

Suneden School AS-Built Suneden School, 21 McInerney Ave Mitchell Park SA 5043

Report

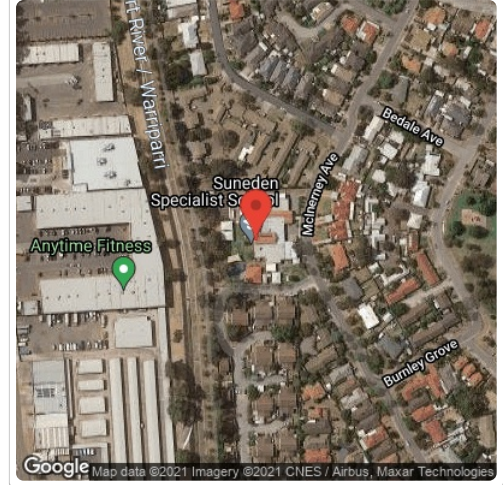
Project Name	Suneden School
Project Address	21 McInerney Ave Mitchell Park SA 5043
Prepared By	Chris Bull chris.bull@westsidegroup.com.au



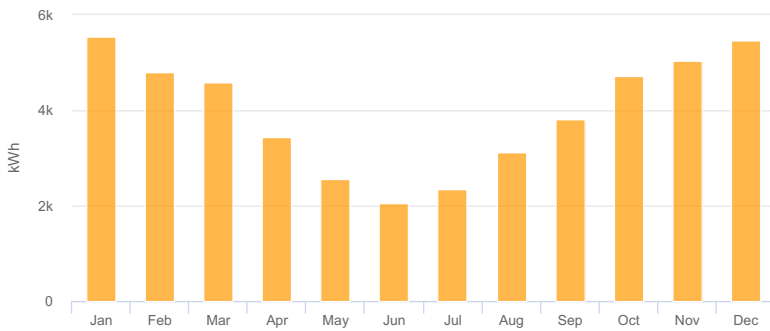
System Metrics

Design	Suneden School AS-Built
Module DC Nameplate	29.3 kW
Inverter AC Nameplate	59.8 kW Load Ratio: 0.49
Annual Production	47.46 MWh
Performance Ratio	82.8%
kWh/kWp	1,617.5
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)
Simulator Version	e2238d69b7-7405e28364-14e4487edb-3db1ffd089

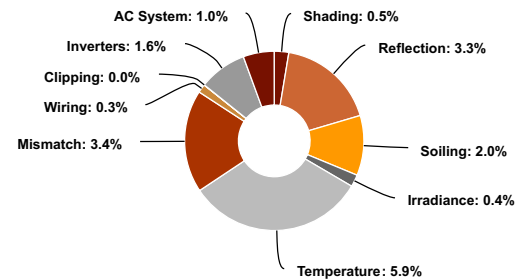
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	1,792.6	
	POA Irradiance	1,952.3	8.9%
	Shaded Irradiance	1,942.9	-0.5%
	Irradiance after Reflection	1,879.0	-3.3%
	Irradiance after Soiling	1,841.4	-2.0%
	Total Collector Irradiance	1,841.3	0.0%
Energy (kWh)	Nameplate	54,021.1	
	Output at Irradiance Levels	53,803.4	-0.4%
	Output at Cell Temperature Derate	50,602.7	-5.9%
	Output After Mismatch	48,871.4	-3.4%
	Optimal DC Output	48,732.6	-0.3%
	Constrained DC Output	48,730.5	0.0%
	Inverter Output	47,950.8	-1.6%
	Energy to Grid	47,456.2	-1.0%
Temperature Metrics			
	Avg. Operating Ambient Temp		19.0 °C
	Avg. Operating Cell Temp		31.9 °C
Simulation Metrics			
	Operating Hours	4575	
	Solved Hours	4575	

Condition Set													
Description	Condition Set 1												
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)												
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								
	210W mono (3SUN)		Folsom Labs		Spec Sheet Characterization, PAN								
	LR4-72HPH-450M (Longi Solar)		Folsom Labs		Spec Sheet Characterization, PAN								
Component Characterizations	Device			Uploaded By		Characterization							
	SUN2000-29.9KTL (HUAWEI)			Folsom Labs		Spec Sheet							

Components		
Component	Name	Count
Inverters	SUN2000-29.9KTL (HUAWEI)	2 (59.8 kW)
AC Home Runs	10 mm2 (Copper)	2 (230.1 m)
Strings	4 mm2 (Copper)	4 (56.3 m)
Module	3SUN, 210W mono (210W)	24 (5.04 kW)
Module	Longi Solar, LR4-72HPH-450M (450W)	54 (24.3 kW)

Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	18-24	Along Racking
Wiring Zone 2	-	18-18	Along Racking

Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Existing Solar	Flush Mount	Portrait (Vertical)	15°	0°	0.0 m	1x1	24	24	5.04 kW
Field Segment 5	Fixed Tilt	Portrait (Vertical)	15°	357.7°	0.0 m	1x1	10	10	4.50 kW
Field Segment 4	Fixed Tilt	Portrait (Vertical)	15°	357.7°	0.0 m	1x1	11	11	4.95 kW
Field Segment 6	Fixed Tilt	Portrait (Vertical)	15°	357.7°	0.0 m	1x1	10	10	4.50 kW
Field Segment 2	Fixed Tilt	Portrait (Vertical)	15°	357.7°	0.0 m	1x1	6	6	2.70 kW
Field Segment 7	Fixed Tilt	Portrait (Vertical)	15°	357.7°	0.0 m	1x1	5	5	2.25 kW
Field Segment 1	Fixed Tilt	Portrait (Vertical)	15°	357.7°	0.0 m	1x1	6	6	2.70 kW
Field Segment 3	Fixed Tilt	Portrait (Vertical)	15°	357.7°	0.0 m	1x1	6	6	2.70 kW

Detailed Layout

