

Design 1 Oakley Elementary, 753 Fairview Rd

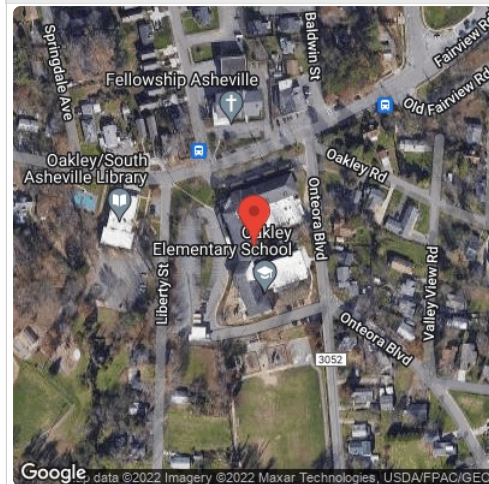
Report

Project Name	Oakley Elementary
Project Address	753 Fairview Rd
Prepared By	Jay Radcliffe ops@renuenergysolutions.com

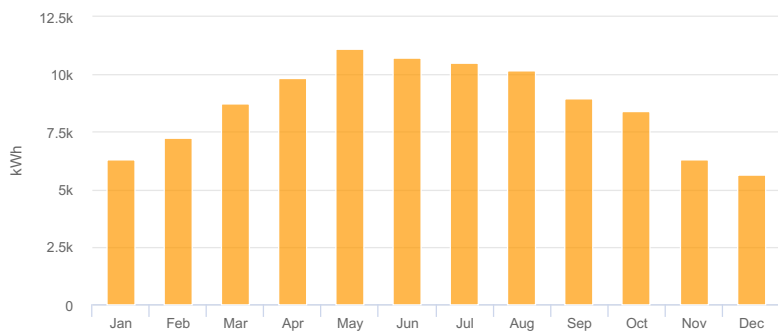
System Metrics

Design	Design 1
Module DC Nameplate	77.3 kW
Inverter AC Nameplate	60.0 kW Load Ratio: 1.29
Annual Production	104.0 MWh
Performance Ratio	80.2%
kWh/kWp	1,346.4
Weather Dataset	TMY, 10km Grid (35.55,-82.55), NREL (prospector)
Simulator Version	6d631a840a-5f7ded908c-38381c2dbb-6ef8d412e1

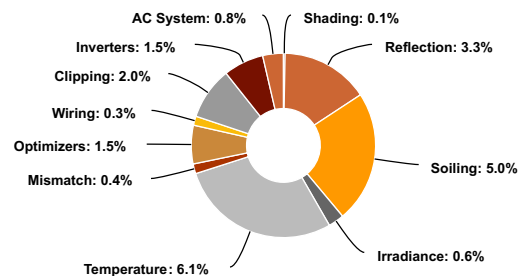
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	1,620.9	
	POA Irradiance	1,678.3	3.5%
	Shaded Irradiance	1,677.2	-0.1%
	Irradiance after Reflection	1,621.2	-3.3%
	Irradiance after Soiling	1,540.2	-5.0%
	Total Collector Irradiance	1,539.7	0.0%
Energy (kWh)	Nameplate	118,996.8	
	Output at Irradiance Levels	118,284.2	-0.6%
	Output at Cell Temperature Derate	111,045.9	-6.1%
	Output After Mismatch	110,633.2	-0.4%
	Optimizer Output	109,020.0	-1.5%
	Optimal DC Output	108,645.1	-0.3%
	Constrained DC Output	106,492.5	-2.0%
	Inverter Output	104,867.9	-1.5%
	Energy to Grid	104,048.8	-0.8%
Temperature Metrics			
	Avg. Operating Ambient Temp		12.2 °C
	Avg. Operating Cell Temp		28.2 °C
Simulation Metrics			
	Operating Hours	4715	
	Solved Hours	4715	

