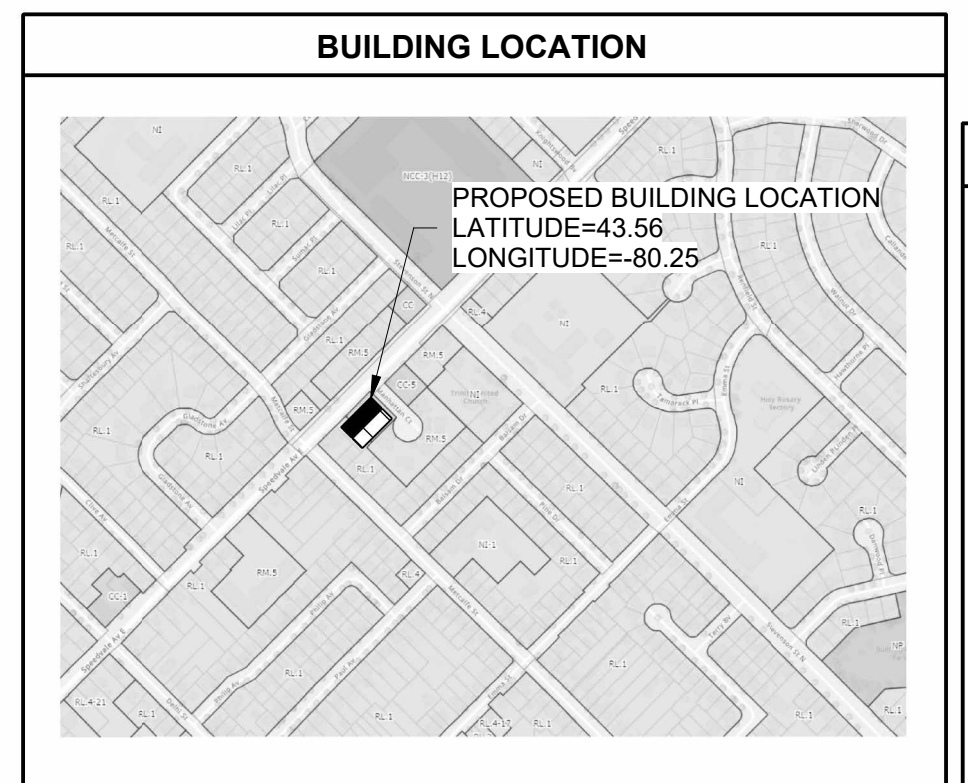
JUNE 21 AT 7:00PM



JUNE 21 SUNSET-1.5HR=7:36PM



JUNE 21 SUNSET=9:06PM



SHADOW STUDY LEGEND			
	UNDERLAY ROADWAYS		PROPOSED BUILDING
	UNDERLAY GRASS AREAS		SHADOW CAST PROPOSED
	SHADOW CAST EXISTING		MODELED SURROUNDING BUILDINGS
	UNDERLAY PARKING AREA		

#	DATE	DESCRIPTION	BY
C	24-01-16	ISSUED FOR SPA	CVL
B	23-12-19	ISSUED FOR SPA PRE-CONSULTATION	CVL
A	23-08-25	ISSUED FOR SPA PRE-CONSULTATION	CVL

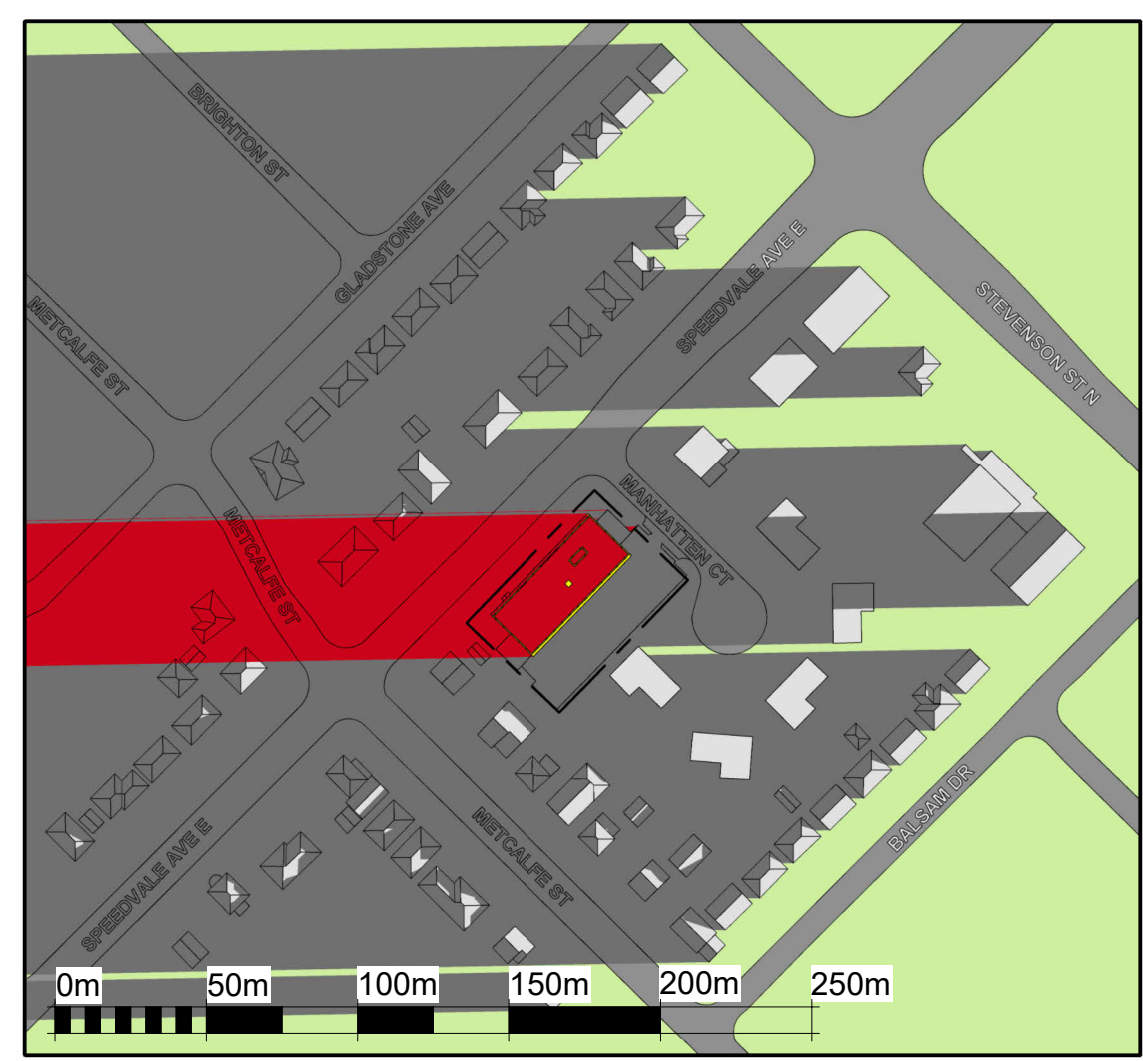
**PROJECT**  
**SPEEDVALE AFFORDABLE HOUSING**  
MANHATTAN COURT & SPEEDVALE AVE E  
GUELPH, ON  
POSTAL CODE [TBD]

