SUN / SHADOW STUDY

63 Albany Street

Proposed Residential Development

63 Albany Street

City of Oshawa

Prepared for:

Albany Street Investments Ltd.

Prepared by:

Ralph Bouwmeester, P. Eng.

RBA File: S21026

MARCH 22, 2022

R. BOUWMEESTER & ASSOCIATES
Sun & Shadow Position Specialists
165 Browning Trail, Barrie ON Tel/Fax (705) 726-3392
Web: www.sunposition.com Email: rba@sunposition.com

1. This report should be read in conjunction with shadow study Drawings RH-1 and SS-1 to SS-23 all dated March 22, 2022.

2. Site latitude and longitude used for this study are based on the latitude and longitude of the subject site as follows:

   Latitude: 43° 53' 11" N (43.886° N)

   Longitude: 78° 51' 22" W (78.856° W)

3. Time Zone: Eastern

   Standard Time: UT – 5 hours (applies on Dec 21)
   Daylight Time: UT – 4 hours (applies on Mar 21, Jun 21 and Sep 21)

4. Site Orientation:

The orientation of the site is based on the grid coordinate reference system used in the City's mapping (i.e. UTM Zone 17, NAD83).

Since shadow studies are referenced to true (astronomic) north, a small rotational adjustment was made to align the shadows with true north. The rotation between grid and true north is shown on the north arrow in the diagrams.

5. The base plan information used in this analysis (e.g. building footprints, parks and parcel mapping) was obtained from the City of Oshawa's open data mapping portal. 3D massing of existing buildings was based on the building footprints and assumes building heights of 6.0m for dwellings and 3.0m for garages and sheds. Approximate heights of other existing buildings were derived from Google Earth.

The 3D massing model of the proposal was provided by Graziani + Corazza Architects.

6. Shadows are shown on an assumed flat ground plane and include parapets, balcony slabs, and railings. Building heights are shown on Drawing RH-1 in metres above FFE (i.e. 103.20m per architectural plans, assumed for all buildings).

7. The shadow study includes the test dates and times required by the City of Oshawa, namely:

   - Mar 21 – hourly from 8:00 AM to 6:00 PM EDT

   - Jun 21 – hourly from 8:00 AM to 6:00 PM EDT

   - Sep 21 – hourly from 8:00 AM to 6:00 PM EDT

   - Dec 21 – hourly from 8:00 AM to 4:00 PM EST. (Sunset is < 5:00 PM)

8. Review of Shadow Drawings

Mar 21 – At 8:00 AM, shadows from the proposed 3-storey townhouses reach 6 backyards immediately to the west. This is not unlike shadows from other low-rise buildings at this time of day when the ratio of shadow length to building height is 8.19:1. Shadows reach the fronts of two dwellings on the west side of Albert Street, several commercial buildings and parking lots on the north side of Albany Street west of Albert Street, the fronts of two commercial buildings on the west side of Simcoe Street south of Hall Street, and the railway corridor further west.

New shadowing of private outdoor amenity space is limited to the 6 backyards immediately to the west.

By 9:00 AM, shadows no longer reach the 6 dwellings to the west, and the shadowing of their backyards begins to recede. Shadows are generally limited to Albany and Albert Streets and two commercial buildings northwest of that intersection although new shadows reach two backyards at the northeast corner of the intersection.

By 10:00 AM, very little shadowing remains in the 6 backyards to the west. Portions of 4 backyards in the northeast quadrant of the Albany and Albert intersection are shadowed.

By 11:00 AM, there is no new shadowing in the 6 backyards to the west. Portions of the 4 backyards referred to above remain in shadow.

At 12:00 and 1:00 PM, new shadowing is generally restricted to Albany Street and the vacant/parking lot to the north. Portions of one or two backyards at the northeast corner of the Albany and Albert intersection are shadowed.

At 2:00 PM, new shadows are limited to Albany and Front Streets and a small portion of the vacant lot at the northwest corner of the Albany and Front Street intersection.

From 3:00 to 6:00 PM, new shadows reach east across Front Street to only the industrial building and property. No residential properties are shadowed.

Jun 21 – At 8:00 AM, shadows from the proposed 3-storey townhouses reach about halfway into the 7 backyards immediately to the west. They do not reach the dwellings. Shadows also reach the fronts of two dwellings on the west side of Albert Street and 3 backyards west of that.

By 9:00 AM, very little shadowing remains in the 7 backyards to the west, and new shadows reach the front of only one dwelling on the west side of Albert Street.

By 10:00 AM, shadows no longer reach the backyards to the west. They reach a small portion of the front yard of the dwelling on the west side of Albert Street, but they no longer reach the house.

From 11:00 AM to 3:00 PM, shadows fall only within the adjacent streets, Albert, Albany and Front. No residential properties are shadowed.

From 4:00 to 6:00 PM, new shadows reach east across Front Street to only the industrial building and property. No residential properties are shadowed.

Sep 21 – At 8:00 AM, shadows from the proposed 3-storey townhouses reach 6 backyards immediately to the west. Shadows reach the fronts of two dwellings on the west side of Albert Street, several commercial buildings and parking lots on the north side of Albany Street west of Albert Street, the fronts of two commercial buildings on the west side of Simcoe Street south of Hall Street, and the railway corridor further west.

New shadowing of private outdoor amenity space is limited to the 6 backyards immediately to the west.

By 9:00 AM, shadows no longer reach the 6 dwellings to the west, and shadowing of the backyards has receded to about half their depth. Shadows are generally limited to Albany and Albert Streets and one commercial building northwest of that intersection. New shadows reach two backyards at the northeast corner of that intersection.

By 10:00 AM, no new shadows remain in the 6 backyards to the west. New shadows reach portions of 4 backyards in the northeast quadrant of the Albany and Albert intersection.

By 11:00 AM, portions of 2 of the 4 backyards referred to above remain in shadow.

At 12:00 and 1:00 PM, new shadowing is generally restricted to Albany Street and the vacant/parking lot to the north. Portions of one or two backyards at the northeast corner of the Albany and Albert intersection are shadowed.

By 2:00 PM, new shadows are limited to Albany and Front Streets and a small portion of the vacant lot at the northwest corner of the Albany and Front Street intersection. The shadows are just about to reach the industrial building to the east.

From 3:00 to 6:00 PM, new shadows reach east across Front Street to only the industrial building and property. No residential properties are shadowed.

Dec 21 – At 8:00 AM, shadows reach northwest about 2.5 km. This is not unusual given that even a 2-storey house would cast a shadow almost 300m long at this time of day (based on a shadow length to building height ratio of 48.45:1). New shadows reach the rear half of two of the backyards immediately to the west. Shadows are generally limited to Albany and Albert Streets; they reach the commercial building at the northwest corner as well as two backyards at the northeast corner.

At 9:00 AM, shadows reach portions of 4 backyards immediately to the west as well as portions of 3 backyards at the northeast corner of Albany and Albert Streets and 2 backyards north of that. Shadows also reach several dwellings and portions of 4 backyards west of Albert Street north of Fisher Street. They do not reach either of the churches in that block.

At 10:00 AM, shadows reach north across Albany Street to the railway and cross portions of 7 backyards. They no longer reach the backyards to the west.

At 11:00 AM, shadows reach north across Albany Street to the railway and cross portions of 10 backyards.

At noon, shadows reach north across Albany Street to the railway and cross portions of 6 backyards.

At 1:00 and 2:00 PM, shadows reach north across Albany Street and the vacant/parking lot and reach a portion of 1 backyard. Shadows also reach the industrial building to the east.

At 3:00 PM, shadows reach the industrial building and property to the east and a small portion of the vacant lot at the northwest corner of Albany and Front Streets.

At 4:00 PM, shadows reach the industrial building and property to the east and a small portion of the vacant lot at the northwest corner of Albany and Front Streets. In addition, new shadows reach the fronts of 7 dwellings on the north side of George Street.

NOTE: Dec 21 shadows are provided for information only. They are typically given little weight in the review/approval of development applications.

9. Summary:

Based on the test dates and times depicted in the attached diagrams:

a) Shadowing on nearby streets and private outdoor amenity areas is limited.

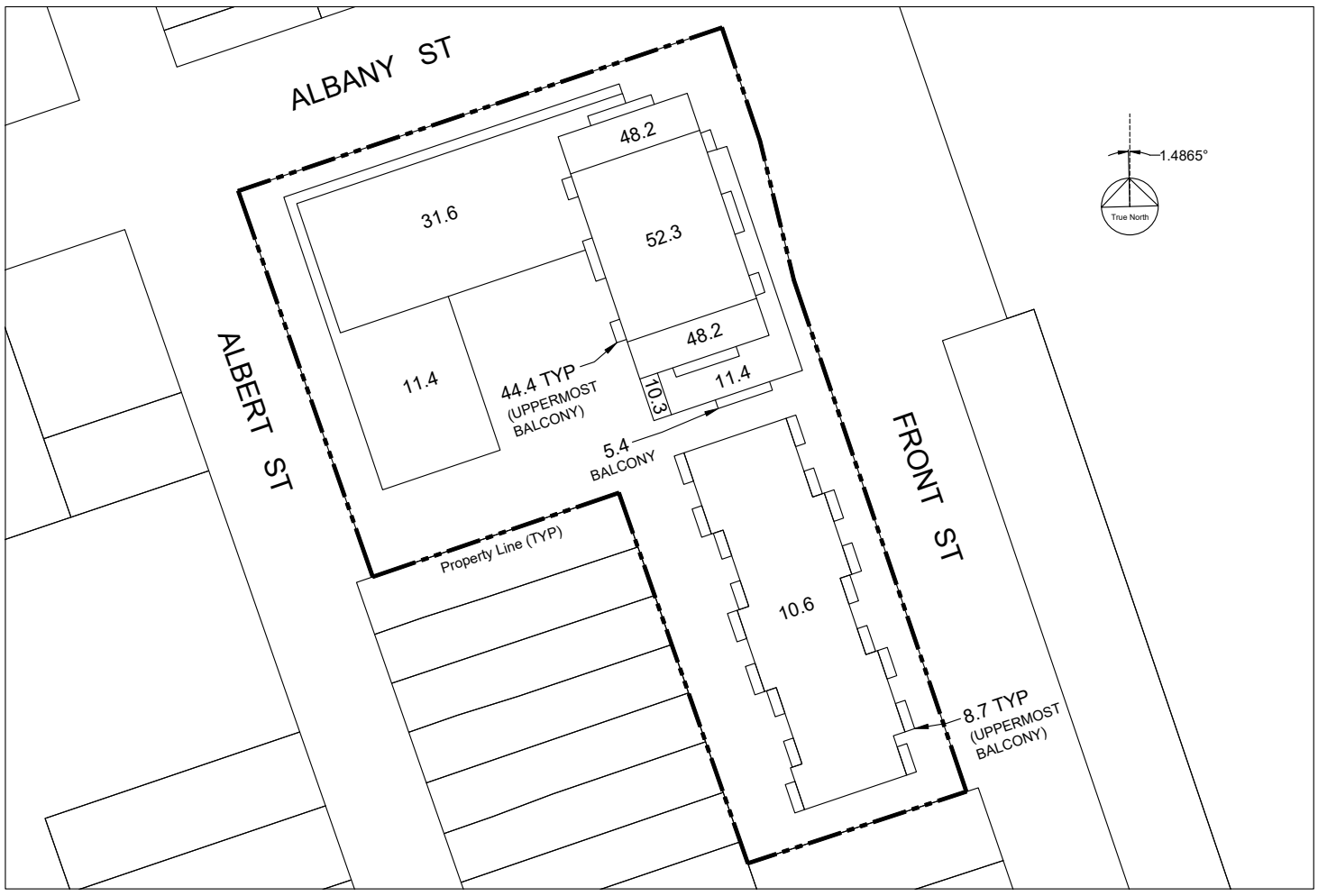
b) We have identified no parks within the reach of the proposed shadows.

c) We have identified no other significant outdoor public spaces within the reach of the proposed shadows.

d) Based on the given test dates and times and my review of the shadow diagrams, it is my opinion that the proposed development will not result in undue adverse shadowing on the surrounding neighbourhood.

NOTES:

1. ROOF HEIGHTS (m) INCLUDE PARAPETS, BALCONY RAILINGS, AND ROOF-TOP FEATURES, WHERE APPLICABLE.
2. SHADOWS INCLUDE THE ABOVE AND ARE SHOWN ON AN ASSUMED FLAT GROUND PLANE.
3. ROOF HEIGHTS ARE DERIVED FROM ARCHITECTURAL PLANS AND MODELS BY GRAZIANA + CORAZZA ARCHITECTS.
4. ROOF HEIGHTS ARE SHOWN IN METRES ABOVE FFE (ASSUMED 103.20m).
5. EXISTING BUILDING FOOTPRINTS, PARCEL DATA, AND PARK LOCATIONS ARE BASED ON CITY OF OSHAWA OPEN DATA.
6. EXISTING BUILDING HEIGHTS ARE ASSUMED TO BE 6.0m FOR DWELLINGS AND 3.0m FOR DETACHED GARAGES AND SHEDS.
7. HEIGHTS (APPROX) OF EXISTING BUILDINGS OTHER THAN THE ABOVE ARE DERIVED FROM GOOGLE EARTH.



PROPOSED

GEOGRAPHIC SITE LOCATION:
LATITUDE: 43° 53' 11" N
LONGITUDE: 78° 51' 22" W

TIME ZONE:
EASTERN
- STANDARD TIME (EST) (UT - 5 hrs)
- DAYLIGHT TIME (EDT) (UT - 4 hrs)

0 5 25 50
SCALE 1 : 1000

ROOF HEIGHTS
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Calculated by:	RB	Project:	S21026	Drawing No.: RH-1
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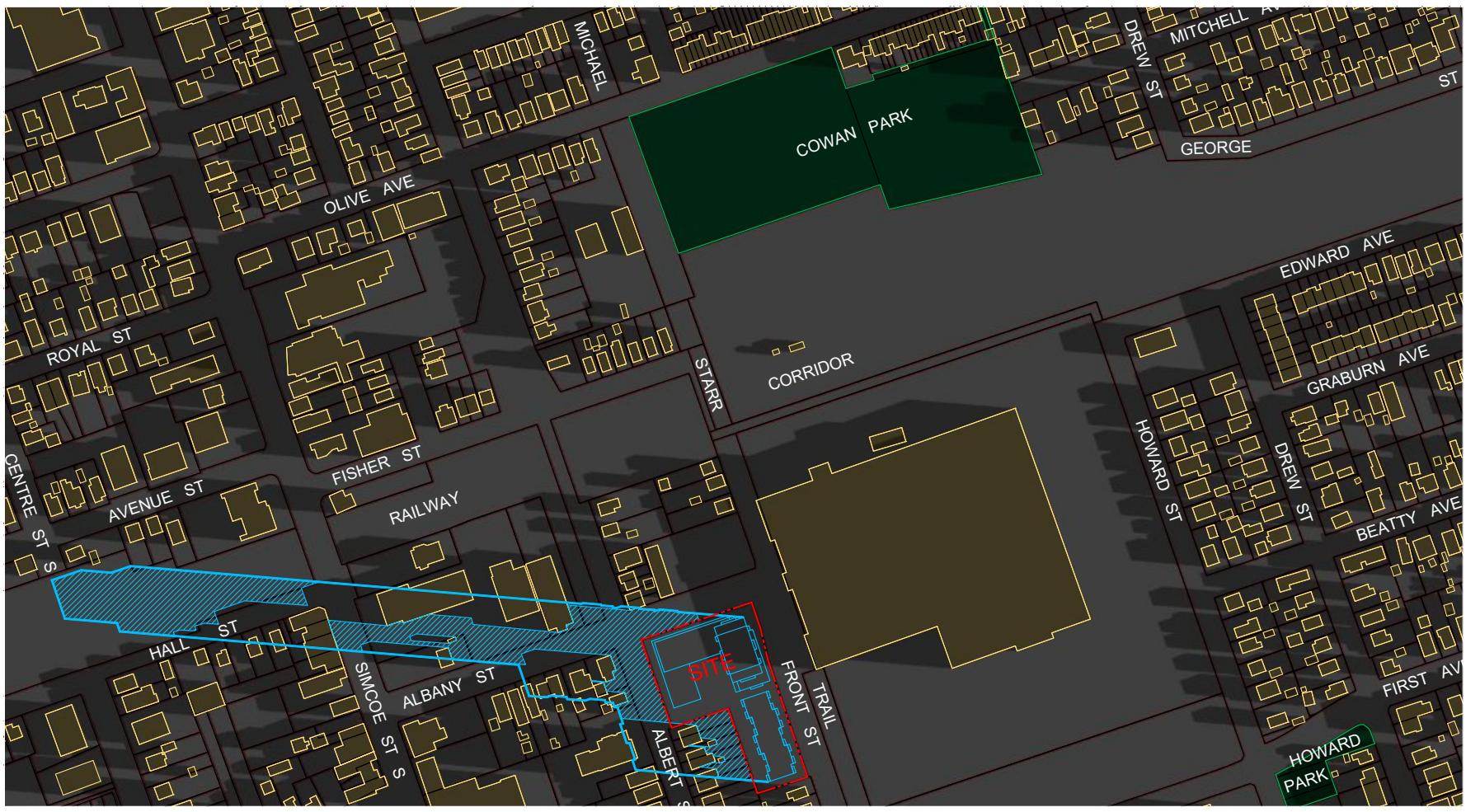
Checked by:	RB	Date:	MAR 22/22	



