166-186 FERGUSON AVE N & 203 ROBERT ST

SUN/SHADOW STUDY
FEBRUARY 2025

ARCADIS

Draft Sun Shadow Study

1. INTRODUCTION

The following report presents a Sun Shadow Study Analysis for a planned residential development at 166-186 Ferguson Ave N & 203 Robert St in Hamilton Ontario. This report is for an Offical Plan Amendment and Zoning By-Law Application Submission.

The report addresses the specific crieria contained in the City of Hamilton Development Application Guidelines Sun Shadow Study Draft, and demonstrates that the proposed development will not cause undue impacts with respect to shade.

1.1 PROPOSED DEVELOPMENT

The proposed development is a 7 tower masterplan divided into 7 blocks, with a single tower on each block. Each block has a 6 storey podium, with a single shared podium between blocks 1&2. The podiums rise to 20.5m above grade before transitioning to typical tower floorplates. Blocks 1,2 & 5 are 28 storey towers with a height of 88.4m above grade with an addiitonal 7m Mechanical Penthouse. Blocks 3 & 4 are 30 storey towers with a height of 94.4m with an additional 7m Mechanical Penthouse. Blocks 6 & 7 are 26 storey towers with a height of 82.4m with an additional 7m Mechanical Penthouse.

The As of Right massing shown in this study is 40m in height.

2. SUMMARY RESULTS OF SHADOW STUDY ANALYSIS

The Shadow Study Analysis demostrates that the proposed development meets the City´s standards for sun across the public realm, common amenity areas and primary gathering spaces in downtown Hamilton.

Public Realm

A minimum of 3 hours of sun coverage is required for the public realm, including sidewalks, public amenity spaces on March 21st.

The criteria is achieved along the sidewalk on Barton Avenue before 1:00pm March 21st, along with all sunlight hours during June 21, before 12:00pm September 21st and only casts incremental shadows on December 21st as well.

This criteria is achieved along the sidewalk on Ferguson Street after 2:00pm on March 21st, as well as after 1:21pm, on June 21st, after 1:12pm on September 21st and 2:00pm onwards on December 21st.

This criteria is also achieved along the sidewalk on Wellington Avenue before 4:00pm on March 21st, along with before 5:00pm on June 21st, before 4:00pm on September 21st, and all day on December 21st.

The proposal does not cast any net shadows South of the proposed site on any of the 4 dates included in the study inclusive of March 21st.

The proposal includes future POP Park space located in the centre of the site & development. No net shadows are cast in this area of the site between 10:00am and 2:00pm on March 21st.

Common Amenity Areas

Adjacent sites that fall under the definition of Common Amentiy Areas for this study and proposed development are Beasley Park, and Jackie Washington Rotary Park.

As seen in the study, no net shadows are cast in Beasley Park or Jackie Washington Rotary Park on any dates or times shown in this study, inclusive of March 21st.

Primary Gathering Spaces in Downtown Hamilton

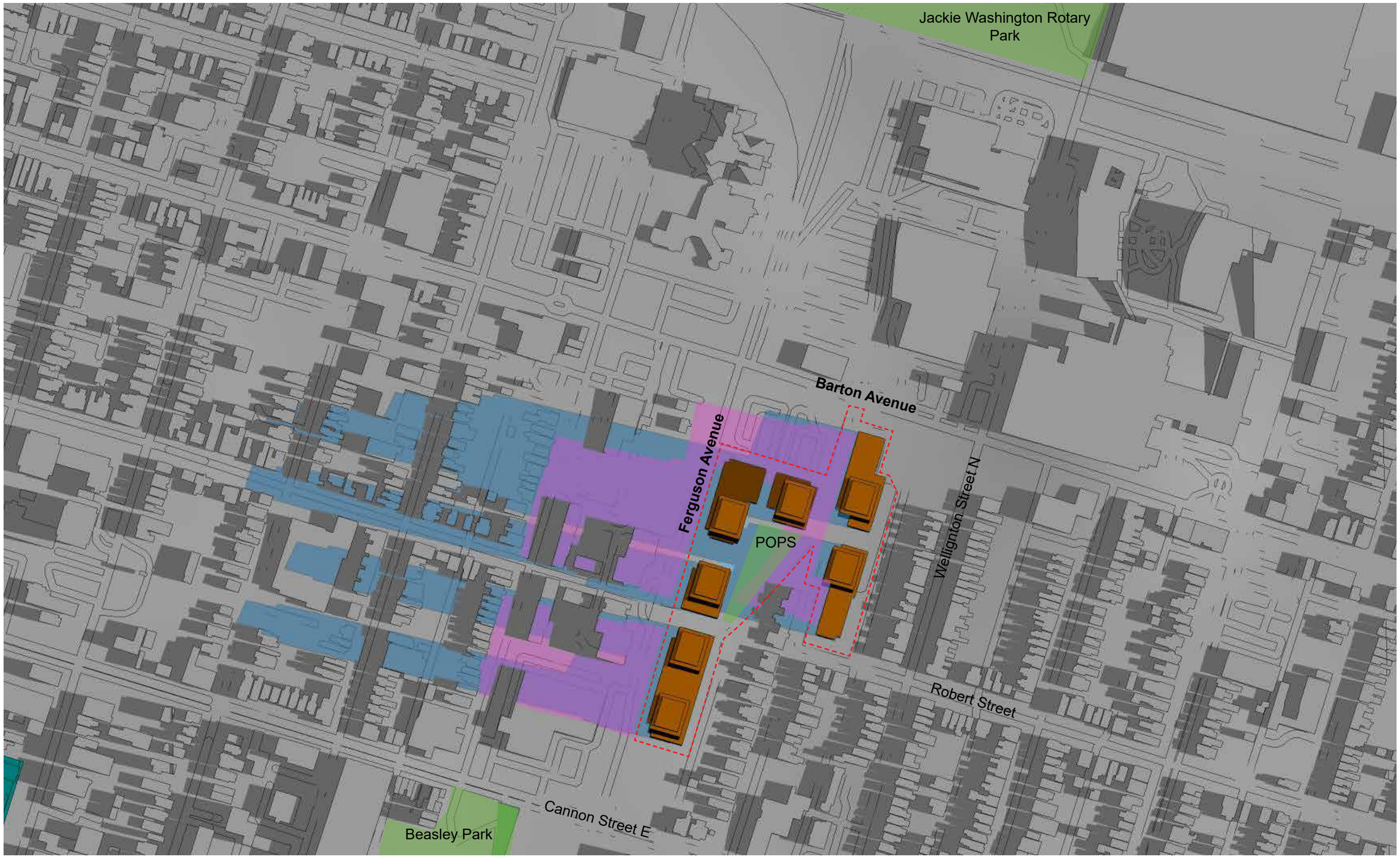
The subject site does not cast any net shadows on the Primary Gathering Spaces outlined in the Sun Shadow Study Guidelines.

Conclusion:

Based on our analysis, the net shadow impact on the Public Realm, Common Amenity Areas and Primary Gathering Spaces in Downtown Hamilton is adequately limited or non-existent as defined by the requirements outlined in Hamilton Sun Shadow Study Development Application Guidelines.

Notes:
a) Latitude: 43 deg. 14’30” N • Longitude: 79 deg. 51’00” W
b) Astronomical north was based on the site survey and oriented in the modeling software (SketchUp)
c) Existing building information and building footprints were generated from aerial photos available via open-source data.
d) Shadow impacts are shown during March 21st, June 21st and September 21st using Eastern Daylight Savings Time (UTC -4:00) beginning 1.5 hours after sunrise, ending 1.5 hours before sunset, at solar noon, and at hourly intervals inbetween.
e) Shadow impacts are shown during December 21st using Eastern Standard Time (UTC -5:00) beginning 1.5 hours after sunrise, ending 1.5 hours before sunset, at solar soon, and at hourly intervals inetween.

Sun Shadow Study - March 21st



March 21 - 8:49am (1.5 Hours After Sunrise)

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - March 21st

March 21 - 9:00 am

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - March 21st

March 21 - 10:00 am

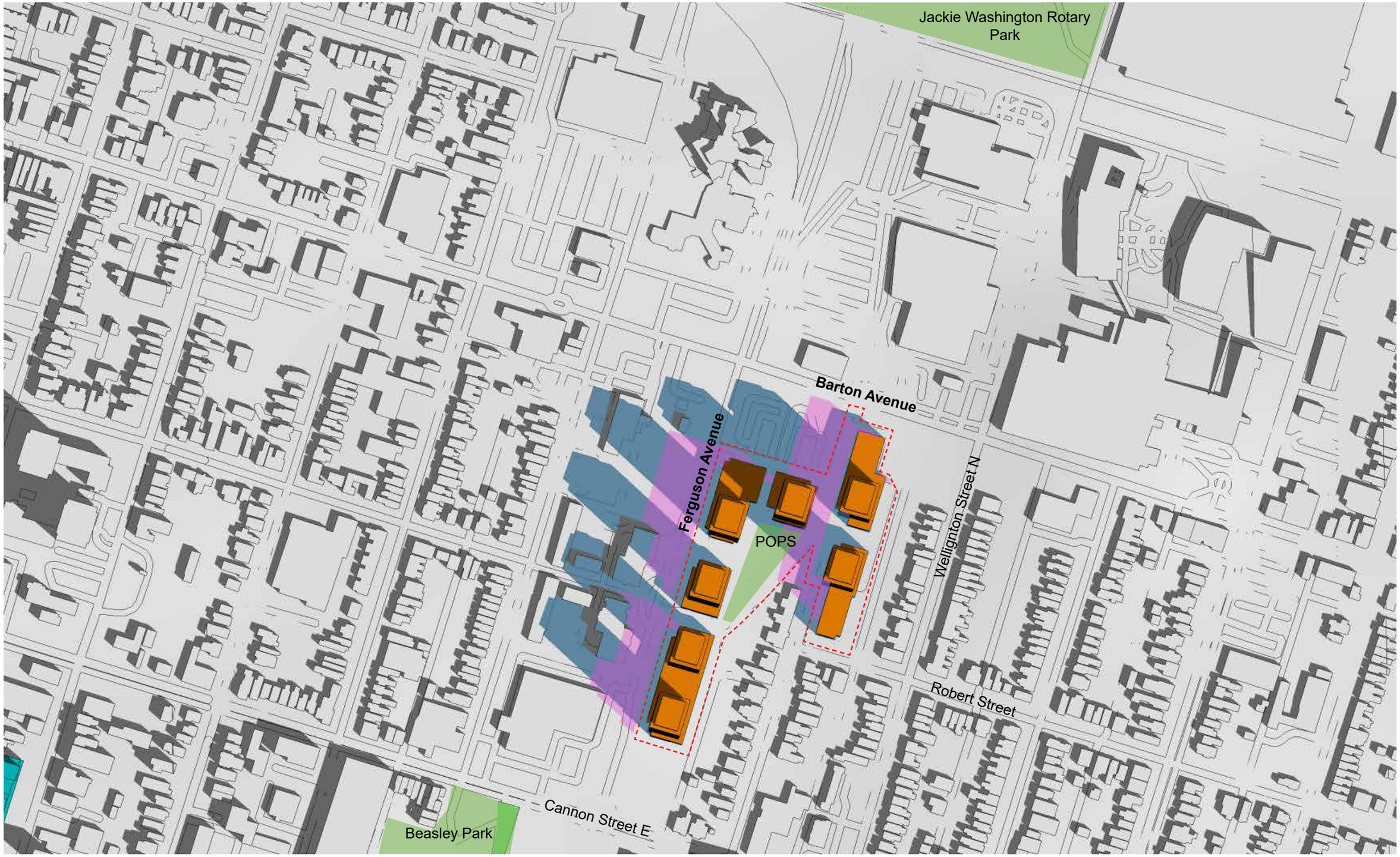
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - March 21st



