

SHADOW IMPACT ANALYSIS

A scaled 3D model of the proposed development has been analysed to assess shadow impacts for March 21 and June 21.

Additional investigations have been undertaken in Response to Submissions and hours for March 21 adjusted for Daylight Saving.

In summary, the proposed building envelope is in keeping with the principles of the Approved Modified Concept Plan (MCP) and maintains net overshadowing with marginal variations as described in detail below. The resultant shadow variations are limited to shadows cast on roofs, roads, rear elevations and in the case of building frontages are limited to incremental time frame increases.

The proposed building envelope varies in building height and massing to provide for an articulated architectural form, while minimizing the shadow footprint. The form transitions from the larger scale building of Central Park, to the finer grain, low scale buildings of Chippendale.

The series of tiered building volumes between levels 8-12 vary from the approved envelope with a balance of decreased and increased height. Variances in heights, combined with staggered setbacks from the street alignment, create the effect of clustered smaller scale architectural elements. The resultant fine grain massing, delivers an appropriate transition between the low and large-scale development in the area. Refer section Massing Views in this report, for illustrations of relationships to the neighboring context.

The proposed building form is the outcome of incremental massing adjustments, which respond to the surrounding urban context, and maintain solar access requirements to neighboring areas. Minor variances of the approved building envelope are consistent with the principles of the MCP and serve to reduce bulk whilst minimizing net overshadowing.

Presented in the following pages are the shadow diagrams of the proposed development. The analysis demonstrates the limited extent of increased

O'CONNOR STREET

The shadow analysis illustrates the limited shadow impact to O'Connor Street and dwellings to the south between the hours of 9am to 3pm.

In summary for:
October 1 through to March 1: there is no additional shadow impact to
O'Connor Street and the dwellings to the south.

March 21: between the hours of 9am to 3pm, 64 O'Connor Street to 68 Abercrombie Street, referred to here as the 'O'Connor Facade' is impacted by additional shadow limited to the following percentage area of the total facade:
Minimum 3.78% at 10am
Maximum 12.56% at 2.30pm
Approximate total area* of the O'Connor Facade equals 1003.46m²

June 21: the rear facade of 8-12 Dick Street# additional shadow impact is limited to the hours between 1pm to 3pm at the following percentage area of the total facade :

Minimum 5.83% at 12 noon
Maximum 8.59% at 3 pm

There are no additional shadow impacts prior to 12 noon.
Approximate total area of 8-12 Dick Street facade equals 120.19m²

Otherwise, additional shadows are limited to the roof of buildings. Hence the proposed development produces minimal impact on O'Connor Street and buildings to the south.

CHIPPENDALE GREEN

The shadow analysis to Chippendale Green illustrates the limited shadow impacts on the park between the hours of 9am-3pm.
In summary for:

May 1 through to August 31: there is no additional shadow impact to Chippendale Green

June 21: the proposed development produces no additional shadow impact.

March 21: additional shadow impact is limited to between 3pm and 5pm and is 0.67% of the total area of the park which equals 6628m² (see Image 1)

The area affected by additional shadow is predominately limited to the west / south-west corner occupied by landscape planter beds and stands of trees. It is noted that the area of lawn utilized for recreational and leisure activities remains largely unaffected.

ABERCROMBIE STREET

The shadow analysis undertaken includes 67A to 41 Abercrombie Street east facing residential terraces, located between O'Connor Street and Levey Street. Image 01 (page 48) is a diagrammatic representation of the terraces subject to shadow under the Approved Modified Concept Plan.

The analysis illustrates the limited extent of increased shadow to the residential terraces between the hours of 9am to 3pm.

In summary for:
October 1 through to March 1: there is no additional shadow impact to
Abercrombie Street

March 21: the proposed development produces no additional shadow impact.

June 21: between 9.30am to 10.30am, the shadow increase is limited to 53-41 Abercrombie Street and is equal to approximately 7 minutes of additional shadow, the percentage area of the total facade:
Maximum 5.55% at 10 am
Minimum 1.49% at 10.30am
Beyond 10.30 am there are no additional shadow impacts.
Approximate total area* of 67A to 41 Abercrombie Street facade equals 467.3m²

It is noted that the eight affected residential terraces have existing balconies which overhang and overshadow the properties' own windows. Hence it is understood that the proposed development produces no additional shadow impact to the Abercrombie Street terraces.

Additional investigations have been undertaken in Response to Submissions and hours for March 21 adjusted for Daylight Saving.

The analysis illustrated limited shadow impacts to 51 Abercrombie Street zoned residential, as noted here.
March 21 : additional shadow impact is limited to :
Minimum 0.044% at 9.15am
Maximum 0.018% at 9.30am
Approximate total area^ of the 51 Abercrombie Street facade equals 419.5m2

It is noted that the affected facade faces East and that there are no additional shadow impacts on the North facade. It is also noted that the primary living areas within the apartments face North and hence it is understood that the proposed development produces no additional shadow impact to 51 Abercrombie Street.

June 21: There is no additional shadow impacts to 51 Abercrombie Street.

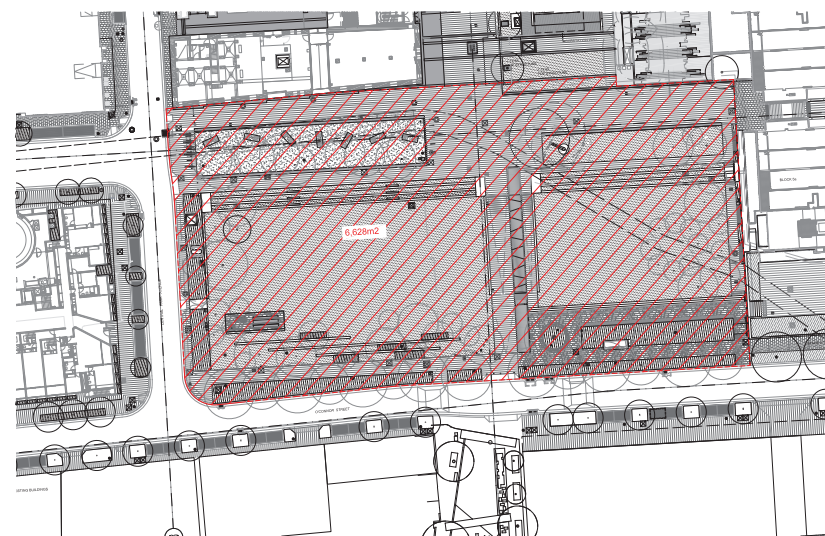


IMAGE 1: CHIPPENDALE GREEN PARK AREA

NB: refer to page 51 and 52 for location of % increased overshadowing on chippendale green

percentage of impacted property's facade

* see page 48 for measured total area of facade

^ percentage of shadow impact measured on North and East facades

SHADOW IMPACT ANALYSIS CONTINUED.
Photo documentation of areas subject to shadow impacts on Abercrombie and O'Connor Street is presented here.
Further reviews of shadow impact, confirm and are consistent with outcomes of the original analysis presented in the Architectural Report for SSDA submission dated 21.01.14



IMAGE 1: 41-67 ABERCROMBIE



IMAGE 2: 37-75 O'CONNOR

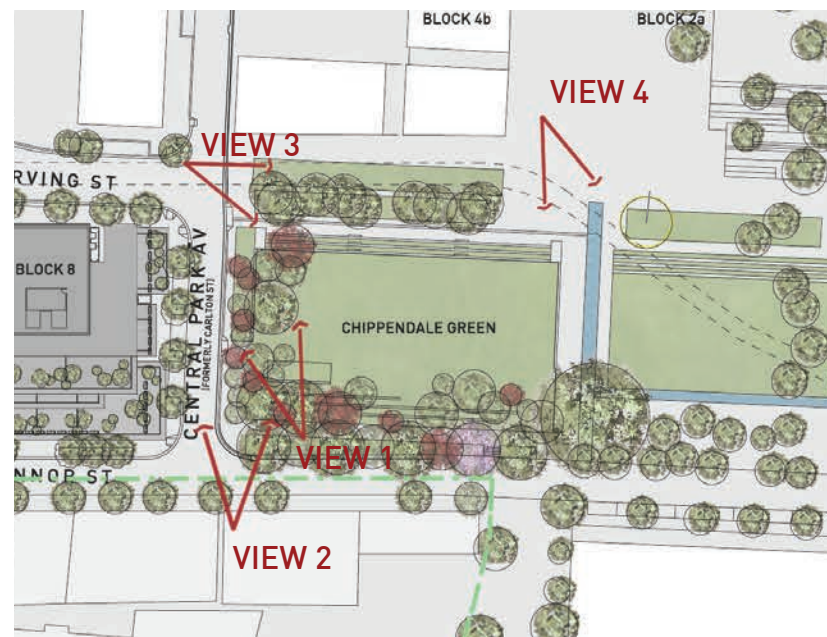
SHADOW IMPACT ANALYSIS CONTINUED.

Photo documentation of Chippendale Green, subject to shadow impacts is presented here.

Shadow impact is limited to 0.67% of the total park area on March 21st between 3pm to 4pm.

Approximate total area of Chippendale Green equals 6628m². The area affected by additional shadow is predominately occupied by landscape planter beds and stands of trees. It is noted that the area of lawn utilized for recreational and leisure activities remains largely unaffected.

Further review of shadow impacts, confirm and are consistent with outcomes of the original analysis presented in the Architectural Report for SSDA submission dated 21.01.14



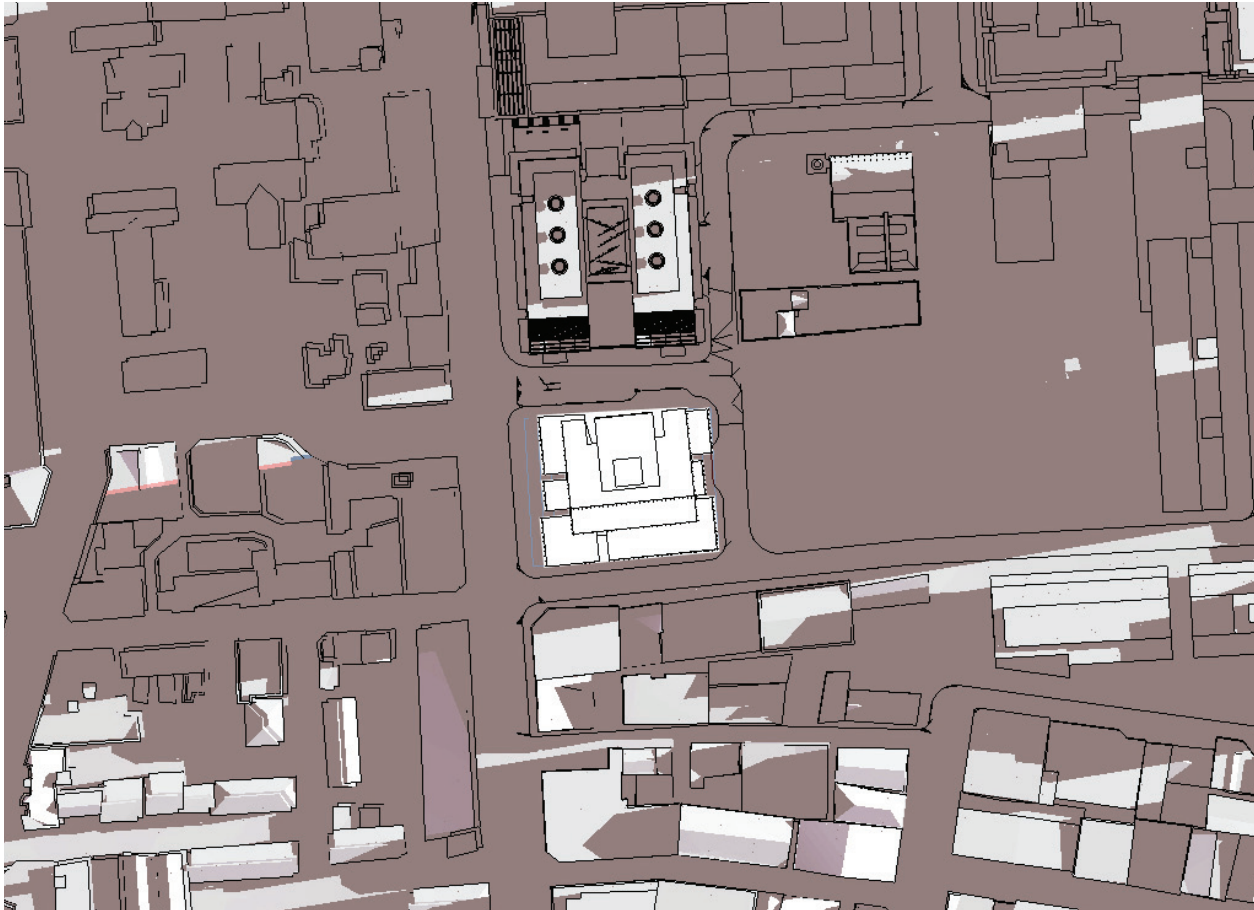
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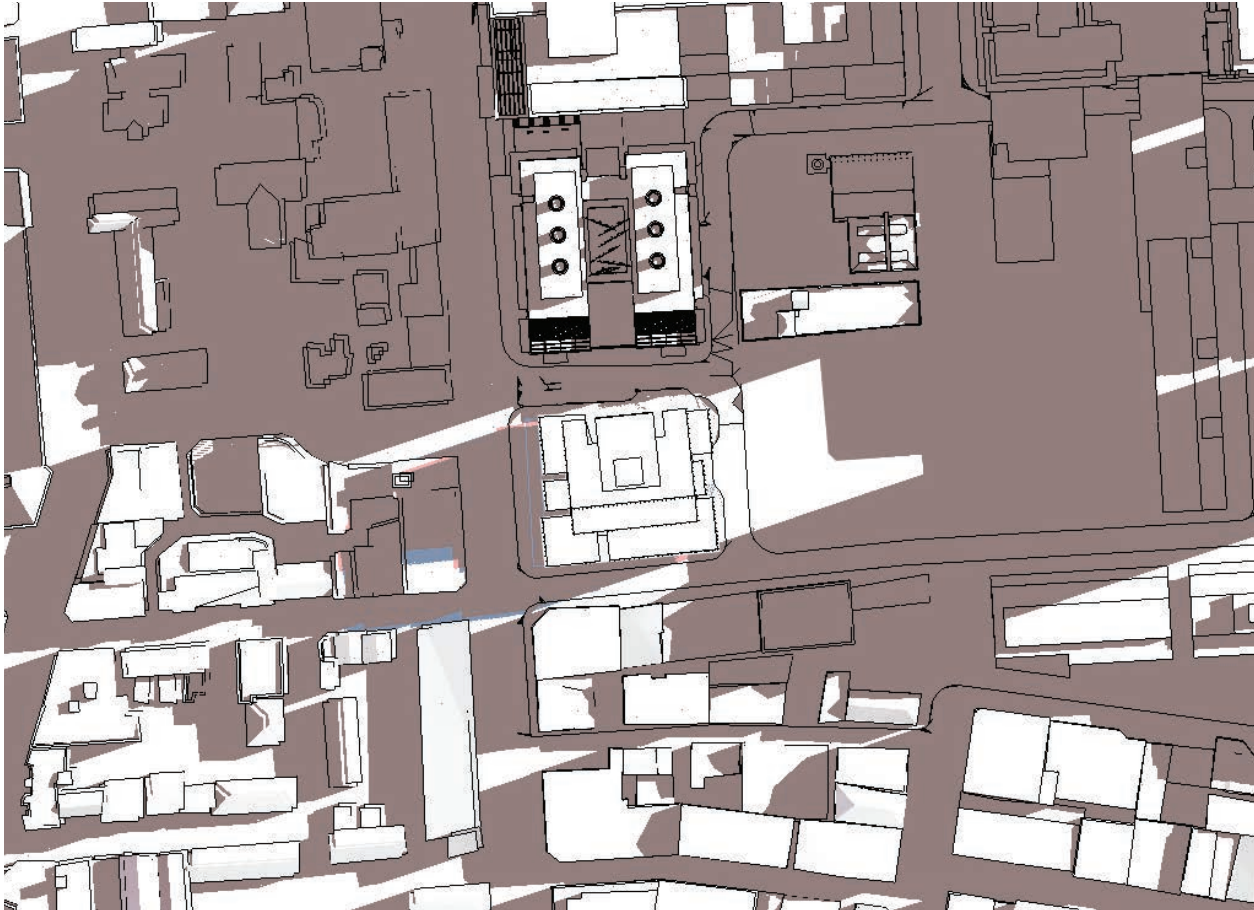
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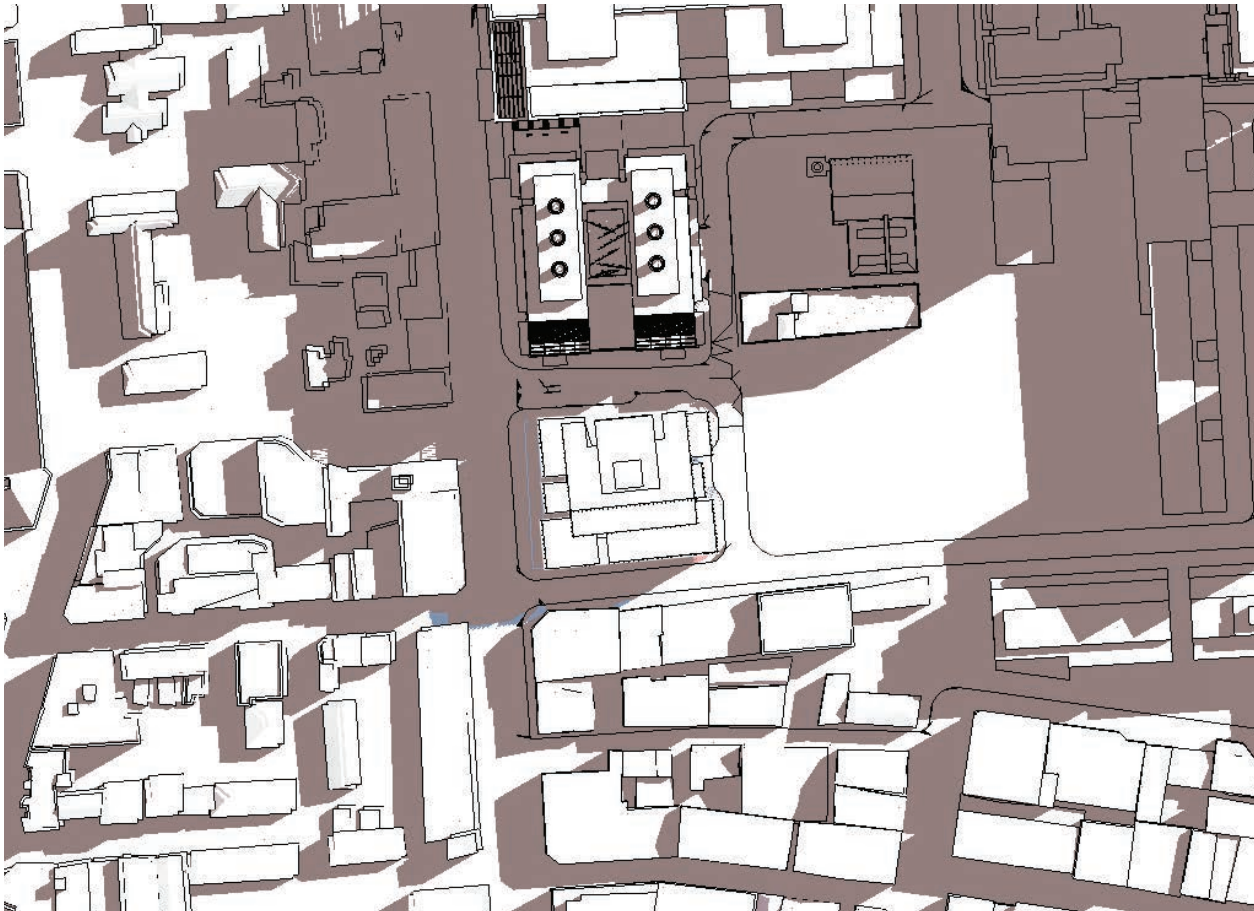
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SHADOW IMPACT ON CHIPPENDALE
GREEN



