

HABERSHAM COUNTY BOARD OF COMMISSION
EXECUTIVE SUMMARY

SUBJECT: Approve of Award of RFP 2022-7-01 Recreation Solar Panel and Battery System

DATE: November 14, 2022

BUDGET INFORMATION:

ANNUAL-

CAPITAL- \$234,170 (Grant & CIP Fund)

☒ **RECOMMENDATION**

☐ **POLICY DISCUSSION**

☐ **STATUS REPORT**

☐ **OTHER**

COMMISSION ACTION REQUESTED ON: 09/19/2022

PURPOSE: To request Commission approve the Award of RFP 2022-7-01 Recreation Solar Panel Battery System to Hannah Solar of Atlanta, GA.

BACKGROUND / HISTORY: Habersham County was awarded a Solar Resiliency Grant in October 2021 and we received the go-ahead with the Grant in April of 2022 from the Georgia Environmental Authority (GEMA). The County was awarded \$175,815 toward this project and the remaining \$58,355 will be appropriated from the Contingency-Grant match funds approved in the FY 2023 Budget for the for this Fiscal Year.

FACTS AND ISSUES:

- a. Four Proposals were received for this RFP.
 - b. Installation of the Solar Panels could save us up to an estimated \$55,000 per year in Electricity Costs.
 - c. Funding will come from the following source if approved by the Board:
\$175,815 – GEFA Grant and \$58,355 from General Fund Grant Match Contingency.
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OPTIONS:

- 1) Approve of Award of RFP 2022-7-01 Recreation Solar Panel and Battery System to Hannah Solar of Atlanta, GA in the amount of \$234,170.
 - 2) Deny Award of RFP 2022-7-01 Recreation Solar Panel and Battery System to Hannah Solar of Atlanta, GA in the amount of \$234,170
 - 3) Commission defined alternative.
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- 4) **RECOMMENDED SAMPLE MOTION:** Move to Approve of Award of RFP 2022-7-01 Recreation Solar Panel and Battery System to Hannah Solar of Atlanta, GA in the amount of \$234,170.
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DEPARTMENT:

Prepared by: Finance

Director ____ Tim Sims _____

**ADMINISTRATIVE
COMMENTS:** _____

County Manager

DATE: _____

Proposal Scoring Only					
RATER	COMPANY NAME/RATING (Input Total Scores from Individual RFP Evaluation Form)				
		Cherry Street Energy	Energy Link	Hannah Solar	Solar Sun World
Brooke Davidson		41.00	70.00	77.00	76.50
Tommy Thurmond		40.00	34.00	75.25	30.00
Mike Bramlett		12.00	56.00	62.00	60.00
AVERAGE TOTAL SCORE (out of 80):		31.00	53.33	71.42	55.50
Rank:		4	3	1	2
Diff		-22.33	-2.17	0.00	-15.92

ADD Pricing Scores					
TOTAL SCORE FROM ABOVE		31.00	53.33	71.42	55.50
Price Proposal	20%	100	99.59	99.36	93.45
TOTAL SCORE (out of 100):		51.00	73.25	91.29	74.19
Rank:		4	3	1	2
Diff		-22.25	-0.94	0.00	-17.10

Rooftop Array and Battery Storage - More Solar/ Less Battery

Public Works Solar & Battery System	Description	Unit Price	Number of Units	Total Cost
Nameplate Solar PV System Size	78.96	\$2.00	78960	\$157,920.00
Annual Solar Production	105,217 kWh			
Solar Energy Offset	8.4%			
Solar Module Make & Model; Estimated Usable Life	Trina TallMax 470 W, Usable Life: 25+ Yrs.		168	Included
Solar Inverter Make and Model; Estimated Usable Life	Solis 75k-5G-US Inverter w/ APS Rapid Shutdown		1	Included
Solar Array Racking System	Ironridge XR100 Racking		1	Included
Solar Battery Make & Model, Power and Storage Capacity; Estimated Usable Life	Tesla Powerwall, 67.5 kWh Capacity, 25 kW Power/ Usable Life: 10+ Yrs.	\$76,250	1	\$76,250
Monitoring and Data Acquisition System	SolarEdge Solar Monitoring,		1	Included
Design and Engineering	Fully Stamped Electrical Planset		1	Included
Workmanship Warranty	1 Year		1	Included
Available Incentives/ Tax Credits	GEFA - \$200k Rebate	-\$176,250.00	1	-\$175,815.00
Net Project Cost	Project Cost After Rebates			\$58,355.00

