

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023

1. INTRODUCTION

The following report presents a Shadow Study Analysis for a planned residential development comprising one mixed-use tower located at 70 park Street East and has been prepared by Arcadis - IBI Group Architects on behalf of the applicant MPCT DIF 70 Park Street East LP.

The report addresses the specific crieria contained in the City of Mississauga Planning and Building Department’s Standards for Shadow Studies (June 2014) and demonstrates that the proposed development will not cause undue impacts with respect to shade.

1.1 PROPOSED DEVELOPMENT

The Subject Site is located in Ward 1 and is bounded by Queen Street East to the northwest, Helene Street North to the southwest, Park Street East to the south-east, and 78 Park Street East, and 22-30 Ann Street to the northeast. The Subject Site is 6,276 m2 in size and is currently occupied by a 27-storey residential apartment building and an associated above-grade parking garage with ground-floor retail stores fronting onto Helene Street North and Queen Street East.

MPCT DIF 70 Park Street East LP is proposing to redevelop the northern portion of the Subject Site with a 38-storey mixed use building, with 530 residential units, retail at grade fronting onto Helene Street North and Queen Street East, and a day care and Privately Owned Publicly-Accessible Open Space (POPS) at grade fronting onto Helene Street North (the “Proposed Development”). The Proposed Development will entail the demolition of the existing parking garage building while maintaining the residential apartment building on the south portion of the lands.

Site access will be provided via a new private laneway located on the eastern portion of the Subject Site with direct access to Park Street East, which will service both the existing and proposed buildings and also provide continuous pedestrian access between Park Street East and Queen Street East. Parking for both the Proposed Development and the existing residential apartment building will be provided for in an 8-level underground garage located within the Proposed Development, accessed from the new private laneway.

2. SUMMARY RESULTS OF SHADOW STUDY ANALYSIS

The Shadow Study Analysis demonstrates that the proposed development meets the City’s standards for sun and daylight access on neighbouring properties and in the public realm as summarized in the Table 1.0 below. Detailed results for each of the five criteria are presented in Section 3. Supporting Shadow Study Exhibits for June 21, September 21 and December 21 for the hourly test times specified in the City’s Standards for Shadow Studies provided in **Appendix A**.

City Criteria No.	Scenario	Criteria Achieved
1.	Residential Private Outdoor Amenity Spaces	
	i. June 21	Criteria Achieved
	ii. September 21	Criteria Achieved
2.	Community Outdoor Amenity Area	
	iii. June 21	Criteria Achieved
	iv. September 21	Criteria Achieved
	v. December 21	Criteria Achieved
3.	Public Realm	
	a. Low and Medium Residential Streets	Criteria Achieved
	b. Mixed-Use, Commercial, Employment and High-Density Residential Streets	Criteria Achieved
	c. Public Open Spaces, Parks and Plazas	Criteria Achieved
4.	Turf and Flower gardens in Public Parks	Criteria Achieved
5.	Building Faces to allow for the Possibility of using Solar Energy	Criteria Achieved

Notes:

- a) Latitude: 43 deg. 35’ 20” N • Longitude: 79 deg. 38’ 40” W
- b) Astronomical north was based on the base mapping obtained from the City of Mississauga.
- c) The base mapping (CAD Files) was obtained from the City of Mississauga.
- d) Base mapping includes a minimum coverage area of 4x times building’s height to the north, east and west and 1.5x times building’s height to the south.

3. INDIVIDUAL CRITERIA RESULTS

This section provides the result of the shadow analysis related to each of the five criteria applicable to this site contained in the City of Mississauga’s Standards for Shadow Studies (June 2014). We have cited the relevant City standard and provided a conclusion with respect to each along with back-up diagrams to support this conclusion. As noted above, supporting exhibits for all required hourly analysis are provided in Appendix A.

3.1 Residential Private Outdoor Amenity Spaces (Criterion 1)

Standard: To maximise the use of private residential amenity spaces during spring, summer and fall, shadow impacts from proposed developments should not exceed one hour in duration on areas such as private rear yards, decks, patios and pools of surrounding residential dwellings on June 21 and September 21.

This criteria is met if there is shadow impact for no more than two consecutive hourly test times within the space between the exterior wall of dwelling that abuts the amenity space and the line of impact assessment (“No impact zone”).

The line of impact assessment shall be, a line 7.5m minimum from the rear wall or other appropriate exterior building wall of the dwelling that abuts the private amenity space.

Conclusion: The criteria for Residential Private Outdoor Amenity Spaces is met for June 21st and September 21st, as there is no shadow impact for more than two consecutive hourly test times on private outdoor amenity spaces.

3.2 Communal Outdoor Amenity Areas (Criterion 2)

Standard: Ensure adequate sunlight outdoor amenity areas including: children’s play areas, school yards, tot lots, and park features such as sandboxes, wading pools, etc., and outdoor amenity areas by seniors and those associated with commercial and employment areas during spring, summer and fall. The criteria is met if the “sun access factor” is at least 50% on each of the required test dates.

The following communal outdoor amenity area was identified within the study area:

Conclusion:

Existing Communal Amenity Space - Lions Club of Credit Valley Outdoor Pool & 91 Park St E Park
The communal spaces are highlighted in teal on the hourly analysis diagrams provided in Appendix A. These diagrams demonstrate that the proposed development does not cast incremental shadow on these two outdoor communal amenity spaces

3.3 Public Realm (Criterion 3)

3.3.1- Low and Medium Residential Streets

Standard: Developments should be designed to allow full sunlight on the opposite boulevard including the full width of the sidewalk on September 21st for the total of at least 4 hours between 9:12 am and 11:12 am and between 3:12pm and 5:12pm.

Conclusion: The criteria is met as there are no incremental shadows on the opposite boulevard on the low density residential streets between the time periods noted in the standard above.

3.3.2 Mixed Use, Commercial, Employment and High Density Residential Areas

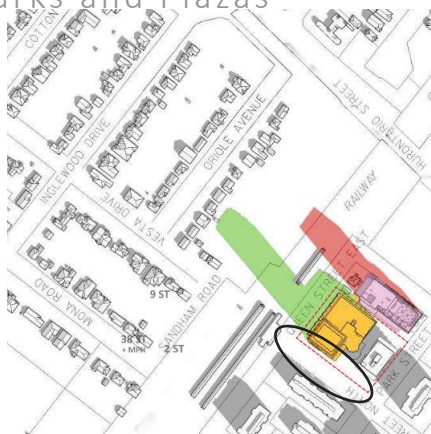
Standard: Developments should be designed to allow full sunlight on the opposite boulevard including the full width of the sidewalk on September 21 as follows: For a total of at least 5 hours that must include the 2 hour period between 12:12 pm and 2:12pm , and an additional 2 hour period from either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

Conclusion: The criteria is met as there are no incremental shadows on the opposite boulevard between the time periods noted in the standard above.