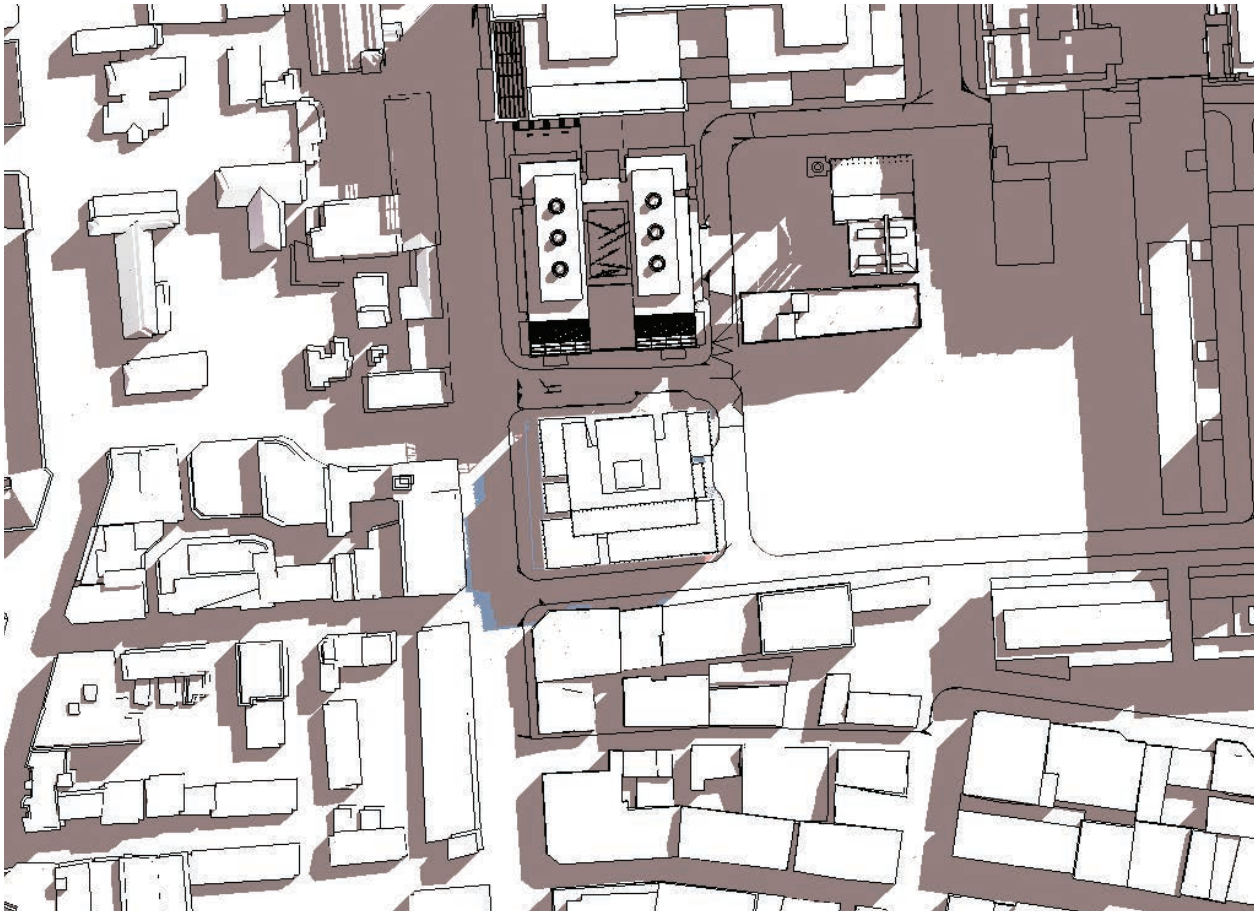
MARCH 21 8AM



MARCH 21 9AM



MARCH 21 10AM



MARCH 21 11AM



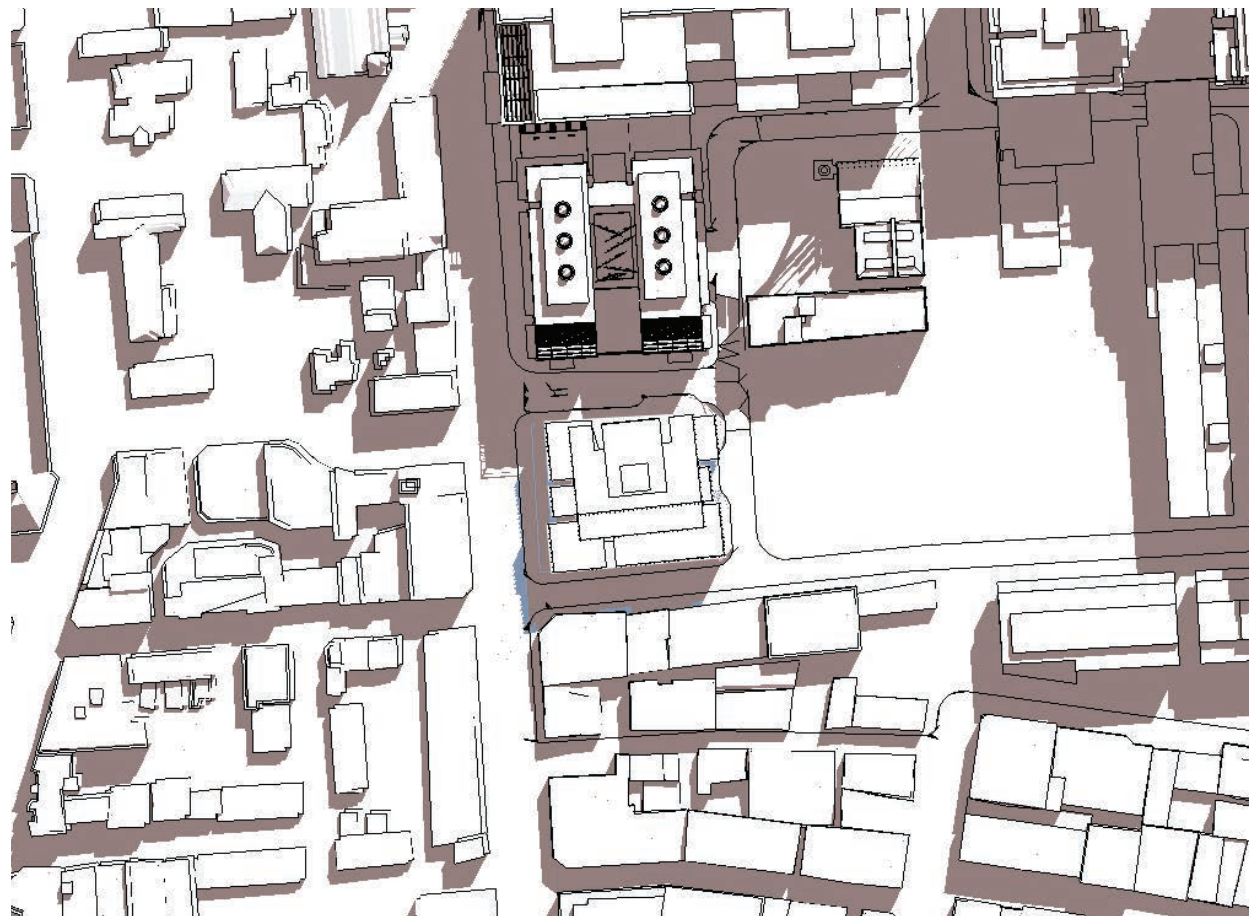
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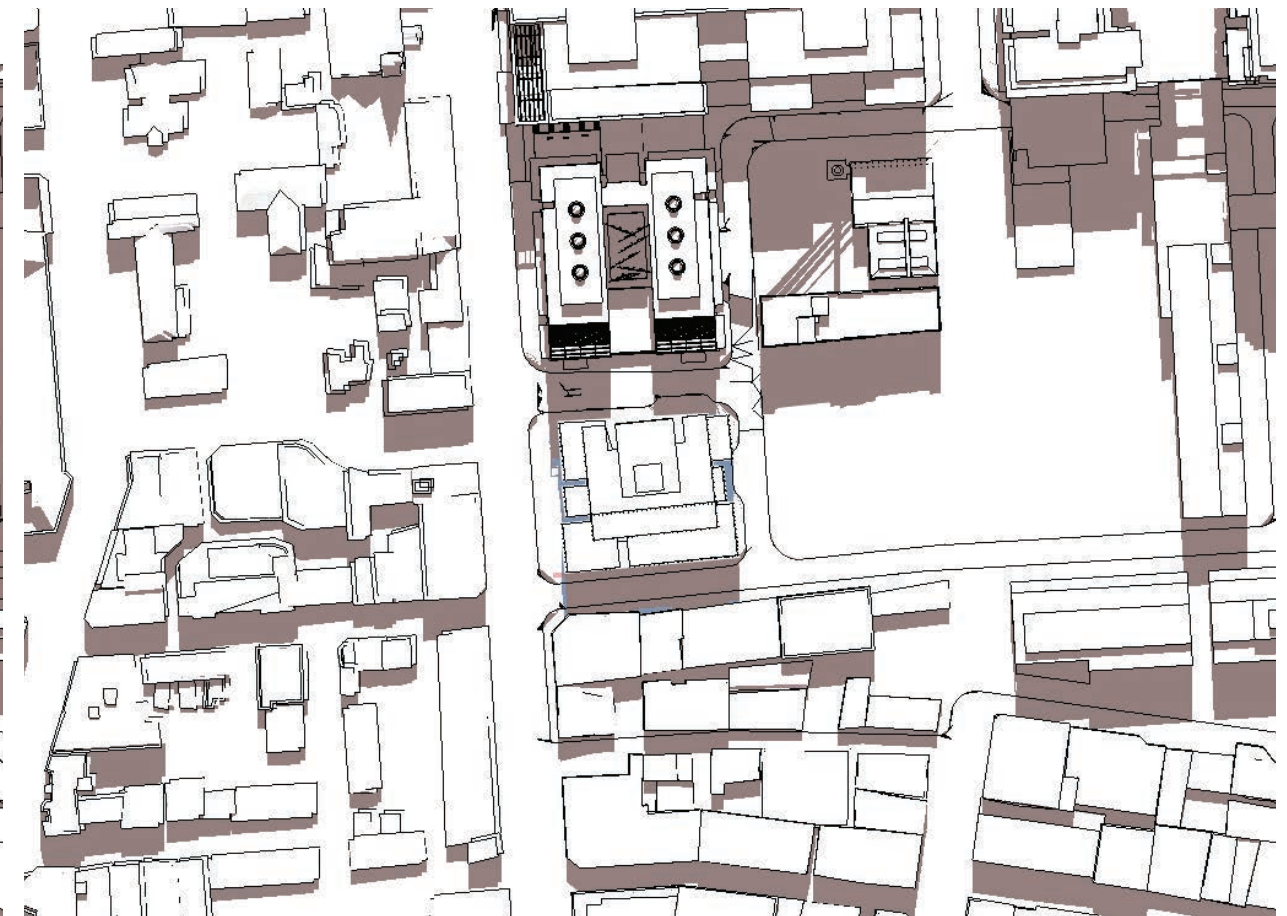
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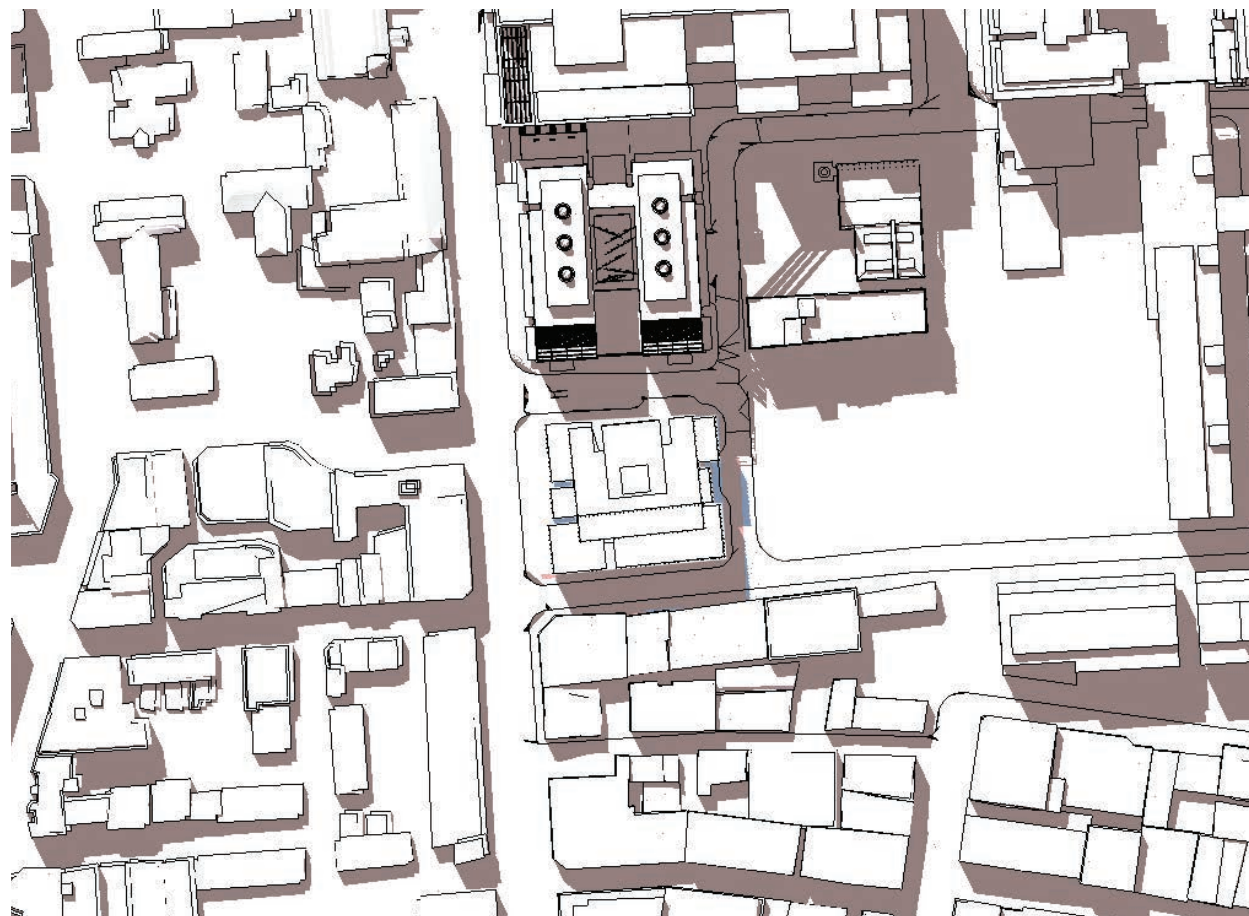
