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SHADOW IMPACT ANALYSIS

PROPOSED DEVELOPMENT

**4 Storey Condominium
655, Hurontario St.,
COLLINGWOOD, Ontario**

TFA FILE # 16-29

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SHADOW STUDY ANALYSIS

655 Hurontario Street, Collingwood, Ontario

1.0 SCOPE OF WORK

We have been requested to prepare this Shadow Study Analysis as requested by the Planning Dept. Town of Collingwood for the proposed 50 Unit Apartment Project at 655 Hurontario Street, Collingwood for the current Site Plan Approval Application.

This Shadow Study investigates the impact of shadows anticipated to be cast by the proposed building over the surrounding area including the adjacent properties, streets, and public spaces. We will also discuss and comment upon the impact of the massing of the proposed development upon the adjacent properties

2.0 PROPOSED DEVELOPMENT

The applicant is proposing to construct one “L” shaped four (4) storey apartment building at the property municipally known as 655 Hurontario Street in the Town of Collingwood. In total, the Development is proposed to include 50 residential units. The subject land has been vacant for a long time and is zoned R4-2 which allows the Proposed Use.

In designing the project we were careful to arrange the building envelope to minimise shading on to adjoining properties. The major part of the allowable four storey building was placed as close to Hurontario Street as front yard setbacks allowed to minimise shading to properties to the east of the subject site. In addition this part of the building presented the narrow part of the building to the northern boundary and set it back some 13.23m (43.4ft) from the property line. The amount of shadowing would be far less than a 2 storey building set at the minimum side yard setback on the subject site. It should be noted that the zoning north of the subject site is C4- Commercial.

Finally the smaller east/west wing of the building close to Lockhart Rd. was designed to minimize shading on to neighbouring properties on the east side of the property, by not only presenting the narrow portion of the building, but also setting it back 7.6m (25') from the eastern property line. In addition, in response to the Town of Collingwood's request that we delete the 2 (two) 4th floor apartments at the South-East corner of the Building the shadows have been lessened to the north and east of the building, particularly at the end of the day.

This Shadow Study demonstrates the effect of sun shadows from the proposed development on neighbouring properties. Again it should be noted that the shadows cast by the building on to the residential properties to the east of the site would be considerably less than would be cast by a 2 storey house set at the usual side yard setback on the subject site.

3.0 NEIGHBOURHOOD CONTEXT

The subject land is located on the south side of the Town of Collingwood opposite Collingwood Collegiate Institute on the East Side of Hurontario St.

East and South of the subject land exists residential subdivisions (R2) comprised primarily of single-detached residences. Immediately west of the subject lands, across Hurontario St. Collingwood Collegiate Institute (CS zoning) is located. North of the subject land is land zoned C4. Figure 1 in Appendix “B” illustrates the types of uses within close proximity to the site. Figure 2 in Appendix “B” shows the surrounding zoning.

4.0 STUDY CRITERIA AND METHODOLOGY

We have followed the Standards for Shadow Studies produced by the City of Mississauga as requested by the Town of Collingwood. A shadow analysis was undertaken for the following periods in accordance with those Standards:

- June 21
- September 21 (similar to March 21, and therefore, criteria for Sept. 21 are deemed to apply to March 21)
- December 21

It requires mapping of shadows at the following times on the above dates, at the following times:

- Solar Noon (SN)
- Hourly intervals before and after Solar Noon (SN), up to and including 1.5 hours after sunrise and 1.5 hours before sunset

Hourly solar data is to be specified for each date.

5.0 METHODOLOGY.

Computer modelling was performed using Vectorworks CAD 3D software. A computer model was prepared of the project superimposed on a map of the surrounding properties and “snapshots” were taken of the shadows created on June 21, September 21 (March 21) and December 21 at Solar Noon and hourly intervals before and after Solar Noon up to and including 1.5 hours after sunrise and 1.5 hours before sunset. Please note that the time and date of each snapshot is contained in the table on each diagram contained in Appendix “A”.

The study was done using the Latitude and Longitude of the Subject Site rather than that of Mississauga City Hall which is some distance away.

The Results are shown in Appendix “A”

6.0 SHADOW IMPACT ANALYSIS OF THE PROPOSED DEVELOPMENT

6.1 WINTER SOLSTICE SHADOWS:

DEC 21- Pages 1-5 of Appendix A

It should be noted that Winter Shadows are the “longest” in terms of the shadow length due to a very low sun angle, but shadows are present for the shortest period of time (hours in the day) due to very short days this time of year.

- * Early in the day shadows fall on Hurontario St and partially on the Commercial property to the north.
- * Toward mid-day the shadow only impacts part of the Commercial property to the north.
- * By 2pm shadows start to fall on the rear of the residential lots to the east of the site.
- * Near the end of daylight hours shadows fall on the rear of the residential properties to the east of the site.
- * No impact on properties to south of Lockhart Rd

6.2 SUMMER SOLSTICE SHADOWS:

JUN 21- Pages 6-12 of Appendix A

- * Early in the morning the shadow reaches across the full width of Hurontario St.
- * All shadowing stays on the property and no shadows reach any adjoining properties until 5pm when there is slight shadowing on the neighbouring property on Lockhart Rd.
- * Substantial shadowing of the rear yard of the adjoining property on Lockhart Rd does not occur until 7pm.
- * No impact on properties to south of Lockhart Rd

6.3 SPRING & FALL EQUINOX SHADOWS:

MARCH 21/SEPT 21- Pages 13-18 of Appendix A

It should be noted that at these times that the shadows are not as extensive as at the Winter Solstice nor as small as during the Summer Solstice when the shadows are less obtrusive when open areas will be more heavily used.

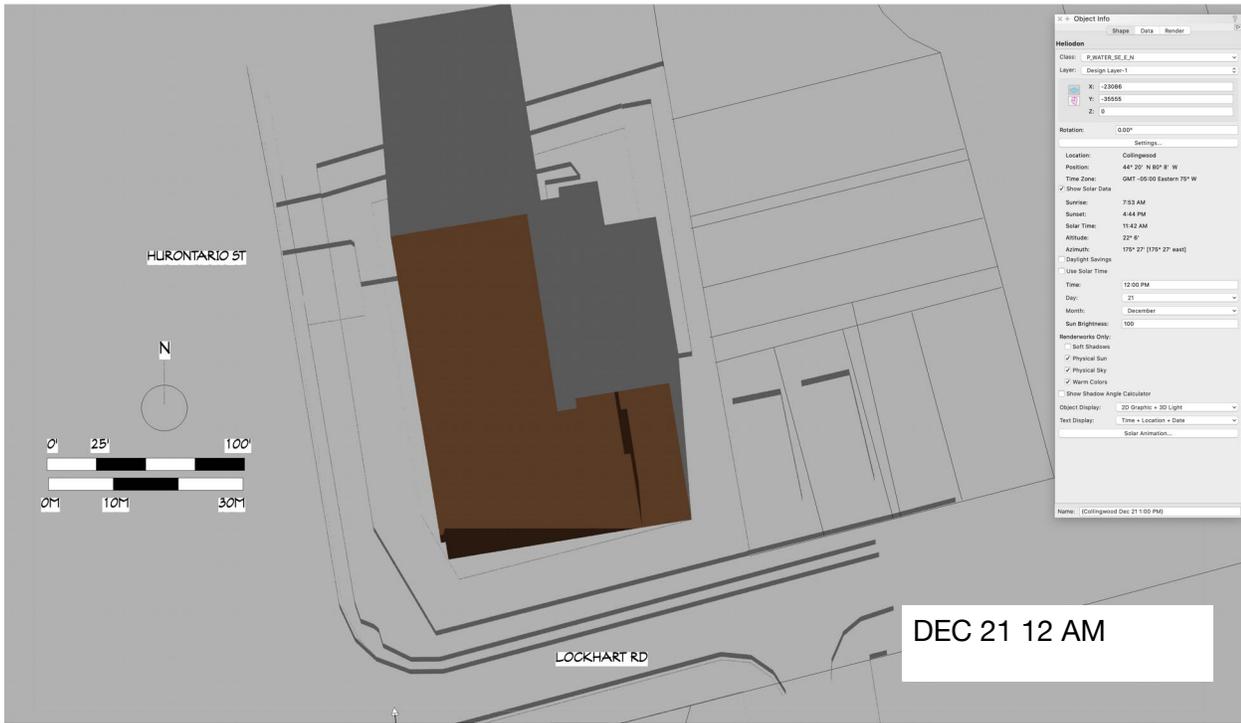
- * Early to mid-morning, shadowing is over the Hurontario St ROW.
- * Shadowing stays on the subject site until after 3pm.
- * At 4pm approximately one third of the adjacent property on Lockhart Rd. is shadowed and by 5pm this increases to approximately 75% Shadows cast during the fall (spring) will be greatest at 6 pm when the properties east of the site along Lockhart Rd. will be most affected, however the sun will be setting fast at this time.
- * No impact on properties to south of Lockhart Rd