3.3.3 - Public Open Spaces, Parks and Plazas



SEPT 21st 9:12am



SEPT 21st 10:12am



SEPT 21st 11:12am

Standard: Developments should be designed to provide a sun access factor of at least 50% on public open spaces, parks and plazas on September 21st.

Conclusion: The criteria is met as the development does not cast incremental shadows on any nearby public open spaces, parks or plazas. Therefore, the Sun Access Factor remains unchanged by the proposed development.

3.4 - Turf and Flower Gardens in the Public Parks (Criterion 4)

Standard: Proposed developments should allow for adequate sunlight during the growing season from March to October by allowing for a minimum of 6 hours of direct sunlight on September 21st.

Conclusion: The criteria is met as the development does not cast incremental shadows on any nearby public parks. Therefore the provision of adequate sunlight for turf and flower gardens in public parks during the growing season remains unchanged by the proposed development.

3.5 - Building faces to allow for the possibility of using solar energy 8Criterion 5(

Standard: Shadow impacts from proposed developments should not exceed one hour in duration on the roofs, front, rear and exterior side walls of adjacent low rise (one to four storeys) residential buildings including townhouses, detached and semi-detached dwellings on September 21st.

Conclusion: The criteria is me as there is shadow impact for no more than two consecutive hourly test times in the “No Impact Zone” of the surrounding low-

APPENDIX A



JUNE 21st 7:07am

70 PARK ST SHADOW STUDY
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 SITE BOUNDARY
 EXISTING BUILDING SHADOWS
 PROPOSED BUILDING
 PROPOSED BUILDING SHADOWS
 APPROVED BUILDING
 APPROVED BUILDING SHADOWS
 PLAYGROUND/PARK





JUNE 21st 7:20am

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK





JUNE 21st 8:20am

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023

- SITE BOUNDARY
- EXISTING BUILDING SHADOWS
- PROPOSED BUILDING
- PROPOSED BUILDING SHADOWS
- APPROVED BUILDING
- APPROVED BUILDING SHADOWS
- PLAYGROUND/PARK