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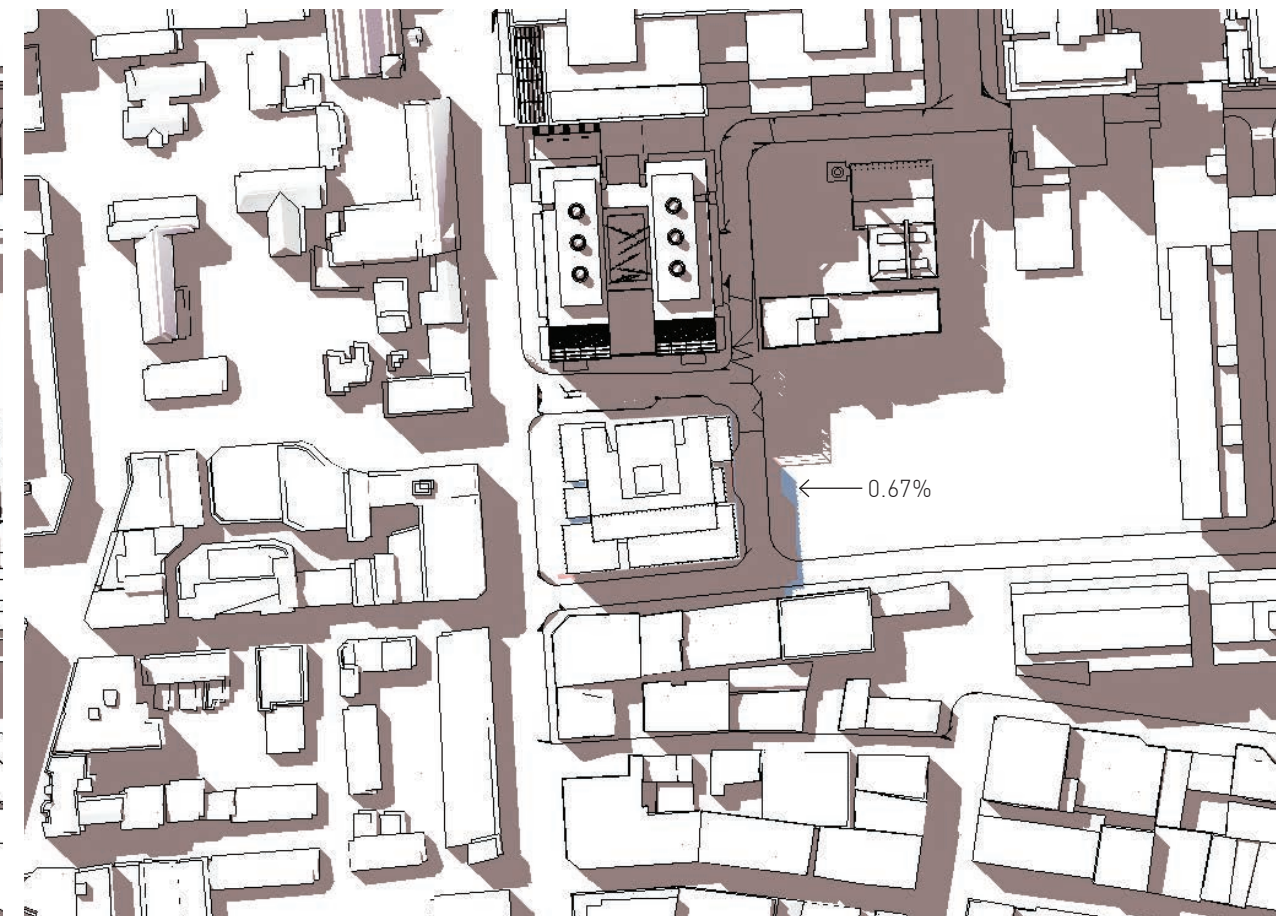
MARCH 21 12NOON



MARCH 21 1PM



MARCH 21 2PM



MARCH 21 3PM



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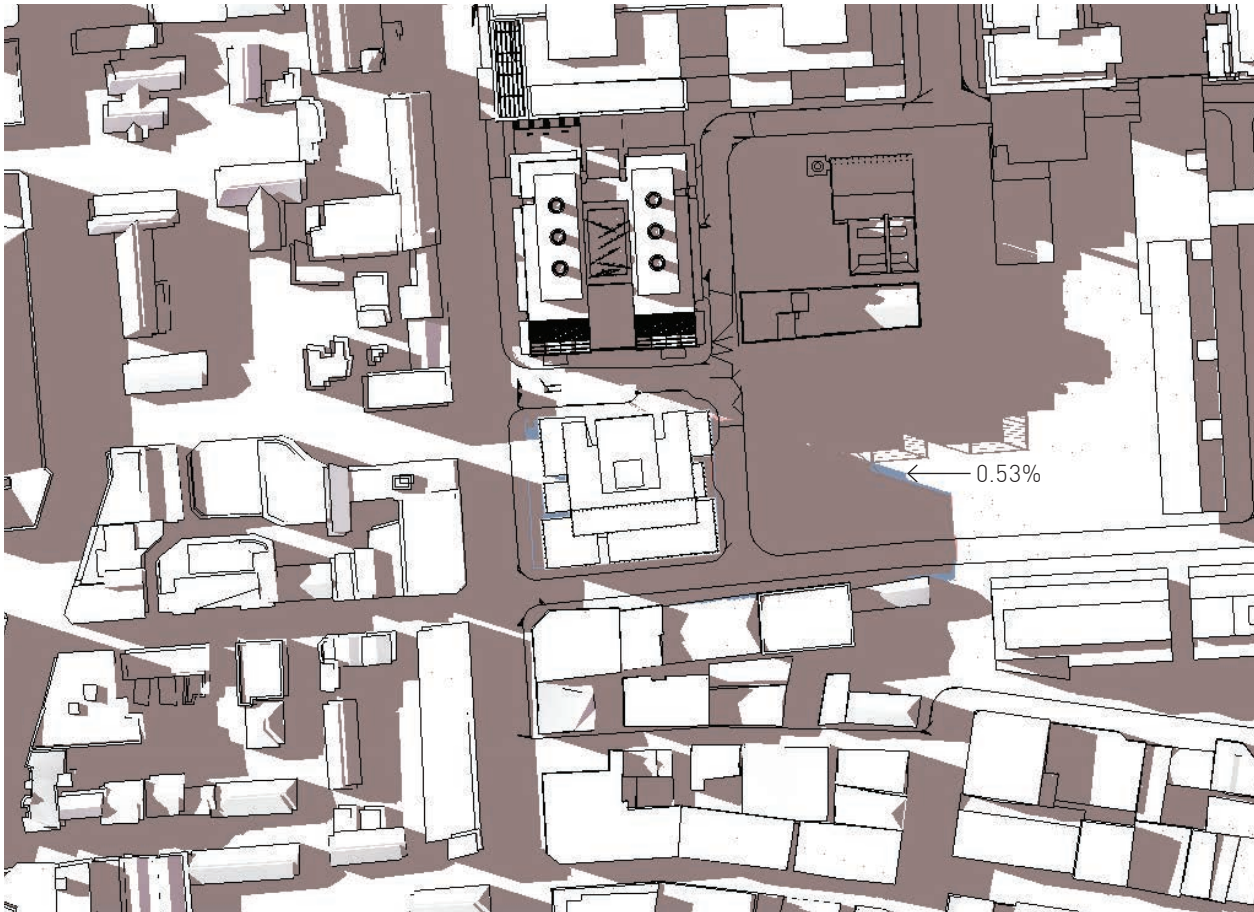
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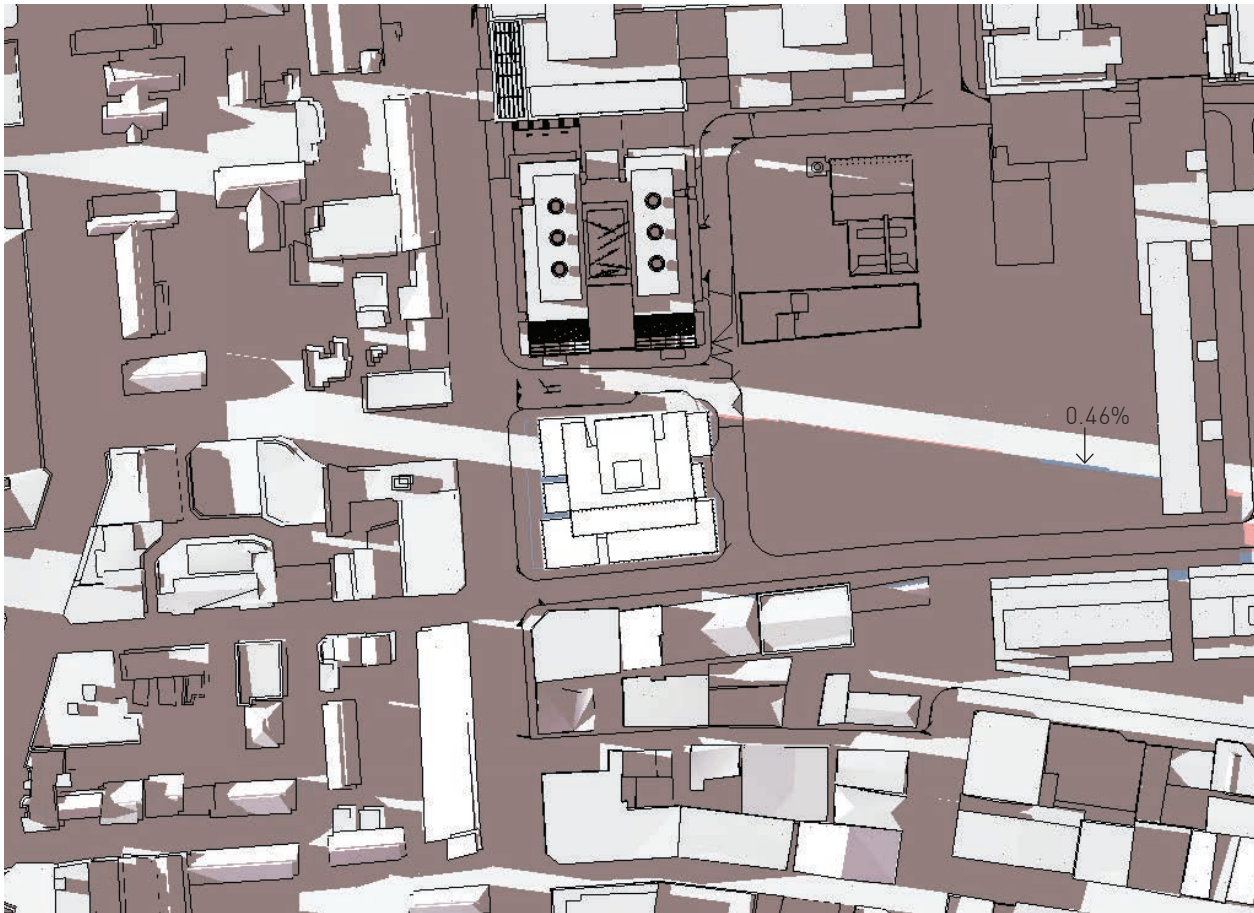
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GREEN