**DRAWING**  
**SUN PATH STUDY - PROPOSED JUNE 21**

PROJECT NO.: 23136  
PROJECT DATE: 2023-07-20  
DRAWN BY: CVL  
CHECKED BY: CK/PH  
SCALE: As Indicated

DRAWING NO. **A9.01**





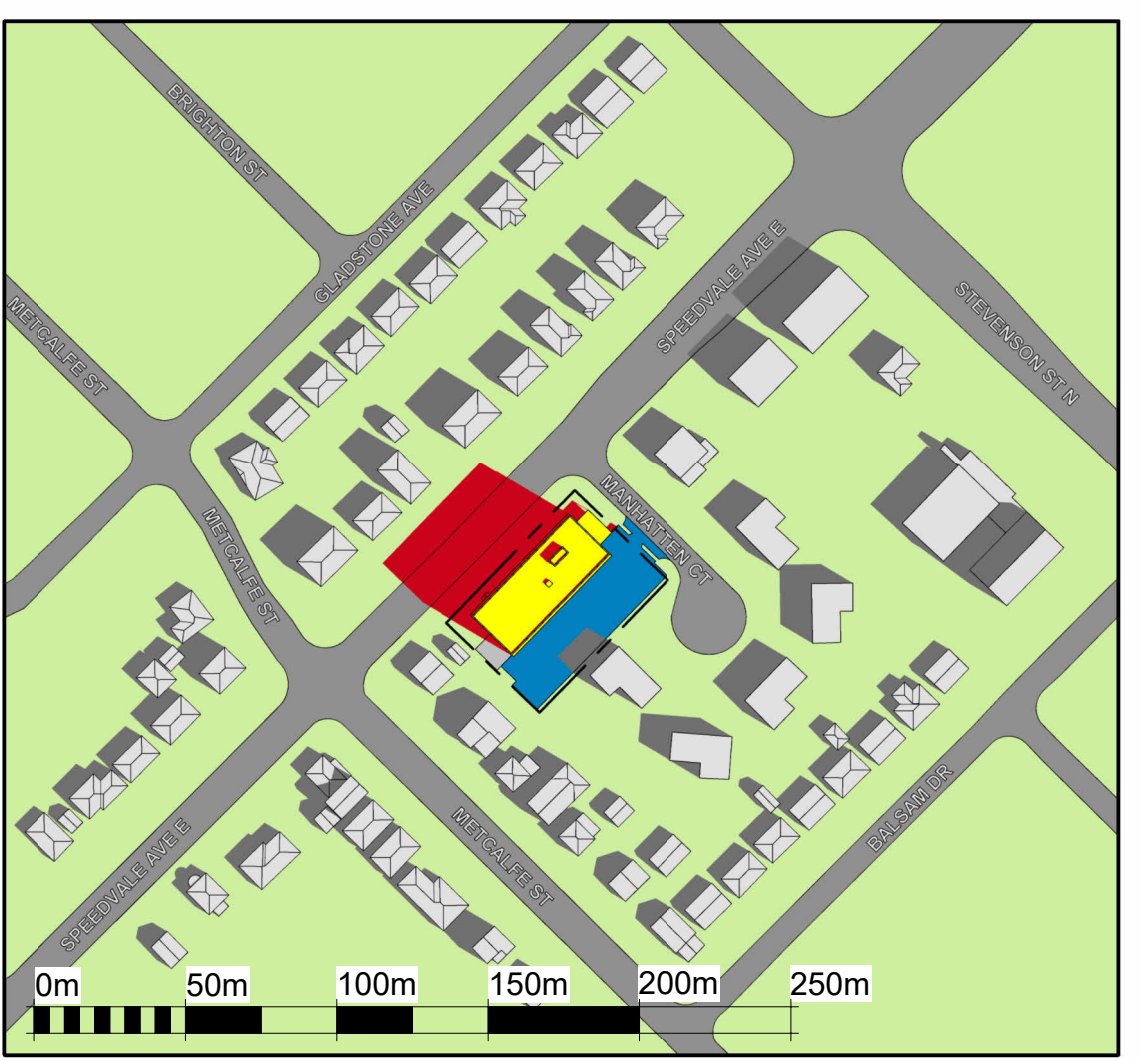
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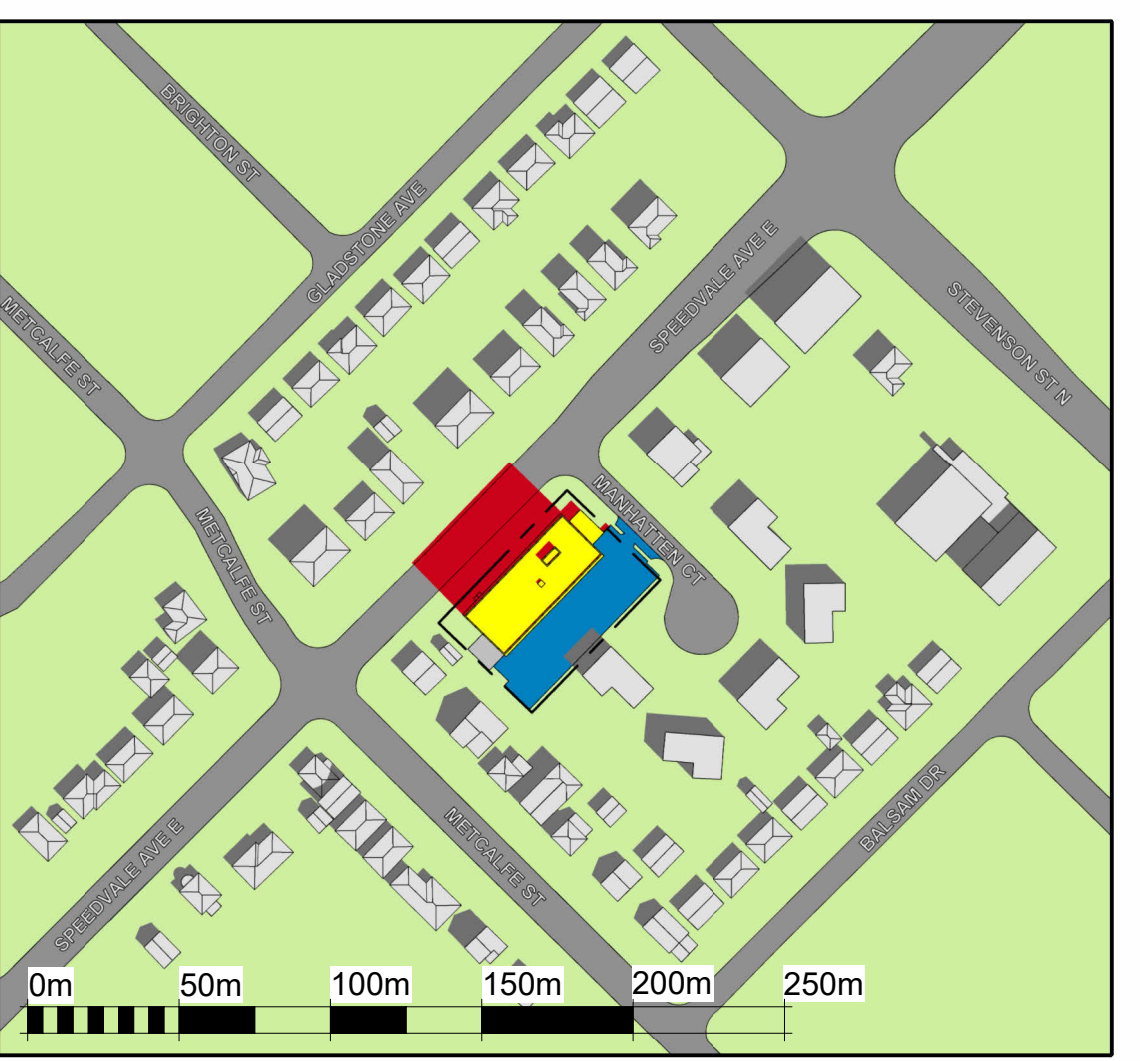
