Kimley»Horn

January 28, 2020

Dean Mealy
Town of Palm Beach
951 Old Okeechobee Road
Suite A
West Palm Beach, FL 33401

RE: ***Water Supply Feasibility Study – Engineering Services Proposal***

Dear Dean,

Kimley-Horn and Associates, Inc. ("Kimley-Horn" or "CONSULTANT") is pleased to submit this proposal to The Town of Palm Beach ("TOWN" or "CLIENT") for providing professional engineering services related to the Water Supply Feasibility Study for the Town of Palm Beach. Our project understanding, scope of services, and fee follows.

Project Understanding

The Town of Palm Beach is interested in exploring options for providing residents of the Town potable water upon expiration of the current Retail Water Service and Franchise Agreement with the City of West Palm Beach which will expire in 2029. The water supply options that will be reviewed include:

- Continue with a Retail Agreement with the City of West Palm Beach
- Negotiating a Wholesale Agreement with the City of West Palm Beach
- Negotiating a Wholesale Agreement with another Utility
- Developing a Town-owned water source
- Entering into a Public-Private-Partnership with a water provider
- Combination of the above water supply options

Each of the water supply options could have impacts on the existing water distribution system. These impacts could include the following:

- The City of West Palm Beach could maintain ownership of the water distribution system and continue to perform repairs and replacement
- The Town could take ownership of the water distribution system "as is" and perform repairs and replacement
- The Town could take ownership of a portion of the water distribution system, except for South Palm Beach (as documented in the existing Agreement with West Palm Beach)
- The Town could implement the capital improvements necessary to allow the existing distribution network to accommodate new water source options (with potential need for new larger diameter water mains, storage tanks and re-pump facilities)

Kimley-Horn will perform a conceptual review of the options to determine advantages and disadvantages of each along with an "Order of Magnitude" conceptual opinion of probable cost for each alternative. The results of this review will be presented to the Town to narrow the list of options and make recommendations regarding which options should be examined in further detail.

Scope of Services

Task 1 – Data Collection

We will attend a kickoff meeting to discuss the study goals and objectives. We will coordinate with Town staff to request the following information from the City of West Palm Beach and the Town of Palm Beach:

- Water distribution system GIS data within the Town including the Intracoastal Crossings
- Existing InfoWater hydraulic water model of the distribution system which serves the Town and South Palm Beach
- Record drawings of the booster pump stations (north and south station), pump performance curves and control logic
- A 2-year; 1-hr interval operational data to include booster pumps flow and pressure data, and storage tank levels
- Fire flow test reports within the Town
- Meter data to determine actual water consumption of Town and South Palm Beach residents (preferably a 2-year 1-hr interval record)
- Study Report documenting results of a bulk metering study performed by the City approximately two decades ago where meters were installed at all of the subaqueous crossings
- Any past studies and reports that may be relevant to the review of water supply options

Task 2 – Establishing Hydraulic Base (Existing) Conditions

We assume that the water model has been sufficiently developed by the City, that it will not need to be calibrated, and that it can be relied upon for the performance of this study; except for minimum adjustments based on GIS and operational data. To establish the base conditions of the system, the Consultant will perform the following tasks:

- Compare the hydraulic model network with the GIS data, and update the model network as it relates to watermains 6-inch and above.
- Complete a series of steady state model simulations to validate the hydraulic model and establish the system base conditions. We will compare modeling results with the operational data provided by the Town and perform minor adjustments to the network parameters and demand distribution.
- Determine existing water distribution system maximum and minimum service pressures
- Determine Town's maximum day demand based on operating records provided by the City and the fire flow demand.
- Determine the minimum supply pressure required at the West Palm Beach ICW crossings to maintain the same level of service that currently exists.
- Determine required minimum storage tank capacity to serve the Town based on maximum day demand.
- Review both the north and south booster pump stations to determine their pumping capacity along with the storage capacity of the tank located at the north booster pump station.

The Consultant will use the base hydraulic conditions established from the above tasks in developing water supply alternatives (Task 3) and in the Water Distribution System Modifications (Task 4).