MAR 21

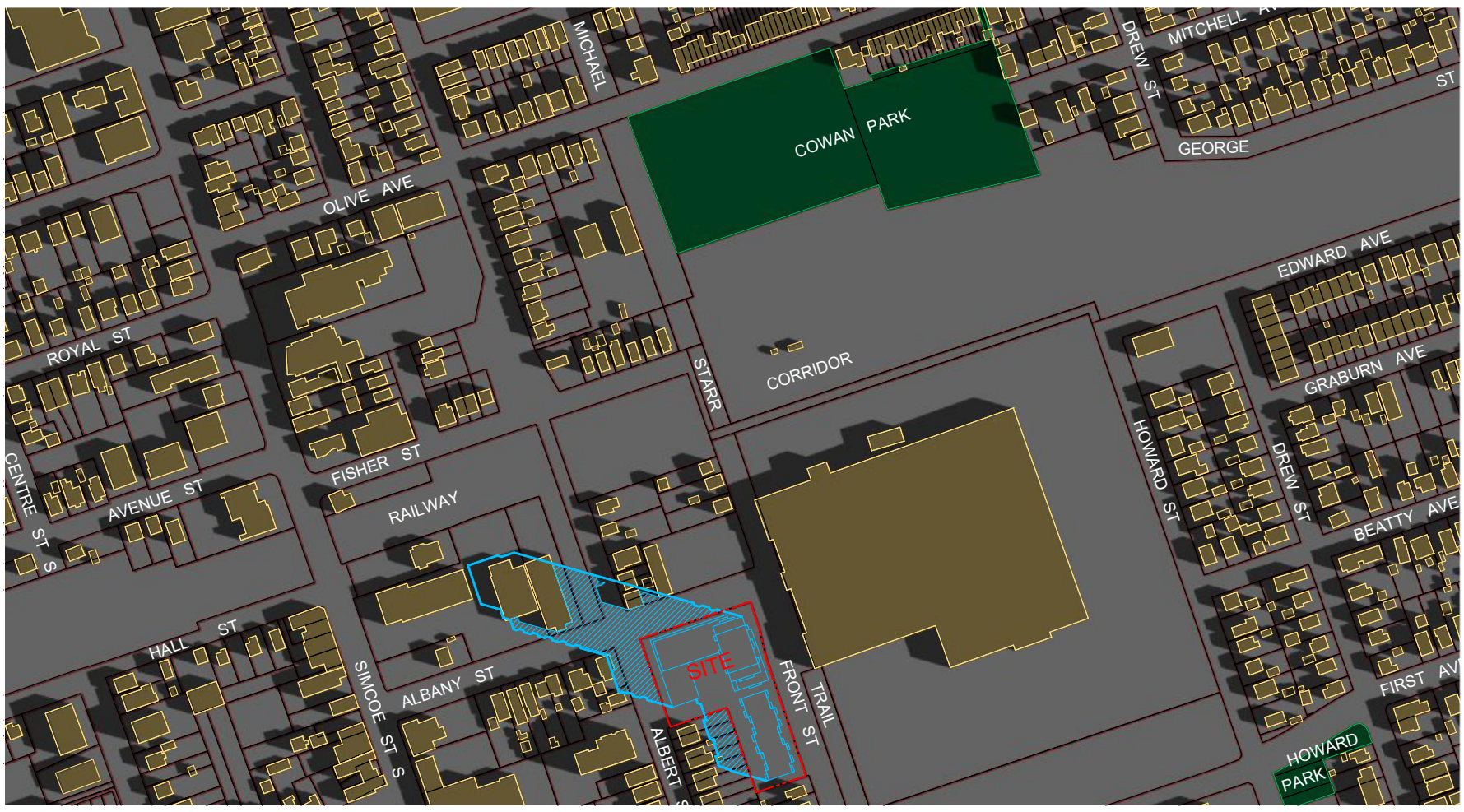
8:00 AM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



MAR 21

9:00 AM

1.4865°
True North

SUN / SHADOW STUDY

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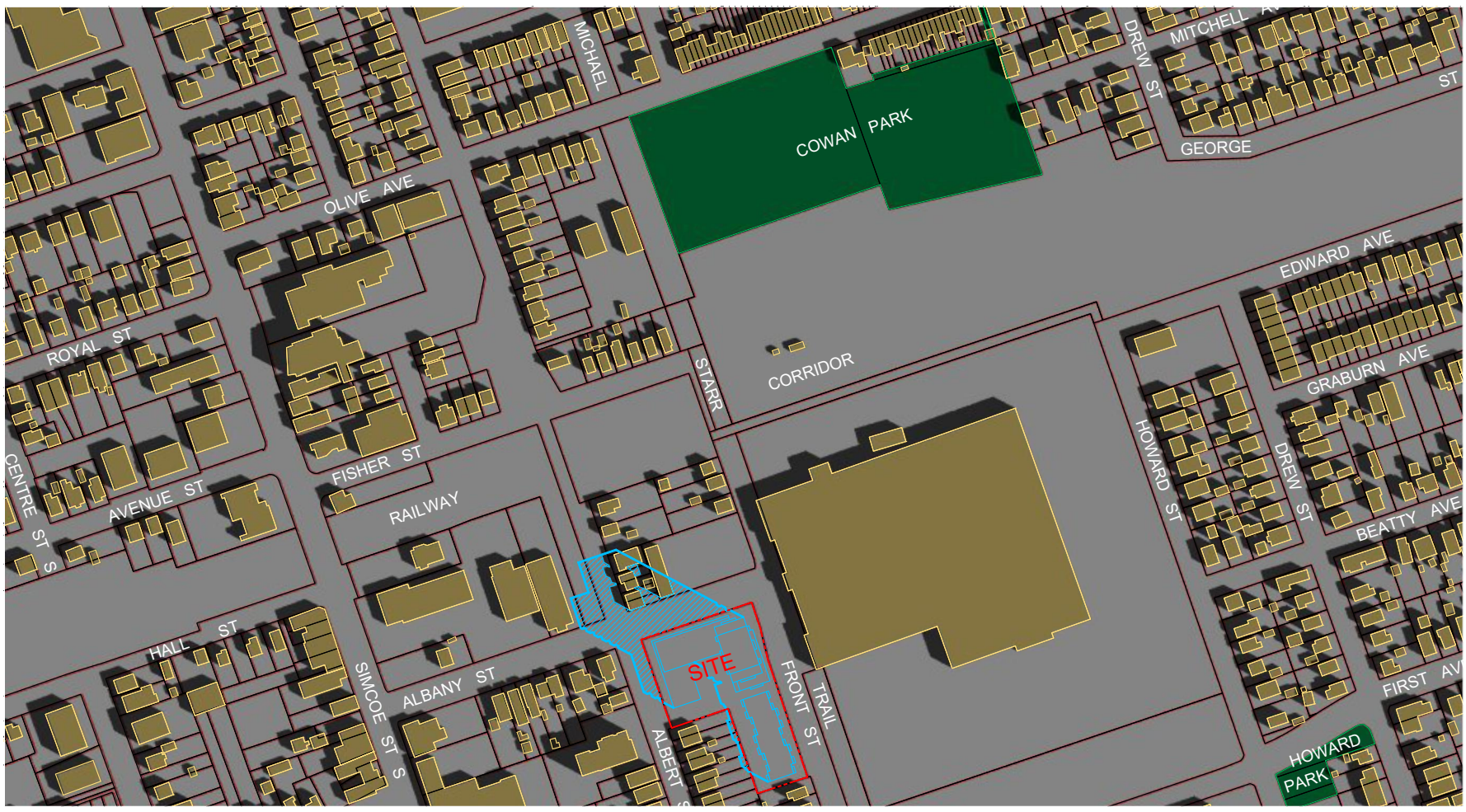


MAR 21

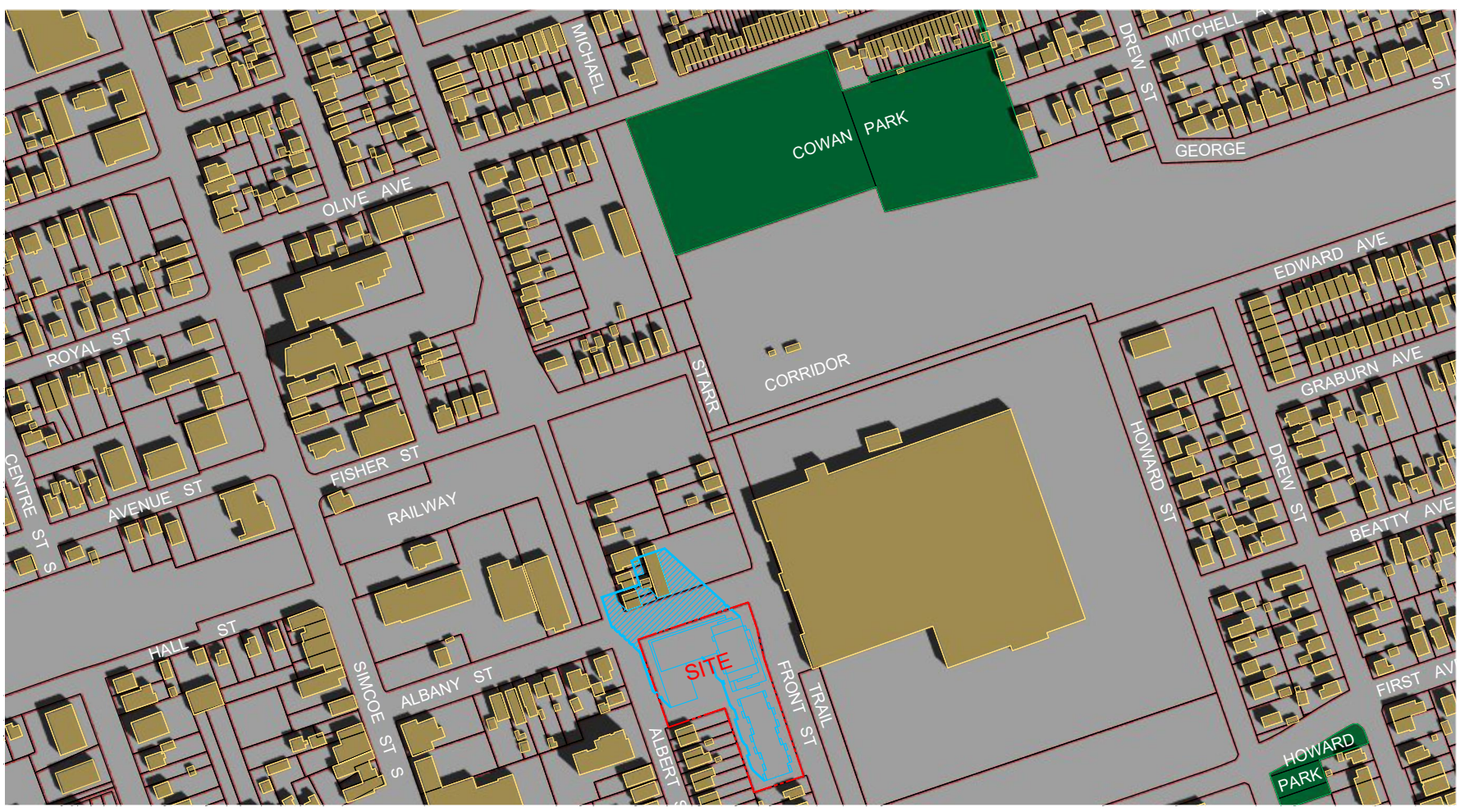
10:00 AM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



MAR 21

11:00 AM

1.4865°
True North

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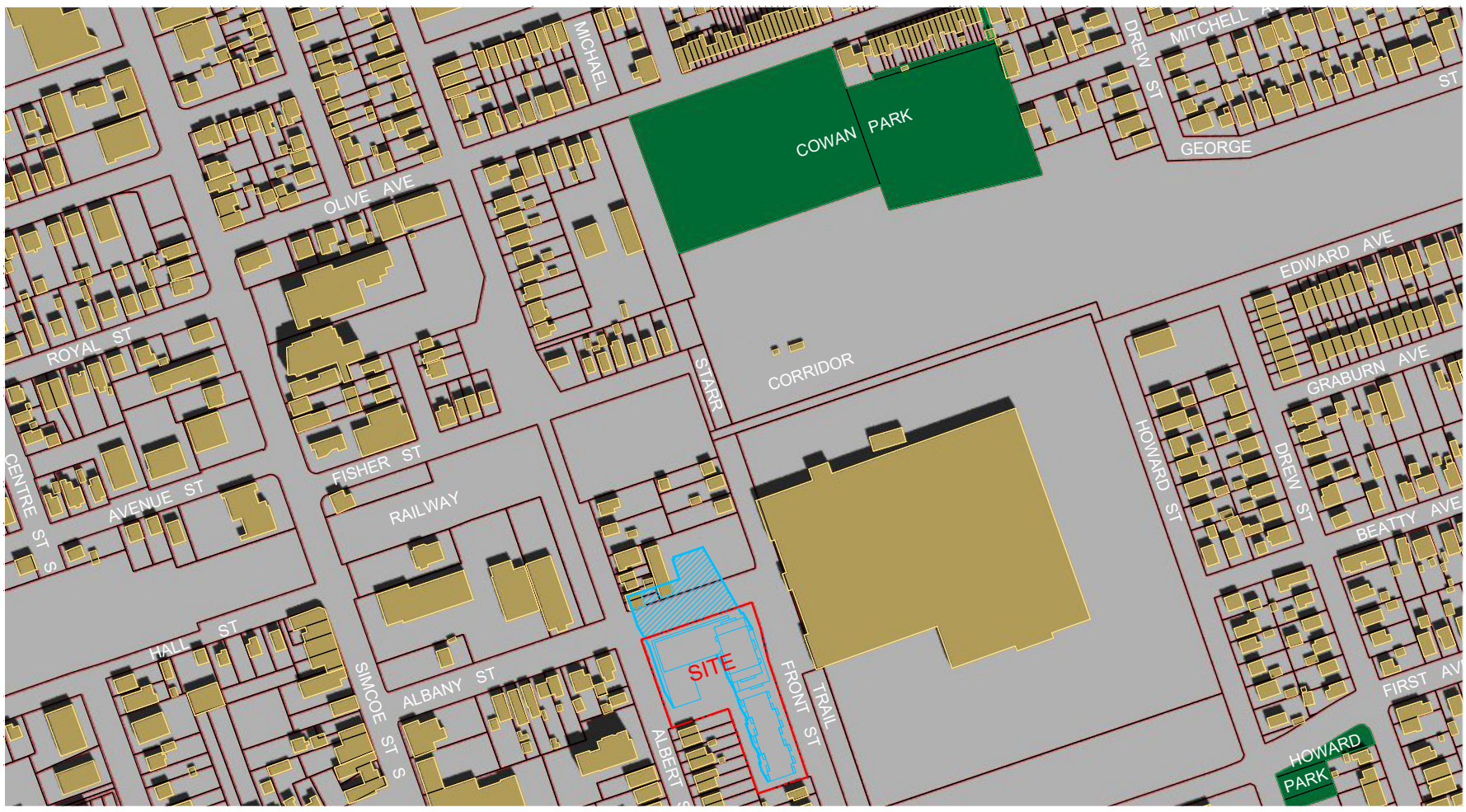
Checked by:	RB	Date:	MAR 22/22	



MAR 21

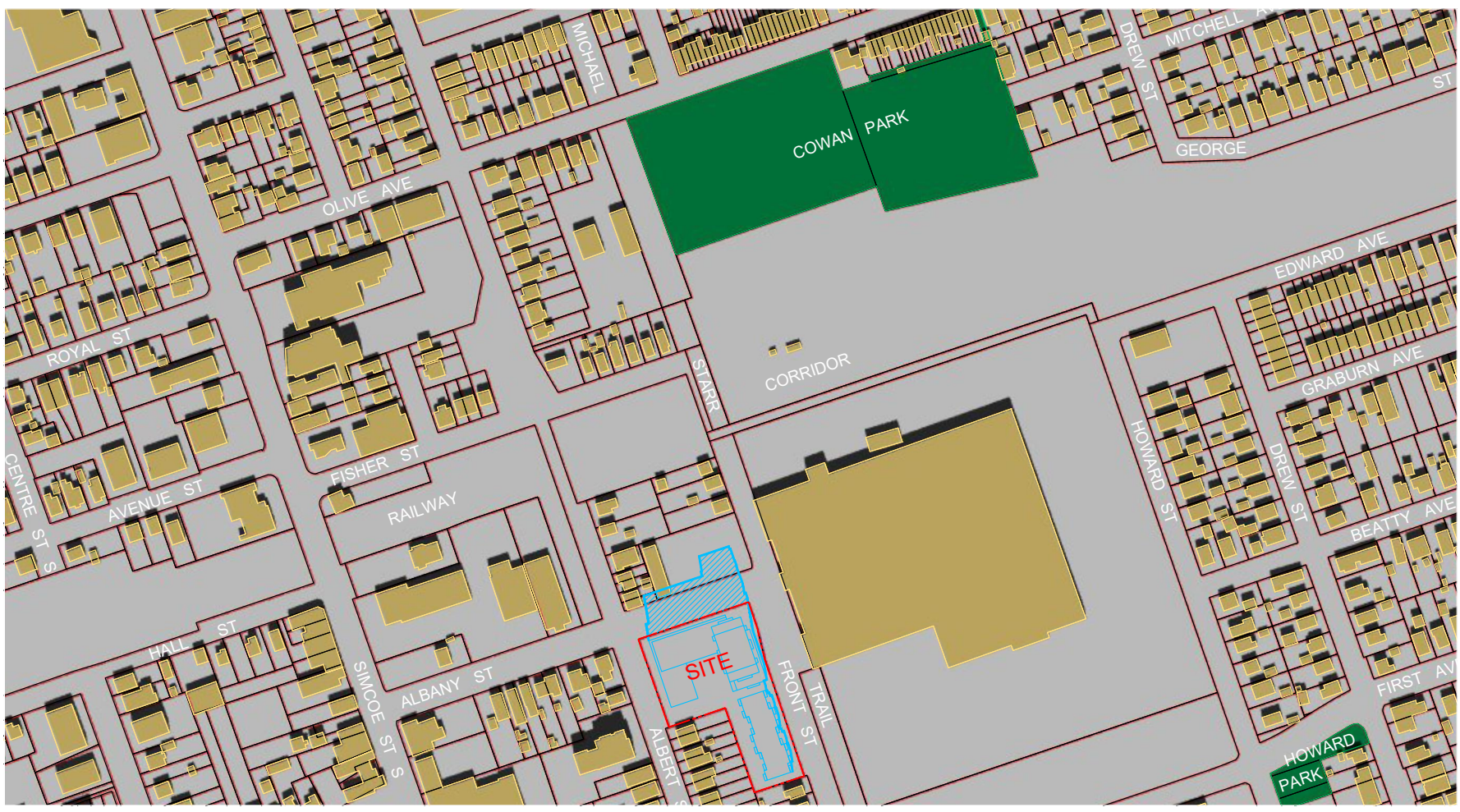
12:00 PM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



