

AGREEMENT FOR CONSULTANT SERVICES

This Agreement for Consultant Services ("Agreement") is made this _____ day of _____, 2019, between the City of Venice, a Florida municipal corporation ("City"), and, Black & Veatch Corporation, a Delaware Corporation authorized to work in the State of Florida ("Consultant").

WITNESSTH:

Whereas the City desires to authorize the Consultant to perform professional services concerning the WTP Second Stage RO Process Upgrade project as more particularly described in the Scope of Services provided in Exhibit A, and the Consultant is willing to perform those services.

Therefore, in consideration of the premises and agreements contained herein, the parties agree as follows:

ARTICLE I

Description of Services

Consultant shall provide professional services including pilot testing, design, permitting, bidding support, construction phase services, and related services in support of improvements to the WTP to provide a second-stage reverse osmosis treatment process in order to increase the water recovery rate ("Services") as further described herein.

Scope of Services

The scope of services for this project includes engineering services to support implementation of second stage reverse osmosis membrane skids at the City's water treatment plant together with related pumping, piping, chemical feed, electrical, and instrumentation and control improvements. Consultant will provide professional engineering services including pilot testing, preliminary and final design, permitting, bidding, construction administration, and related services for the Project.

In accordance with the Proposed Implementation Schedule set forth in Exhibit A, the work will be completed in phases, with the initial phase being a pilot testing program to support selection of membranes and antiscalant chemicals and to refine design and operational

criteria. The subsequent phase of the work will include all remaining tasks through completion of construction.

The Scope of Services is more fully described in Exhibit A.

ARTICLE II

Term

The Agreement shall commence immediately upon execution by both the City and the Consultant and shall continue through completion of construction and the acceptance of the Consultant's final deliverables by the City unless the Agreement is otherwise terminated as provided for herein.

ARTICLE III

Consultant's Scope of Services

The Consultant shall perform the Services relevant to the project in accordance with the terms and conditions set forth herein, and as provided in the Scope of Services contained in Article I, Exhibit A of this agreement, the Request for Qualifications (RFQ) 3092-18 issued by the City and Consultant's proposal submittal, which is incorporated into this Agreement by reference.

ARTICLE IV

Changes in Scope

If changes occur to the Consultant's Scope of Services, a supplemental addendum or amendment to this Agreement shall be negotiated at the request of either party.

ARTICLE V

Consultant's Fee

As compensation for the Services as described in Exhibit A of this Agreement and as set forth in Article I herein, the Consultant shall be paid a "Basic Fee", which shall constitute full and complete payment for the Services and all expenditures that may be made and expenses incurred, except as otherwise expressly provided in this Agreement. The Basic Fee shall be the not to exceed amount of **three hundred fifty-nine thousand, two hundred twenty-eight dollars and 00/100's (\$359,228.00)** for the Services as described herein under Phase 1, Pilot Testing, Task 1 and Task 2. The Task totals and Basis of Payment for each Task are as indicated in Consultant's Fee Proposal, Consultant's Fee Schedule, and hourly rates, attached to this Agreement as Exhibit C.

Payment Schedule for Basic Fee.

The Basic Fee shall be paid in installments as the Consultant's work progresses based on invoices submitted by the Consultant no more frequently than monthly based on task completion as outlined in Exhibit C.

Payments will be made by the City to Consultant in accordance with Chapter 218, Part VII, Florida Statutes, the Local Government Prompt Payment Act.

The books of account for the Consultant shall be subject to audit by the City. The Consultant shall complete work and cost records for all billings on those forms and in that manner as will be satisfactory to the City.

ARTICLE VI

Termination

This Agreement may be terminated by either party upon thirty (30) days' prior written notice to the other party in the event of substantial failure by the other party to fulfill its obligations under this Agreement through no fault of the terminating party.

This Agreement may be terminated by the City for its convenience upon thirty (30) days' prior written notice to the Consultant.

In the event of termination, as provided for in this Article, the Consultant shall be paid as compensation in full for that portion of the Services performed to the date of that termination, an amount calculated in accordance with Article V of this Agreement. Such amount shall be paid by the City upon the Consultant's delivering or otherwise making available to the City, all data, reports, and any other information and materials as may have been accumulated by the Consultant in performing the Services included in this Agreement, whether completed or in progress.