Task 3 – Water Supply Alternatives

Evaluate a Retail or Wholesale Agreement with a Local Utility - We will coordinate and meet with the Town staff and up to four adjacent public utility providers to determine interest in providing potable water to the Town of Palm Beach. We will interview each utility provider to determine the following information:

- Interest in and capability for providing potable water to the Town of Palm Beach with either a retail or wholesale agreement
- Existing permitted water treatment plant capacity, current production capacity, and planned expansions
- Document the type of treatment, age of plant, disinfection chemicals and physical limitations for plant expansion
- In case of a retail option:
  - Ability to operate and maintain the Town's distribution system
  - Existing tank storage capacity and ability to meet fire flow storage requirements for the Town
  - Existing water distribution system target system pressure at potential service connection locations
- Water distribution modifications required to connect to the Town's existing distribution system
- Water treatment modifications required to provide the quality and quantity of water required by the Town
- Existing retail and wholesale/bulk water rates

Development of a Town-Owned Water Source - We will review and update the Feasibility Analysis for Reverse Osmosis Facilities for the Town of Palm Beach completed by Kimley-Horn in 2009. We will also coordinate with Town staff to approach up to three golf course operators within the Town of Palm Beach who currently have reverse osmosis plants to supply irrigation water. We will interview each golf course operator to determine the following information:

- Interest in partnership with the Town to provide potable water to the Town of Palm Beach
- Existing water treatment capacity and quality
- Document the age of the plant and limitations for plant expansion
- Water use permit limits
- Existing tank storage capacity and ability to meet fire flow storage requirements for the Town
- Existing water distribution system target system pressure at potential service connection locations
- Water distribution modifications required to connect to the existing distribution system in the Town
- Water treatment modifications required to provide the quality and quantity of water required by the Town and regulatory agencies
- Permitting requirements to expand existing RO facilities

Public-Private Partnership - We will coordinate and meet with Town staff and up to three private utility providers to determine interest in providing potable water to the Town of Palm Beach under a public-private partnership. We will interview each provider to determine the following information:

- Interest in and capability for providing potable water to the Town of Palm Beach
- Discuss their business model for serving potable water system needs
- Ability to operate and maintain the existing water distribution system
- Ability to provide drinking water through treatment plant construction or other alternative means
- Existing retail and wholesale/bulk water rates

Based on the results of the above meetings, we will prepare a summary analysis of each alternative that may include multiple combinations of the individual alternatives should any combination be found to provide significant advantages. The summary analysis will include a general description of the alternatives, provide a listing of the advantages and disadvantages of each, and contain a Class 5 "Order of Magnitude" opinion of probable cost for implementation. Because this study is intended to be "high-level," rate analysis, operational costs, utility formation costs, etc. will not be developed for each alternative. Rather, should any alternative appear to be advantageous over the existing agreement, further study of that alternative will be recommended to gain additional information.

Task 4 – Water Distribution System Modifications

For all alternatives, we will determine the required rehabilitation/replacement improvements to the water distribution system based on the age of the existing infrastructure. We will review the Inventory of City of West Palm Beach Water Facilities in the Town of Palm Beach completed by Erdman Anthony in 2015 and update replacement costs based on current information for similar projects available to Kimley-horn. These costs will be applied to all alternatives as these rehabilitation/replacement needs exist regardless of which alternative is pursued.

We will use the hydraulic water model validated in Task 2 to create planning scenarios for each of the water supply alternatives listed in Task 3. Each planning scenario will include two derivatives: one providing potable water service through the Town's distribution system to serve South Palm Beach and the other scenario will exclude South Palm Beach. The results of each hydraulic model scenario will be the basis for determining the required improvements such as upgraded watermains, storage tanks and re-pump facilities for each corresponding water supply alternative. Each hydraulic model scenario will determine required flow rate and delivery pressure at the boundary point(s) of connection to the Town's system. Offsite transmission main routes will be conceptually developed for the purposes of developing cost opinions and will take the shortest distance between the water suppliers' system and the Town's point of service on the west side of the Intracoastal Waterway utilizing existing rights-of-way. We are assuming that the water supplier can develop and describe to Kimley-Horn the improvements they will need for the offsite transmission main to the Town's point(s) of connection.

We will develop a Class 5 "Order of Magnitude" opinion of probable cost for the water distribution system modifications required for each alternative and include this information in the evaluation report.

Task 5 – Evaluation Report

The evaluation report will contain a summary of each of the alternatives, advantages and disadvantages of each, descriptions of capital improvements required for implementation, Class 5 "Order of Magnitude" opinions of probable costs, and our recommendations regarding the need for further study of any alternative that initially appears to provide significant advantages to the Town. We will meet with the Town to review the draft report and incorporate any comments that are received. We will develop a brief presentation for the Town Council to report our findings and address technical questions.