MAR 21

1:00 PM

1.4865°
True North

SUN / SHADOW STUDY

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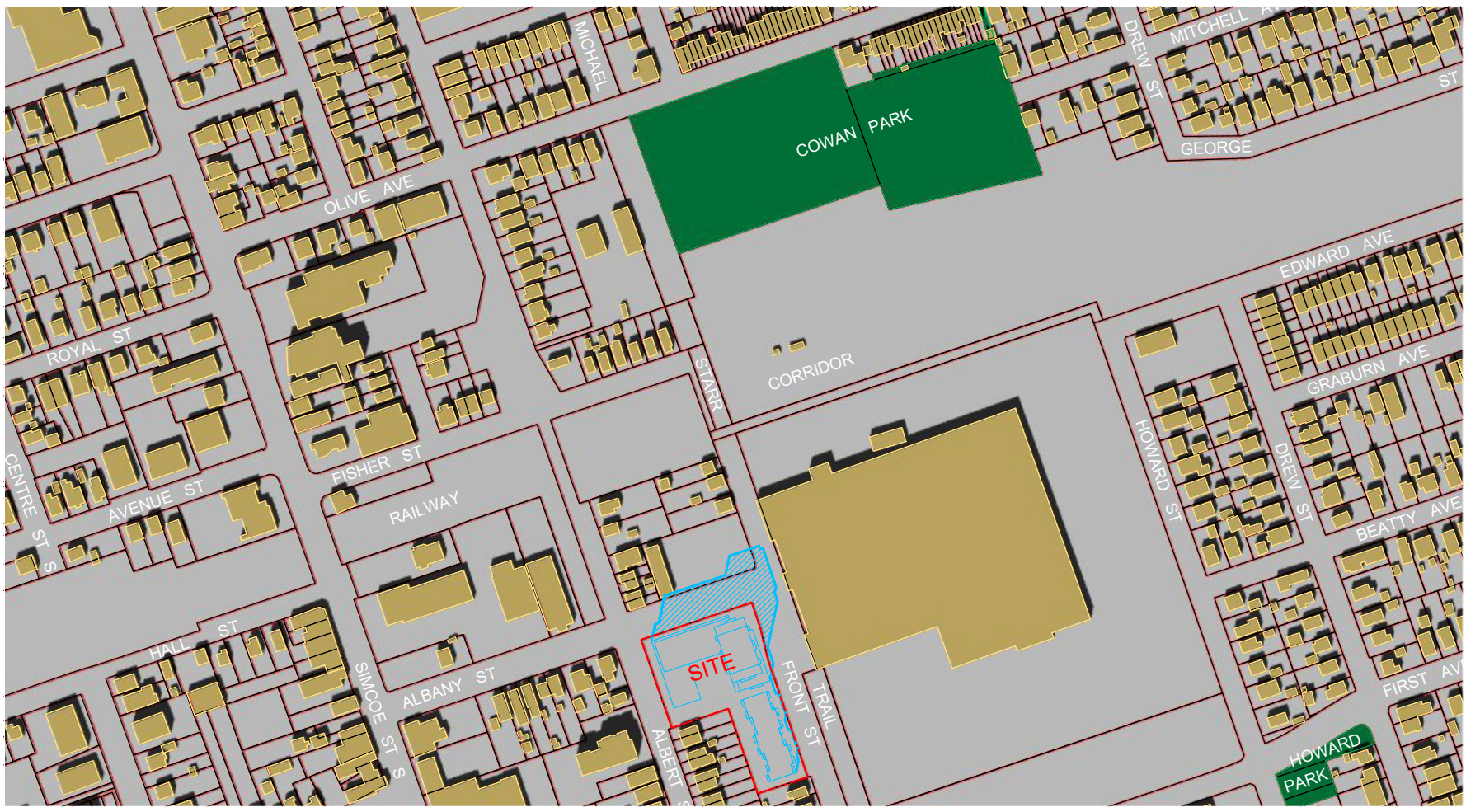
Checked by:	RB	Date:	MAR 22/22	



MAR 21

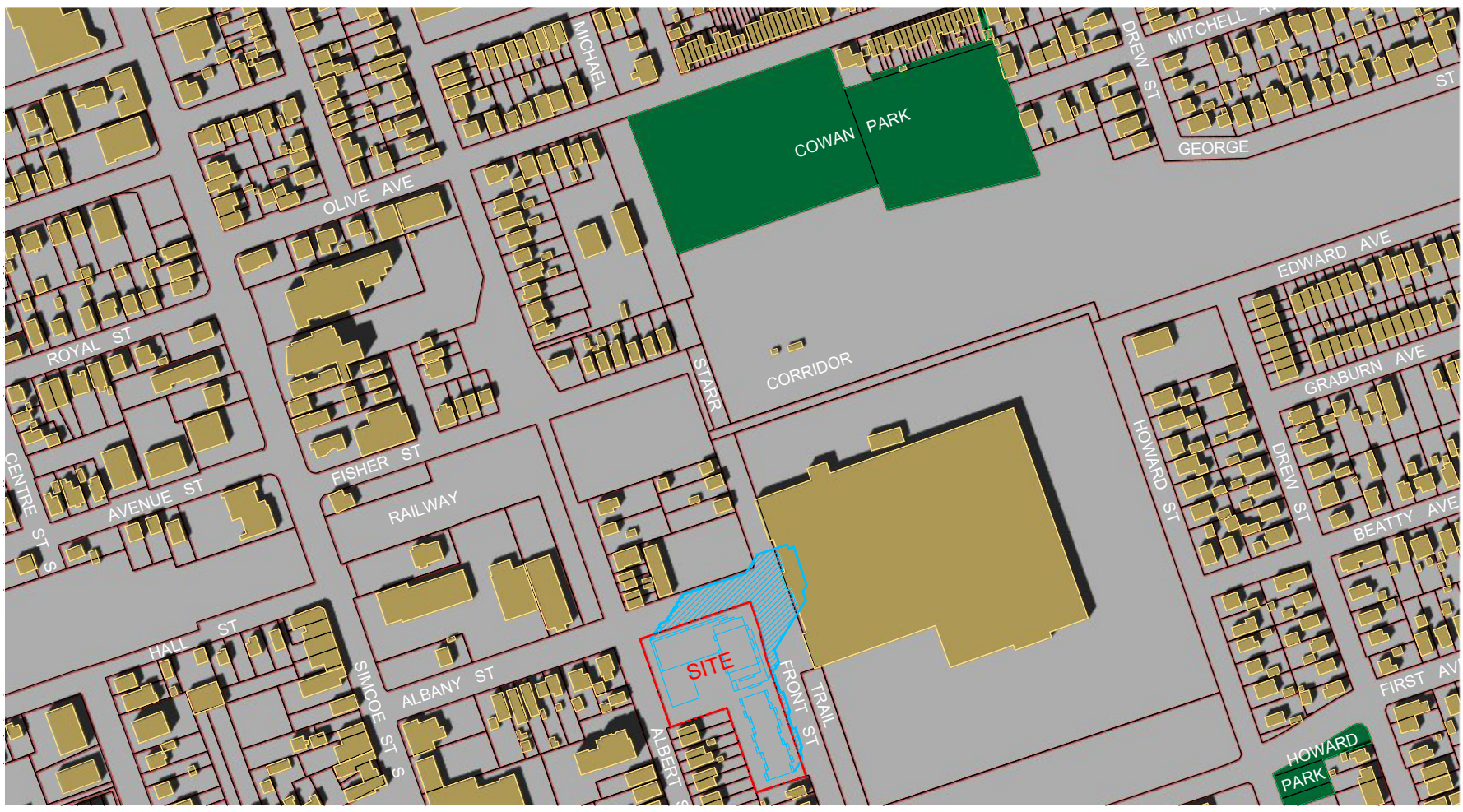
2:00 PM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



MAR 21

3:00 PM

1.4865°
True North

SUN / SHADOW STUDY

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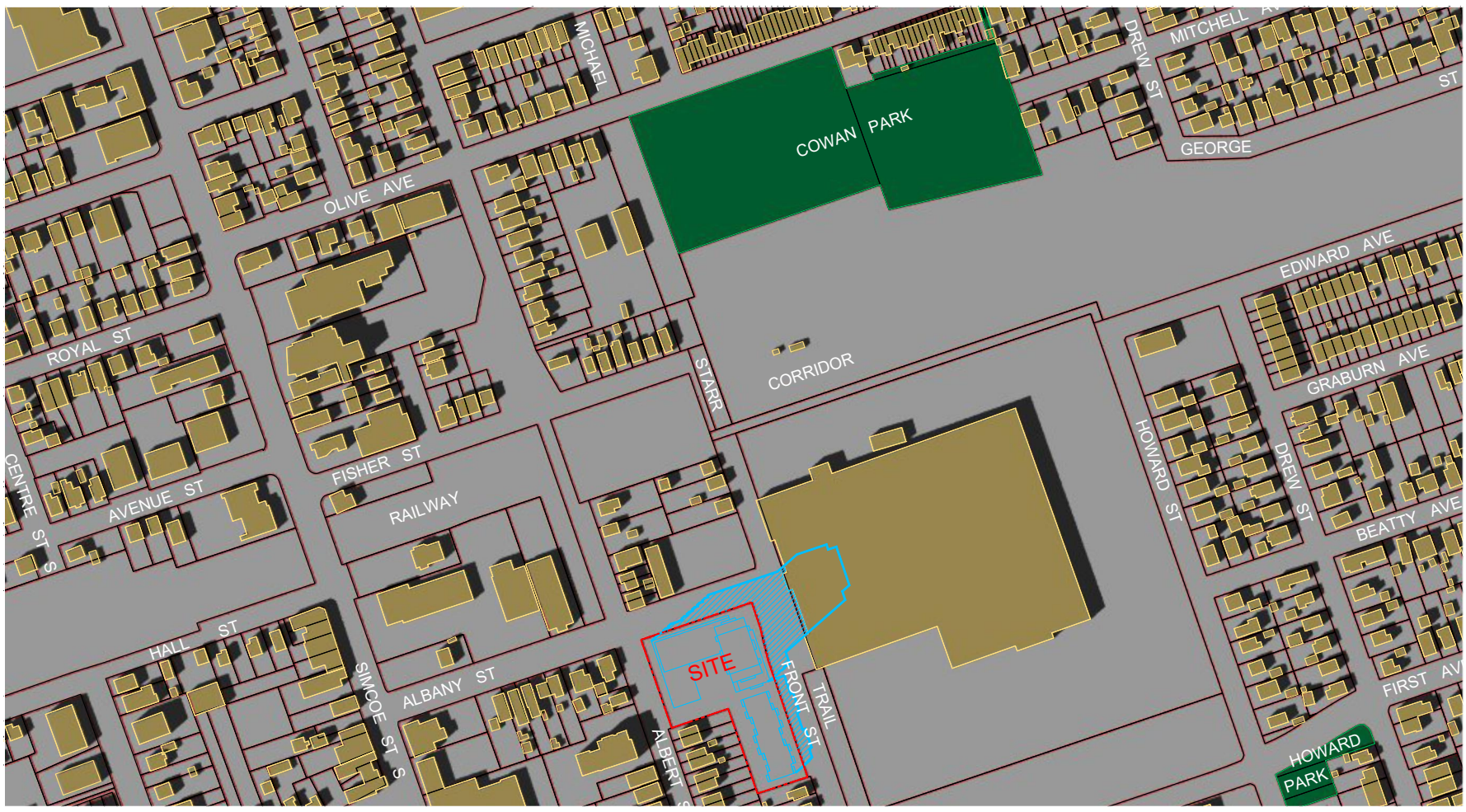


MAR 21

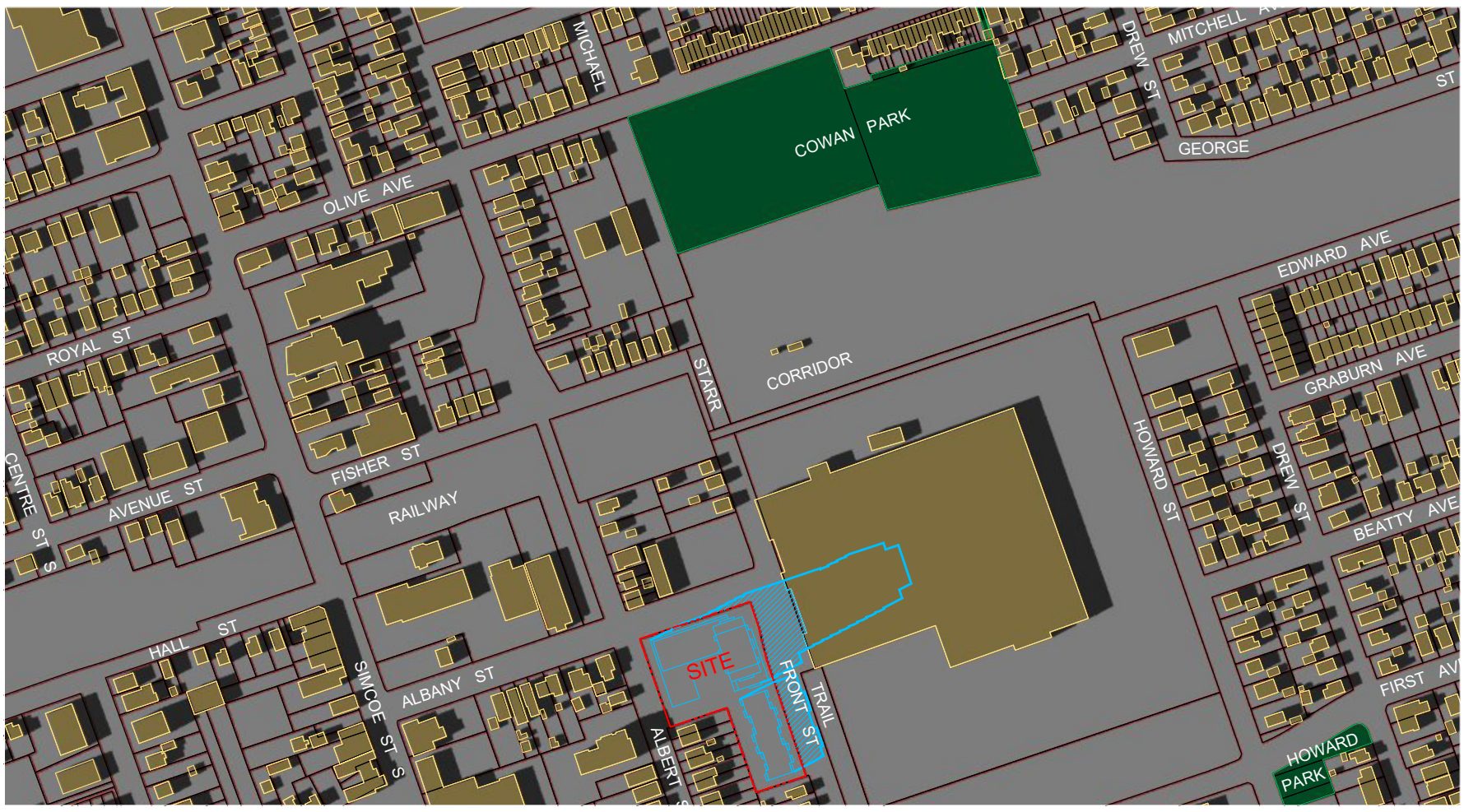
4:00 PM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



MAR 21

5:00 PM

1.4865°
True North

SUN / SHADOW STUDY

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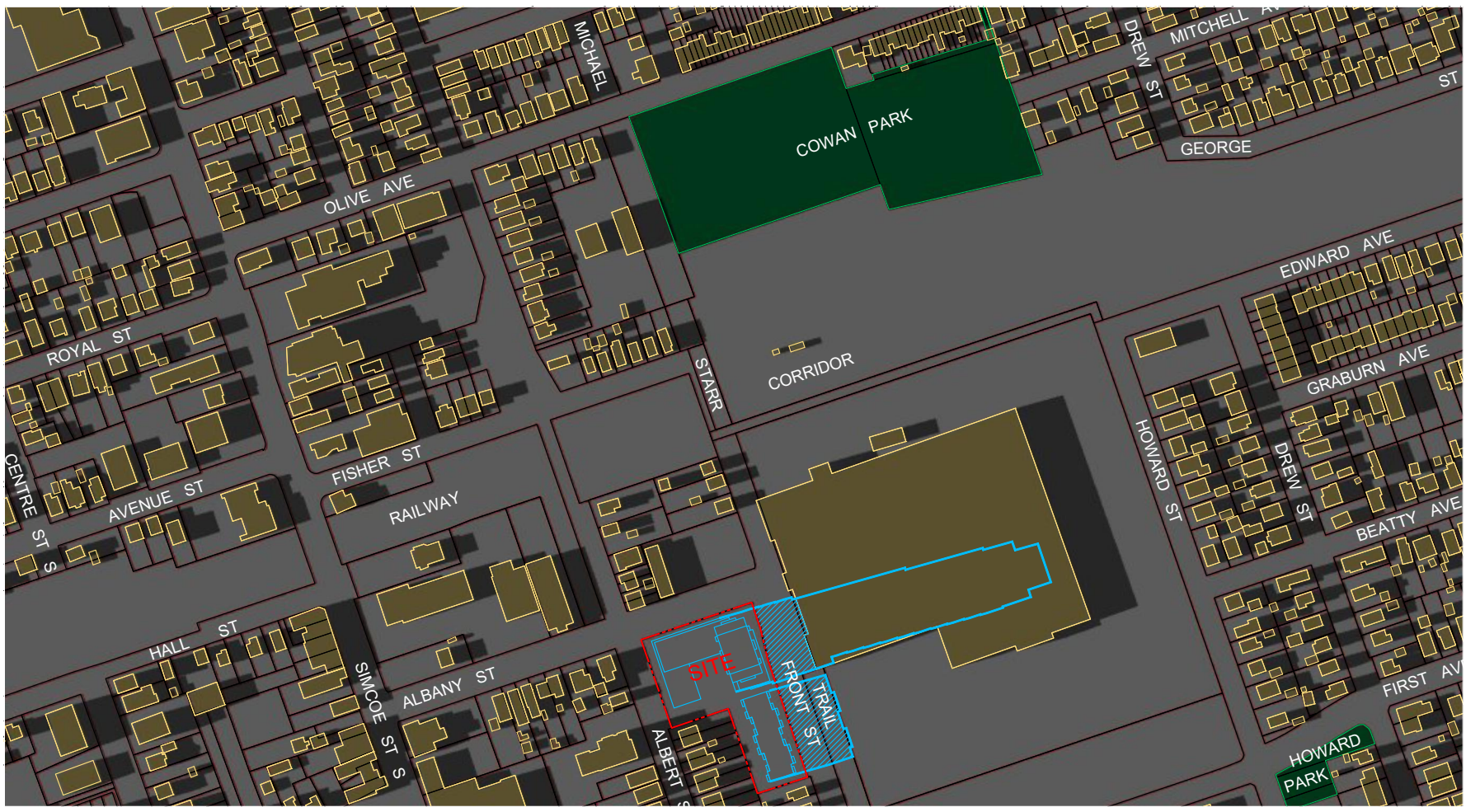

