

These plans are conditionally approved as submitted or noted during plan review and are subject to field inspection. Approved plans must be kept on site and are needed for all inspections. No changes or modifications to these plans. Changes require a permit with the revised plans. Trade permits are required for trade work. E.O. Electrical or Plumbing

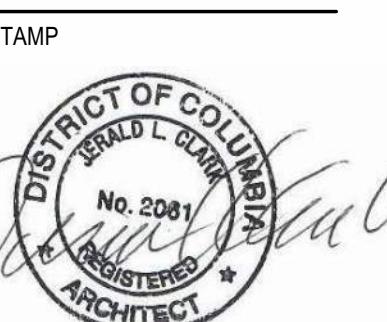
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3719 S ST NW

SINGLE-FAMILY ROWHOUSE
ADDITION & ALTERATION

B	DESCRIPTION

SOLAR ANALYSIS



A	PROJECT NO.
	FS200061
	DRAWN BY:
	Author
	SCALE:
	12" = 1'-0"
	DATE:
	2023-10-31
	DWG. NO.

0008

Board of Zoning Adjustment
District of Columbia
CASE NO. 21202
EXHIBIT NO. 14

ADJACENT SOLAR ARRAY ANALYSIS

ADDRESS: 3717 S ST NW, WASHINGTON D.C. 20007

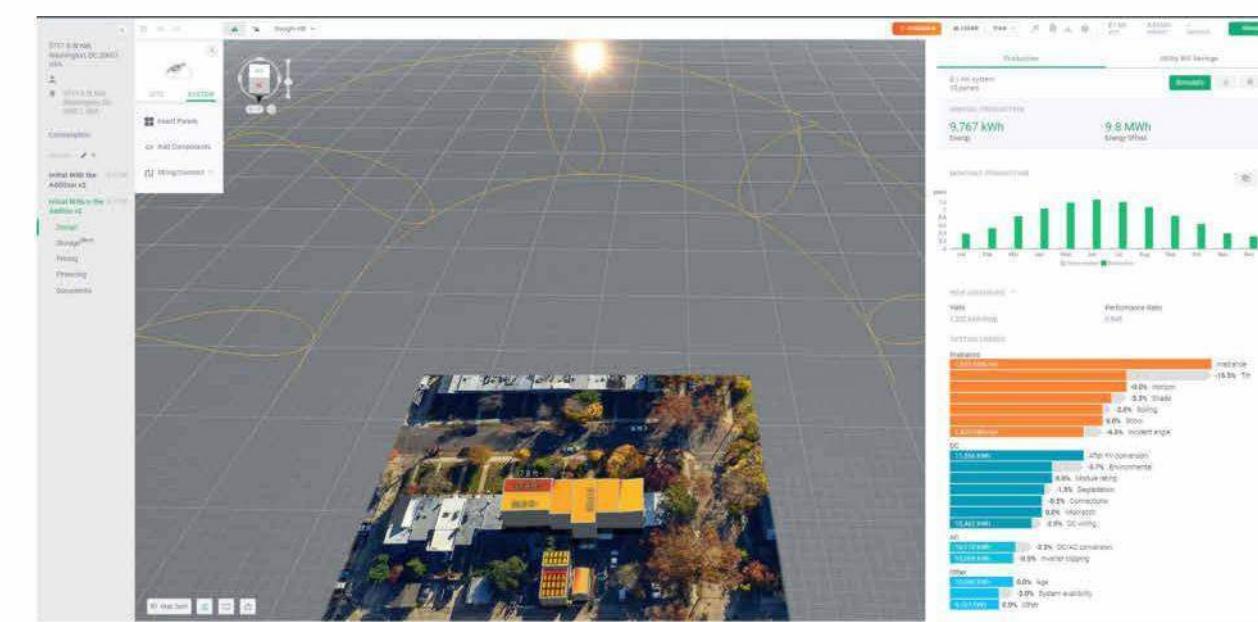
SCOPE OF WORK
ANALYZE AND ASSESS SOLAR ARRAY PRODUCTION LOSS DUE TO PROPOSED ADDITION AT ADJACENT PROPERTY (3719 S ST NW).

EXISTING SITE ASSESSMENT
25 PANELS TOTAL LOCATED ON ROOF OF DETACHED ACCESSORY BUILDING
10 PANELS ON 2ND FLOOR ROOF (SOUTH FACING)
15 PANELS ON 1ST FLOOR ROOF (NORTH FACING)

COMPARISON ANALYSIS METHOD
AURORA SOLAR MODELING SOFTWARE W/ LIDAR SUPPORTED DATA AND GIS INFORMATION.

CONCLUSION
THE PROPOSED 3-STORY ADDITION AND DETACHED ACCESSORY BLDG AT THE REAR OF 3719 S ST NW WILL RESULT IN **LESS THAN A 5% LOSS OF ANNUAL ENERGY PRODUCTION**.