ARTICLE VII

Assignment

This Agreement shall not be assignable except at the written consent of the parties, and if so assigned, shall be binding upon the successors and assigns of the parties.

Article VIII

Indemnity

The Consultant shall defend, indemnify and hold the City and the officers, directors, and employees of the City harmless for and against third party claims, demands, suits, judgments, damages to persons or property of third parties, and injuries, losses or expenses for same to the extent caused by any negligent act or omission of the Consultant, its sub-consultants and their officers, directors, agents or employees; any failure of the Consultant to perform the Services hereunder in accordance with generally accepted professional standard of care outlined in this Agreement. To the fullest extent possible under the applicable law, Consultant's total liability under this Agreement (whether in contract, tort or otherwise and including on termination) is limited to the amount of the compensation paid. Notwithstanding anything to the contrary stated elsewhere in the Agreement, Consultant shall not be liable for any loss of profit, loss of business or any incidental, special, indirect or consequential loss.

The standard of care applicable to Consultant's Services will be the degree of skill and diligence normally employed by professional engineers or consultants performing the same or similar services at the time said services are performed. Consultant will reperform any Services not meeting this standard without additional compensation.

ARTICLE IX

Prohibition Against Contingent Fees

The Consultant warrants that he or she has not employed or retained any company or person, other than a bona fide employee working solely for the Consultant to solicit or secure this Agreement and that he or she has not paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide employee working solely for the Consultant any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this Agreement.

ARTICLE X

Insurance

The Consultant agrees to procure and maintain at its expense until final payment by the City for Services covered by this Agreement, insurance in the kinds and amounts provided in the specifications in Exhibit B INSURANCE REQUIREMENTS with insurance companies authorized to do business in the State of Florida, covering all operations under this Agreement, whether performed by it or its agent. Before commencing the Services, the Consultant shall furnish to the CITY a certificate or certificates in form satisfactory to the City, showing that it has complied with this Article. All certificates shall provide that the policy shall not be changed or canceled until at least thirty (30) day's prior written notice has been given to the City.

ARTICLE XI

Discrimination Prohibited

In performing the Services required under this Agreement, the Consultant shall not discriminate against any person on the basis of race, color, religion, sex, national origin or ancestry, age or physical handicap.

ARTICLE XII

Public Records

Consultant agrees to comply with Florida's public records law by keeping and maintaining public records that ordinarily and necessarily would be required by the public agency in order to perform the Services; upon the request of the City's Custodian of Public Records, by providing the City with copies of or access to public records on the same terms and conditions that City would provide the records and at a cost that does not exceed the cost provided by Florida law; by ensuring that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the term of the Agreement and following completion of the Agreement if the Consultant does not transfer the records to the City; and upon completion of the Agreement by transferring, at no cost, to City all

public records in possession of Consultant or by keeping and maintaining all public records required by the City to perform the Services. If the Consultant transfers all public records to the City upon completion of the Agreement, the Consultant shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Consultant keeps and maintains public records upon completion of the Agreement, the Consultant shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

IF THE CONSULTANT HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONSULTANT'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CITY'S CUSTODIAN OF PUBLIC RECORDS LORI STELZER, MMC, CITY CLERK, AT 401 W. VENICE AVENUE, VENICE, FLORIDA 34285, (941) 882-7390, LSTELZER@VENICEGOV.COM.

ARTICLE XIII

Venue and Governing Law

The laws of the State of Florida shall govern all provisions of this Agreement. Venue for any dispute shall be Sarasota County, Florida. If any court proceeding or other action occurs between the parties as a result of this Agreement or any other document or act required by this Agreement, the prevailing party shall be entitled to recover attorney's fees and all court costs including attorney's fees and court costs incurred in any pre-trial, appellate, and/or bankruptcy proceeding, as well as, attorney's fees and costs incurred in determining entitlement to and reasonableness of fees and costs.

IN WITNESS WHEREOF, the parties to the Agreement have hereunto set their hands and seals and have executed this Agreement as of the day and year first above written.