MAR 21

6:00 PM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000

1.4865°
True North

SUN / SHADOW STUDY

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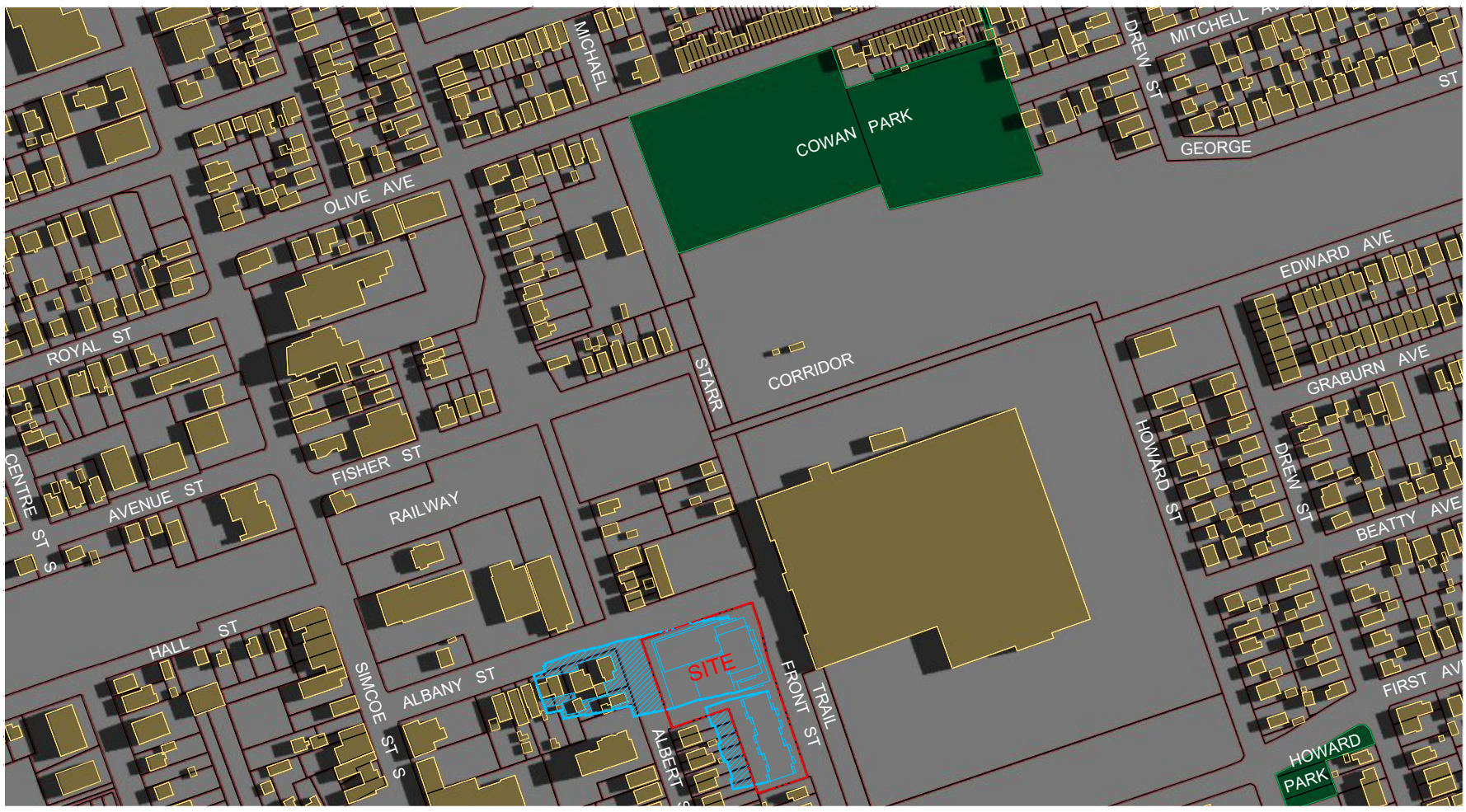


JUN 21

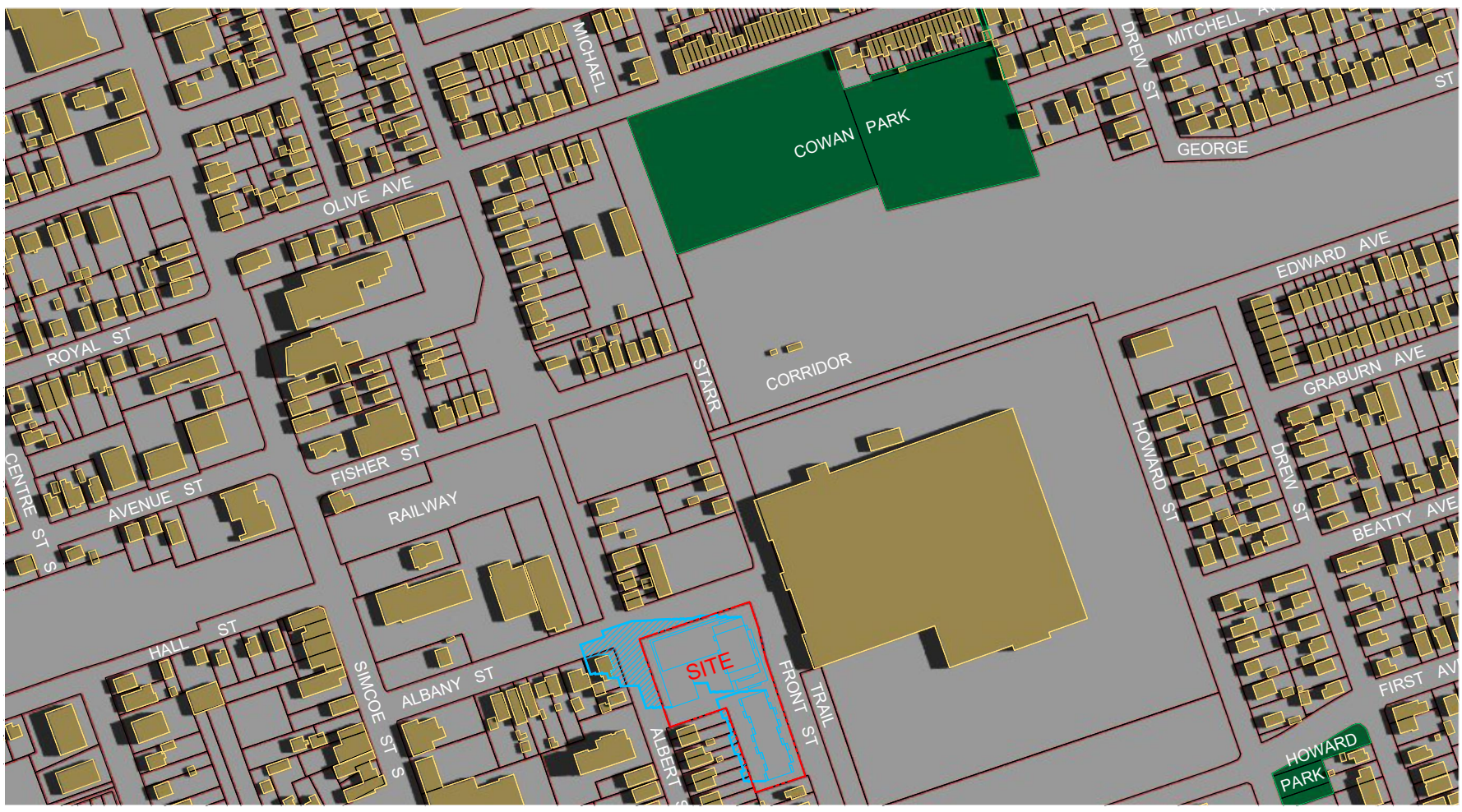
8:00 AM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



JUN 21

9:00 AM

1.4865°
True North

SUN / SHADOW STUDY

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Calculated by:	RB	Project:	S21026	Drawing No.: SS-07
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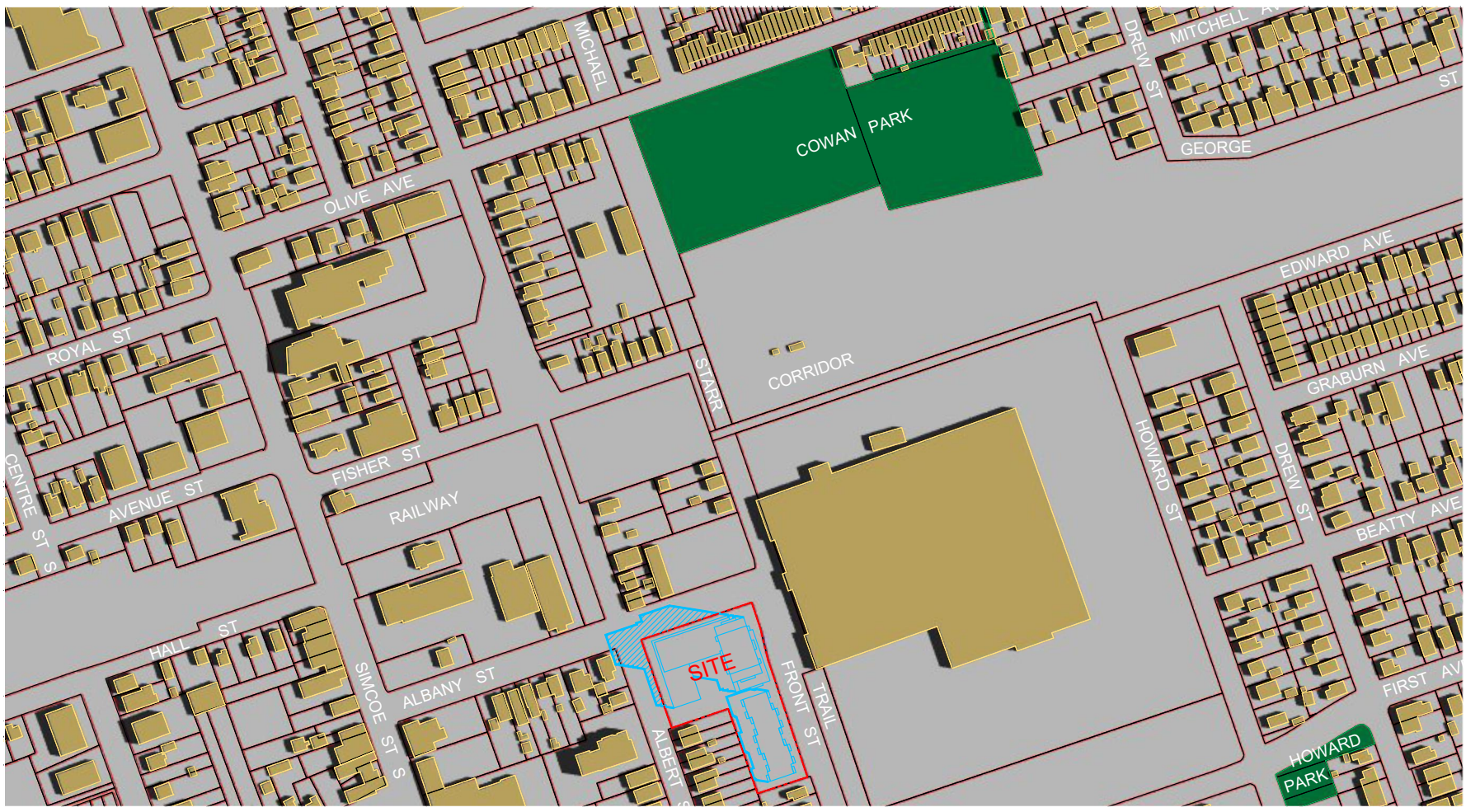
Checked by:	RB	Date:	MAR 22/22	



JUN 21

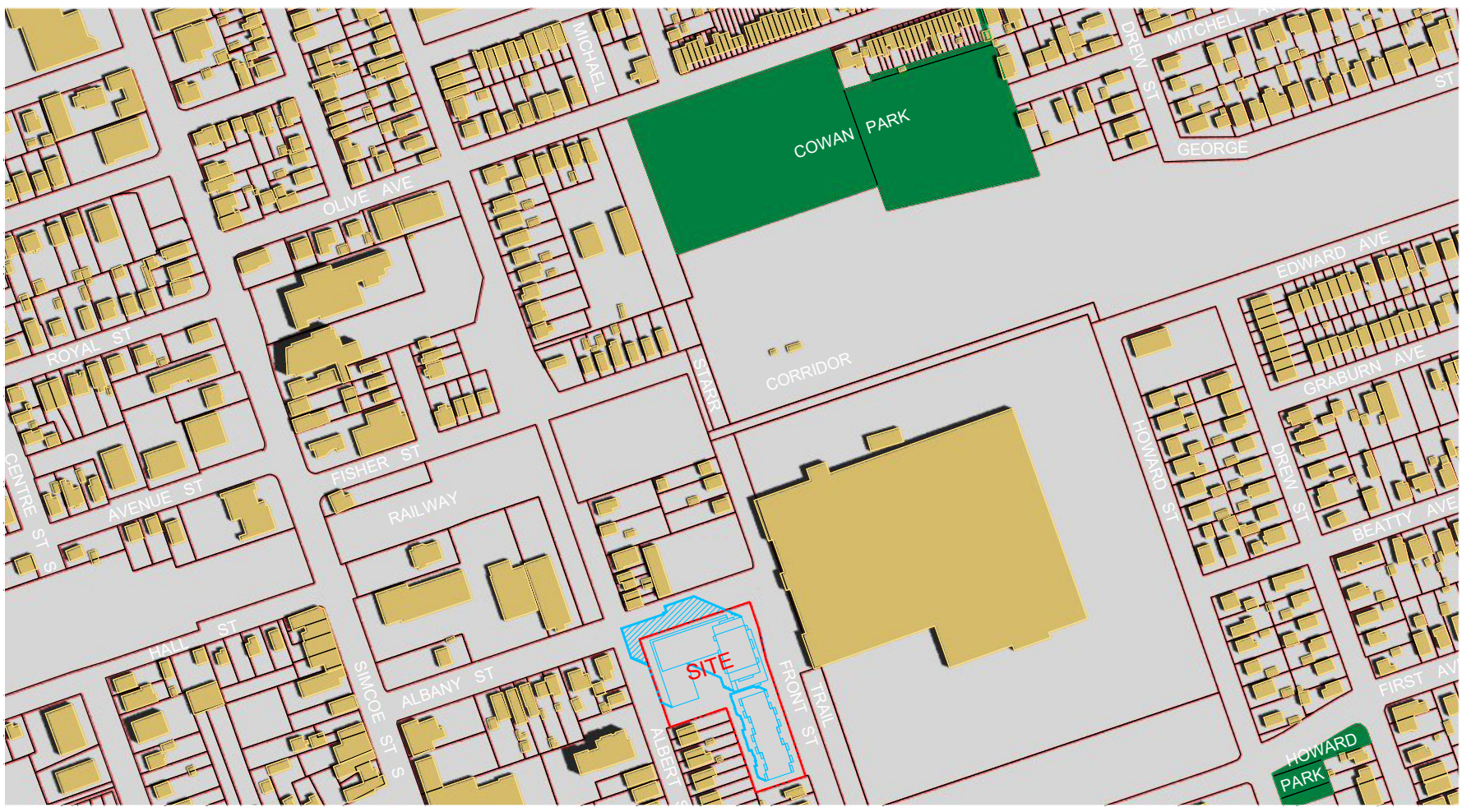
10:00 AM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



JUN 21

11:00 AM

1.4865°
True North

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Calculated by:	RB	Project:	S21026	Drawing No.: SS-08
Drawn by:	RB	Scale:	1 : 4000	
Checked by:	RB	Date:	MAR 22/22	