March 21 - 11:00 am

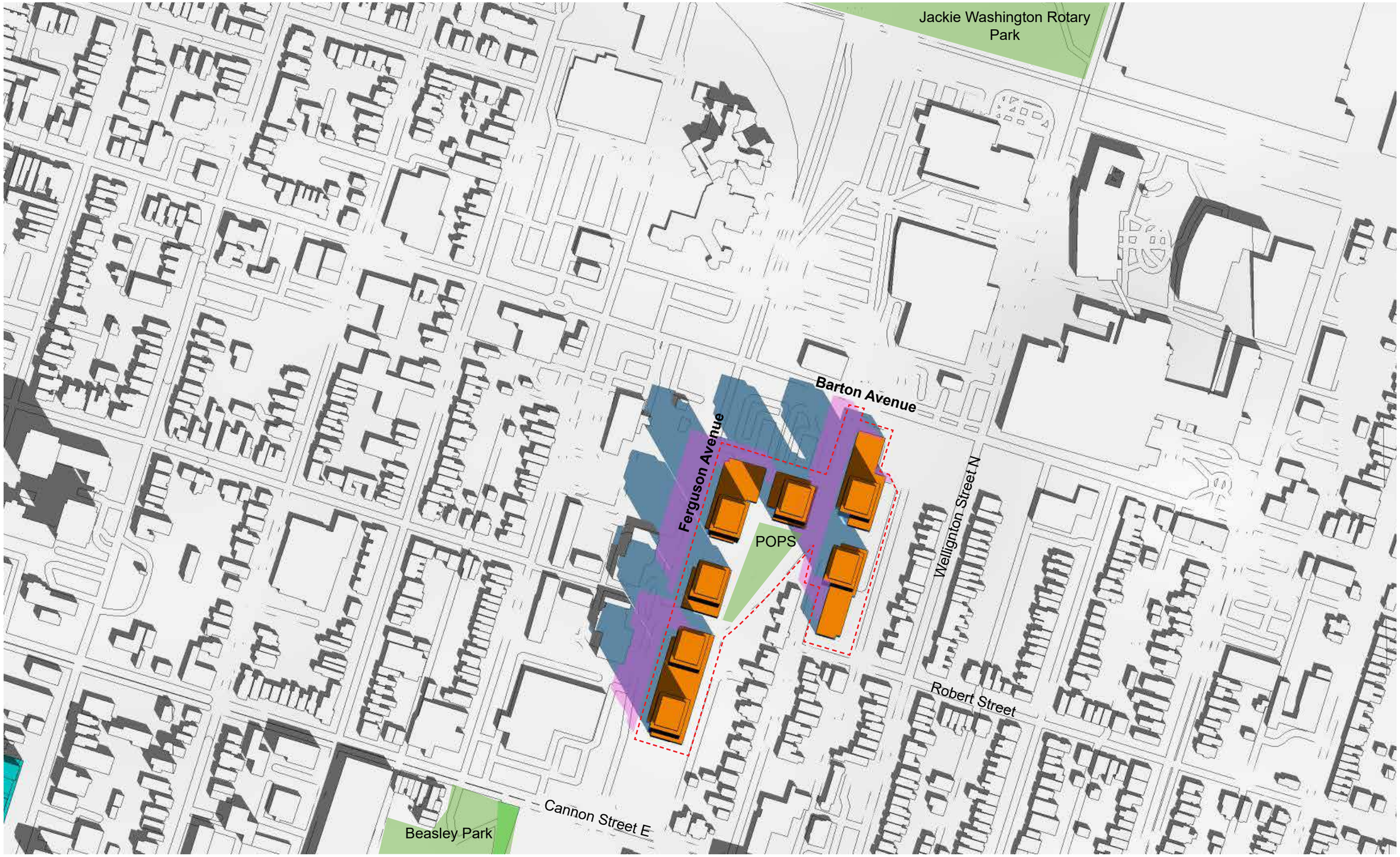
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - March 21st



March 21 - 12:00pm

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - March 21st

March 21 - 1:00pm

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - March 21st

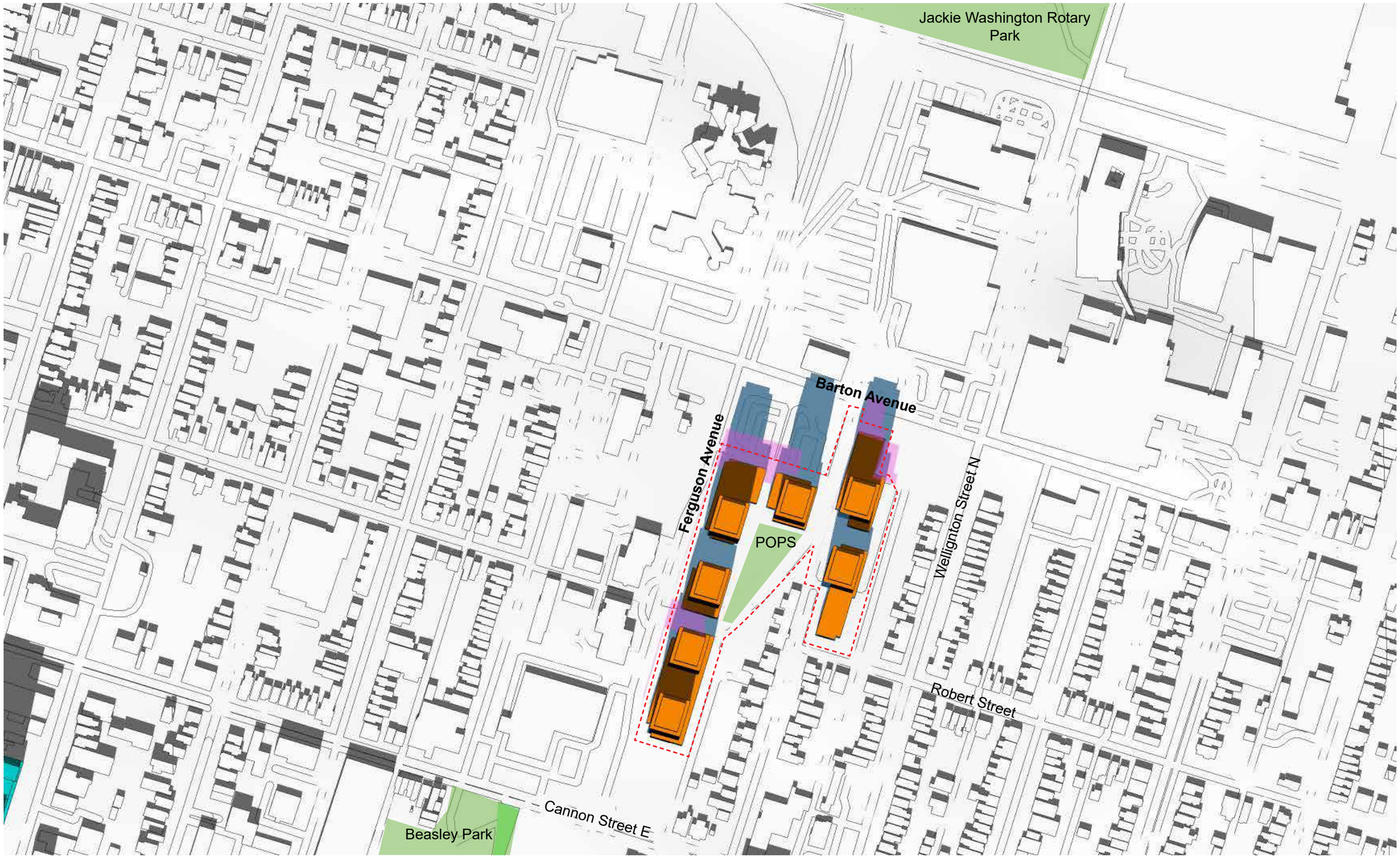
March 21 - 1:26pm (Solar Noon)

