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3D | Visualisation
You Imagine, We Create

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SHADOW ANALYSIS

PROJECT TITLE:

Copper Kettle.

PROJECT LOCATION:

Rathcoole, Co. Dublin.

APPLICANT:

Lar O'Callaghan & Noel Keane

Date: September 2021

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Shadow Study Showing the effects of the sunlight on the existing property of the proposed development on the surrounds gardens and buildings.

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1. Summary

Sketchrender Ltd, were commissioned to carry out a shadow analysis on the existing the proposed new development at the Copper Kettle, Rathcoole, Co. Dublin.
The purpose of this report is to show the effects of the development if it were built on the surrounding structures and gardens.

2. Glossary

The following term may be used in the report.

Existing Building Model

The development site is an existing site surrounded by neighbouring properties..
The proposed development has not been included, to show the existing site content and surrounding gardens and Structures.

Proposed Building Model

The proposed development in it's new environment showing any effect on the existing neighbouring buildings and gardens.

Skylight

Non direct ambient light produced by the sky and the environment.

Sunlight

Direct parallel light (in the form of rays) emitted from the sun.

Daylight

Combined Skylight and Sunlight.

3. Methodology

Building Existing and Proposed Models

To achieve an exact and accurate result for the proposed report, drawings, survey information and aerial photography was used. The drawings for the existing and proposed were provided by D.C. Turley & Associates, and survey information also supplied by the same. Aerial photography was used where possible and obtained from a number of sources. Where information on neighbouring properties may not have been provided, documentation on line of previous planning applications by neighbours were sourced. Some tolerances should be allowed to the results generated. The 3D models were built using Autodesk's 3D Max software and Autocad for the importation of the drawings. This insures mm accuracy on all the models. The built in Geo solar setting and sun were used within 3D Max to produce the existing and proposed shadows.

Shadow Study

As stated the shadow studies were carried out using the built in Geo sun system.

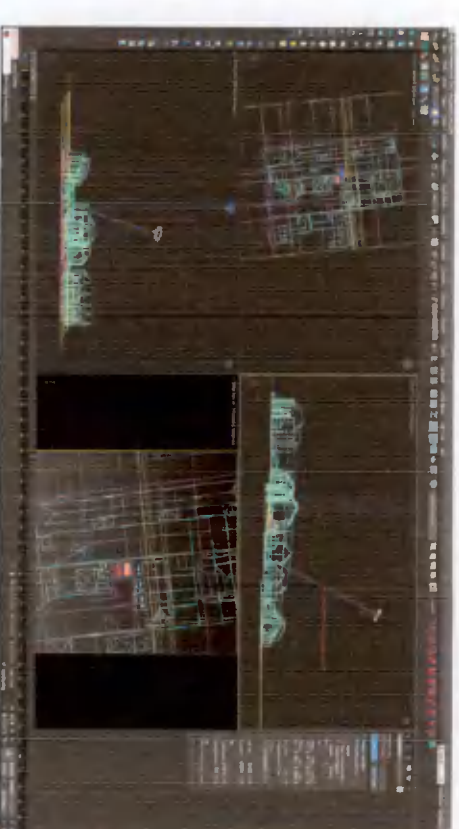
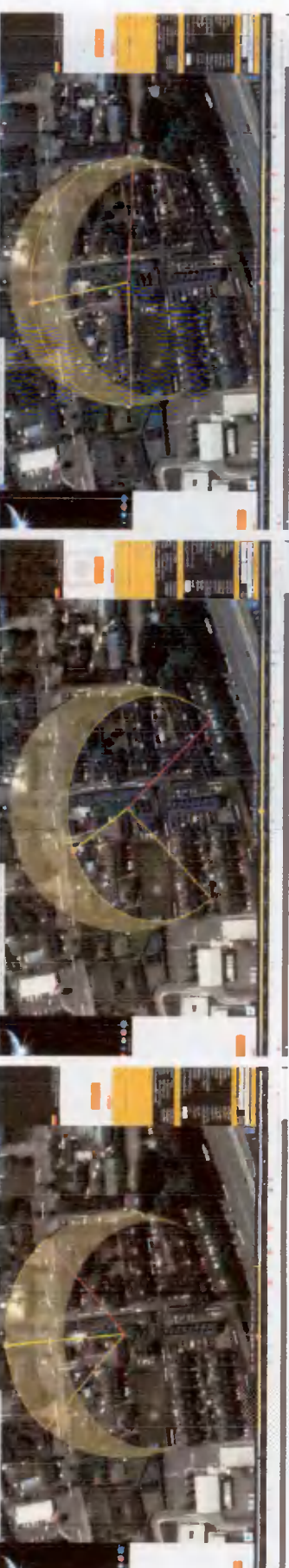
The hourly renderings have been shown from the sunrise and sunset on the following dates:

Spring Equinox	March 21st	Sunrise 6:25am Sunset 18:40pm
Summer solstice	June 21st	Sunrise 4:57am Sunset 21:57pm
Winter Solstice	December 21st	Sunrise 8:38am Sunset 16:08pm

Note: The Spring equinox (21st March) and the Autumn equinox (21st September) yields similar results, so only the Spring equinox was generated for the this report. <https://www.suncalc.org/#/53.2819,-6.47,19/2021.12.21/12:00/1/1>

Trees

Trees and shrubs will not be included in the studies. Trees in general have a unique shape and it is not possible to predict the shape of the crown or the height. The shadows from leaves are dappled and do not give the same effect as the deep shadows of the building. Evergreen trees that are purposely planted as screening for privacy purposes will be included in the model if applicable. Evergreen trees will also be included if they are on the site and would effect the shadows cast on the proposed site.



4. Results



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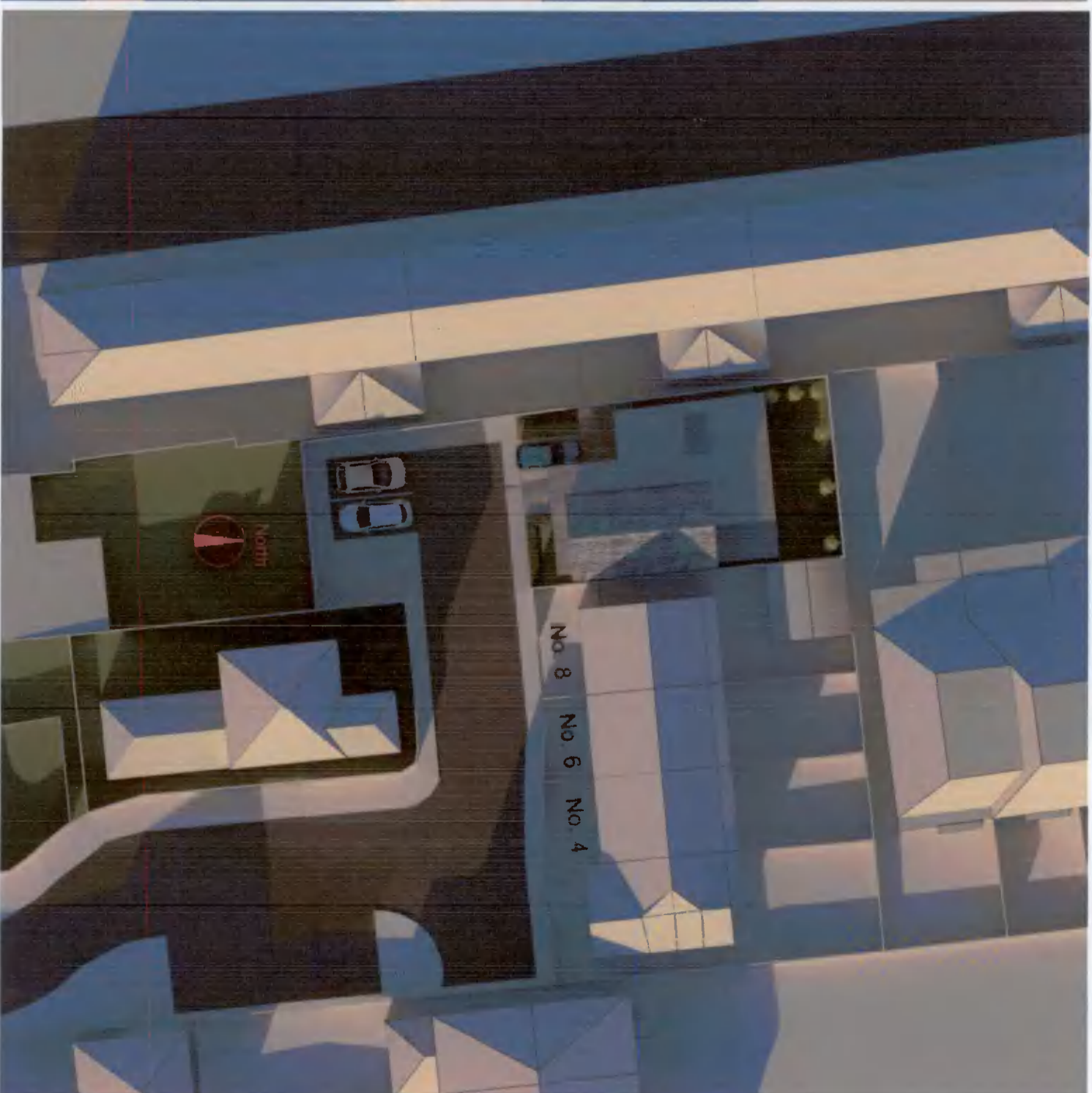
Spring Equinox
March 21st
9am -4pm 2021