JUN 21

12:00 PM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000

JUN 21

1:00 PM

1.4865°
True North

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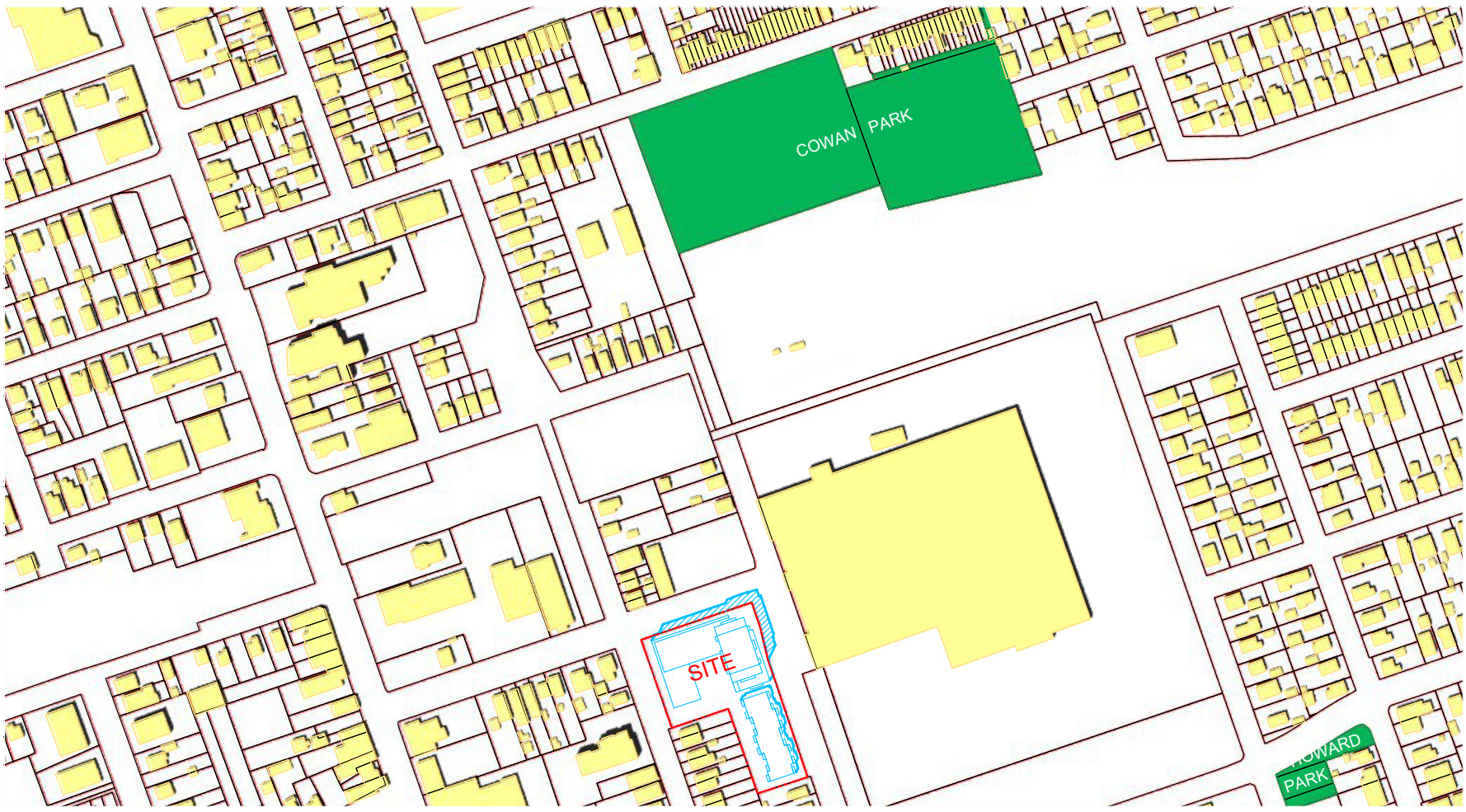
Calculated by:	RB	Project:	S21026	Drawing No.: SS-09
Drawn by:	RB	Scale:	1 : 4000	
Checked by:	RB	Date:	MAR 22/22	



JUN 21

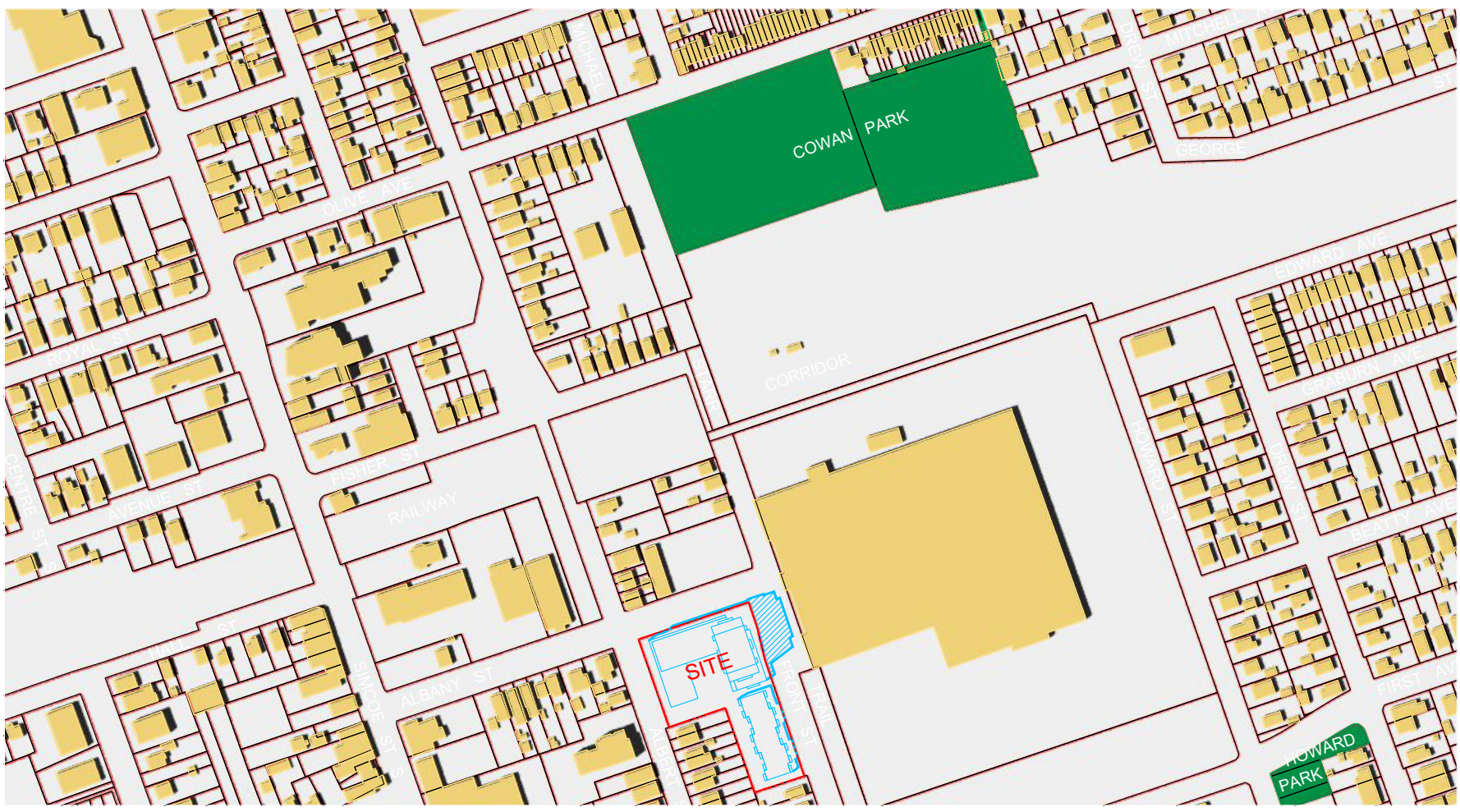
2:00 PM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



JUN 21

3:00 PM

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True North

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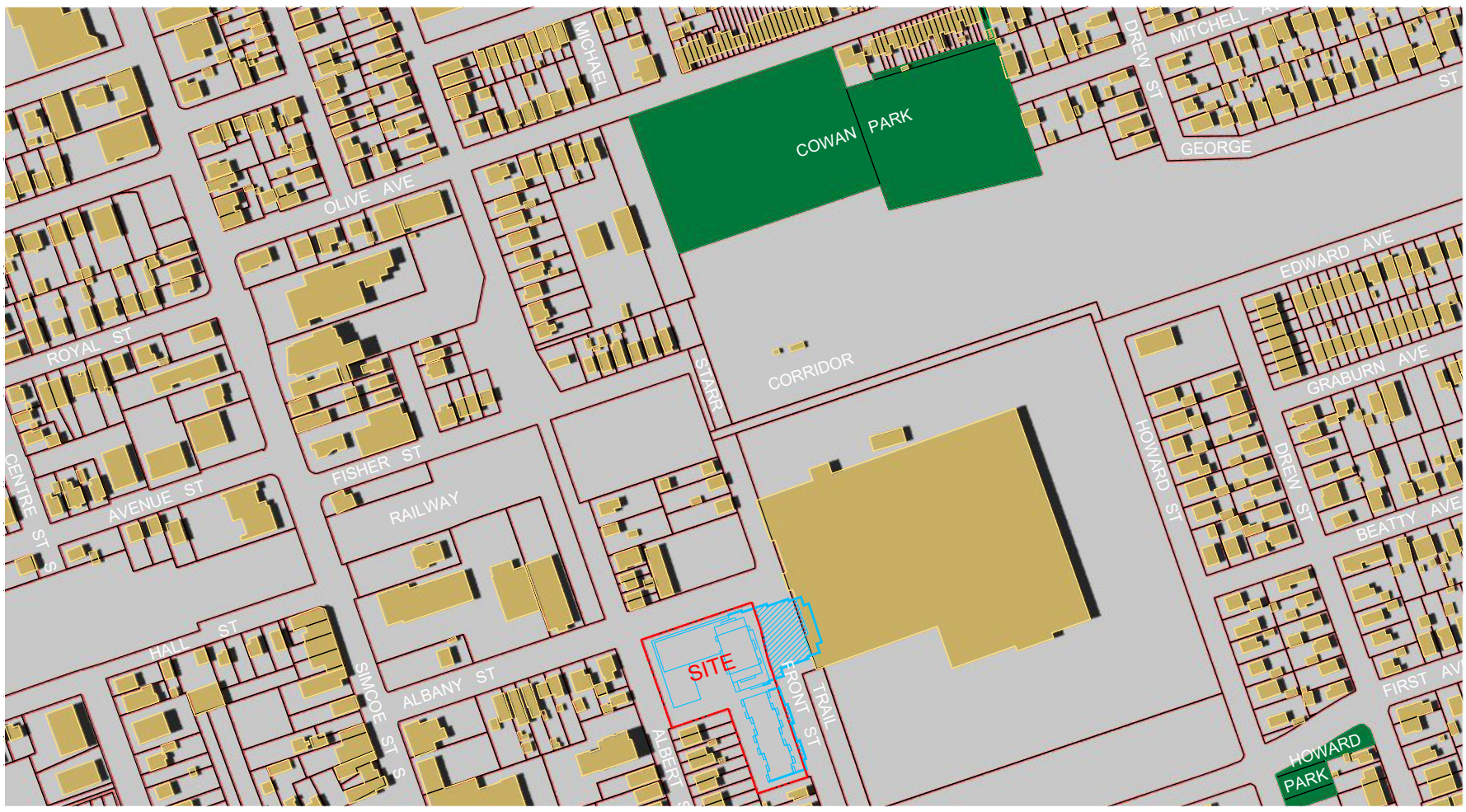
Calculated by:	RB	Project:	S21026	Drawing No.:
Drawn by:	RB	Scale:	1 : 4000	SS-10
Checked by:	RB	Date:	MAR 22/22	



JUN 21

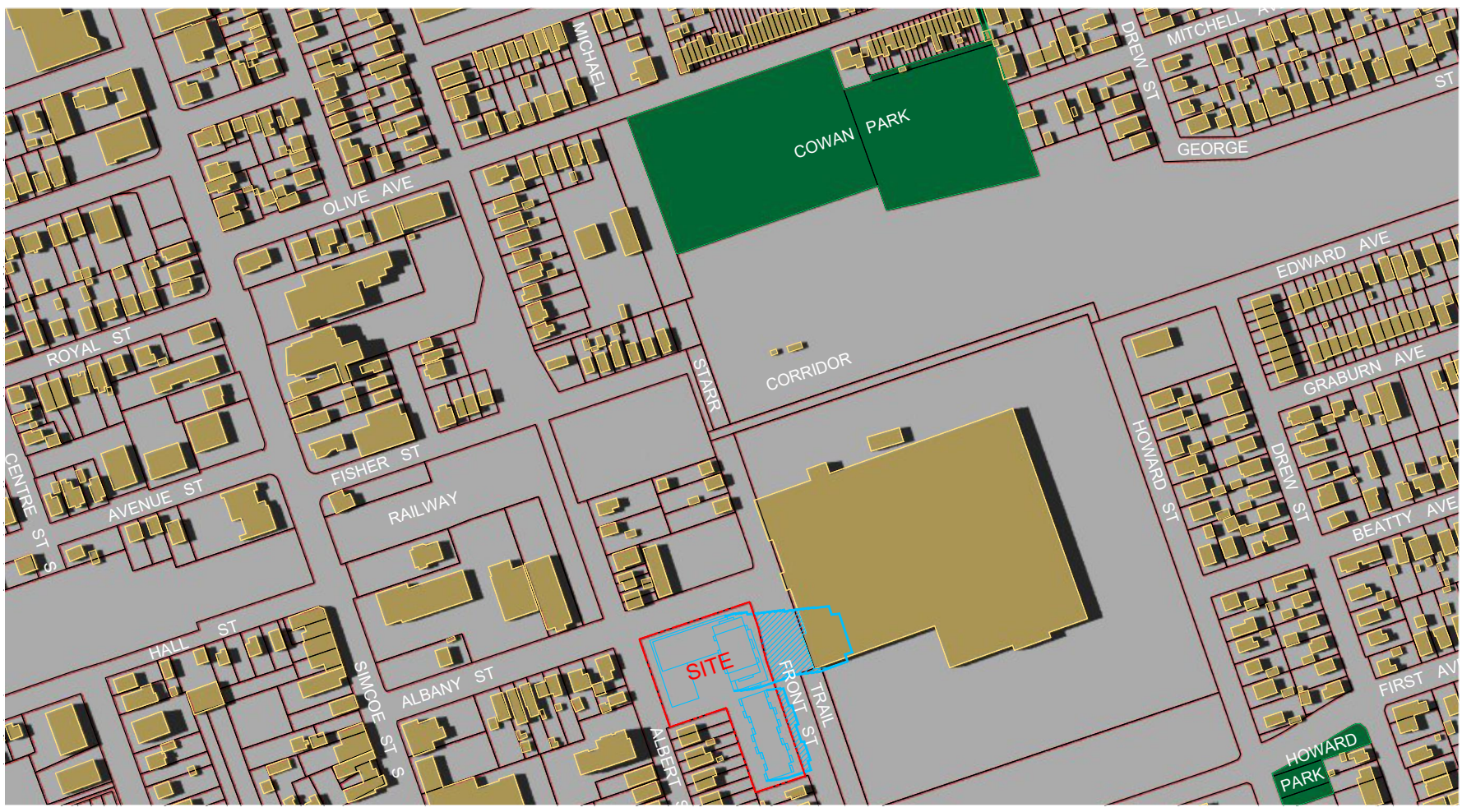
4:00 PM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



JUN 21

5:00 PM

1.4865°
True North

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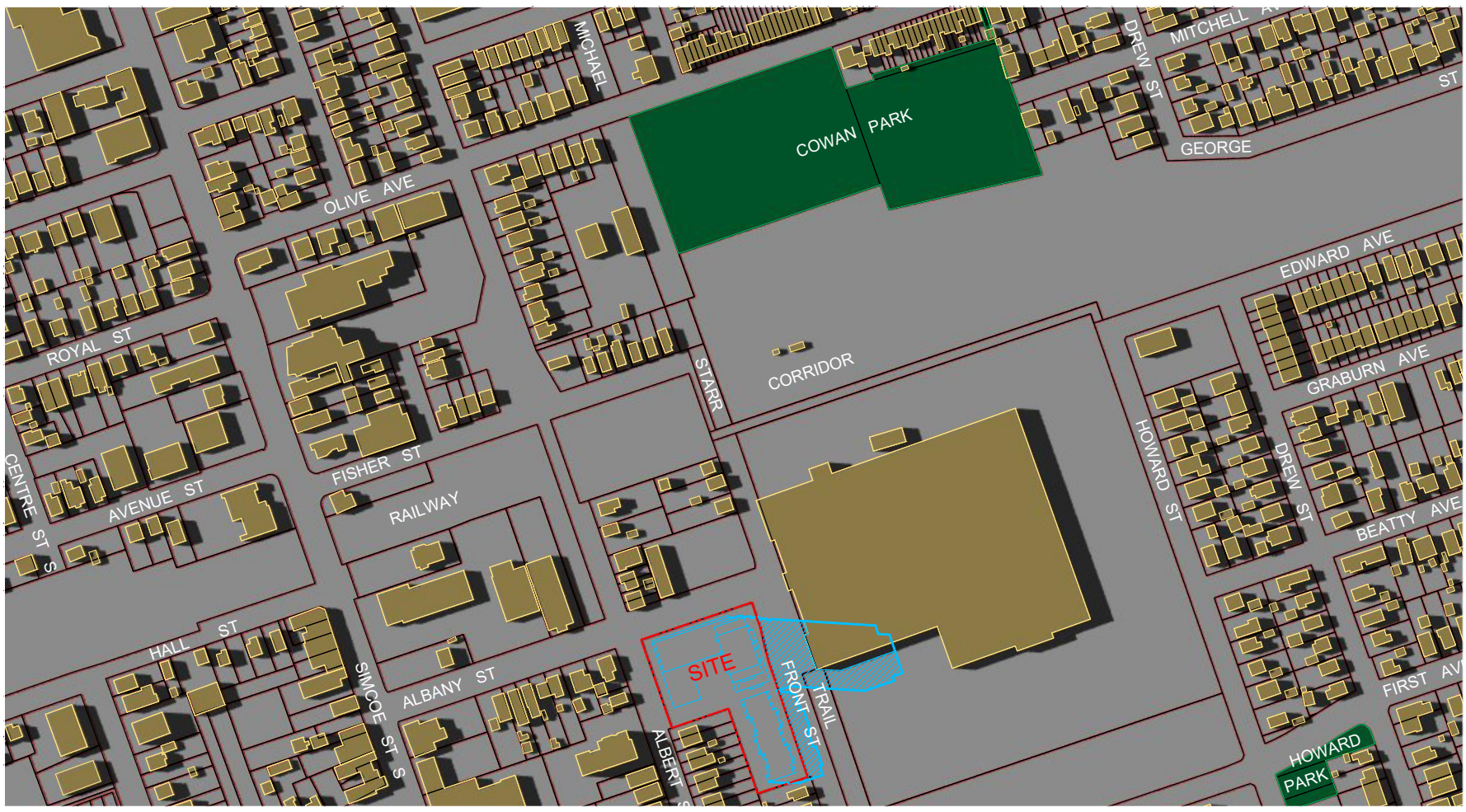
R. BOUWMEESTER & ASSOCIATES
Sun & Shadow Position Specialists
165 Browning Trail, Barrie ON Tel/Fax (705) 726-3392
Web: www.sunposition.com Email: rba@sunposition.com

Calculated by:	RB	Project:	S21026	Drawing No.: SS-11
Drawn by:	RB	Scale:	1 : 4000	
Checked by:	RB	Date:	MAR 22/22	



JUN 21

6:00 PM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000

1.4865°
True North

SUN / SHADOW STUDY

Proposed Residential Development

63 Albany Street

Albany Street Investments Ltd.