MARCH 21 4PM



MARCH 21 5PM



MARCH 21 6PM

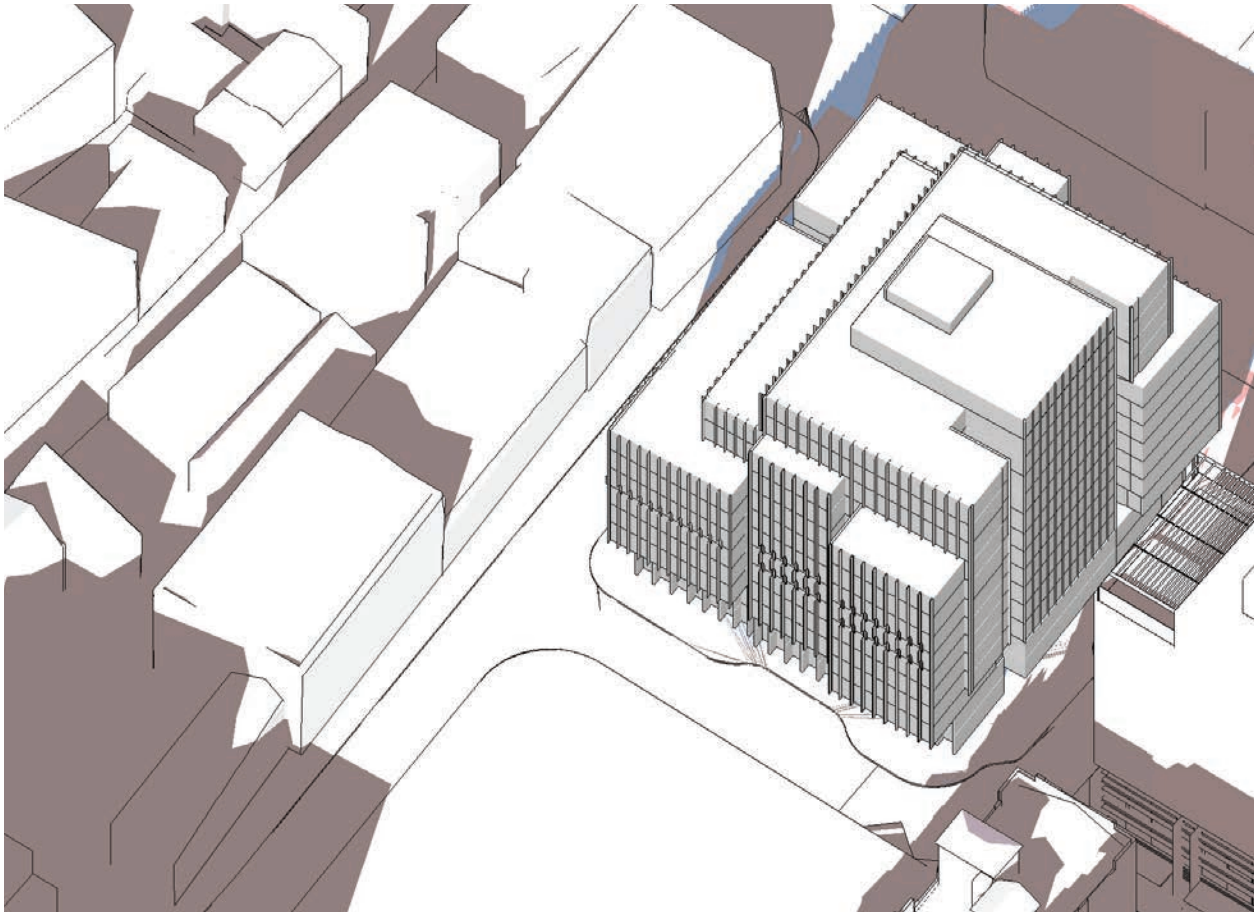
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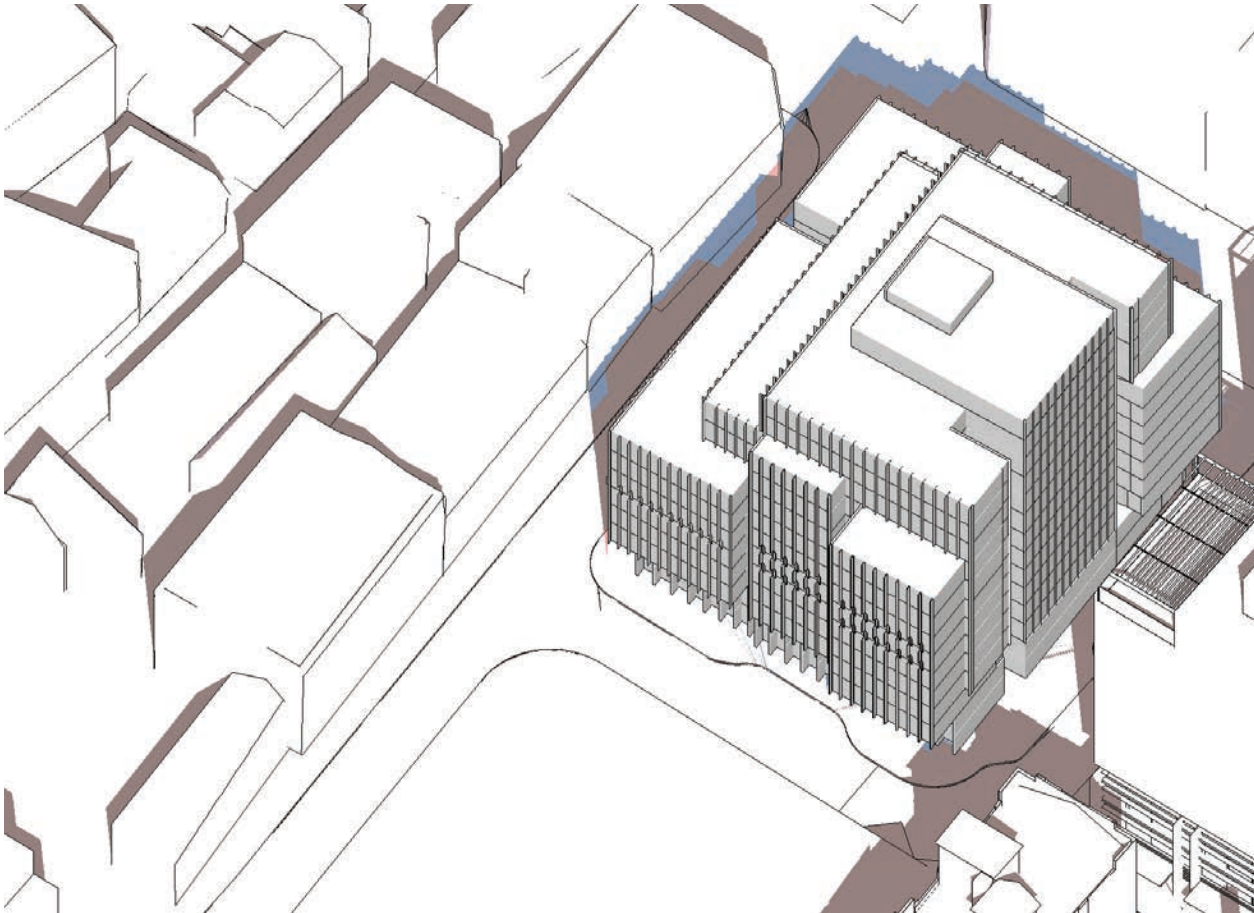
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O'CONNOR ST MARCH 21 - 10AM



O'CONNOR ST MARCH 21 - 10:30AM



O'CONNOR ST MARCH 21 - 11AM

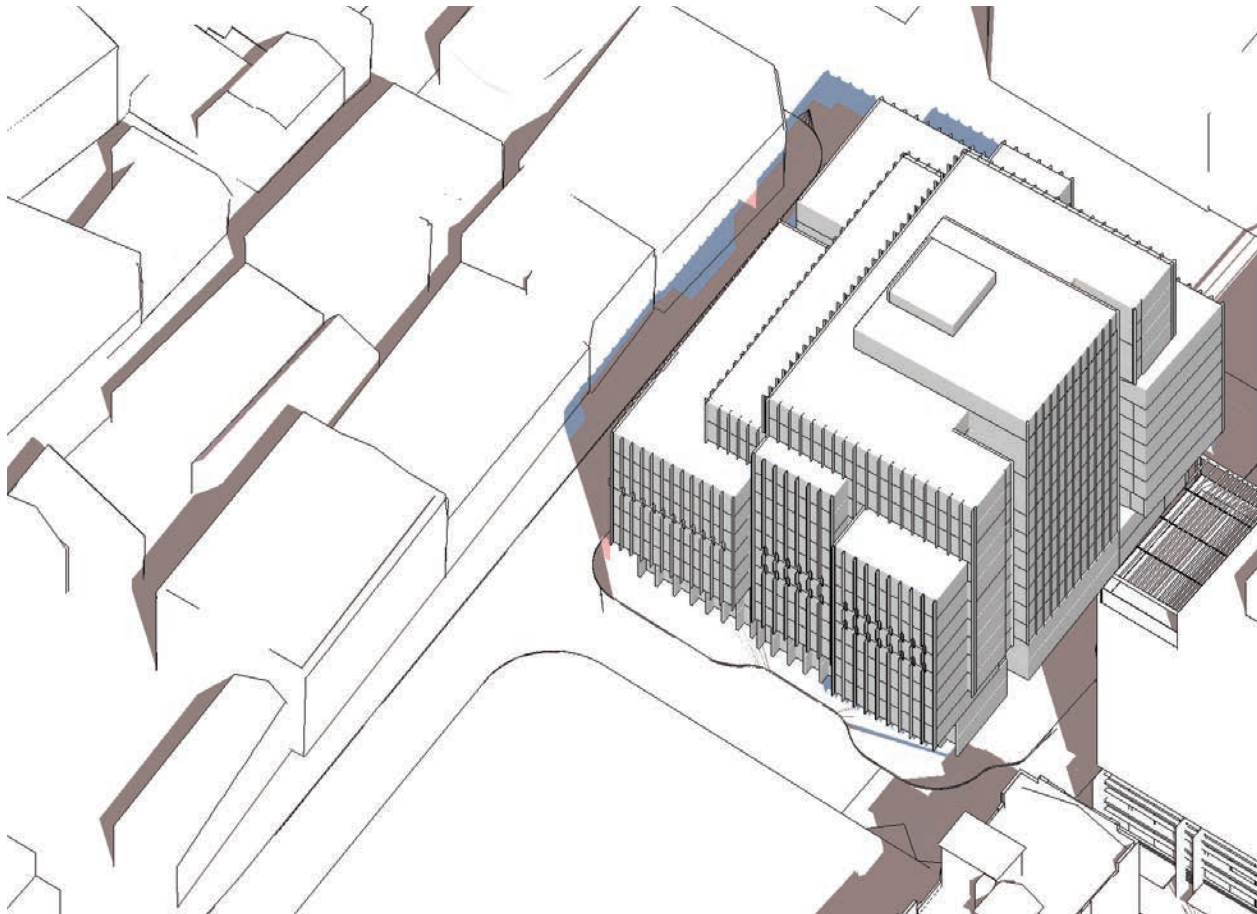
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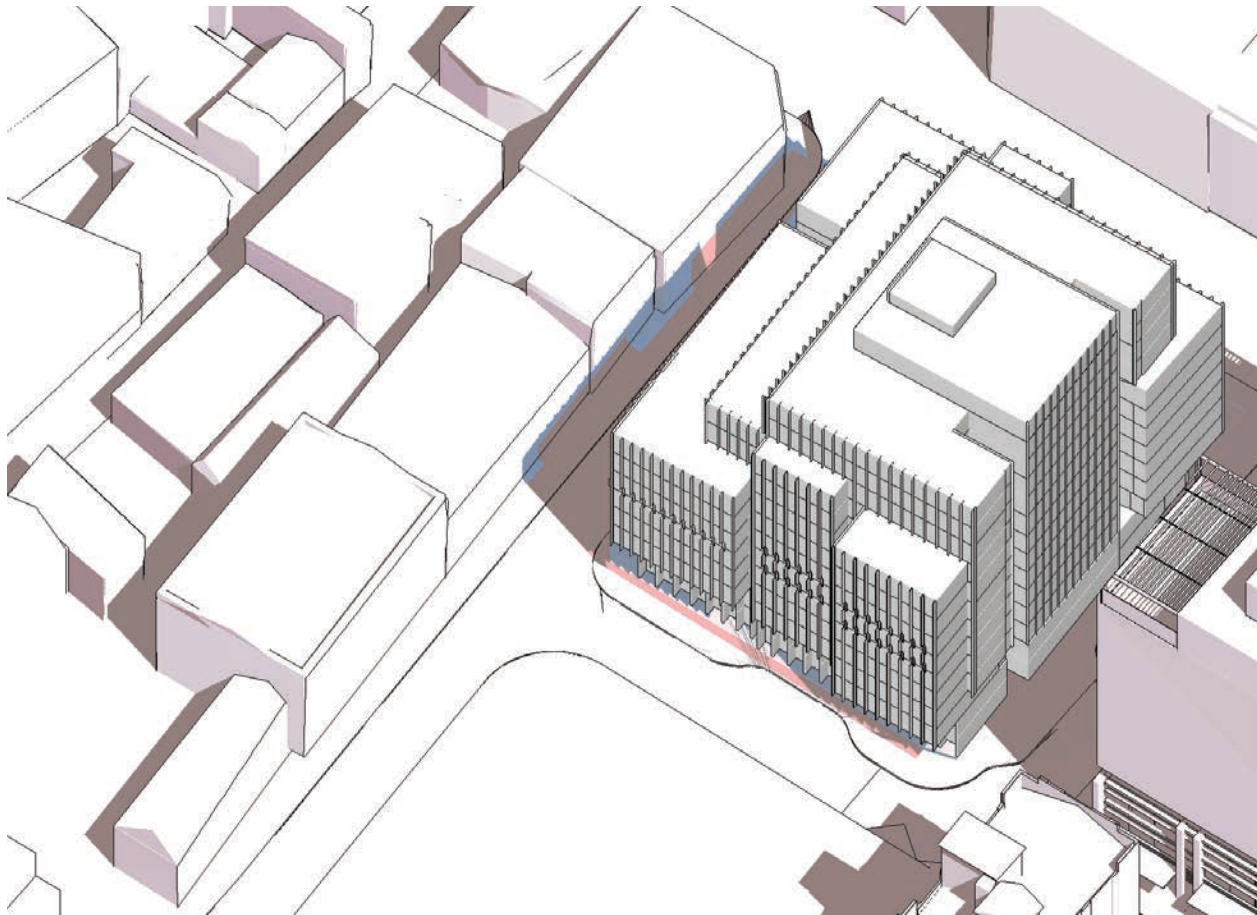
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GREEN



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O'CONNOR ST MARCH 21 - 12:00PM