SketchRender
3D | Visualisation





Existing March 21st 9am 2021



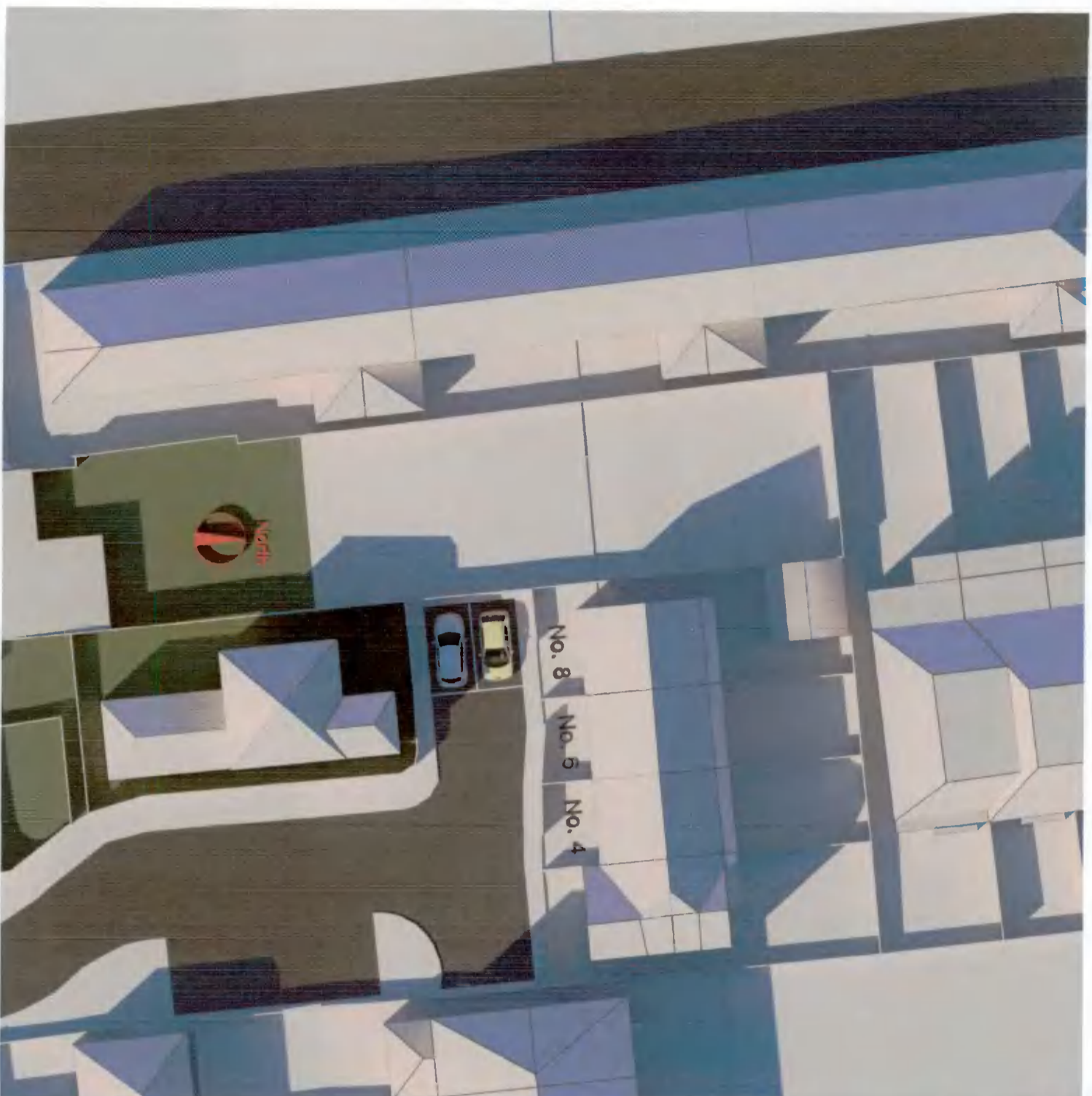
Proposed March 21st 9am 2021



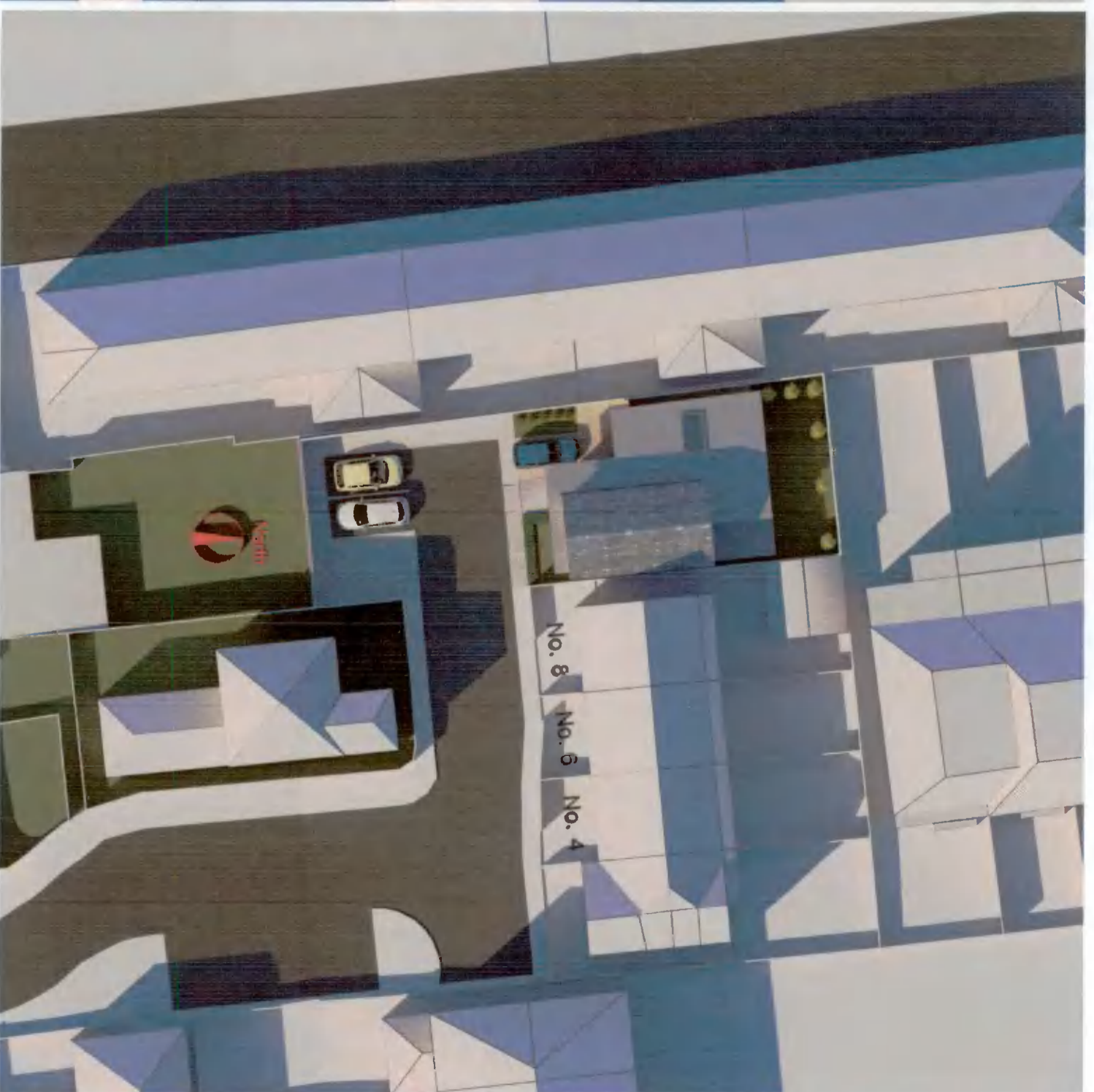
Existing March 21st 10am 2021



Proposed March 21st 10am 2021



Existing March 21st 11am 2021



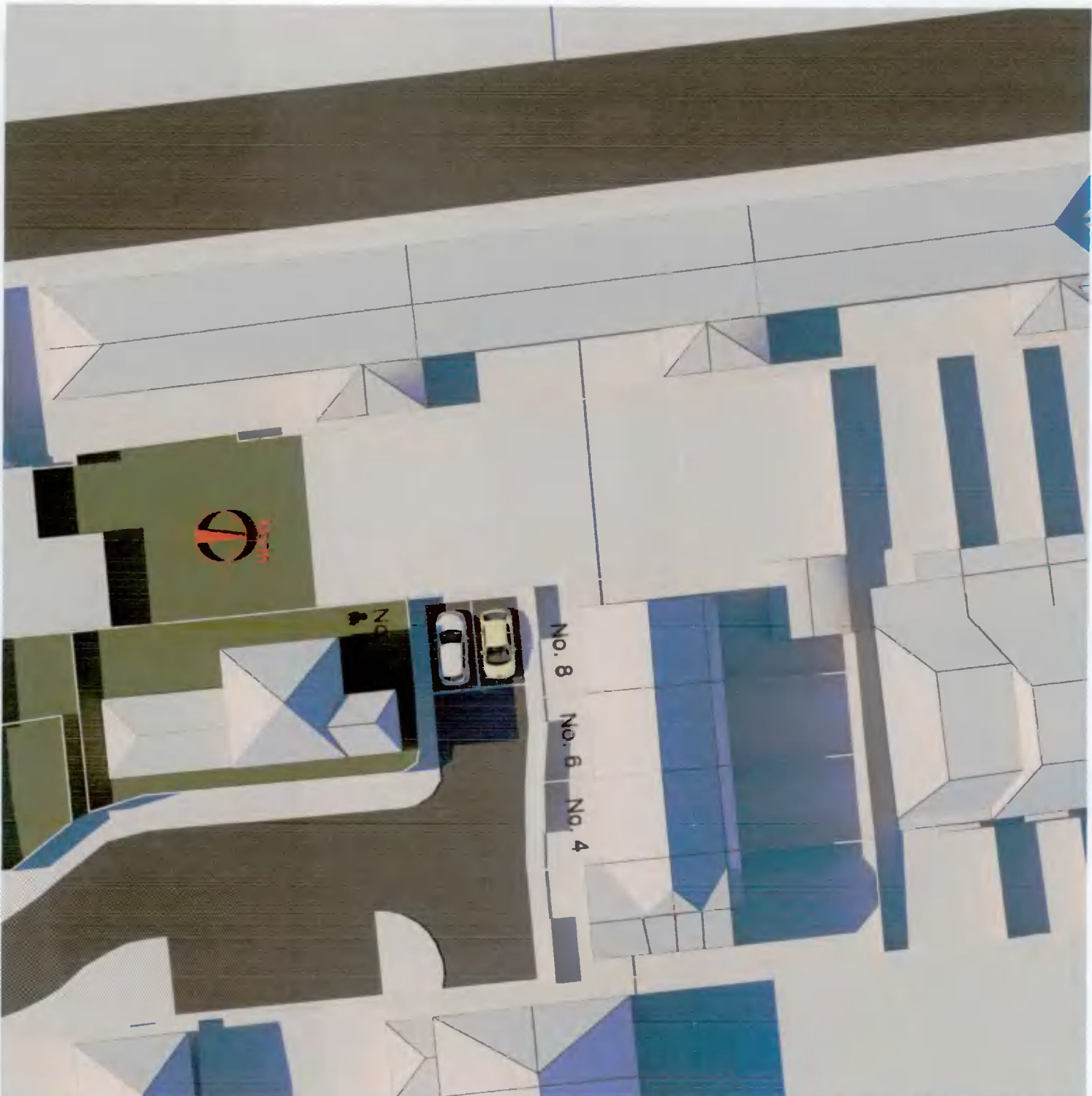
Proposed March 21st 11am 2021



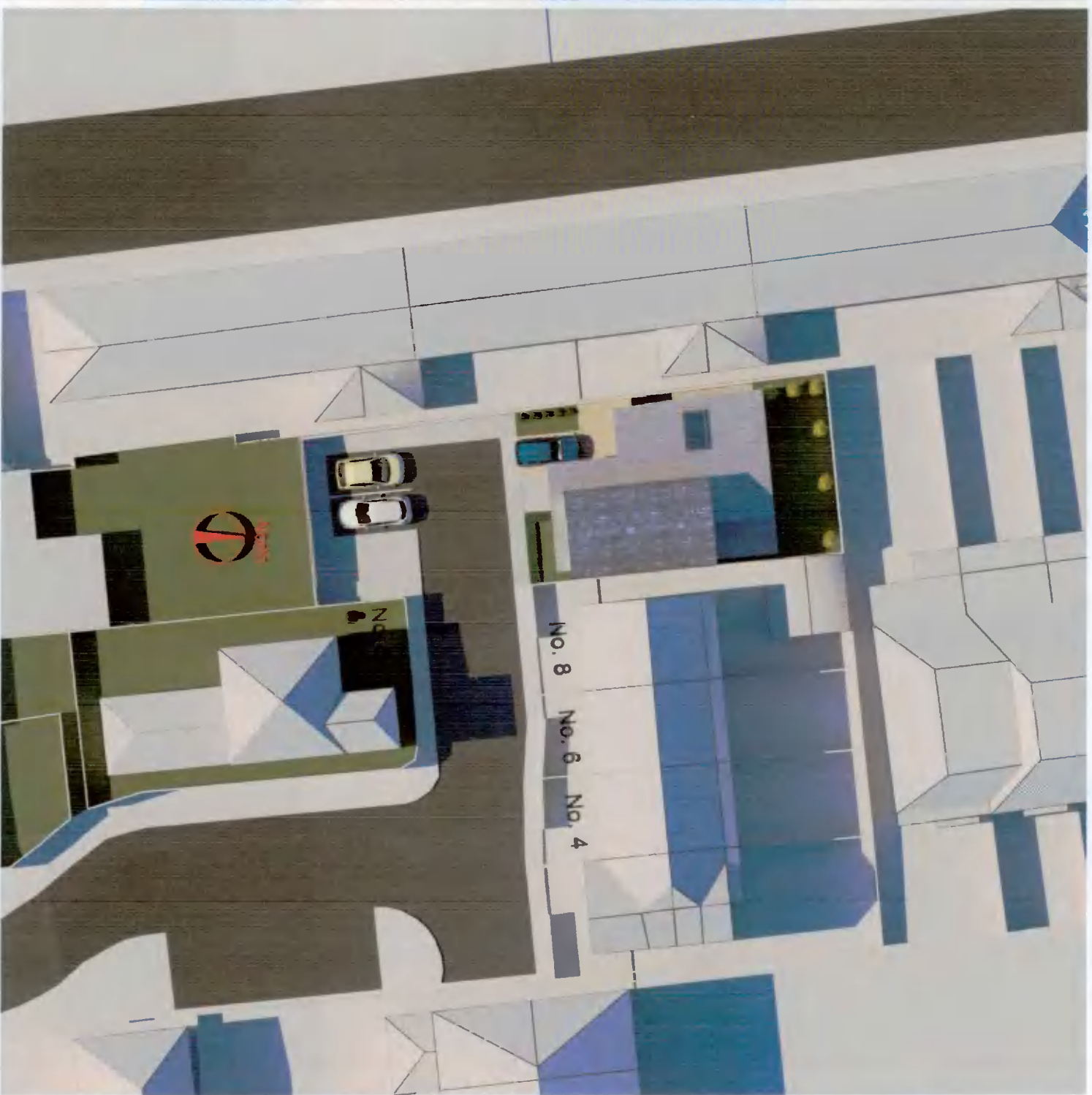
Existing March 21st 12pm 2021



Proposed March 21st 12pm 2021



Existing March 21st 1pm 2021



Proposed March 21st 1pm 2021



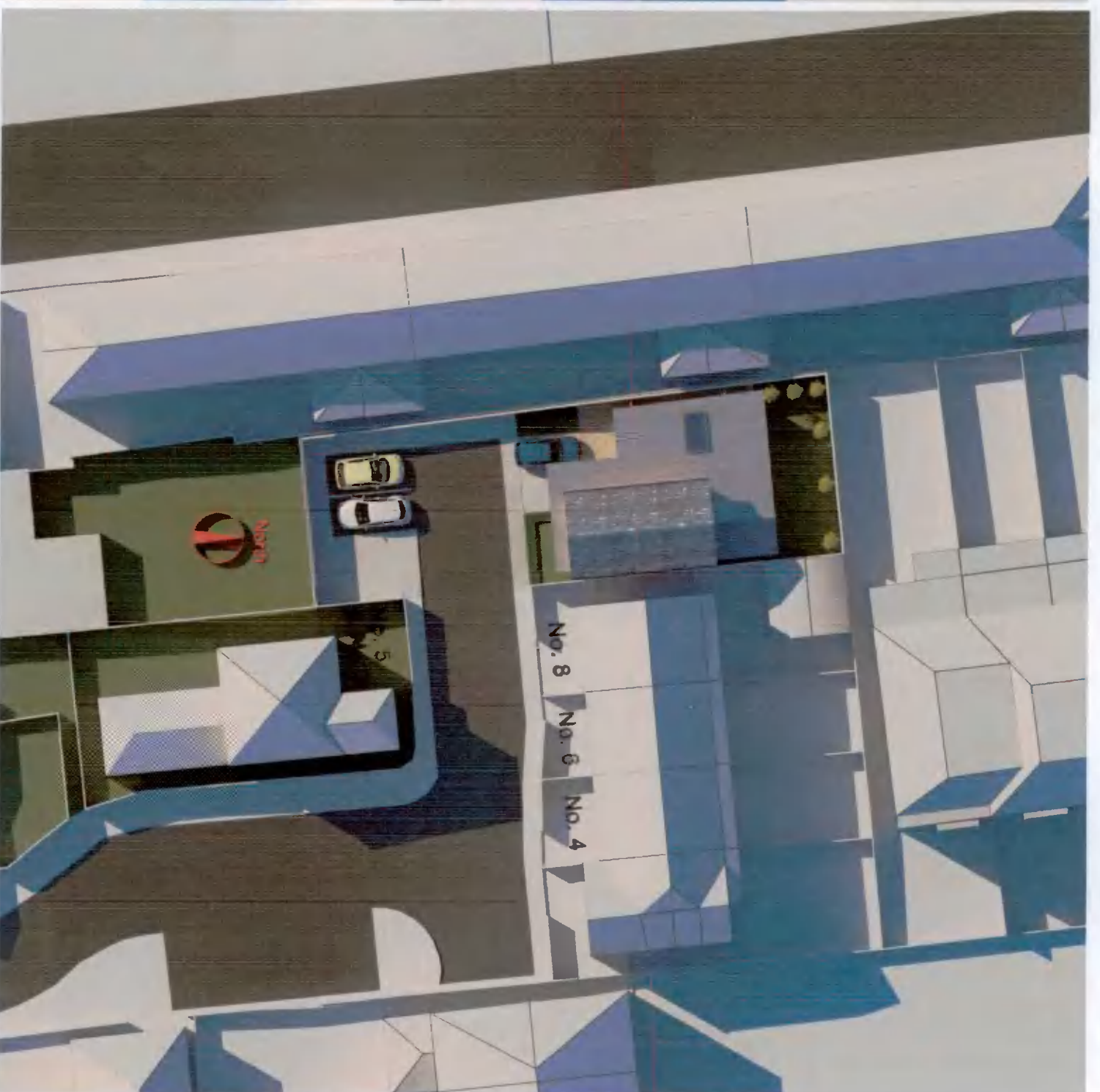