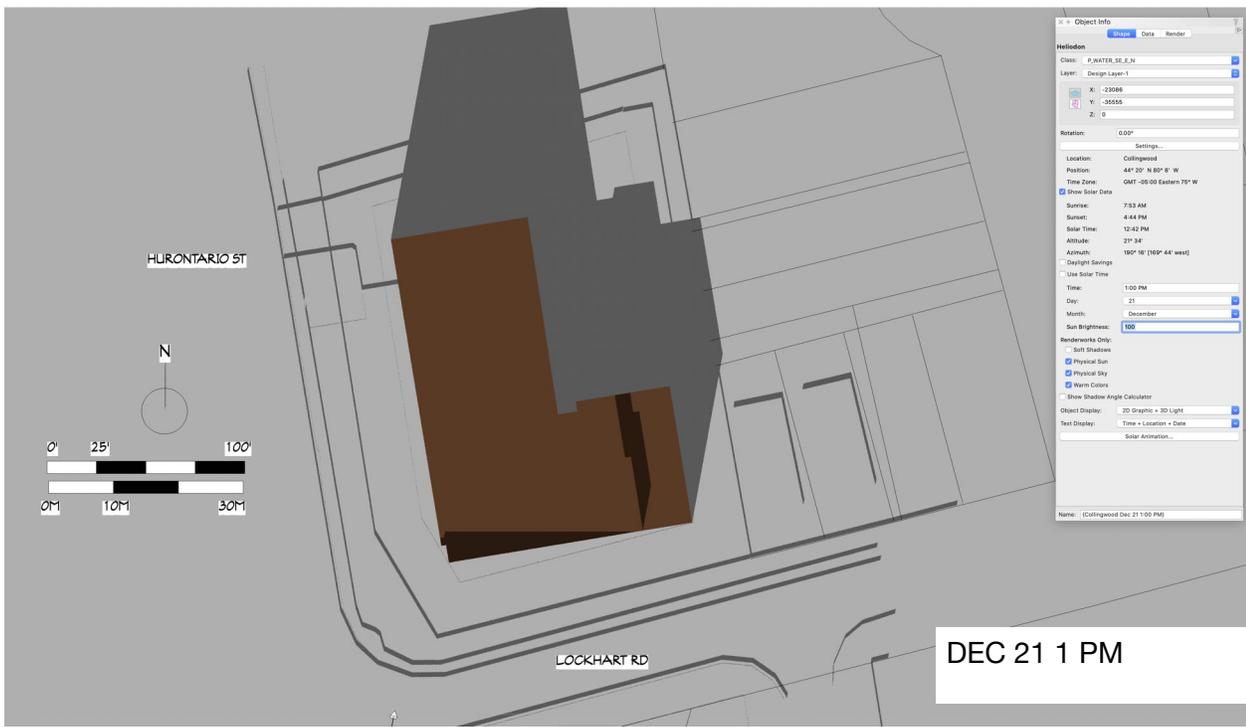
APPENDIX "A"

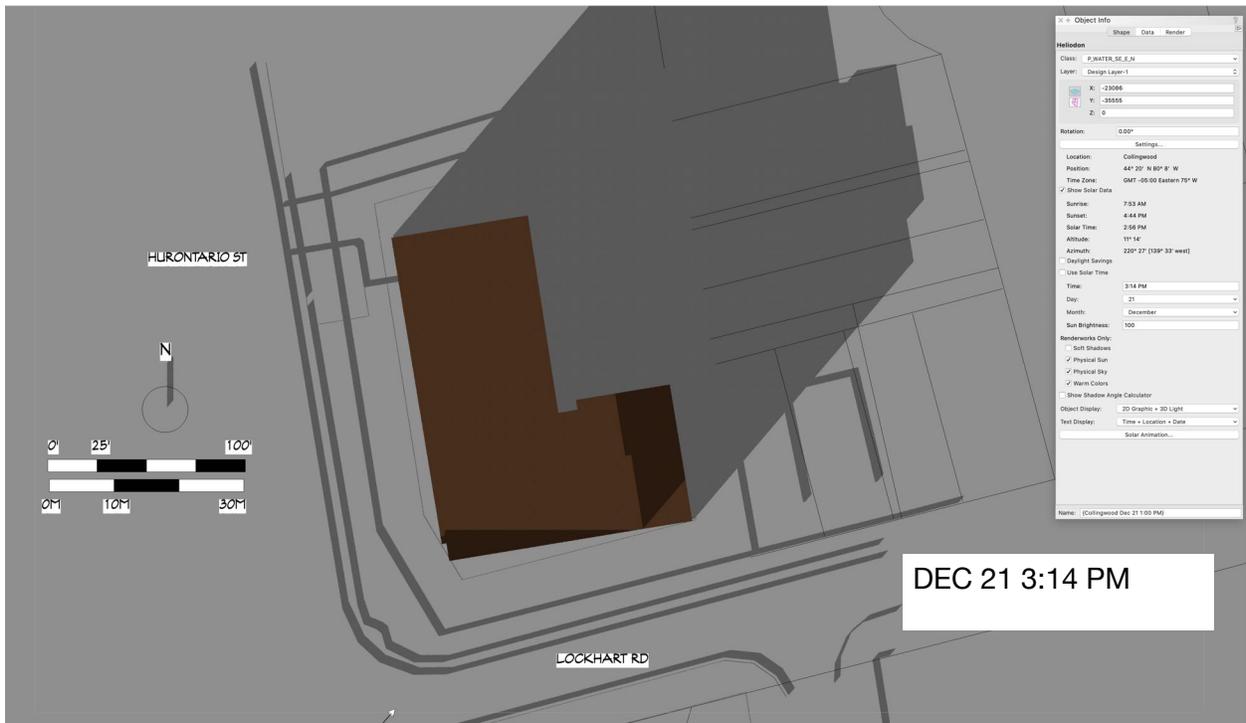
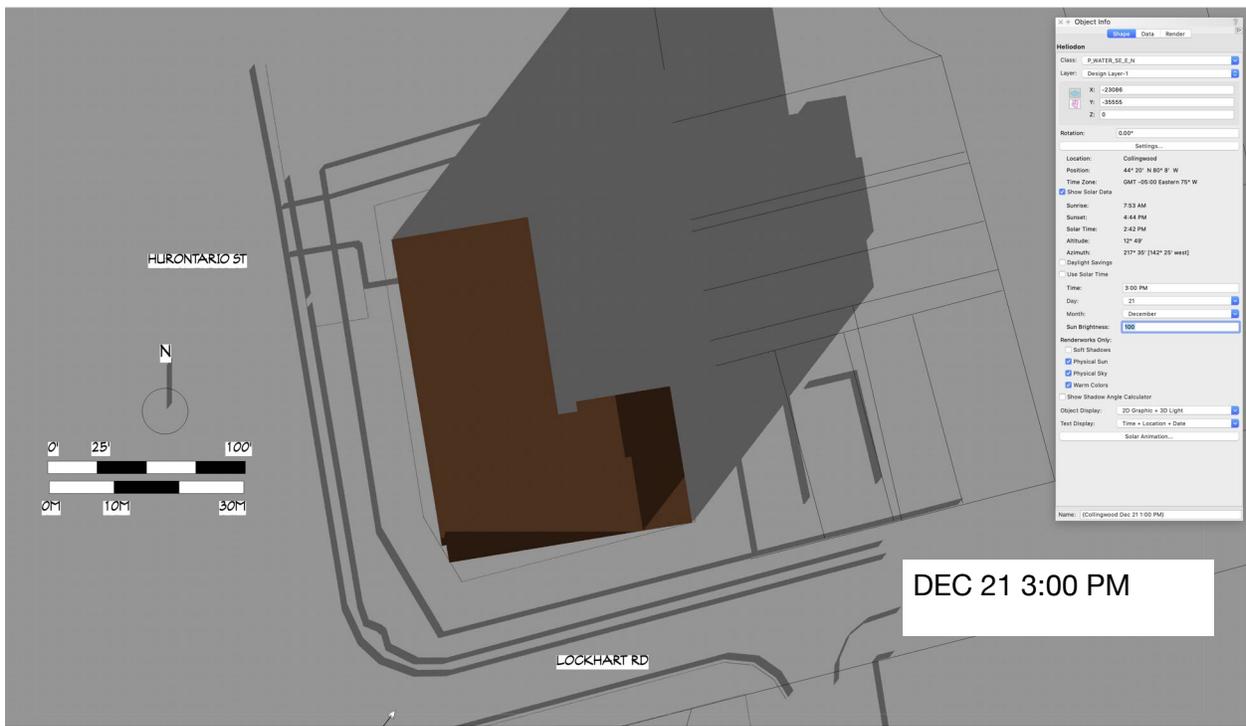
SOLAR STUDY:
JUN 21st, Pages 1-5
MAR/SEP 21st Pages 6-12
DEC 21st Pages 13-18



