

October 17, 2023

File No. 11114

City of Waterloo
Development Planning,
Integrated Planning & Public Works, 2nd Floor
100 Regina Street South
Waterloo, Ontario
N2J 4A8

Attention: Rita Szilock, MCIP, RPP
Senior Development Planner

Dear Ms. Szilock:

**Re: REVISED SHADOW STUDY ANALYSIS
Official Plan Amendment No. 32
Zoning By-law Amendment Z-21-03
525 and 565 Conestogo Road, Waterloo**

On behalf of 65 Northfield Drive Inc., an updated shadow study was prepared by Turner Fleischer Architects, dated October 26, 2023, to assess the shadow impacts of the built form on its surroundings. In accordance with the City of Waterloo Shadow Study Criteria, the study included the following test dates and times:

- Test Dates: March 21st, June 21st, September 21st, and December 21st.
- Test Times: Two-hour intervals at 10 am, 12 pm, 2 pm, 4 pm, and 6 pm for March, June, and September. For December, the study included times at 10 am, 12 pm, and 2 pm.

The City has established two guidelines for the consideration of Shadow Studies:

1. As a principle, at least 50% or more of any property should not be shaded for more than two interval times (a 4-hour equivalency).
2. As a principle, at least 50% of any property should be in full sun for at least two interval times (a 4-hour equivalency).

The Revised Shadow Study was prepared to reflect refinements to the building massing, notably the removal of a tower compared to the original submission in March 2023. The Revised Study also accounts for the latest concept site plan, including the realignment of the proposed roads and expansion of the proposed central park and open space areas. The following includes an assessment of the shadows cast by the proposed development in consideration of these guidelines.

March: There are no shadow impacts until 2 pm because the shadow falls on Conestoga Parkway until that time, with minimal shadow impacts on the front yards of the properties on the north side of Conestogo Road at 2 pm. As a result, the adjacent properties receive more than 50% sunlight for at least two consecutive time intervals. After 4 pm, the shadow cast by the proposed development on Conestogo Road and the properties on the north side of the road covers more than 50%; however, this still complies with the shadow criteria for March.

June: The shadows cast by the buildings are smaller in June due to the higher position of the sun in the sky. There are zero to minimal shadow impacts on the surrounding properties until 4 pm, and this period also provides full sunlight for the proposed open areas within the Site. The development complies with the shadow criteria for June.

September: The shadow impacts are very similar to those in March and comply with the shadow criteria for September.

December: Shadows are longest in the winter when the sun is very low in the sky. At 10 am, the shadows produced by the proposed development fall onto the parking lot of the automotive dealership showroom and U-haul site, both located on the north side of Northfield Drive. At 12 pm, the shadow moves towards Conestogo Road and partially affects the properties abutting the road, and at 2 pm, several of the surrounding properties are fully in shadow. Key pedestrian areas such as the Hydro Corridor will receive significant sunlight in the winter. The shadow impacts comply with the shadow criteria for December.

Conclusion

The proposed development, which includes key design features such as smaller tower footprints, prominent podiums, sufficient tower separations, substantial tower setbacks on Conestogo Road and a large central park and open space area, results in shadows cast by the proposed development that are reasonable and align with the general criteria.

Yours truly,
GSP Group Inc.

A handwritten signature in black ink that reads "Evelyn Thomas". The script is fluid and cursive, with the first letters of each name being capitalized and prominent.