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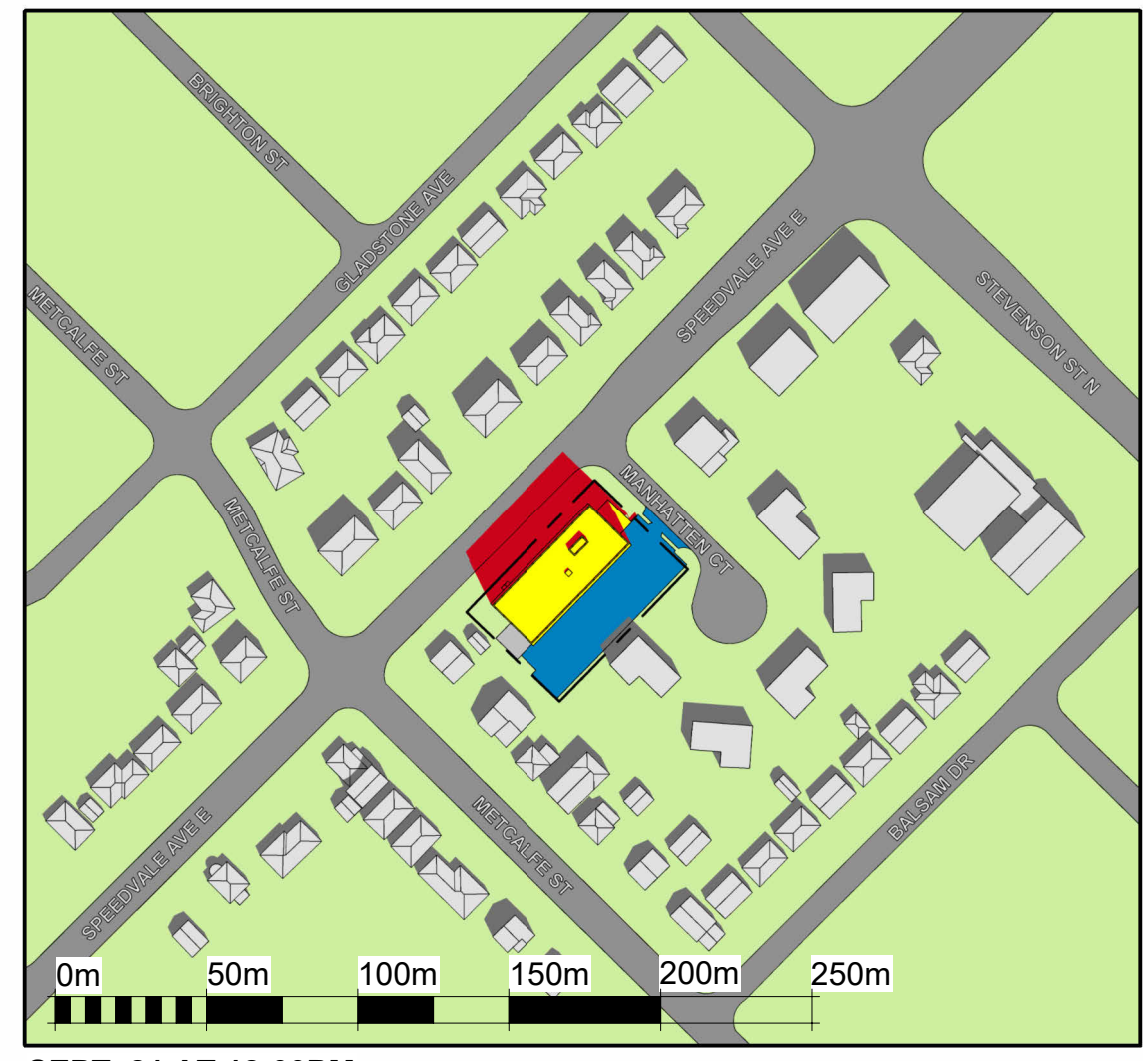
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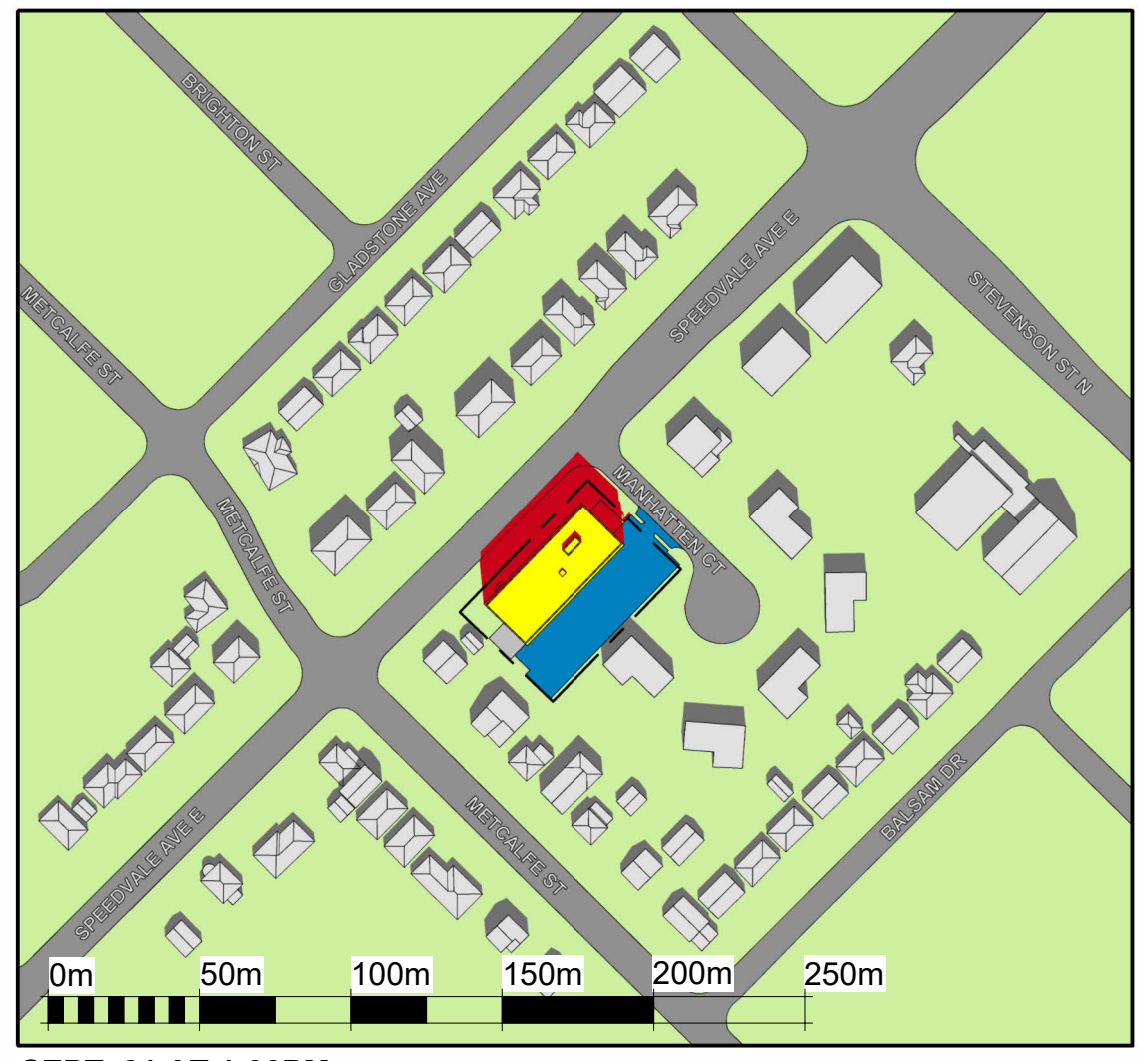
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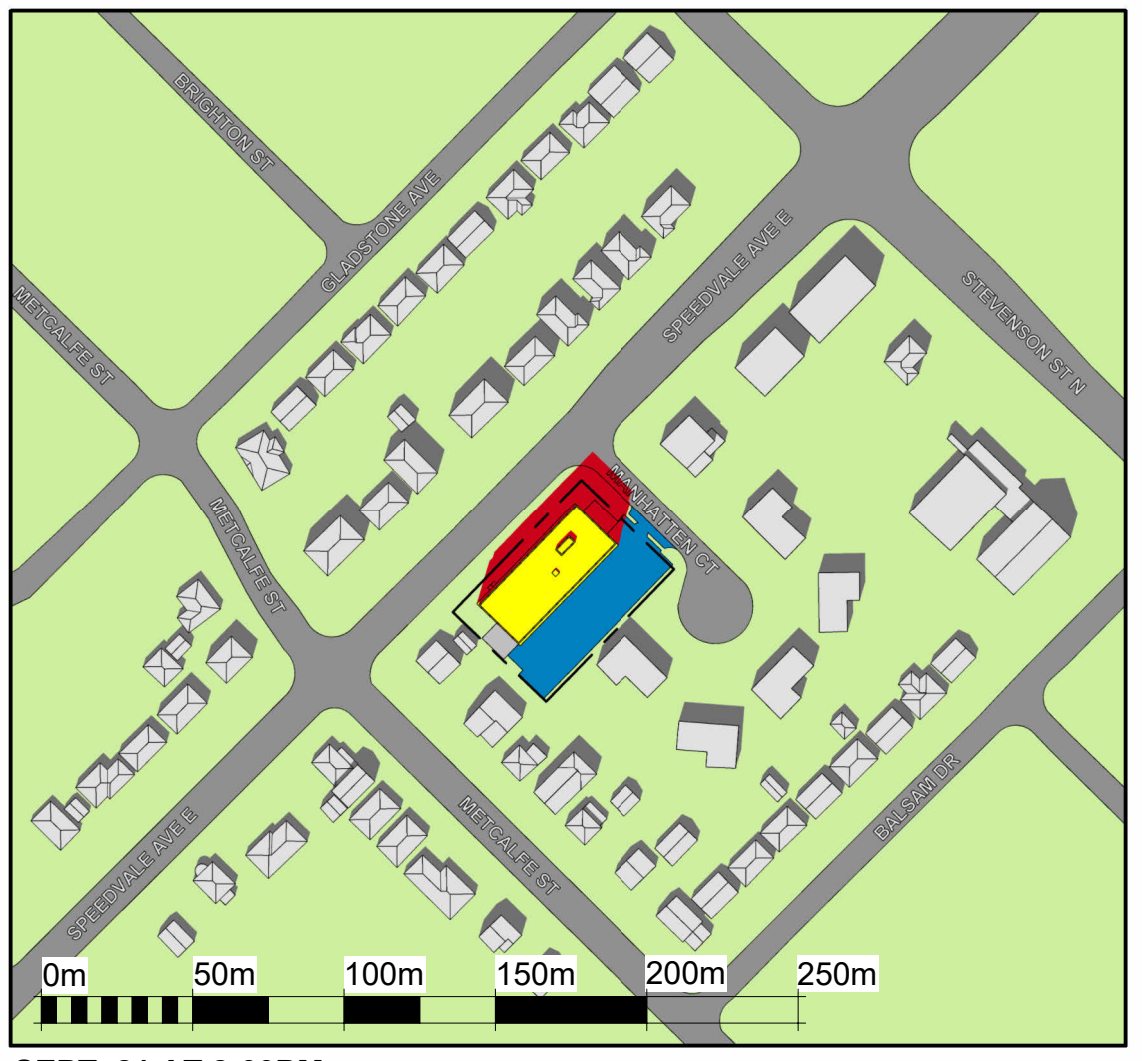
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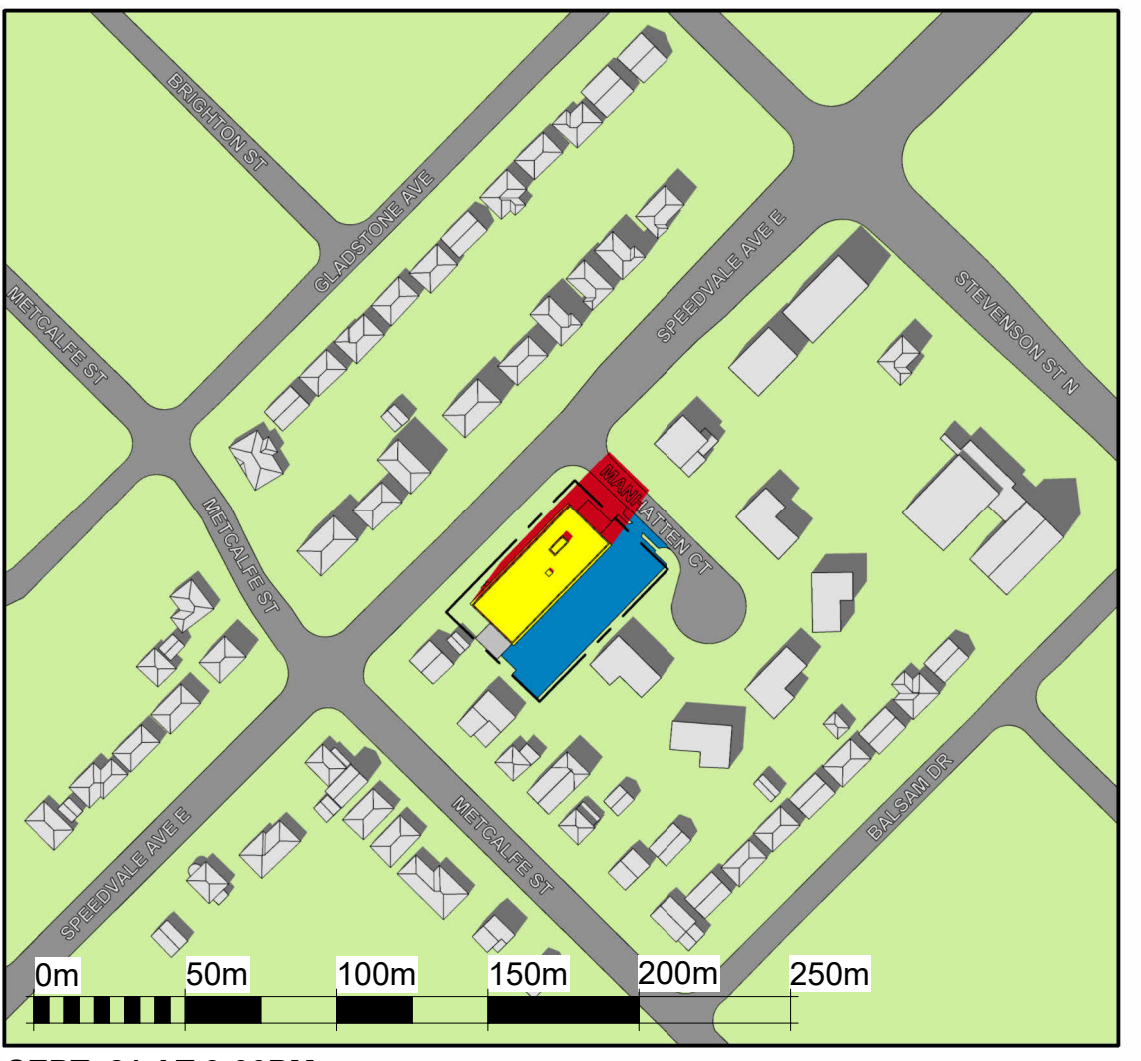
