

Solar Shading Analysis



266 S Ballou Ct,
Baltimore, MD 21231

Your Energy Advisor

Jacob Parrott

jacob@honeydewadvisors.com

443.878.4686



April 25th, 2023

Shading Analysis Methodology



Honeydew Energy Advisors received the pictured plans for a new construction to be located at 234 S Ballou Ct. It inputted this design into the Aurora shading analysis software to determine shading impact on a solar array located at 266 S Ballou Ct. Aurora is a commonly used and respected shading analysis software within the solar industry.

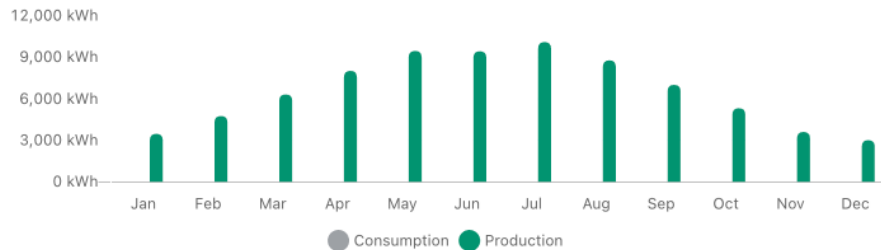
Aurora data estimates that shading from the new construction will decrease solar production by 4%. The system owner reported a current annual production of 79,296 kWh per year. Therefore, the array is expected to produce 3,081 fewer kWhs per year, ceteris paribus.

Pre-Construction

ANNUAL PRODUCTION

154 Panels
79,296kWh Energy
-- Energy Offset

MONTHLY PRODUCTION (KWH)

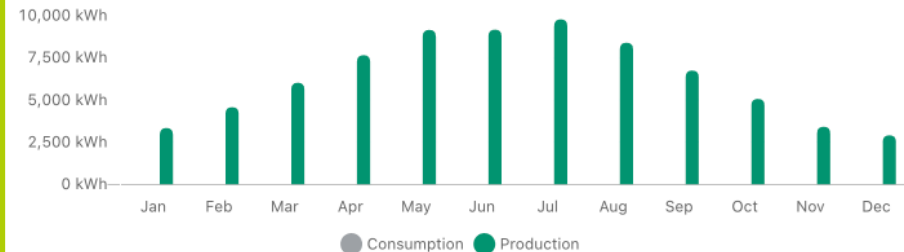


Post-Construction

ANNUAL PRODUCTION

154 Panels
76,215kWh Energy
-- Energy Offset

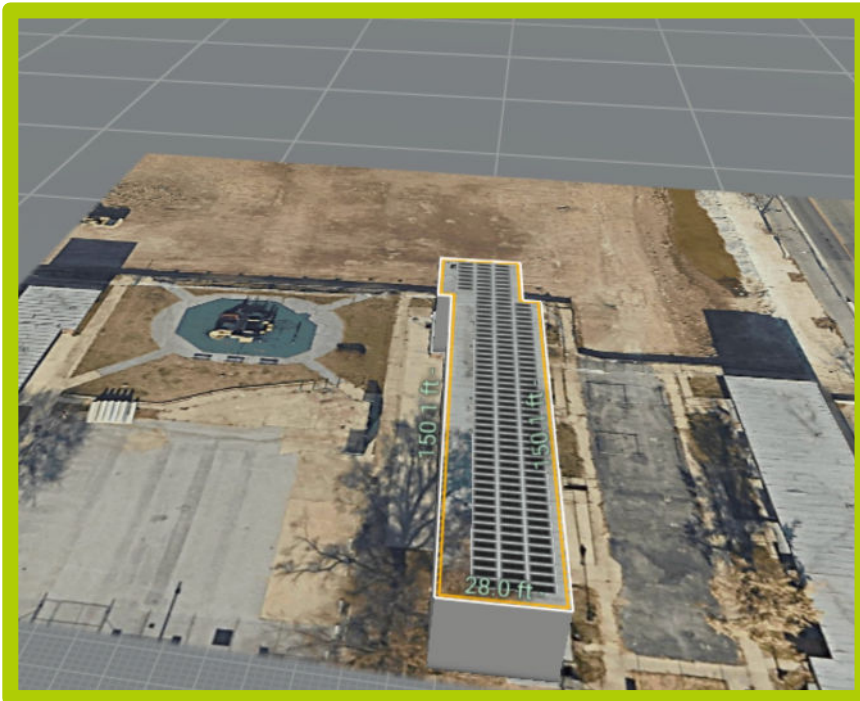
MONTHLY PRODUCTION (KWH)