O'CONNOR ST MARCH 21 - 12:30PM



O'CONNOR ST MARCH 21 - 1:00PM

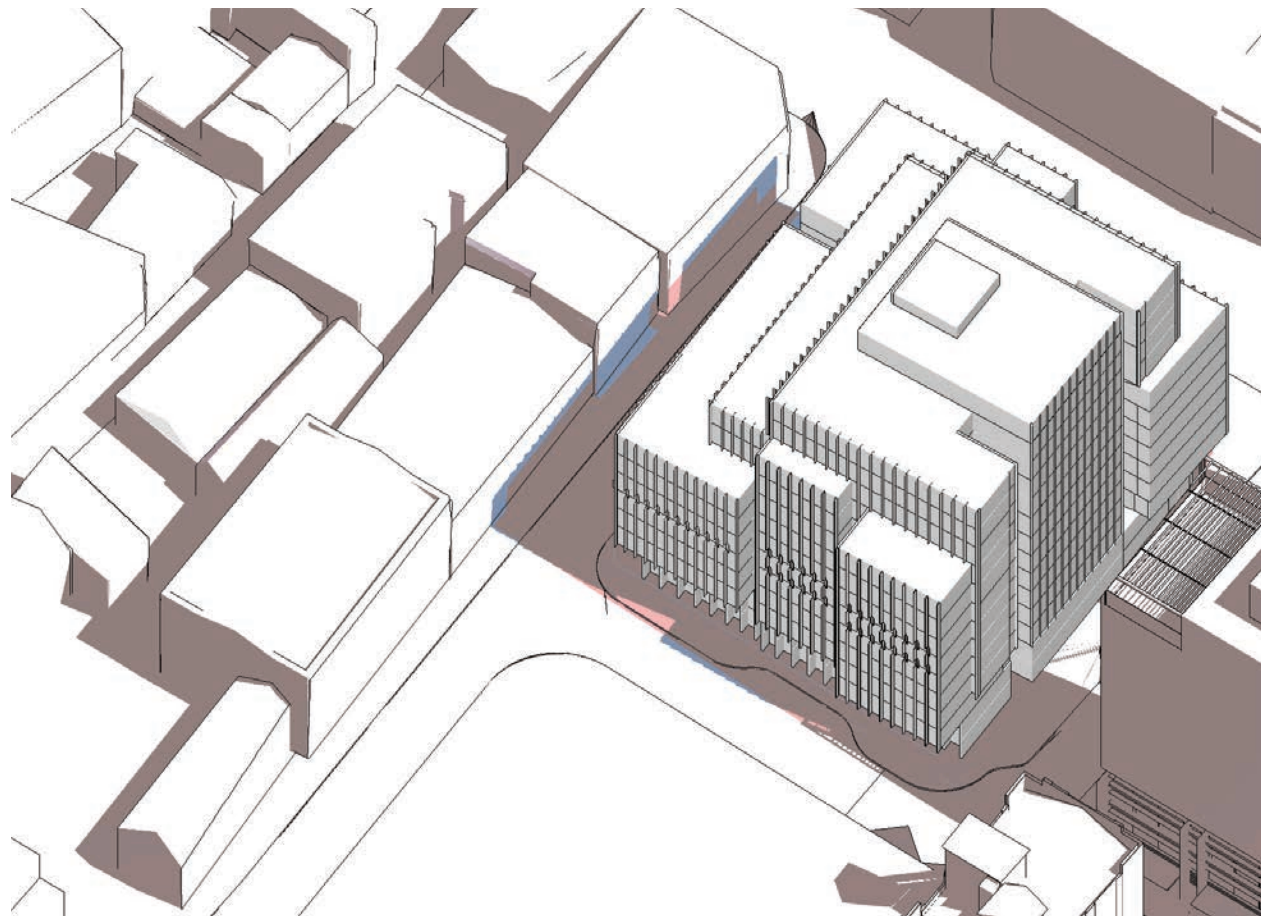
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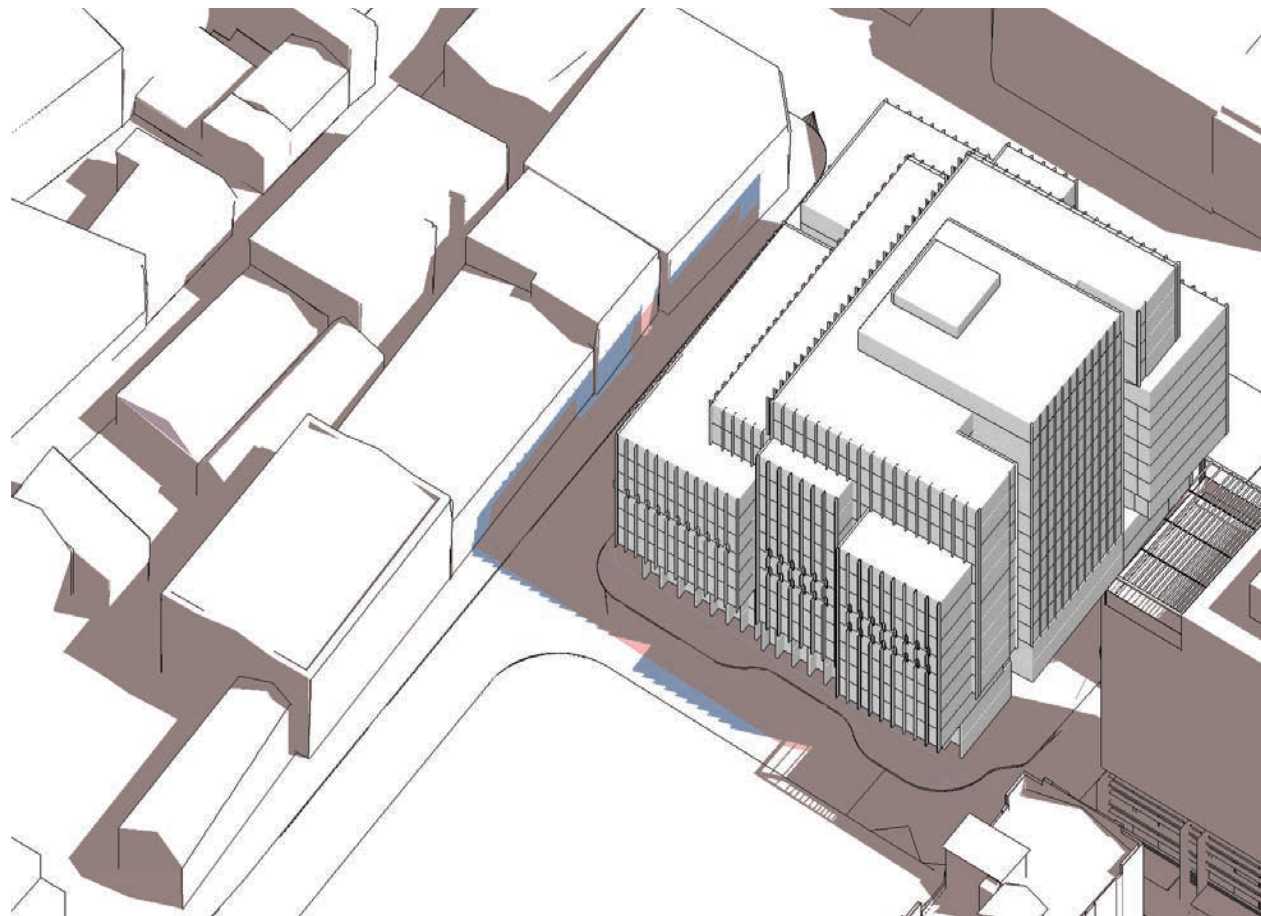
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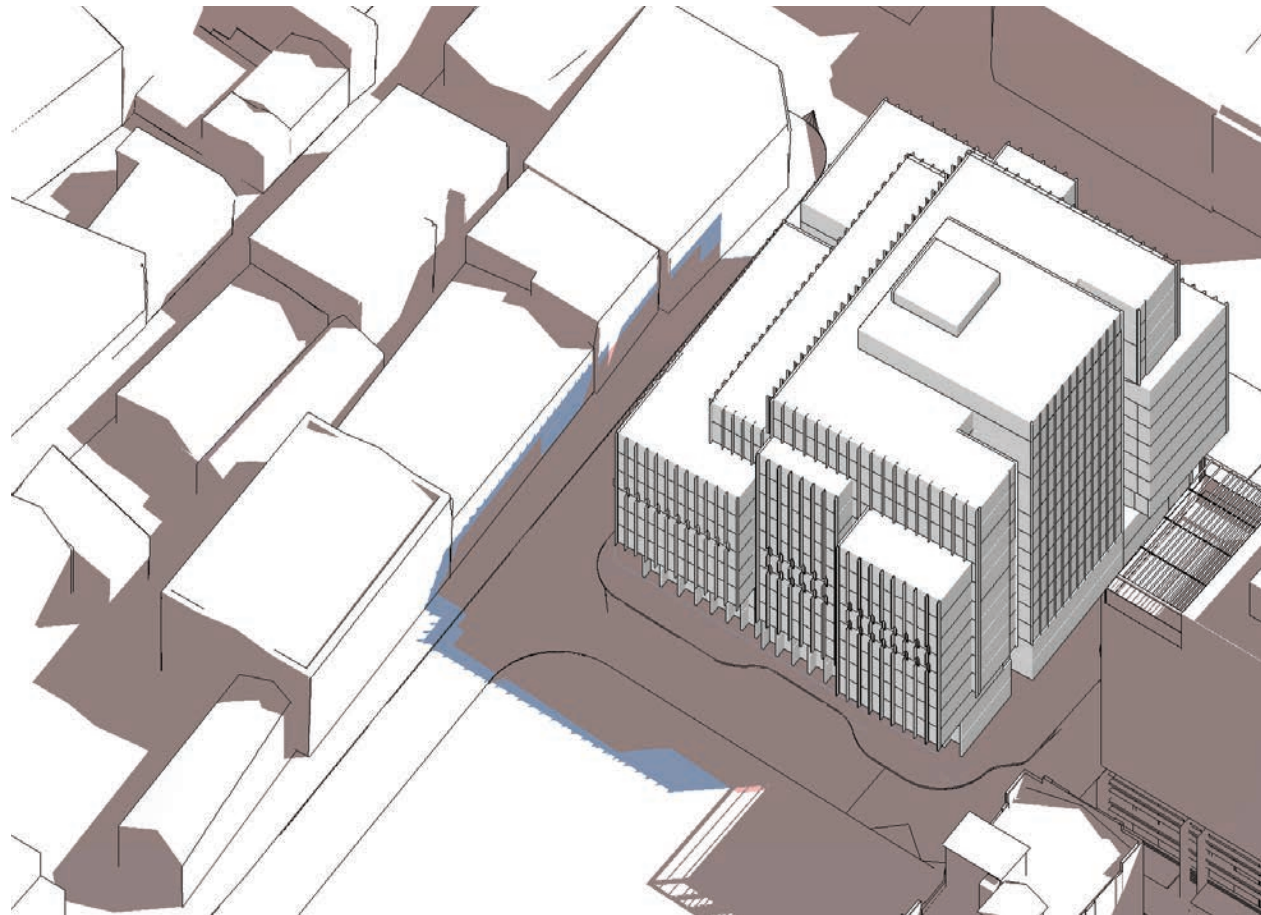
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O'CONNOR ST MARCH 21 - 2.00PM