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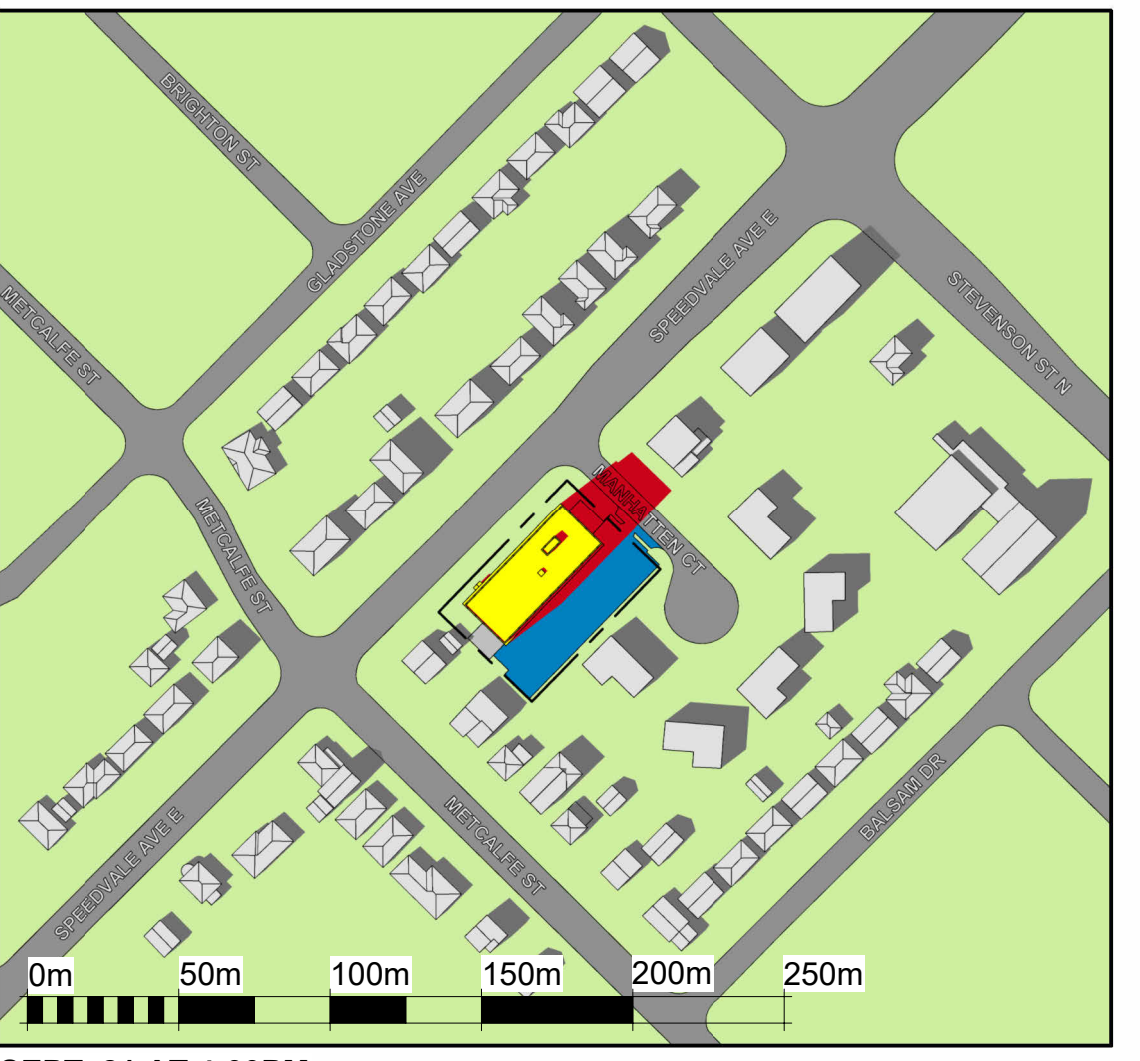
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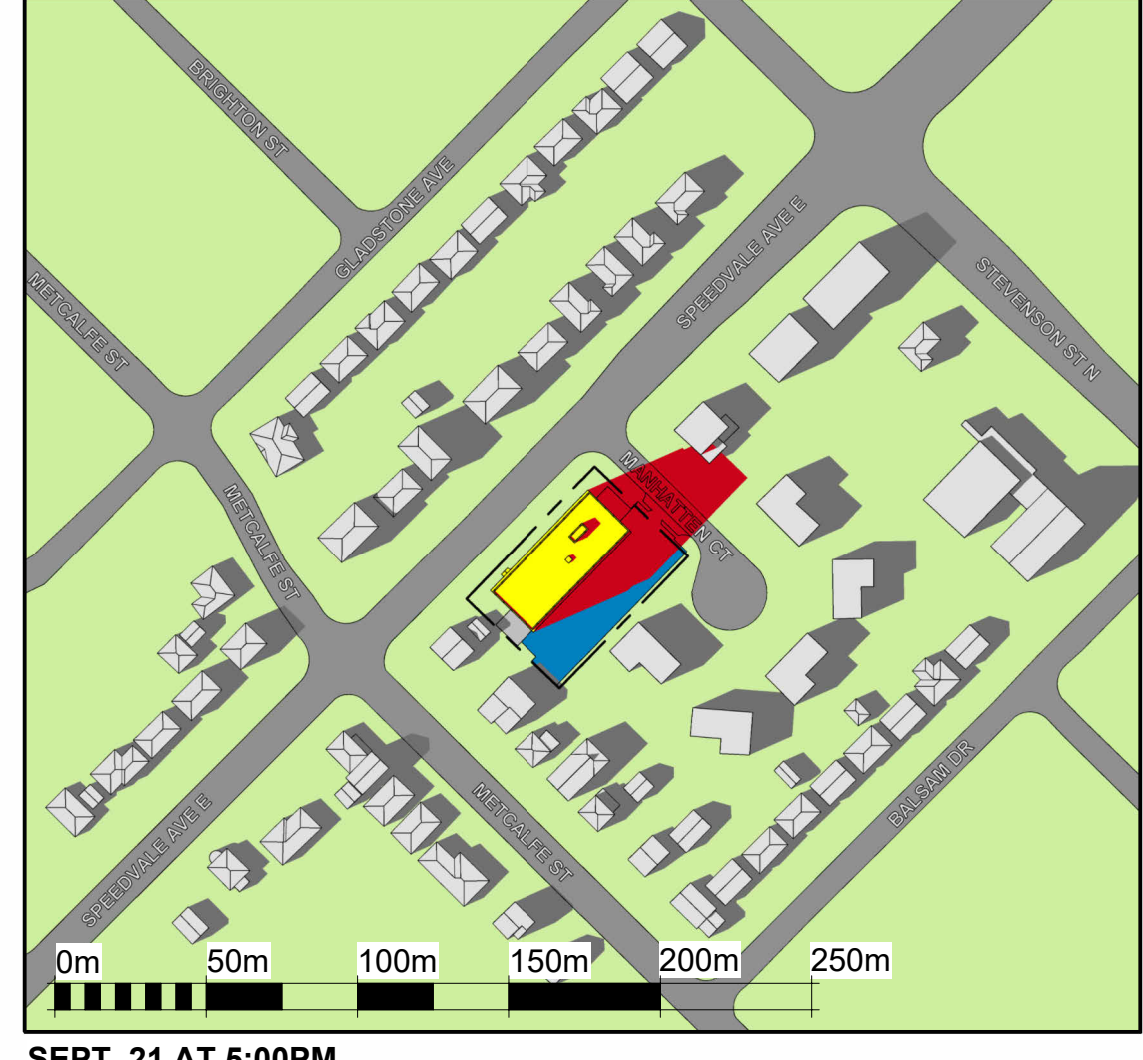
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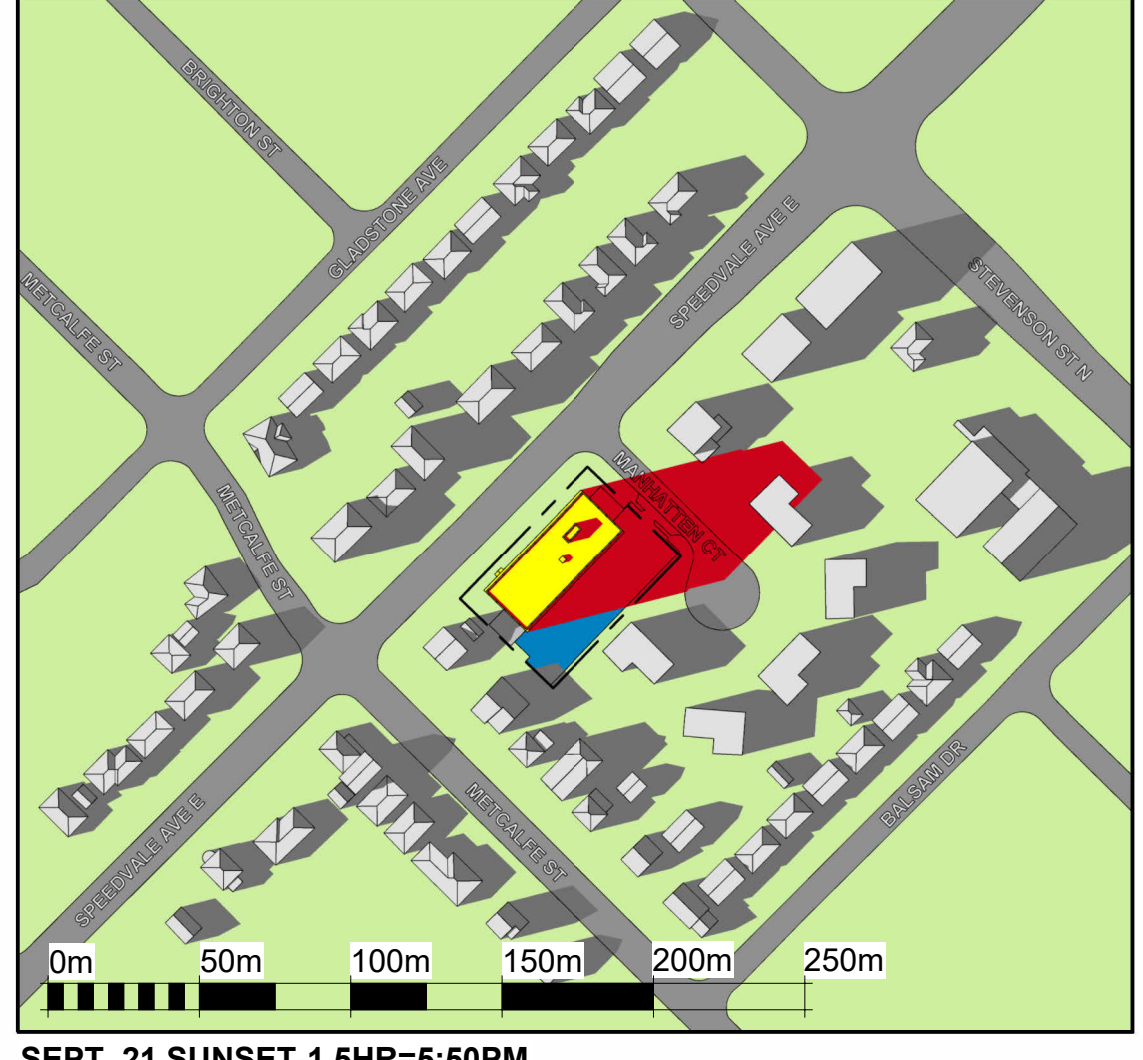
SEPT. 21 AT 3:00PM



