

# Design 1

## Stredisko Sociálnej starostlivosti, Vladimíra Clementisa 6483/51

### Report

Project Name	Stredisko Sociálnej starostlivosti
Project Address	Vladimíra Clementisa 6483/51
Prepared By	

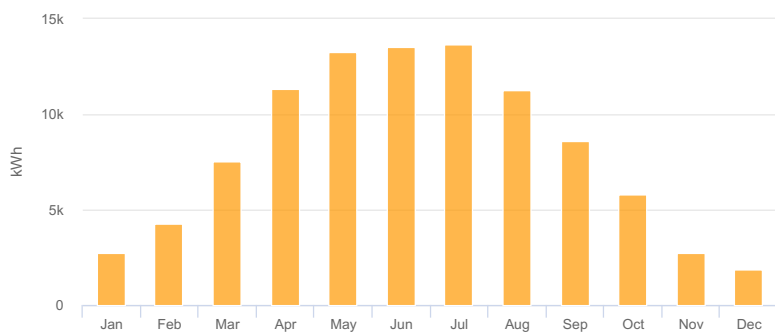
### System Metrics

Design	Design 1
Module DC Nameplate	84.6 kW
Inverter AC Nameplate	72.0 kW Load Ratio: 1.18
Annual Production	96.61 MWh
Performance Ratio	85.2%
kWh/kWp	1,142.0
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)
Simulator Version	60f4c79d82-24b1416d39-579e641e25-d1464a15ec

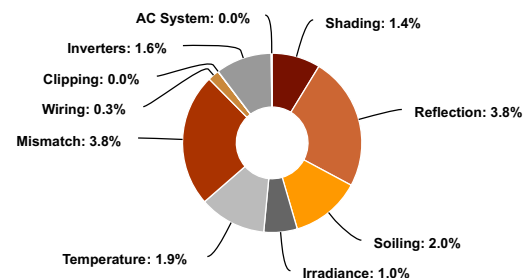
### Project Location



### Monthly Production



### Sources of System Loss



### Annual Production

	Description	Output	% Delta
Irradiance (kWh/m <sup>2</sup> )	Annual Global Horizontal Irradiance	1,238.3	
	POA Irradiance	1,339.5	8.2%
	Shaded Irradiance	1,321.0	-1.4%
	Irradiance after Reflection	1,270.7	-3.8%
	Irradiance after Soiling	1,245.3	-2.0%
	<b>Total Collector Irradiance</b>	<b>1,245.2</b>	<b>0.0%</b>
Energy (kWh)	Nameplate	105,417.4	
	Output at Irradiance Levels	104,412.4	-1.0%
	Output at Cell Temperature Derate	102,418.5	-1.9%
	Output After Mismatch	98,532.0	-3.8%
	Optimal DC Output	98,212.7	-0.3%
	Constrained DC Output	98,204.6	0.0%
	Inverter Output	96,633.2	-1.6%
	<b>Energy to Grid</b>	<b>96,609.2</b>	<b>0.0%</b>
Temperature Metrics			
	Avg. Operating Ambient Temp		13.6 °C
	Avg. Operating Cell Temp		20.4 °C
Simulation Metrics			
	Operating Hours	4586	
	Solved Hours	4586	

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						
	CS3W-450MS (Canadian Solar)				HelioScope		Spec Sheet Characterization, PAN						
Component Characterizations	Device					Uploaded By		Characterization					
	SUN2000-36KTL-M3 (400V) (2022) (Huawei)					HelioScope		Spec Sheet					

Components		
Component	Name	Count
Inverters	SUN2000-36KTL-M3 (400V) (2022) (Huawei)	2 (72.0 kW)
AC Home Runs	1000 MCM (Aluminum)	2 (166.4 m)
Strings	10 AWG (Copper)	12 (568.7 m)
Module	Canadian Solar, CS3W-450MS (450W)	188 (84.6 kW)

Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	6-19	Along Racking

Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Fixed Tilt	Landscape (Horizontal)	10°	167.1756°	0.5 m	1x1	56	52	23.4 kW
Field Segment 1 (copy)	Fixed Tilt	Landscape (Horizontal)	10°	167.1756°	0.5 m	1x1	56	52	23.4 kW
Field Segment 3	Fixed Tilt	Landscape (Horizontal)	10°	167.1756°	0.5 m	1x1	21	21	9.45 kW
Field Segment 3 (copy)	Fixed Tilt	Landscape (Horizontal)	10°	167.1756°	0.5 m	1x1	21	21	9.45 kW
Field Segment 3 (copy 1)	Fixed Tilt	Landscape (Horizontal)	10°	167.1756°	0.5 m	1x1	21	21	9.45 kW
Field Segment 3 (copy 2)	Fixed Tilt	Landscape (Horizontal)	10°	167.1756°	0.5 m	1x1	21	21	9.45 kW

Detailed Layout