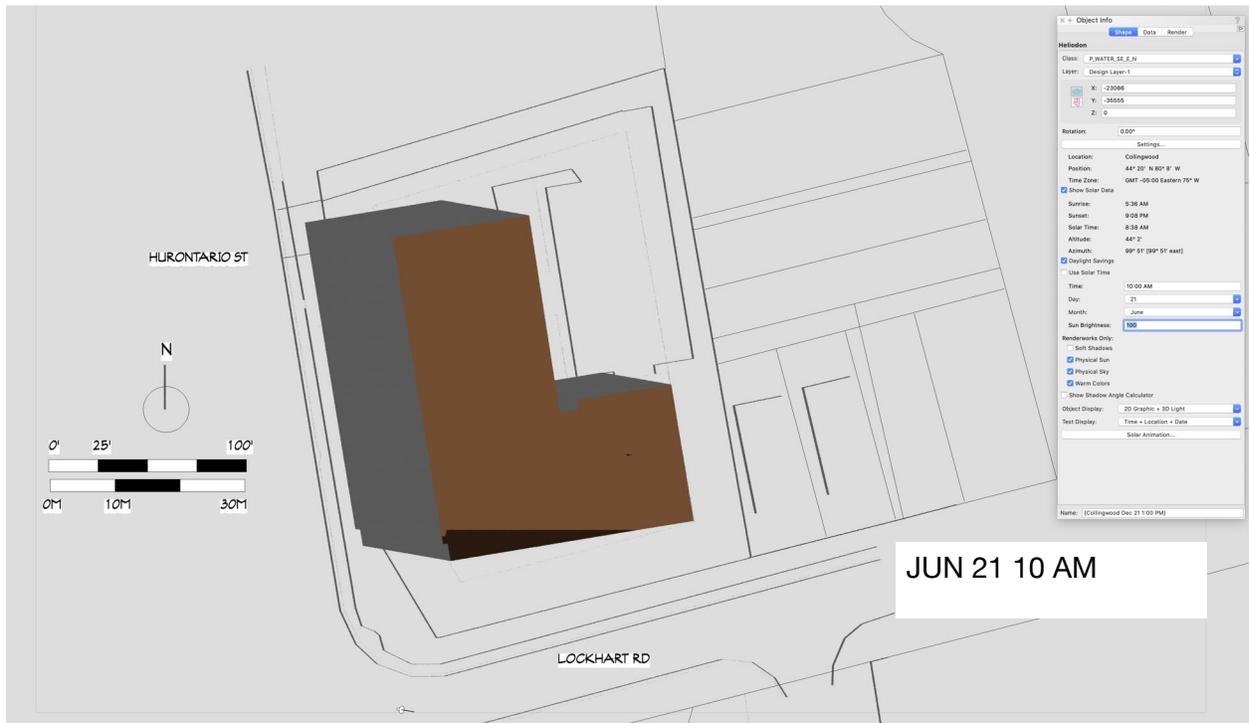


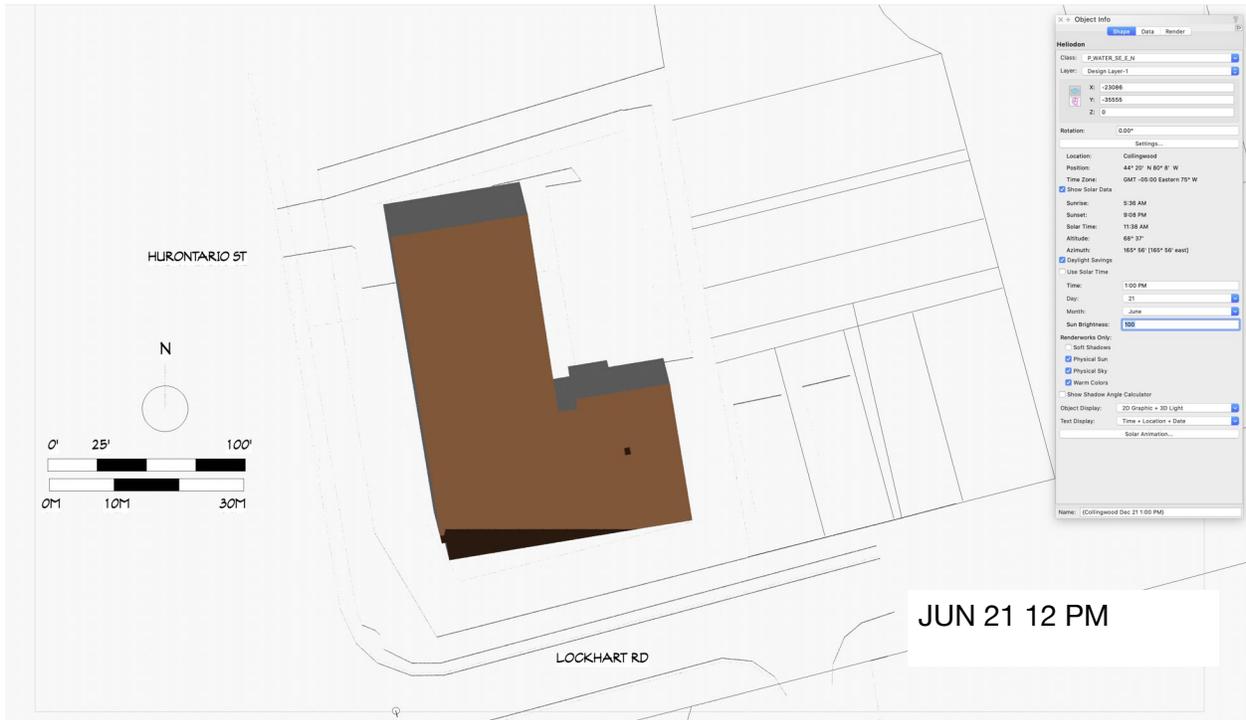
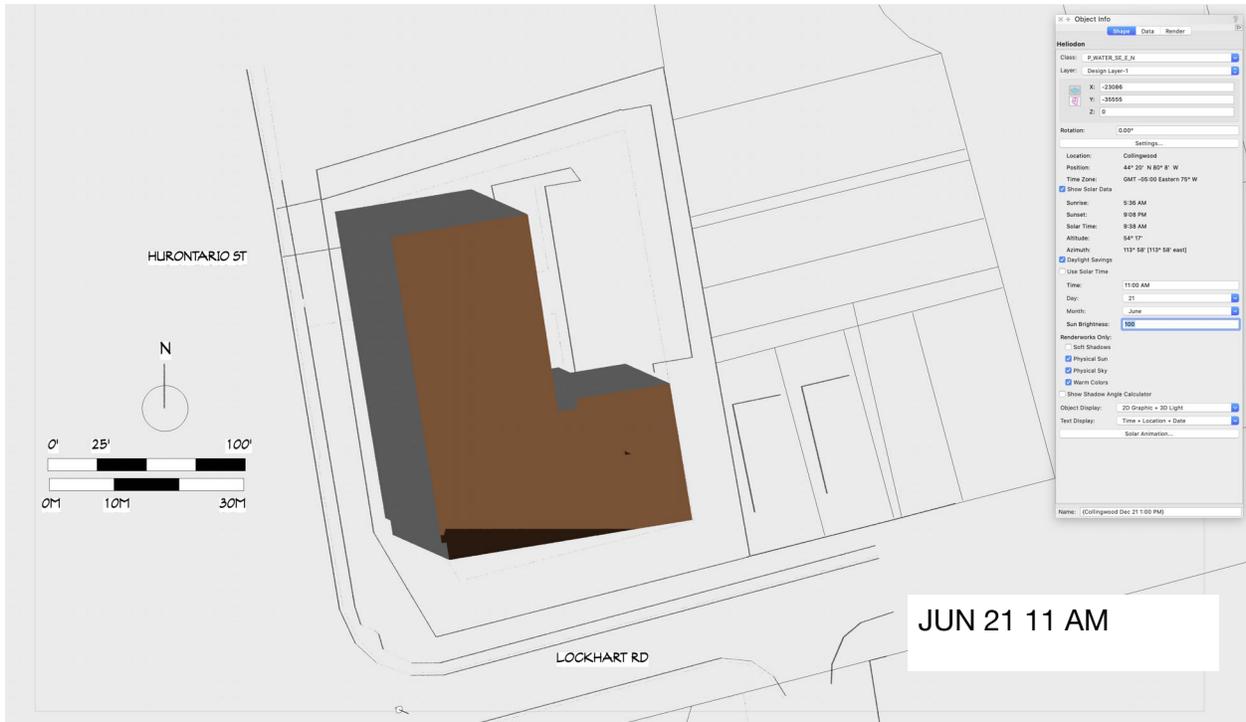