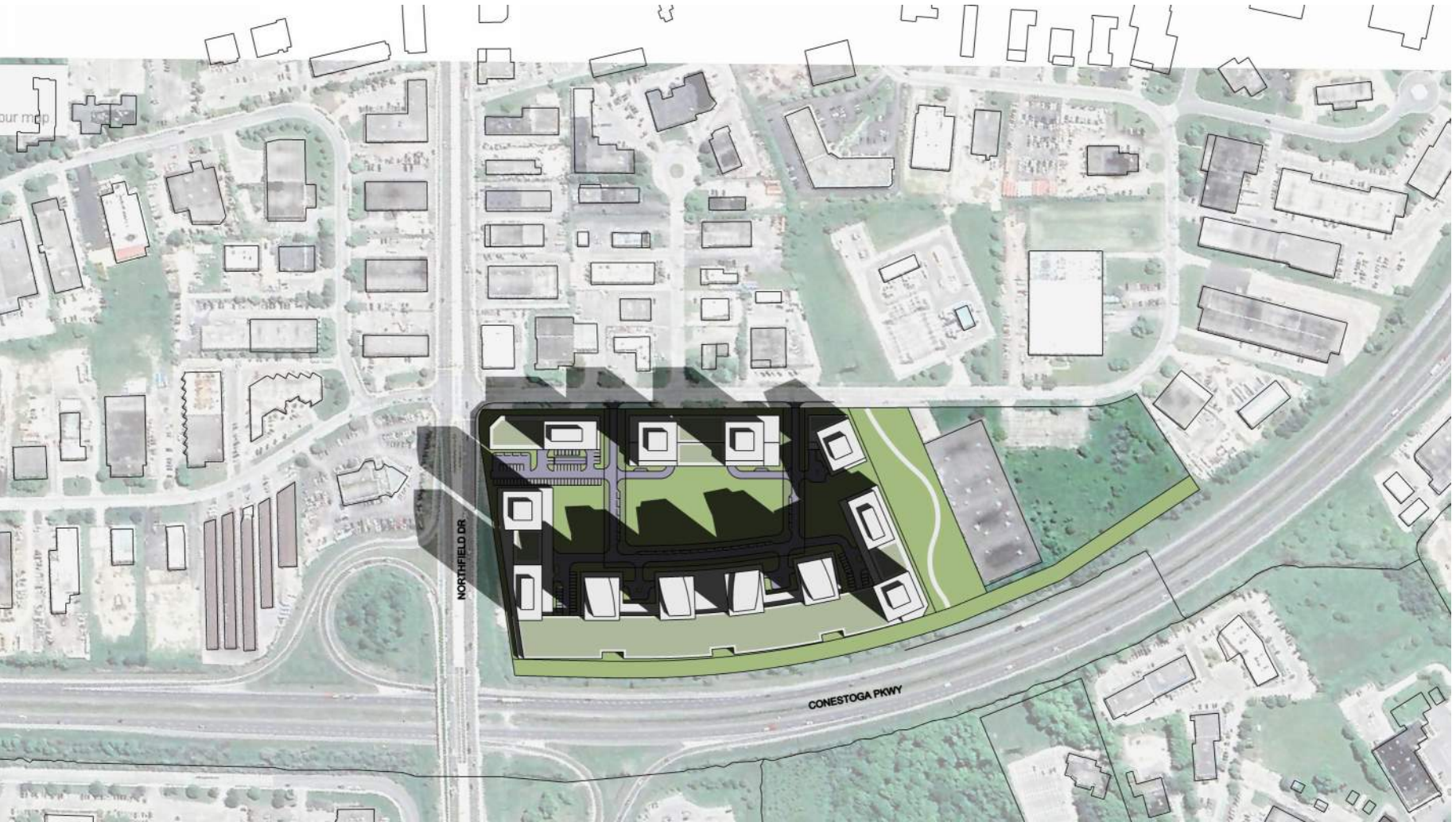
Evelyn Thomas, B. Arch, M.U.D
Urban Designer