0 10 50 100

N

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - March 21st



March 21 - 2:00pm

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - March 21st

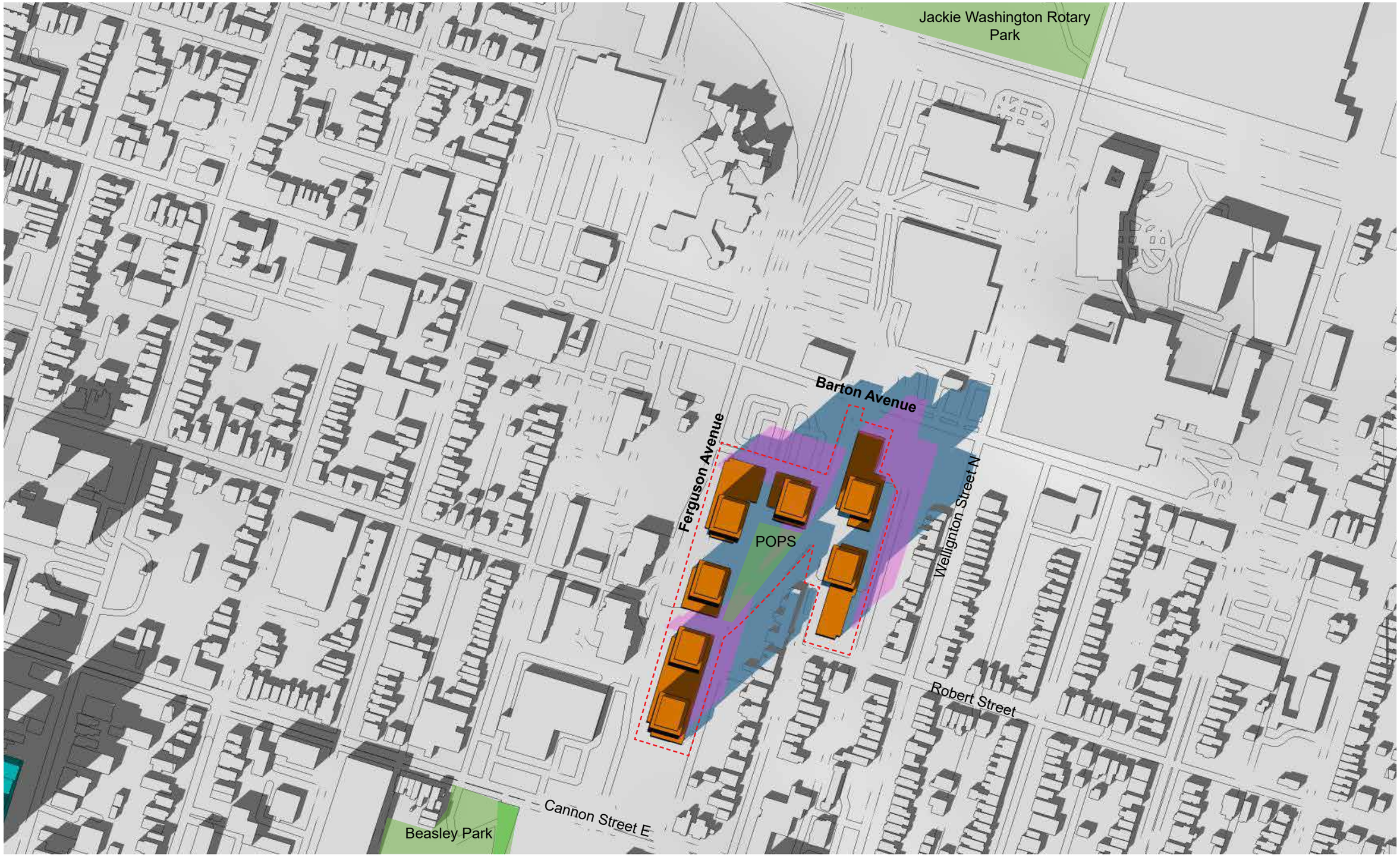
March 21 - 3:00pm

0 10 50 100

N

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - March 21st



March 21 - 4:00pm

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - March 21st

March 21 - 5:00pm

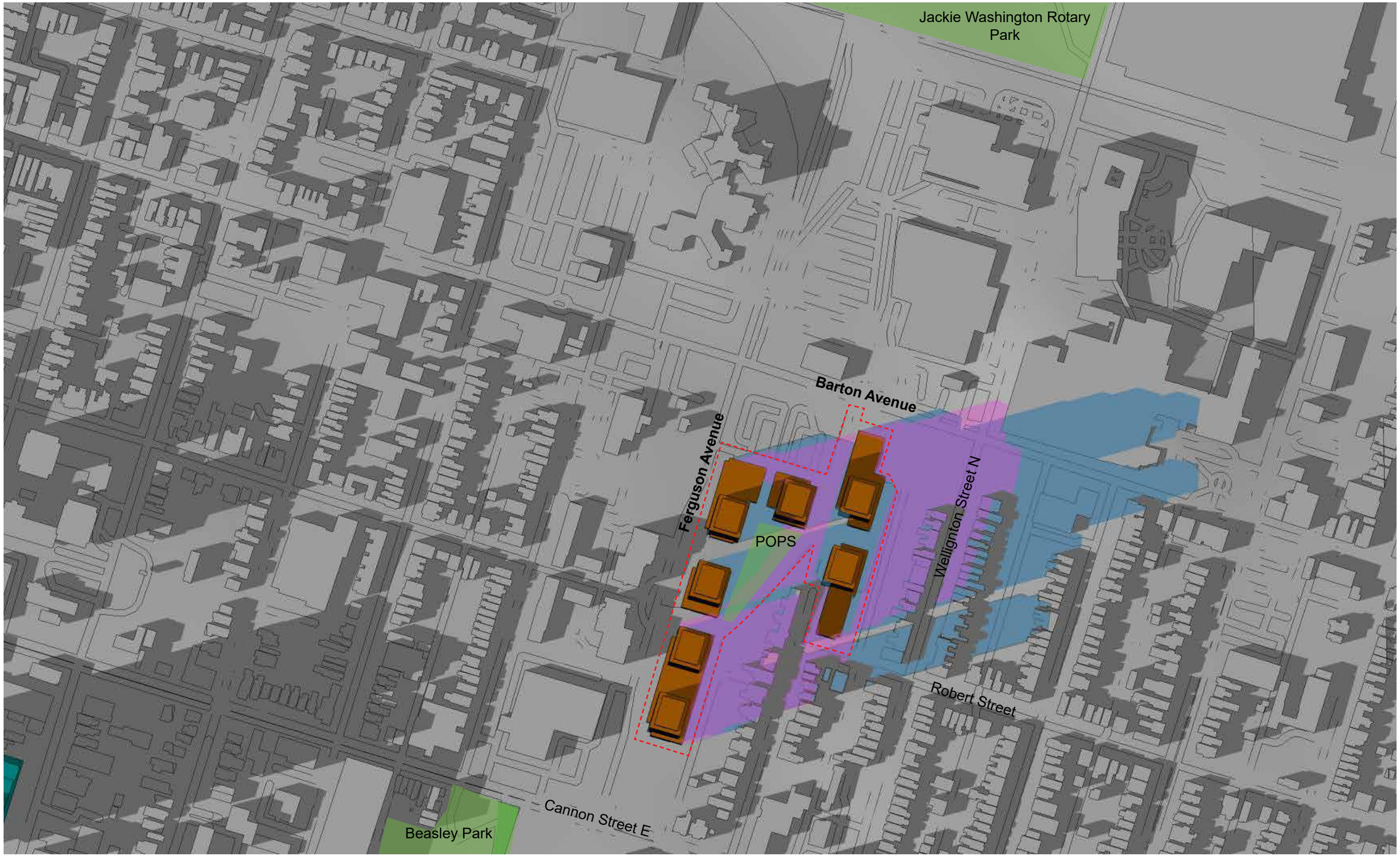
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - March 21st



March 21 - 6:00pm

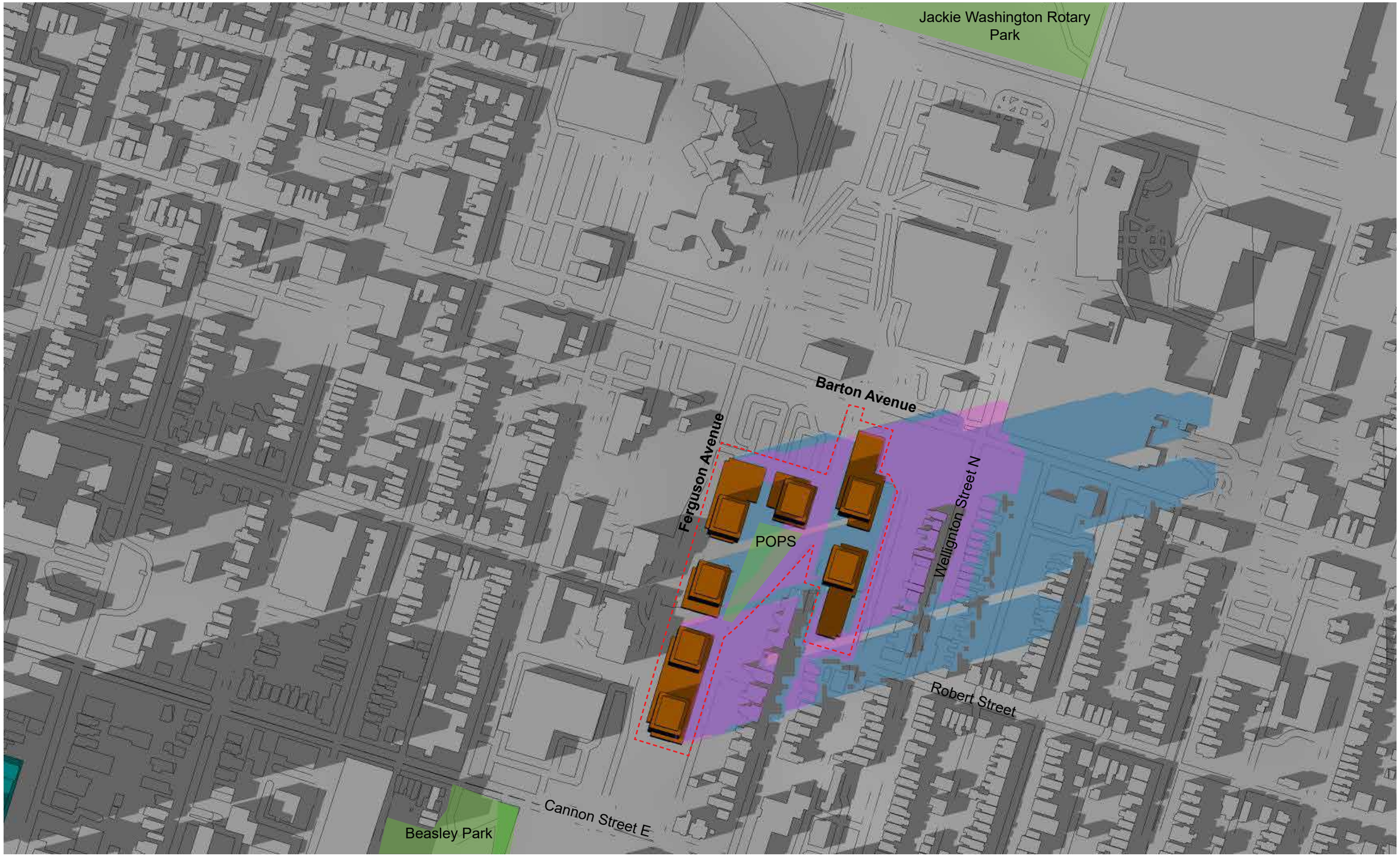
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - March 21st



March 21 - 6:03pm (1.5 Hours Before Sunset)

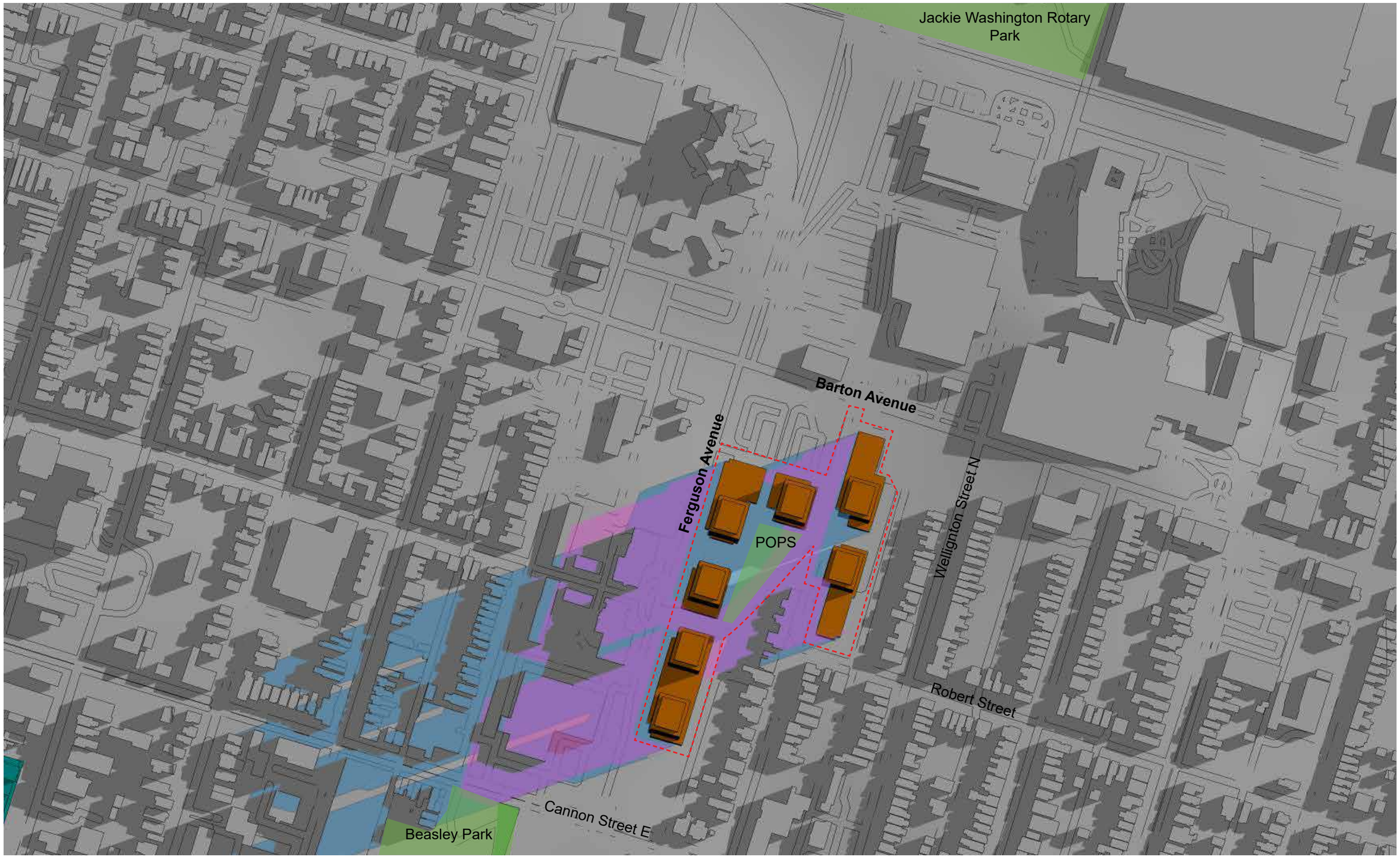
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st



June 21 - 7:09am (1.5 Hours After Sunrise)