(SEAL)

ATTEST:

CITY OF VENICE
IN SARASOTA COUNTY, FLORIDA

CITY CLERK

BY: _____
JOHN HOLIC, MAYOR

ATTEST:

BLACK & VEATCH CORPORATION

_____

BY: _____

Jocelyn Hines, Admin Assistant
Signed by (typed or printed)

Rafael E. Frimutz, PE - Associate Vice President
Signed by (typed or printed)

Approved as to Form and Correctness

Kelly Fernandez, City Attorney

EXHIBIT A
SCOPE OF SERVICES
WTP SECOND STAGE RO PROCESS UPGRADE

PROJECT OVERVIEW

The City of Venice, Florida (City) owns and operates a 4.48 mgd brackish groundwater reverse osmosis (RO) water treatment plant. The water treatment plant produces a finished water product that meets or exceeds all state and federal drinking water requirements before pumping into the distribution system. The current RO system is designed with four skids, and each skid supports a single stage filtration process with 50% recovery of the feed water supply.

The Venice Water Treatment Plant (WTP) Second Stage RO Addition (Project) supports treatment process and related improvements to increase the recovery of the plant to 75%. The facilities anticipated to be implemented with the project included in the design are:

- Second-stage reverse osmosis treatment process, including RO membrane skids, interstate booster pumps, process piping, flush water tanks, energy recovery devices, and related improvements.
- Electrical, instrumentation, and control improvements to support the process upgrade
- Clean-in-Place (CIP) system improvement
- Associated building and site improvements
- Additional facility upgrades as may be identified

Consultant will provide professional engineering services in support of pilot testing, preliminary and final design, permitting, bidding, construction administration, post construction, and related services for the Project. A WTP RO Process Efficiency Study Technical Memorandum was prepared by Black & Veatch for the City dated June 2018. In providing these professional engineering services, Consultant generally anticipates implementing facilities consistent with recommendations established in the Technical Memorandum, except as indicated in this scope or as refined through additional pilot testing.

The work under this contract will be completed in multiple phases to support the design and construction of the Project. Work under Phase 1 will be included in the initial Agreement for Consulting Services and will start on execution of this Agreement. Work under phase 1 includes a pilot testing program. The primary goals of the pilot testing program will be the following:

- Evaluate head-to-head performance of membranes from several different manufacturer's
- Evaluate antiscalant use: manufacturer, product, dose – with each membrane under consideration
- Verify steady water quality and pilot performance
- Establish design / operating parameters

Work under subsequent phases will be accomplished in the future under an amendment to this agreement, as agreed between City and Consultant. Overall, the project will include the following project phases and services:

Initial:	Phase 1:	Task 1 – Project Management Task 2 – Pilot Testing
Future:	Phase 2:	Task 3 – Field Investigations Task 4 – Preliminary Design Report Task 5 – Design Services Task 6 – Permitting Services Task 7 – Bid Phase Services Task 8 – Construction Phase Services

SCOPE OF SERVICES

Consultant will provide the following professional services as part of this scope.

Phase 1:

Task 1 – Project Management

1.1 Project Management, Administration

Consultant will perform general administrative duties associated with the Project, including project set-up, negotiation of subconsultant contracts, resource and sub-consultant management, progress monitoring, scheduling, general correspondence, office administration, and invoicing.

Consultant will maintain accurate project documentation and project cost accounting system throughout the project to include the following:

- Maintain a project filing system throughout duration of 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 City NTP date and distribute the updated schedule at the project initiation meeting. The project schedule will identify the following information:

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

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

1.2 QA/QC Plan

Consultant will prepare a QC-Verification plan and monitoring checklist and maintain control over the quality of its work efforts. This will include oversight and review by the lead technical engineer(s), project manager, senior technical staff and managerial staff. This task includes time for development and management of the QA/QC plan / program. Hours for actual QC reviews have been included in other tasks.

Task 2 – Pilot Testing

2.1 Project Kickoff Meeting

Attend a project kickoff meeting with the City to confirm project goals, roles and responsibilities and to review the scope of services. A site visit of the WTP will also be performed. Consultant will prepare and distribute meeting minutes.

2.2 Collect and Review Existing Documents and Data

Consultant will collect and review existing reports, water quality data, as-built drawings, pictures, records and other pertinent data related to the WTP and RO treatment process. Consultant will be reliant on City staff to assist in the acquisition of such documentation. The data will mainly be an update of the data obtained from the previous pilot (i.e. updated water quality, pictures, etc.).