Additional Services

Any services not specifically provided for in the above scope, as well as any changes in the scope you request, will be considered additional services. These services will be performed based on proposals approved by the Town prior to the performance of those requested additional services. Additional services we can provide include, but are not limited to, the following:

- Calibration of the hydraulic water model
- Water Loss Study of existing system
- Corrosion Study to examine effects of differing water quality from alternative water suppliers
- Review of disinfection by-products for any alternative
- Transmission and Distribution improvements due diligence, route feasibility, siting studies, and permitting agency and stakeholder coordination.
- Rate sufficiency analysis of any alternative
- Real Estate Acquisition Cost Development
- Meetings with the Town of South Palm Beach

Information Provided by the Town

We shall be entitled to rely upon the accuracy of information provided by others in the performance of professional services. It is anticipated that the following items will need to be provided to Kimley-Horn by the Town during the project.

- Water distribution system GIS data within the Town including the Intracoastal Crossings
- Existing InfoWater hydraulic water model of the distribution system which serves the Town and South Palm Beach
- Record drawings of the water distribution system and booster pump stations (north and south station) including pump curves
- Meter data to determine actual water consumption of Town and South Palm Beach residents
- Study Report documenting results of a bulk metering study performed by the City approximately two decades ago where meters were installed at all of the subaqueous crossings
- Any past studies and reports that may be relevant to the review of water supply options

Schedule

We will provide our services as expeditiously as practical to meet a mutually agreed upon schedule.

Fee and Billing

Kimley-Horn will perform the services described in this Scope of Services on an hourly basis in accordance with our Contract with the Town. It is recommended that the following budgets be established for these services:

Task 1 – Data Collection	$16,981
Task 2 – Establishing Hydraulic Base (Existing) Conditions	$17,789
Task 3 – Water Supply Options	$132,943
Task 4 – Water Distribution Options	$86,841
Task 5 – Evaluation Report	$61,826
Total	$316,380

Closure

In addition to the matters set forth herein, our Agreement shall include and be subject to, and only to, the terms and conditions in the Professional Services Agreement between the Town of Palm Beach and Kimley-Horn and Associates, Inc, which are incorporated by reference. As used in the Agreement, the term "CONSULTANT" shall refer to Kimley-Horn and Associates, Inc., and the term "TOWN" or "CLIENT" shall refer to The Town of Palm Beach.

We appreciate the opportunity to propose these services to you.

Very truly yours,

KIMLEY-HORN AND ASSOCIATES, INC.

By: Kevin Schanen, P.E.
Vice President

Attachment

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ESTIMATE FOR ENGINEERING SERVICES

PROJECT:	Water Supply Feasibility Study	SHEET 1 of 1	
CLIENT:	Town of Palm Beach	JOB NO.	
ESTIMATOR:	JRL	DATE 01/28/20	
		ALLOCA 0.0000	