SEE SUPPORTING DOCUMENTS FOR NEIGHBOR NOTIFICATION AND FULL SOLAR ANALYSIS, SHADING REPORT AND PRODUCTION LOSS.



EXISTING CONDITIONS - ANNUAL PRODUCTION ANALYSIS

SYSTEM SIZE: 9.8 kW
ANNUAL PRODUCTION: 9,767 kWh

COMPONENT LIST

SOLAR ARRAY:	MANUFACTURER	MODEL#	QUANTITY
INVERTER:	ENPHASE ENERGY INC.	IQ7-60-2-US (240V)	25

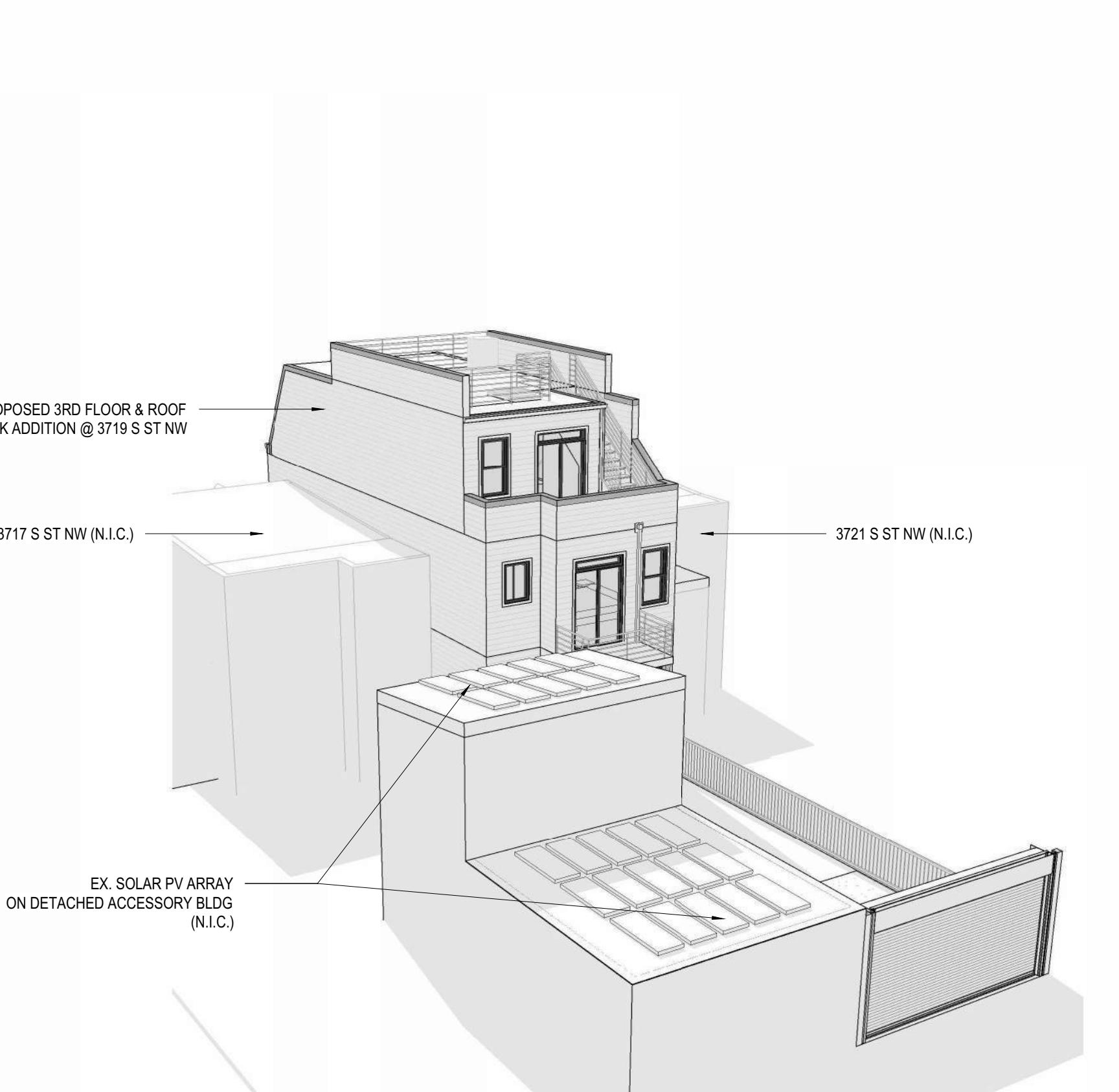
Aurora Shade Report



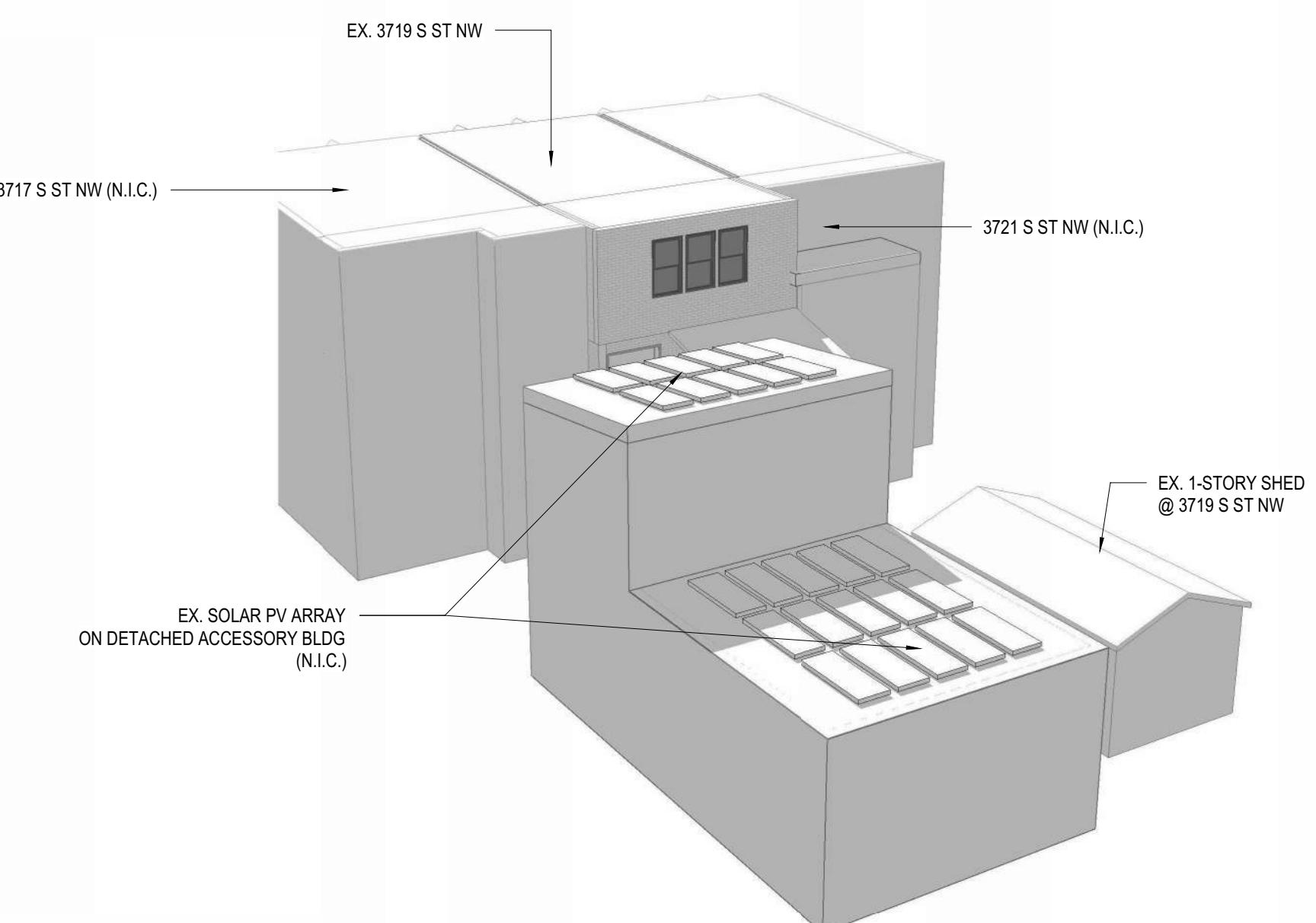
Month	Gauge ADU & Roof Energy Production [kWh]	Original Energy Production [kWh/p]
Jan	368.41	394.58
Feb	511.17	536.01
Mar	802.86	845.37
Apr	975.47	1034.22
May	1133.13	1189.76
Jun	1212.68	1263.32
Jul	1149.77	1200.21
Aug	1024.47	1074.24
Sep	812.99	855.14
Oct	605.12	640.34
Nov	383.09	405.96
Dec	208.23	228.04
Annual Production	9,768.22	9,766.99
% Difference	-	-5.00



System Yield % Drop $\frac{1142 \text{ kWh}/\text{kWp} - 1202 \text{ kWh}/\text{kWp}}{1202 \text{ kWh}/\text{kWp}} * 100 = 4.99\% \text{ Drop}$



B PROPOSED REAR VIEW



A EX. REAR VIEW

powered by
aurora

All work must be done strictly in accordance herewith an approved plans. Approved plans shall be kept on the site until completion of the construction. No inspection will be made without approved plans on site. The approval does not waive a field inspection from ordering corrections to meet codes when issues are noted during inspections

