

Key Largo Wastewater Treatment District
Board of Commissioners Meeting
Agenda Item Summary

Meeting Date:
August 20, 2024

Agenda Item Number: L-1

Action Required:
Yes

Department:
Plant/Facilities

Sponsor:
Ryan Dempsey

Subject:
Recommendation for Solar Upgrades

Summary:
Mr. Dempsey will submit a proposal for Solar Upgrades to the Board recommending Option 1 from Burke Energy Consulting.

<u>Reviewed / Approved</u>	<u>Financial Impact</u>	<u>Attachments</u>
Operations: _____	\$ 62,055.03	1. Burke Proposal 2. Krannich Material Pricing Quote
Administration: _____	Expense	
Finance: _____	Funding Source:	
District Counsel: _____	N/A	
District Clerk: _____	Budgeted:	
Engineering: _____	Yes	

Approved By: _____
General Manager

Date: 8-15-24



June 21, 2024

Edward R. Castle, P.E.
Weiler Engineering Corporation
Key Largo Wastewater Treatment District

RE: KLWTD – PV Solar Monitoring/Optimization Proposal

Dear Ed

I hope this letter finds you well.

As a follow up to our recent site visit and meeting with your team, please find attached our written proposal for the monitoring and optimization of your existing PV Solar systems. Our comprehensive analysis aligns with our objectives and your expectations.

- Mapping at the different installation that are using Solar Edge inverters
- Optimization of the Carport (2 options available for your selection)
- Optimization and rapid shutdown installation at the rooftop offices building (2 options available for your selection)
- Replacement of the broken panel located in the Canopy area
- Replacement of the MC4 connector and wiring protection
- Labeling for the electrical equipment

Exclusions:

- Permits
- Equipment required for roof access
- Overtime
- Cutting, patching and painting
- Any and all unforeseen electrical components identified during our installations
- As Built Drawings
- Temporary power and water supply
- Temporary facilities
- Temporary storage of the equipment and accessories

Best Regards,

Gregory F. Galmin
COO/Partner
Cc: File

Mapping at 7 Locations		A total of 538 pv panels of 340W (183 kWp installed)		
Location	Address	Quantity (panels)	Unit Cost (\$/panel)	Total
Administration Building	103355 Overseas Hwy, Key Largo, FL 33037	60	24.5	\$1,470.00
Vac station A	12 Mockingbird Rd, Key Largo, FL 33037	72	24.5	\$1,764.00
Vac station D	102533 Overseas Hwy, Key Largo, FL 33037	62	24.5	\$1,519.00
Vac station E (inside treatment plant)	100301 Overseas Hwy, Key Largo, FL 33037	94	24.5	\$2,303.00
Vac station G	98240 Overseas Hwy, Key Largo, FL 33037	68	24.5	\$1,666.00
Vac station I	95100 Overseas Hwy, Key Largo, FL 33037	110	24.5	\$2,695.00
Vac station JK	92431 Overseas Hwy, Tavernier, FL 33070	72	24.5	\$1,764.00
Total cost of job				\$13,181.00
Total			mark-up 30%	\$3,954.30
				\$17,135.60
Carport Optimization		144 pv panels, 8 strings (18 panels each). Three phase 277/480V		
Option 1 - Installation of 144 optimizers/rapid shutdown for the entire system				
Material	Product	Quantity	Unit Cost	Total
Optimizer equipment + freight and handling	TIGO TS4-A-O. Validated to work with SMA inverter model STP 50 US-41	144	\$38.72	\$6,175.68
Labor				
Installation of 144 optimizers and monitoring setup		144	\$20	\$2,880.00
Total cost of job				\$9,055.68
Total			mark-up 30%	\$2,716.70
				\$11,772.68
Option 2 - Installation of 18 optimizers/rapid shutdown for the string affected				
Material	Product	Quantity	Unit Cost	Total
Optimizer equipment + freight and handling	TIGO TS4-A-O. Validated to work with SMA inverter model STP 50 US-41	18	\$38.72	\$1,296.96
Labor				
Installation of 18 optimizers and monitoring setup		18	\$35	\$630.00
Total cost of job				\$1,926.96
Total			mark-up 30%	\$578.09
				\$2,505.35
Rooftop with ballast system		76.840 kWp. 226 pv panels with Delta inverters		
Option 1 - Installation of SE 226 optimizers/rapid shutdown for the entire system with 2 new Solar Edge inverters of 40kW				
Material	Product	Quantity	Unit Cost	Total
Solar Edge inverters	SE40KUS 277V/480V inverter	2	\$2,814	\$5,628.00
Solar Edge optimizer	S1201 opt with rapid shutdown and monitoring (2x1)	113	\$102.90	\$11,627.70
Labor				
Installation of inverters, optimizers and monitoring setup				\$6,850.00
Total cost of job				\$24,105.70
Total			mark-up 30%	\$7,231.71
				\$31,337.71
Option 2 - Installation of 226 TIGO optimizers/rapid shutdown for the entire system				
Material	Product	Quantity	Unit Cost	Total
TIGO optimizers/rapid shutdown	TIGO TS4-A-O. Validated to work with DELTA inverter model M36U	226	\$38.72	\$8,750.72
Labor				
Installation of optimizers and monitoring setup		226	\$25	\$5,650.00
Total cost of job				\$14,400.72
Total			mark-up 30%	\$4,320.22
				\$18,721.24
Canopy Repairs				
Labor	Total			
Panel replacement	\$220.00			
MC4 connector replacement	\$0.00			
Wiring protection	\$0.00			
Total cost of job				\$220.00
mark-up (30%)				\$66.00
Total				\$286.00
Placards and labelling to all PV installations				
Material cost				\$0.00
mark-up (30%)				\$0.00
Total				\$0.00
Technical Supervision Cost				
Unit Cost	Hours	Total		
\$63.46	24	\$1,523.04		
Total		\$1,523.04		

