

Beaches Energy/City Communication Infrastructure



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Project Description and Reason Necessary



Beaches Energy along with the City desire to build a wide area network (WAN) that will provide communications for all needs including first responders, wireless communication to mobile devices in the field, communication for devices installed in the field, and future development.

The project will consist of expanding the existing fiber infrastructure and utilizing and expanding the existing Fluid Mesh wireless backhaul.

In addition, Beaches Energy is ultimately looking for a solution that will integrate with all communication capable electric distribution devices in the field and the City's corporate and/or Supervisory Control & Data Acquisition (SCADA) networks. This will include researching and testing a communication network and devices in the field before selecting one through the proper procedures.

Restore functionality



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Image Landsat / Copernicus
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Google Earth

Beaches Energy/City Communication Infrastructure



Budget FY21: \$400,000

Objectives:

- To restore full functionality of existing fiber mesh network.
- Provide communication system for barrier island.
- Provide platform for future smart city communications.

Sampson Substation Improvements



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Sampson Substation Improvements



EPC For Substation Project Delivery

- Part of overall plan to upgrade Sampson substation and provide reliable and redundant energy supply
- Multi-year project – target in-service August 2020
- \$5,000,000 capital budget funded in FY19 & FY20
- Construction ~ 75% complete
- Project delivery model for all future major and complex substation projects

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What is EPC?

- Simple Definition
 - (E)ngineer
 - (P)rocure
 - (C)onstruct
- AKA Design-Build or Turnkey
- DBIA Definition of Design-Build
 - Design-Build is a method of project delivery in which one entity – the design-build team – works under a single contract with the project owner to provide design and construction services. One entity, one contract, one unified flow of work from initial conception through completion – thereby re-integrating the roles of designer and contractor. (Design-Build Institute of America website; www.dbia.org)



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What is EPC?

- Can include Complimentary Services such as Siting, Routing, Land, Permitting, Outage Coordination, Testing, Commissioning, etc.
- Bundle Overall Project Responsibility into a Single Package
- Owner in Review/Oversight Mode
- EPC Contractor Handles the Interfaces
- EPC Contractor Manages and Responds to All Coordination, Late Procurement, Design Error Impact on Construction, Rework, and Schedule
- Simplest Form of Delivery for Owner

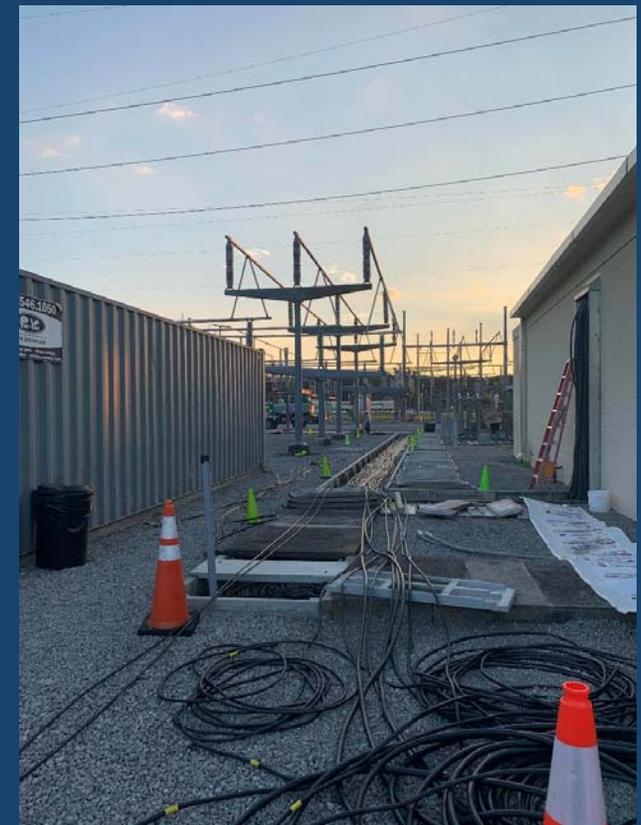


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Benefits of Design-Build/EPC

- Faster project completion; shorter schedules
- Early known cost, accurate budget, no surprises
- Team approach, enhanced quality, safer projects
- Open-book policy, fewer claims, reduced conflict
- Best value; lower overall project cost
- Single point of responsibility for owner
- One RFQ/RFP required vs. multiple for other methods
- More professional relationship with contractor
- Allows most innovations/options for owner to select
- Fewest claims and litigation



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Total Project Oversight & Management:

Beaches Energy Sampson Station T2
Saint Augustine, FL 32092

Date Tue 07/14/2020 Job # 122006 Prepared By Jeff McCord






Weather

<p>6:00 AM</p> <p>76°</p> <p>Humid</p> <p><small>Wind: 4 MPH Precipitation: .01" Humidity: 98%</small></p>	<p>12:00 PM</p> <p>91°</p> <p>Humid</p> <p><small>Wind: 3 MPH Precipitation: .02" Humidity: 71%</small></p>	<p>4:00 PM</p> <p>86°</p> <p>Humid and Partly Cloudy</p> <p><small>Wind: 8 MPH Precipitation: .10" Humidity: 82%</small></p>
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Work Logs

Name	Description	Quantity	Hours
Jeffery McCord Daily	BMcD - 1 person	1	12
	Jeff McCord Nightshift (6:00pm - 6:00am)		
	Supervision		
	C&C Power Line - 6 people (6:00-6:00am)		
	Disconnected AC & DC power to 8G57 MOD switch		
	Installed grounds on 230kv buss for 8G57 line switch outage		
	Removed existing 230kv switches and start installing new ones		
	Installed new MOD panel for 8G57 switch		
	Start conduit into MOD panel		
Total		1	12



General Notes

- Grounding of buss didn't start till 10:15pm due to weather issues
- 2 of the 5 MOD panel adapter plates are missing - these will need to be located or procured promptly

Site Safety Observations

- Lightning stand down from 7:00-9:30pm

Quality Control Observations No entry

Survey

Questions	N/A	No	Yes	Description
1. Any accidents on site today?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Any schedule delays occur?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weather
3. Did weather cause any delays?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See site safety note
4. Any visitors on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5. Any areas that can't be worked on?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6. Any equipment rented on site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	C&C and Truant equipment rentals

Heat Index

4 Miles ESE St Johns Florida

96°F 48%



At 2:57 PM
Feels Like
106°F

Precautions

Conditions are hazardous.

Heat Index
 Hourly
 Symptoms
 First Aid
 More

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Selection of Appropriate Projects

- Typical Reasons for EPC
 - Owner Resources are Limited
 - Schedule Constraints Do Not Allow Time for Design-Bid-Build
 - Special Financing Requirements (Cash Flow, Need for Strong Indicative or Firm Price)
 - Lock-in Key Equipment and Construction Resources Earlier in the Process
 - Desire for Engineering and Construction Teams to Participate in Commitments (Permitting/ROW/Procurement)