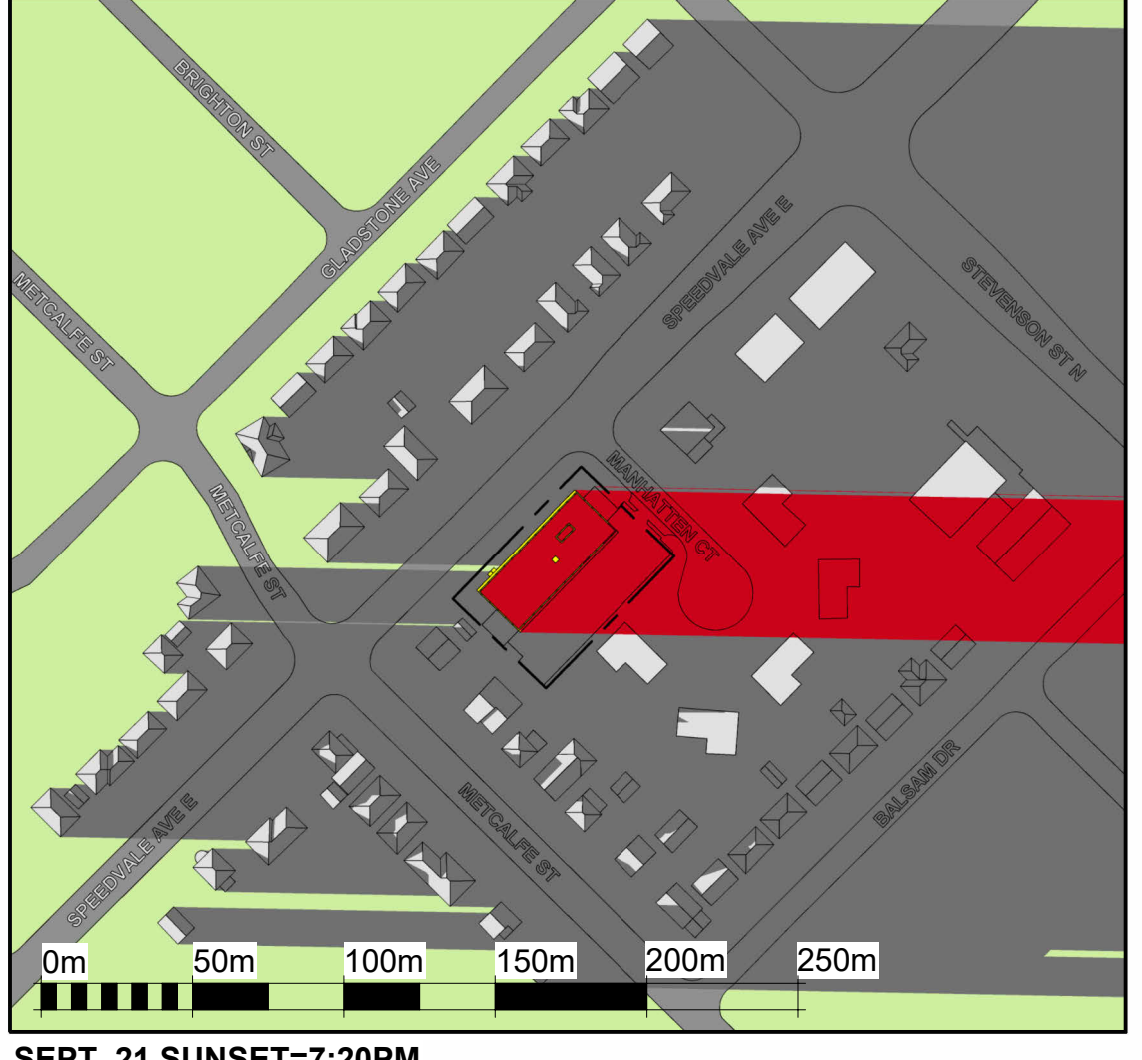
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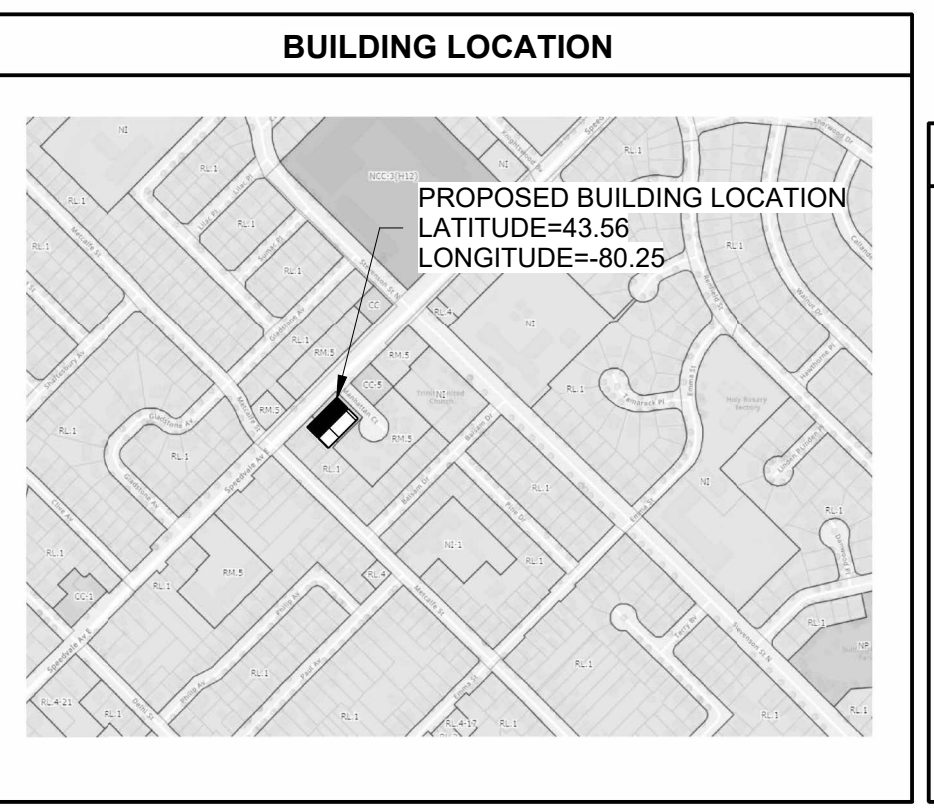
SEPT. 21 AT 5:00PM



