SPV Test Site, 1143 Dryden Rd

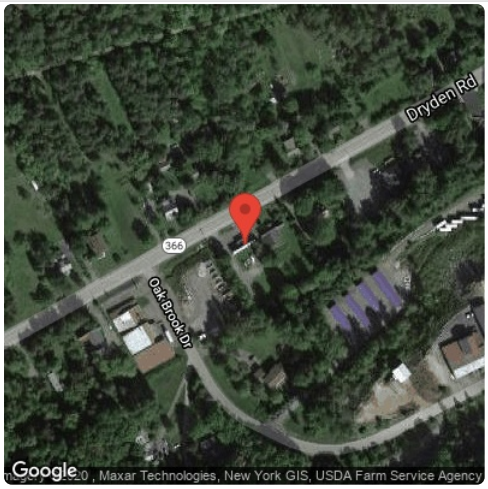
Report

Project Name	Test Site
Project Description	test at IGS office
Project Address	1143 Dryden Rd
Prepared By	Aneeq Sindhr aneek.s@intelligentgreensolutions.com

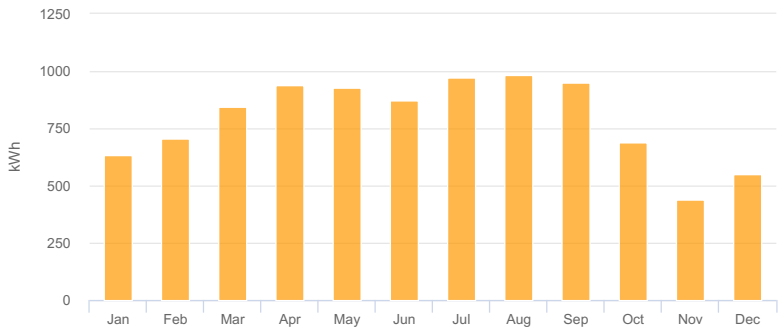
System Metrics

Design	SPV
Module DC Nameplate	8.32 kW
Inverter AC Nameplate	7.63 kW Load Ratio: 1.09
Annual Production	9.514 MWh
Performance Ratio	81.7%
kWh/kWp	1,143.5
Weather Dataset	TMY, 10km grid (42.45,-76.45), NREL (prospector)
Simulator Version	f6d2dcc17d-2ae007fd15-c76d4d47b8-ebcb3ee7fb

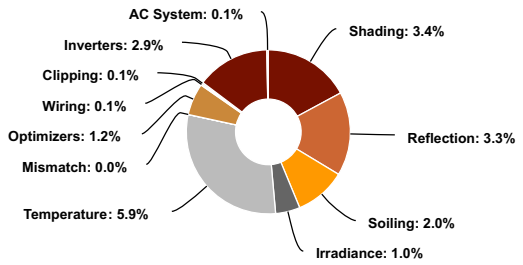
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,347.7	
	POA Irradiance	1,400.0	3.9%
	Shaded Irradiance	1,352.5	-3.4%
	Irradiance after Reflection	1,308.3	-3.3%
	Irradiance after Soiling	1,282.1	-2.0%
	Total Collector Irradiance	**1,282.3**	**0.0%**
Energy (kWh)	Nameplate	10,659.2	
	Output at Irradiance Levels	10,557.2	-1.0%
	Output at Cell Temperature Derate	9,934.1	-5.9%
	Output After Mismatch	9,934.1	0.0%
	Optimizer Output	9,810.8	-1.2%
	Optimal DC Output	9,805.4	-0.1%
	Constrained DC Output	9,799.6	-0.1%
	Inverter Output	9,519.6	-2.9%
	Energy to Grid	**9,514.0**	**-0.1%**
Temperature Metrics			
	Avg. Operating Ambient Temp		10.5 °C
	Avg. Operating Cell Temp		23.6 °C
Simulation Metrics			
	Operating Hours		4689
	Solved Hours		4689

Condition Set

Description	Condition Set 1
Weather Dataset	TMY, 10km grid (42.45,-76.45), 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
2	2	2	2	2	2	2	2	2	2	2	2

Irradiation Variance	5%
Cell Temperature Spread	4° C
Module Binning Range	-2.5% to 2.5%
AC System Derate	0.50%

Module Characterizations

Module	Uploaded By	Characterization
TSM-DE05H(II) 320 (Trina Solar)	Folsom Labs	Spec Sheet Characterization, PAN

Component Characterizations

Device	Uploaded By	Characterization
SE7600A-US (240V) (SolarEdge)	Folsom Labs	Default Characterization
P370 (SolarEdge)	Folsom Labs	Mfg Spec Sheet