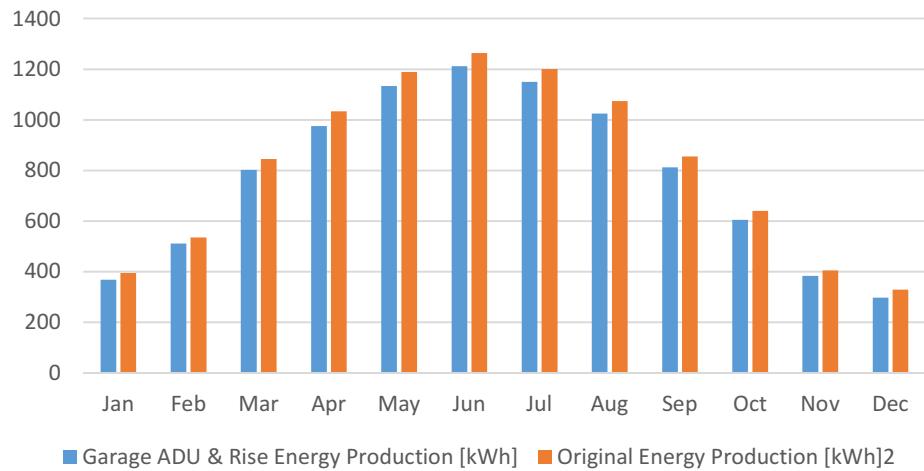
Annual Production % Drop

$$\frac{9278.22 \text{ kWh} - 9766.99 \text{ kWh}}{9766.99 \text{ kWh}} *$$

$$100 = 5.00 \% \text{ Drop}$$

Month	Garage ADU & Rise Energy Production [kWh]	Original Energy Production [kWh]2
Jan	368.61	394.58
Feb	511.17	536.01
Mar	802.86	845.37
Apr	975.47	1034.22
May	1133.34	1189.76
Jun	1212.68	1263.32
Jul	1149.77	1200.21
Aug	1024.87	1074.04
Sep	812.99	855.14
Oct	605.12	640.34
Nov	383.09	405.06
Dec	298.25	328.94
Annual Production	9278.22	9766.99
% Difference		-5.00