City of Oshawa

R. BOUWMEESTER & ASSOCIATES
Sun & Shadow Position Specialists
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Calculated by:	RB	Project:	S21026	Drawing No.: SS-12
Drawn by:	RB	Scale:	1 : 4000	
Checked by:	RB	Date:	MAR 22/22	

SEP 21

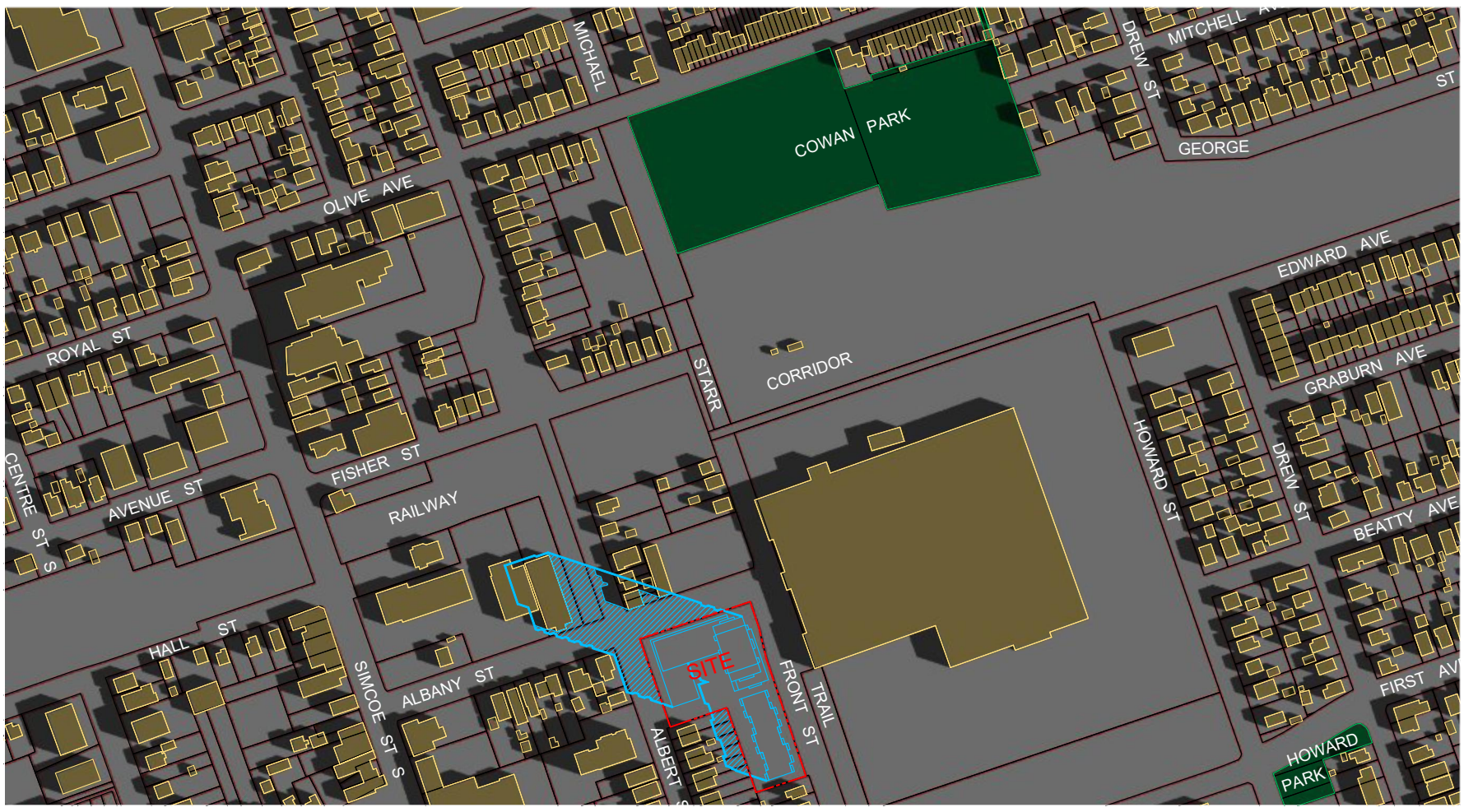
8:00 AM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



SEP 21

9:00 AM

1.4865°
True North

SUN / SHADOW STUDY

Proposed Residential Development

63 Albany Street

Albany Street Investments Ltd.

City of Oshawa

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Calculated by:	RB	Project:	S21026	Drawing No.: SS-13
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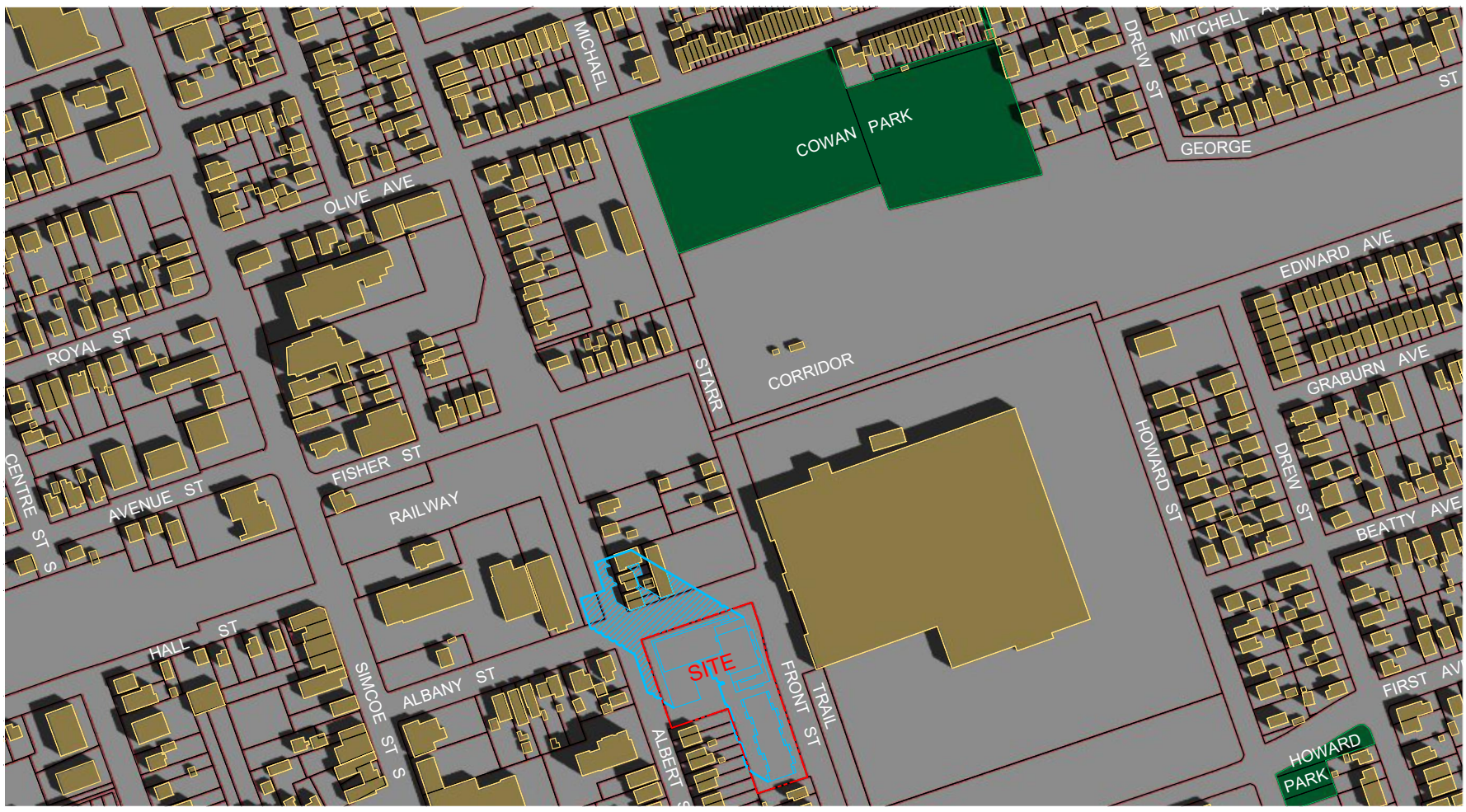
Checked by:	RB	Date:	MAR 22/22	



SEP 21

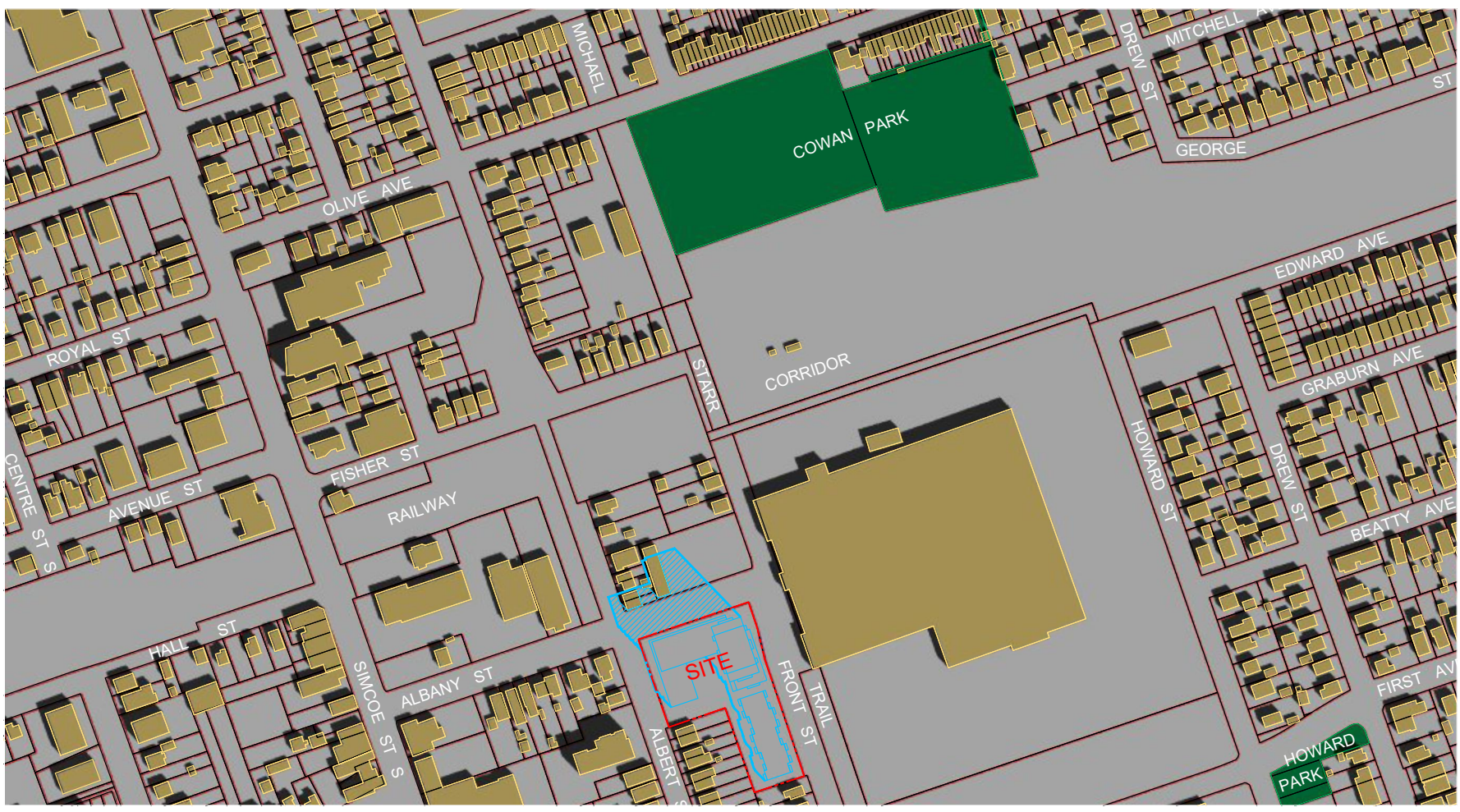
10:00 AM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



SEP 21

11:00 AM

1.4865°
True North

SUN / SHADOW STUDY

Proposed Residential Development

63 Albany Street

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City of Oshawa

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Calculated by:	RB	Project:	S21026	Drawing No.: SS-14
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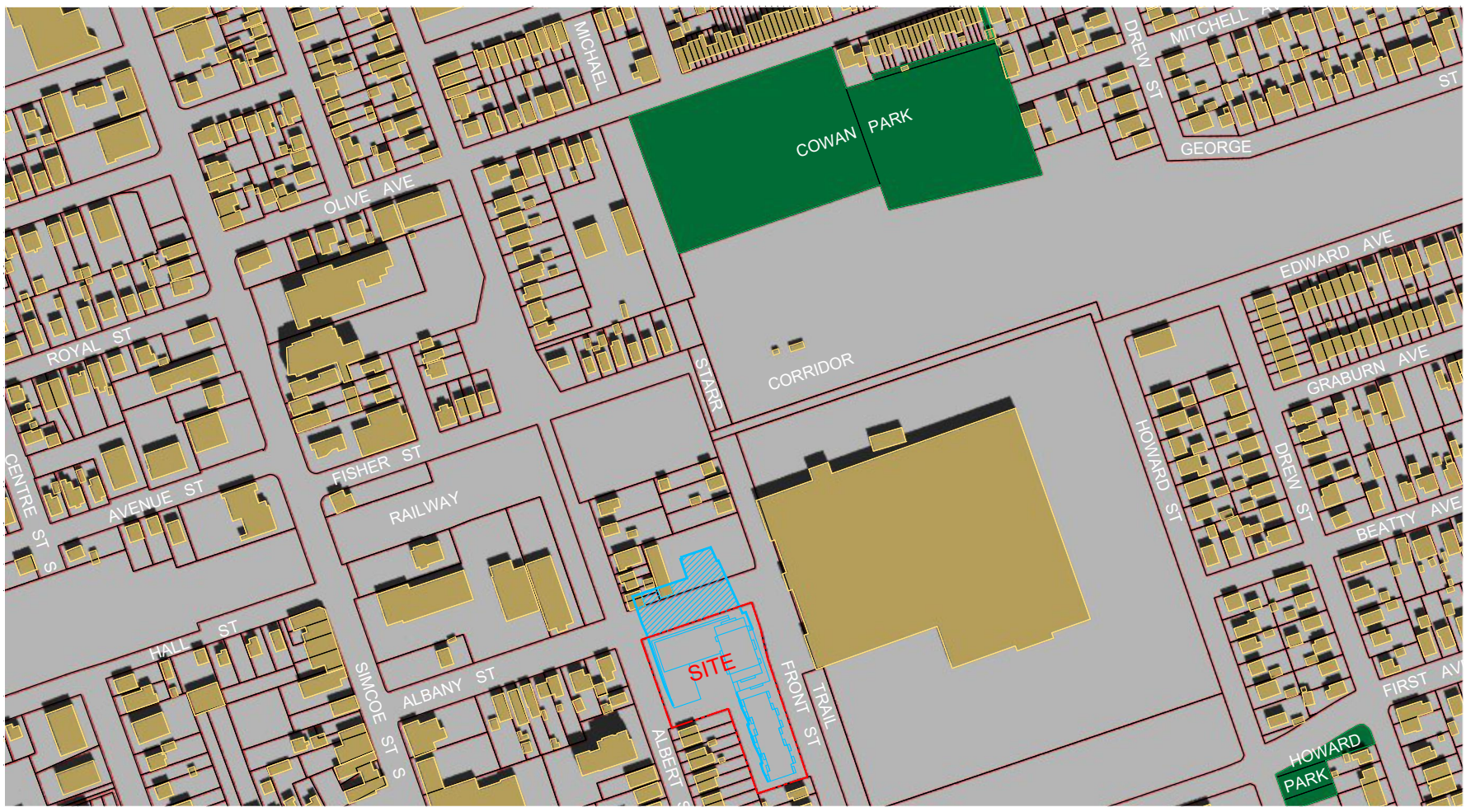
Checked by:	RB	Date:	MAR 22/22	