MARCH 21, 10:00 AM



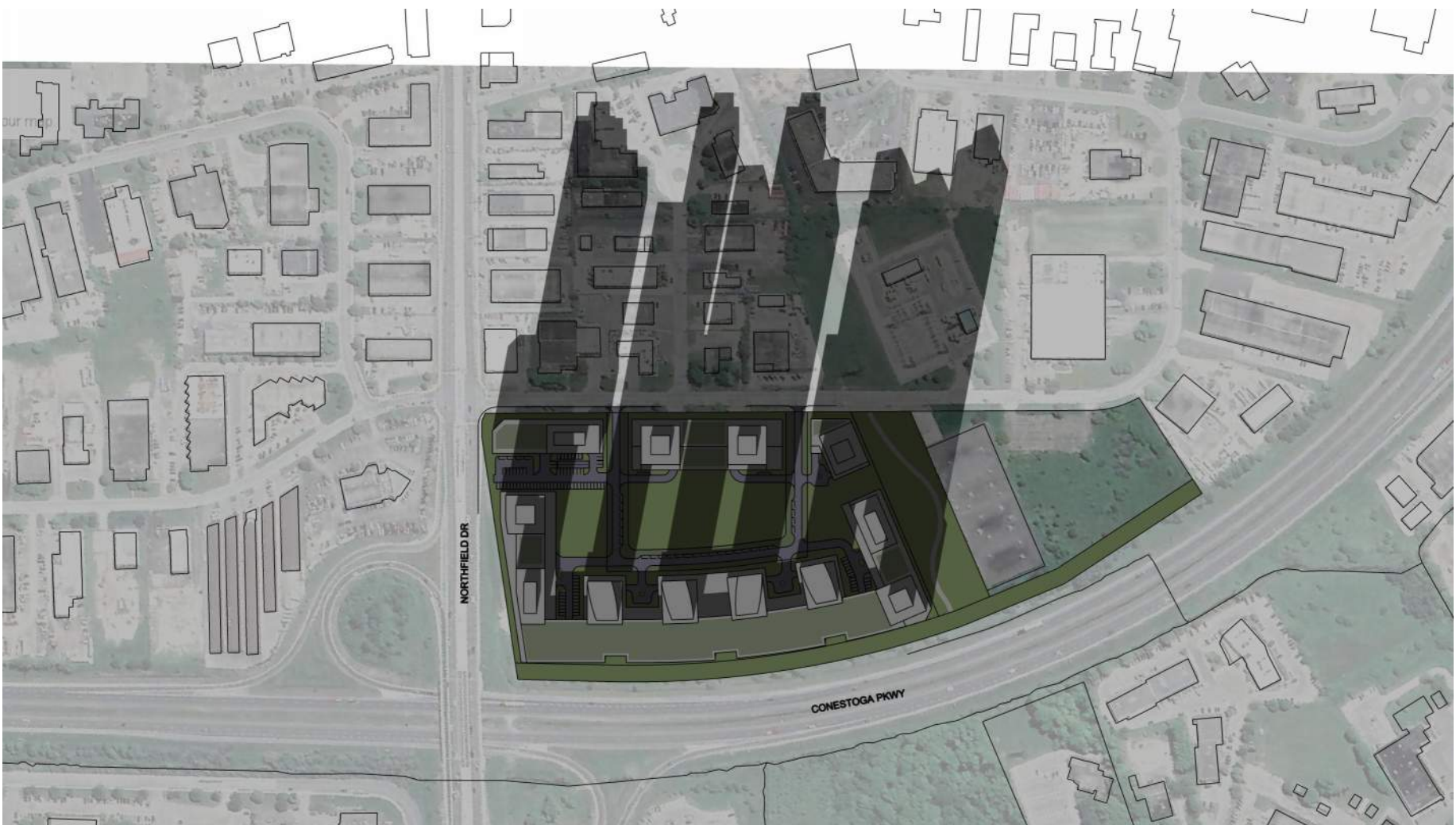
MARCH 21, 12:00 PM



MARCH 21, 2:00 PM



MARCH 21, 4:00 PM



MARCH 21, 6:00 PM

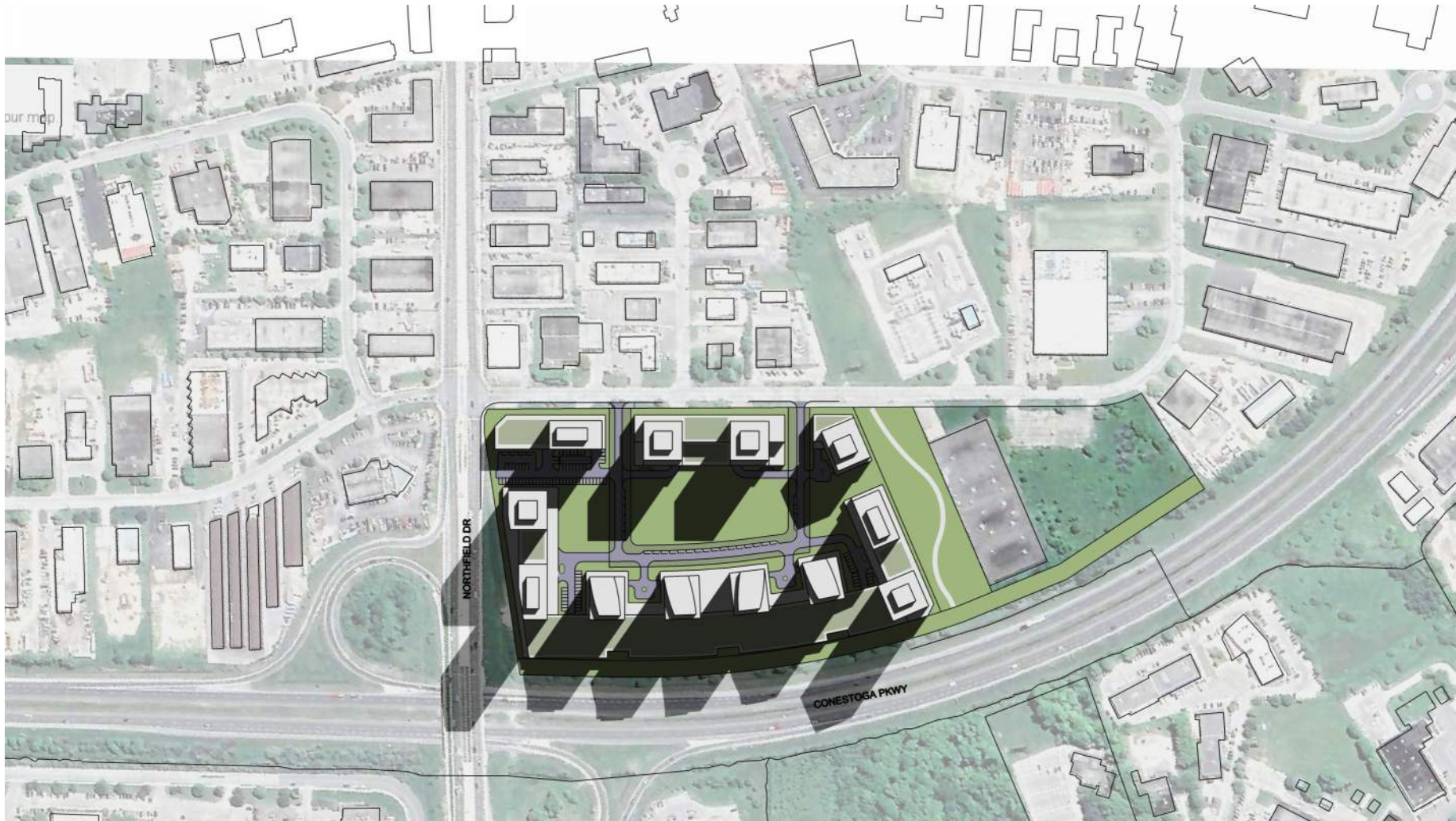
#	DATE	DESCRIPTION	BY
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PROJECT
**PROPOSED MIXED-USE
DEVELOPMENT**
Conestoga Pkwy and Northfield Dr, Waterloo, ON

DRAWING
SHADOW STUDIES

PROJECT NO.
13.119P01
PROJECT DATE
2023-10-13
DRAWN BY
LSW
CHECKED BY
RMM
SCALE
1:5000

DRAWING NO.
RZ811
REV.