O'CONNOR ST MARCH 21 - 2.30PM



O'CONNOR ST MARCH 21 - 3.00PM

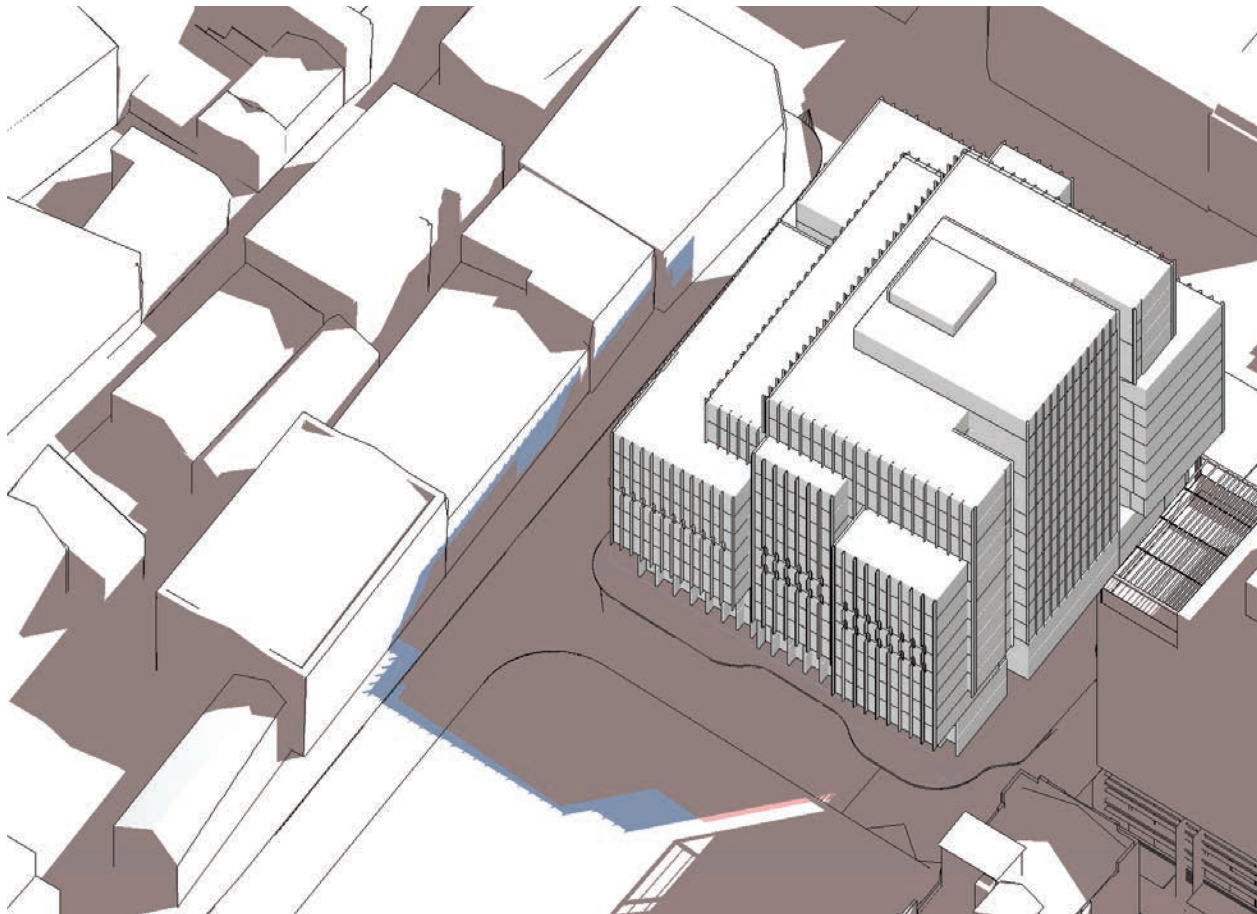
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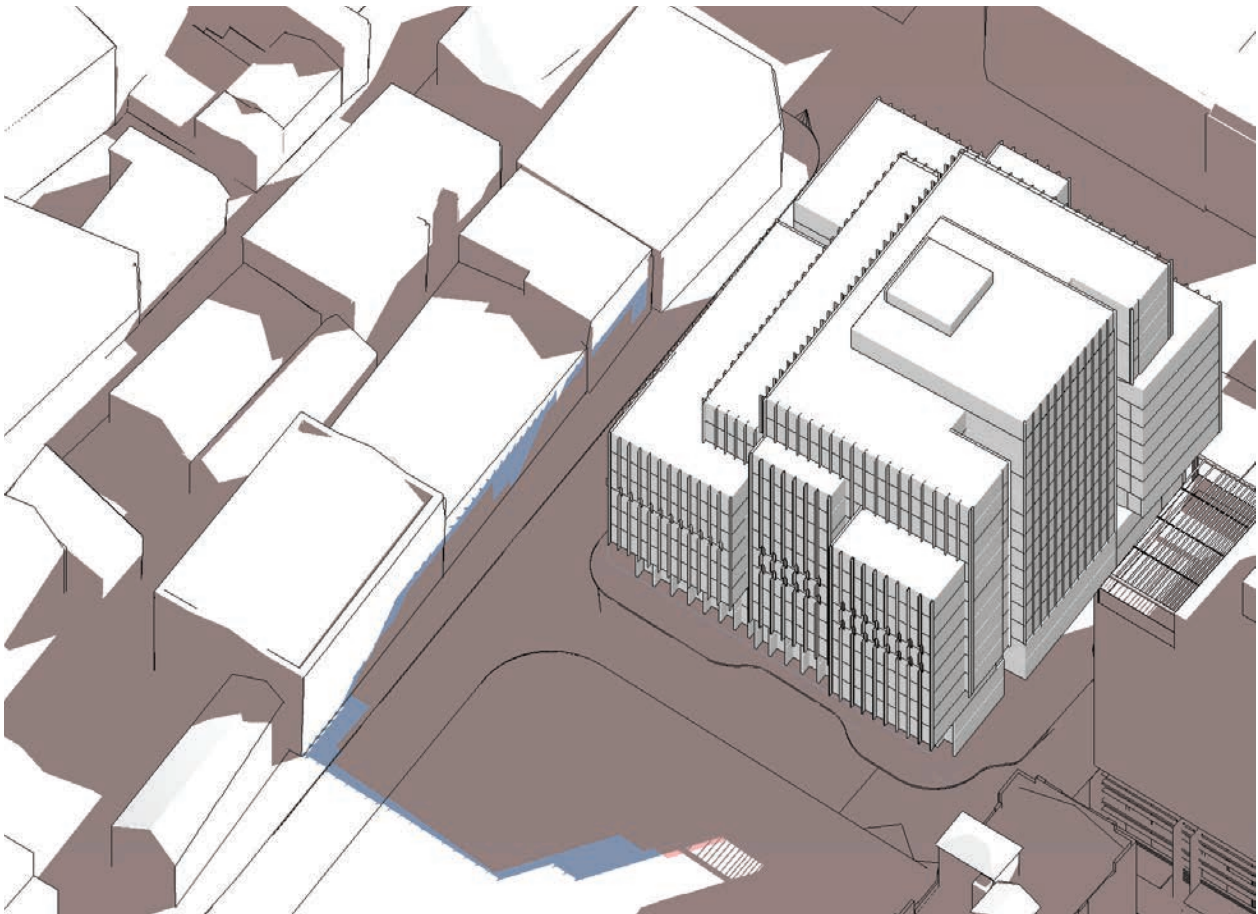
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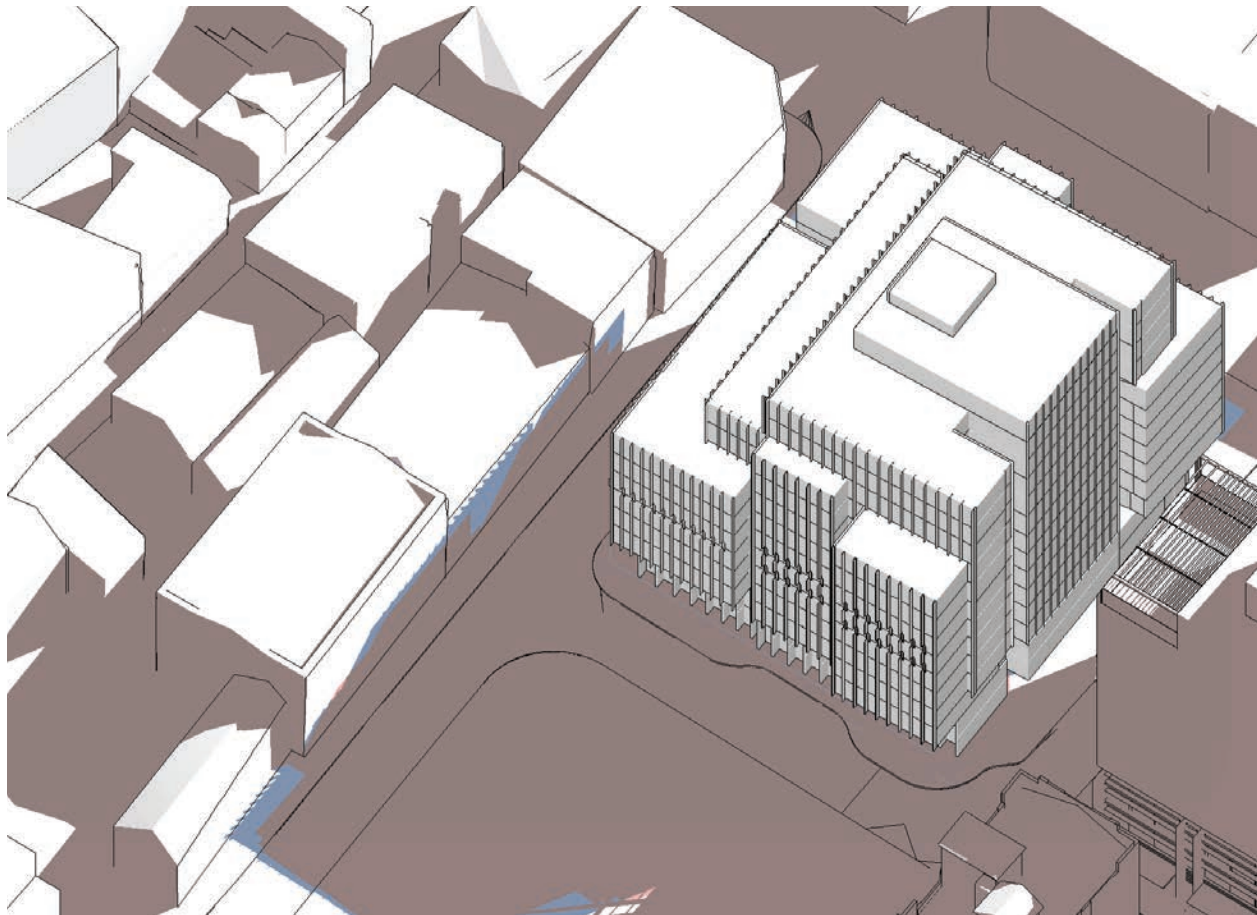
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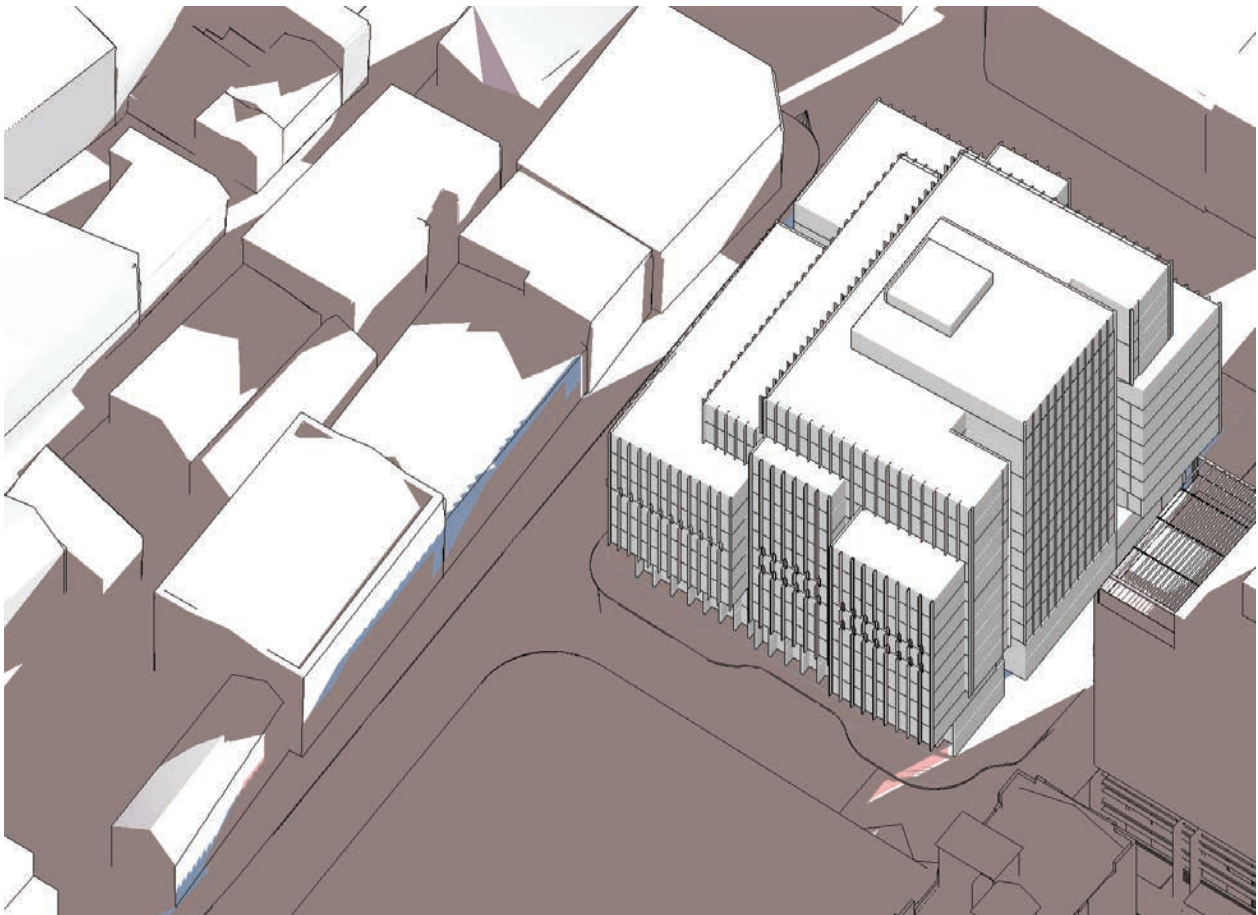
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O'CONNOR ST MARCH 21 - 4:00PM



O'CONNOR ST MARCH 21 - 4:30PM



O'CONNOR ST MARCH 21 - 5:00PM

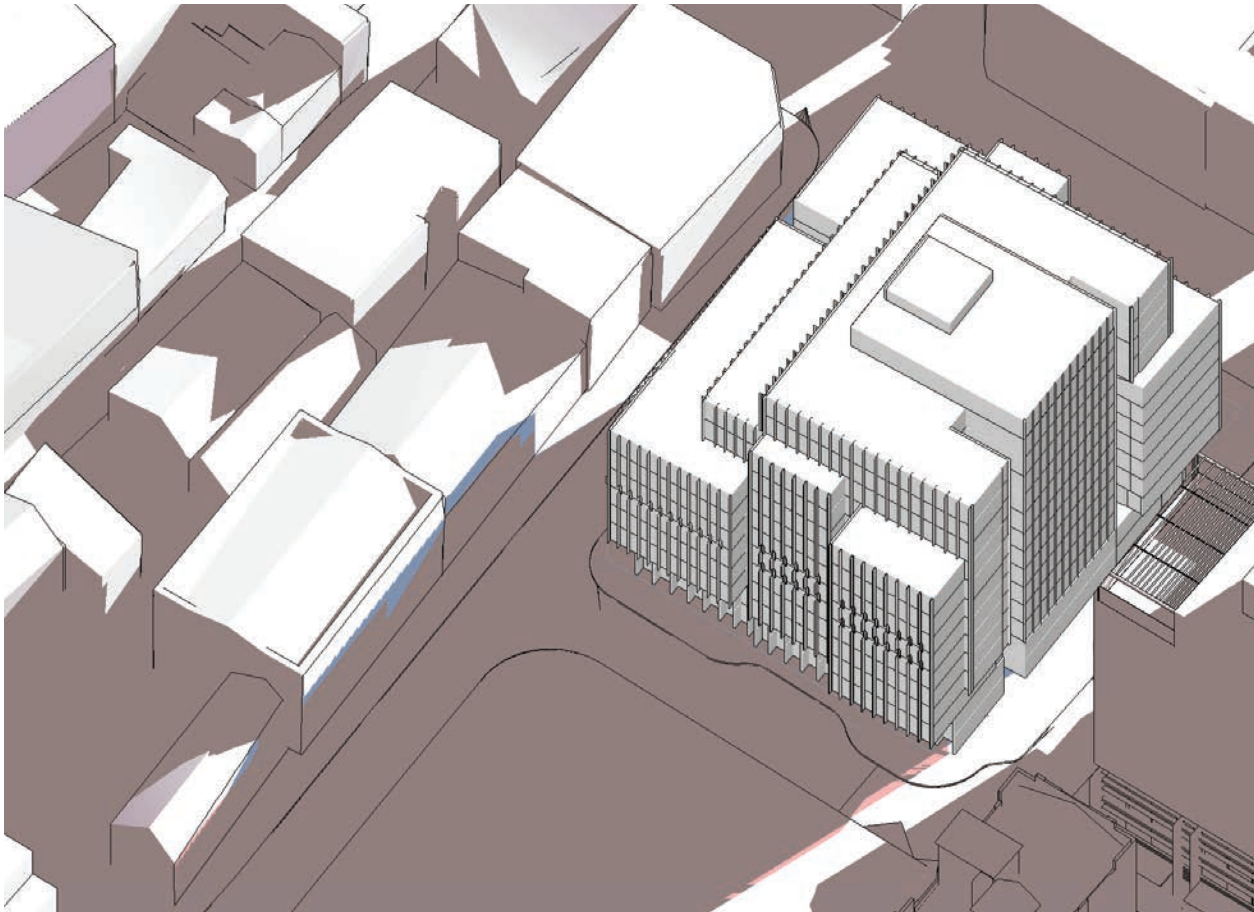
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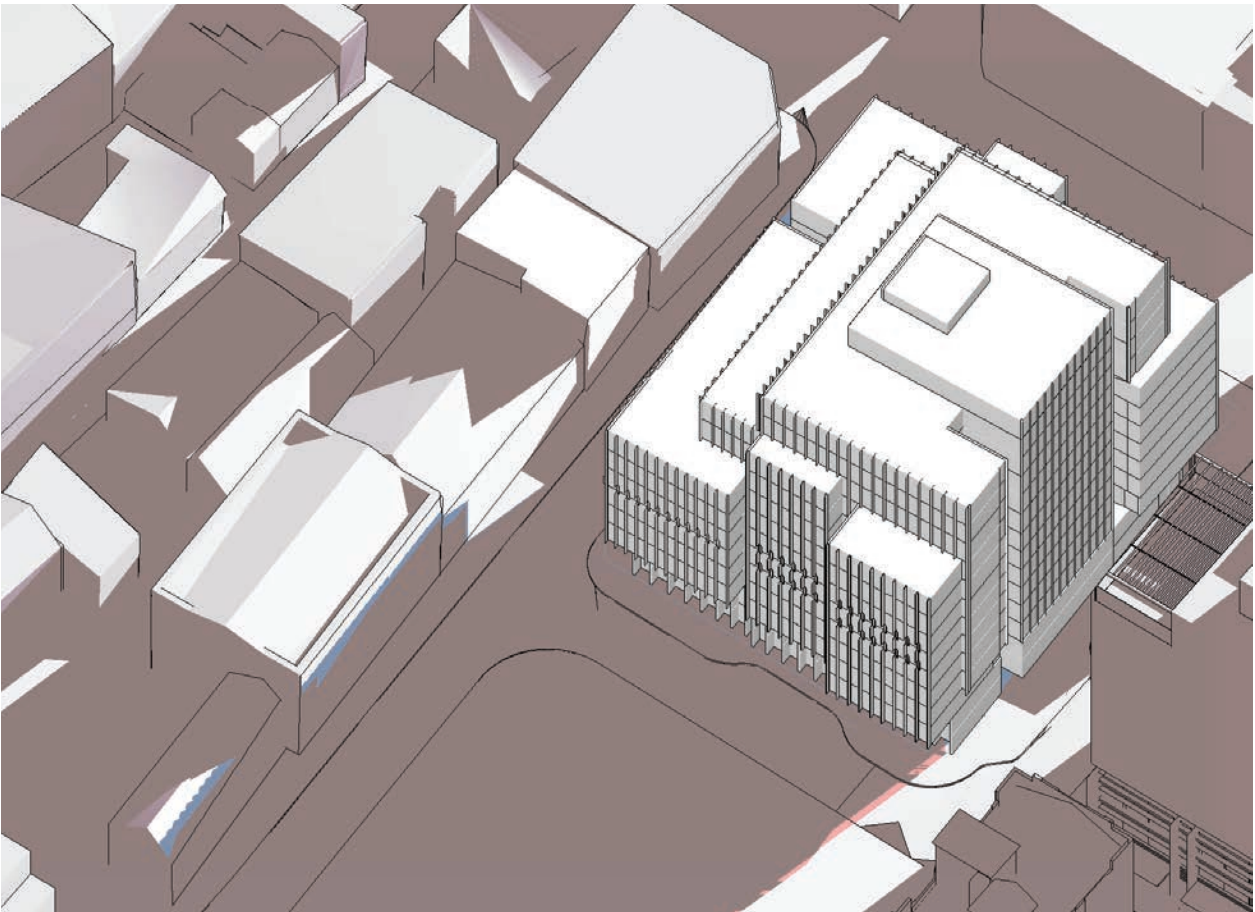
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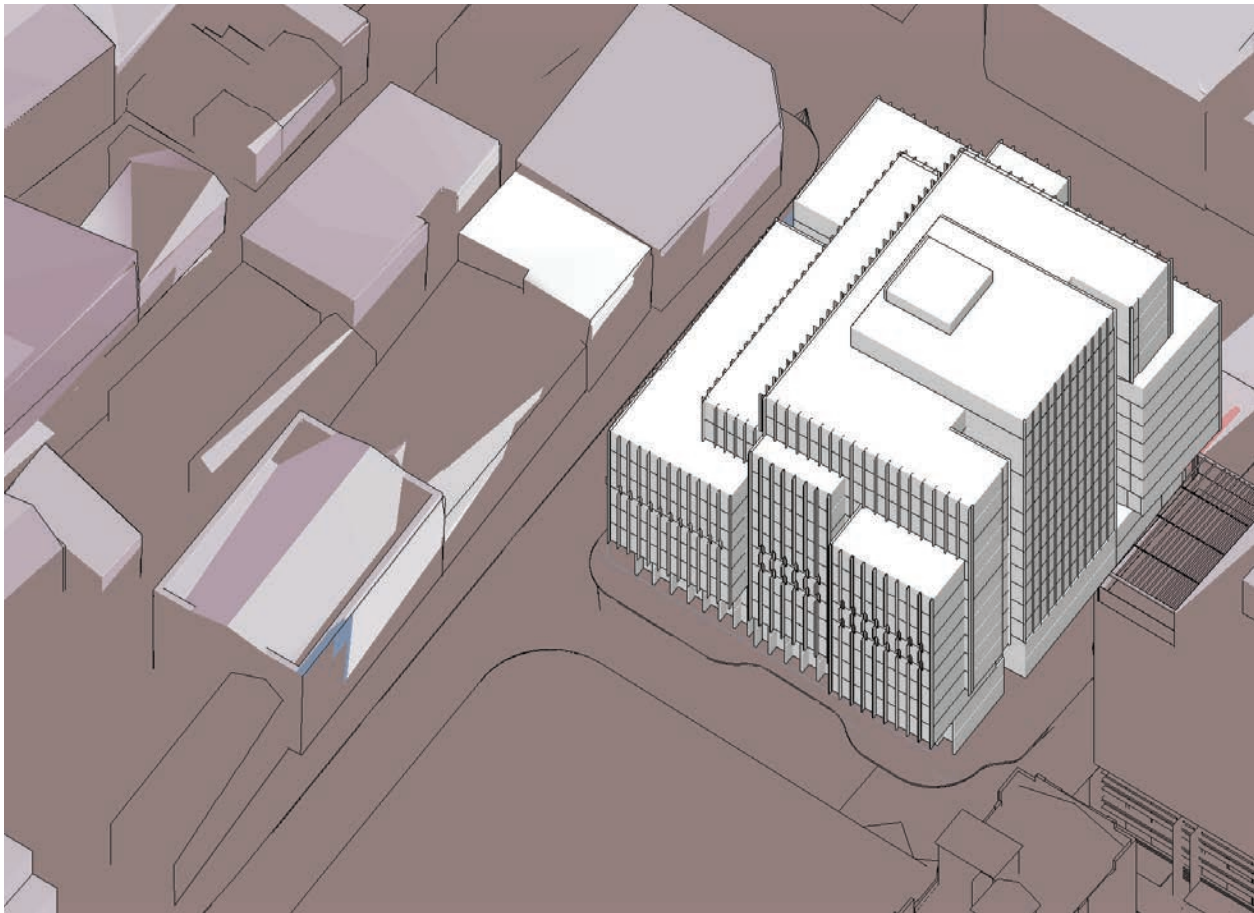
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GREEN