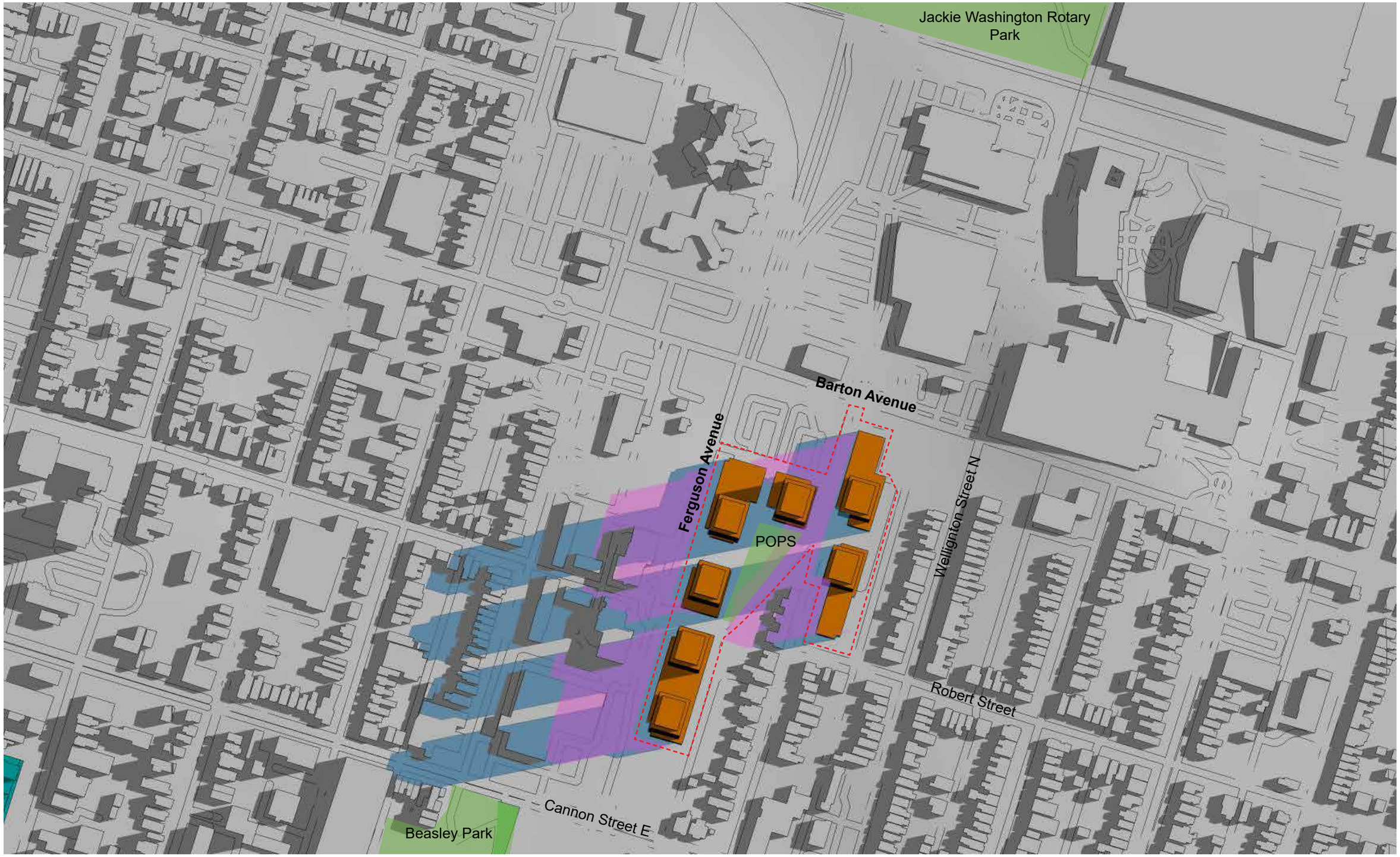
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st



June 21 - 8:00am

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st

June 21 - 9:00am

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st

June 21 - 10:00am

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st

June 21 - 11:00am

0 10 50 100

N

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st

June 21 - 12:00pm

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st

June 21 - 1:00pm

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st

June 21 - 1:21pm (Solar Noon)

0 10 50 100

N

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st

June 21 - 2:00pm

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st

June 21 - 3:00pm

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st

June 21 - 4:00pm

0 10 50 100

N

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st

June 21 - 5:00pm

0 10 50 100

N

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st

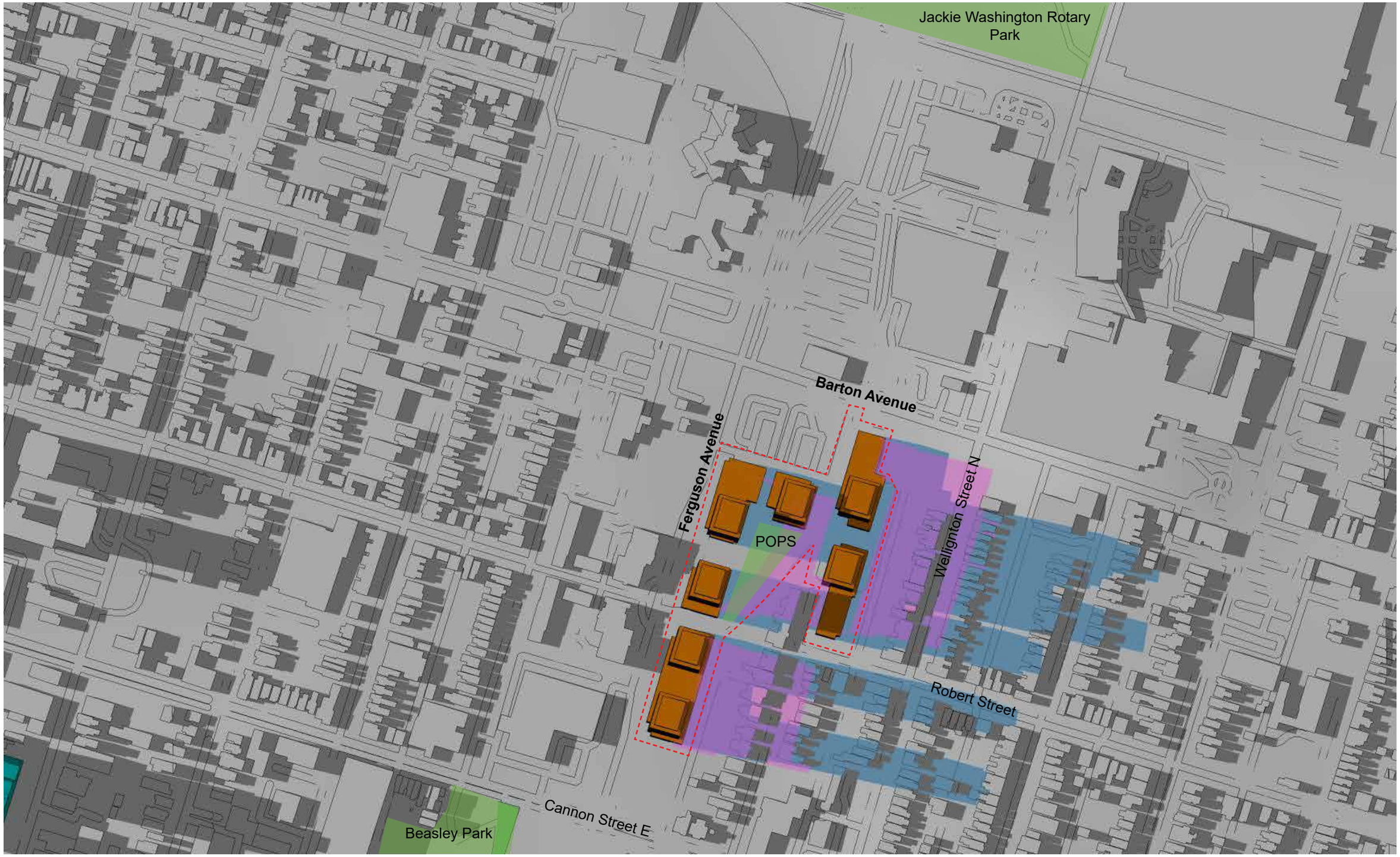
June 21 - 6:00pm

0 10 50 100

N

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st



June 21 - 7:00pm

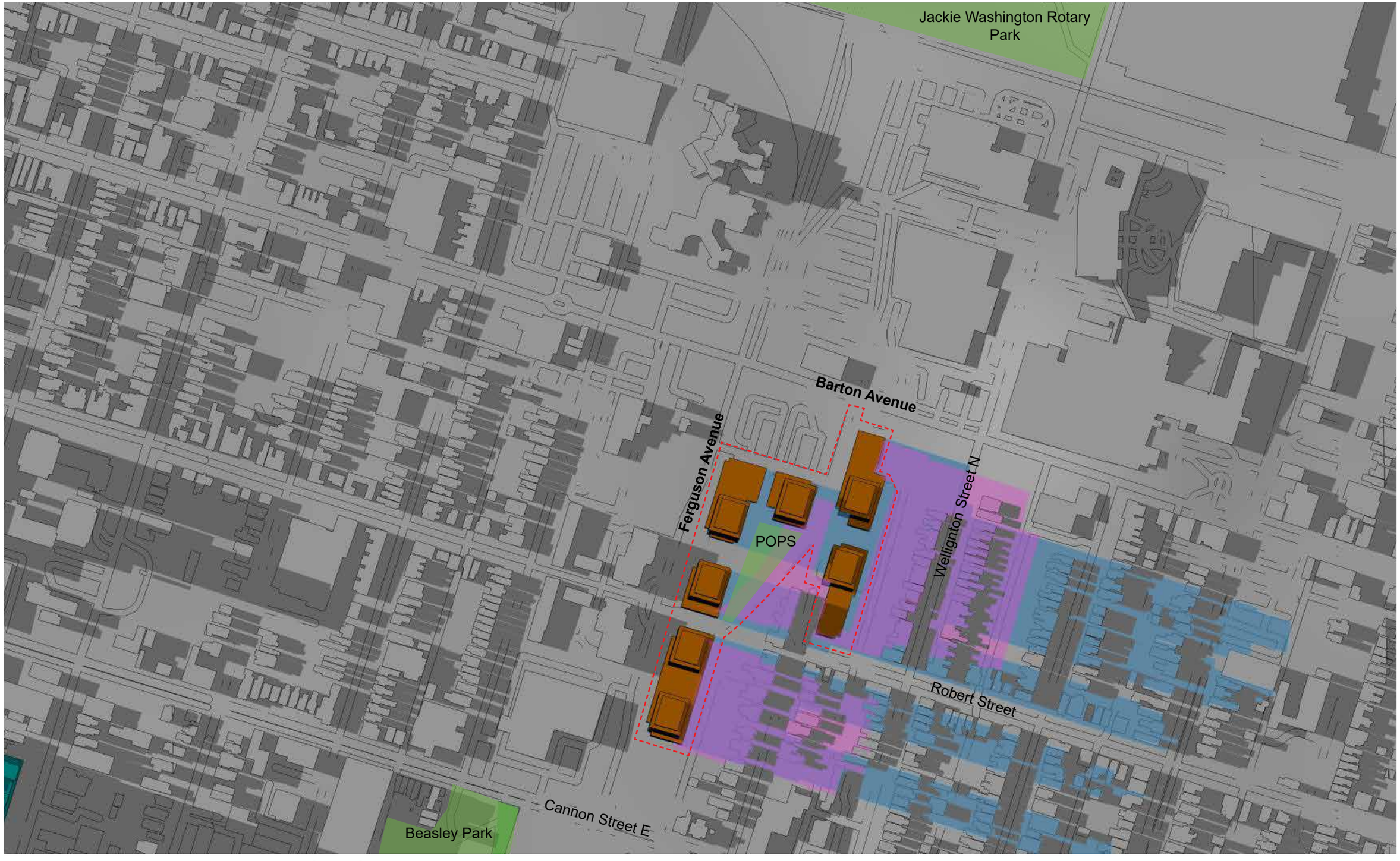
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - June 21st



June 21 - 7:33pm (1.5 Hours Before Sunset)

0 10 50 100

N

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - September 21st

September 21 - 8:39am (1.5 Hours After Sunrise)