2.3 Pilot Testing Program

A. Desktop Evaluations - Consultant will work with four different membrane manufacturers to model their membrane performance. First, the City's RO feed water quality will be used to model the Toray membranes (same membrane model as the existing full scale plant), which will be used in the Stage 1 RO Pilot to determine the concentrate water quality that will serve as the feed to the second stage (ROMS) pilot. The concentrate quality will then be used to model the performance of the different membranes using specific RO membrane manufacturer projection software. The model projections will then be used to select four different membranes to be tested during the pilot.

Consultant will work with up to four different antiscalant/dispersant manufacturers to obtain recommendations, based on their own modeling, to obtain manufacturer recommendations on the following parameters: antiscalant products, doses and feedwater pH requirements for 75% recovery. Note one of the products tested will be the American Water Chemical anti-scalant currently used by the City at the WTP.

Modeling will be based on the City's water quality data and the WTP's existing membranes. Budgetary costs of the antiscalant products will also be obtained from the manufacturers. The model results will be evaluated and two antiscalant products will be selected to test as part of the pilot.

Subconsultant Harn RO will review and provide input to Consultant regarding the desktop evaluation results. Subconsultant costs are included in subtask 2.5

Results of the desktop evaluation will be summarized in a technical memorandum and submitted to City for review prior to initiating the pilot testing. Results and conclusions from the desktop evaluation will also be documented in the pilot testing report completed at the end of the pilot testing.

B. Pilot Testing - Consultant will provide services in support of a pilot testing program that will include operation of a two-skid pilot system over a five-month period (Including setup / startup). The pilot testing equipment and arrangement will be generally as described below and is referenced herein as the Pilot System.

- The Pilot System shall consist of two pilot skids operating together in series. The First Stage Pilot (FSP) will be supplied under this Agreement by Subconsultant Harn RO and will supply first-stage concentrate water to the RO Membrane Selection Pilot (ROMS). The ROMS pilot unit will be supplied by Black & Veatch.
- The Pilot System is anticipated to operate on a continuous basis, seven days per week for two separate 6-week periods with up to a one-month period in between for cleaning, membrane changeout, and change of antiscalant. In addition, an initial one-month period for installation and startup is anticipated.
- During the first 6-week operational period for the Pilot System, one of the antiscalant products selected from the desktop evaluation will be tested along with the four membranes selected.
- Upon completion of the initial 6-week operation, the membranes in the ROMS will be replaced with new membranes and the elements in the FSP will be cleaned.
- The Pilot System will then be operated for another 6-week period using the second antiscalant product selected as part of the desktop evaluation and a new set of the same four selected membranes in the ROMS.
- The FSP will have 14 Toray TMG-10D RO Membranes installed. The FSP will be supplied raw well water through a connection to the existing raw water line and valve that remains in the RO room from the previous pilot study. The permeate from the FSP will be routed to the existing trench. Concentrate will feed directly to the pumping system of the ROMS.
- The ROMS pilot has two independent trains operating in parallel. Each train is capable of testing two types of membranes concurrently, allowing side by side comparison. Each of the four pressure vessels will contain two 4-inch diameter by 40-inch long membrane elements in series. A basic schematic of the ROMS unit is shown in Figure 1. A more detailed process flow diagram will be developed specific to the entire pilot system as part of the pilot testing protocol.
- The Pilot System will be designed to achieve 75% recovery. Concentrate from the FSP will be fed directly to the ROMS influent. The ROMS high-pressure pumps (HPPs) will boost the feed pressure required to meet the permeate production requirements. The permeate produced by the ROMS pilot will be used to fill the ROMS flush tank and excess permeate will be discharged to the existing

pipe trench, which ultimately discharges to the sewer. The RO concentrate produced from the ROMS will also be routed to the trench.

The objective of the Pilot System will be to evaluate and compare the performance of up to four different membranes with respect to: 1) TDS salt rejection; 2) membrane flux; 3) operating pressure; and 4) specific energy consumption. Pass/fail performance criteria will be established prior to commencing the testing and evaluated for each membrane to determine acceptability. In addition, the FSP - ROMS set up will allow the evaluation of the two different antiscalant products with each of the membrane products being tested.

All parameters will be normalized to account for variations in feed water quality (primarily variations in temperature and salinity) and operating conditions (primarily variations in recovery and permeate flow rate). A standard ASTM procedure will be used for normalization (ASTM D4516-00: Standard Practice for Standardizing Reverse Osmosis Performance Data, 2000).