JUNE 21st 9:20am

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK





JUNE 21st 10:20am

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK



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JUNE 21st 11:20am

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



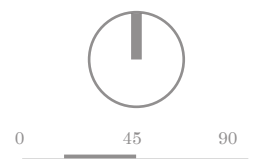
APPROVED BUILDING



APPROVED BUILDING SHADOWS

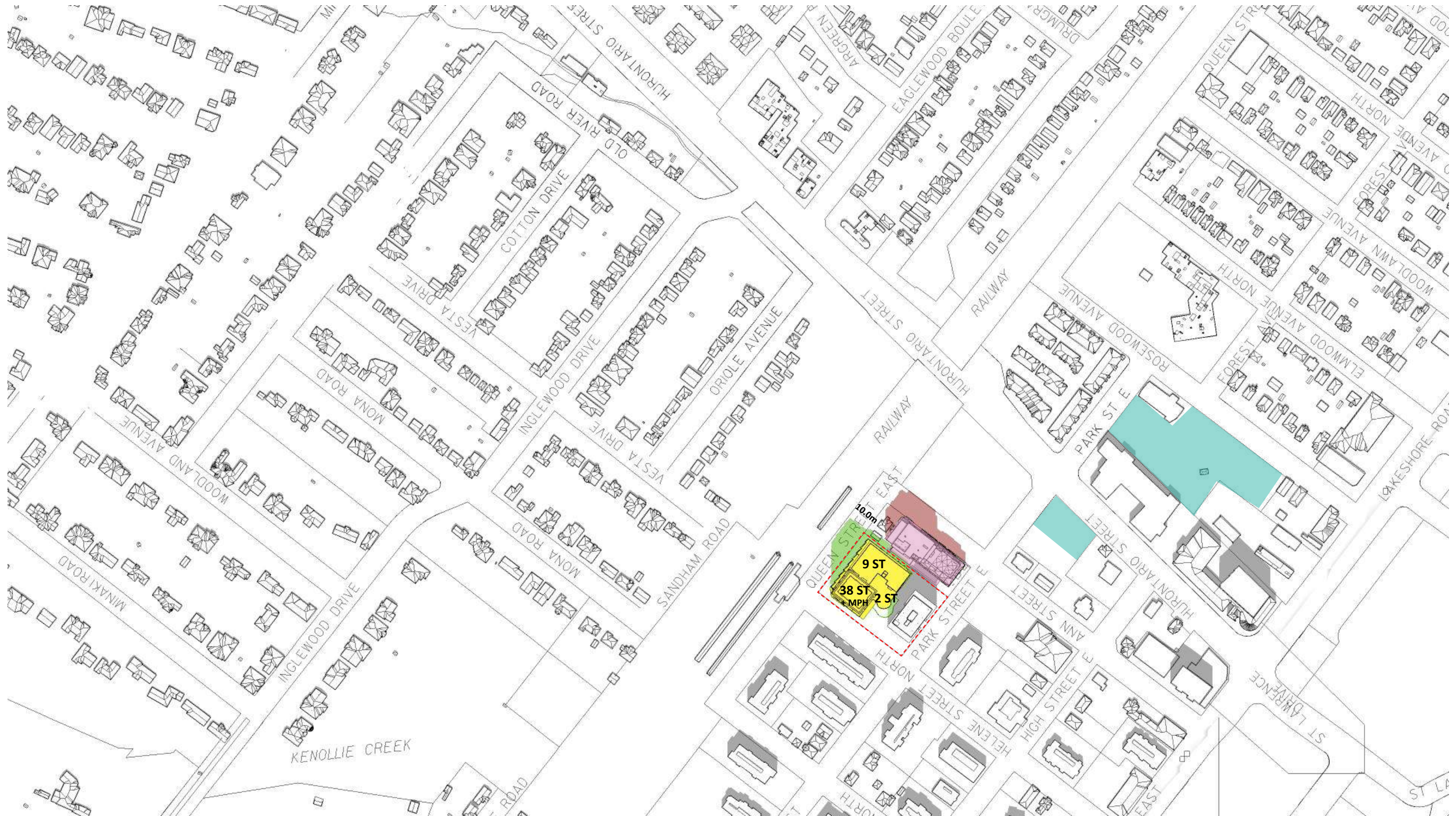


PLAYGROUND/PARK



ARCADIS

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JUNE 21st 12:20pm

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS

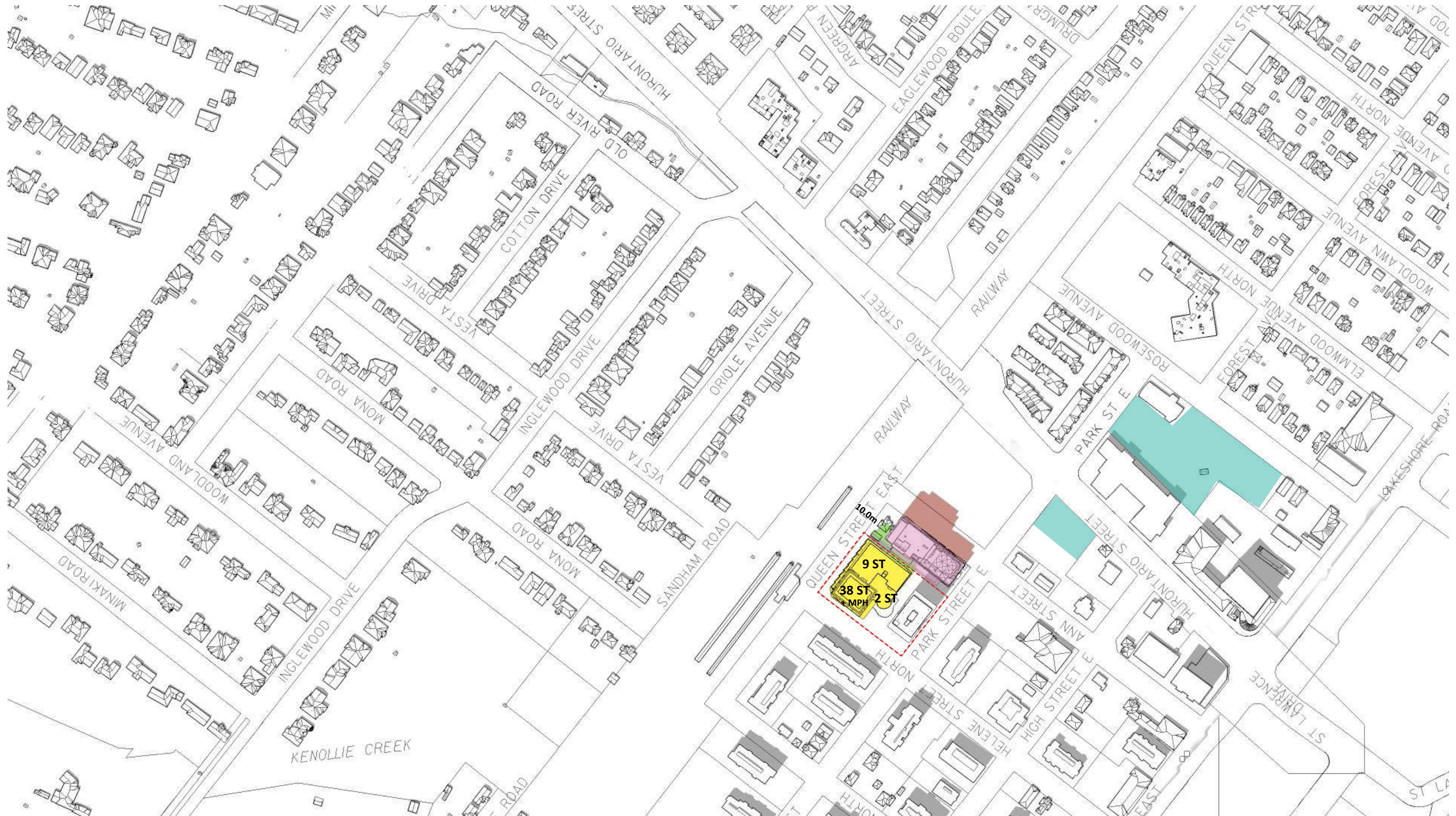


PLAYGROUND/PARK



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JUNE 21st 1:20pm

70 PARK ST SHADOW STUDY
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 SITE BOUNDARY

 EXISTING BUILDING SHADOWS

 PROPOSED BUILDING

 PROPOSED BUILDING SHADOWS

 APPROVED BUILDING

 APPROVED BUILDING SHADOWS

 PLAYGROUND/PARK



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JUNE 21st 2:20pm

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK



0 45 90

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JUNE 21st 3:20pm

70 PARK ST SHADOW STUDY
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JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK



0 45 90

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JUNE 21st 4:20pm

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING
SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING
SHADOWS