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - September 21st

September 21 - 9:00am

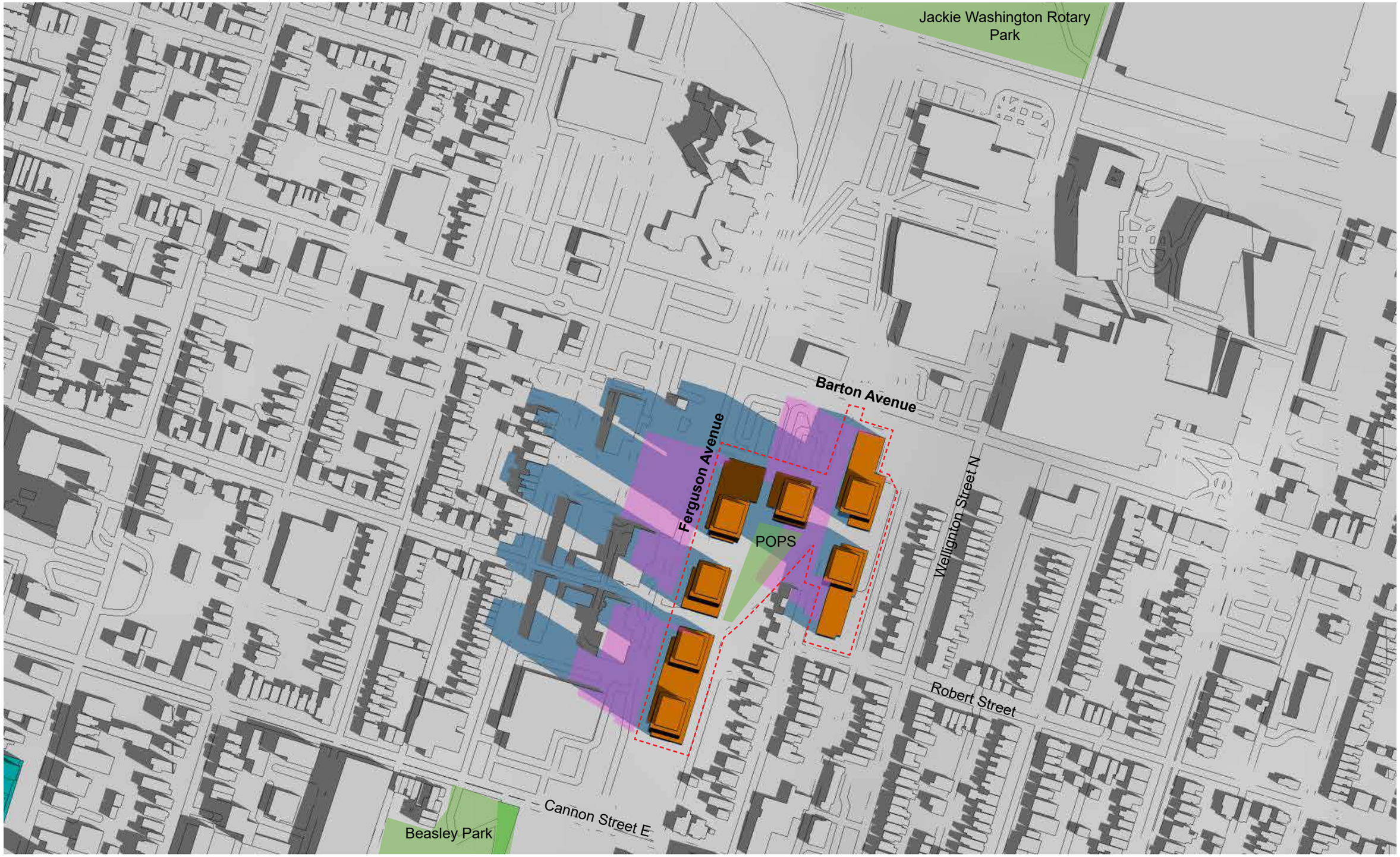
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - September 21st



September 21 - 10:00am

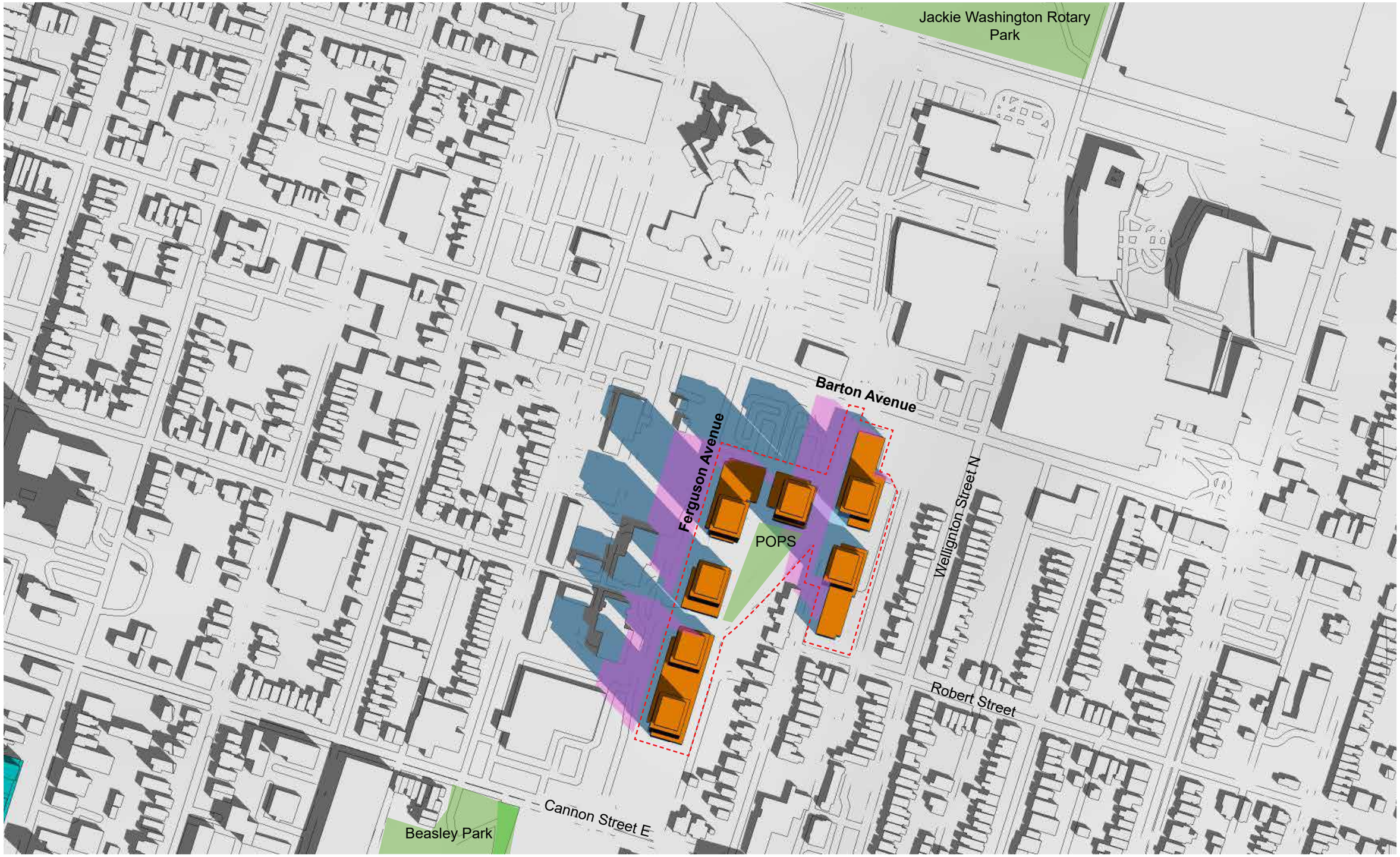
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - September 21st



September 21 - 11:00am

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - September 21st

September 21 - 12:00pm

0 10 50 100

N

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - September 21st

September 21 - 1:00pm

0 10 50 100

N

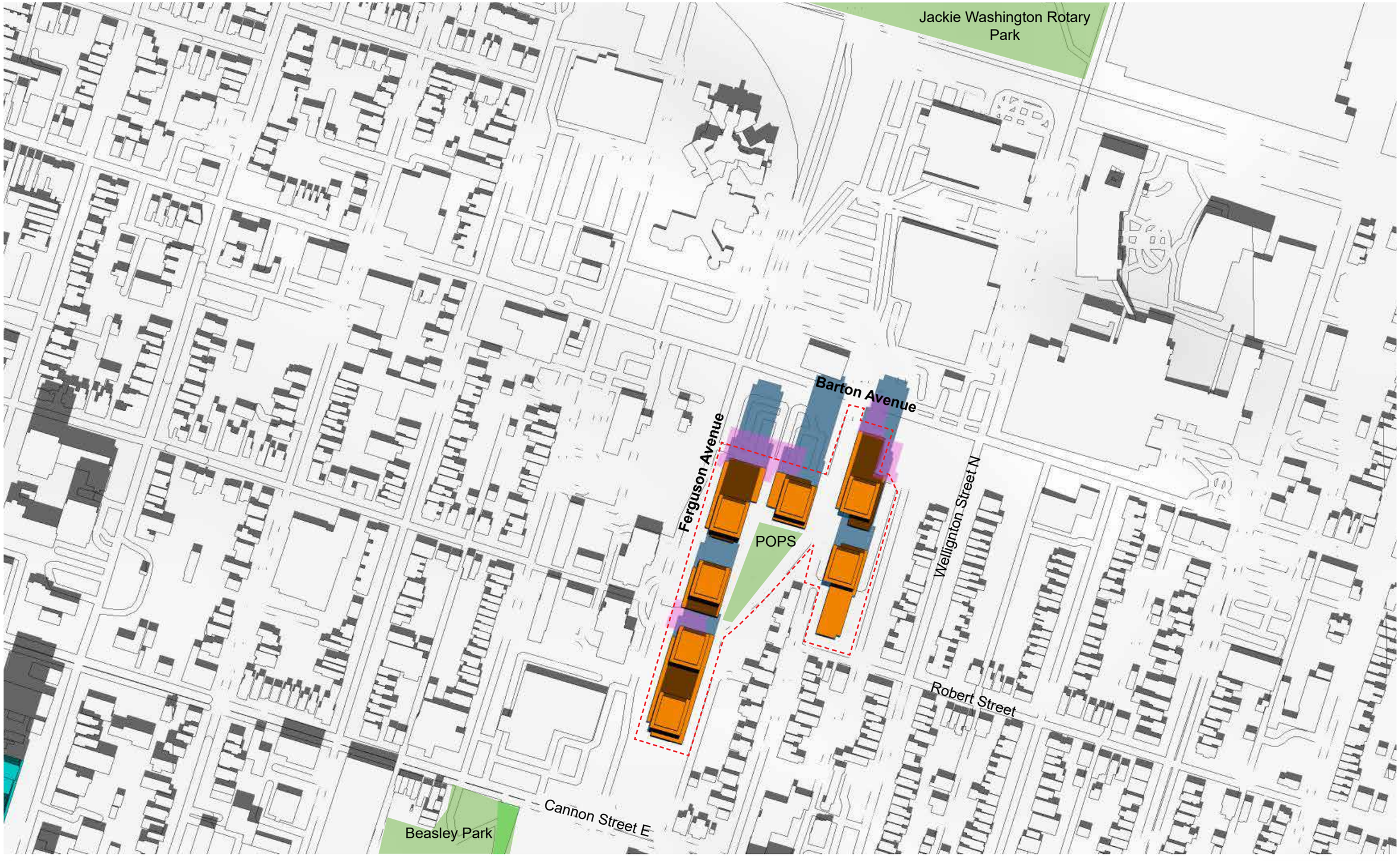
SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - September 21st

September 21 - 1:12pm (Solar Noon)

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - September 21st



September 21 - 2:00pm

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - September 21st

September 21 - 3:00pm

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - September 21st

September 21 - 4:00pm

0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - September 21st

September 21 - 5:00pm

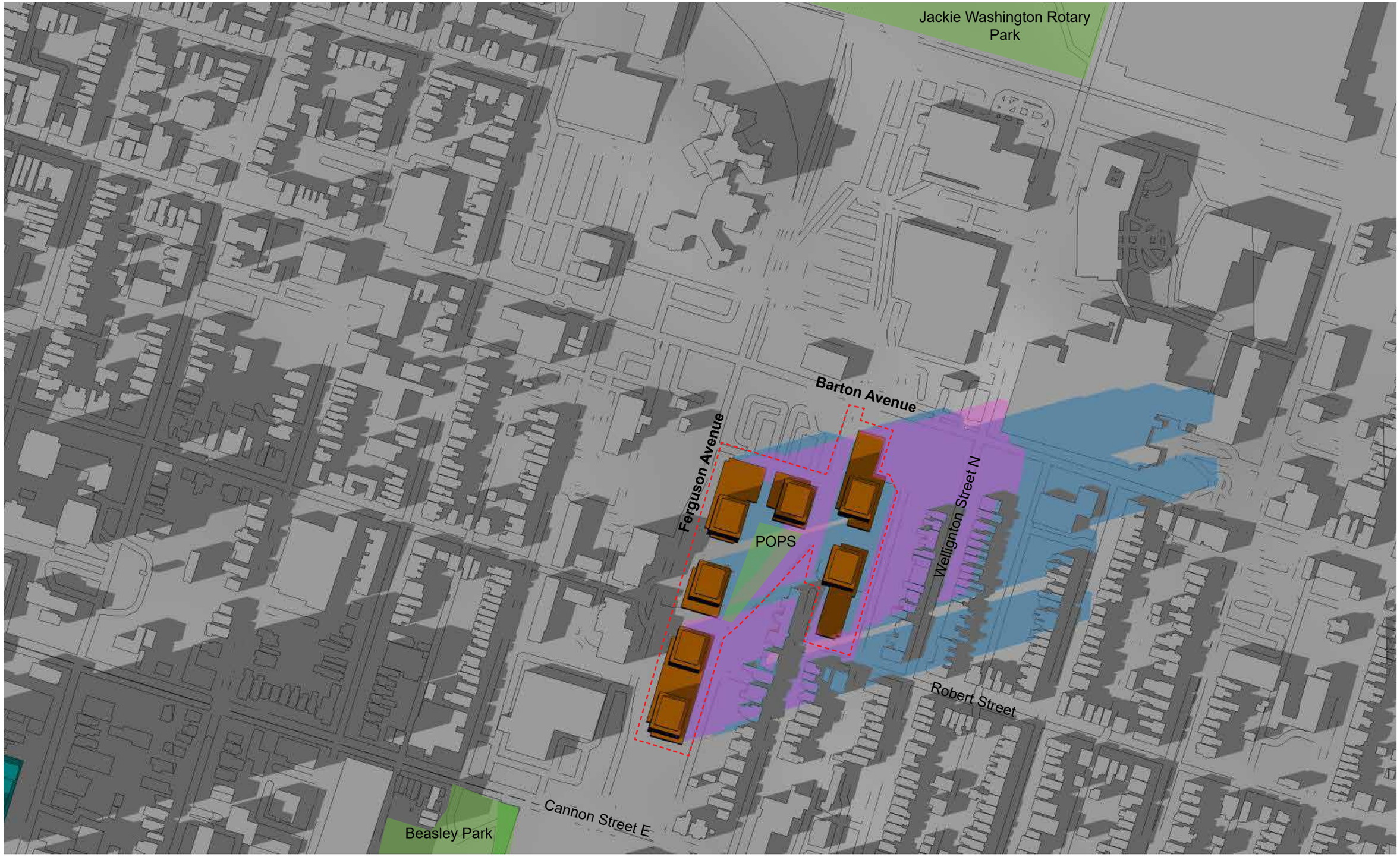
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - September 21st