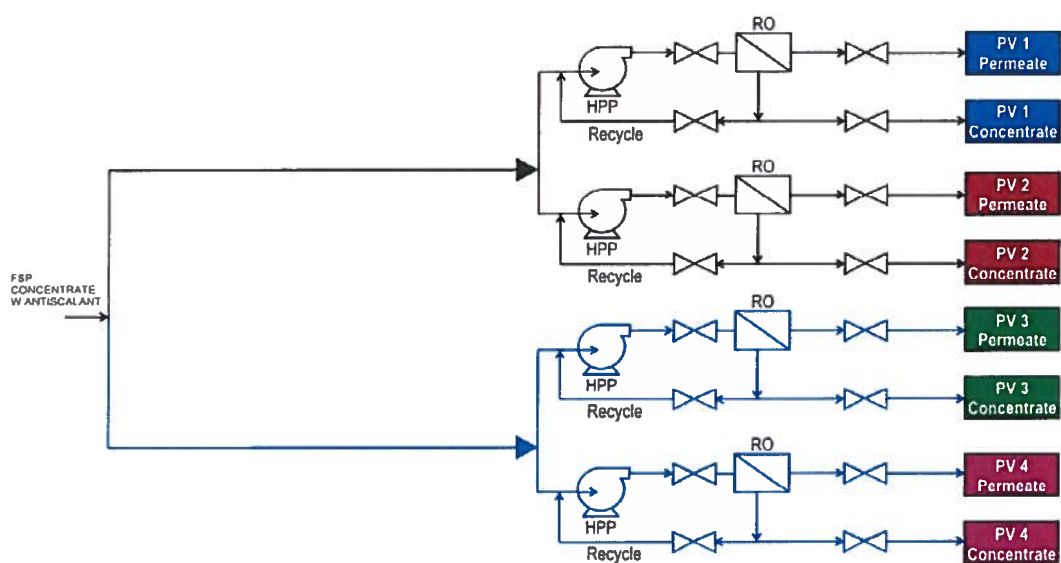


Figure 1: Basic ROMS Skid Process Flow Diagram – *options may be added based on hydraulics and actual flow conditions

Work by Consultant to support the Pilot Testing Program shall be as outlined in the following subtasks:

B-1. Testing Protocol: Consultant will develop and submit a written Pilot Testing Protocol. The protocol will outline the processes and chemicals to be tested, the equipment to be used, operating / sampling / testing procedures, and data to be collected. Consultant will submit the protocol in draft and discuss it with the City in a conference call. Consultant will incorporate revisions as agreed and submit the final protocol. The Pilot Testing Protocol will be refined throughout the program based on the results of completed steps.

Subconsultant Harn RO will review and provide input to Consultant regarding the testing protocol. Subconsultant costs are included in subtask 2.5.

B-2. Coordination with FDEP: Consultant will contact FDEP to advise of the proposed pilot testing, and, to the extent required, will keep FDEP informed as needed during the testing. Pilot water disposal is an anticipated point of interest for FDEP, as well as verification that the pilot product water is not being used for distribution.

B-3. Procurement, mobilization/demobilization, installation: The Pilot System will be set up and operated in the existing Phase 1 RO Building at the WTP in the open space available for a future RO skid. Consultant will coordinate and perform the following in support of supplying and setting up the Pilot System:

- Develop a Pilot System layout plan for City to review and provide feedback. The layout plan will ensure the skids, piping, tanks and personnel walkways are arranged in the allotted space in a manner compatible with ongoing plant operations and maintenance.
- Procure and supply the materials / equipment listed below for use during the pilot testing program. The materials and equipment will be supplied for a five-month pilot program duration (one month for startup, one-month cleaning/membrane change and three months of operation)
 - FSP pilot skid with required accessories
 - ROMS pilot skid, with associated tanks (flushing), LPPs and HPPs.
 - 8 membranes for use in each 6-week operation stage for the ROMS pilot – for a total of 16 membranes from the four chosen manufacturers, including delivery
 - 14 Toray TMG-10D RO Membranes for use in the FSP pilot, including delivery
 - Miscellaneous piping, hoses, tubing, connectors, valves, cartridge filters, tanks, sampling & testing accessories, personal protection equipment (PPE), etc., as required to install and operate the pilot testing system.
 - Antiscalant chemical for testing in the pilot systems.
- Mobilize the Pilot Systems, and accessory equipment to the site, including freight costs, loading, and unloading. The City's assistance will be needed to provide truck access to the building and to place steel plates across pipe trenches (if necessary) for rolling skid entry and forklift access into and out of the building.

