



City of North Port
PURCHASING
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WORK ASSIGNMENT

CONSULTANT Black and Veatch Corporation **AGENDA ITEM 23-1701 1-9-23**
CONTINUING CONTRACT NO. & TITLE 2020-58-04 - North Port Water Supply Evaluation Scope and Fee

THIS WORK ASSIGNMENT

WORK ASSIGNMENT # 2024-07
SHORT TITLE North Port Water Supply Evaluation
DATE SUBMITTED 11/27/2023
AMOUNT (LUMP SUM) \$349,480.00
SCHEDULED COMPLETION 1 year duration from NTP

CONTRACT AND BUDGET OVERVIEW FOR FISCAL YEAR 20²⁴

	DEPARTMENT
TOTAL OF PREVIOUS ASSIGNMENTS	<u>0</u>
THIS WORK ASSIGNMENT	<u>\$349,480.00</u>
TOTAL WORK ASSIGNMENTS	<u>\$349,480.00</u>
ACCOUNT NO/PROJECT NO	<u>423-6061-533.31-05</u>

All work assignments require City Manager approval. In presenting this work assignment, it is understood that:

1. All associated supporting documentation and justification for this work assignment is attached hereto.
2. Unless specified herein, work does not involve watercraft, boat piers and/or other activities requiring additional workers compensation endorsements.
3. Contact or involvement with hazardous materials is not anticipated, should hazardous materials be encountered, the City shall be informed.
4. THIS WORK ASSIGNMENT SHALL NOT EXCEED \$500,000 & ANY RESULTING CONSTRUCTION SHALL NOT EXCEED \$4,000,000 PER FLORIDA STATUTE 287.055 AS AMENDED.

SUBMITTED BY:

[Signature]
CONSULTANT

11/1/2023
DATE

APPROVED BY:

Michael Vuolo

Digitally signed by Michael Vuolo
 Date: 2023.12.01 14:20:51 -05'00'

Heidi B. Hallas

Digitally signed by Heidi B. Hallas
 Date: 2023.12.04 14:09:10 -05'00'

DEPARTMENT DIRECTOR

Ginny Duyn

Digitally signed by Ginny Duyn
 Date: 2023.12.04 14:47:26 -05'00'

DATE

BUDGET ADMINISTRATOR

Kimberly Williams

Digitally signed by Kimberly Williams
 Date: 2023.12.04 16:43:56 -05'00'

DATE

PURCHASING

[Signature]

Date: 2023.12.06 14:40:07 -05'00'

DATE

FINANCE DIRECTOR

DATE

ASSISTANT CITY MANAGER

DATE

CITY MANAGER

DATE



MEMORANDUM
Utilities Department

TO: Purchasing Department
CC: Nancy Gallinaro, Utilities Director
FROM: Michael Acosta, Utilities Engineering Manager, P.E.
SUBJECT: RLI 2024-07, North Port Water Supply Evaluation Scope and Fee
DATE: 11/27/2023

The City of North Port is seeing extraordinarily high growth. While much of the growth is in Wellen Park, there is also high growth and planned additional large developments in the Legacy portion of the City. In 2023, Black & Veatch completed a Water Master Plan that included historical growth for North Port Utilities (NPU). They are in the process of updating the growth projections to include recently identified potential projects in the Toledo Blade/I-75 corridor. This accelerating growth will require water and wastewater services. NPU's water treatment plant currently has capacity to accommodate additional growth, but additional treatment capacity will be needed in the near future. Along with the treatment capacity, additional water resources will need to be identified to provide the source water for the expanded or new plant. In order to provide for the most cost-effective lifecycle cost for water resources NPU needs to perform a water supply evaluation. The Myakkahatchee Creek Water Treatment Plant has been in service since the mid-1960s and its water source has been the Myakkahatchee Creek over that time period. Additionally, wells were added when the reverse osmosis treatment process was added in the mid-2010s. Beyond that, additional water supply has not been identified to meet the needs of future growth, thus the need for a water supply evaluation.