September 21 - 5:47pm (1.5 Hours Before Sunset)

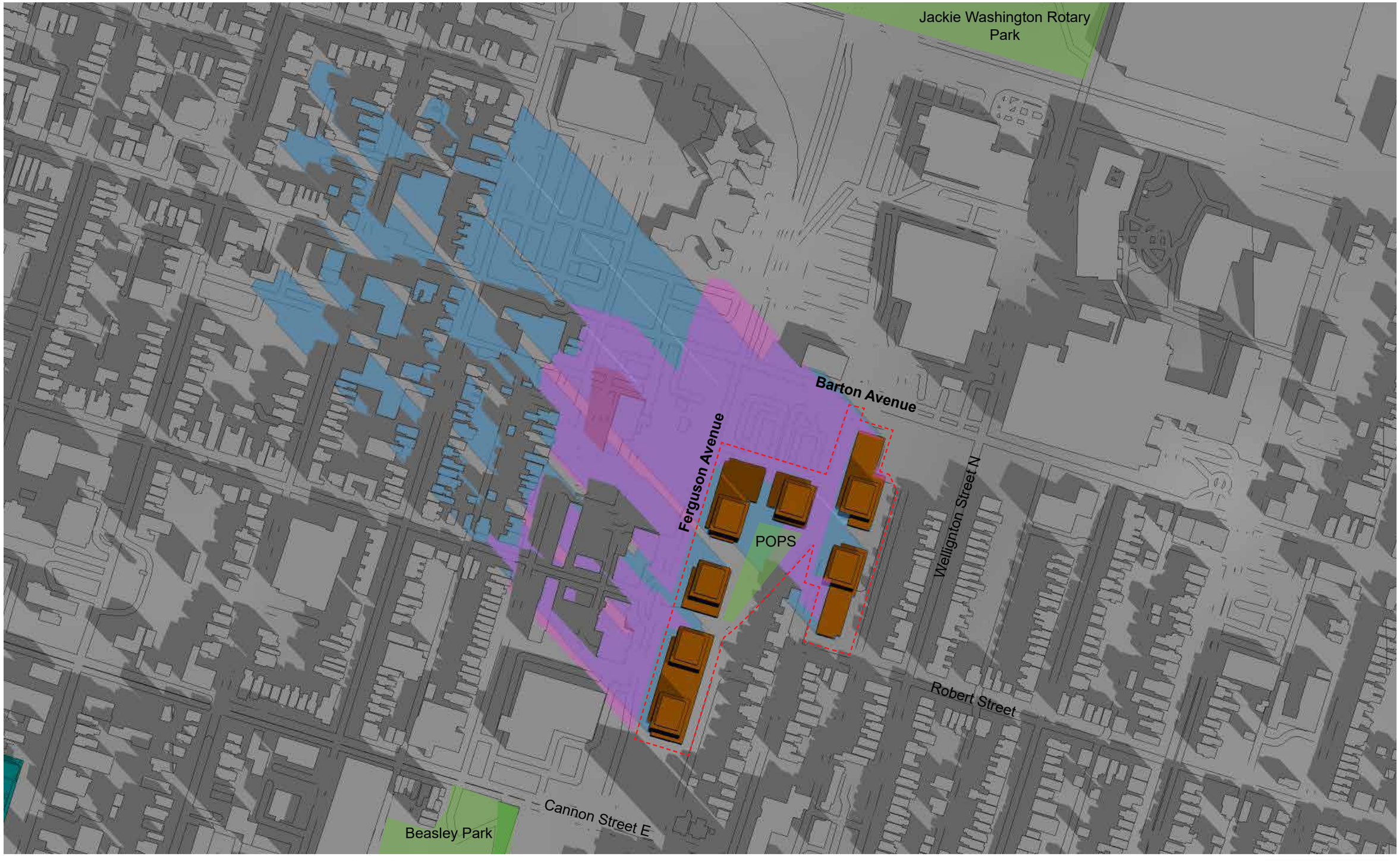
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - December 21st



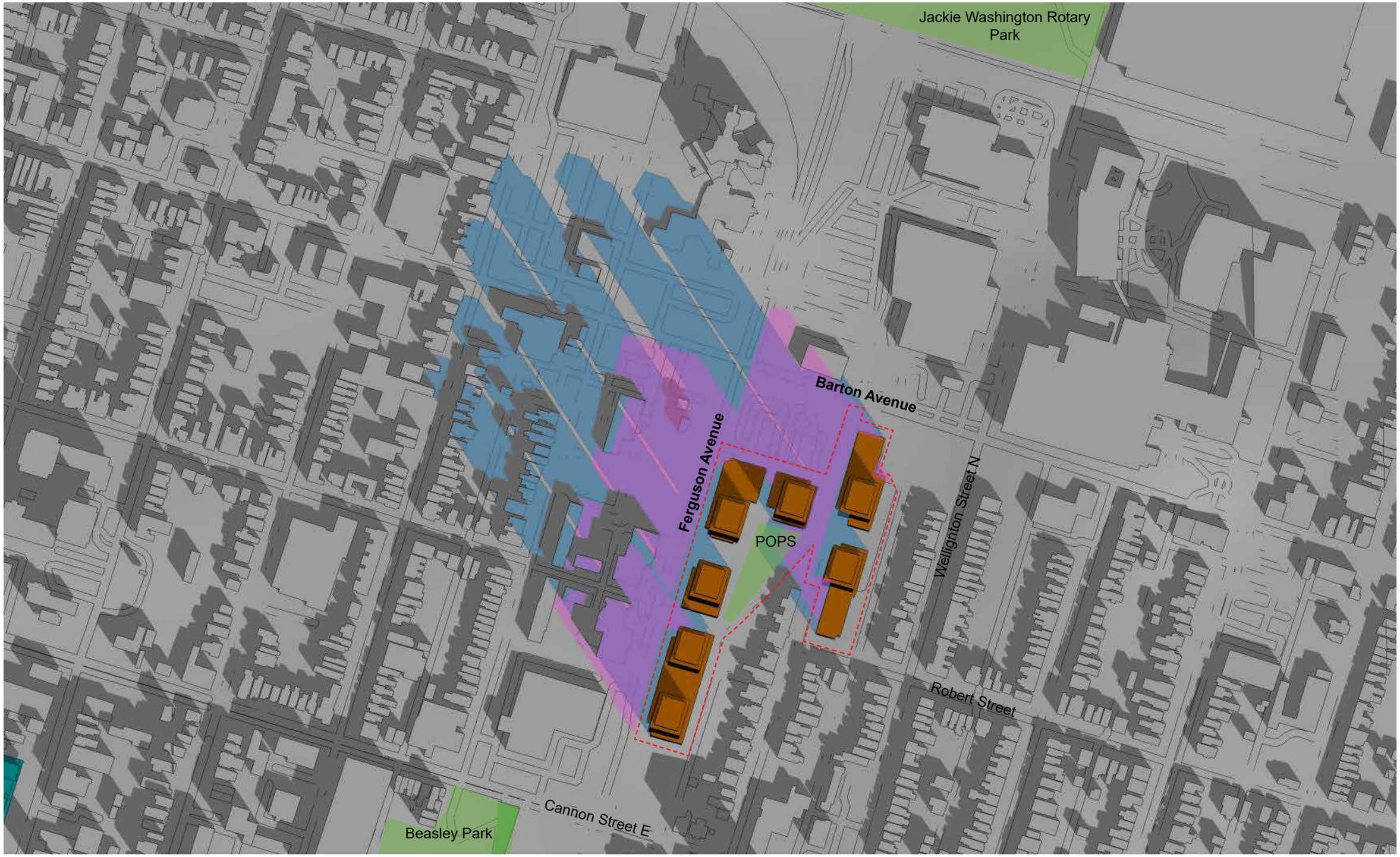
December 21 - 9:18am (1.5 Hours After Sunrise)

0 10 50 100

N

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - December 21st



December 21 - 10:00am

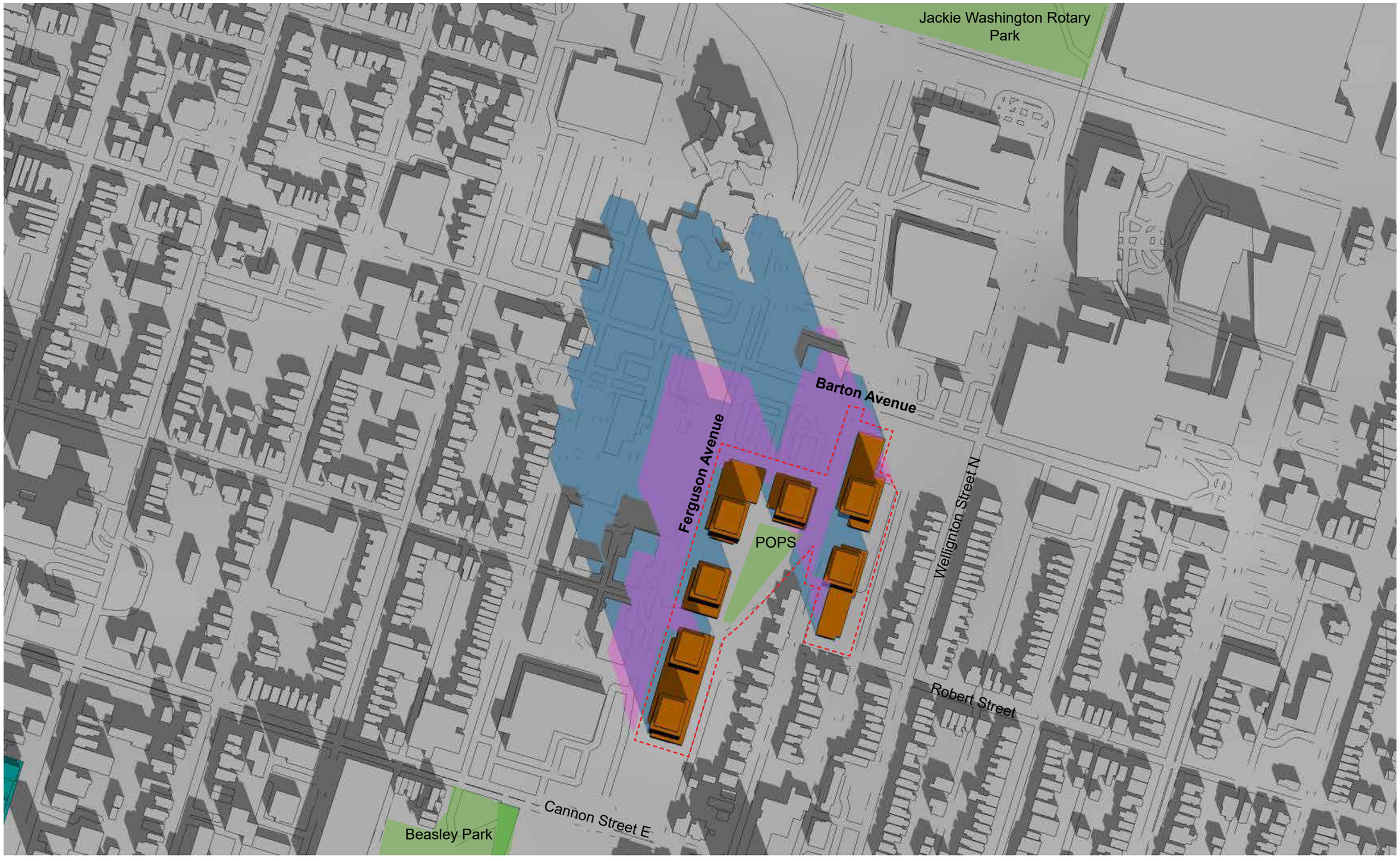
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - December 21st