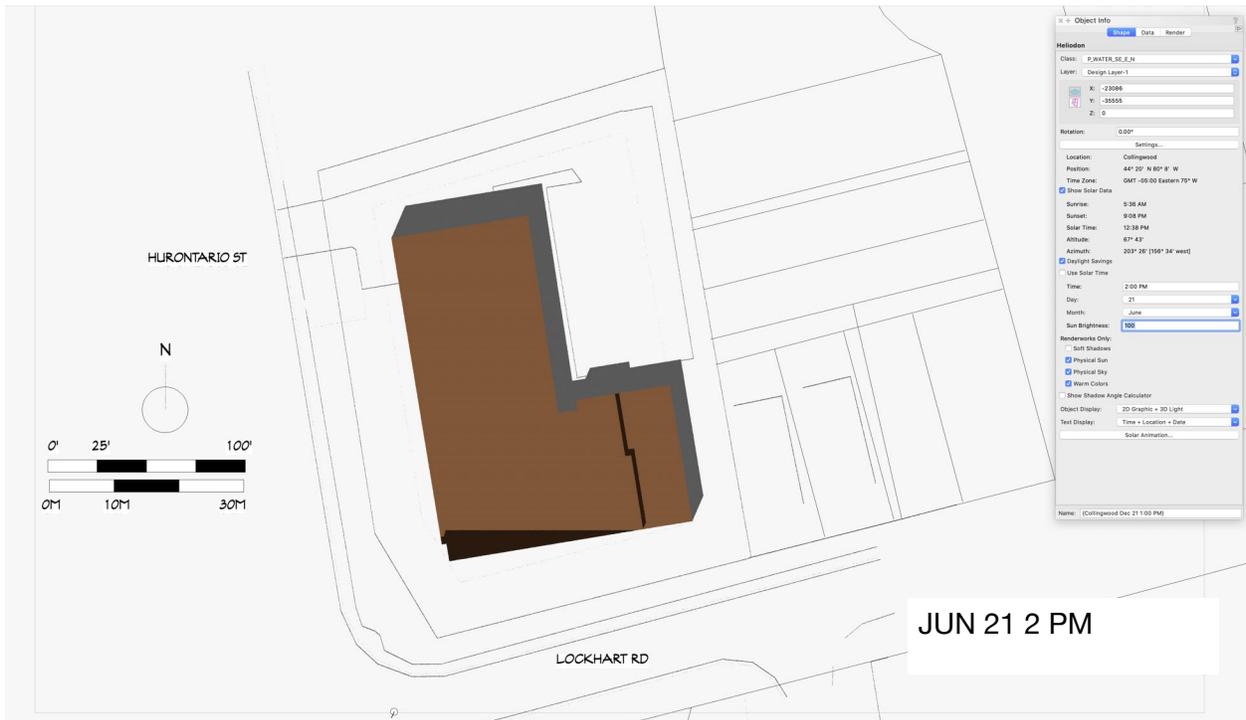
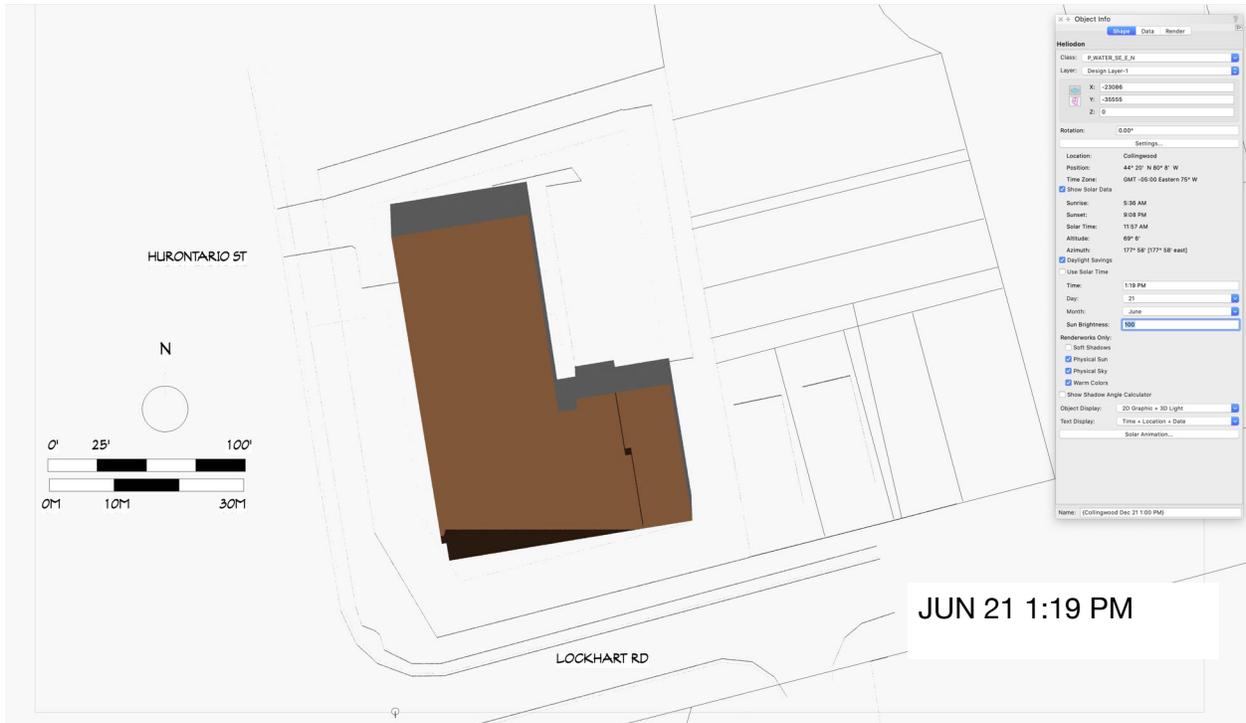