SEPT. 21 SUNSET-1.5HR=5:50PM



SEPT. 21 SUNSET=7:20PM



SHADOW STUDY LEGEND			
	UNDERLAY ROADWAYS		PROPOSED BUILDING
	UNDERLAY GRASS AREAS		SHADOW CAST PROPOSED
	SHADOW CAST EXISTING		MODELED SURROUNDING BUILDINGS
	UNDERLAY PARKING AREA		

#	DATE	DESCRIPTION	BY
C	24-01-16	ISSUED FOR SPA	CVL
B	23-12-19	REISSUED FOR SPA PRE-CONSULTATION	CVL
A	23-08-25	ISSUED FOR SPA PRE-CONSULTATION	CVL

**PROJECT**  
**SPEEDVALE AFFORDABLE HOUSING**  
MANHATTAN COURT & SPEEDVALE AVE E  
GUELPH, ON  
POSTAL CODE [TBD]

**DRAWING**  
**SUN PATH STUDY - PROPOSED SEPT. 21**

PROJECT NO.: 23136  
PROJECT DATE: 2023-07-20  
DRAWN BY: CVL  
CHECKED BY: CK/PH  
SCALE: As Indicated

DRAWING NO. **A9.02**

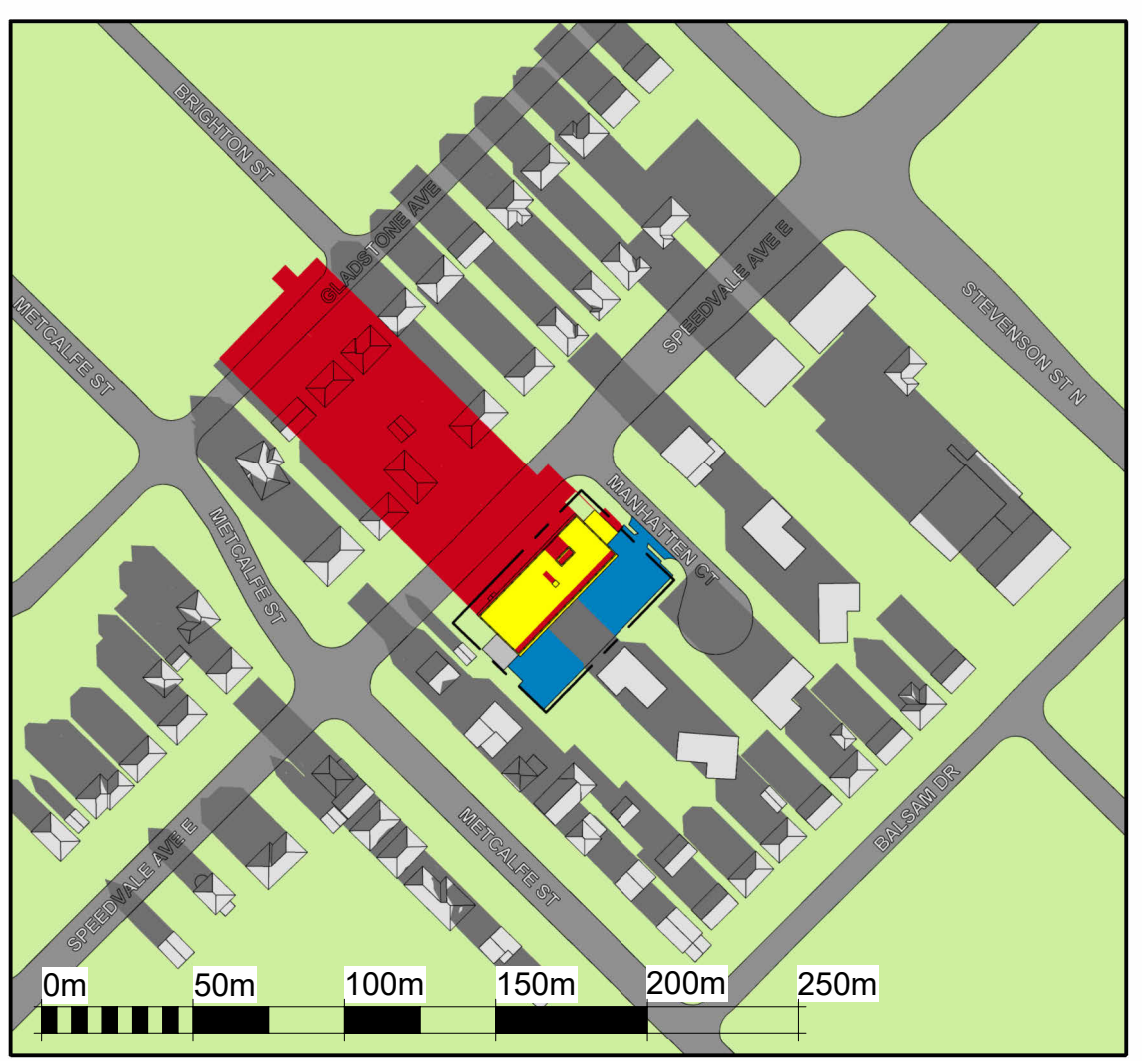




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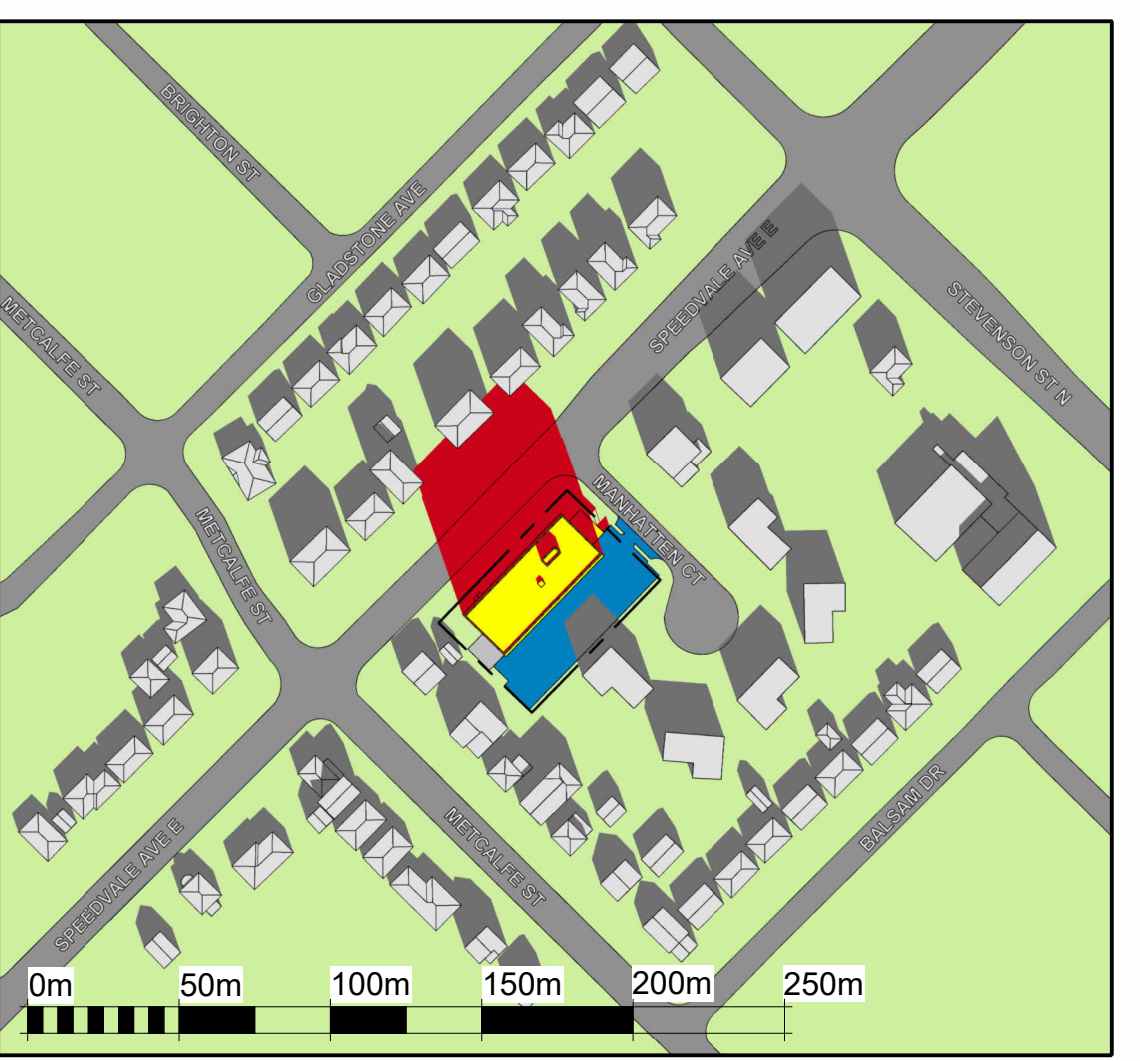
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DEC. 21 AT 10:00AM