Existing March 21st 2pm 2021



Proposed March 21st 2pm 2021



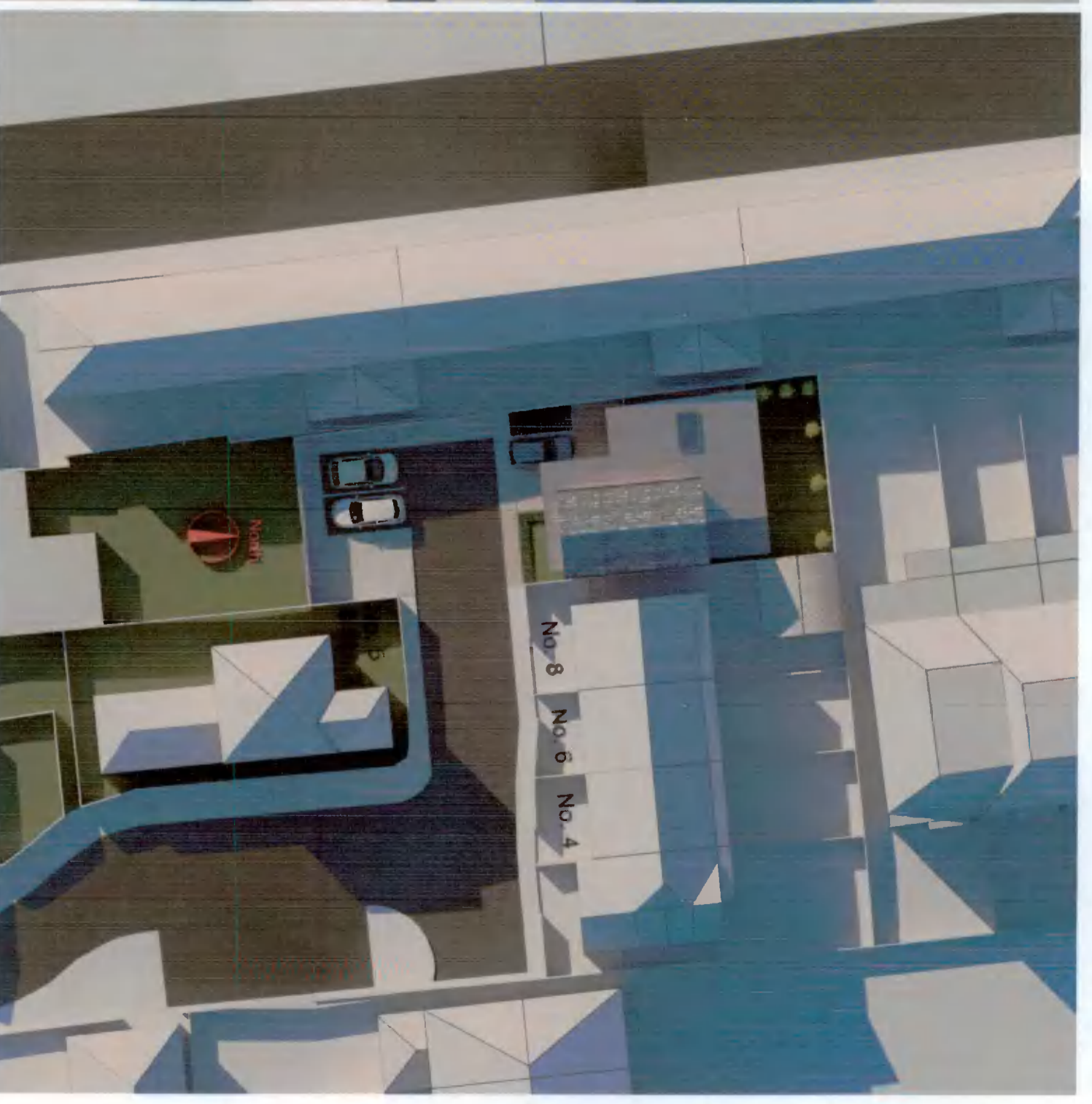
Existing March 21st 3pm 2021



Proposed March 21st 3pm 2021



Existing March 21st 4pm 2021



Proposed March 21st 4pm 2021

4. Results

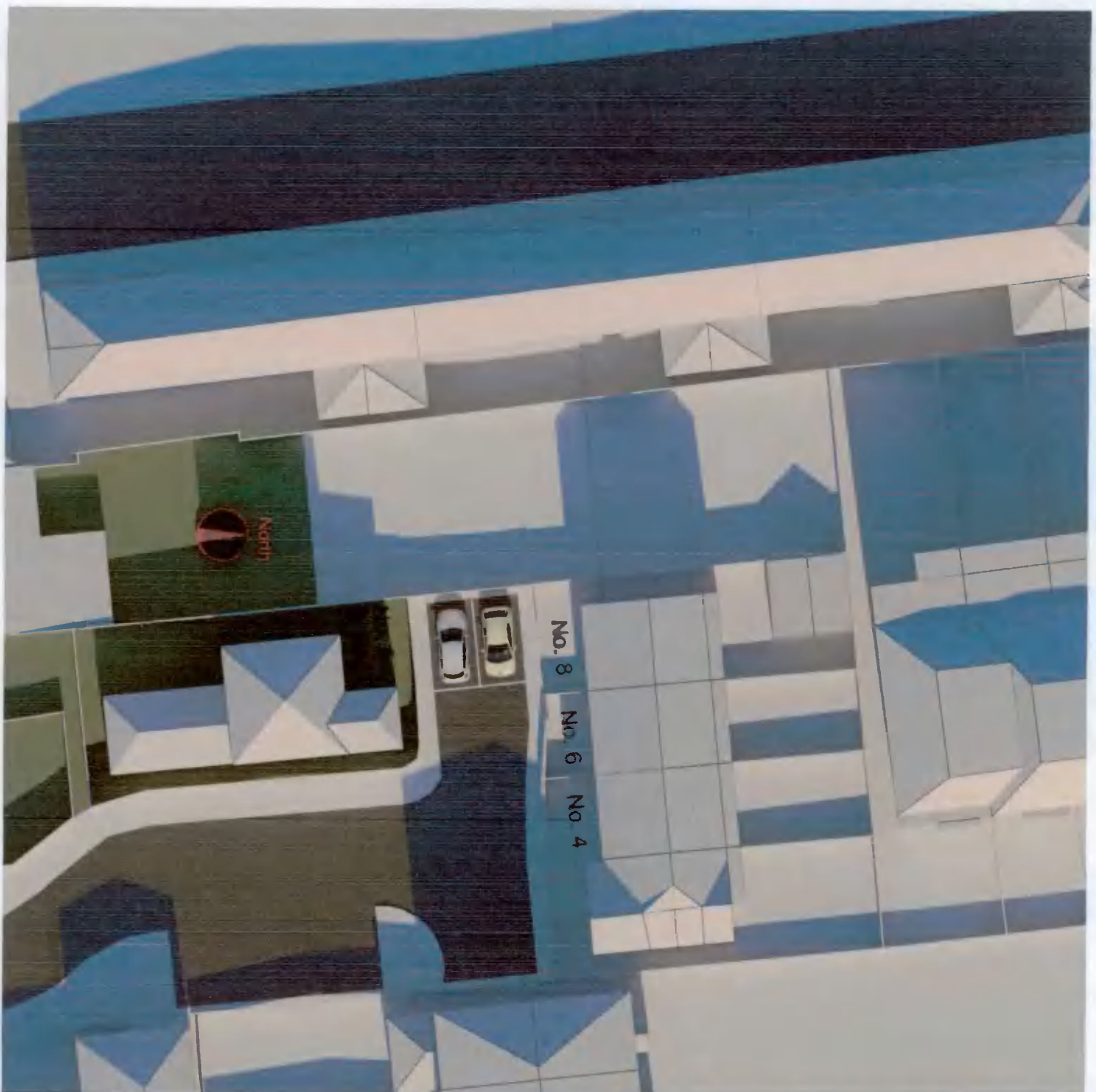
Summer Solstices
June 21st
7am -8pm 2021



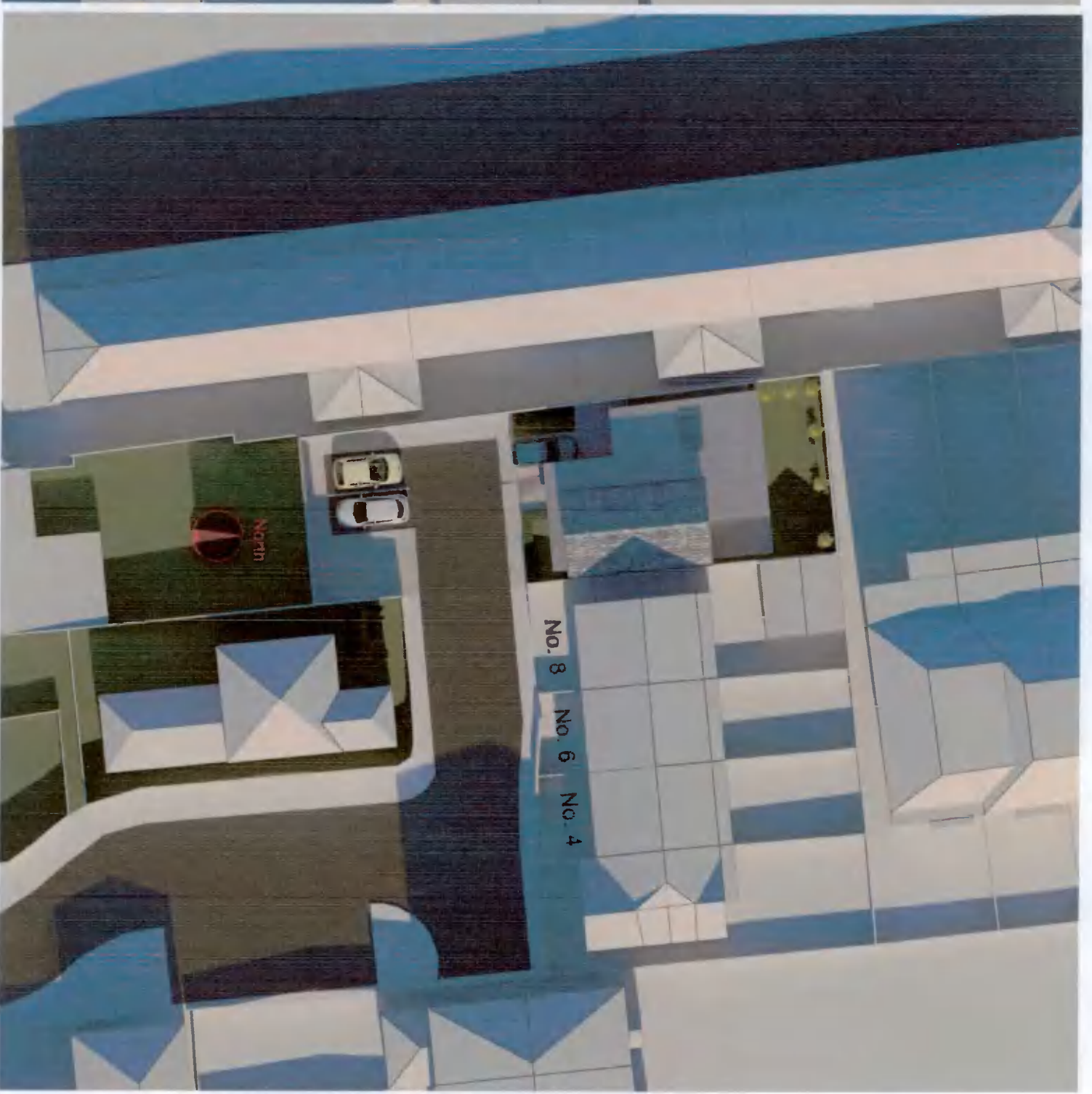
Existing June 21st 7am 2021



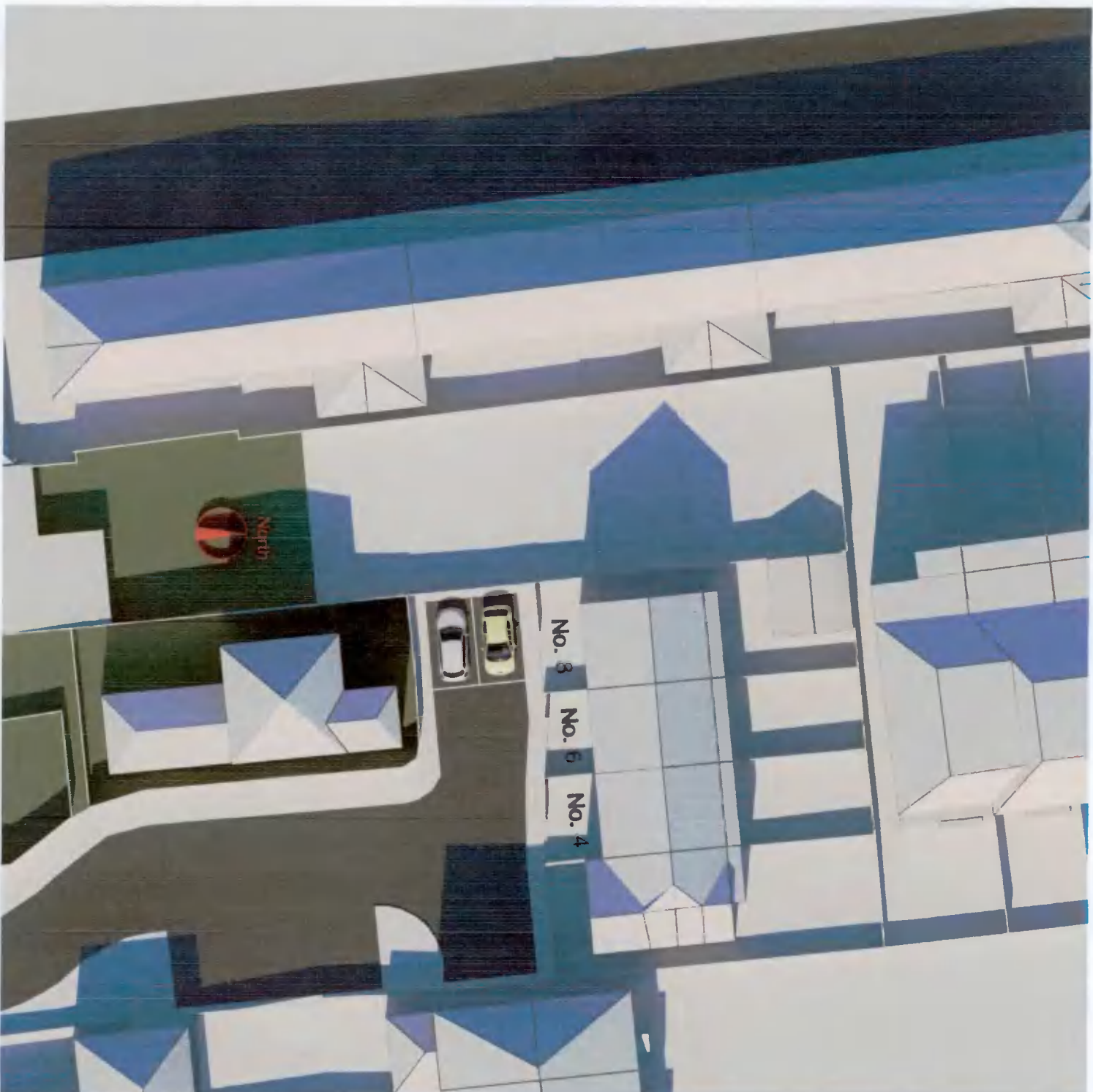
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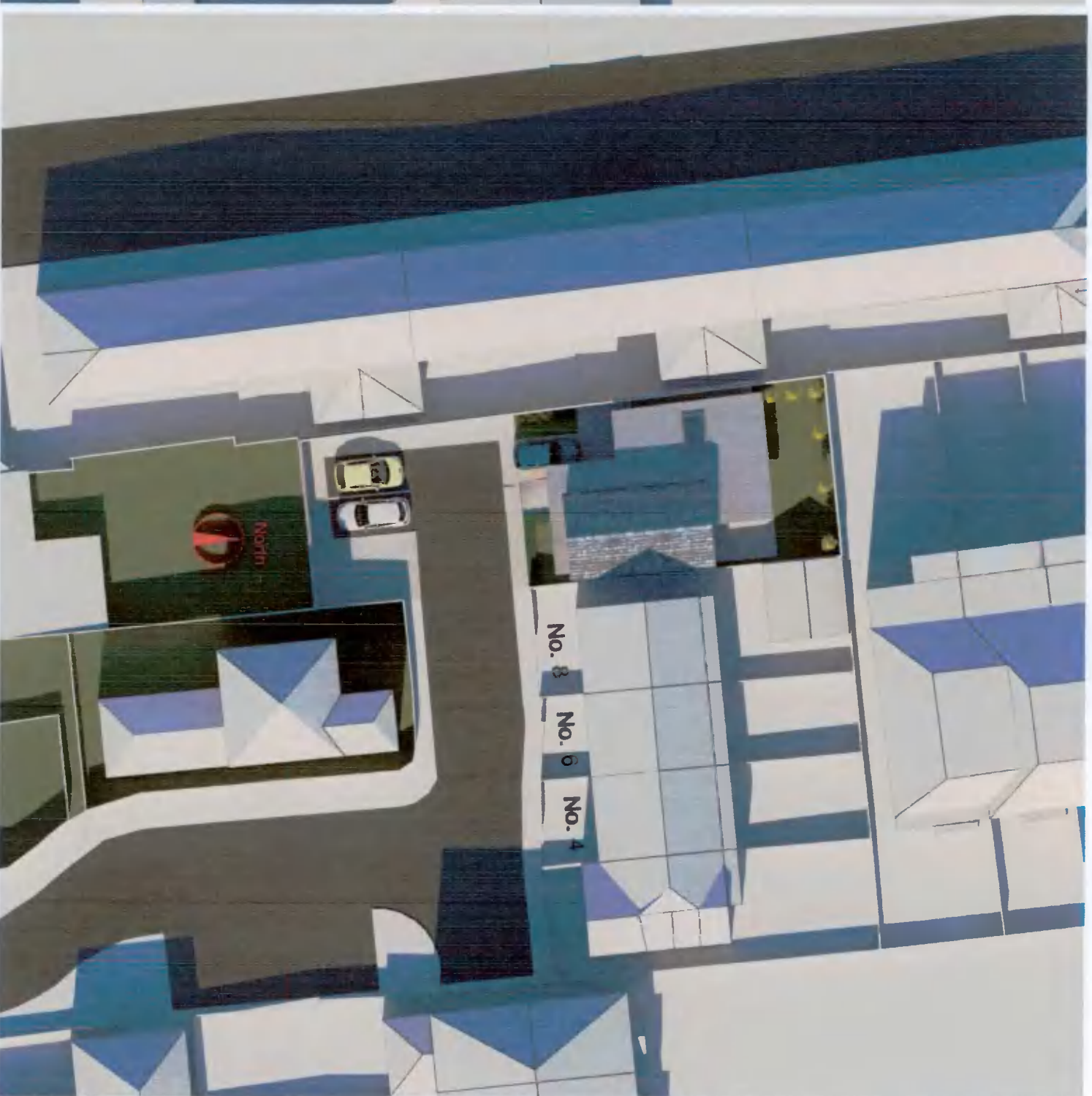
Existing June 21st 8am 2021