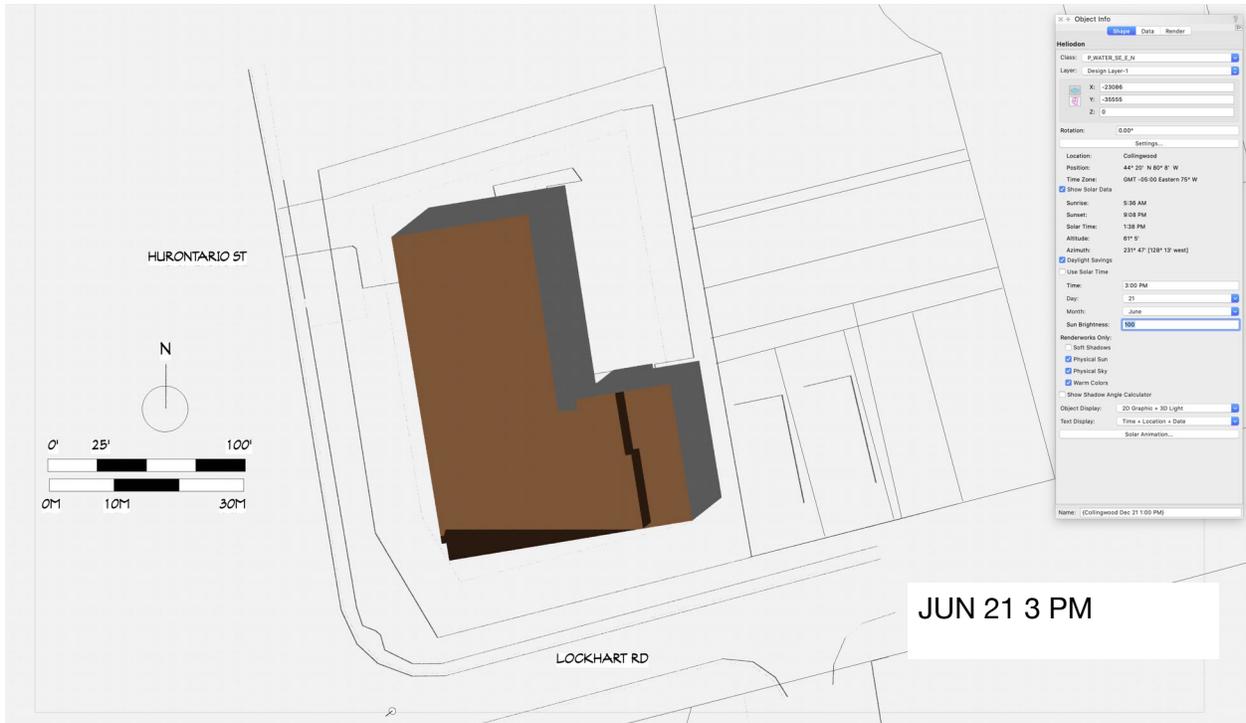




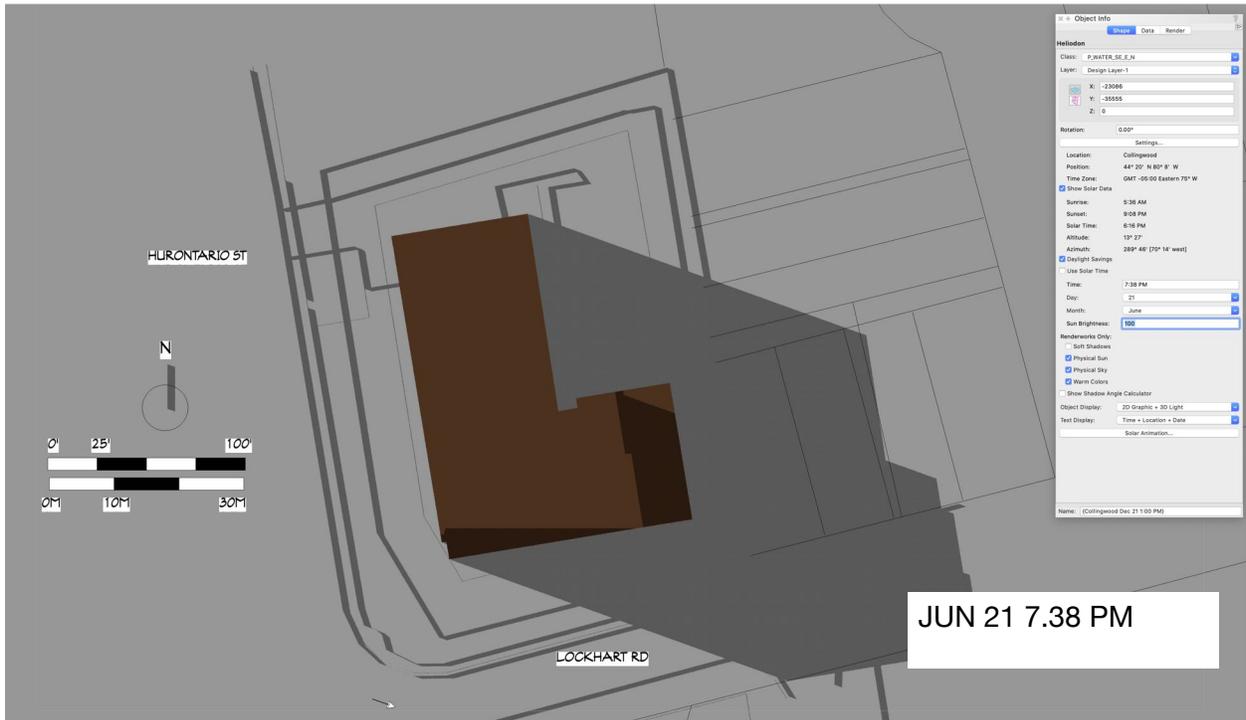


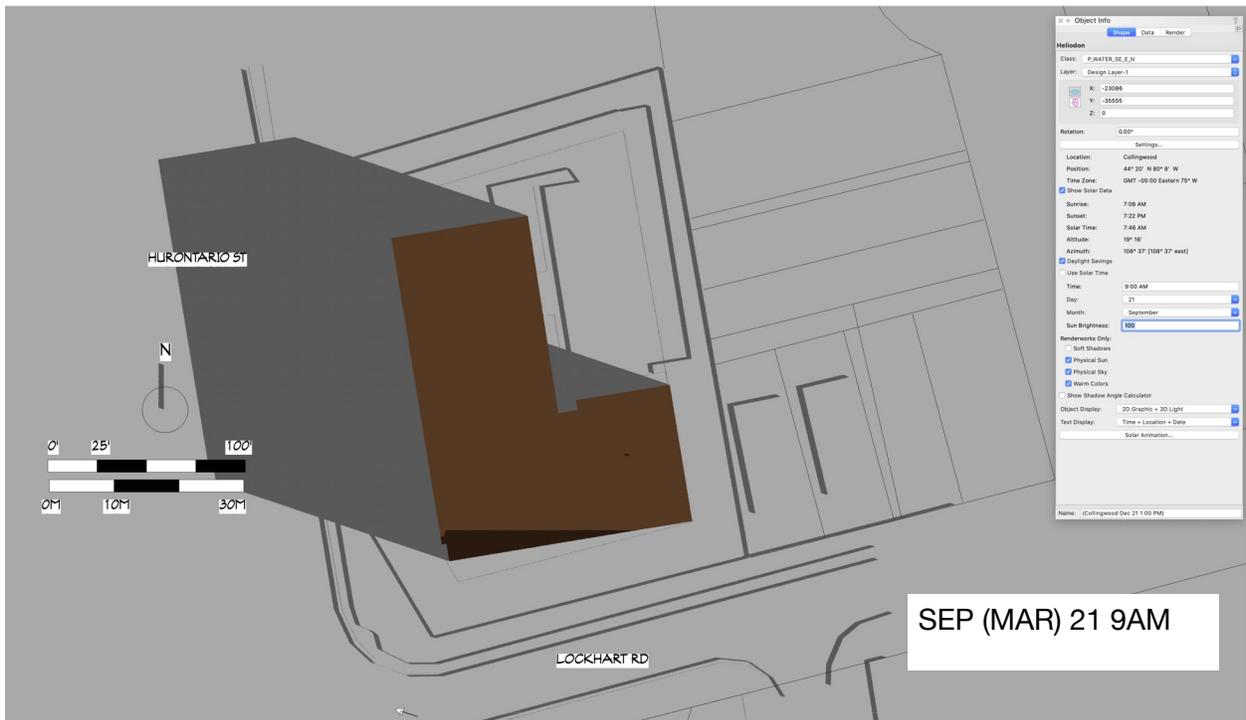
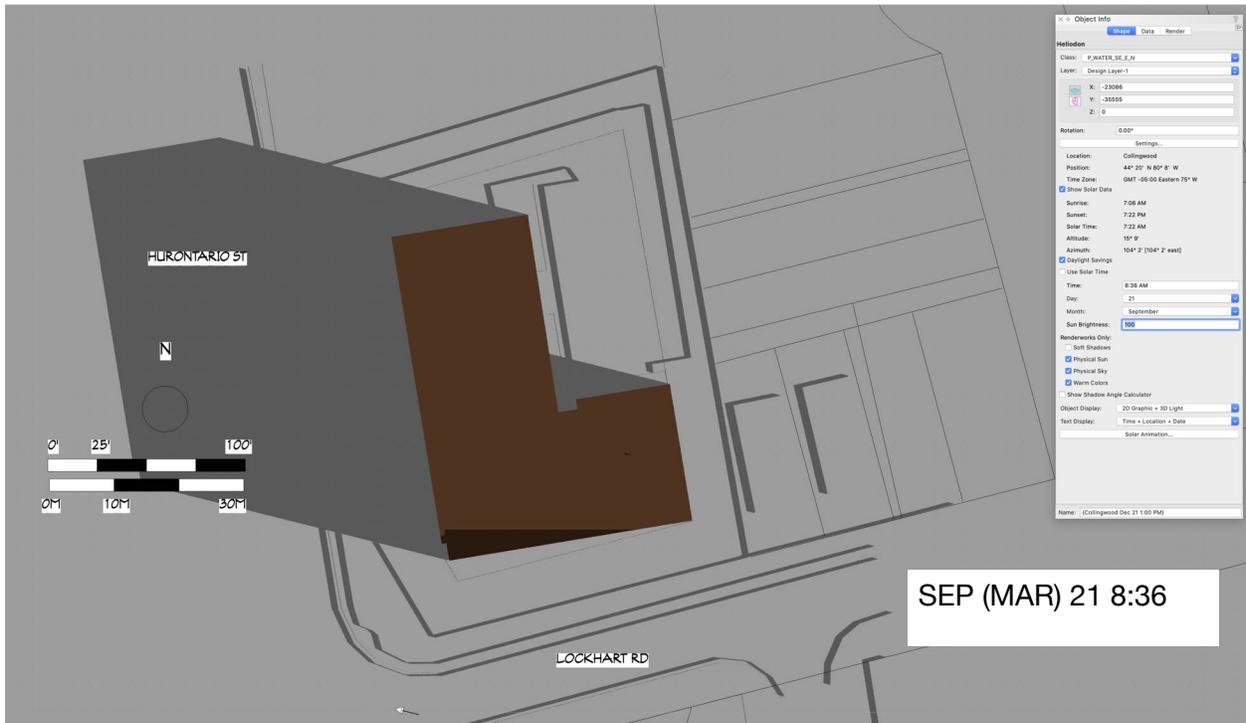