☁ Condition Set													
Description	Condition Set 2												
Weather Dataset	TMY, 10km Grid (35.55,-82.55), NREL (prospector)												
Solar Angle Location	Meteo Lat/Lng												
Transposition Model	Perez Model												
Temperature Model	Sandia Model												
Temperature Model Parameters	Rack Type			a		b			Temperature Delta				
	Fixed Tilt			-3.56		-0.075			3°C				
	Flush Mount			-2.81		-0.0455			0°C				
Soiling (%)	J	F	M	A	M	J	J	A	S	O	N	D	
	5	5	5	5	5	5	5	5	5	5	5	5	
Irradiation Variance	5%												
Cell Temperature Spread	4° C												
Module Binning Range	-2.5% to 2.5%												
AC System Derate	2.00%												
Module Characterizations	Module						Uploaded By		Characterization				
	TSM-PD14 320 (May16) (Trina Solar)						HelioScope		Spec Sheet Characterization, PAN				
	Q.peak DUO XL-G10.3 480 (Hanwha Q Cells)						HelioScope		Spec Sheet Characterization, PAN				
Component Characterizations	Device			Uploaded By				Characterization					

📦 Components		
Component	Name	Count
Inverters	SE30KUS (SolarEdge)	2 (60.0 kW)
AC Panels	2 input AC Panel	1
AC Home Runs	10 AWG (Copper)	2 (157.1 ft)
AC Home Runs	4 AWG (Copper)	1 (258.4 ft)
Strings	10 AWG (Copper)	5 (1,051.2 ft)
Optimizers	P1101 (SolarEdge)	81 (89.1 kW)
Module	Hanwha Q Cells, Q.peak DUO XL-G10.3 480 (480W)	161 (77.3 kW)

🔌 Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	13-34	Along Racking

Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Fixed Tilt	Landscape (Horizontal)	10°	160.56206°	2.0 ft	1x1	31	0	0
Field Segment 2	Fixed Tilt	Landscape (Horizontal)	10°	160.85332°	2.0 ft	1x1	0	0	0
Field Segment 3	Flush Mount	Portrait (Vertical)	24°	250.60276616662384°	0.1 ft	1x1	67	64	30.7 kW
Field Segment 4	Flush Mount	Portrait (Vertical)	24°	160.8906°	0.1 ft	1x1	13	13	6.24 kW
Field Segment 5	Flush Mount	Landscape (Horizontal)	24°	70.49513°	2.0 ft	1x1	0	0	0
Field Segment 6	Flush Mount	Landscape (Horizontal)	24°	71.53843°	2.0 ft	1x1	0	0	0
Field Segment 7	Flush Mount	Landscape (Horizontal)	24°	342.9659°	2.0 ft	1x1	0	0	0
Field Segment 8	Flush Mount	Landscape (Horizontal)	24°	295.00366°	2.0 ft	1x1	0	0	0
Field Segment 9	Fixed Tilt	Landscape (Horizontal)	24°	295.00366°	2.0 ft	1x1	0	0	0
Field Segment 10	Flush Mount	Portrait (Vertical)	24°	250.3779°	0.1 ft	1x1	91	84	40.3 kW
Field Segment 11	Flush Mount	Landscape (Horizontal)	18°	70.46096°	2.0 ft	1x1	0	0	0
Field Segment 12	Flush Mount	Landscape (Horizontal)	24°	207.1875°	2.0 ft	1x1	0	0	0
Field Segment 13	Flush Mount	Landscape (Horizontal)	24°	250.06274°	2.0 ft	1x1	0	0	0
Field Segment 14	Flush Mount	Landscape (Horizontal)	25°	295.80316°	2.0 ft	1x1	0	0	0
Field Segment 15	Flush Mount	Landscape (Horizontal)	25°	340.70654°	2.0 ft	1x1	0	0	0
Field Segment 16	Flush Mount	Landscape (Horizontal)	25°	23.384949°	2.0 ft	1x1	0	0	0
Field Segment 17	Flush Mount	Landscape (Horizontal)	25°	340.2687°	2.0 ft	1x1	0	0	0
Field Segment 18	Flush Mount	Landscape (Horizontal)	25°	71.094635°	2.0 ft	1x1	2	0	0
Field Segment 19	Flush Mount	Portrait (Vertical)	24°	160.32925°	0.1 ft	1x1	1	0	0
Field Segment 20	Flush Mount	Landscape (Horizontal)	24°	115.78258°	2.0 ft	1x1	2	0	0
Field Segment 21	Fixed Tilt	Landscape (Horizontal)	24°	115.78258°	2.0 ft	1x1	0	0	0

📍 Detailed Layout