78.96kW Habersham Co - Aquatic Center, 120 Paul Franklin Rd., Clarkesville, GA 30523

Report

Project Name	Habersham Co - Aquatic Center
Project Address	120 Paul Franklin Rd., Clarkesville, GA 30523
Prepared By	Aaron Hill aaron.hill@hannahsolar.com

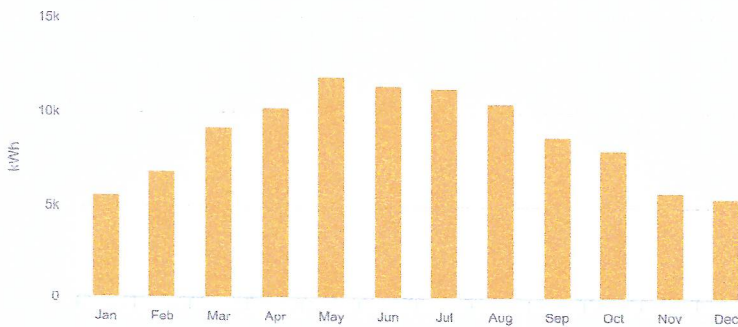
System Metrics

Design	78.96kW
Module DC Nameplate	79.0 kW
Inverter AC Nameplate	75.0 kW Load Ratio: 1.05
Annual Production	105.2 MWh
Performance Ratio	78.8%
kWh/kWp	1,332.5
Weather Dataset	TMY, 10km Grid (34.65, -83.55), NREL (prospector)
Simulator Version	7d6f1bc392-458d303f50-cf318730a9-3544201f38

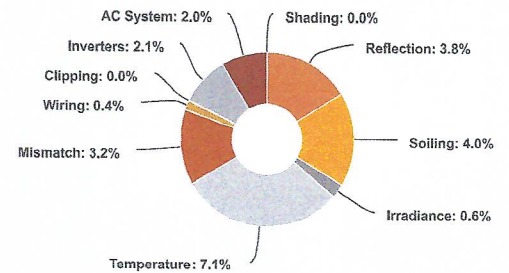
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,658.5	
	POA Irradiance	1,690.9	2.0%
	Shaded Irradiance	1,690.7	0.0%
	Irradiance after Reflection	1,626.7	-3.8%
	Irradiance after Soiling	1,561.6	-4.0%
	Total Collector Irradiance	1,561.6	0.0%
Energy (kWh)	Nameplate	123,250.2	
	Output at Irradiance Levels	122,524.0	-0.6%
	Output at Cell Temperature Derate	113,836.9	-7.1%
	Output After Mismatch	110,163.5	-3.2%
	Optimal DC Output	109,737.2	-0.4%
	Constrained DC Output	109,691.5	0.0%
	Inverter Output	107,364.3	-2.2%
	Energy to Grid	105,217.1	-2.0%
Temperature Metrics			
	Avg. Operating Ambient Temp	16.9 °C	
	Avg. Operating Cell Temp	32.9 °C	
Simulation Metrics			
	Operating Hours	4705	
	Solved Hours	4705	

Condition Set

Description	Soiling 4%, 5W/400W, 2% AC loss											
Weather Dataset	TMY, 10km Grid (34.65,-83.55), NREL (prospector)											
Solar Angle Location	Meteo Lat/Lng											
Transposition Model	Perez Model											
Temperature Model	Diffusion Model											
Temperature Model Parameters	Rack Type	U _{const}				U _{wind}						
	Fixed Tilt	25				0						
	Flush Mount	15				0						
	East-West	29				0						
Soiling (%)	Carport	29				0						
	J	F	M	A	M	J	J	A	S	O	N	D
	4	4	4	4	4	4	4	4	4	4	4	4
Irradiation Variance	5%											
Cell Temperature Spread	4° C											
Module Binning Range	-1.3% to 1.25%											
AC System Derate	2.00%											
Module Characterizations	Module	Uploaded By		Characterization								
	TSM-DEG15VC.20(II) 470 (Trina Solar)	HelioScope		Spec Sheet Characterization, PAN								
Component Characterizations	Device	Uploaded By		Characterization								

Components

Component	Name	Count
Inverters	Solis-75K-5G-US (Ginlong Technologies)	1 (75.0 kW)
Strings	10 AWG (Copper)	9 (826.4 ft)
Module	Trina Solar, TSM-DEG15VC.20(II) 470 (470W)	168 (79.0 kW)

Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	6-21	Along Racking

Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Flush Mount	Landscape (Horizontal)	5°	242.54326°	0.0 ft	1x1	168	168	79.0 kW