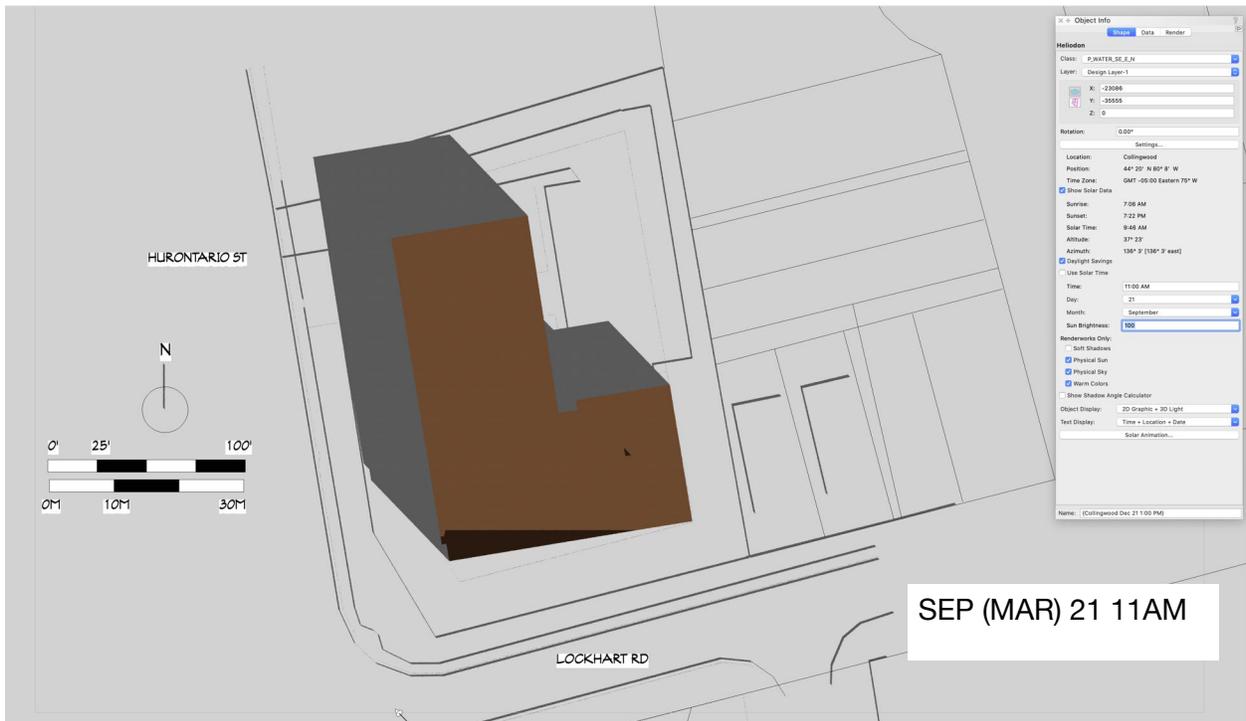
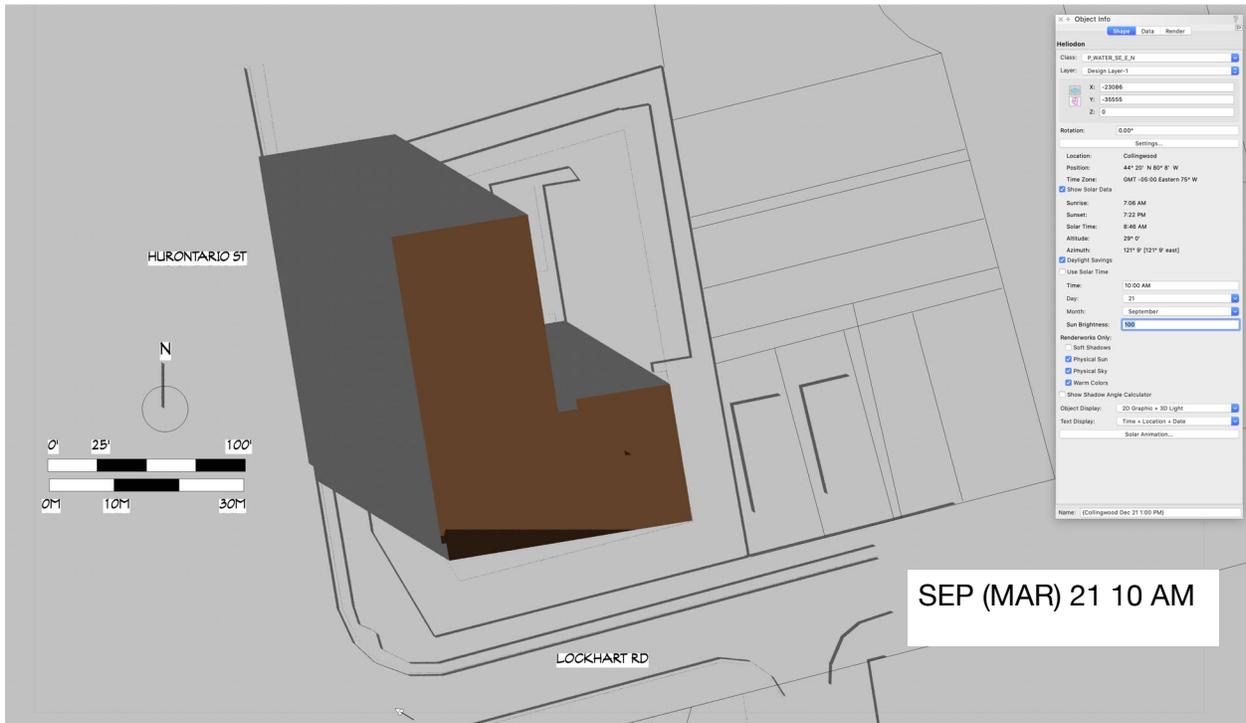