December 21 - 11:00am

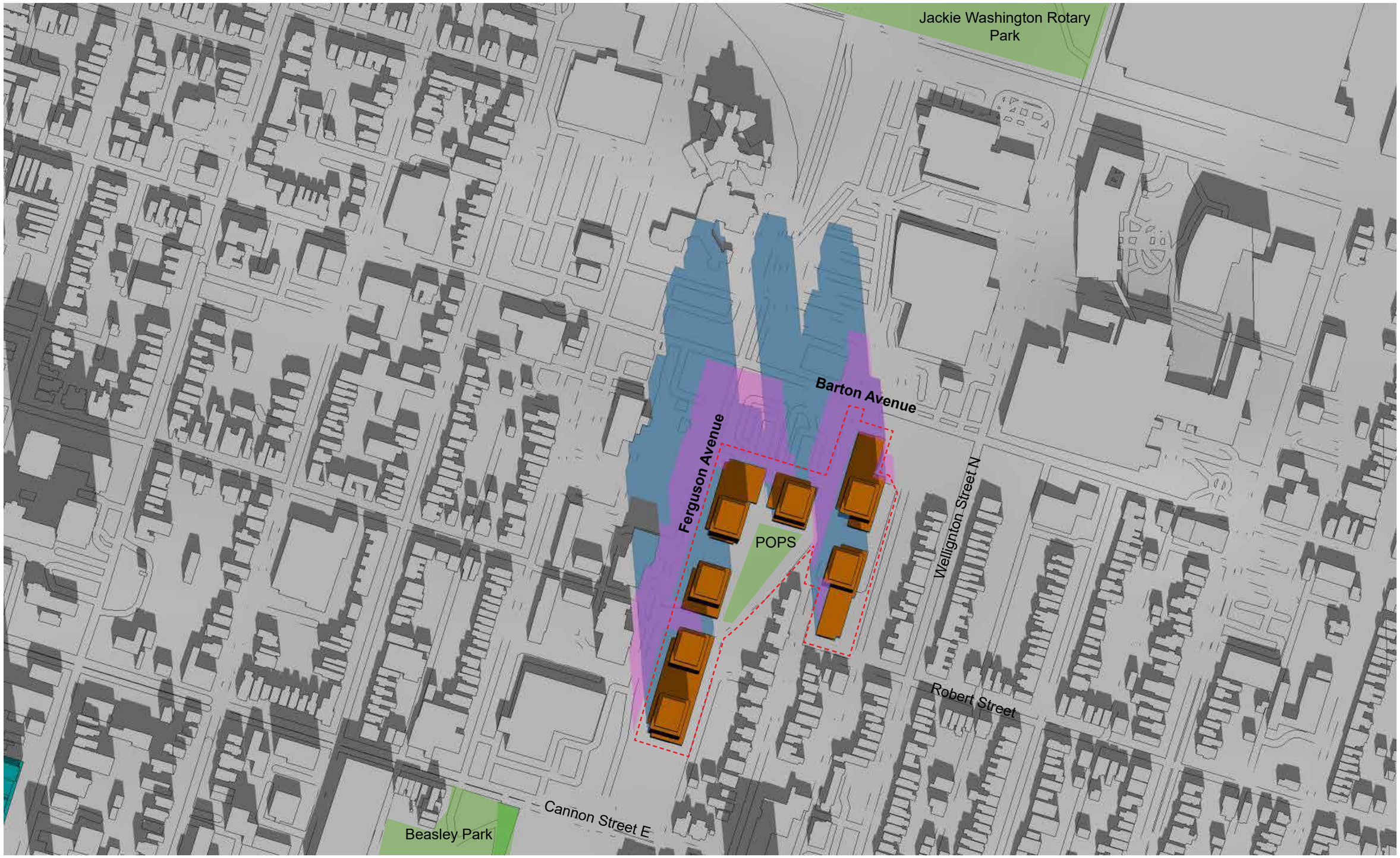
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - December 21st



December 21 - 12:00pm

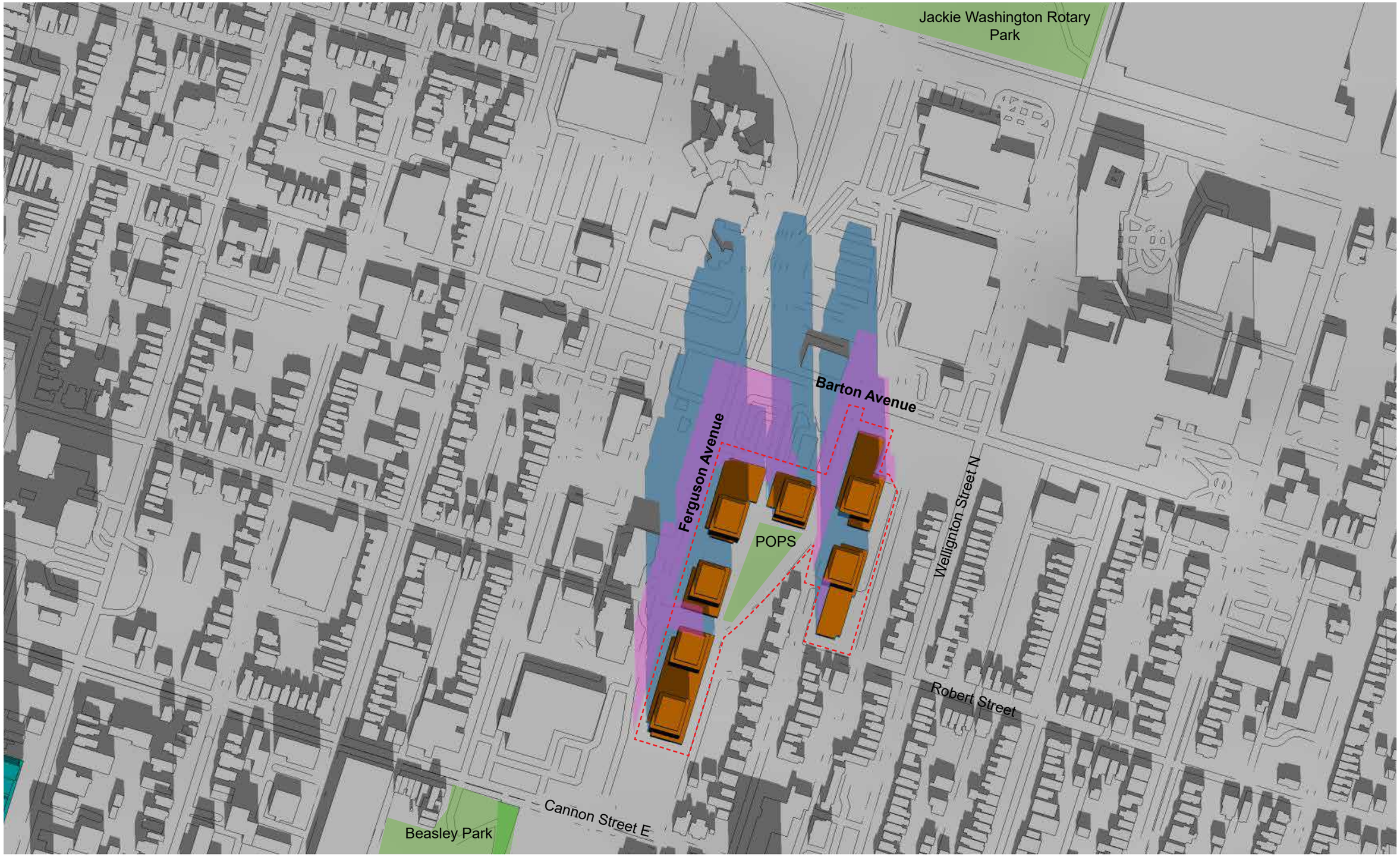
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - December 21st



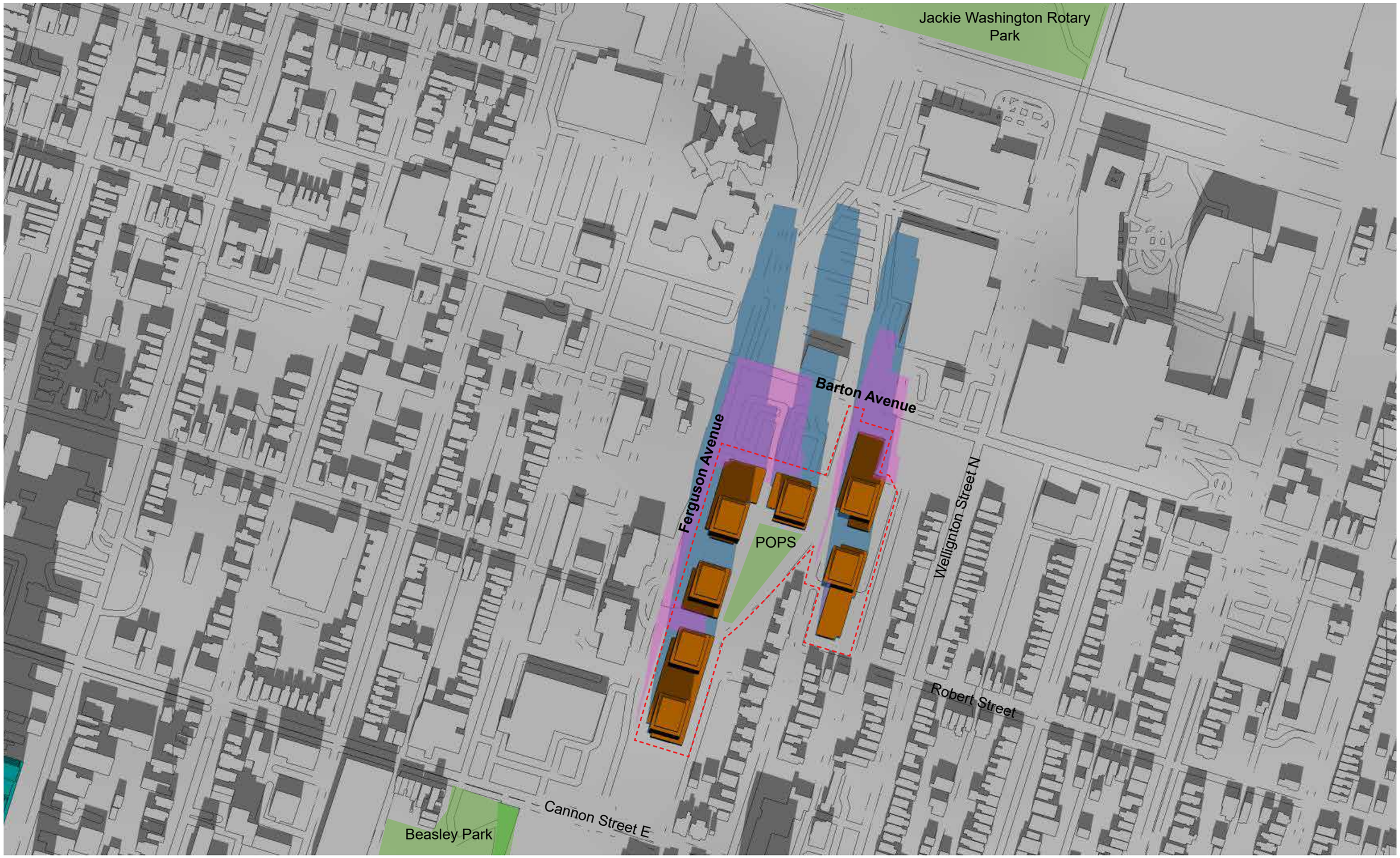
December 21 - 12:17pm (Solar Noon)