The water supply evaluation will identify existing, available water and alternative supply sources and provide the roadmap for NPU's water supply for the foreseeable future. As noted above, Black and Veatch recently completed the Water Master Plan and is working on updates on the projected growth. NPU proposes to have Black and Veatch provide the services associated with the Water Supply Evaluation without the request for letters of interest (RLI) process for selecting consultants from the Continuing Services Library. NPU will benefit by using the Black & Veatch team because of the institutional knowledge and familiarity with NPU's water system gained through the master plan process. Black and Veatch's extensive knowledge of water supply in southwest Florida will also provide efficiencies in the assignment. The Black and Veatch team will be able to complete the project faster and more efficiently than any another consultant in the Continuing Services Library coming into the project for the first time. Any other engineering firm would need develop the institutional knowledge that Black and Veatch already has developed. This would add unnecessary time and cost to the project. The fee that Black & Veatch has provided is competitive with this type of service. It is recommended that NPU proceed with this work assignment with Black and Veatch without the RLI process.

EXHIBIT A

SCOPE OF SERVICES CITY OF NORTH PORT UTILITIES WATER SUPPLY EVALUATION

PROJECT DESCRIPTION

Black & Veatch, (Consultant) entered into a Professional Engineering Services – Continuing Services Contracts (Agreement) Contract #2020-58-04 with the City of North Port, Florida (City) on October 13, 2020. Pursuant to this Agreement, North Port Utilities (NPU) has requested that the Consultant provide certain professional services in support of a Water Supply Alternative Evaluation (Project) as further detailed in this scope of services.

Consultant will perform an analysis of available long-term water supply alternatives for NPU building on work completed for the 2023 Water Master Plan and 2023 Cost Benefit Analysis study.

SCOPE OF SERVICES

TASK 1 – PROJECT MANAGEMENT AND ADMINISTRATION

A. Project Management and Coordination:

Consultant will perform project management and general administrative duties associated with the Project, including project set- up, resource management, progress monitoring, scheduling, general correspondence, office administration, and invoicing. Consultant will maintain project documentation and project cost accounting systems throughout the project duration including the following:

- Maintain a project filing system throughout duration of the Project to use for storage and retrieval of Project documents.
- Prepare monthly status reports and invoices for engineering services in the format required by the contract. Status reports will include a summary of work completed during the previous month.

Consultant will update the project schedule based upon the notice to proceed (NTP) date and distribute the updated schedule at the project kickoff meeting. The project schedule will identify the following information:

- Key project tasks and deliverables.
- Critical dates for data submission, deliverable reviews, decisions by NPU, meetings and workshops.

Consultant will review, update and submit to NPU the updated Project schedule periodically upon completion of major project elements.

B. Kickoff Meeting:

Consultant will coordinate and lead 2-hour, in-person project kickoff meeting with NPU staff to confirm project goals, schedule, roles and responsibilities, go over data collected to date and data needs, and to review the scope of services. CONSULTANT will prepare an agenda and distribute meeting minutes.

TASK 2 – DATA COLLECTION

Consultant will perform initial data gathering and review of relevant available documents and data from NPU. Consultant has already collected a significant amount of relevant data through previous work assignments and information provided by NPU to date, which will facilitate initiation of work and streamline requests for additional data for this project.

Consultant will develop a data request list that indicates the data already gathered along with the data request items. The data request list will be submitted to NPU and updated as necessary to support completion of the initial data gathering process. Consultant staff will review the available documents and data to provide a basis for the services provided as part of this work assignment.

In addition to the NPU provided data, the Consultant will obtain and review historic flow, water quality data, geologic and hydrogeologic reports available from the Southwest Florida Water Management District (SWFWMD, or District), the United States Geological Survey (USGS) and the Peace River Manasota Regional Water Supply Authority (Authority), adopted minimum flow levels, publicly available modeling data and historic wellfield performance data, as available, in digital format from entities such as the District, the US Army Corps of Engineering (USACOE), Florida Department of Health (FDOH) and Sarasota County, as well as other sources identified during the initial data collection efforts. Groundwater and surface water models available to NPU, but not the public, will also be requested from the Water Management District as part of this Task.