Annual Production

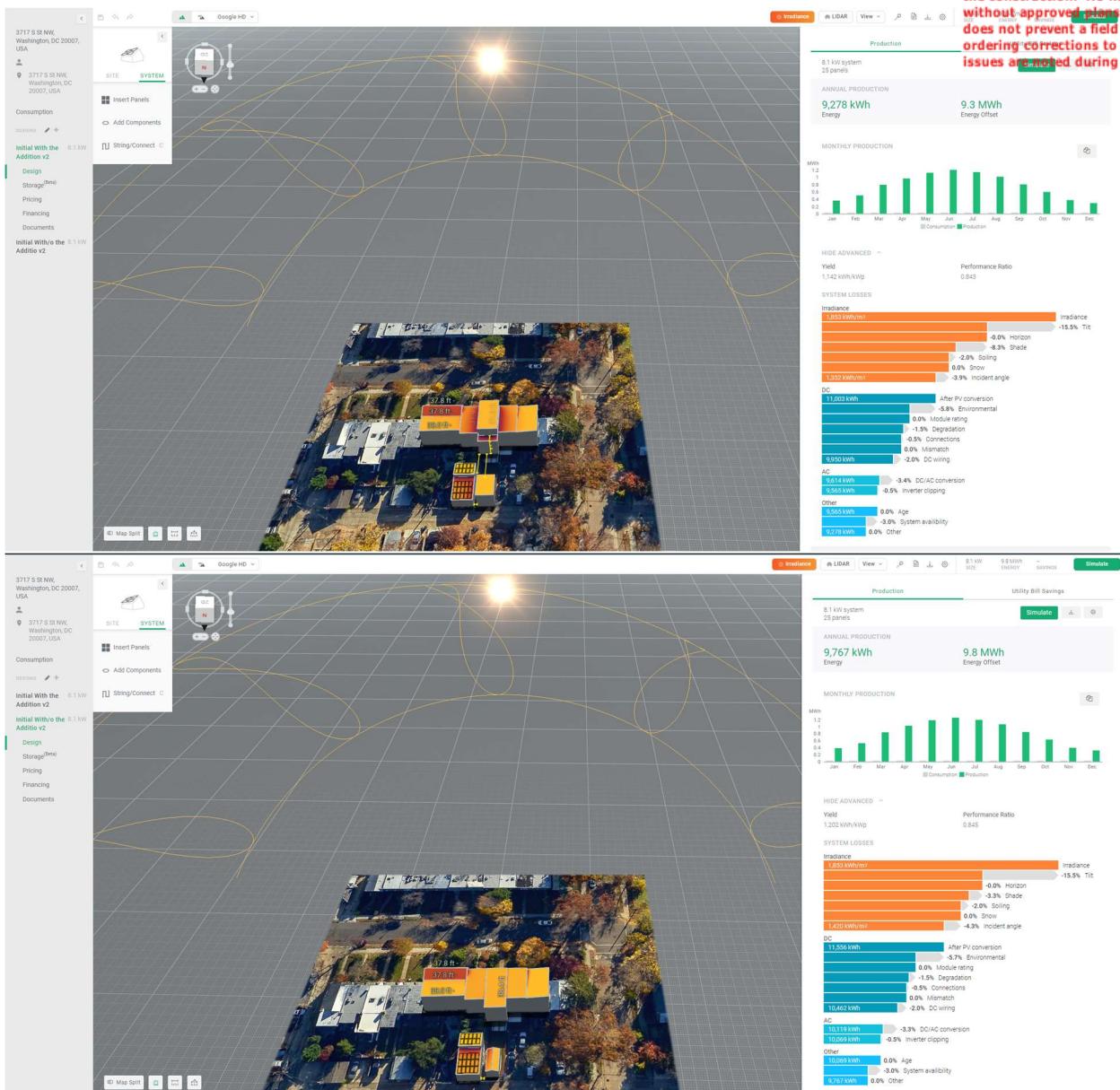


System Yield % Drop

$$\frac{1142 \text{ kWh/kWp} - 1202 \text{ kWp /kWp}}{1202 \text{ kWp /kWp}} *$$

$$100 = 4.99 \% \text{ Drop}$$

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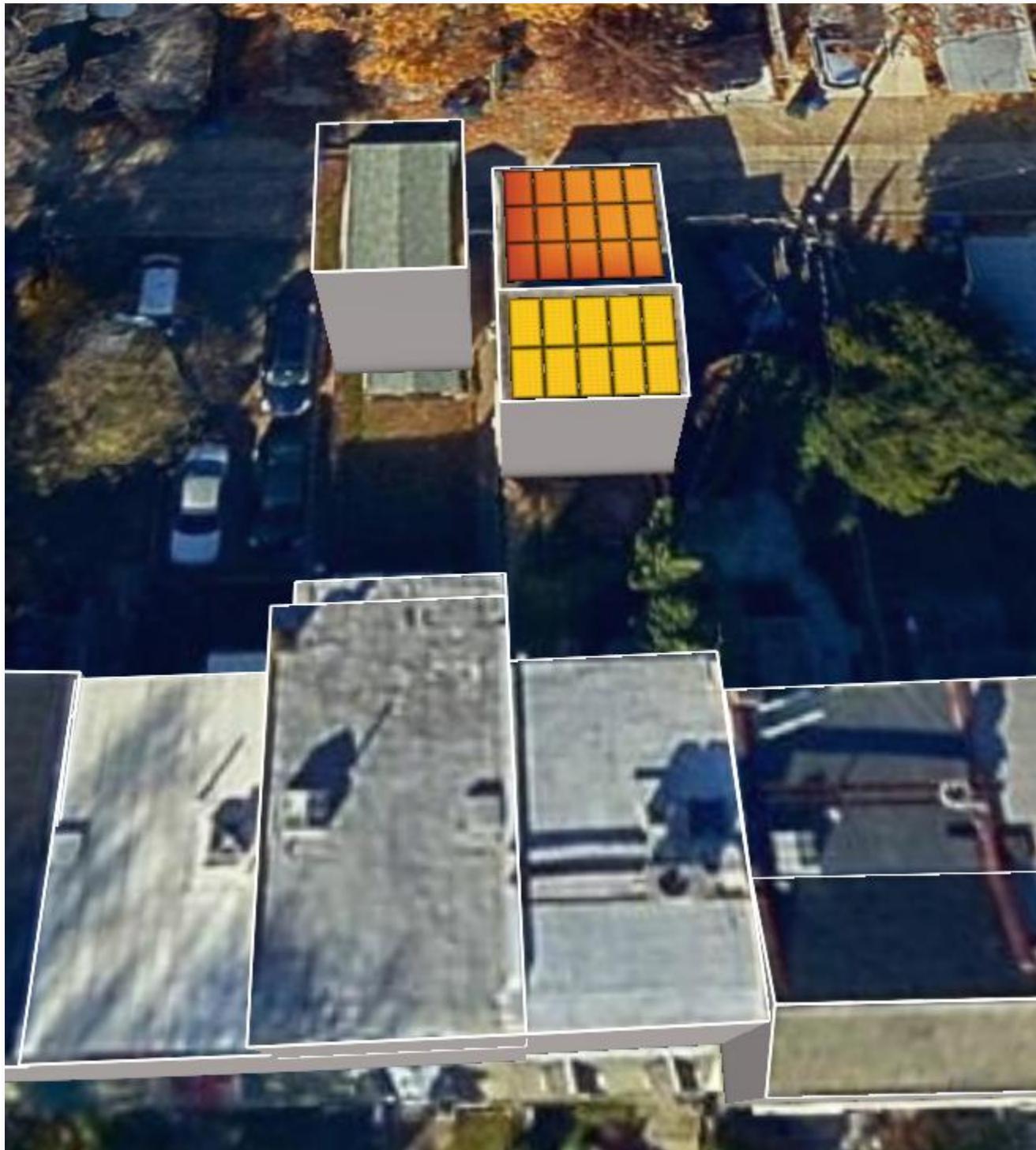
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Customer: n/a n/a
Address: 3717 S St NW
Washington, DC 20007

