

TASK ORDER NO. 04

Design Services – Intercoastal Waterway Distribution Crossing Feasibility Study

THIS TASK ORDER ("Task Order") is made on _____, 2021, between the **City of Lake Worth Beach**, a Florida municipal corporation located at 7 North Dixie Highway, Lake Worth, Florida 33460 ("City") and **Power Engineers, Inc.**, a Florida corporation ("Consultant").

1.0 Project Description:

The City desires the Consultant to provide those services as identified herein and generally described as: **Complete engineering analysis and feasibility study for a new submersible cable crossing the Intercoastal Waterway** (the "Project"). The Project is described in the consultant's proposal, dated February 12th, 2021, and is attached hereto as **Exhibit "1"** and incorporated herein.

2.0 Scope

Under this Task Order, the Consultant will provide professional services to the City as detailed in the **Consultant's proposal attached hereto and incorporated herein as Exhibit "1"**.

3.0 Schedule

The services to be provided under this Task Order shall be completed within **100** calendar days from the City's approval of this Task Order or the issuance of a Notice to Proceed.

4.0 Compensation

This Task Order is issued for a Lump Sum, not to exceed amount, of **\$89,986.00**. The attached proposal identifies all costs and expenses anticipated in the Lump Sum, not to exceed amount.

5.0 Project Manager

The Project Manager for the Consultant is Ivette Sanchez, phone: 407-341-6907; email: ivette.sanchez@powereng.com; and, the Project Manager for the City is Paul Nicholas, phone: 561-533-7353; email: Pnicholas@lakeworthbeachfl.gov

6.0 Progress Meetings

The Consultant shall schedule periodic progress review meetings with the City Project Manager as necessary but every 30 days as a minimum.

7.0 Limitation of Liability

The City agrees to limit CONSULTANT's liability, to the City and to those under contract with the City to perform the work under the scope of the Project, for insurable events arising from the CONSULTANT's performance under this Task Order to **One Million Dollars (\$1,000,000.00)**. Except for the CONSULTANT's agreement and obligation to indemnify and hold harmless under the Agreement, the CONSULTANT's liability for non-insurable events including breach of contract shall not exceed **\$89,986** under the proposed Task Order for this project.

8.0 Authorization

This Task Order is issued in compliance with the Consultants' Competition Negotiation Act, section 287.055, Florida Statutes, and pursuant to the Agreement for Professional Services between the City of Lake Worth and the Consultant, dated **May 1st, 2018** ("Agreement" hereafter). If there are any conflicts between the terms and conditions of this Task Order and the Agreement, the terms and conditions of the Agreement shall prevail; however, the specific scope of services set forth in this Task Order shall take precedence over any other more general description of services.

IN WITNESS WHEREOF the parties hereto have made and executed this Task Order on the day and year first above written.

CITY OF LAKE WORTH BEACH, FLORIDA

ATTEST:

By: _____
Deborah M. Andrea, City Clerk

By: _____
Betty Resch Mayor

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY:

APPROVED FOR FINANCIAL
SUFFICIENCY

By: _____
Glen J. Torcivia, City Attorney

By: _____
Bruce T. Miller, Financial Services Director

CONTRACTOR: Power Engineers, Inc.

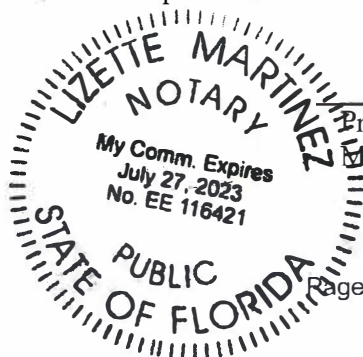
[Corporate Seal]

By: _____
Print Name: **Alan Sowell**
Title: _____
Digitally signed by Alan Sowell
DN: C=US,
E=alan.sowell@powereng.com,
O="POWER Engineers, Inc.",
OU=VP Project Management,
CN=Alan Sowell
Date: 2021.03.15
13:23:17-05'00'

STATE OF Florida)
COUNTY OF Orange)

The foregoing instrument was acknowledged before me this 5 day of March, 2021, by Alan Sowell, who was physically present, as VP Project Management (title), of Power Engineers, Inc., which is authorized to do business in the State of Florida, and who is personally known to me or who has produced the following _____ as identification.