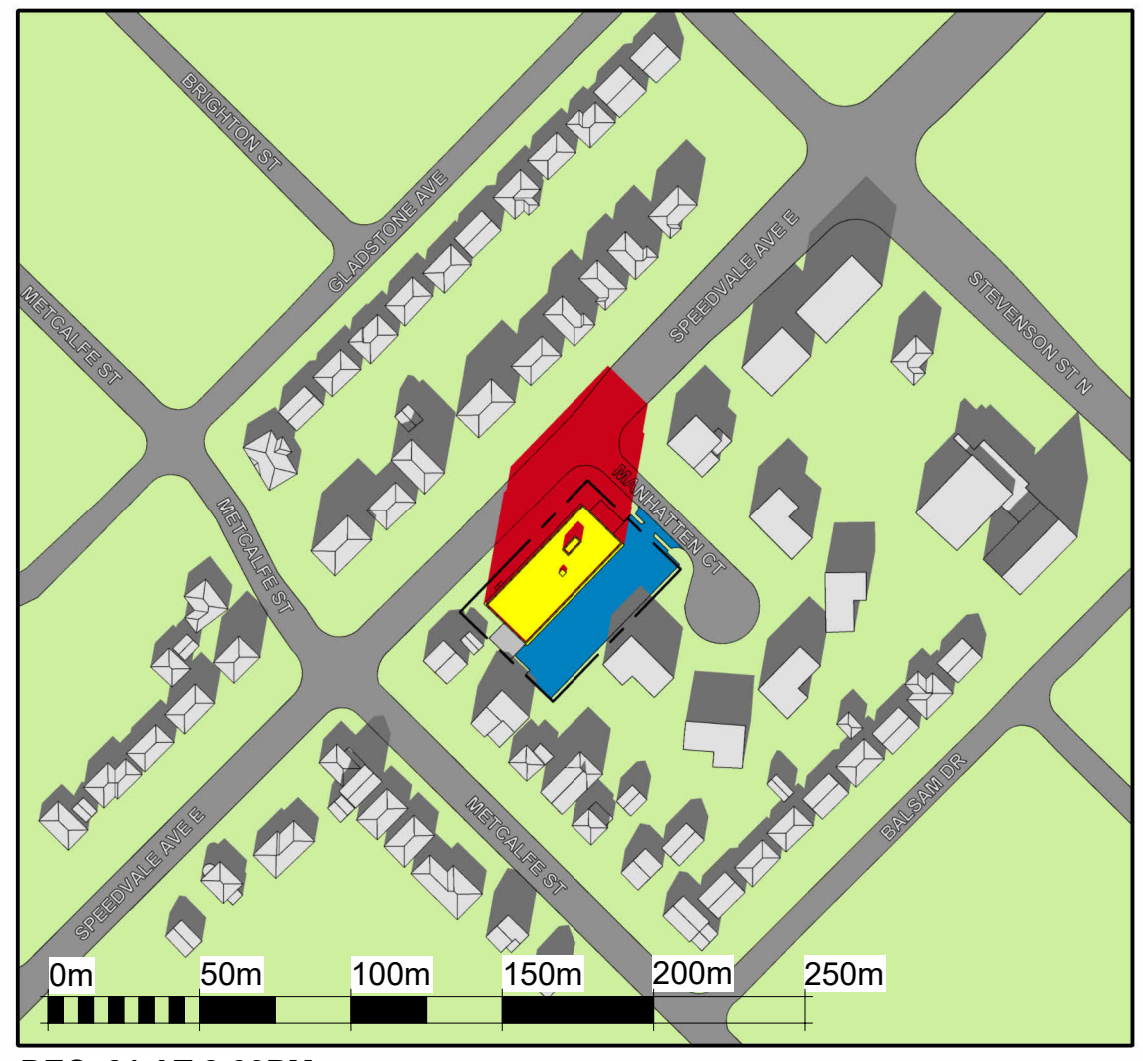
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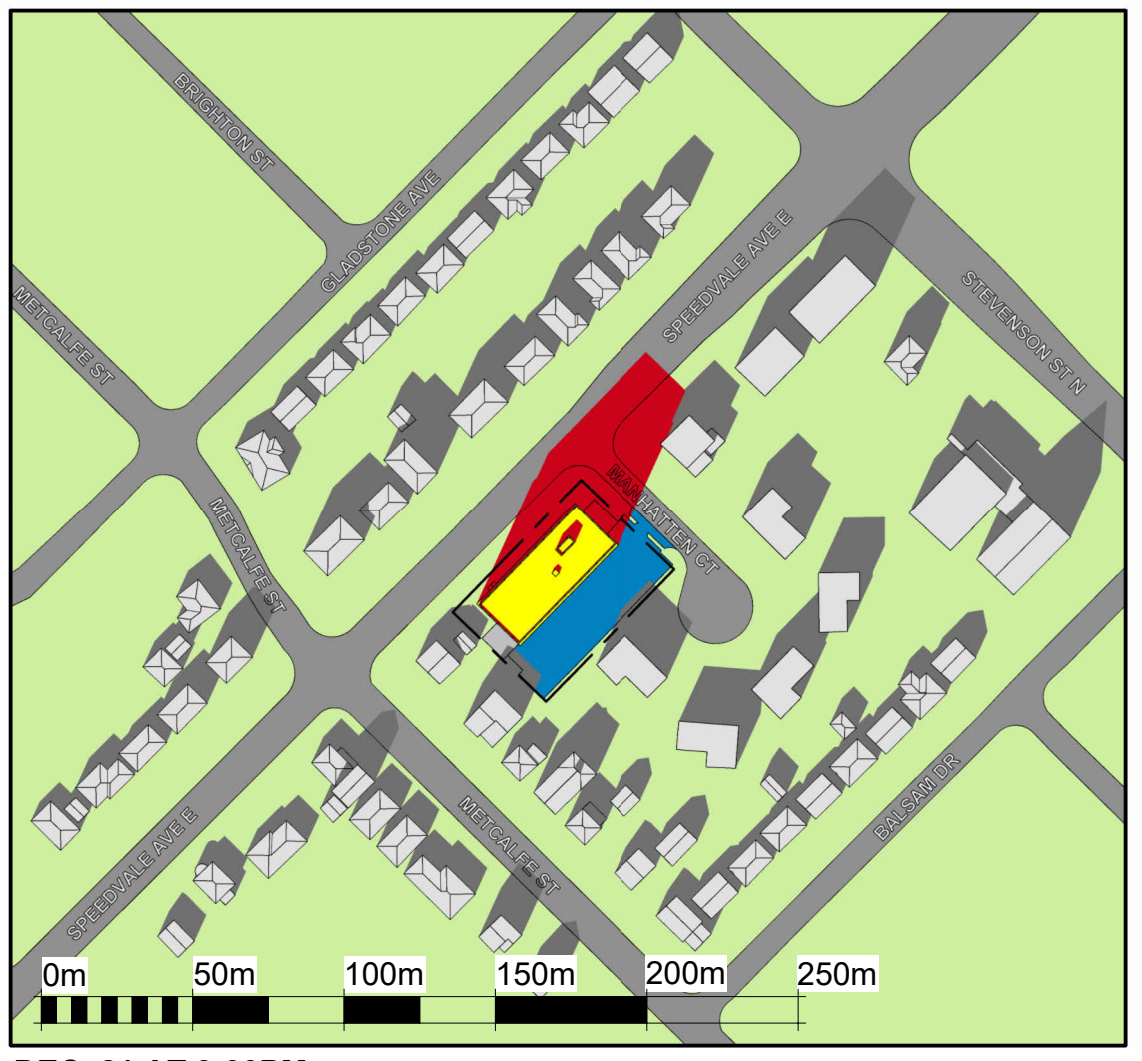
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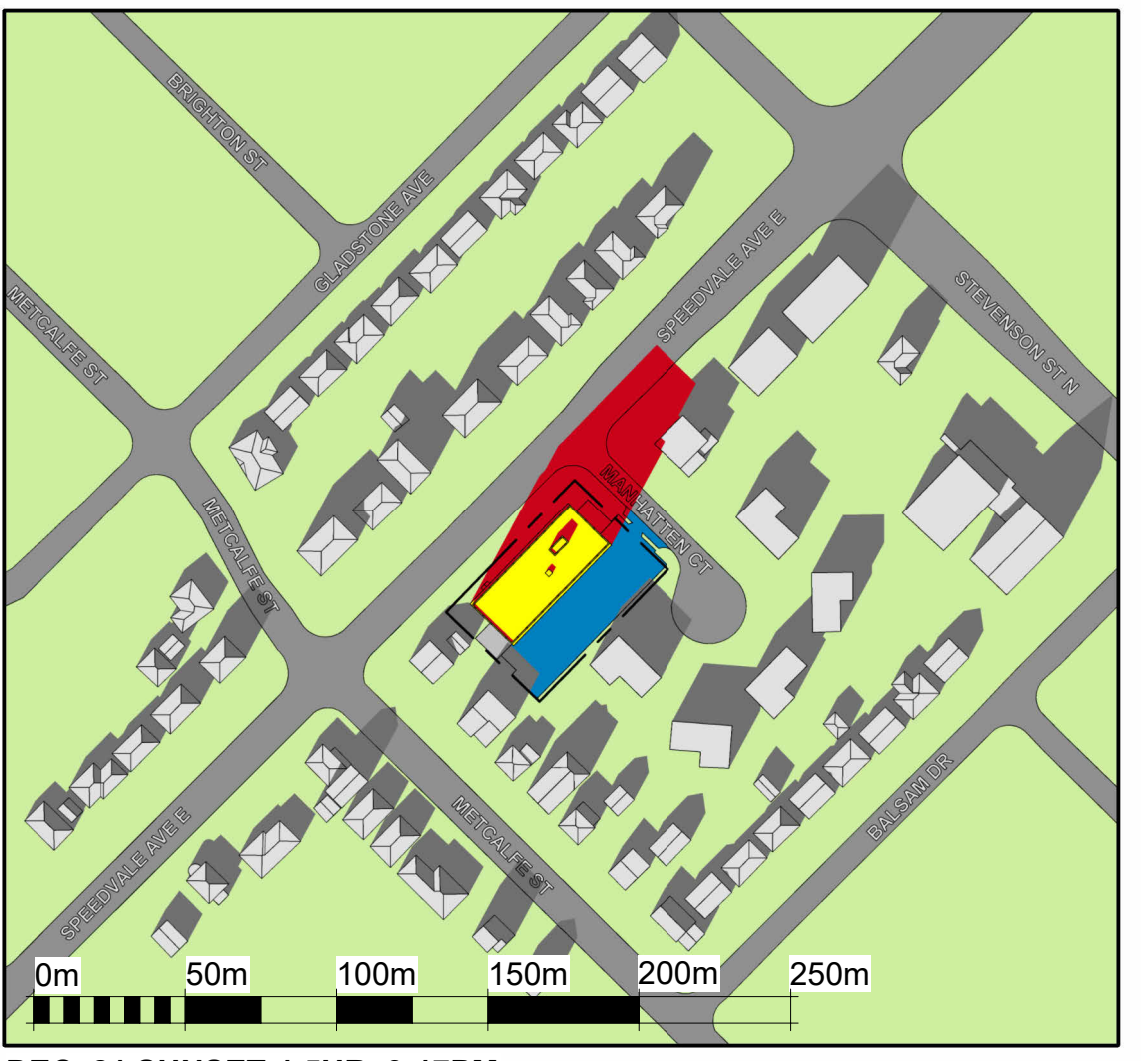
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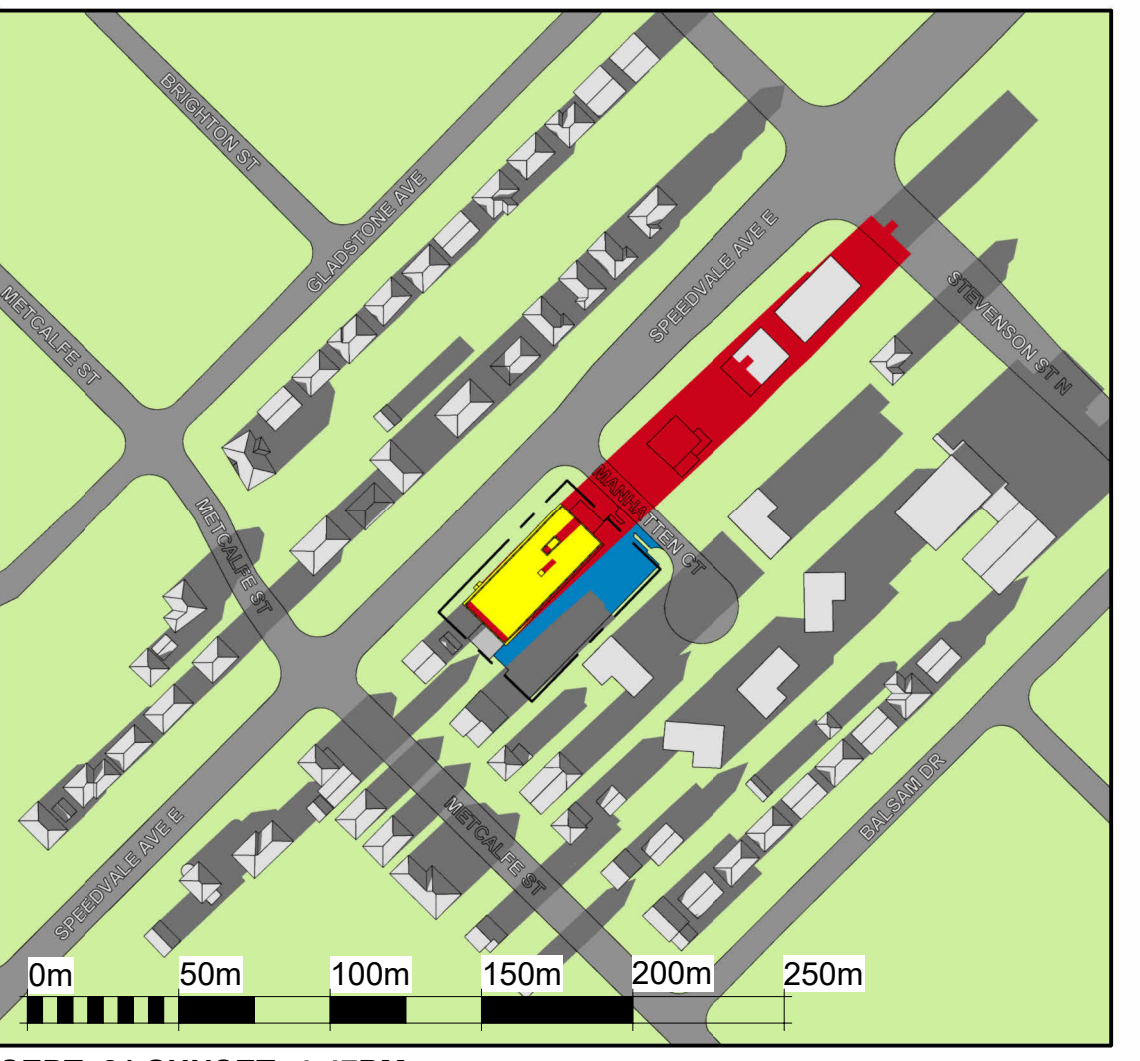
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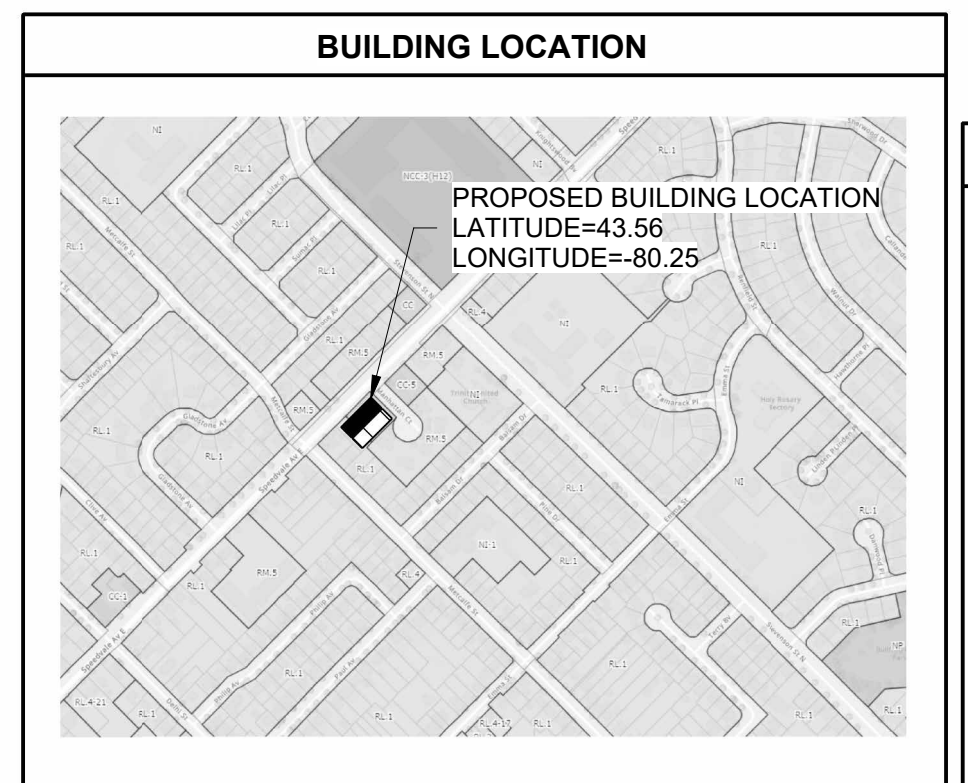
DEC. 21 AT 3:00PM



DEC. 21 SUNSET-1.5HR=3:17PM



SEPT. 21 SUNSET=4:47PM



**SHADOW STUDY LEGEND**

	UNDERLAY ROADWAYS		PROPOSED BUILDING
	UNDERLAY GRASS AREAS		SHADOW CAST PROPOSED
	SHADOW CAST EXISTING		MODELED SURROUNDING BUILDINGS
	UNDERLAY PARKING AREA		

C	24-01-16	ISSUED FOR SPA	CVL
B	23-12-19	REISSUED FOR SPA PRE-CONSULTATION	CVL
A	23-08-25	ISSUED FOR SPA PRE-CONSULTATION	CVL
#	DATE	DESCRIPTION	BY

**PROJECT**  
**SPEEDVALE AFFORDABLE HOUSING**  
MANHATTAN COURT & SPEEDVALE AVE E  
GUELPH, ON  
POSTAL CODE [TBD]

**DRAWING**  
**SUN PATH STUDY - PROPOSED DEC. 21**

PROJECT NO.: 23136  
PROJECT DATE: 2023-07-20  
DRAWN BY: CVL  
CHECKED BY: CK/PH  
SCALE: As indicated

DRAWING NO. **A9.03**