O'CONNOR ST MARCH 21 - 5:30PM



O'CONNOR ST MARCH 21 - 6:00PM



O'CONNOR ST MARCH 21 - 6:30PM

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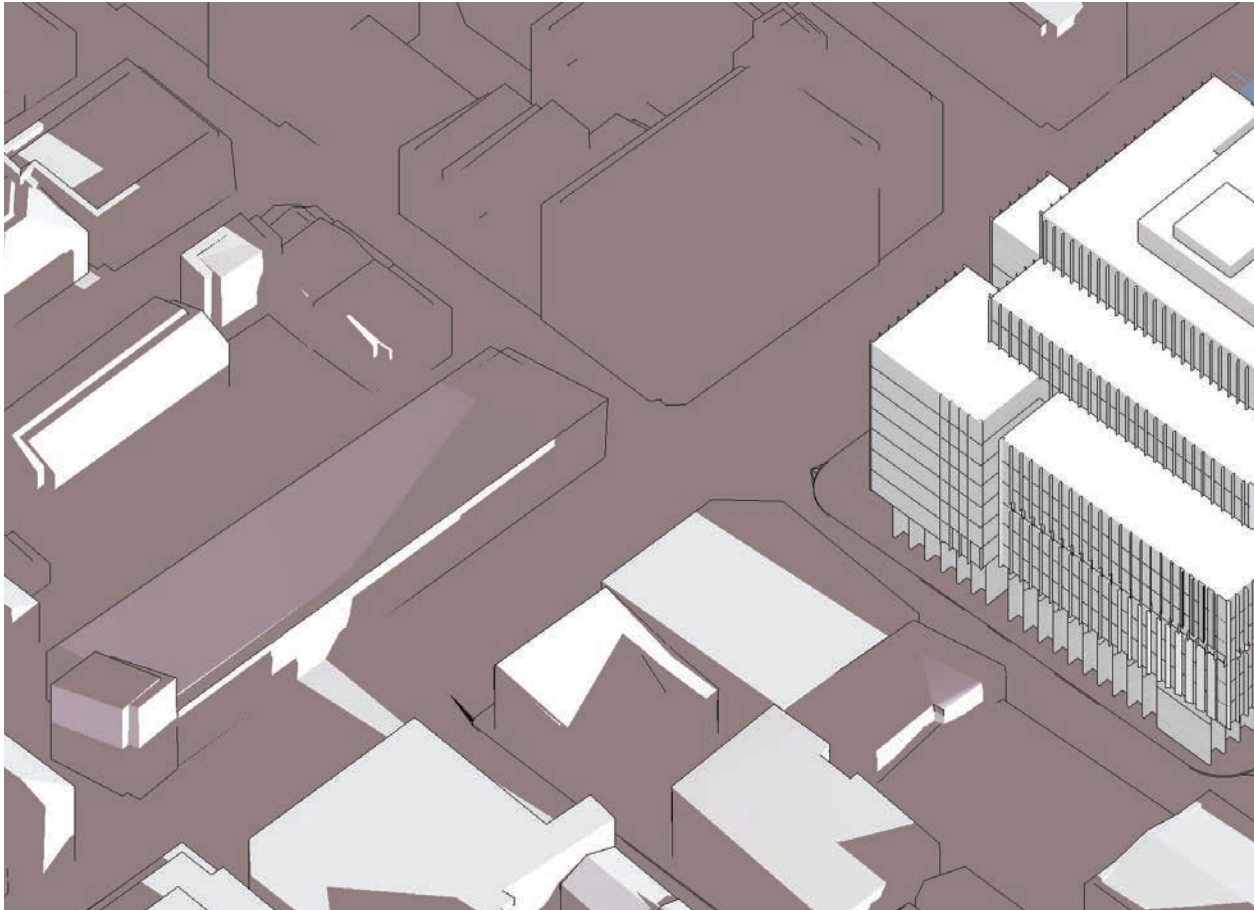
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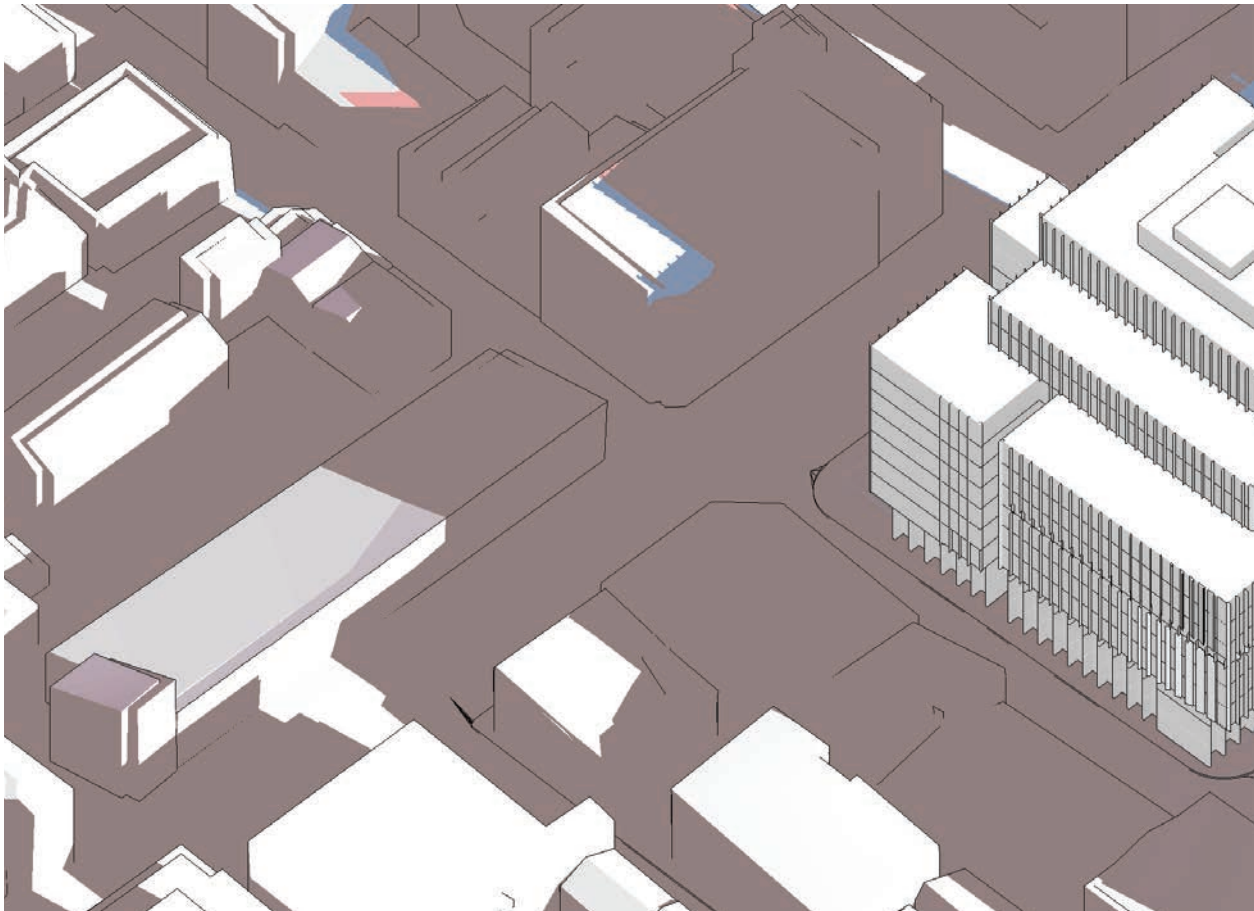
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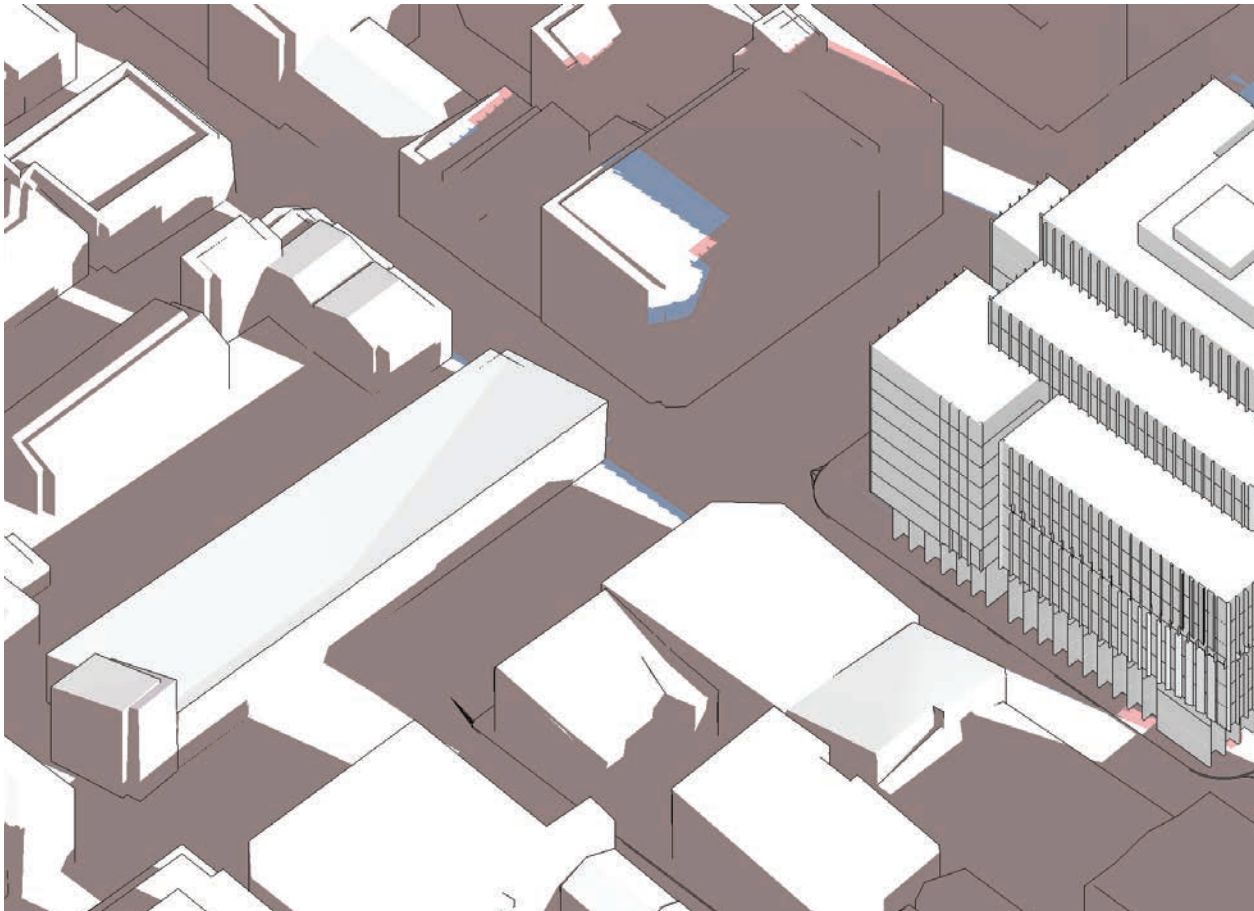
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ABERCROMBIE ST MARCH 21 - 7AM