System size: 8.13 kW (DC), 6.00 kW (AC)
Yr 1 Production: 9,278 kWh

Designer:
Date: December 28th, 2023

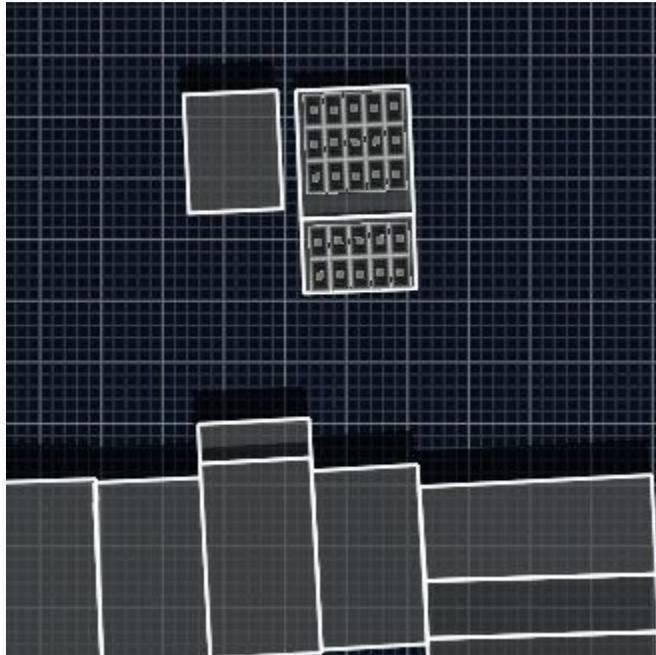
Site Assessment



Site Assessment

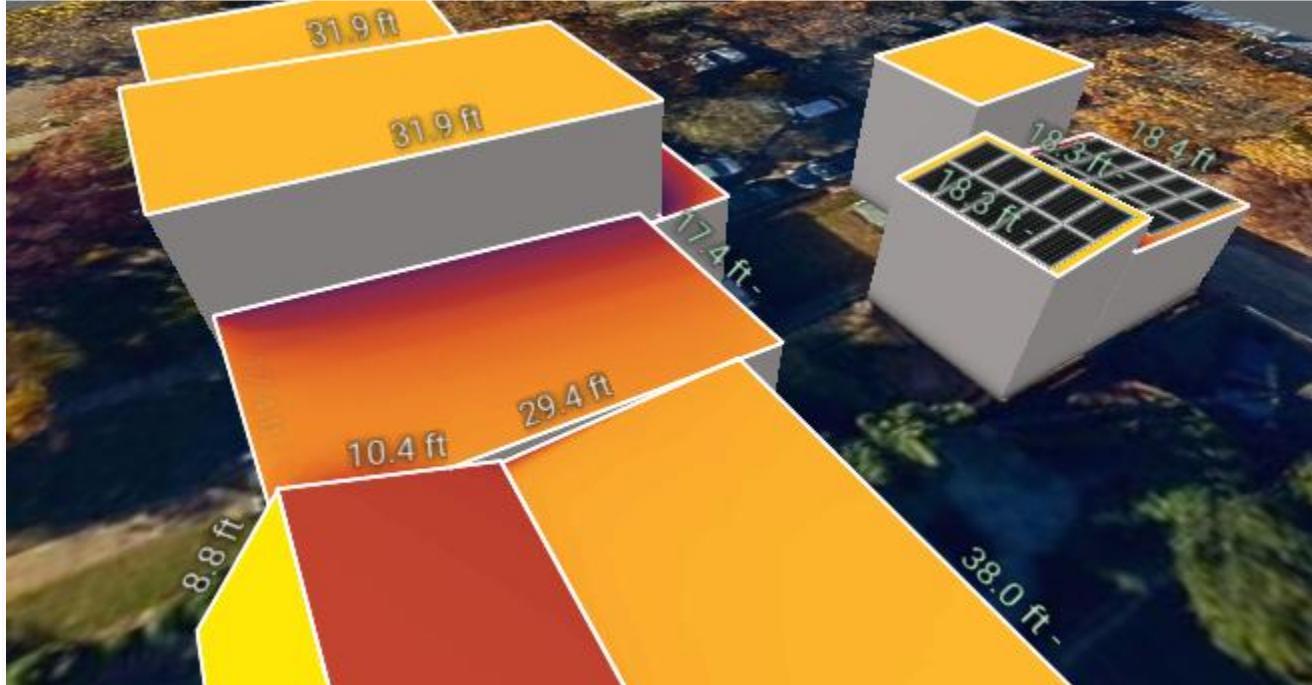
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Component List