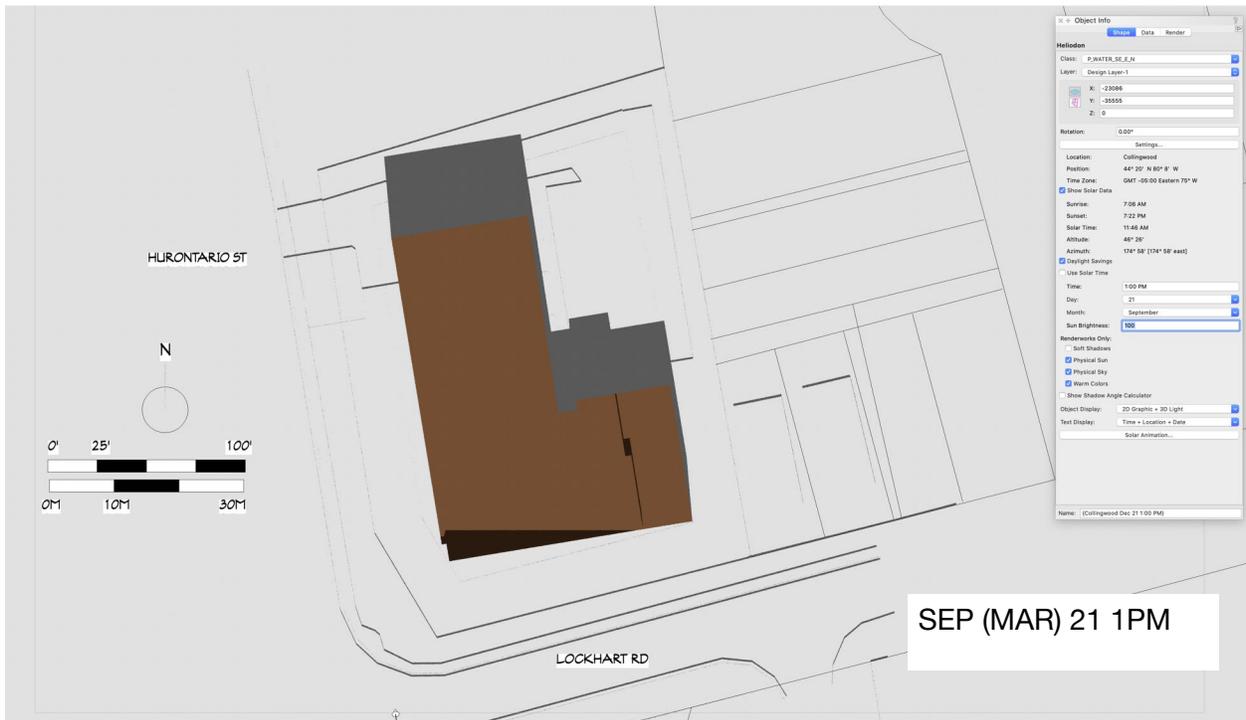
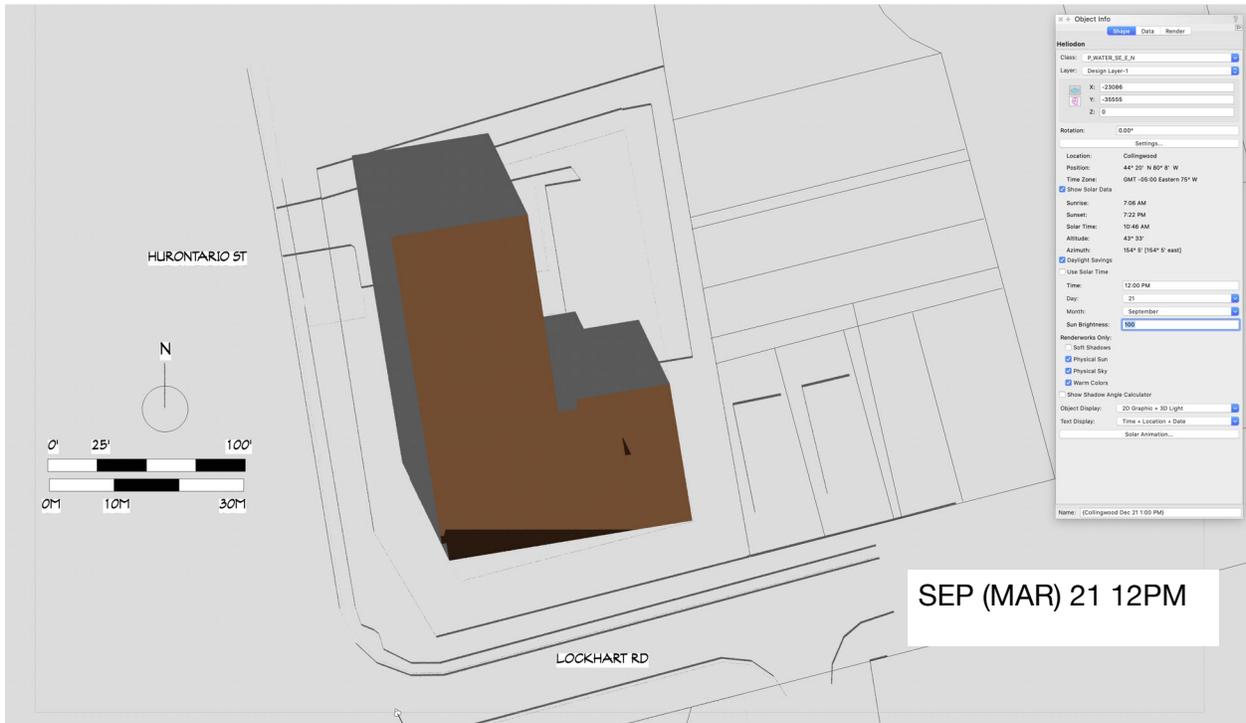


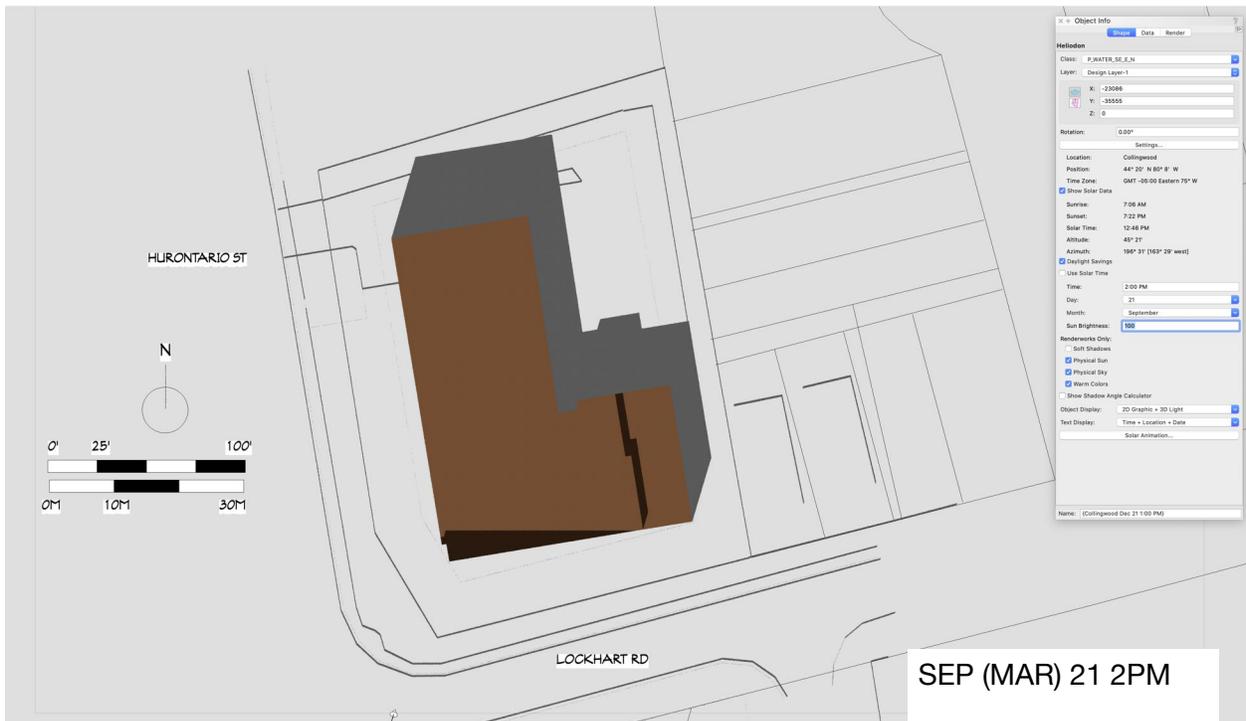
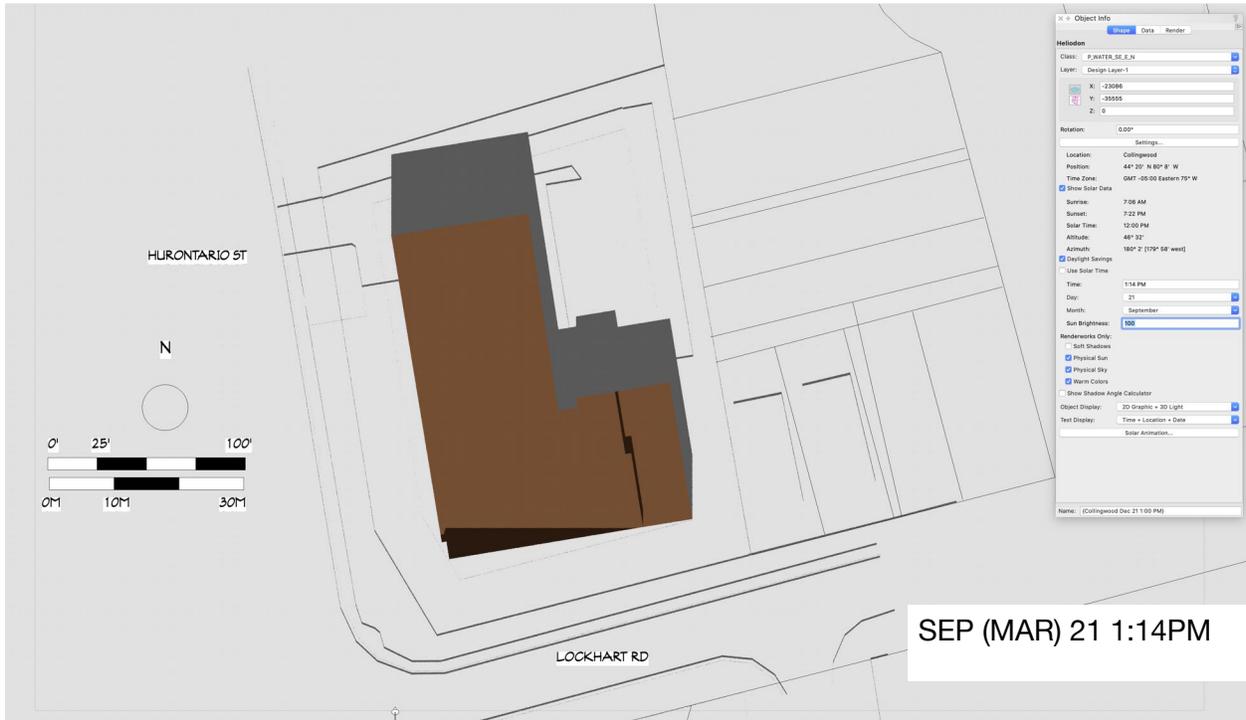