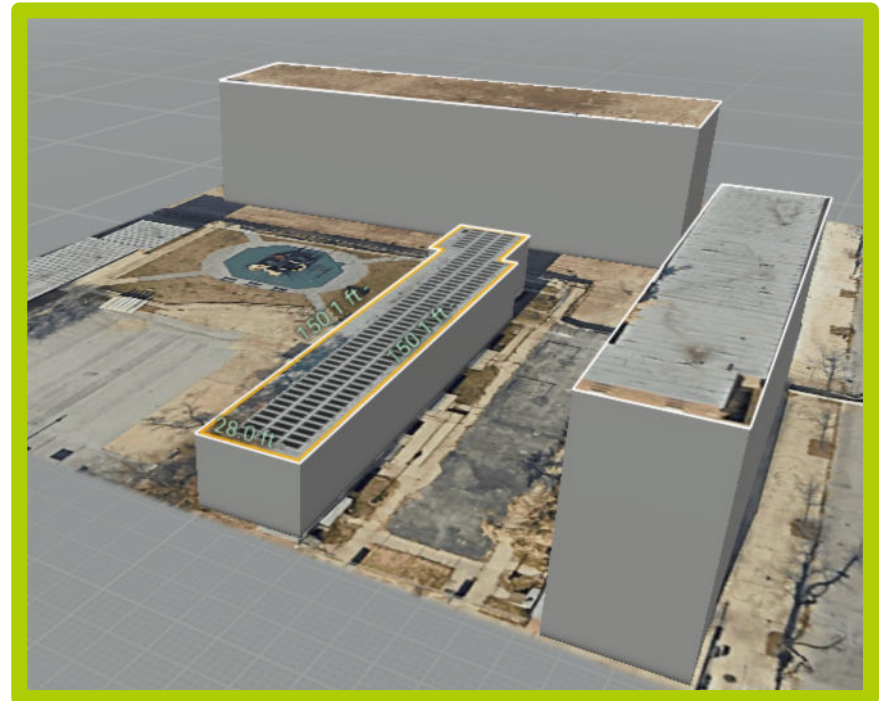
Pre/Post Construction Design



Pre-Construction



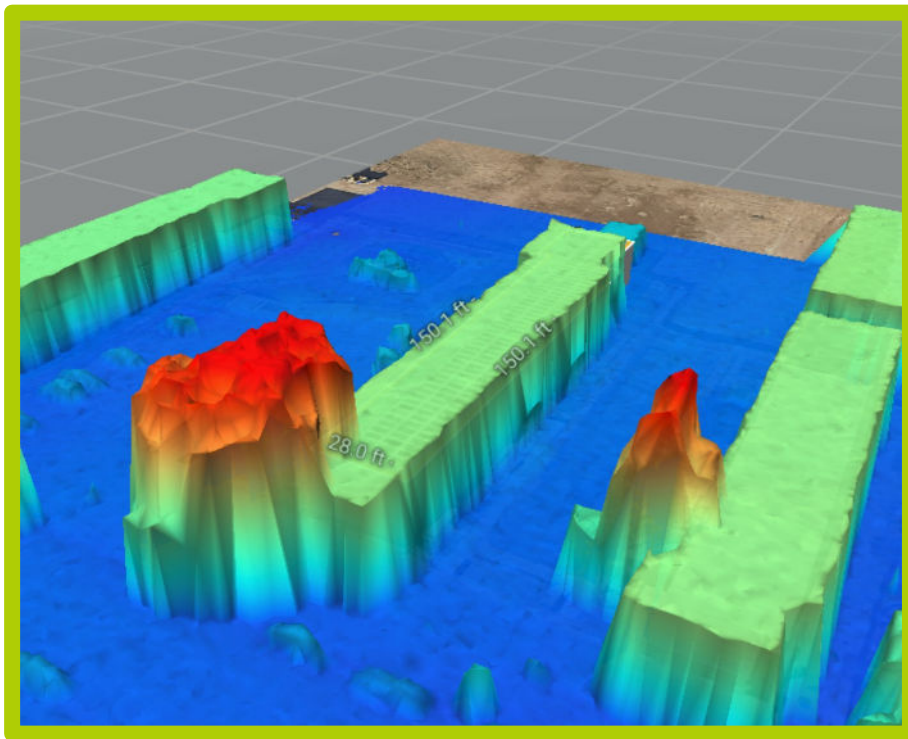
Post-Construction



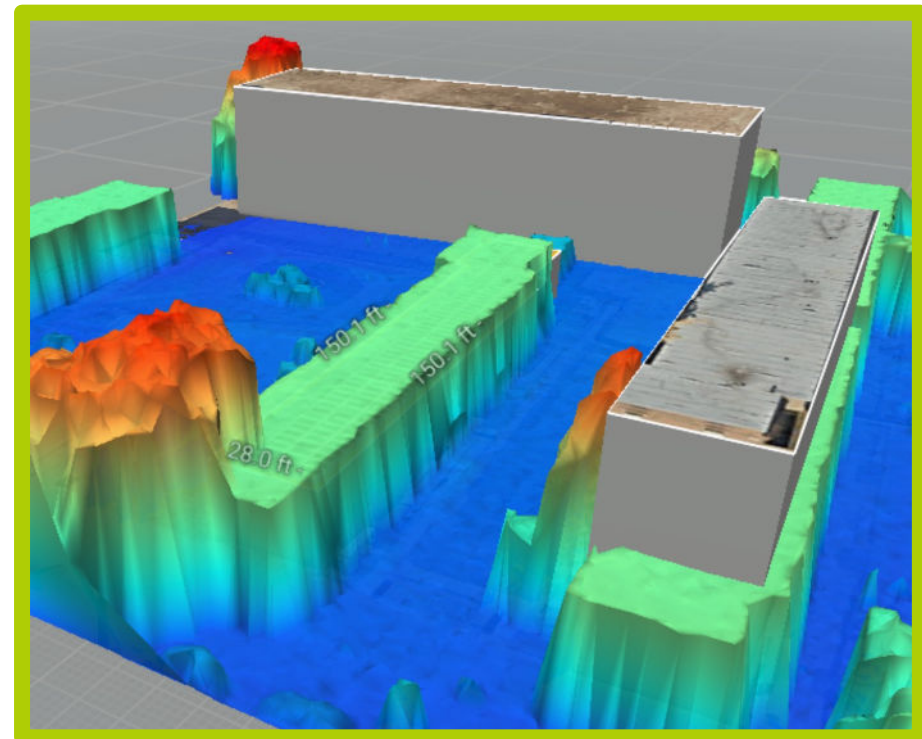
Pre/Post Construction LIDAR



Pre-Construction



Post-Construction



Financial Analysis Methodology



Assumptions

The financial analysis was conducted using Honeydew's proprietary financial model. All numbers are presented in the tables are real dollars not adjusted for present value and using the following assumptions:

3.0%	Electric Inflation
0.50%	Panel Degradation/Yr
85%	SREC:ACP Ratio

Solar Renewable Energy Credit (SREC) prices are based on a 85% of the Alternative Compliance Payments that undergird demand for SRECs. It also factors in a discount paid to an SREC aggregator, which is needed for all solar energy systems. This analysis does not consider income tax paid on SREC income from system owner.

Summary

62.37	System Size (kW)
79,296	Pre-Construction Production (kWh)
76,215	Post-Construction Current Rate (\$/kWh)
\$0.097	Current Rate (\$/kWh)
\$479	1 Year Net Difference
\$11,062	20 Year Net Difference

If we assume a 3% general inflation rate, the total nominal value on the 20 years of marginal cash flow is equal to **\$11,062**

Financial Analysis Pre/Post Construction



Pre-Construction

Year	Estimated Solar Production (kWh)	Estimated Electric Offset Rate	Estimated Energy Savings	Estimated SREC Cash Flow
0				
1	79,296	\$0.0970	\$7,692	\$4,639
2	78,900	\$0.0999	\$7,883	\$4,616