Notary Public



Print Name: Lizette Martinez
My commission expires: 07-27-23

EXHIBIT "1"
(Consultants Proposal)



POWER ENGINEERS, INC.
1060 MAITLAND CENTER COMMONS
SUITE 110
ORLANDO, FL 32751 USA

PHONE 321-214-3800
FAX 321-214-3899

February 12, 2021

Paul Nicholas
Engineering Manager - Special Projects
City of Lake Worth Beach
1900 2nd Avenue North
Lake Worth Beach, FL 33461

Subject: Feasibility Study: Intracoastal Waterway Underground Distribution Line Crossing

Dear Mr. Nicholas:

Thank you for the opportunity to provide a proposal to City of Lake Worth Beach for your upcoming submarine cable project. As requested, we have identified key tasks that we will perform and the deliverables that you will receive for each task, attached to this letter.

We look forward to your review of our proposal. If you have any questions, please contact me at 407-341-6907. Thank you once again for this opportunity to work with City of Lake Worth Beach.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ivette Sanchez", with a stylized flourish at the end.

Ivette Sanchez, MBA. PMP
Project Manager

cc: Warren Gillens (POWER)
Scott Brondyke (POWER)

PROJECT SCOPE

CLWB has identified the need to evaluate the installation of a new 25 kV underground distribution line across the intracoastal waterway and has requested POWER to perform an engineering evaluation to develop a conceptual design. It is assumed that the intracoastal waterway crossing will use horizontal directional drilling (HDD) technology.

For this work, POWER proposes to perform the following activities to support the preliminary engineering and design efforts.

Task 0 – Project Management

0.1 Project Management & Control

Communicate, supervise, and coordinate project participants (within POWER's purview) to complete all tasks and activities as outlined in the approved scope of work. Establish and maintain with CLWB the project schedule for engineering related tasks. Track deliverables progress and completion relative to schedule. Monitor the work and budget and document work scope variances, if there are any, for CLWB's review. Address problems, risks, trends and/or delays and the actions being taken to bring those areas back on schedule or budget.

Deliverable(s): Project Invoicing; Financial Reports.

Task 1 – Pre-Design Activities

1.1 Data Acquisition

Gather and review available drawings and data for the water crossing to perform feasibility study. Receive the information available from CLWB's engineers and follow up with additional requests for data, as needed.

Conduct a project-site visit to identify existing features and conditions that must be considered in evaluating the design options, assuming trenchless crossing via Horizontal Directional Drilling (HDD). The visit will review site access and limitations, along with material, equipment laydown areas, and possible locations for entry/exit pits for HDD activities.

Deliverable(s): Data Requests, Site Visit Notes

1.2 Environmental Assessment

POWER and its subcontractor, Golder Associates, will develop a high-level summary of the potential environmental regulations and standards that could trigger permits and agency approvals and their applicability to the proposed project.

This information could be used by POWER to support conversations with CLWB as to the level of regulatory involvement (i.e., local, state and/or federal permit or agency entities). The summary will include a timeline and preliminary cost estimate for the planning, evaluation, and application review/processing efforts associated with the site location, project type and construction technique.

Deliverable(s): Environmental Assessment Report

Task 2 – Field Activities

2.1 Land Survey

Provide technical specifications and input to CLWB and surveyor to facilitate the acquisition of the required topographic and planimetric survey data along entry and exit locations and parameters (size of space needed to setup equipment) to complete the crossing and possibly trenching to a nearest manhole/pullbox (OH-UG transition) at each end.

Deliverable(s): Land Survey Scope of Work and Specification

2.2 Bathymetric Survey

Provide technical specifications and input to CLWB and surveyor to facilitate the acquisition of the required bathymetric survey data along or in vicinity to the existing submarine cable crossing that will be replaced. Includes requirements for hydrographic surveying, side-scan imaging, and magnetometer surveying. Evaluate the need for any sub-bottom profiling, camera work, or remote operated inspections.

Deliverable(s): Bathymetric Survey Scope of Work and Specification

2.3 Geotechnical Evaluation

Provide specifications for drilling soil borings along the project centerline. Identify requirements for soil boring logs, laboratory testing, preparation of engineering soil properties table, and compilation of all data and recommendations in a geotechnical report.

Deliverable(s): Geotechnical Evaluation Scope of Work and Specification

2.4 **Thermal Evaluation**

Utilize holes drilled by geotechnical subcontractor to perform thermal testing. Coordinate with geotechnical subcontractor to obtain soil samples at specific subsurface locations as directed by POWER and agreed to by CLWB.