Krannich Solar Southeast, LLC | 820 S. Ronald Reagan Blvd | Suite 110 | Longwood, FL 32750 | USA

Invoice Address:

Burke Construction Group
10145 NW 19TH ST
DORAL, Florida
33172-2529
United States

Delivery Address:

Burke Construction Group
10145 NW 19TH ST
DORAL, Florida
33172-2529
United States

Sales Quotation 10-10004902-1**06/10/2024**

Customer No.	0251000032	Delivery Terms	EXW
Sales Rep.	Ricardo Cruz	Shipment Type	Truck
Created by	Ricardo Cruz	Customer Reference	

We thank you for your inquiry and submit the following offer, valid for 7 days.

Pos.	Item	Delivery Date	Qty. Unit	Unit Price	Total Price
1.	000001859 <u>Manufacturer:</u> Tigo Energy / <u>MFR Item Number:</u> 461-00252-32 <u>MFR Item Type Name:</u> TS4-A-O <u>W. Name:</u> Tigo Energy TS4-A-O Module-level PV Optimizer optimizer, advanced add-on optimization solution, max. 700W, 1500V UL/1000V IEC, cable output 1.2m/input 0.12m, MC4 original, complies w/ NEC 2017/2020	06/11/2024	144 Pcs	38.72	5,575.22
2.	000004253 <u>Manufacturer:</u> SolarEdge / <u>MFR Item Number:</u> SE40K-USR8IBNZ4 <u>MFR Item Type Name:</u> SE40KUS for North America <u>W. Name:</u> SolarEdge SE40KUS 277V/480V for North America inverter, 40kW, 3ph, 277V/480V AC, 60Hz, w/DC switch, w/AFCI, AC RSD, DC/AC SPD II, DC fuses	08/07/2024	2 Pcs	2,813.19	5,626.38
3.	000003613 <u>Manufacturer:</u> SolarEdge / <u>MFR Item Number:</u> P1101-4NMYMRT-NA25 <u>MFR Item Type Name:</u> P1101 for North America <u>W. Name:</u> SolarEdge P1101-4NMYRT-NA25 for North America optimizer, for up to 2x high power or bifacial modules in series, 1100W, 125V, cable output 2.4m/input 1.6m, commercial inverters only 208V, 480V, MC4 original	08/07/2024	107 Pcs	95.96	10,267.68

Subtotal	USD	\$ 21,469.28
Sales Tax		\$ 0.00
Total Price	USD	\$ 21,469.28

Starting on 1/1/2023, a 2.95% fee will be applied to all credit card payments.

Product will ship according to your company's agreed payment terms and availability.

To ensure we process your prepayment correctly, please mention sales quotation number **(10-10004902)** as reference when making payment. Please refer to bank account details at the footer of this page when processing payment.

Best regards,

Ricardo Cruz