APPROVED BUILDING



APPROVED BUILDING
SHADOWS

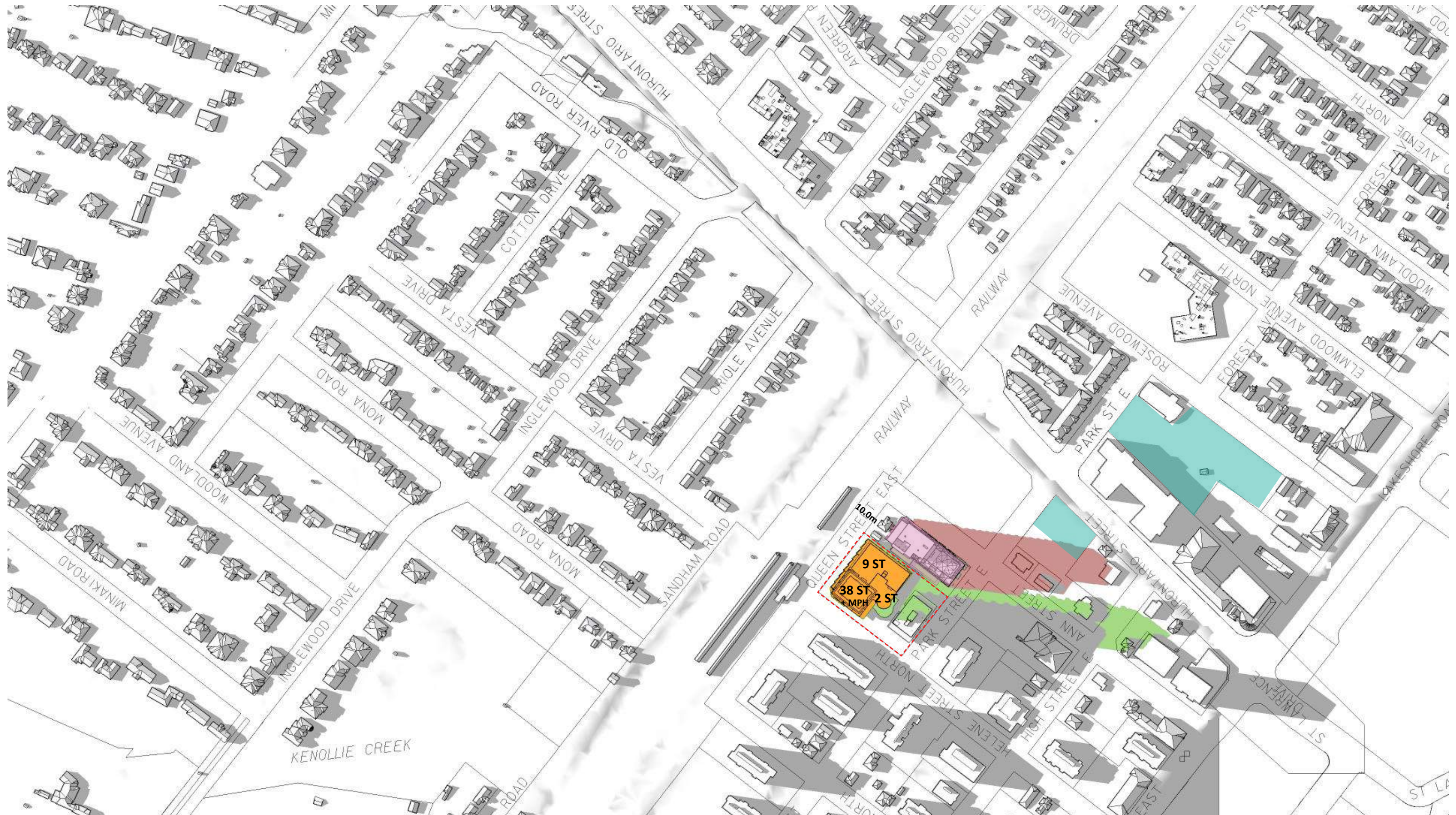


PLAYGROUND/PARK



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JUNE 21st 5:20pm

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING SHADOWS



APPROVED BUILDING SHADOWS



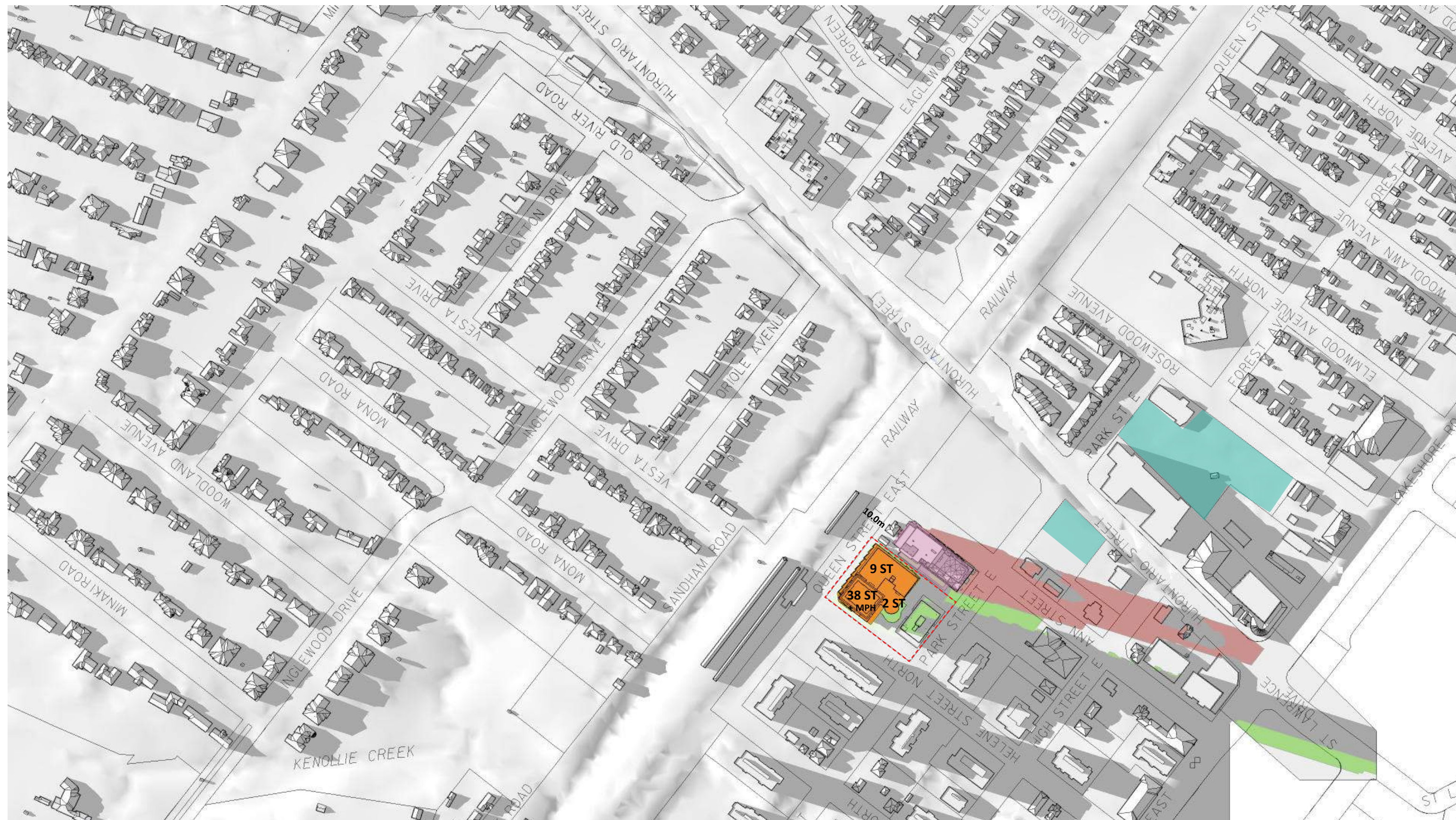
PLAYGROUND/PARK SHADOWS



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JUNE 21st 6:20pm

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK SHADOWS



0 45 90

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JUNE 21st 7:20pm

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING SHADOWS



PROPOSED BUILDING SHADOWS



APPROVED BUILDING SHADOWS



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK



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JUNE 21st 7:33pm
70 PARK ST SHADOW STUDY
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- SITE BOUNDARY
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- APPROVED BUILDING
- APPROVED BUILDING SHADOWS
- PLAYGROUND/PARK