TASK 3 – WATER SUPPLY SOURCE DEVELOPMENT

A. Water Resource Characterization:

Consultant will identify and characterize the water supply sources available to NPU and evaluate the sustainable quality, quantity, and any potential seasonality of varying water resources. The following source and storage options will be characterized:

- Surface water supply, including impoundment/reservoir feasibility in areas such as the Orange Hammock
- Fresh groundwater supply
- Brackish groundwater supply

- Upper Floridan aquifer (Ocala Limestone)
 - Upper Floridan aquifer (Avon Park high-permeability zone)
 - Lower Floridan aquifer
- Reclaimed water for potable reuse (information will be requested from NPU for the ongoing feasibility study being conducted by others to include as part of concepts for evaluation if available).
 - Aquifer storage and recovery (ASR) (including evaluating use of existing well and potential for new wells)

B. Water Supply Source Development:

Based on the water supply characterization, the Consultant will identify potential water supply sources for evaluation. Sources will include:

- Raw water storage needs including but not limited to surface storage and ASR systems using a water balance model (spreadsheet based).
- Surface Water Source Evaluations
 - Orange Hammock Slough – Consultant will review the relevant regulations governing the area and the regulatory feasibility of using the Orange Hammock area for water storage. The impact of a feasible surface storage option on the downstream Myakkahatchee Creek yield will also be evaluated.
 - Myakka River Yield – Consultant will conduct a literature review of various agency reports and relevant projects (e.g., Flatford Swamp Hydrologic restoration) that affect the surface water yield. Consultant will collate flow data and evaluate and optimize yield using its established minimum flow or the planning-level minimum flow criteria and other constraints. The impact of Flatford Swamp Hydrologic restoration project implementation on the yield will be evaluated.
 - Myakkahatchee Creek Yield – Consultant will conduct a literature review of various agency reports and relevant projects. Relevant data will be collated, and surface water yield will be evaluated. Consultant will also evaluate the feasibility of off-stream surface water storage reservoir during high flows. The feasibility analysis will include development of a planning level spreadsheet-based water balance model optimized to meet NPU's water supply needs.
 - Cocoplum Waterway - Consultant will review the existing structures operation schedule upstream of WCS 106 on Cocoplum waterway. The operational schedule of these structures will be optimized to maximize yield from Cocoplum Waterway.

- Consultant will collate the existing surface water models from the regulatory agencies and their simulation results will be leveraged to evaluate alternatives as appropriate.
- Brackish water supply wellfield (including source water and injection zone for concentrate disposal)
 - Consultant will conduct a literature search of various agency reports and other relevant projects in the area to evaluate potential sources of brackish groundwater and injection zone(s). Research will include hydrogeologic investigations, drilling reports, and permit documents. Consultant will identify areas where additional information is needed to provide NPU reasonable assurance.
 - Evaluate wellfield expansion sizing based on water supply needs and regulations. Consultant will investigate regulatory constraints for development of a brackish water wellfield. Regulatory agencies will include the SWFWMD and Florida Department of Environmental Protection (FDEP).
 - Evaluate potential wellfield brackish source water from the Ocala Limestone, Avon Park High Permeability Zone, or other aquifers in the project area.
 - Evaluate wellfield expansion approach based on potential well spacing and water availability, anticipated water quality and ability of the existing RO system to treat.
 - Evaluate feasibility of use of existing or development of new injection well(s) to dispose of concentrate from RO treatment processes.
- ASR wellfield program to support surface and ground water sources.
 - Conduct a literature search of various agency reports, analyses and other relevant projects in the area to evaluate the potential for ASR expansion in this location.
 - Identify regulatory framework as related to permitability and scheduling (including District, FDEP and any other sources).
 - Consultant will evaluate the hydrogeologic test data and storage performance data of the Authority's ASR system considering proximity to the Authority's ASR system.
 - Consultant will propose guidance to plan for development of an ASR system based on the NPU's long-term needs, which will consider:

- Potential locations of future ASR facilities will be based on NPU's future demands and suitable hydrogeologic conditions.
- Phased construction of ASR wells in phases to achieve the NPU's required yield.
- Evaluation of capacity.
- Relevant aquifer water quality.
- Expansion of ASR program.
- Storage of excess water from the Myakka River will be included for the ASR system evaluation, including potential volume and water quality of groundwater in potential storage aquifer(s).
- Contact FDOT regarding opportunities to collaborate on use of stormwater.
- Consultant will obtain existing treatment plant water quality criteria and compare with the anticipated raw water quality based on the source water. Treatment process selection will be based on source type and water quality.
- Required infrastructure to connect the raw water sources to the water treatment facilities will be identified.
- Consultant will develop conceptual cost estimates for the purpose of comparing water sources.

C. Concept Development and Selection Workshop:

The Consultant will conduct a 2-hour, in-person workshop with NPU to review the sources and select up to four water supply concepts to evaluate in further detail.