ABERCROMBIE ST MARCH 21 - 7:30AM



ABERCROMBIE ST MARCH 21 - 8AM

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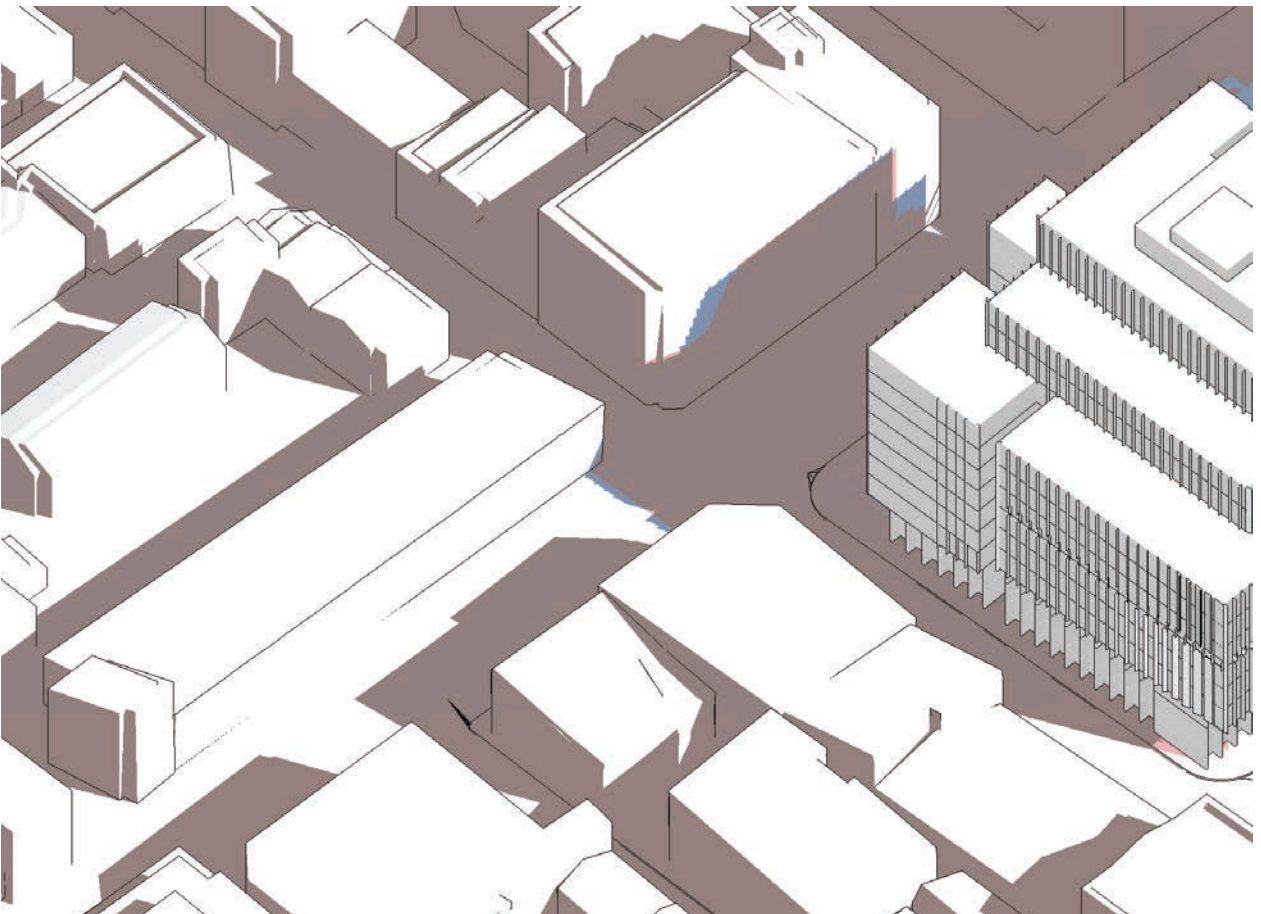
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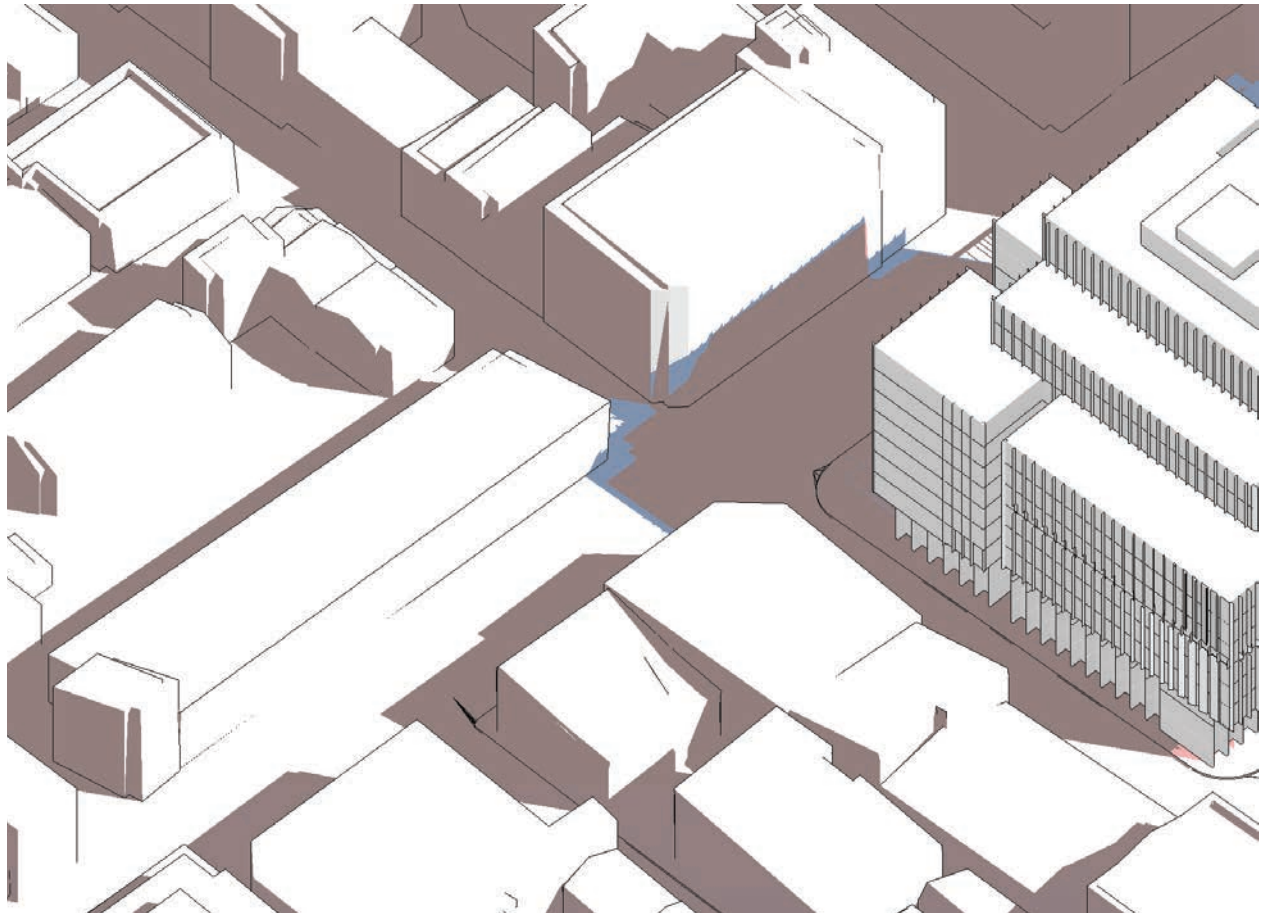
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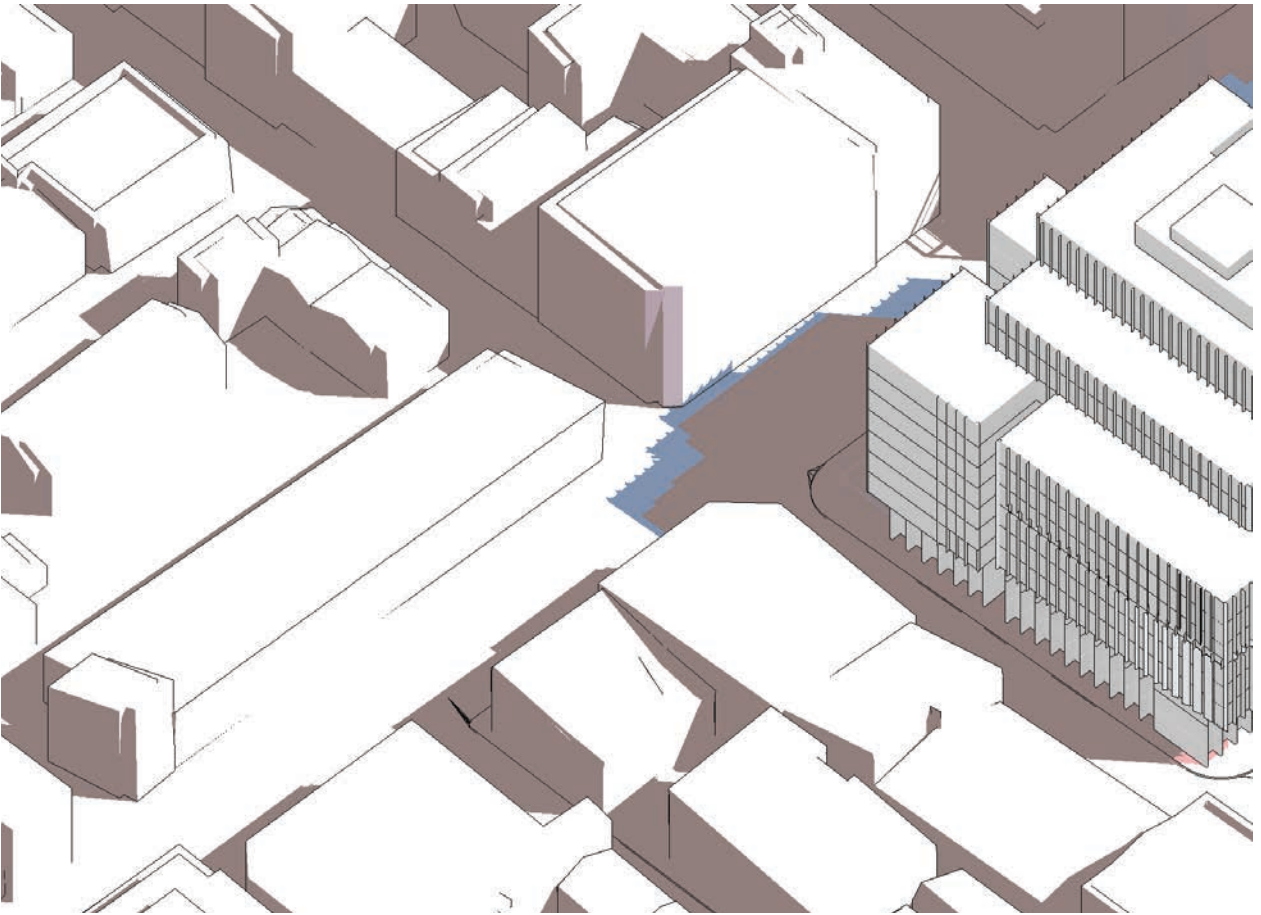
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ABERCROMBIE ST MARCH 21 - 9AM



ABERCROMBIE ST MARCH 21 - 9:30AM



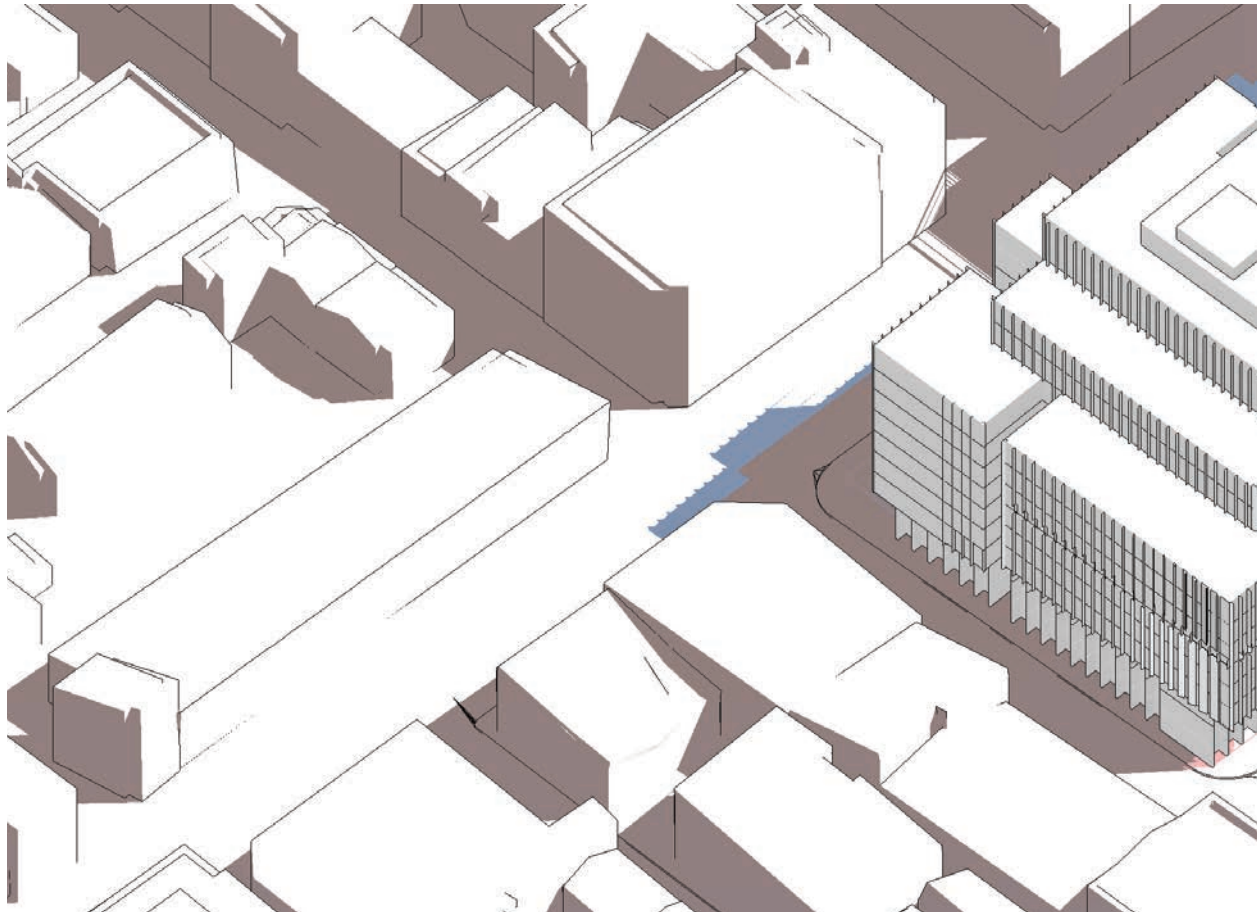
ABERCROMBIE ST MARCH 21 - 10AM

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ABERCROMBIE ST MARCH 21 - 10:30AM