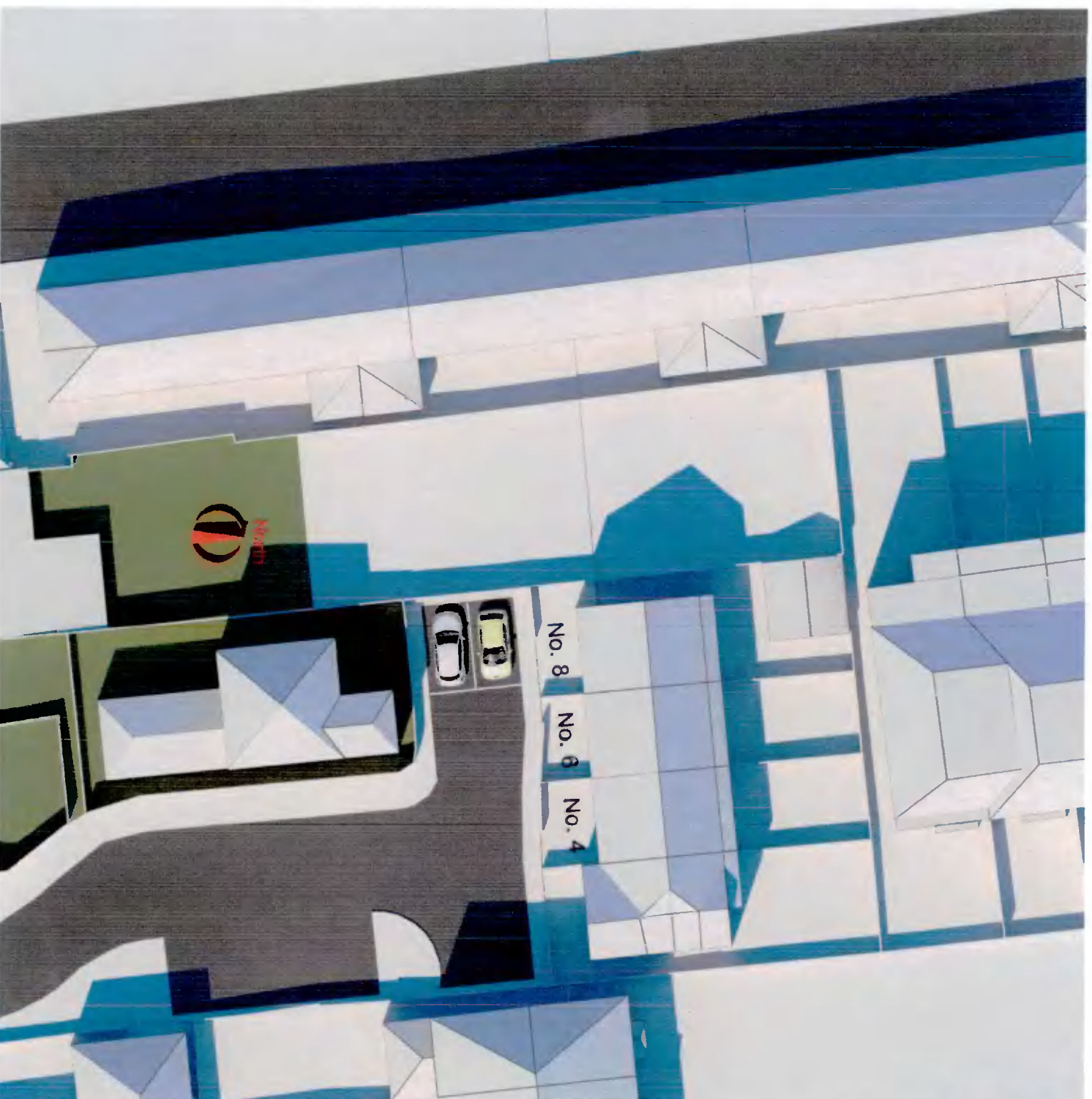
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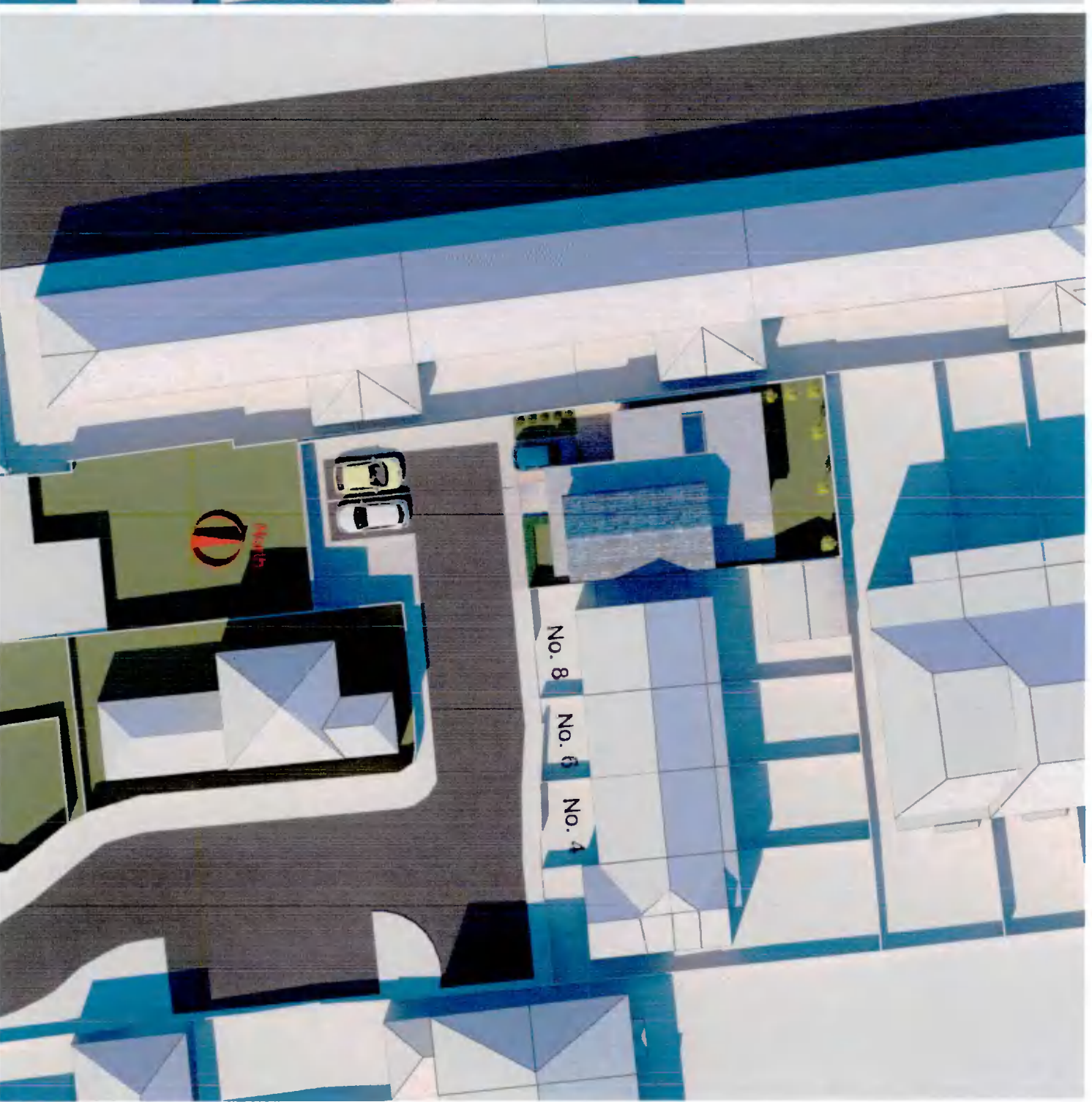
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Proposed June 21st 9am 2021