JUNE 21, 10:00 AM



JUNE 21, 12:00 PM



JUNE 21, 2:00 PM



JUNE 21, 4:00 PM



JUNE 21, 6:00 PM

TURNER FLEISCHER

Turner Fleischer Architects Inc.
67 Leslie Road
Toronto, ON M5B 2T8
T 416 425 2222
turnerfleischer.com

#	DATE	DESCRIPTION	BY
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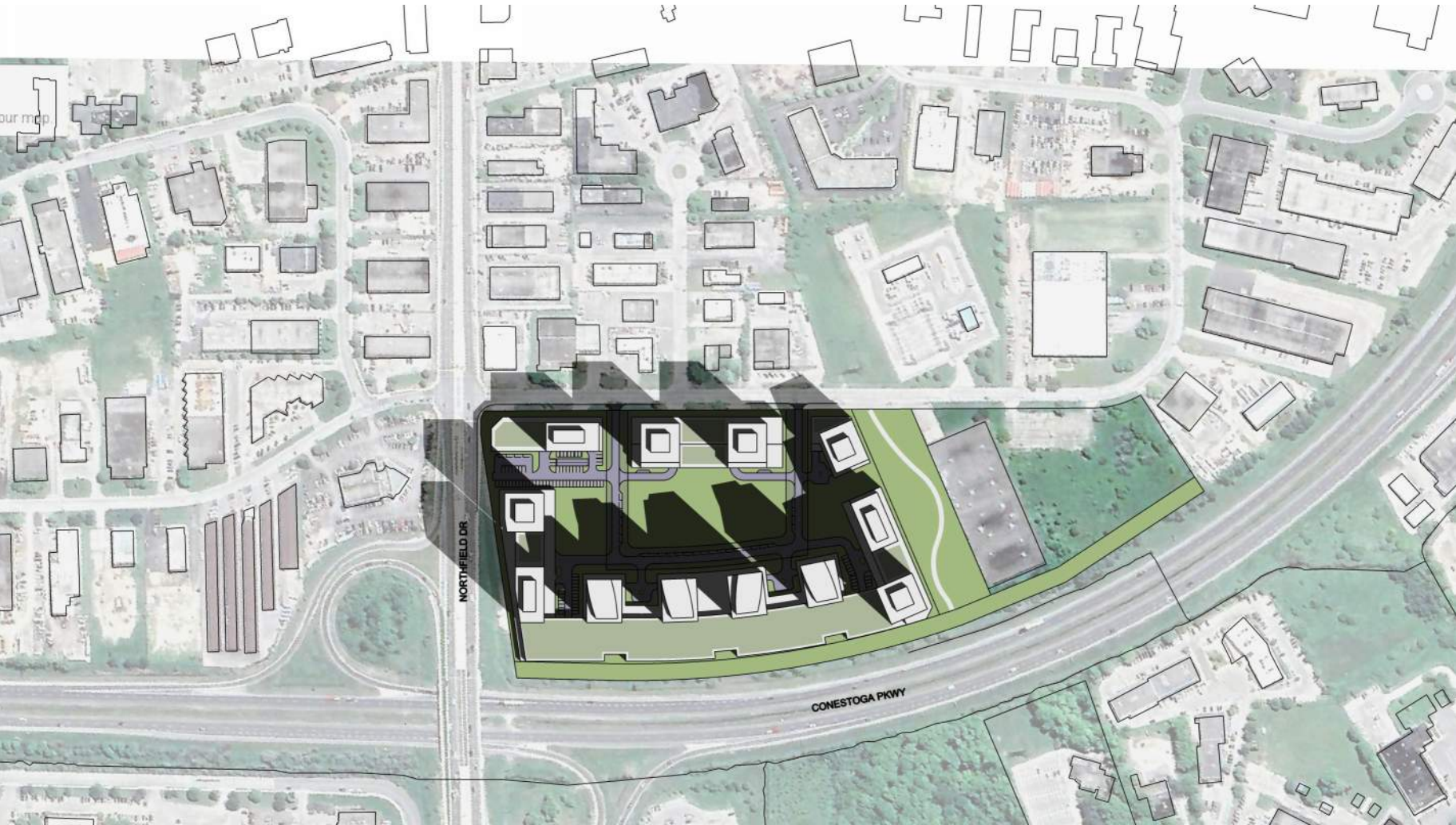
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RZ812	