3	78,505	\$0.1029	\$8,079	\$4,593
4	78,112	\$0.1060	\$8,279	\$4,570
5	77,722	\$0.1092	\$8,485	\$4,547
6	77,333	\$0.1124	\$8,696	\$4,524
7	76,947	\$0.1158	\$8,912	\$4,501
8	76,562	\$0.1193	\$9,134	\$4,479
9	76,179	\$0.1229	\$9,361	\$4,456
10	75,798	\$0.1266	\$9,593	\$4,434
11	75,419	\$0.1304	\$9,832	\$4,412
12	75,042	\$0.1343	\$10,076	\$4,390
13	74,667	\$0.1383	\$10,326	\$4,368
14	74,294	\$0.1424	\$10,583	\$4,346
15	73,922	\$0.1467	\$10,846	\$4,324
16	73,553	\$0.1511	\$11,115	\$4,303
17	73,185	\$0.1557	\$11,392	\$4,281
18	72,819	\$0.1603	\$11,675	\$4,260
19	72,455	\$0.1651	\$11,965	\$4,239
20	72,092	\$0.1701	\$12,262	\$4,217
TOTAL			\$196,186	\$88,499

Post-Construction

Year	Estimated Solar Production (kWh)	Estimated Electric Offset Rate	Estimated Energy Savings	Estimated SREC Cash Flow
0				
1	76,215	\$0.0970	\$7,393	\$4,459
2	75,834	\$0.0999	\$7,577	\$4,436
3	75,455	\$0.1029	\$7,765	\$4,414
4	75,077	\$0.1060	\$7,958	\$4,392
5	74,702	\$0.1092	\$8,156	\$4,370
6	74,329	\$0.1124	\$8,358	\$4,348
7	73,957	\$0.1158	\$8,566	\$4,326
8	73,587	\$0.1193	\$8,779	\$4,305
9	73,219	\$0.1229	\$8,997	\$4,283
10	72,853	\$0.1266	\$9,221	\$4,262
11	72,489	\$0.1304	\$9,450	\$4,241
12	72,126	\$0.1343	\$9,684	\$4,219
13	71,766	\$0.1383	\$9,925	\$4,198
14	71,407	\$0.1424	\$10,172	\$4,177
15	71,050	\$0.1467	\$10,425	\$4,156
16	70,695	\$0.1511	\$10,684	\$4,136
17	70,341	\$0.1557	\$10,949	\$4,115
18	69,989	\$0.1603	\$11,221	\$4,094
19	69,640	\$0.1651	\$11,500	\$4,074
20	69,291	\$0.1701	\$11,786	\$4,054
TOTAL			\$188,563	\$85,060