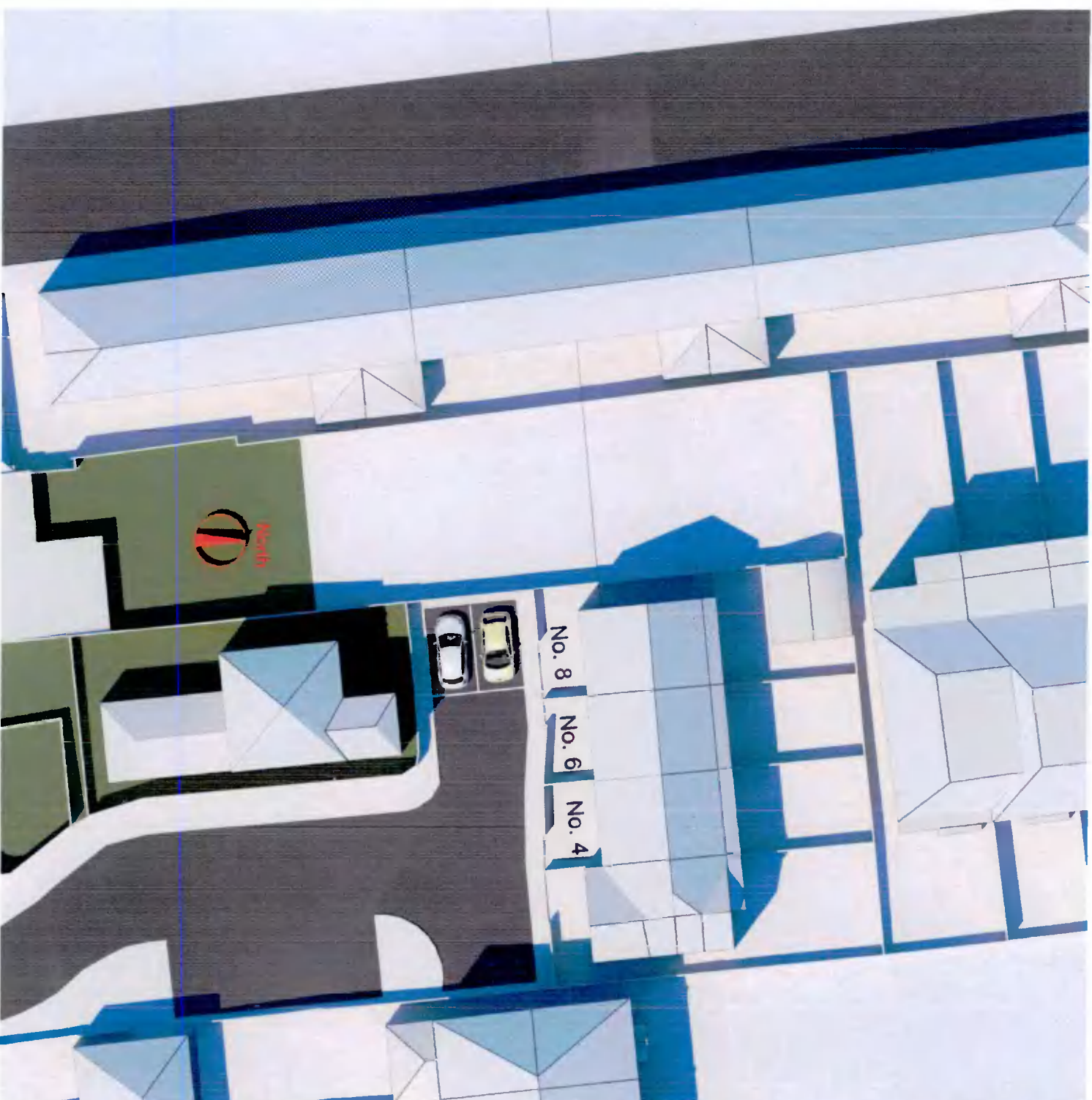
Existing June 21st 10am 2021



Proposed June 21st 10am 2021



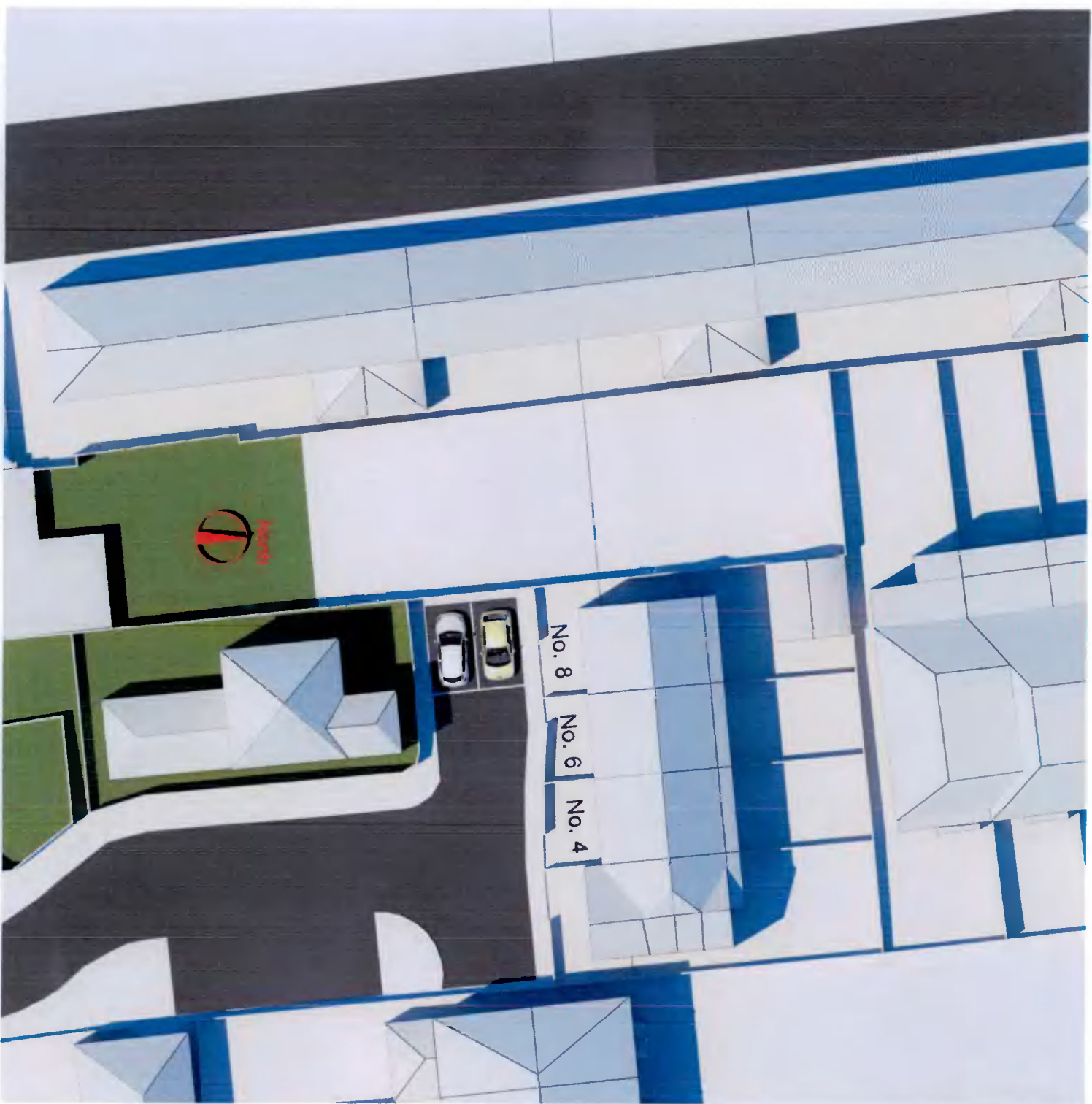
Sketchy Render
3D Visualisation



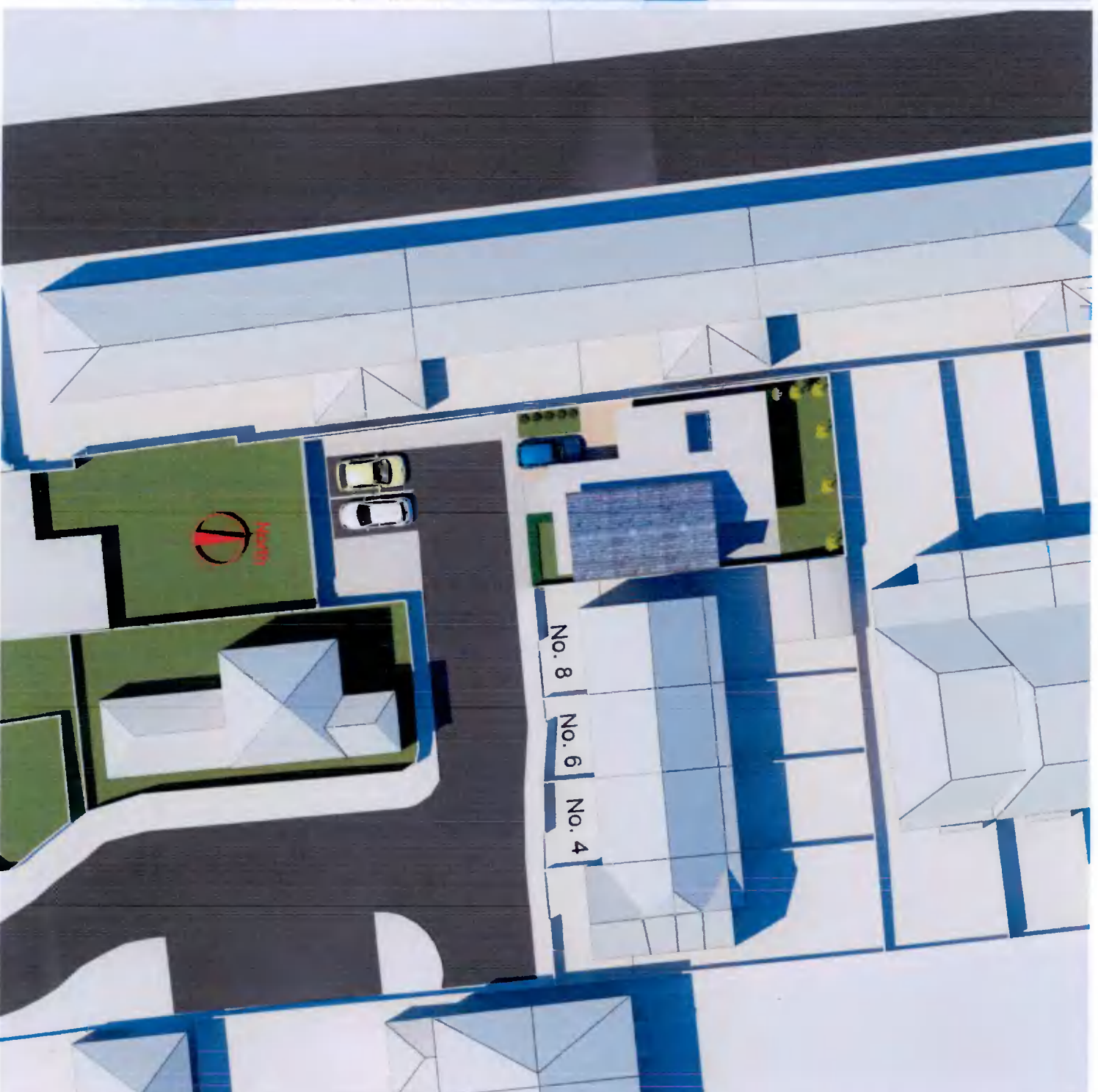
Existing June 21st 11am 2021



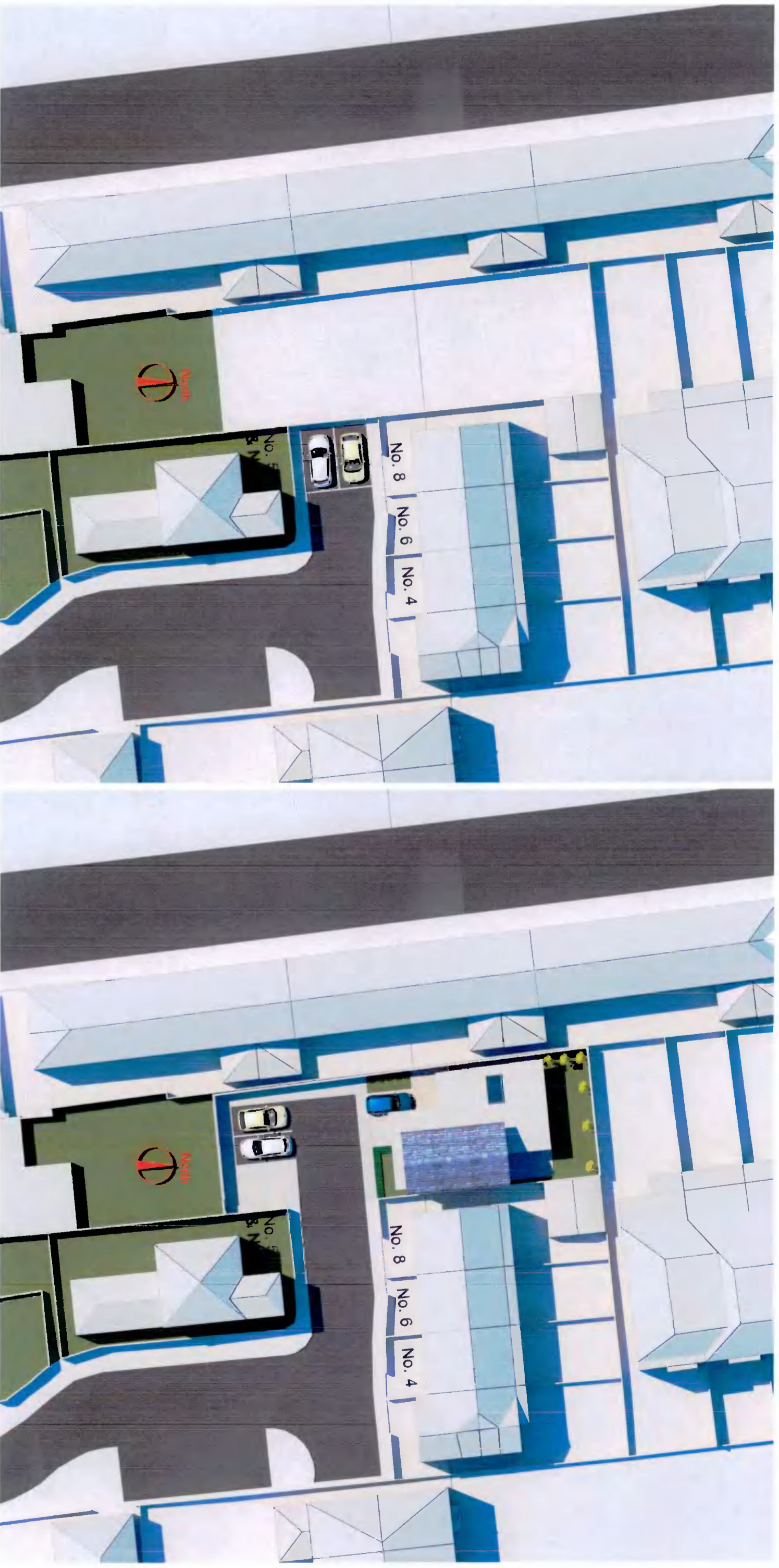
Proposed June 21st 11am 2021



Existing June 21st 12pm 2021



Proposed June 21st 12pm 2021

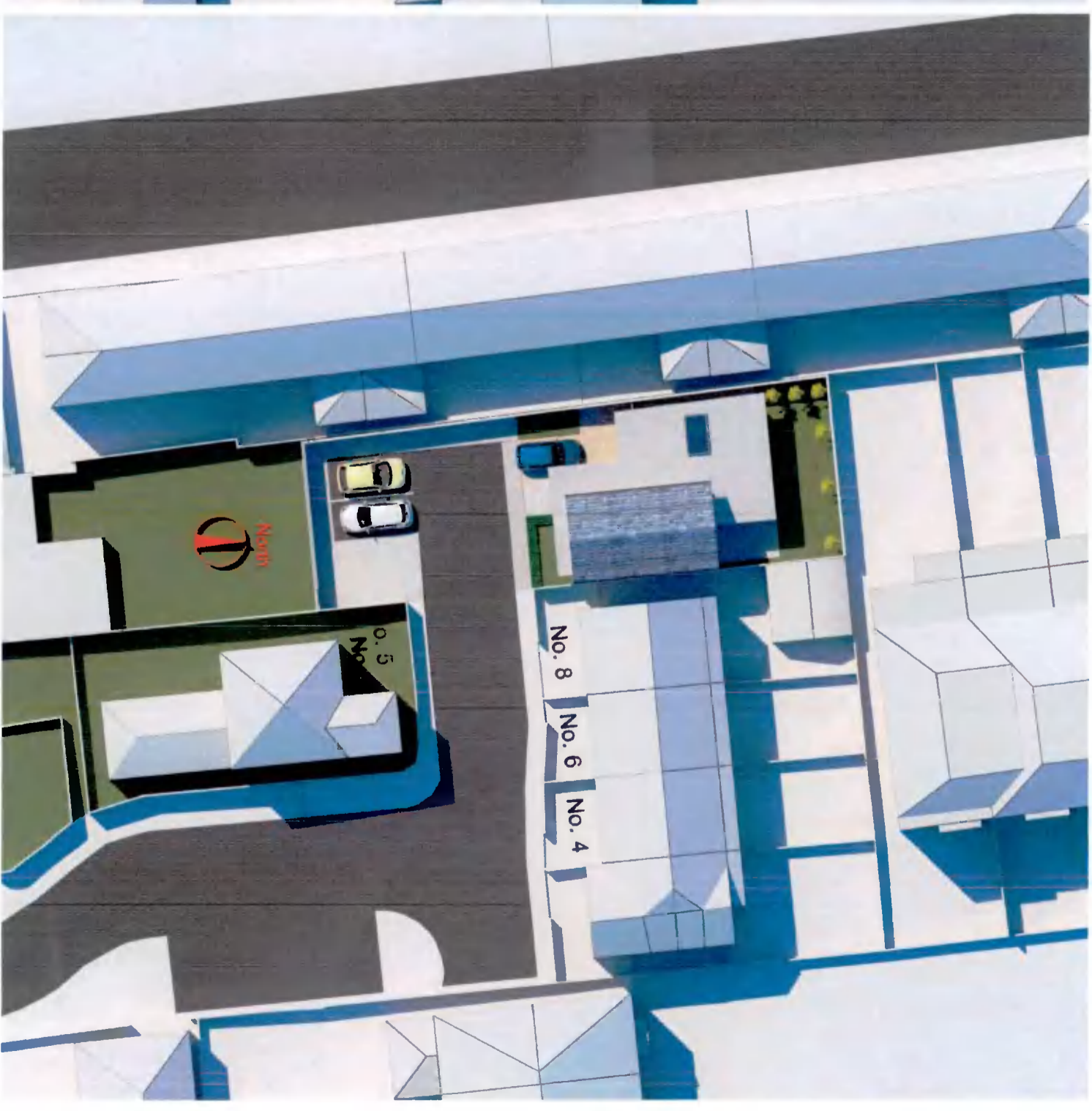


Existing June 21st 2pm 2021

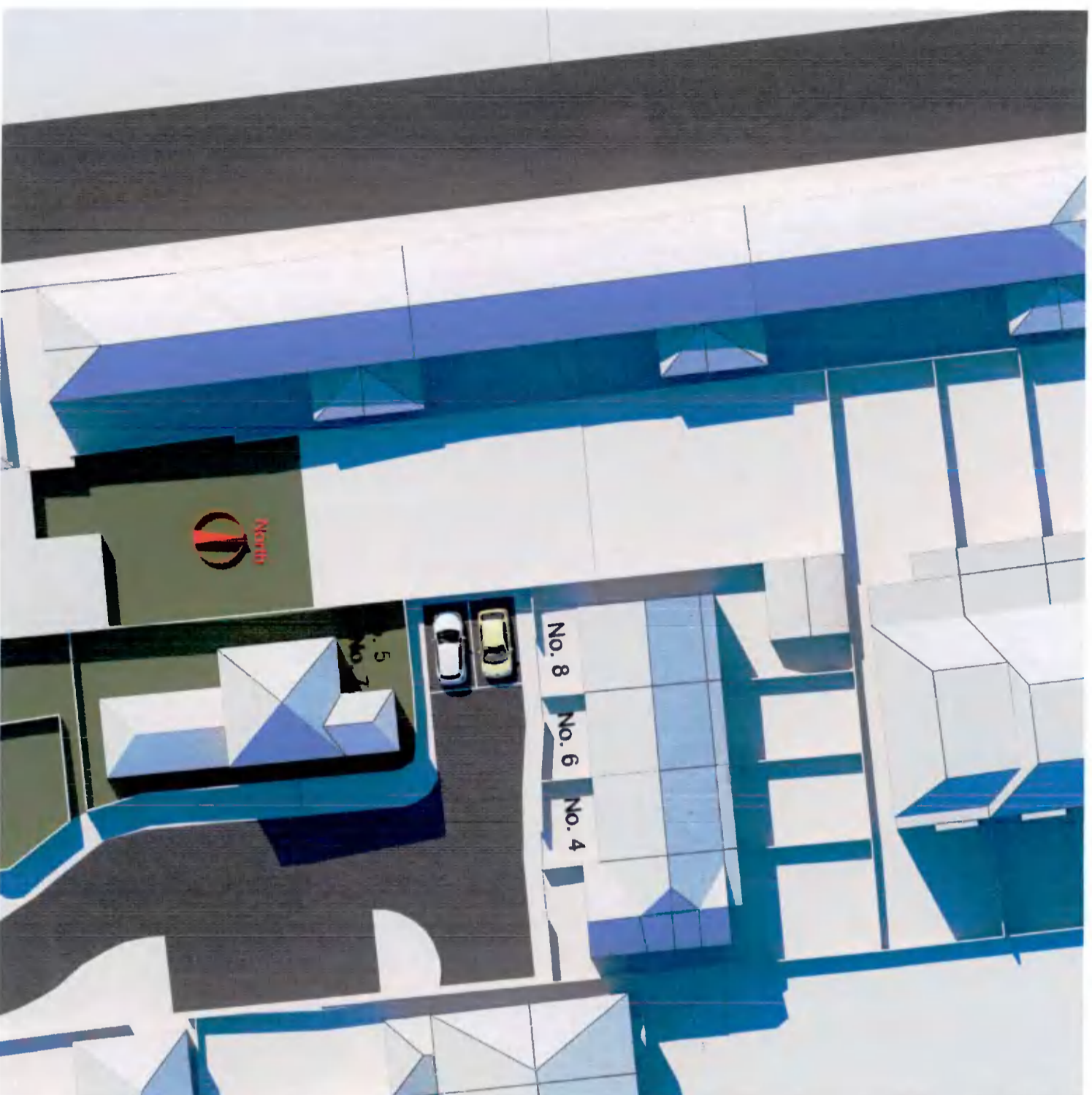