SEPTEMBER 21, 10:00 AM



SEPTEMBER 21, 12:00 PM



SEPTEMBER 21, 2:00 PM



SEPTEMBER 21, 4:00 PM



SEPTEMBER 21, 6:00 PM

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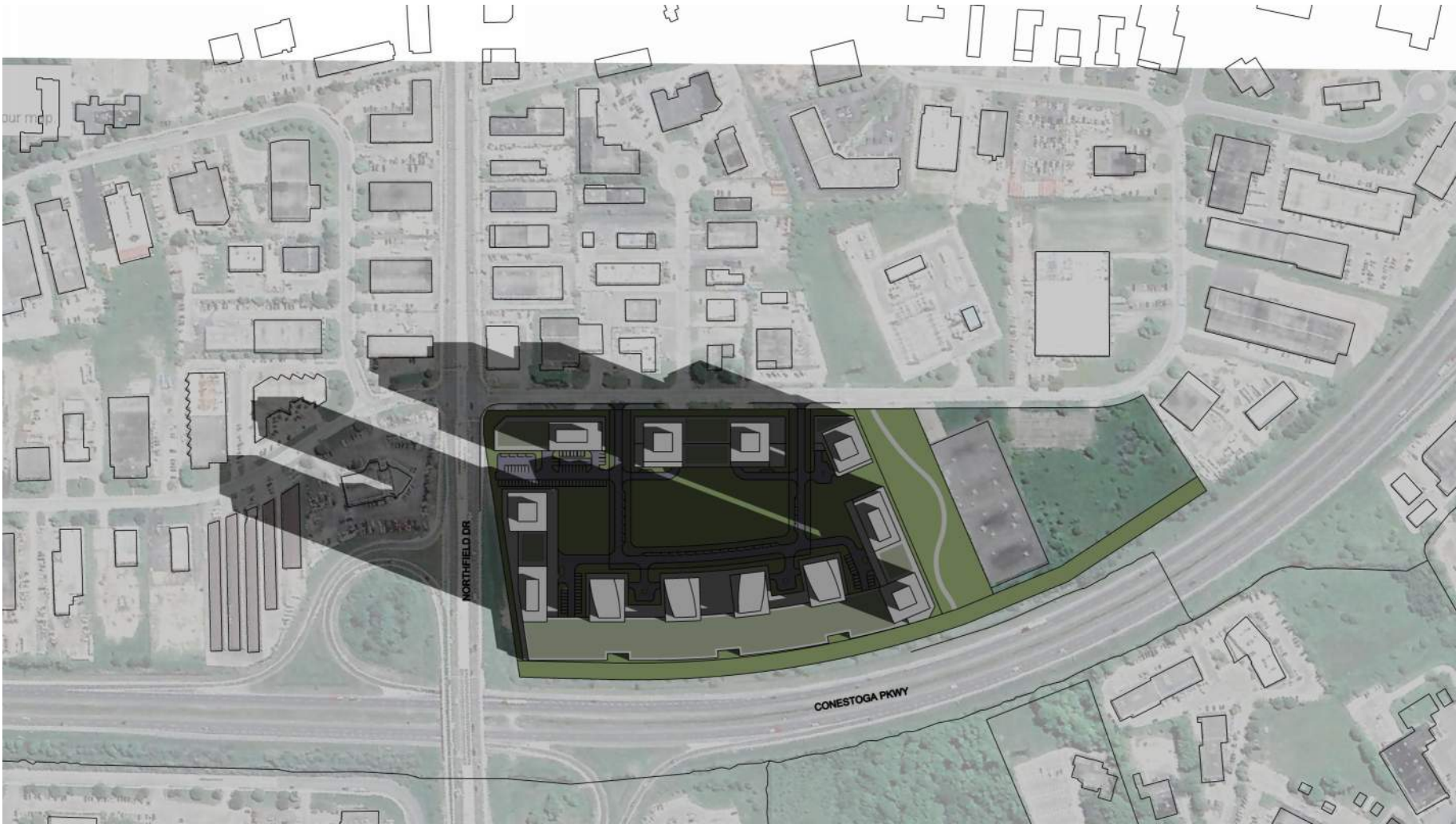
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SHADOW STUDIES