SEPT 21st 8:35am

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS

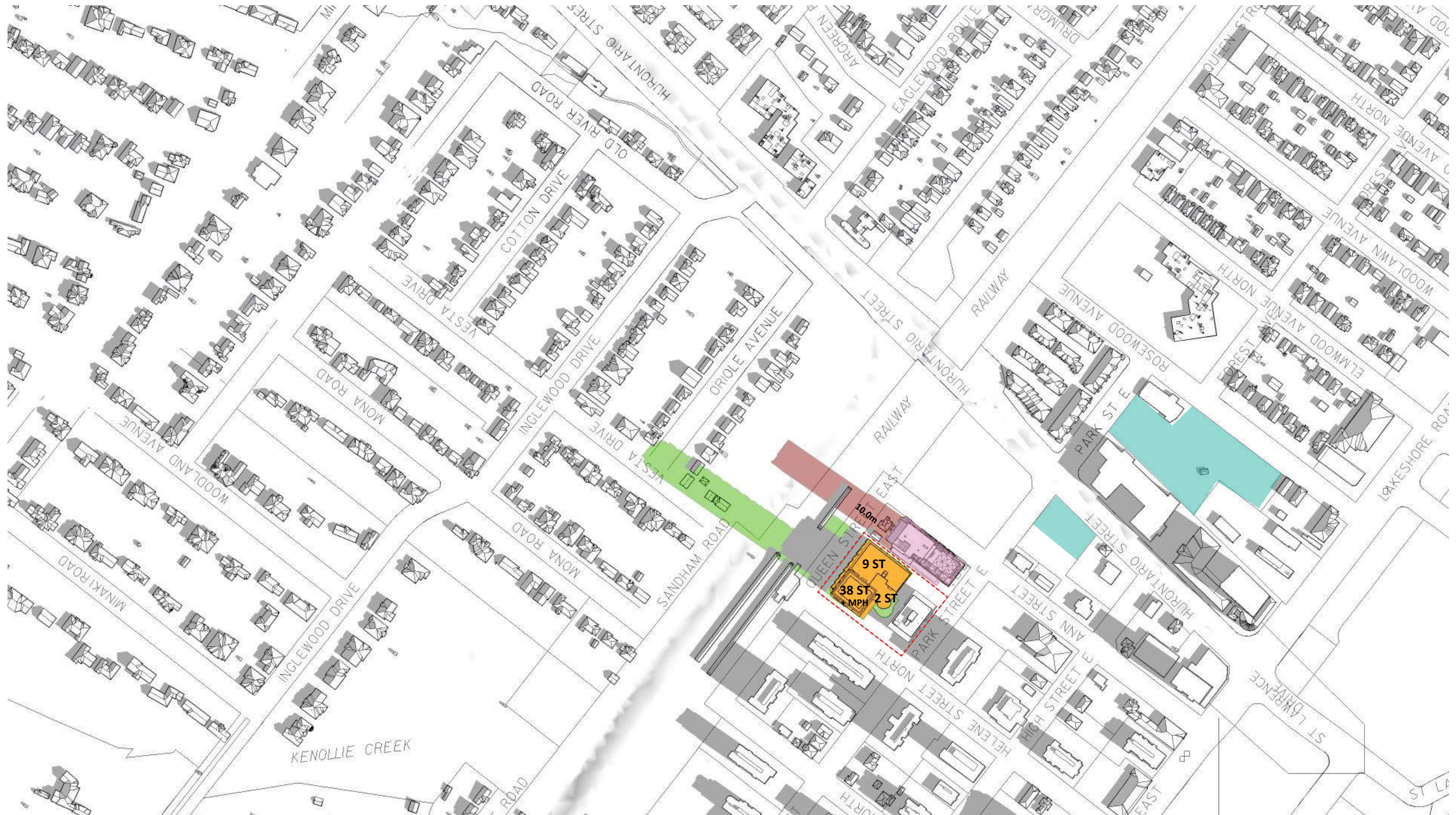


PLAYGROUND/PARK SHADOWS



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SEPT 21st 9:12am

70 PARK ST SHADOW STUDY
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JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS

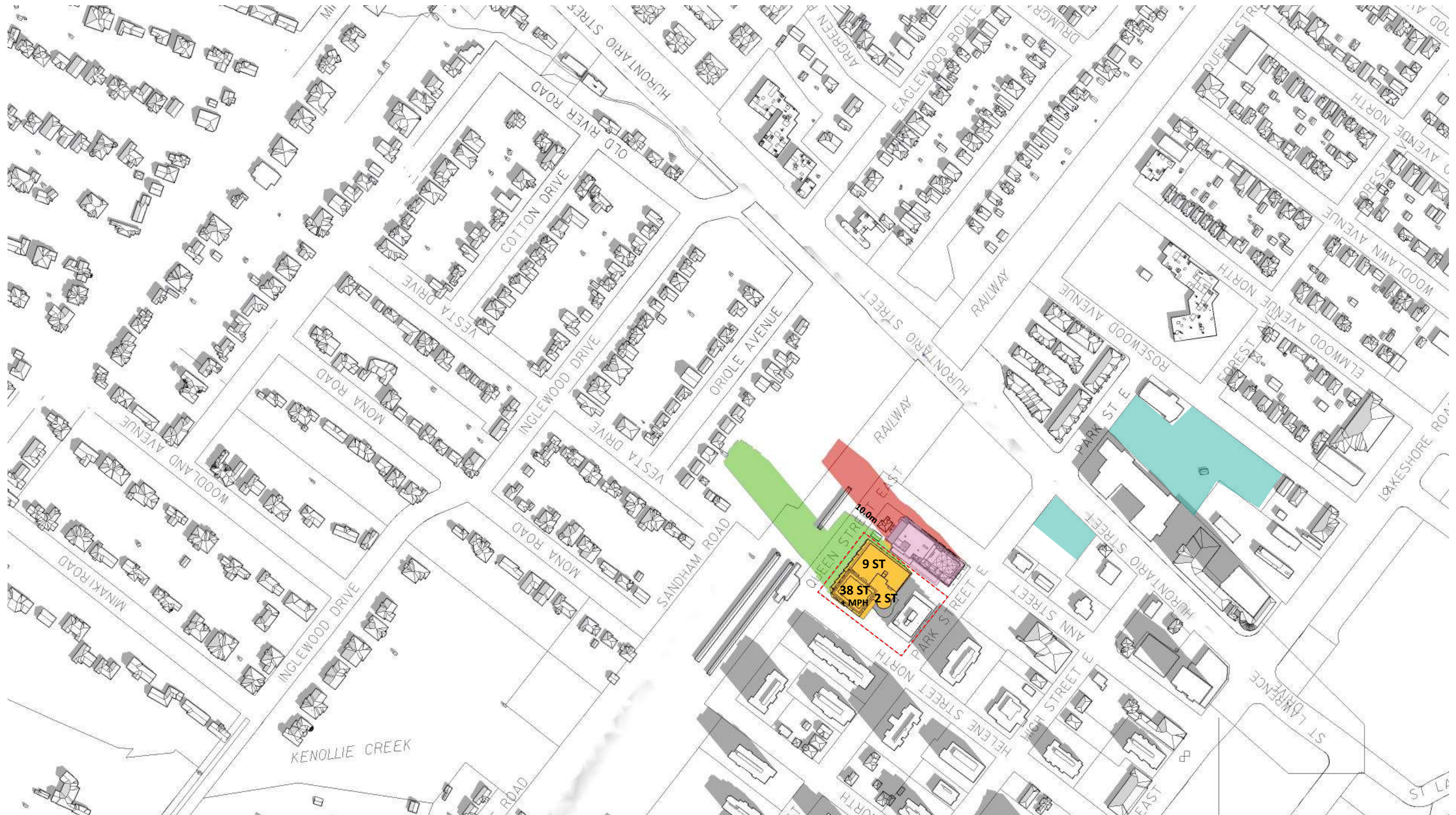


PLAYGROUND/PARK



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SEPT 21st 10:12am

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



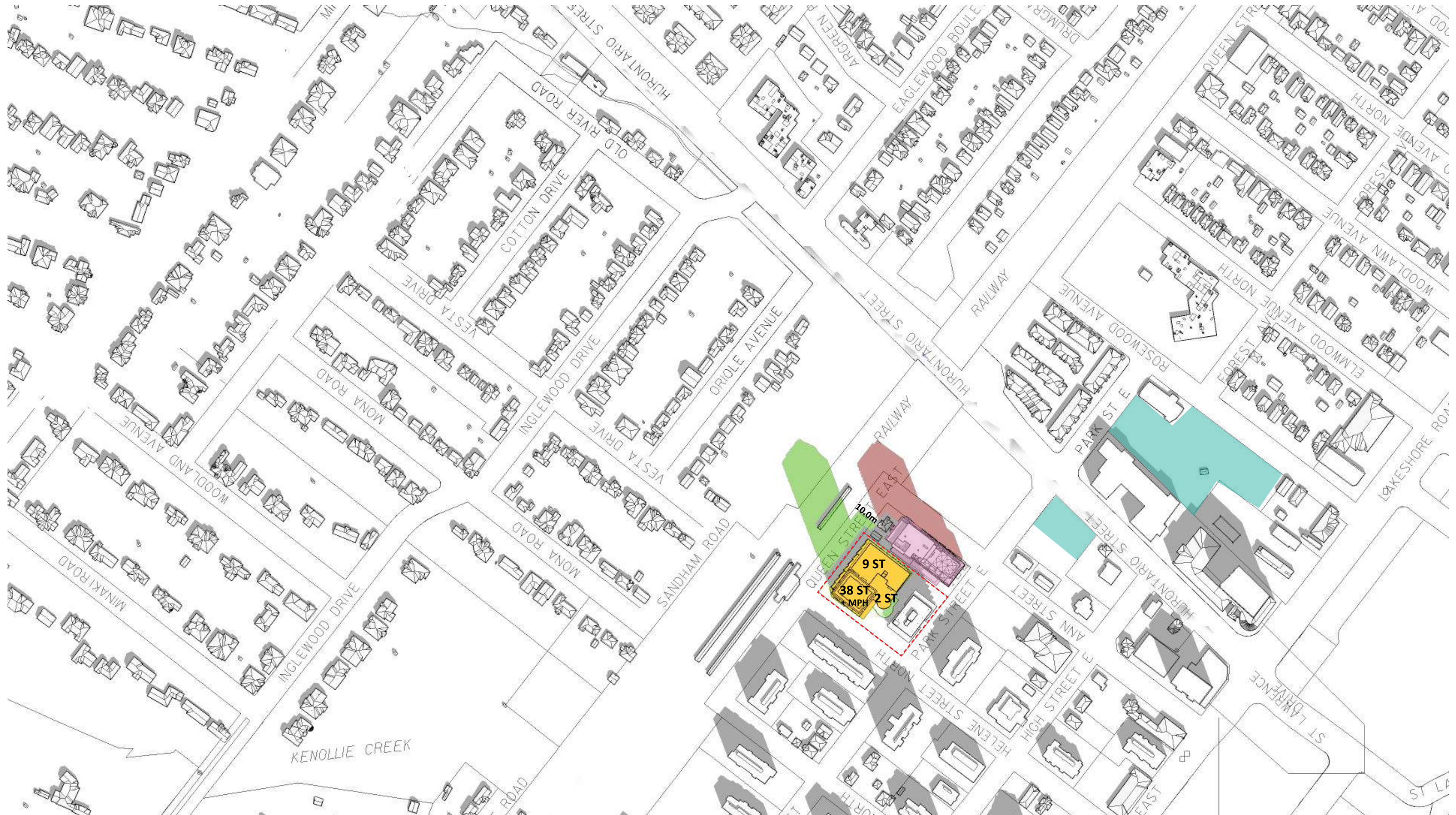
PLAYGROUND/PARK



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SEPT 21st 11:12am

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK



0 45 90

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SEPT 21st 12:12pm

70 PARK ST SHADOW STUDY
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JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK



ARCADIS

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SEPT 21st 1:12pm

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



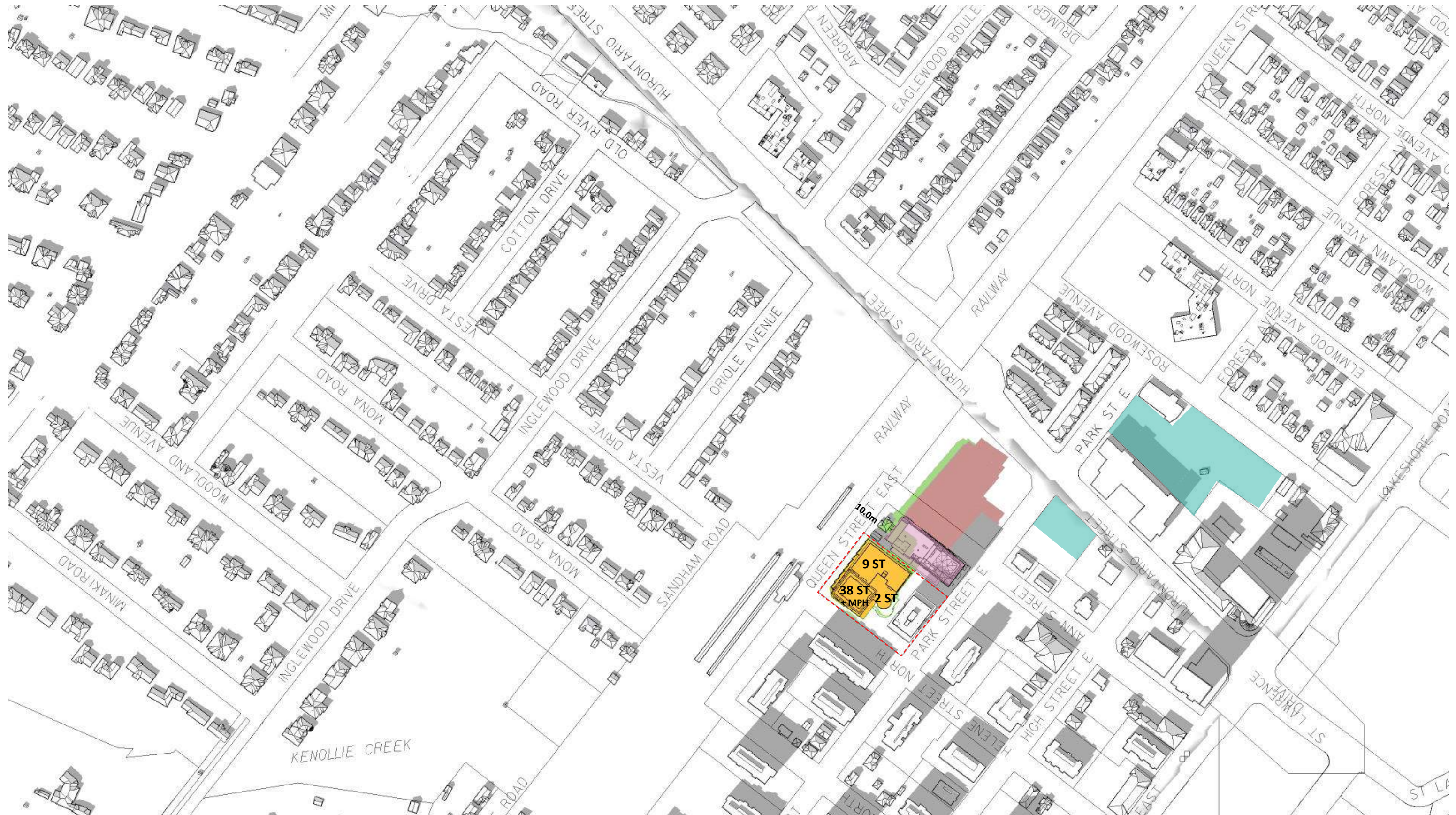
PLAYGROUND/PARK



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SEPT 21st 2:12pm

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



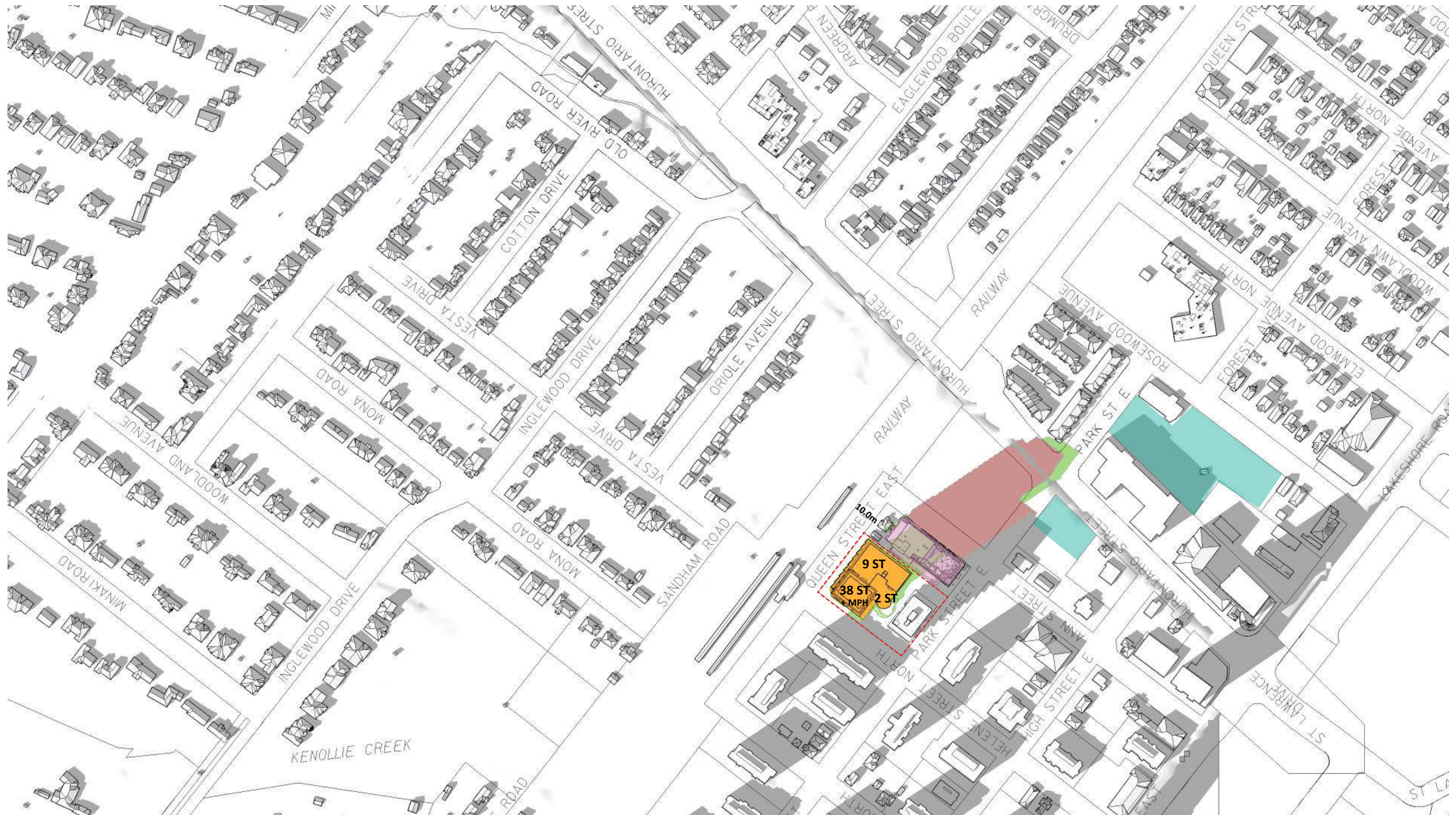
PLAYGROUND/PARK



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SEPT 21st 3:12pm

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK



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SEPT 21st 4:12pm

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK



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SEPT 21st 5:12pm

70 PARK ST SHADOW STUDY
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JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