Manufacturer	Model	Quantity
Canadian Solar	CS3K-325MS (1500V)	25
Enphase Energy Inc.	IQ7-60-2-US (240V)	25



Notes:

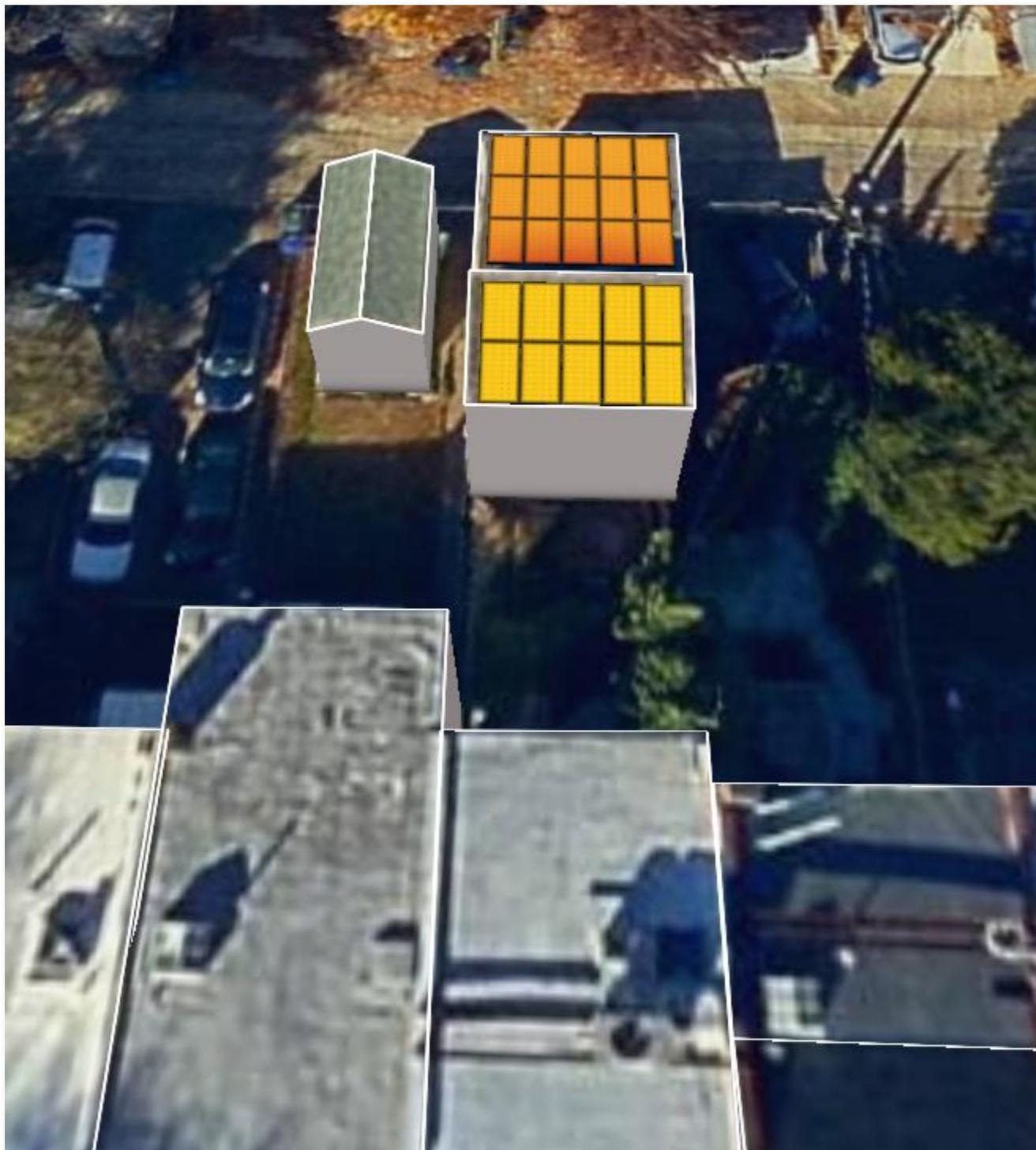
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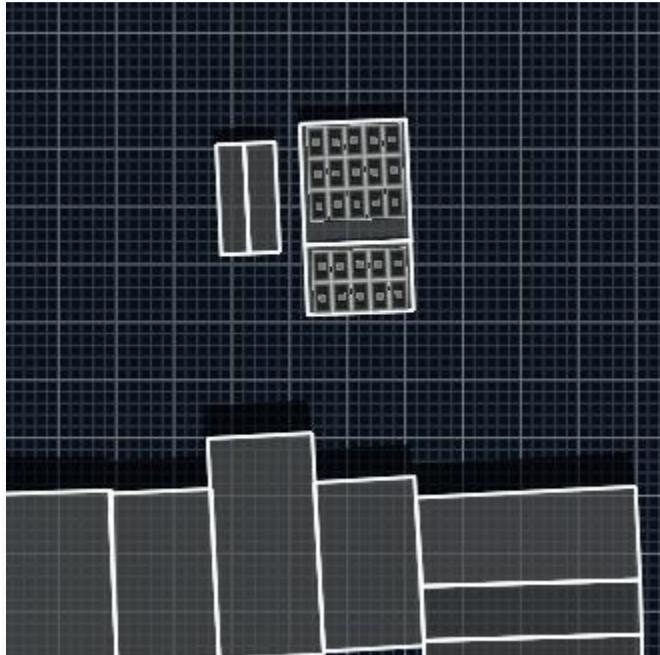
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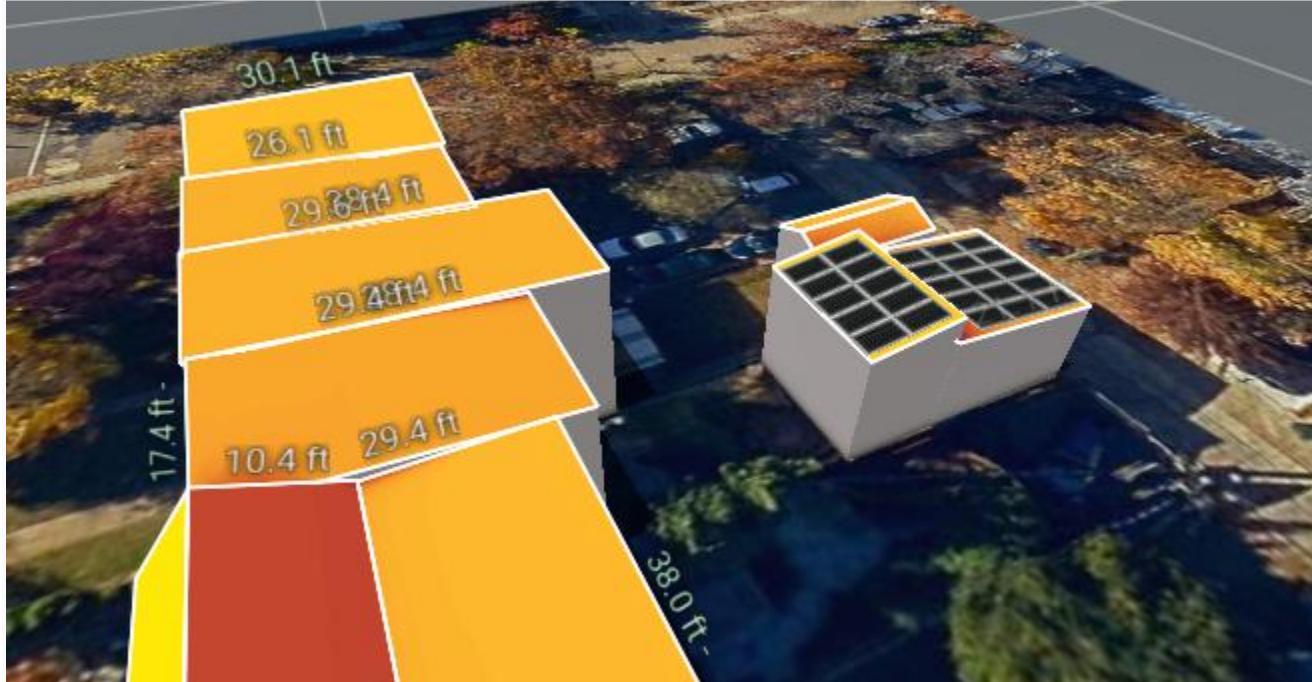
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Aurora Shade Report