PROJECT NO. 13.119P01	
PROJECT DATE 2023-10-13	
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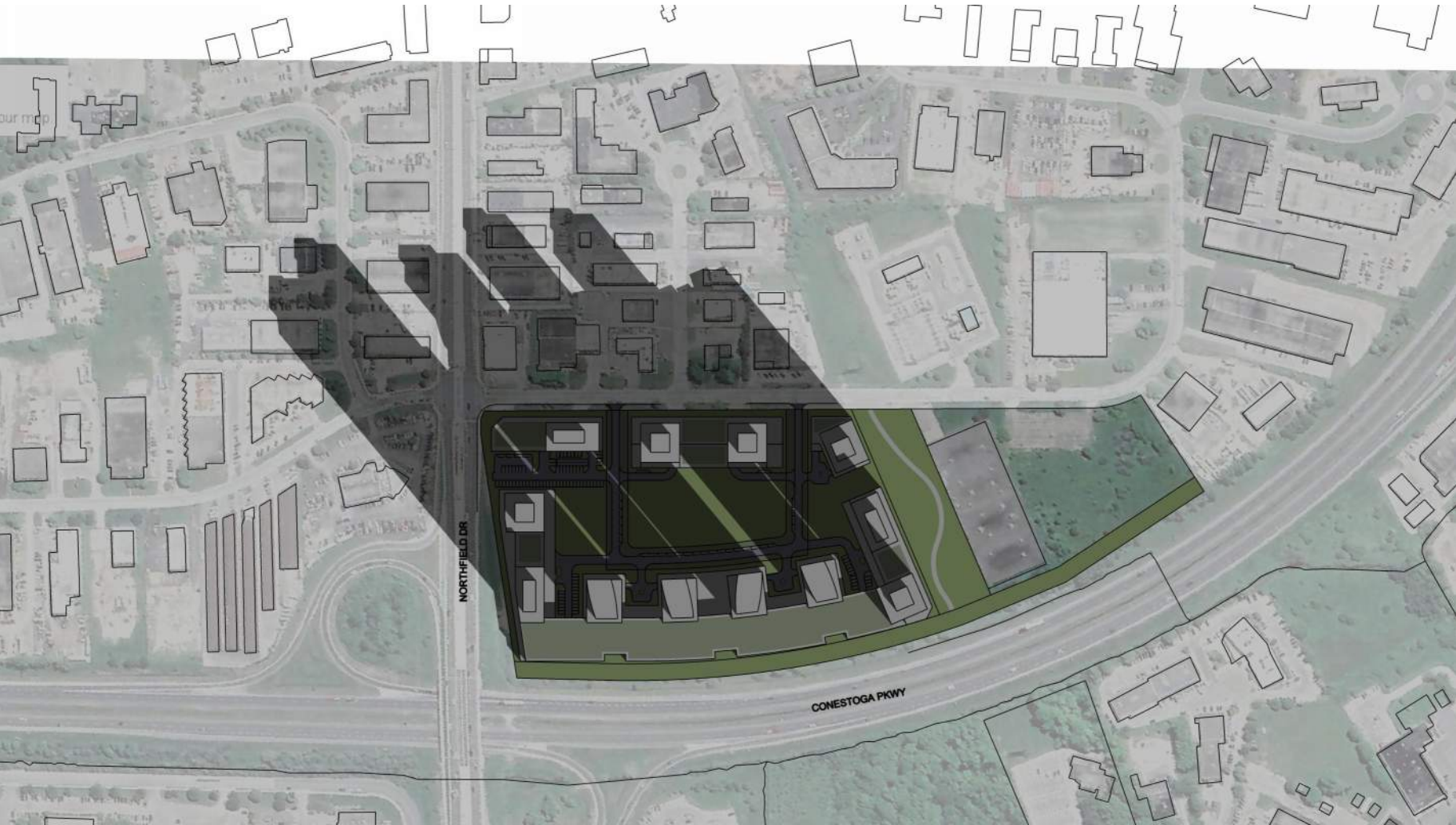
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RZ813	



DECEMBER 21, 10:00 AM



DECEMBER 21, 12:00 PM



DECEMBER 21, 2:00 PM

TURNER FLEISCHER

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