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APPROVED BUILDING SHADOWS



PLAYGROUND/PARK



0 45 90

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SEPT 21st 5:48pm

70 PARK ST SHADOW STUDY
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SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK SHADOWS



0 45 90

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DEC 21st 9:19am

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023

 SITE BOUNDARY

 EXISTING BUILDING SHADOWS

 PROPOSED BUILDING

 PROPOSED BUILDING SHADOWS

 APPROVED BUILDING

 APPROVED BUILDING SHADOWS

 PLAYGROUND/PARK



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DEC 21st 10:17am

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK



0 45 90



DEC 21st 11:17am

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



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PLAYGROUND/PARK



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DEC 21st 12:17pm

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MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING SHADOWS



APPROVED BUILDING SHADOWS



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PLAYGROUND/PARK



0 45 90

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DEC 21st 1:17pm

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



APPROVED BUILDING



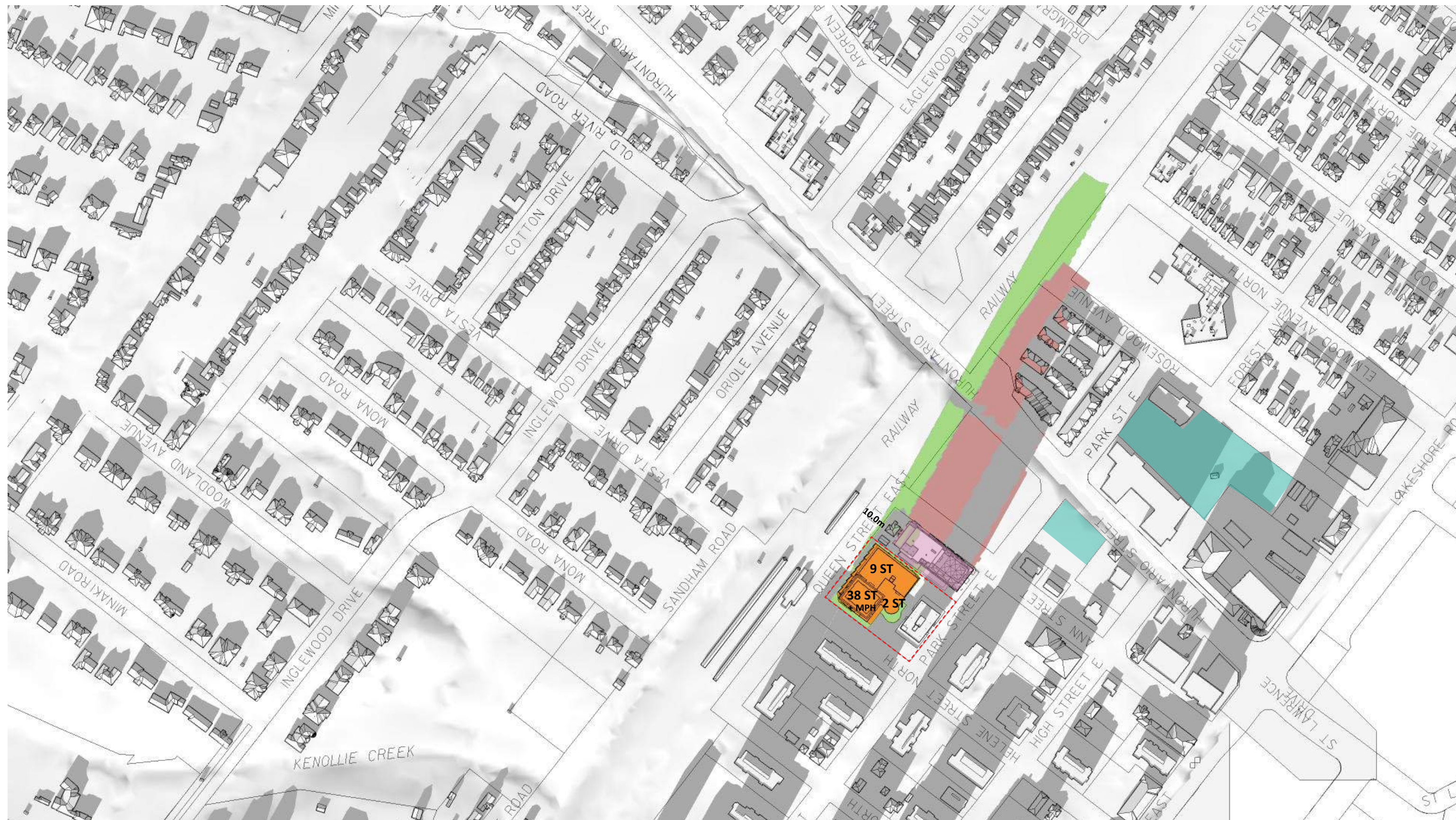
APPROVED BUILDING SHADOWS



PLAYGROUND/PARK



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DEC 21st 2:17pm

70 PARK ST SHADOW STUDY
MISSISSAUGA, ONTARIO
JANUARY 2023



SITE BOUNDARY



EXISTING BUILDING SHADOWS



PROPOSED BUILDING



PROPOSED BUILDING SHADOWS



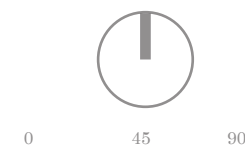
APPROVED BUILDING



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK



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DEC 21st 3:15pm

70 PARK ST SHADOW STUDY
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SITE BOUNDARY



EXISTING BUILDING SHADOWS



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PROPOSED BUILDING SHADOWS



APPROVED BUILDING



APPROVED BUILDING SHADOWS



PLAYGROUND/PARK SHADOWS



0 45 90

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