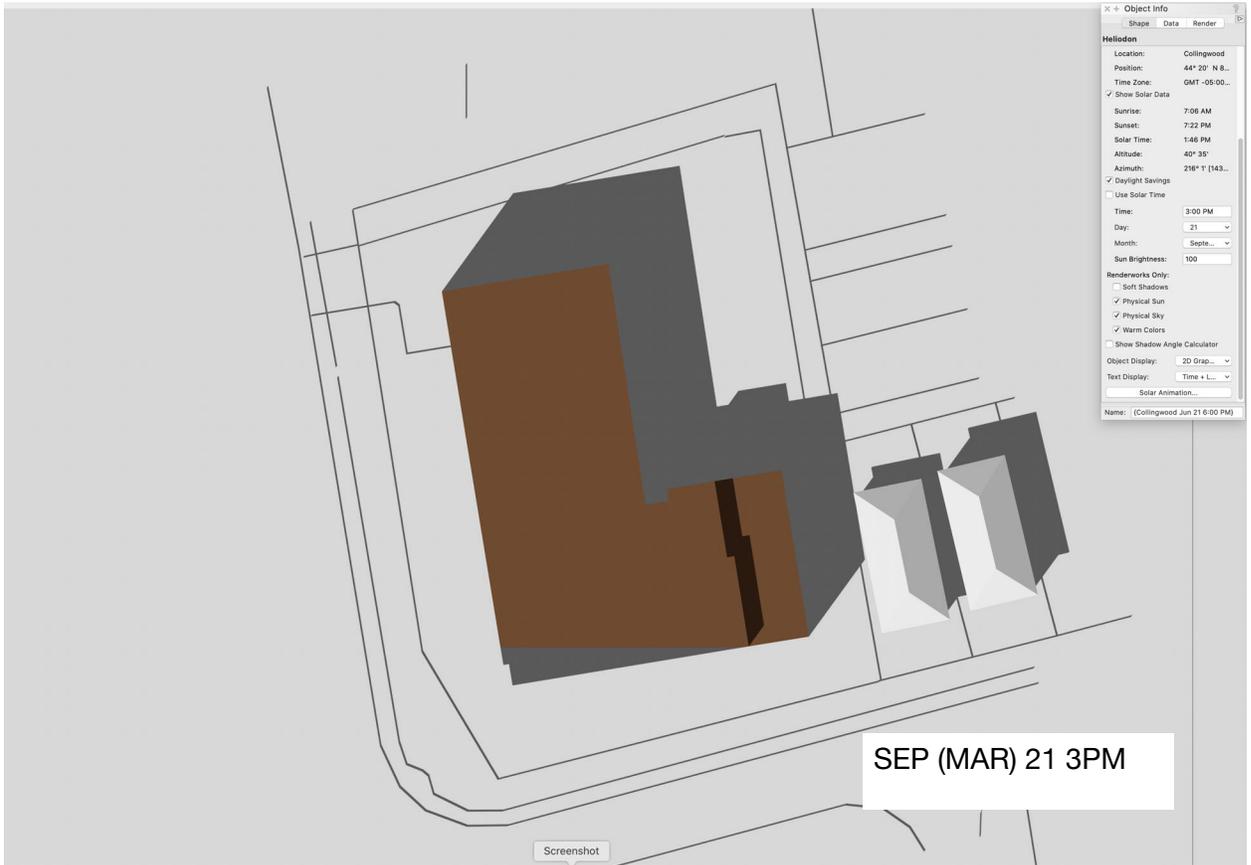














APPENDIX "B"



FIGURE 1

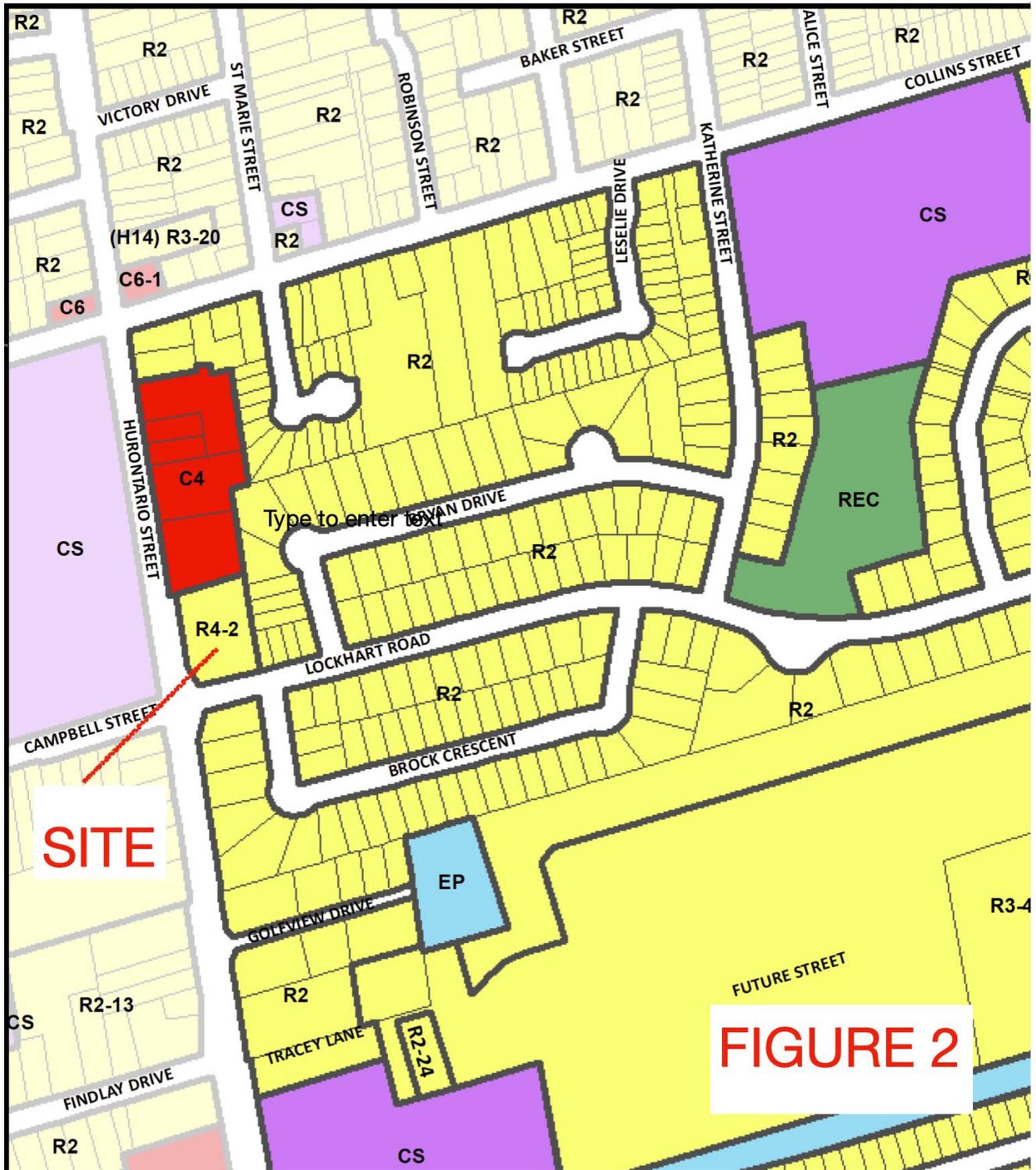


FIGURE 2