DESCRIPTION: See Scope of Services	DIRECT LABOR (MAN-HOURS)									SUB	EXP	LINE TOTAL
	Principal	Chief Engineer	Project Manager	Senior Reg. Prof	Eng. Prof	Eng. Int.	Analyst	Admin/Clerical	Senior Designer			
Task 1 Data Collection												
Kickoff Meeting	3.0		3.0			4.0		2.0				$2,099
Review Water Distribution GIS			2.0		8.0	8.0						$2,561
Review Hydraulic Model			2.0		10.0	8.0						$2,863
Review Booster Pump Station Record Drawings			2.0		2.0	4.0		2.0				$1,348
Review Operational Data from Booster Pump Station			2.0		8.0	4.0		2.0				$2,256
Review Fire Flow Test Reports			2.0		4.0	6.0		4.0				$2,068
Review Meter Data			2.0		4.0	12.0						$2,435
Review Report of bulk meter study	2.0		4.0									$1,354
												$0
Task 2 Establishing Hydraulic Base (Existing) Condition												$0
Compare Hydraulic Model Network to GIS Data			2.0			16.0						$2,310
Steady State Simulations	2.0		2.0		20.0	30.0						$7,587
Determine Min and Max Water Distribution Service Pressures			1.0		4.0	8.0						$1,760
Determine Max Day and Fire Flow Demand			1.0		4.0	8.0						$1,760
Determine minimum supply pressure at the ICW Crossings			1.0		4.0	16.0						$2,719
Determine the Code Required Minimum Storage Tank Capacity to Serve the Town			1.0		1.0	4.0						$826
Determine Pumping Capacity of both North and South Booster Pump Stations			1.0		1.0	4.0						$826
												$0
Task 3 Water Supply Alternatives												$0
Evaluate Retail or Wholesale Agreement with a Local Utility												$0
Research and meeting prep	4.0		8.0					2.0				$2,882
Pre-Meeting with Town to discuss strategy	8.0		4.0									$3,069
Coordinate up to four meetings with local utilities			4.0					8.0				$1,482
Attend up to four meetings	30.0		16.0								$2,000	$13,704
Summarize and document findings from the meetings			8.0					16.0				$2,963
Evaluate water provider water distribution modifications required to connect to Town	2.0		8.0		24.0	40.0						$10,564
Evaluate water treatment modifications required to serve the Town	4.0		8.0		24.0	24.0						$9,217
Formulate a list of advantages and disadvantages	4.0		8.0		8.0							$3,918
Develop a Class 5 or Order of Magnitude opinion of probable cost	4.0		16.0		24.0	24.0						$10,760
												$0
Development of a Town-Owned Water Source												$0
Review and Update 2009 RO Feasibility Analysis	4.0		6.0		12.0	12.0						$5,571
Coordinate and prep for up to three meetings with local golf courses			6.0					6.0				$1,697
Attend up to three meetings	12.0		12.0									$5,776
Summarize and document findings from the meetings			6.0		6.0			12.0				$3,130
Evaluate off-site water distribution modifications required to connect to Town	1.0		6.0		18.0							$4,182
Evaluate water treatment modifications required to serve the Town	1.0		6.0		18.0							$4,182
Evaluate Permitting Requirements	1.0		6.0		6.0							$2,366
Formulate a list of advantages and disadvantages	1.0		6.0		6.0							$2,366
Develop a Class 5 or Order of Magnitude opinion of probable cost	3.0		12.0		18.0	18.0						$8,085
												$0
Public Private Partnerships												$0
Coordinate and prep for up to three meetings with private utility providers			6.0					6.0				$1,697
Attend up to three meetings	30.0		12.0								$2,000	$12,922
Summarize and document findings from the meetings	1.0		6.0					12.0				$2,508
Evaluate water supplier distribution system modifications required to connect to Town	1.0		6.0		12.0	12.0						$4,713
Evaluate water treatment modifications required to serve the Town	1.0		6.0		12.0	12.0						$4,713
Formulate a list of advantages and disadvantages	1.0		6.0		6.0							$2,366
Develop a Class 5 or Order of Magnitude opinion of probable cost	3.0		12.0		18.0	18.0						$8,085
												$0
Task 4 Water Distribution Supply Modifications												$0
Review Eardman Anothony Report and update costs	3.0		16.0			20.0		20.0				$8,133
Hydraulic Model 2 scenarios for each water supply alternative (SPB included and excluded)												$0
Evaluate Retail or Wholesale Agreement with a Local Utility												$0
Develop up to 3 offsite transmission routes (one for each local utility except WPB)	3.0		3.0		12.0	36.0						$7,577
Develop up to 6 hydaulic scenarios for Local Utility Serving Town	6.0		3.0		12.0	48.0						$9,874
Develop a Class 5 or Order of Magnitude opinion of probable cost	3.0		12.0			24.0						$6,081
Development of a Town-Owned Water Source												$0
Develop one offsite transmission route (one for the Quadrille property)	1.0		2.0		4.0	8.0						$2,241
Develop up to 12 hydraulic scenarios for Town-owned water supply	6.0		12.0		48.0	96.0						$22,836
Develop a Class 5 or Order of Magnitude opinion of probable cost	3.0		12.0			24.0						$6,081
Public Private Partnerships												$0
Develop up to 3 offsite transmission routes (one for each private utility)	1.5		6.0		12.0	36.0						$7,734
Develop up to 6 hydraulic scenarios for private utilities	3.0		12.0		12.0	48.0						$10,775
Develop a Class 5 or Order of Magnitude opinion of probable cost	1.0		12.0			24.0						$5,509
												$0
Task 5 Evaluation Report												$0
Summarize data from each alternative	4.0		40.0		40.0	40.0						$19,811
Develop exhibits	1.0		12.0		24.0	24.0		24.0				$11,240
Finalize Draft of Report	10.0		12.0		16.0	18.0		12.0			$501	$11,335
Meet with Town	4.0		4.0			4.0						$2,405
Finalize Report	2.0		12.0		12.0	20.0		8.0				$7,831
Develop presentation for Town Council	4.0		8.0		8.0	20.0						$6,316
Town Council Presentation	6.0		6.0									$2,888
												$0
												$0
TOTAL HOURS	184.5	0.0	411.0	0.0	482.0	782.0	0.0	136.0	0.0	0	$4,501.00	$316,388
LABOR ($/HOUR)	$285.98	$266.26	$195.44	$184.35	$151.32	$119.91	$107.97	$87.47	$152.84	1.00	1.0	
ALLOCATION	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00	0.00	
TOTALS	$52,749	$0	$80,311	$0	$72,936	$93,777	$0	$11,896	$0	$0	$4,501	$316,388