Customer

Designer

Organization

Address

3717 S St NW
Washington, DC 20007,
USA

Coordinates

(38.914672, -77.073782)

Date

28 December 2023

Annual irradiance



Summary

Array	Panel Count	Azimuth (deg.)	Pitch (deg.)	Annual TOF (%)	Annual Solar Access (%)	Annual TSRF (%)
1	10	178	7	91	99	90
2	15	358	6	81	91	74
Weighted average by panel count	-	-	-	-	94.2	80.2

Monthly solar access (%) across arrays

Array	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	98	99	99	99	99	99	99	99	99	99	99	96
2	80	87	92	92	94	94	94	93	92	89	81	76

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Coordinates

(38.914672, -77.073782)

Date

28 December 2023

Annual irradiance

kWh/m²/year

2,450 or more
2,100
1,750
1,400
1,050
700
350
0

Summary

Array	Panel Count	Azimuth (deg.)	Pitch (deg.)	Annual TOF (%)	Annual Solar Access (%)	Annual TSRF (%)
1	10	178	7	91	100	91
2	15	358	6	81	97	79
Weighted average by panel count	-	-	-	-	98.3	83.6

Monthly solar access (%) across arrays

Array	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	99	100	100	100	100	100	100	100	100	100	100	99
2	86	94	99	100	100	100	100	99	100	97	88	82