0 10 50 100

N

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - December 21st



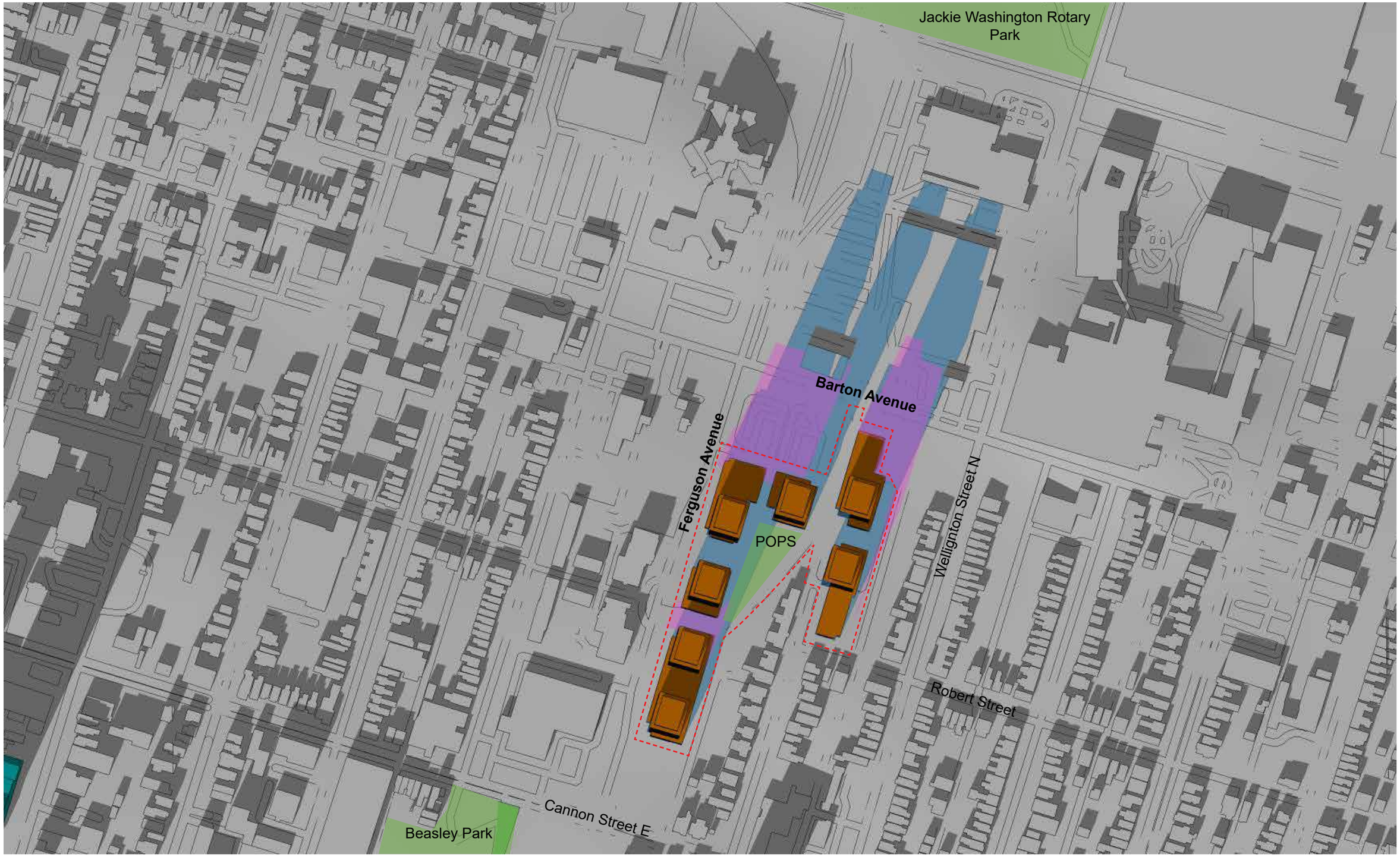
December 21 - 1:00pm

0 10 50 100

N

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - December 21st



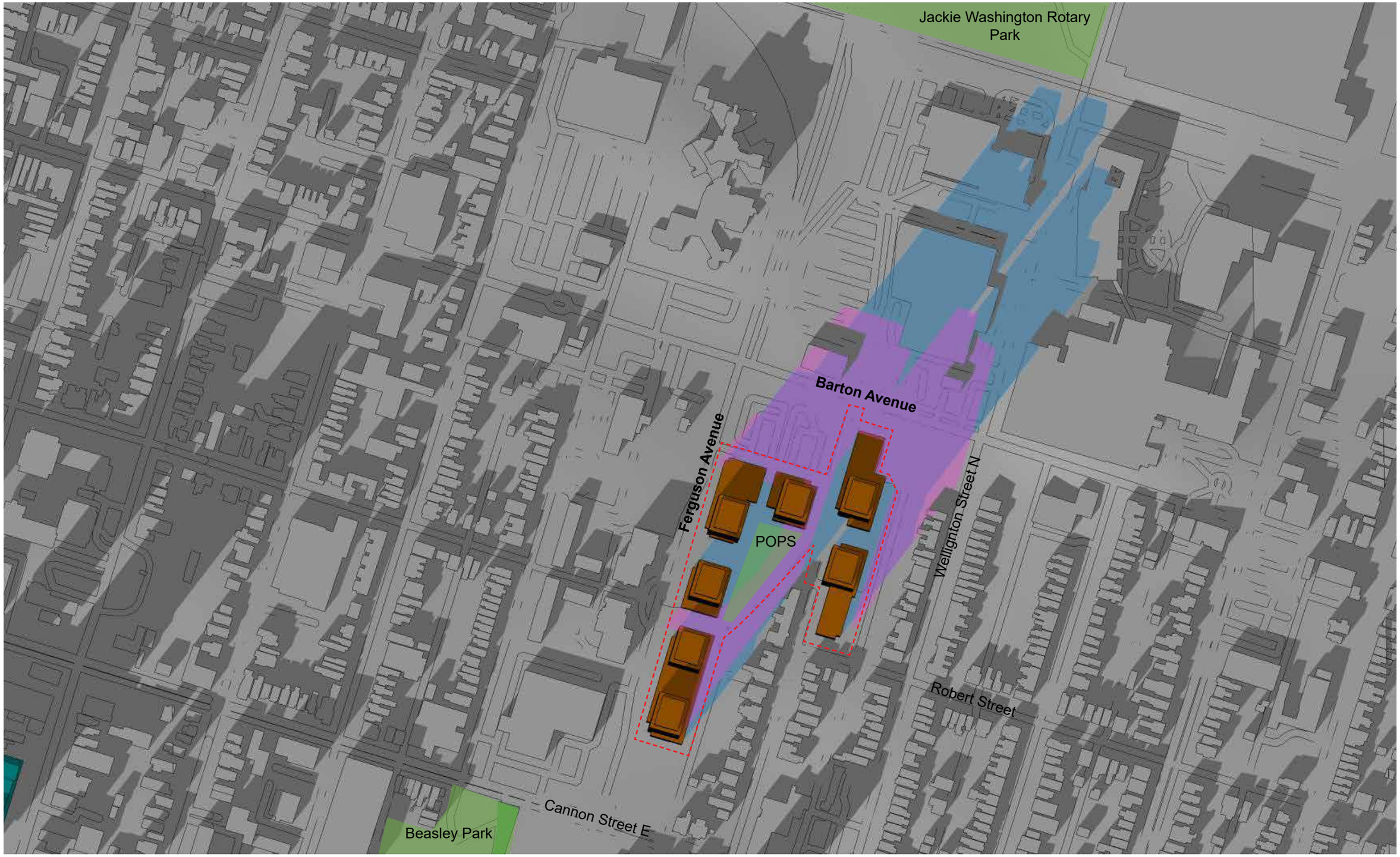
December 21 - 2:00pm

0 10 50 100

N

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - December 21st



December 21 - 3:00pm

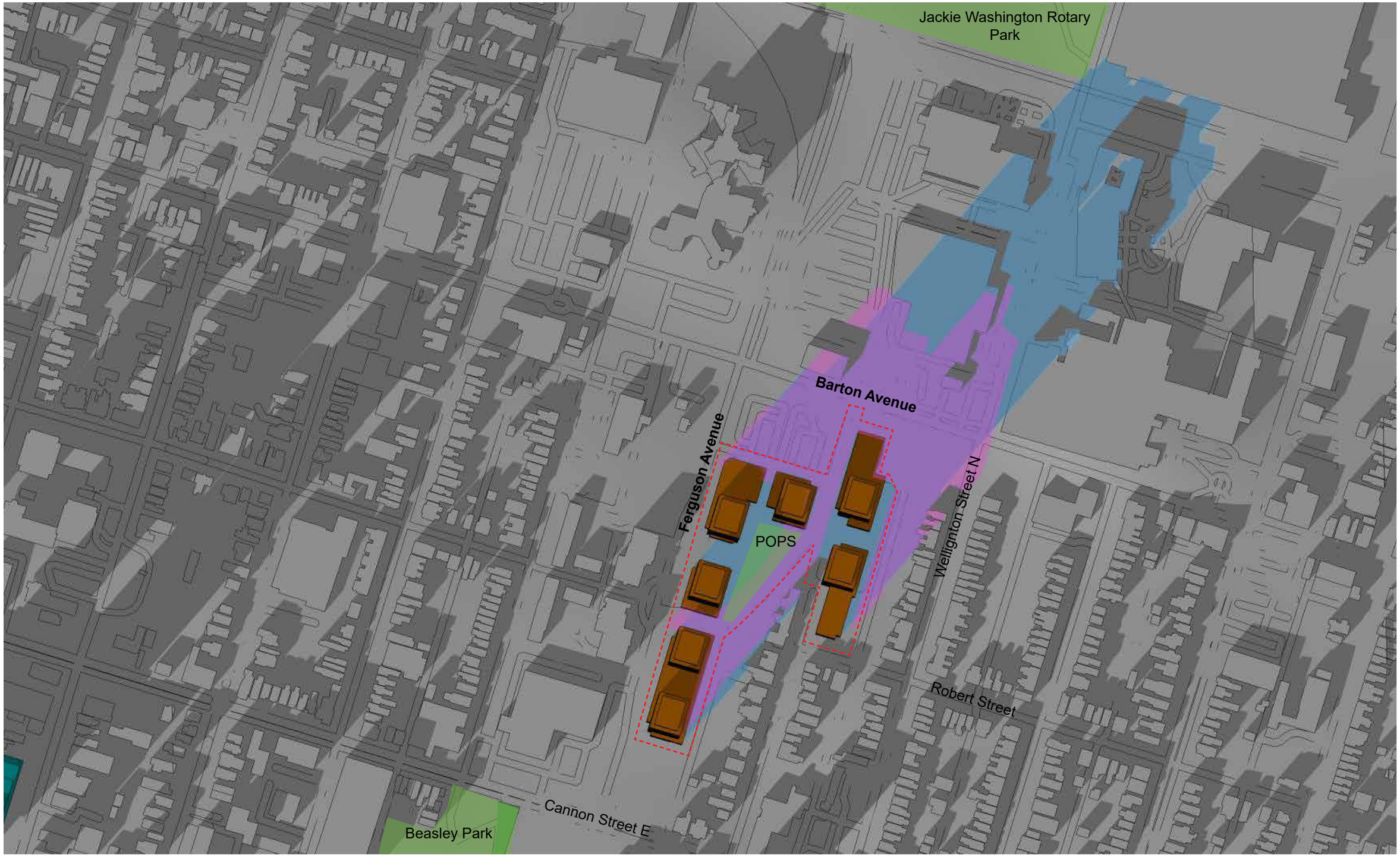
0 10 50 100

N

FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS

Sun Shadow Study - December 21st



December 21 - 3:17pm (1.5 Hours Before Sunset)

0 10 50 100

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FEBRUARY 2025

SITE BOUNDARY | EXISTING SHADOWS | OPEN SPACE/PARKS | PROPOSED MASSING | AS OF RIGHT SHADOWS | OVERLAPPING SHADOWS | PROPOSED/NET SHADOWS