Proposed June 21st 2pm 2021



Existing June 21st 3pm 2021



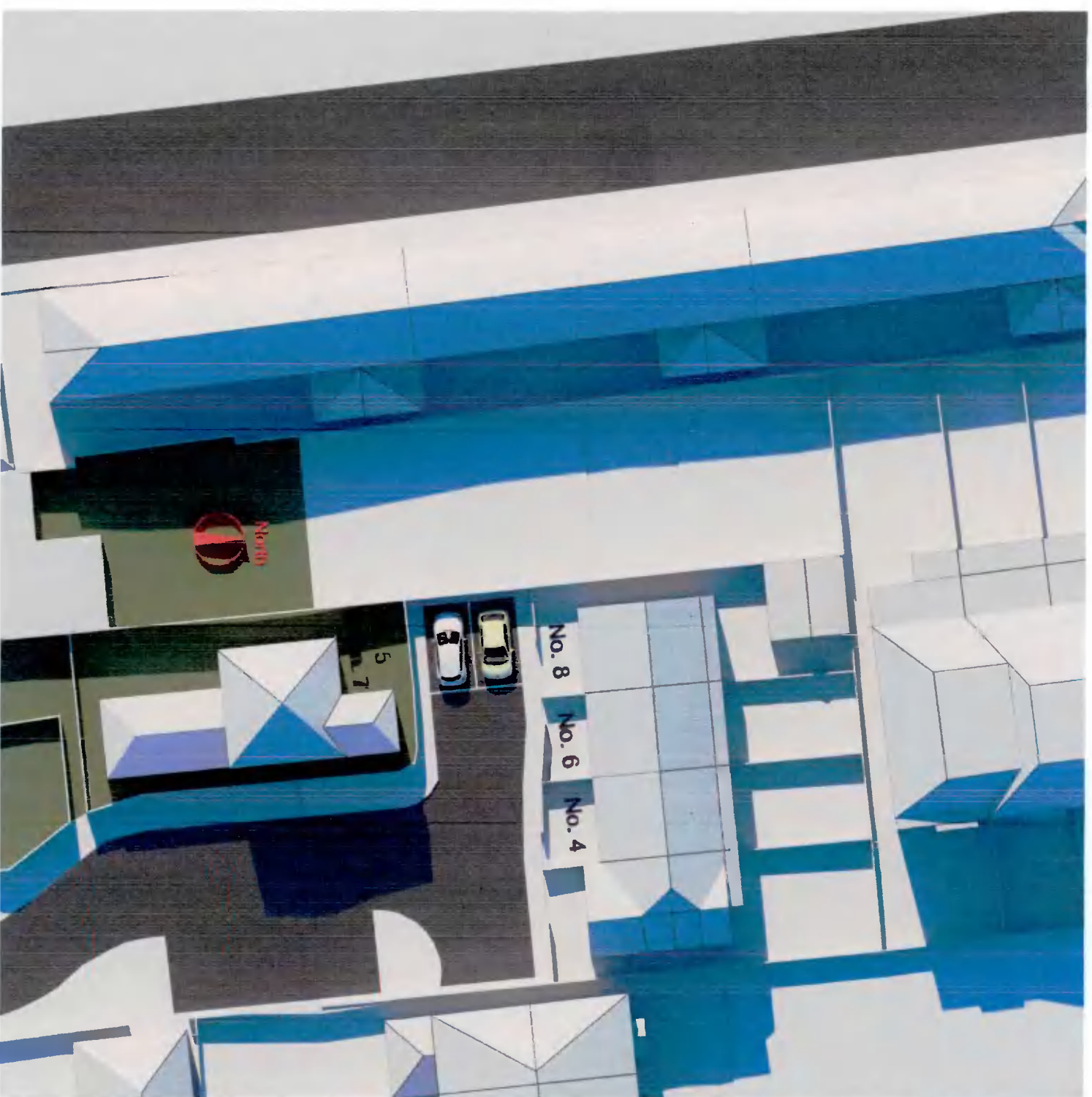
Proposed June 21st 3pm 2021



Existing June 21st 4pm 2021



Proposed June 21st 4pm 2021



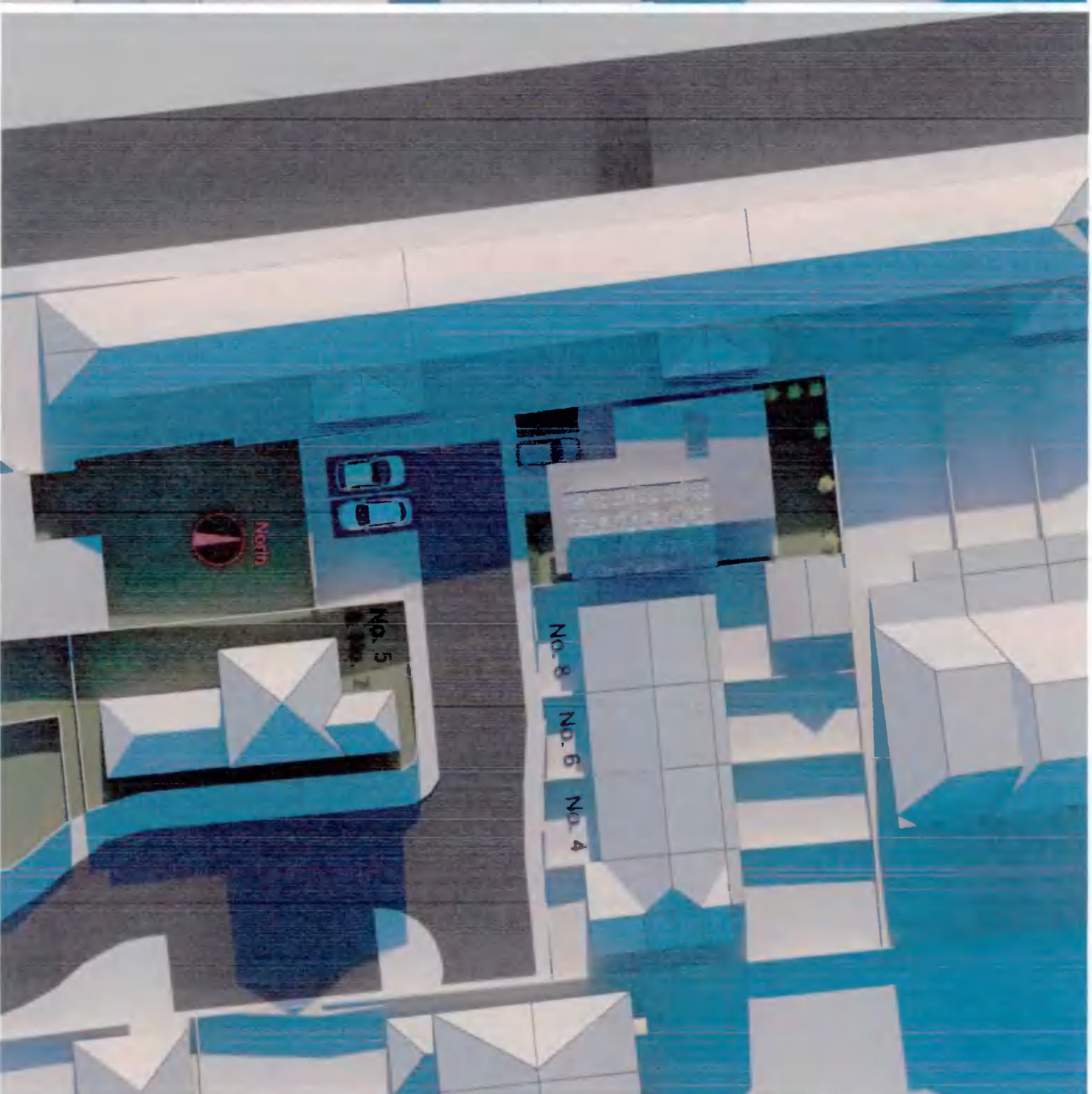
Existing June 21st 5pm 2021



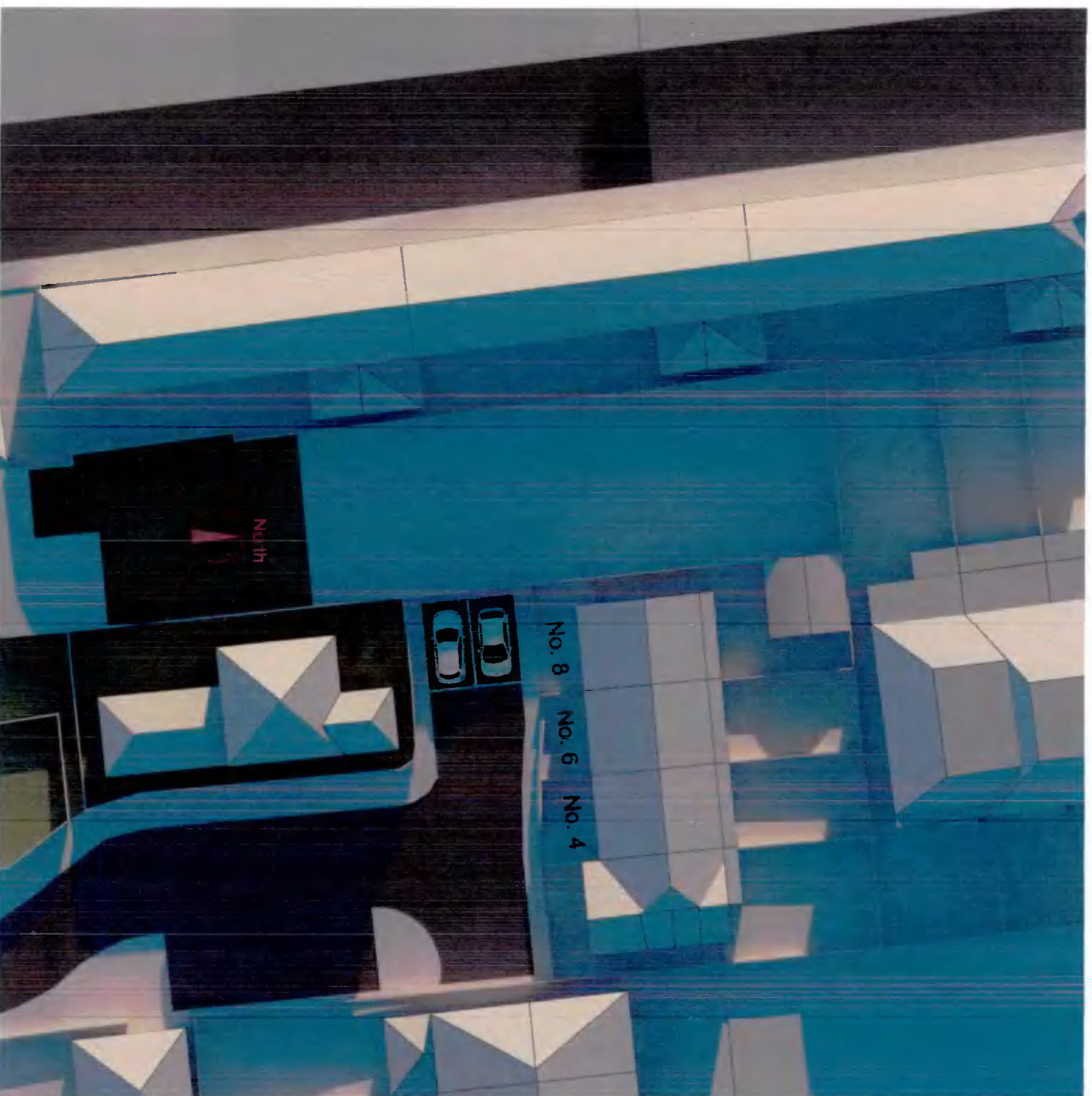
Proposed June 21st 5pm 2021



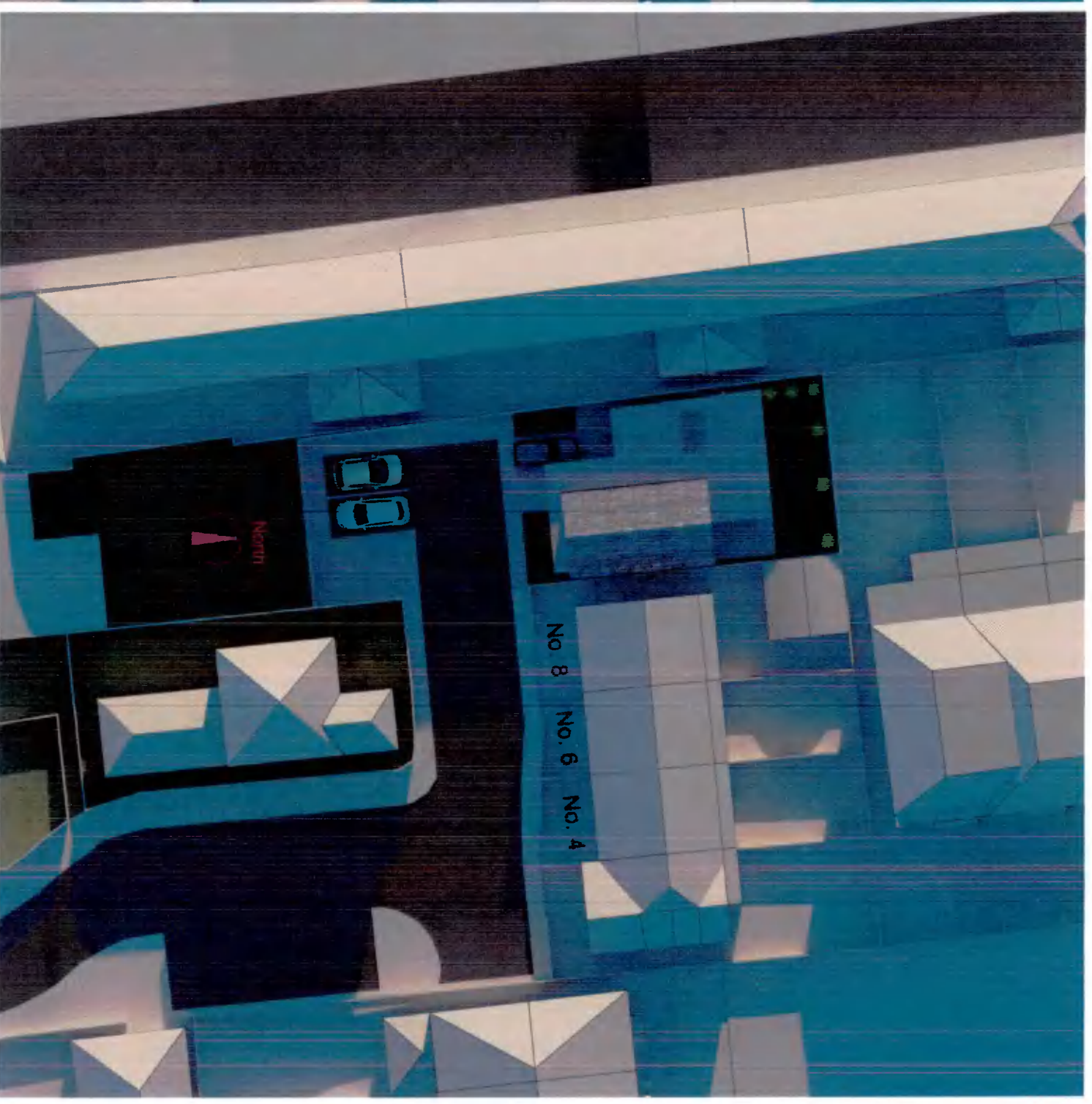
Existing June 21st 6pm 2021



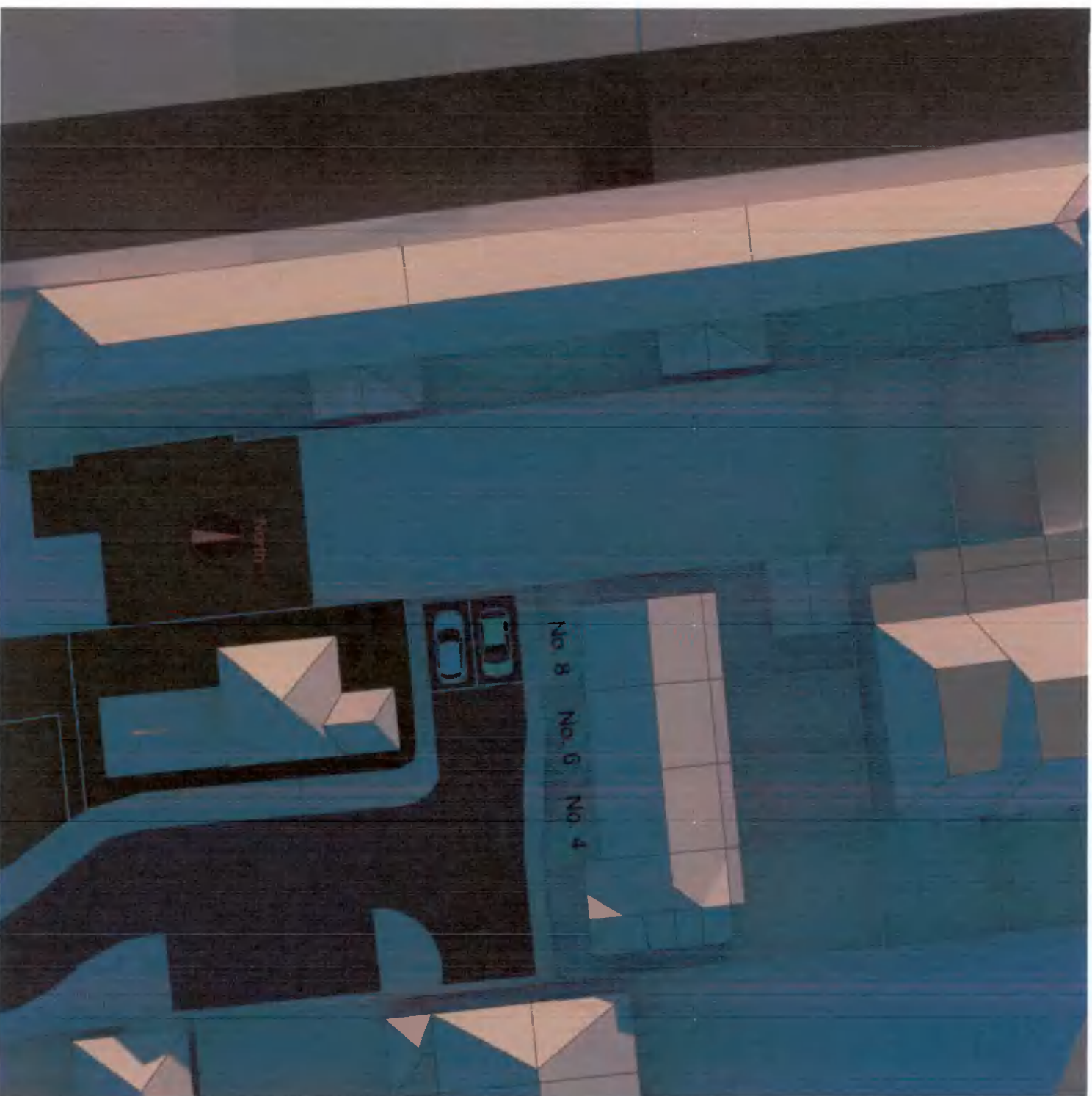
Proposed June 21st 6pm 2021