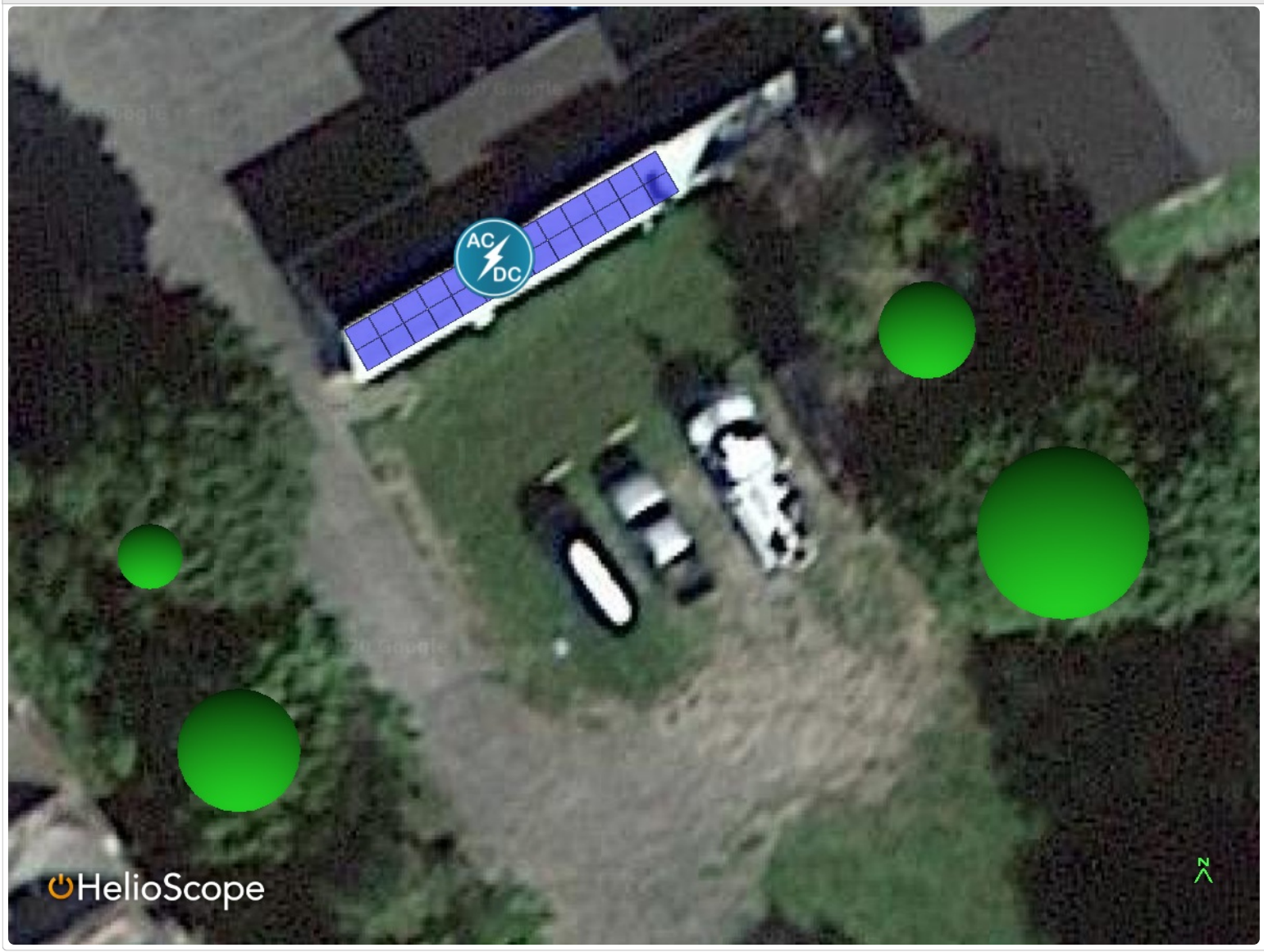
Components

Component	Name	Count
Inverters	SE7600A-US (240V) (SolarEdge)	1 (7.63 kW)
AC Panels	1 input AC Panel	1
AC Home Runs	4 AWG (Copper)	2 (50.1 ft)
Strings	10 AWG (Copper)	2 (84.7 ft)
Optimizers	P370 (SolarEdge)	26 (9.62 kW)
Module	Trina Solar, TSM-DE05H(II) 320 (320W)	26 (8.32 kW)

Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	12	8-16	Along Racking

Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Flush Mount	Portrait (Vertical)	60°	150.092°	0.0 ft	1x1	26	26	8.32 kW

Detailed Layout