SEP 21

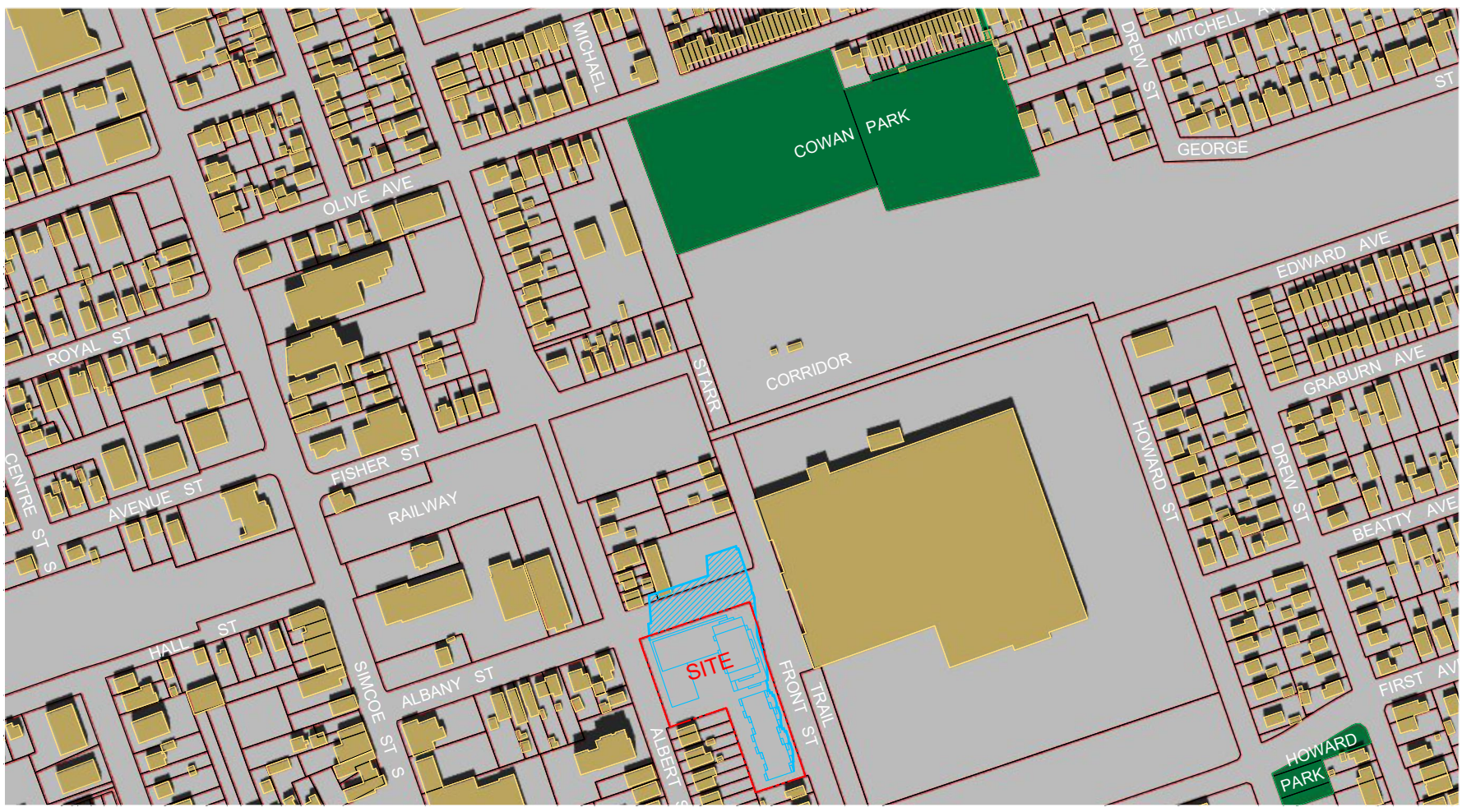
12:00 PM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



SEP 21

1:00 PM

1.4865°
True North

SUN / SHADOW STUDY

Proposed Residential Development

63 Albany Street

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City of Oshawa

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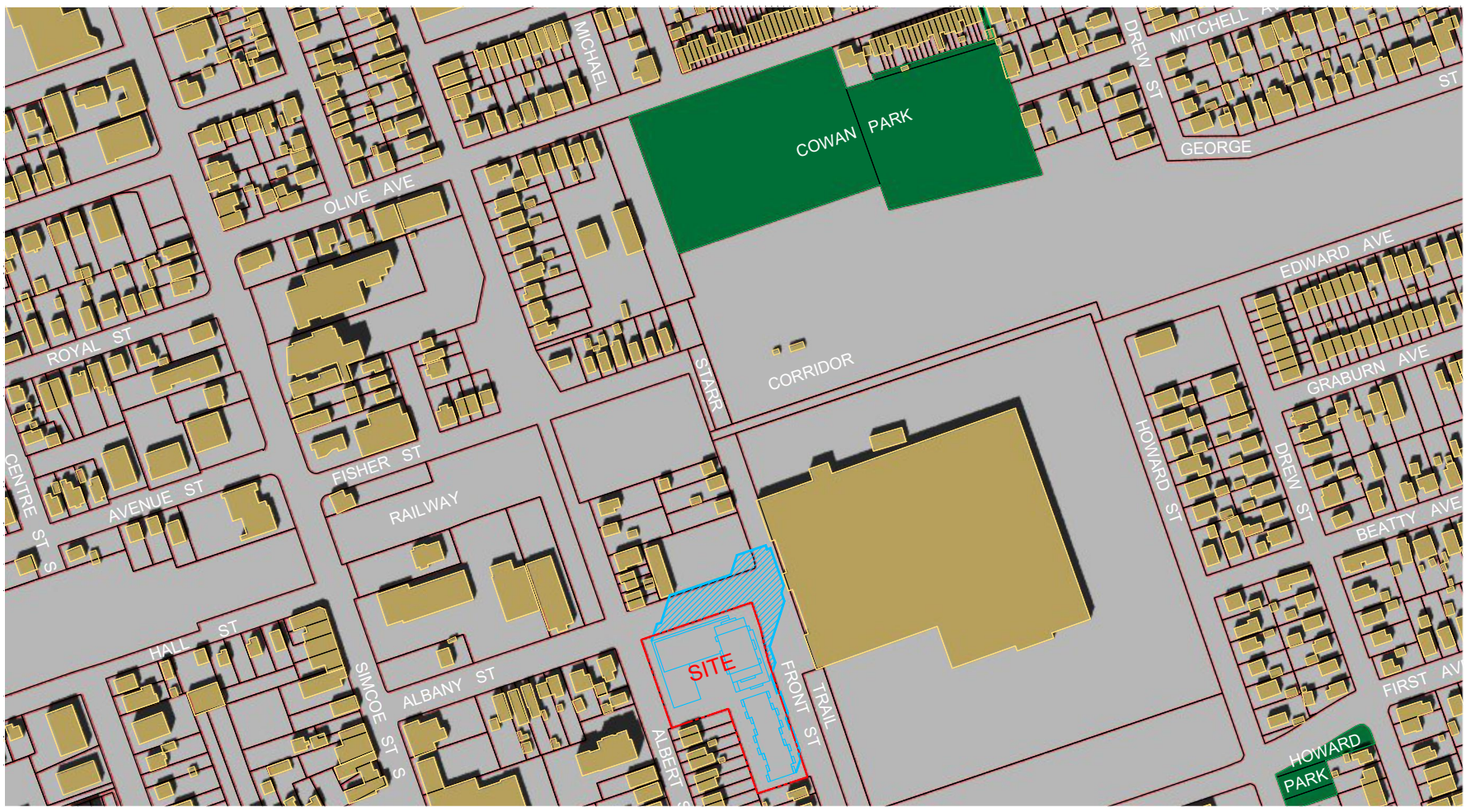
Calculated by:	RB	Project:	S21026	Drawing No.: SS-15
Drawn by:	RB	Scale:	1 : 4000	
Checked by:	RB	Date:	MAR 22/22	



SEP 21

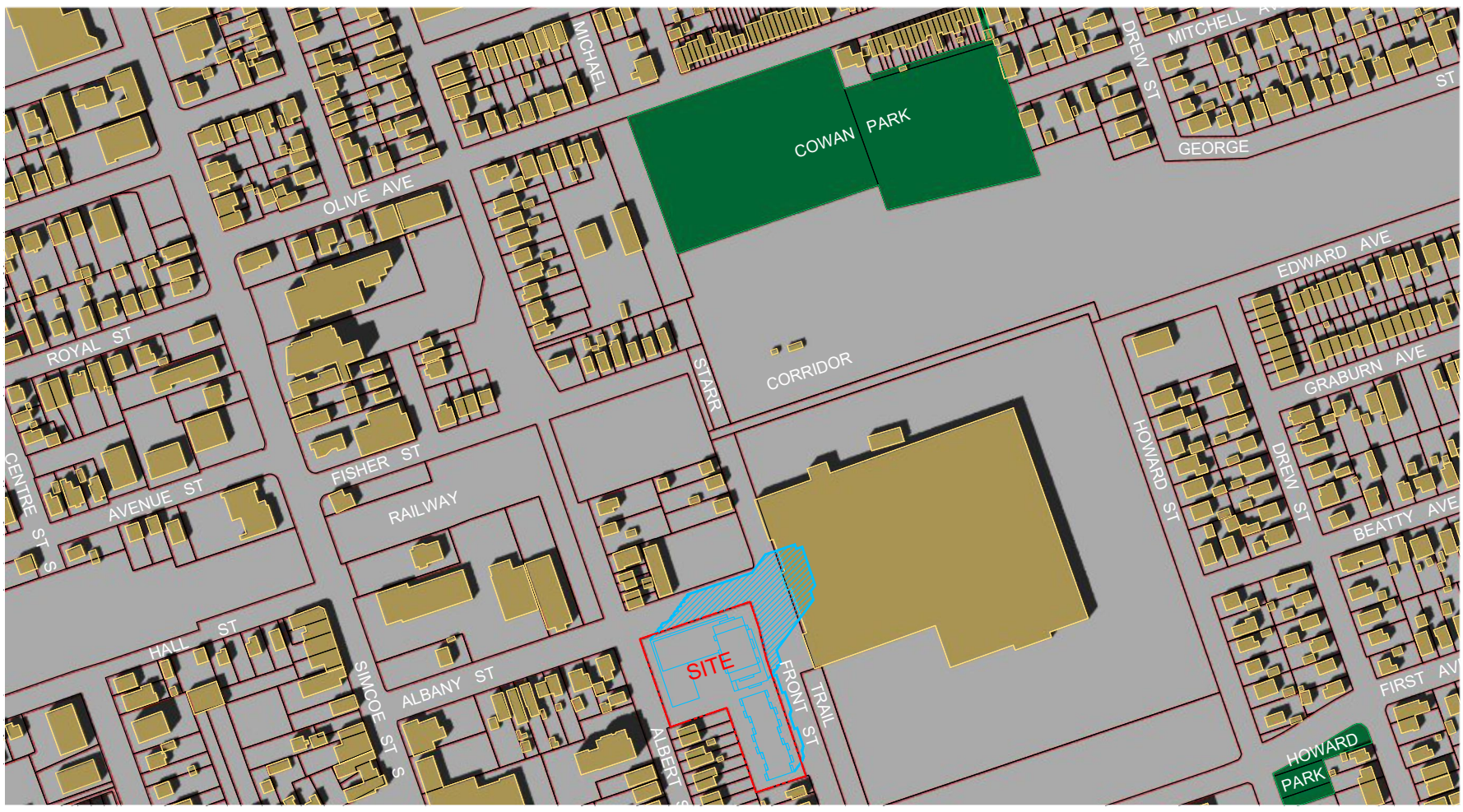
2:00 PM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



SEP 21

3:00 PM

1.4865°
True North

SUN / SHADOW STUDY

Proposed Residential Development

63 Albany Street

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City of Oshawa

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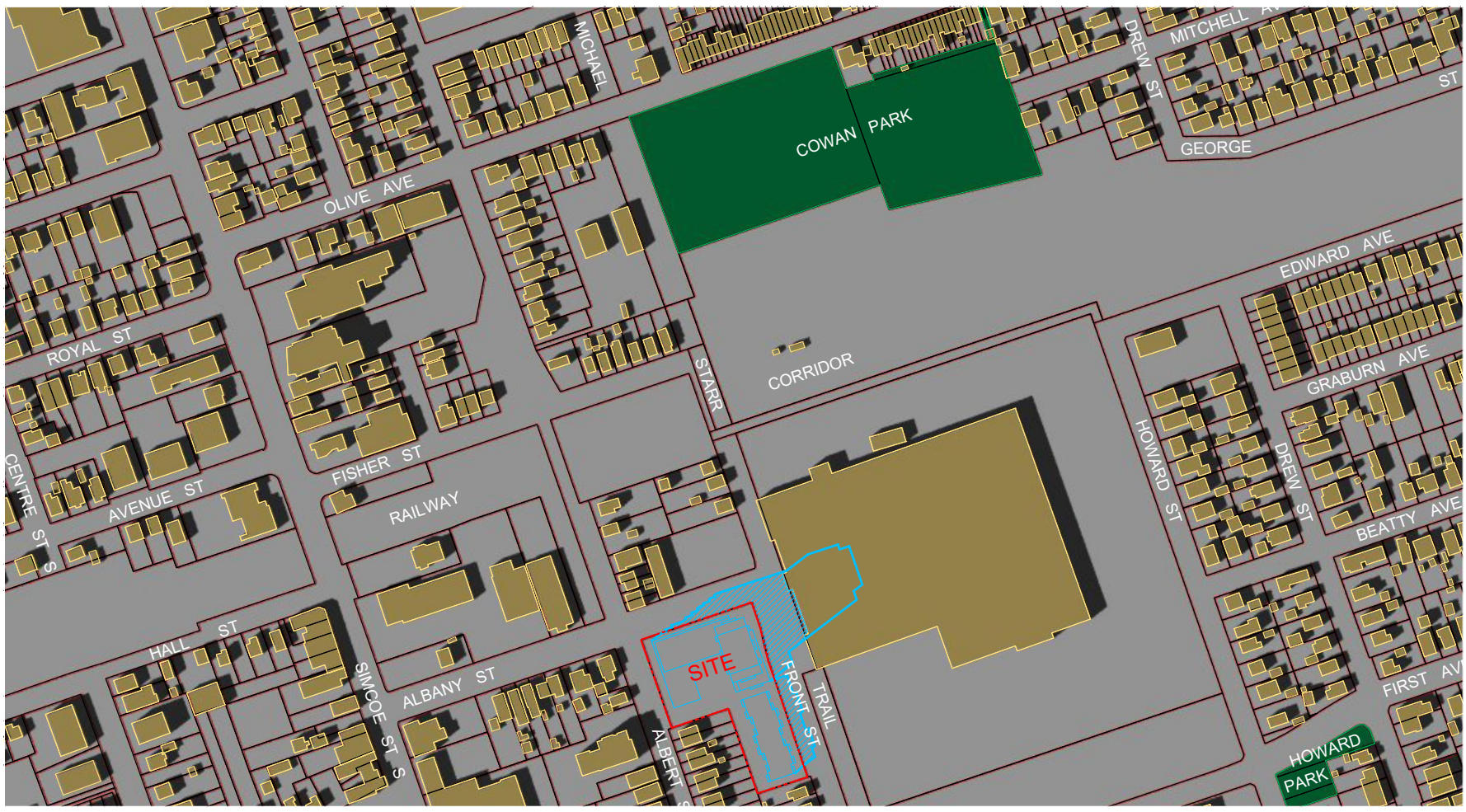
Calculated by:	RB	Project:	S21026	Drawing No.: SS-16
Drawn by:	RB	Scale:	1 : 4000	
Checked by:	RB	Date:	MAR 22/22	



SEP 21

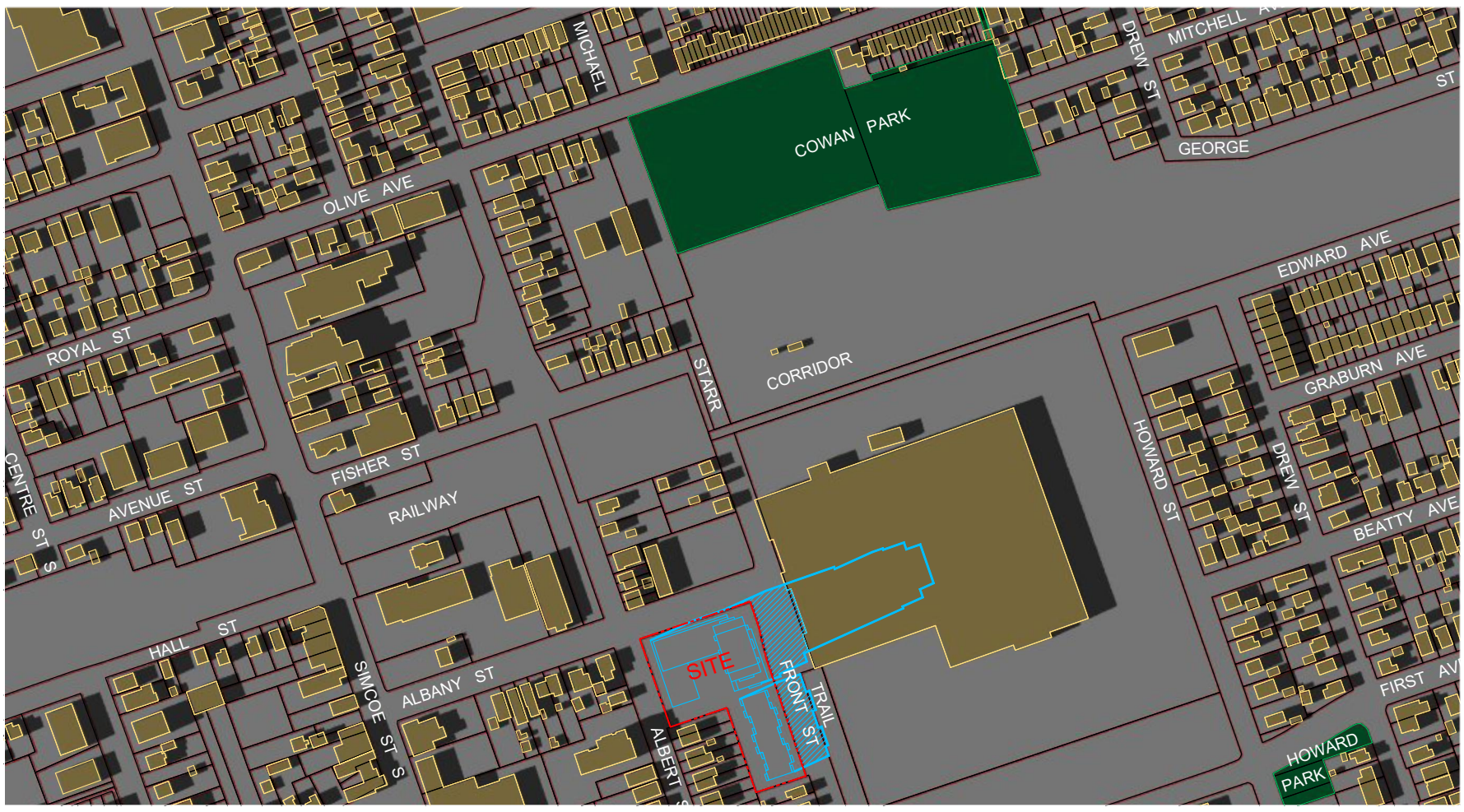
4:00 PM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