Deliverable(s): Thermal Evaluation Scope of Work and Specification

Task 3 – Preliminary Underground Line Design

3.1 **Cable System Design**

Perform ampacity calculations for a 25 kV, cross-linked polyethylene (XLPE) insulated cable design. Size the cable considering at a minimum: burial depth, cable spacing, mutual heating, soil thermal resistivity, insulation wall thickness, earth ambient temperature, load factor, dielectric losses, conductor material, and anticipated load requirements.

Deliverable(s): Ampacity Calculations

3.2 **Trenchless Crossing Design**

Work with CLWB and determine viable alternatives to cross the intracoastal waterway using HDD technology. Identify entry and exit locations and parameters (size of space needed to setup equipment) to complete the crossing.

Select a casing/pipe size, and identify major design components including entry and exit angles, minimum bending radii, and preliminary cable pulling tensions. Perform preliminary design calculations based on available geotechnical data to lay out preliminary HDD alignments, including pipe pull-back tensions, and hydrofracture limiting pressures (frac outs).

Review available right of way and pull-back areas, and identify potential locations to lay out the pipe.

Identify a minimum of three (3) alternatives for completing the trenchless crossing. POWER will use survey information provided by CLWB to prepare preliminary crossing plan and profile (conceptual) drawings. If there is no survey information available, POWER will use readily available desktop data (Google Earth, GIS) to layout alternatives.

Deliverable(s): Preliminary Conceptual Design, Preliminary Plan and Profile (P&P) Drawings and Final Conceptual Design and Final P&P plans

3.3 **Cost Estimates, Schedule, and Permits**

Perform high-level cost estimates for the new underground distribution installations. Include estimates for all engineering, procurement, and construction costs.

Support CLWB in an RFI process for HDD solution providers to evaluate conceptual design of the proposed drill and identify drilling challenges and risks, evaluate HDD proposed set up area and work areas for both side of the project.

Develop a preliminary schedule for installation activities. Identify long lead time items.

POWER will work with environmental permit subcontractor (Golder) to identify permit requirements for the project.

Deliverable(s): Cost Estimates, Schedule(s)

Task 4 – Conceptual Design Report

4.1 **Feasibility Report**

Assemble the deliverables in Task 3 into a conceptual design report. Evaluate the conceptual design alternatives and provide CLWB with specific recommendations and/or considerations.

Receive feedback from CLWB and issue a final report.

Deliverable(s): Feasibility Report

4.2 **Conceptual Design Review Meetings**

Participate in weekly conference calls for the duration of the preliminary engineering phase of the project, based on a 4-month duration.

Attend a conceptual design review meeting with CLWB to review the results of the feasibility analysis.

Deliverable(s): Design Review Meetings

Project Milestones:

Project is based on a based on a 4-month duration. The following milestones have been estimated for this project:

MILESTONE SUMMARY			
MILESTONE	START	FINISH	RESPONSIBILITY
Project Initiation	03/01/21	03/05/21	POWER/CLWB
Data Acquisition/Field Visit	03/08/21	03/19/21	POWER
Environmental Assessment - Final Report *	03/22/21	04/30/21	POWER
Field Activities – Surveys, Geotech, Thermal Reports	03/22/21	04/30/21	POWER/CLWB
Preliminary Line Design/Plan and Profile	03/22/21	05/07/21	POWER
HDD Solutions Provider RFI	05/10/21	05/28/21	POWER/CLWB
Cost Estimates, Schedule, and Permits	06/01/21	06/18/21	POWER
Final Conceptual Design Report	06/01/21	06/18/21	POWER

Engineering Budget:

POWER proposes to perform these engineering and design services on a time and expense basis, in accordance with POWER's latest Agreement with CLWB. A breakdown of our budget is as follows:

BUDGET SUMMARY BY TASK					
Task	Description	Hours	Labor \$	Expense \$	Total \$
0	Project Management	36	\$6,708		\$6,708
1	Pre-Design Activities*	82	\$12,760	\$11,600	\$24,360
2	Field Activities	62	\$10,334		\$10,334
3	Preliminary Underground Line Design	160	\$23,028		\$23,028
4	Conceptual Design Report	164	\$25,556		\$25,556
GRAND TOTAL		504	78,386	\$11,600	\$89,986

* Golder Associates to perform Environmental Assessment as POWER's subcontractor. Subcontractor's expenses are charged at cost plus a carrying and handling charge of 10%.