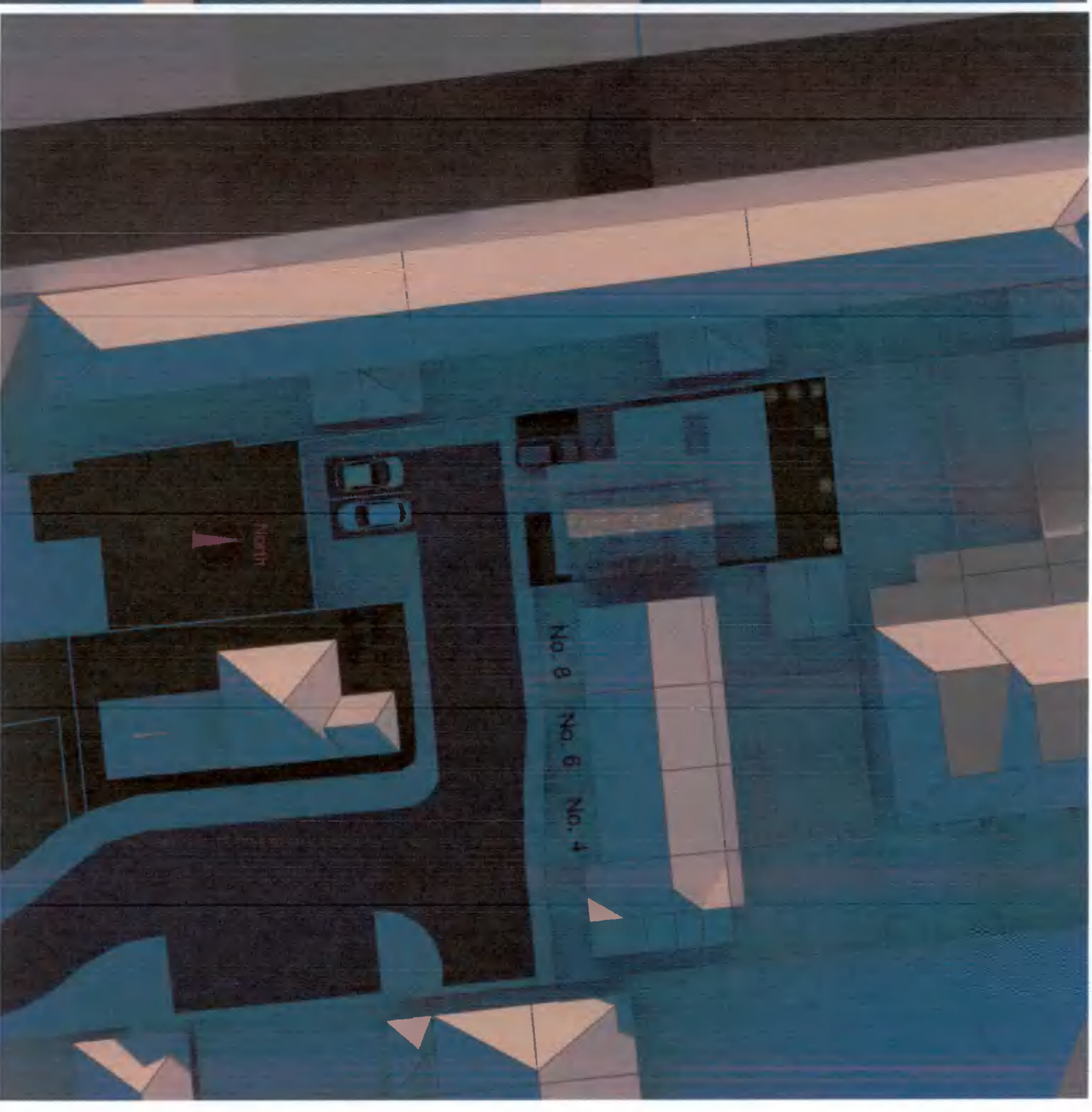
Existing June 21st 7pm 2021



Proposed June 21st 7pm 2021



Existing June 21st 8pm 2021



Proposed June 21st 8pm 2021

4. Results

Winter Solstices
December 21st
10am -3pm 2021



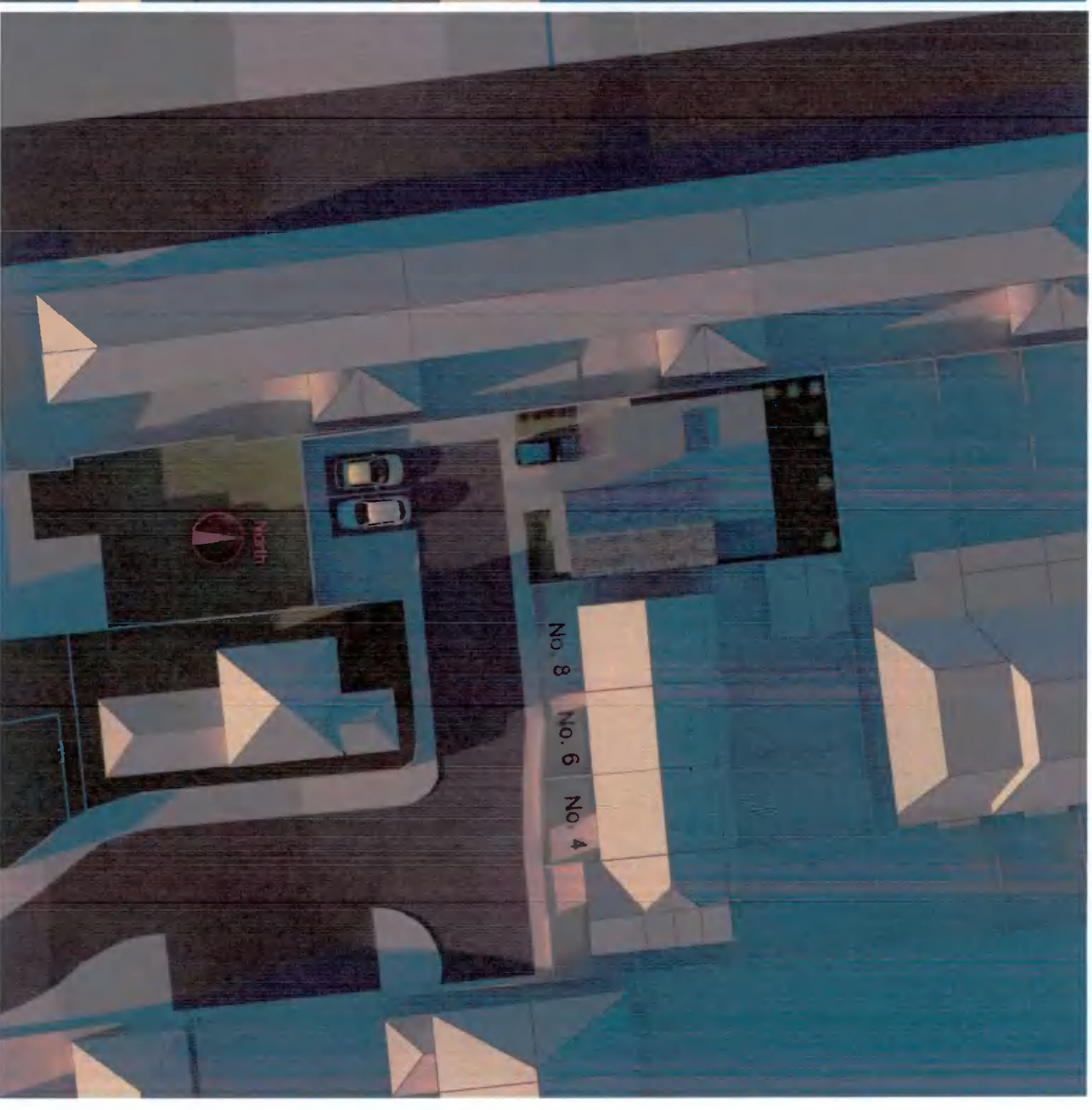
Existing December 21st 10am 2021



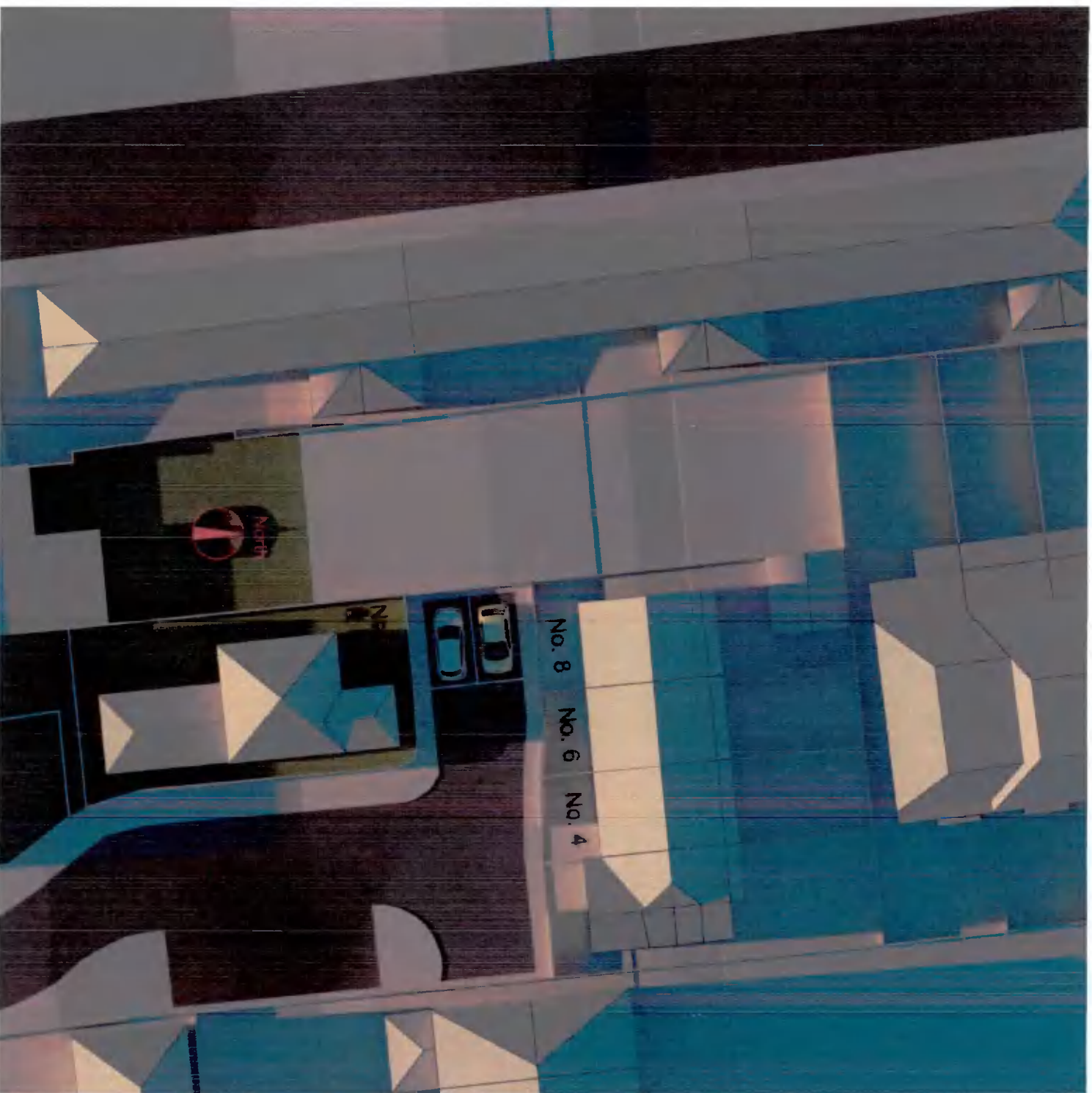
Proposed December 21st 10am 2021



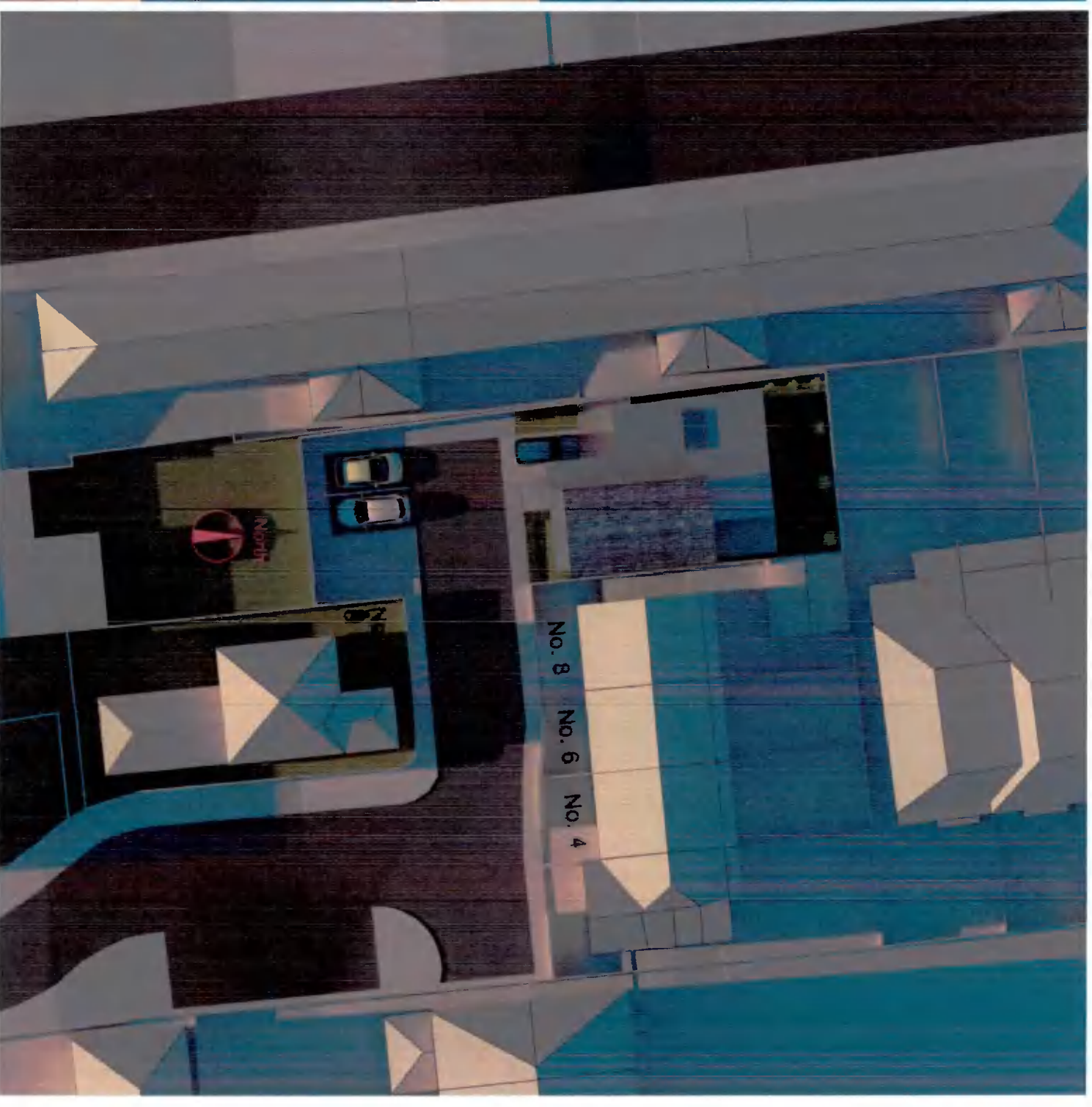
Existing December 21st 11am 2021



Proposed December 21st 11am 2021