- Install and connect electric service to the pilot skids. The 480v electrical service installed for the prior pilot study is anticipated to be used for one skid but may need to be supplemented. 120v power for supporting pumps, etc. will be provided from existing electrical receptacles in the RO room.
- Install and connect piping and appurtenances
 - Water supply to the FSP unit will be connected to the valve in the existing raw water supply line which was utilized during the prior pilot study.
 - Water supply to the ROMS will be concentrate from the FSP.
 - Permeate and concentrate drain hoses will be routed for discharge to the existing pipe trench in the general vicinity of the skids within the RO room.
 - Interconnecting piping, hoses, tubing, connectors, valves, cartridge filters, etc. will be installed as required for an operational pilot testing system.
- Install the membranes in both pilot units.
- Perform membrane switch out and cleaning.
- At the end of the pilot testing program, demobilize and remove from the site the pilot testing skids and associated materials and accessories.

Supply of equipment, materials, and services under this subtask will be through a combination of Consultant, Subconsultant Harn RO, and third-party suppliers. Subconsultant costs and direct expenses associated with this task are included in subtask 2.5.

B-4. Startup and Training: Following electrical and mechanical installation, but prior to membrane installation, Consultant will start up the Pilot System, troubleshoot operational issues with the ROMS, and make adjustments / repairs to the system as needed to the ROMS, and work with Harn on any issues with the FSP. Consultant will provide training to City staff on the Pilot System (ROMS). Startup and training services associated with the FSP pilot will be provided by Subconsultant Harn RO. This will be important because the City's assistance will be needed to monitor the pilot equipment and assist with certain sampling and testing, as described in this scope. Subconsultant costs are included in subtask 2.5.

B-5. Pilot Operation: Consultant will provide the following services in support of the pilot system operation.

- Site visits: A consultant staff member will be on site three days per week during the three-month operational period to check for proper operation of the Pilot System, make any needed repairs or adjustments, fill chemicals, and record analytical data. Also, a consultant staff member will be on site for up to 60 hours during the cleaning/membrane change out phase to install the CIP system, facilitate and complete the cleaning, removed used membranes for disposal and autopsy, install the new membranes, flush the systems and start the units back up.

Consultant has budgeted for Subconsultant Harn RO to conduct up to 5 site visits during the course of the pilot system operation to supplement consultant's site visits and address any issues with the FSP pilot operation. Subconsultant costs are included in subtask 2.5.

City assistance will be needed to check the Pilot Systems for proper operation and perform basic operational and data collection functions in support of Pilot System on days when consultant is not on-site (up to 4 days per week, including weekends). The Pilot Testing Protocol will provide guidance on daily checks and activities.

- Consultation and Analysis During Pilot Operation: consultant will provide as-needed support and coordination of the pilot operation throughout the duration of pilot testing, including processing and analyzing data, coordinating with City staff, recommending any adjustments to the pilot program, etc. Consultant anticipates 6 hours per week of continuing consultation support during the three-month testing period. Subconsultant Harn RO will provide input to consultant in support of this task. Subconsultant costs are included in subtask 2.5.

B-6. Sampling and Testing: Consultant will provide the following services in support of sampling and testing for the Pilot Testing program. This task includes subconsultant's labor in coordination of sampling and testing. Direct expenses associated with sampling and testing are included in subtask 2.5.

- Consultant will secure the services of an outside laboratory to support sample collection and analysis for the Pilot System. The CONSULTANT will collect the samples during a normal site visit with assistance from the lab via having ready pre-labeled bottles and expecting the samples for processing. This will include collection and testing of eleven different samples bi-weekly – for a total of six sample collections. The analysis will include 1 raw water feed sample, 1 FSP concentrate sample, 4 permeate samples from the ROMS (one per membrane manufacturer), 1 permeate from the FSP, and 4 concentrate samples (one per membrane type). The contaminant list shall be developed with the testing protocol.
- At the end of each six-week pilot test period, consultant will arrange for performance of a membrane autopsy on each of the four tail membranes used in the ROMS pilot to check for fouling, scaling and other potential issues. The results will be included in the pilot report. The consultant will have the autopsies completed at an approved vendor site. The specific industry standard membrane autopsy related tests that will be performed include:
 - Full Element Performance Test;
 - Scanning Electron Microscopy (SEM)/Energy Dispersive X-Ray Spectroscopy (EDS) and Elemental Mapping;
 - Fourier Transform Infrared Spectroscopy (FTIR);
 - Flat Sheet Testing and Cleaning Study.