The Consultant will prepare an agenda before the workshop, develop a Power Point presentation and prepare meeting minutes to distribute to meeting attendees after the workshop.

TASK 4 – CONCEPT EVALUATION

A. Life Cycle Cost:

Consultant will develop a 30-year life-cycle cost for each of the four water supply concepts. The life cycle cost will include renewal and replacement costs, capital costs and operations and maintenance (O&M) costs such as chemical costs, staffing requirements and electric costs.

B. Concepts Evaluation:

Consultant will review the evaluation criteria used in the Water Study Cost Benefit Analysis project and finalize the framework matrix for use as part of this project. The framework is likely to contain items such as:

- Planning level life cycle costs (\$/1,000 gallons) which includes Capital Costs, Renewal and Replacement Costs and O&M costs. Resilience and Reliability
- Environmental Stewardship (Including water quality)
- Social Responsibility

The Consultant will evaluate the four concepts selected by the NPU in Task 3.D based on the formalized criteria. The evaluation will score each concept on a 1 to 5 scale for each criterion and the weighted scores will be compared to each other to determine the relative cost benefit score for each concept.

The Consultant will use the evaluation scores to recommend the next water supply sources for NPU to meet the future demand needs.

C. Concepts Evaluation Workshop:

The Consultant will conduct a 2-hour, in-person workshop with NPU to review the results of the Concepts Evaluation. The Consultant will prepare an agenda before the workshop and prepare meeting minutes to distribute to meeting attendees after the workshop. The objective of the workshop will be to get consensus on the future water supply sources for NPU.

D. Final Report:

Consultant will develop a Draft Water Supply Evaluation Report to submit to NPU for review and comment. The Consultant will address one round of NPU's comments and submit the Final Water Supply Evaluation Technical Memorandum.

DELIVERABLES

The Consultant shall prepare and submit to NPU, including electronic format when applicable, the following deliverables:

Task	Activity	Deliverable
1	Project Management & Administration	<ul style="list-style-type: none">• Monthly Invoices• Monthly Status Reports• Project Schedule• Kickoff Meeting Agenda and Minutes
2	Data Request	Data Request List and Log
3	Water Supply Concept Development	Workshop Agenda and Meeting Minutes
4	Concept Evaluation	Final Evaluation Framework Concepts Evaluation Workshop Meeting Minutes Draft Technical Memorandum Final Technical Memorandum

MEETINGS

A summary of the proposed meetings, teleconferences and workshops is listed in the table below:

Task	Meeting / Teleconference / Workshop	Duration	Format
1	Kickoff Meeting	2 hours	In Person
3	Concept Selection and Framework Workshop	2 hours	In Person
4	Concepts Evaluation Workshop	2 hours	In Person

NPU RESPONSIBILITIES

NPU will provide the following information to the Consultant and / or perform the following services related to the Project:

- NPU will provide review comments within 2 weeks of deliverable submittals
- NPU will provide Consultant with relevant data as requested.
- NPU will make staff available for meetings and workshops as stated in the scope.

ASSUMPTIONS

- No evaluations are being done for any other local utility
- No water sources outside of those listed will be evaluated
- No design services are included in this scope
- In-depth permit reviews for yields or other regulatory items are limited to those identified in the scope above. No pre-application meetings or other meetings with regulatory agencies are included.

EXHIBIT B – FEE SCHEDULE

For the Scope of Services described in this Work Assignment, CONSULTANT shall be compensated on a Lump Sum (LS) Basis. Compensation under this Agreement includes services defined in the scope and shall not exceed \$349,480.

FEE SCHEDULE		
TASK	LUMP SUM SERVICES	FEE APPORTIONMENT
1.0	Project Management and Administration	\$29,946
2.0	Data Collection	\$26,906
3.0	Water Supply Concept Development	\$185,564
4.0	Concept Evaluation	\$107,064
TOTAL FEE		\$349,480

EXHIBIT C – PROJECT SCHEDULE

PROJECT SCHEDULE				
TASK		DURATION	START DATE	END DATE
1.0	Project Management and Administration	365	10/15/2023	10/15/2024
2.0	Data Collection	90	10/15/2023	1/15/2024
3.0	Water Supply Concept Development	150	12/15/2023	5/15/2024
4.0	Concept Evaluation	180	4/15/2024	10/15/2024