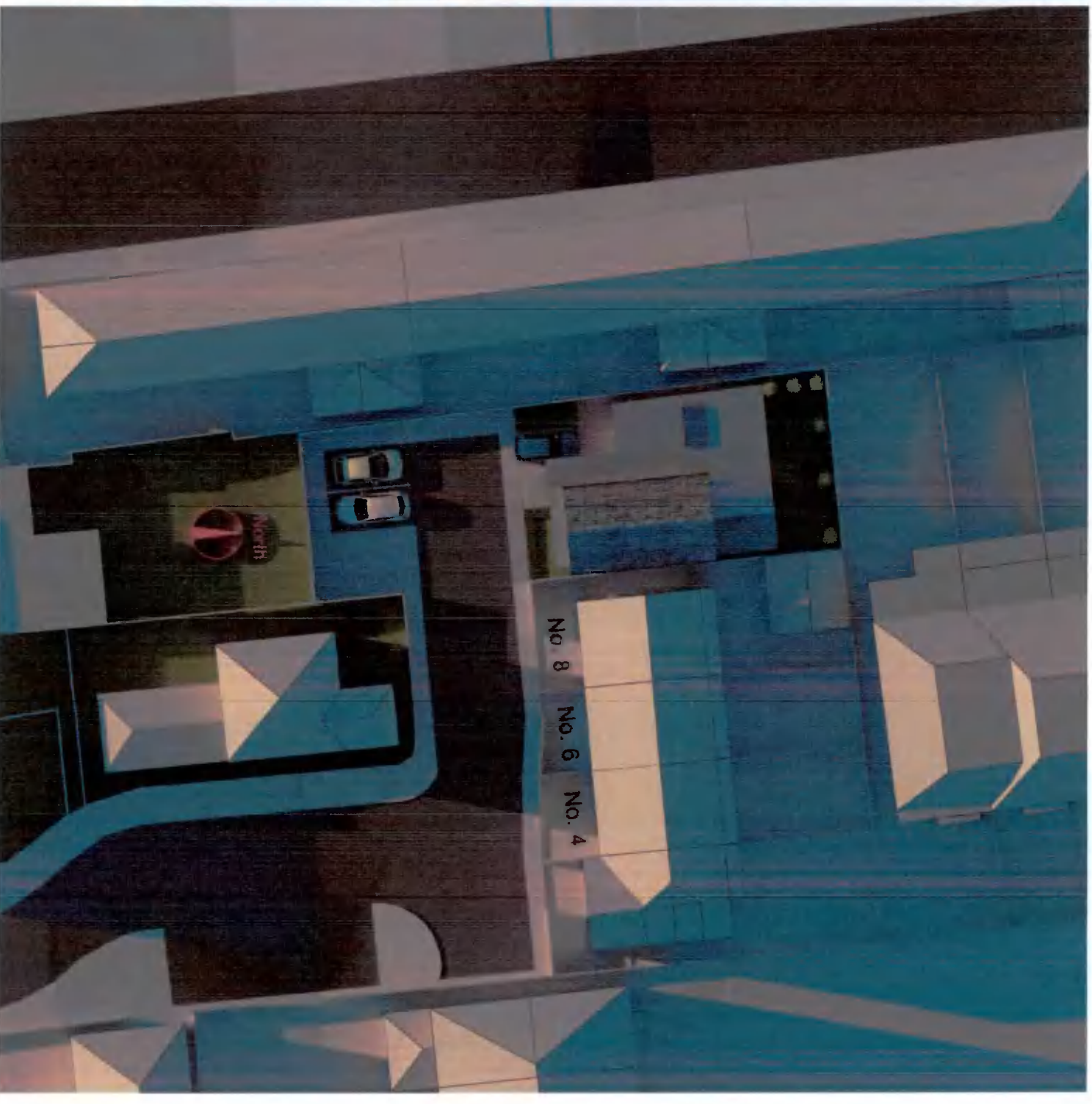
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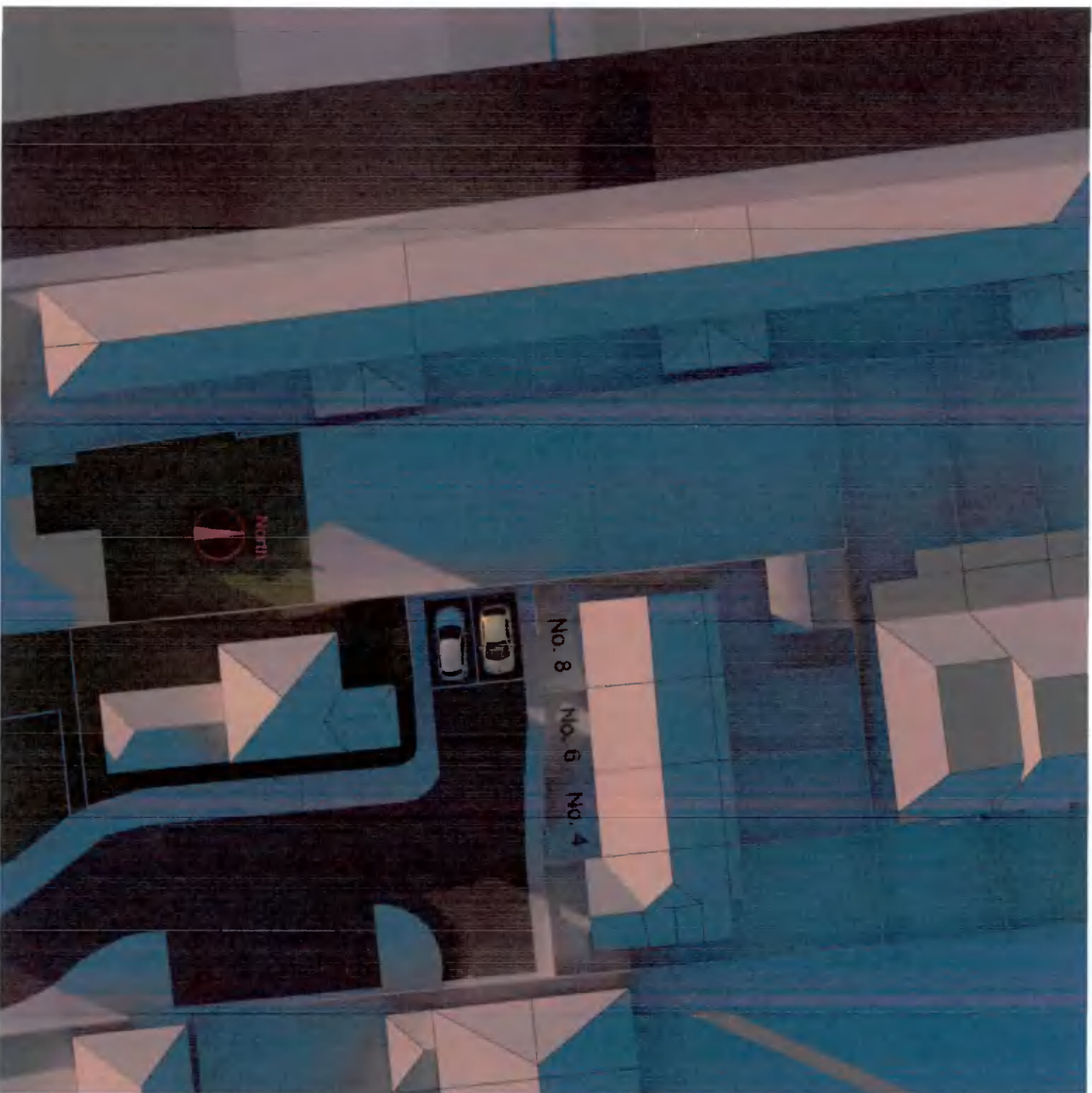
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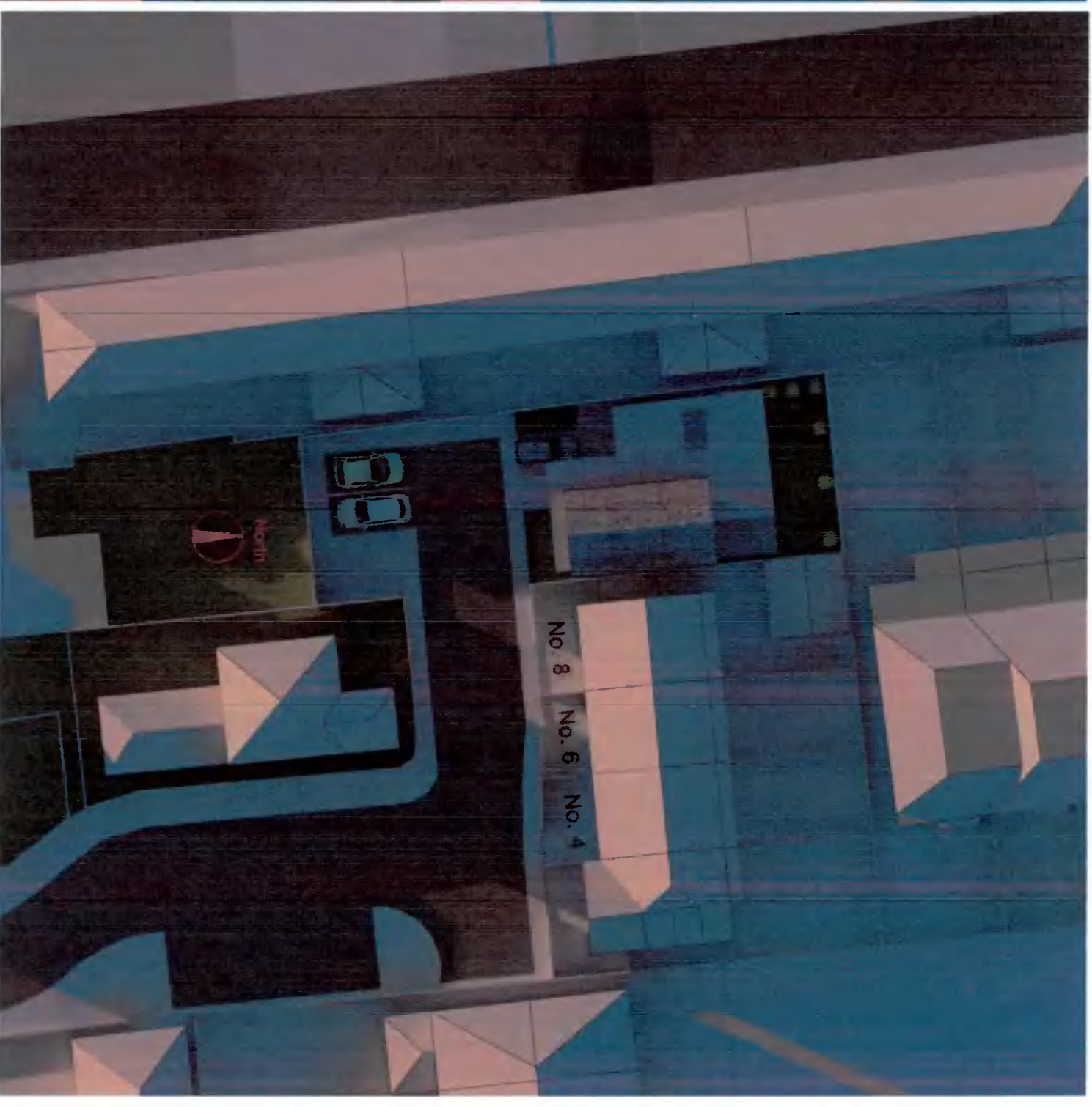
Existing December 21st 1pm 2021



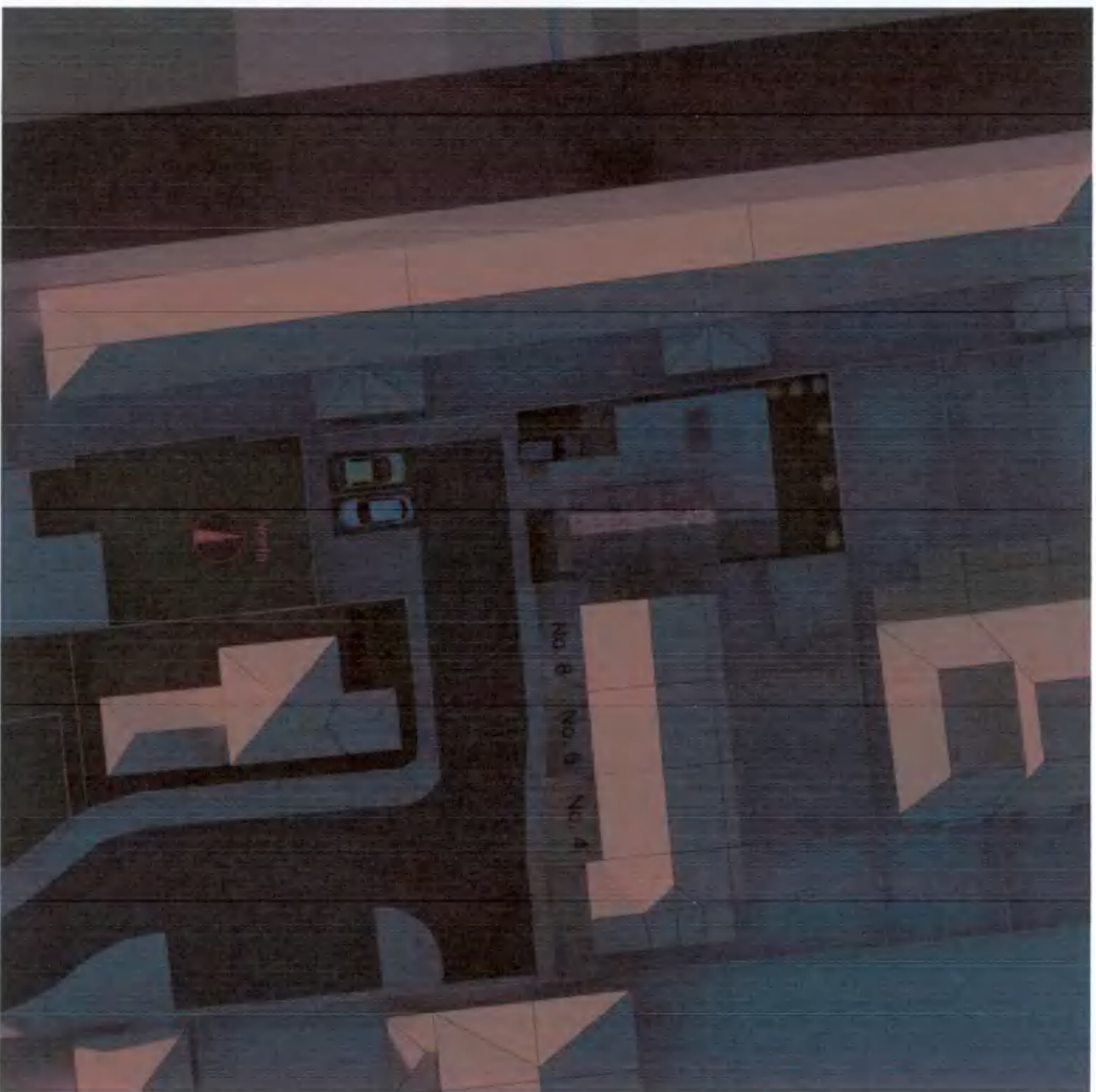
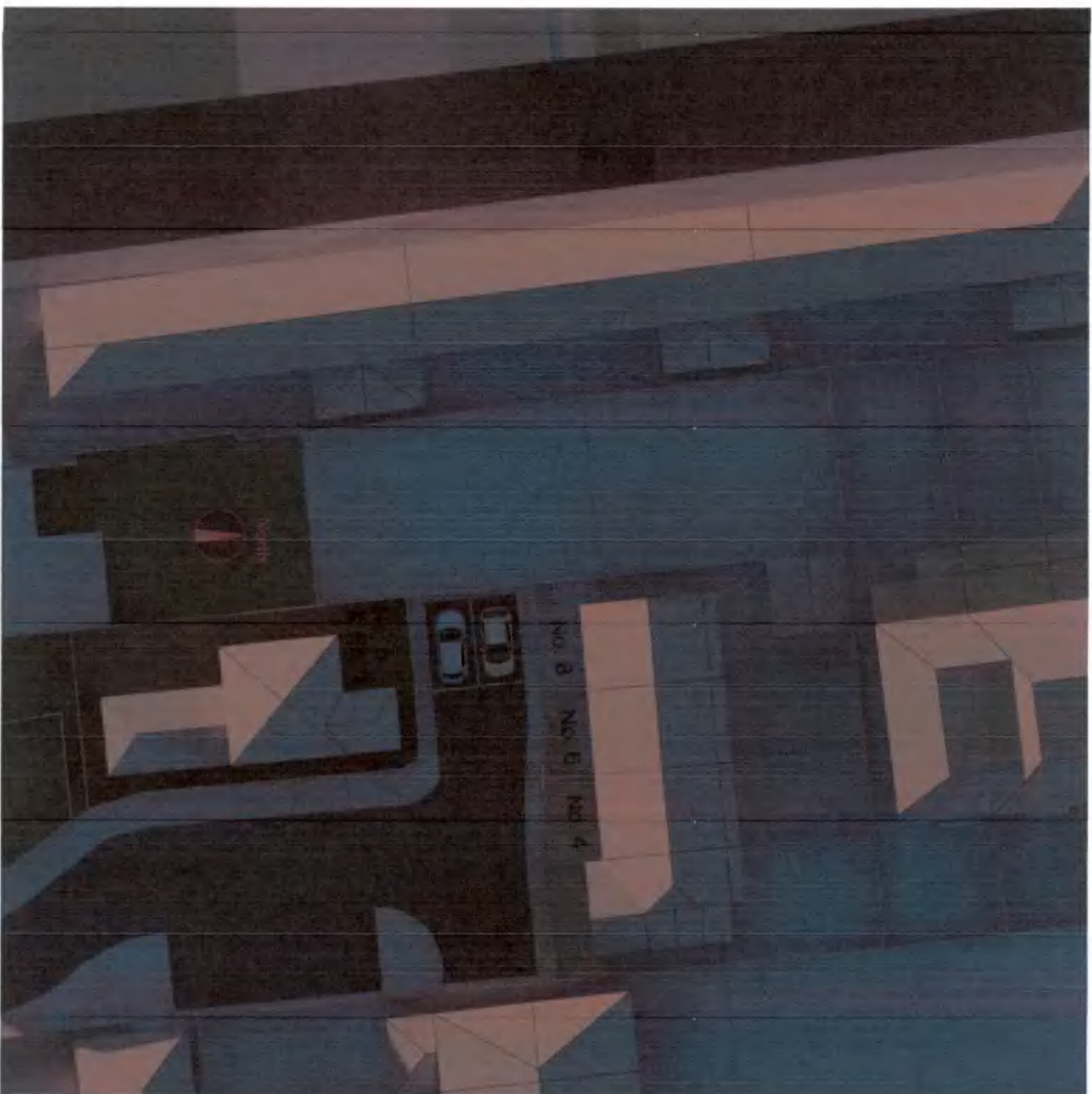
Proposed December 21st 1pm 2021



Existing December 21st 2pm 2021



Proposed December 21st 2pm 2021



Existing December 21st 3pm 2021

Proposed December 21st 3pm 2021