B-7. City Participation: The following participation by the City will be needed to support execution of the overall pilot testing:

- Provide consultant and Subconsultant staff access to the WTP facilities for setup and operation of the Pilot System.

- Facilitate truck access to the building and fork lift / rolling skid access into the building, including installing a steel plate across the pipe trench if needed.
- Review and comment on draft submittals within 2 weeks of submittal dates.
- Supply the power and water needed for operation of the Pilot System
- Monitor and perform basic operational and data collection support of the Pilot System during testing on the 4 days a week consultant is not on site, per the operating protocol to be established as part of this scope.
- Provide consultant with requested operational data and water quality data, as available.
- Participate in meetings, calls and workshops with consultantT as identified herein and coordinate with consultant during site visits, as needed.

2.4 Pilot Testing Program Technical Memorandum and Workshop

Draft Technical Memorandum -Consultant will prepare and submit a draft Technical Memorandum to summarize the results of the Pilot Testing Program. In general, the report will address the following:

- Introduction / background
- Summary of existing plant, water quality, treatment and pilot testing goals
- Summary of desktop evaluation
- Operation and testing procedure
- Summary of pilot testing results
- Summary of conclusions and recommendations

Subconsultant Harn RO will review and provide input to consultant regarding the draft Technical Memorandum. Subconsultant costs are included in subtask 2.5.

Draft Technical Memorandum Review Workshop - Consultant will lead a Draft Technical Memorandum Workshop with the City to discuss findings of the pilot testing and receive City comments and input. Consultant will prepare an agenda and develop meeting minutes of the workshop discussions.

Final Technical Memorandum - Consultant will finalize the Technical Memorandum based on decisions and discussion from the workshop. The Final Technical Memorandum will be submitted to the City (Electronically in pdf format and five printed copies).

2.5 Direct Expenses and Subconsultant Costs

This subtask includes reimbursement of direct expenses and subconsultant costs incurred by Consultantin performance of the pilot testing and related services under Phase 1 of the project, as described above. Anticipated costs generally include the items below:

- ROMS and FSP Pilot Skid Rental (5 months)
- Cost to mobilize the skids, including freight and loading / unloading
- Installation and connection of electrical service to the Pilot System skids

- Procurement of piping, hoses, tubing, connectors, valves, cartridge filters, tanks, sampling & testing accessories, personal protection equipment (PPE), and miscellaneous materials, as required to install and operate the pilot testing system
- Purchase and delivery of membranes (one set for FSP and two sets for ROMS)
- Purchase and delivery of antiscalant chemicals
- Laboratory services for testing of pilot feed and product water
- Vendor services for membrane autopsies
- Miscellaneous expenses such as reproduction, telephone, postage, courier, mileage
- Out of town travel costs for select participation of technical specialists, as approved by the City
- Services by Subconsultant Harn RO in support of the program, generally including:
 - Supply of the FSP pilot skid including membranes
 - Installation and setup of the FSP pilot including piping installation
 - Services for startup and training for the FSP pilot
 - Limited site visits during three-month pilot testing period.
 - Consultation / engineering services as described in subtasks in this scope.

Task 2A – Pilot Testing City’s Allowance

This task includes an City’s Allowance to support services by Consultant on an as-needed basis for performance of services related to the project, but not specifically included in other Scope Tasks. Work under this City’s Allowance Task shall only be performed and compensation with the City’s written authorization. The total amount of services under this Task shall not exceed \$10,000.

Phase 2 (Future): All services under Phase 2 are future services and will be added to this Agreement by Amendment, as mutually agreed between the City and the Consultant. Phase 2 services are anticipated to be under the following Tasks:

Task 3 – Field Investigations - Future

Task 4 - Preliminary Design Report - Future

Task 5 – Design Services - Future

Task 6 – Permitting Services - Future

Task 7 – Bid Phase Services – Future

Task 8 – Construction Phase Services - Future

PROPOSED IMPLEMENTATION SCHEDULE

The proposed schedule is outlined below. The Notice to Proceed shall be the date of approval of the Agreement by the City (Council or Mayor). The following schedule assumes that City's reviews will be completed within 2 weeks and that the City's staff can be available for participation in meetings and interviews in the timeframes indicated.