SEP 21

5:00 PM

1.4865°
True North

SUN / SHADOW STUDY

Proposed Residential Development

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City of Oshawa

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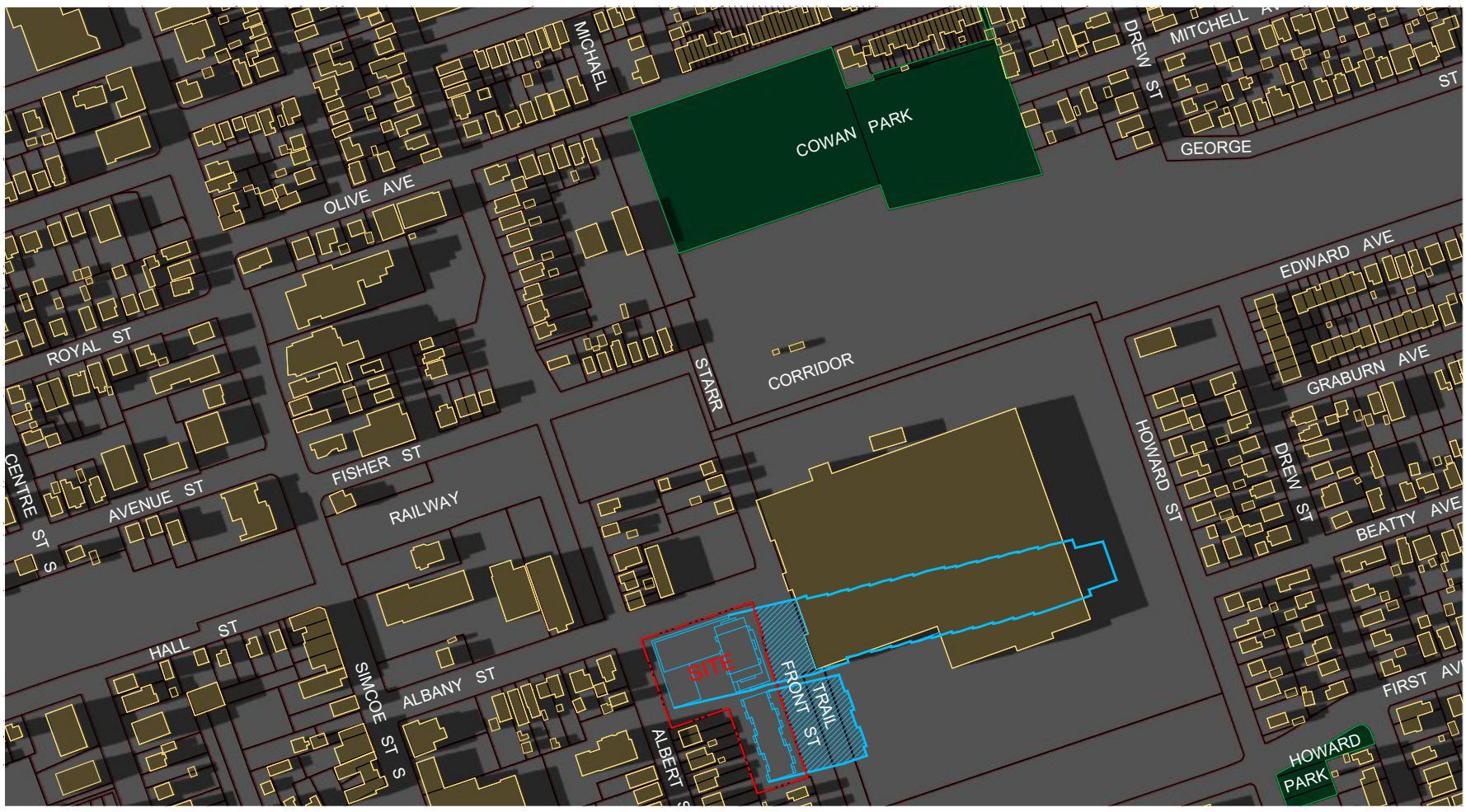
Calculated by:	RB	Project:	S21026	Drawing No.: SS-17
Drawn by:	RB	Scale:	1 : 4000	
Checked by:	RB	Date:	MAR 22/22	



SEP 21

6:00 PM

ALL TIMES IN EDT

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000

1.4865°
True North

SUN / SHADOW STUDY

Proposed Residential Development

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Calculated by:	RB	Project:	S21026	Drawing No.: SS-18
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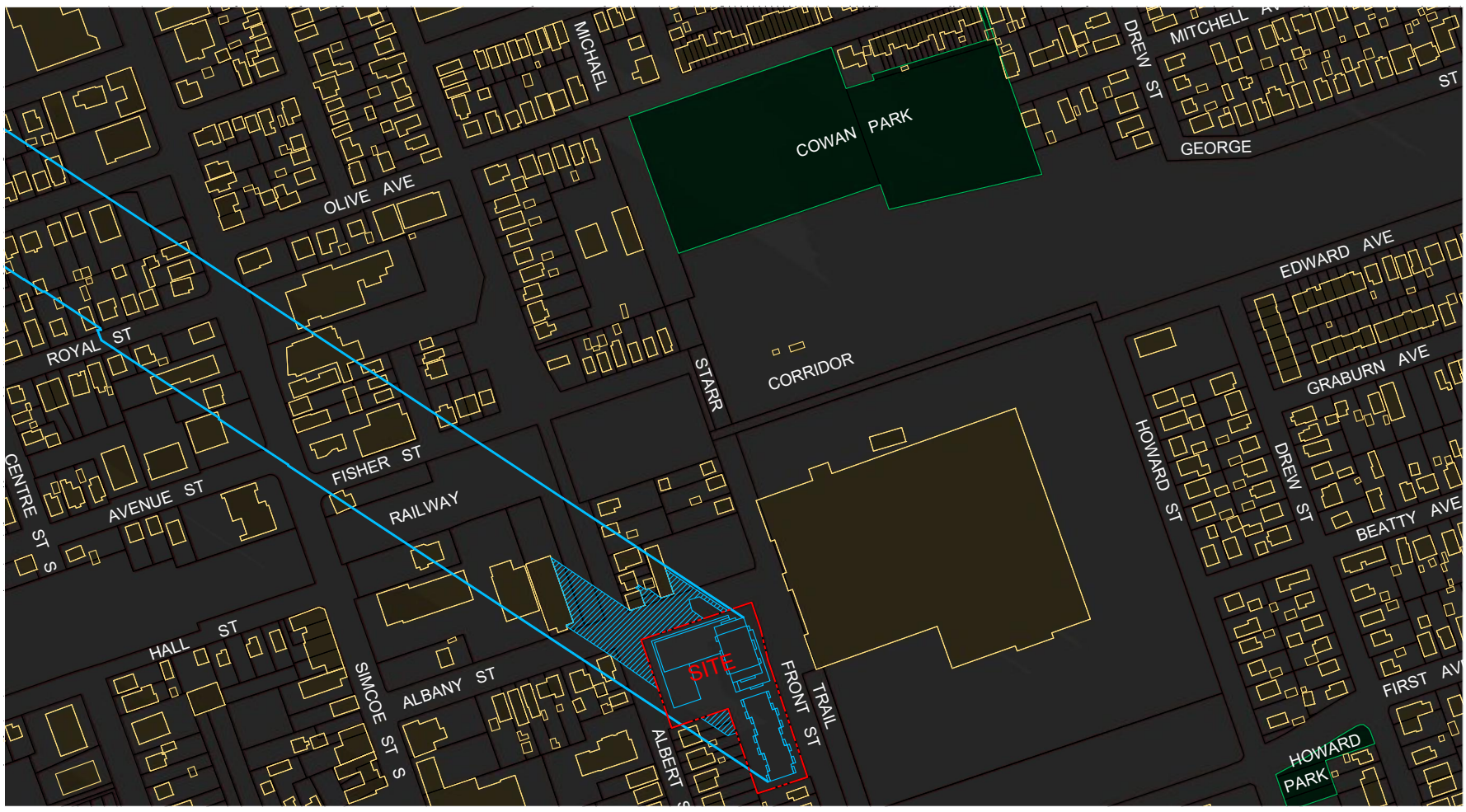
Checked by:	RB	Date:	MAR 22/22	



DEC 21

8:00 AM

ALL TIMES IN EST

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000

DEC 21

9:00 AM

1.4865°
True North

SUN / SHADOW STUDY

Proposed Residential Development

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Calculated by:	RB	Project:	S21026	Drawing No.:
Drawn by:	RB	Scale:	1 : 4000	SS-19
Checked by:	RB	Date:	MAR 22/22	

DEC 21

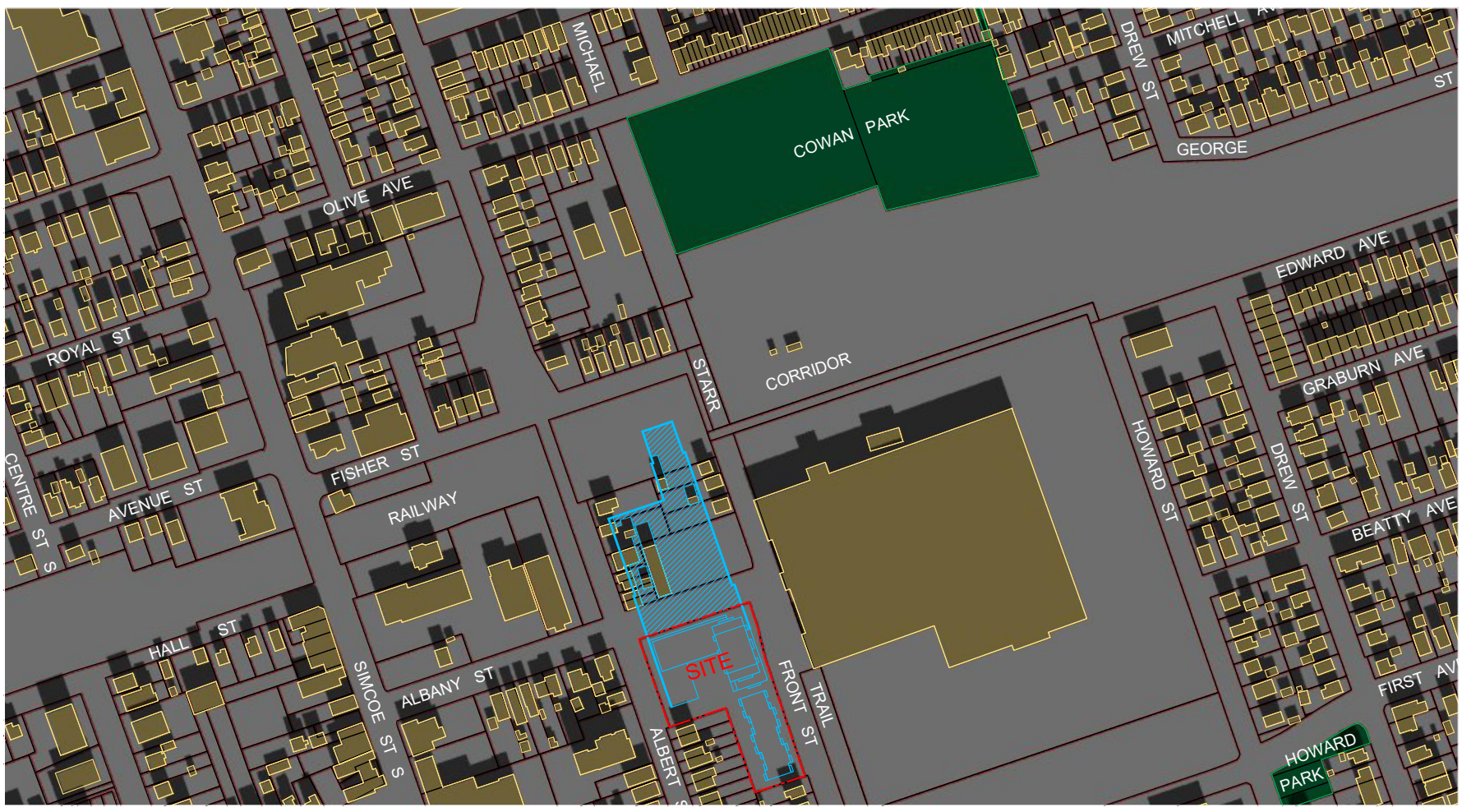
10:00 AM

ALL TIMES IN EST

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



DEC 21

11:00 AM

1.4865°
True North

SUN / SHADOW STUDY

Proposed Residential Development

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Calculated by:	RB	Project:	S21026	Drawing No.: SS-20
Drawn by:	RB	Scale:	1 : 4000	
Checked by:	RB	Date:	MAR 22/22	

DEC 21

12:00 PM

ALL TIMES IN EST

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000

DEC 21

1:00 PM

1.4865°
True North

SUN / SHADOW STUDY

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Calculated by:	RB	Project:	S21026	Drawing No.: SS-21
Drawn by:	RB	Scale:	1 : 4000	
Checked by:	RB	Date:	MAR 22/22	

DEC 21

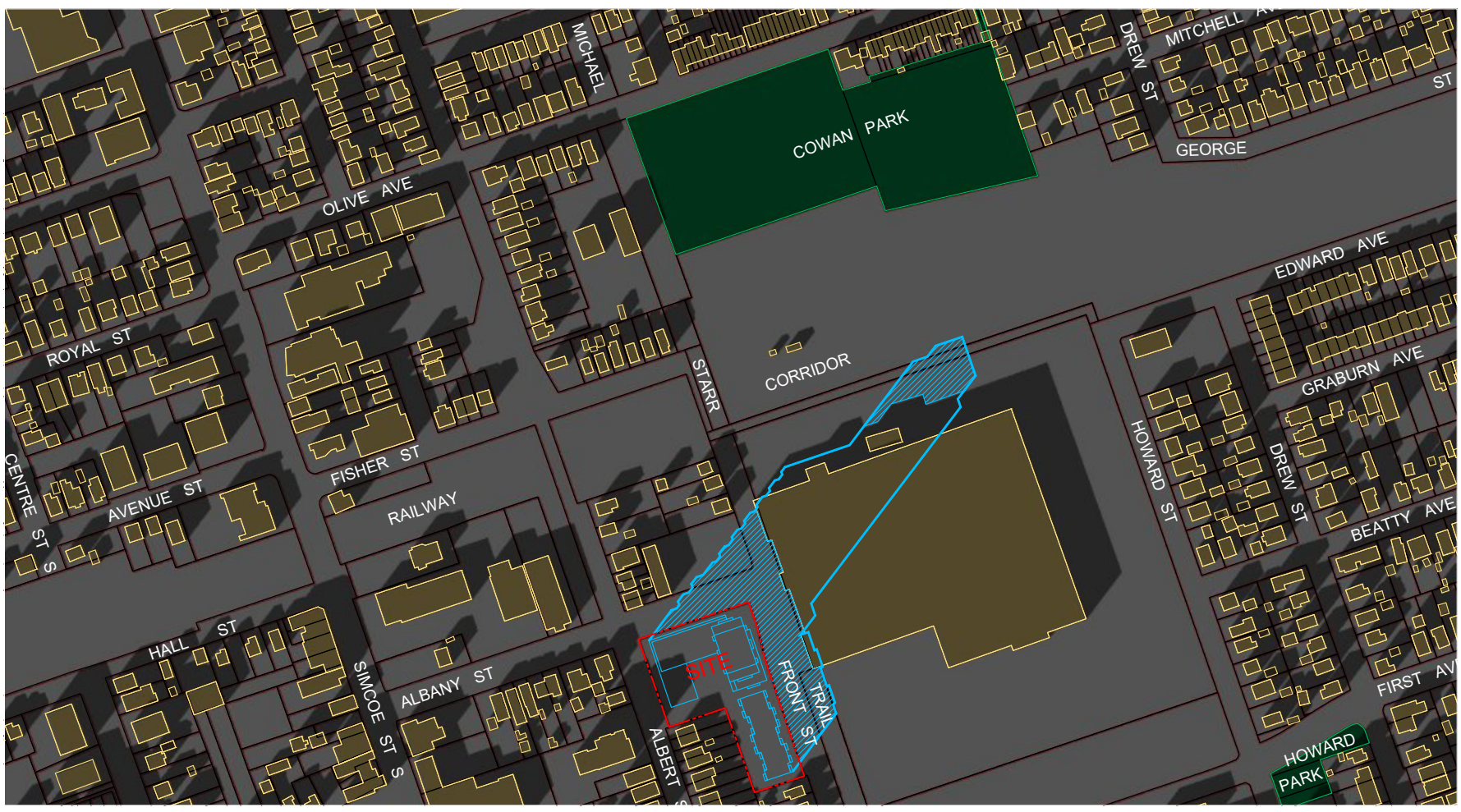
2:00 PM

ALL TIMES IN EST

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000



DEC 21

3:00 PM

1.4865°
True North

SUN / SHADOW STUDY

Proposed Residential Development

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City of Oshawa

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Calculated by:	RB	Project:	S21026	Drawing No.: SS-22
Drawn by:	RB	Scale:	1 : 4000	
Checked by:	RB	Date:	MAR 22/22	

DEC 21

4:00 PM

ALL TIMES IN EST

PROPOSED SHADOW

INCREMENTAL GROUND LEVEL SHADOW
(BEYOND PROPERTY LINE)

0 20 100 200
SCALE 1 : 4000

1.4865°
True North

SUN / SHADOW STUDY

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Calculated by:	RB	Project:	S21026	Drawing No.: SS-23
Drawn by:	RB	Scale:	1 : 4000	
Checked by:	RB	Date:	MAR 22/22	