Proposed Implementation Schedule		
Deliverable or Activity	Target Completion Following NTP (or Timeframe Indicated)	Cumulative Days Following NTP
Phase 1:		
2.1 – Project Kickoff Meeting	15 days	15
2.2 - Collect and Review Existing Documents and Data	15 days	15
2.3 – Project Pilot Testing Program		
A-1. Desktop Evaluations - Draft	45 days	60
A-2. Desktop Evaluations - Final	15 days following receipt of draft comments	90
B-1 Pilot Testing Protocol - Draft	45 days	60
B-2 Pilot Testing Protocol - Final	25 days following receipt of Draft Protocol comments	100
B-3, 4 Complete procurement, mobilization, and startup	60 days following Final Pilot Testing protocol	160
B-5 Complete Pilot Operation	120 days following startup	280
2.4 – Draft Technical Memorandum	30 days following completion of pilot operations	310
2.4 - Final RO Pilot Study Memorandum	25 days following review meeting	350

EXHIBIT B INSURANCE REQUIREMENTS

Before performing any work, the Consultant shall procure and maintain, during the life of the Contract, insurance listed below. The policies of insurance shall be primary and written on forms acceptable to the City and placed with insurance carriers approved and licensed by the Insurance Department in the State of Florida and meet a minimum financial AM Best and Company rating of no less than A: VII. No changes are to be made to these specifications without prior written specific approval by the City.

1. The City is to be specifically included as an **ADDITIONAL INSURED** (with regards to Business Auto and Commercial General Liability).
2. The City shall be named as Certificate Holder. *Please Note that the Certificate Holder should read as follows:*

*The City of Venice
401 W. Venice Avenue
Venice, FL 34285*

No City Division, Department, or individual name should appear on the certificate. **NO OTHER FORMAT WILL BE ACCEPTABLE.**

3. The "Acord" certification of insurance form should be used.
4. Required Coverage
 - a) **Commercial General Liability:** including but not limited to bodily injury, property damage, contractual liability, products and completed operations, and personal injury with limits of not less than \$1,000,000 per occurrence, \$1,000,000 aggregate covering all work performed under this Contract. Include broad form property damage (provide insurance for damage to property under the care custody and control of the Consultant).
 - b) **Business Auto Policy:** including bodily injury and property damage for all vehicles owned, leased, hired and non-owned vehicles with limits of not less than \$1,000,000 combined single limit covering all work performed under this Contract.
 - c) **Workers Compensation:** Consultant will provide Workers Compensation Insurance on behalf of all employees, including sub-contractors, who are to provide a service under this Contract, as required under Florida Law, Chapter 440, and Employers Liability with limits of not less than \$100,000 per employee per accident; \$500,000 disease aggregate; and \$100,000 per employee per disease.
 - d) **Professional Liability:** with limits of not less than \$1,000,000 for professional services rendered in accordance with this contract. Consultant shall maintain such insurance for at least two (2) years from the termination of this contract and during this two (2) year period the CONSULTANT shall use their best efforts to ensure that there is no change of the retroactive date on this insurance coverage. If there is a change that reduces or restricts the coverage carried during the contract, the consultant shall notify the City's Human Resources Department within thirty (30) days of the change.

Policy Form:

- a) All policies required by this Contract, with the exception of Workers Compensation, or unless specific approval is given by the City, are to be written on an occurrence basis, shall name the City of Venice, its Elected Officials, Officers, Employees as additional insured as their interest may appear under this Contract. Insurer(s), with the exception of Workers Compensation, shall agree to waive all rights of subrogation against the City of Venice, its Elected Officials, Officers, and Employees.
- b) Insurance requirements itemized in this Contract, and required of the Consultant, shall be provided on behalf of all subcontractors to cover their operations performed under this Contract. The consultant shall be held responsible for any modifications, deviations, or omissions in these insurance requirements as they apply to subcontractors.
- c) Each insurance policy required by this Contract shall:
 - (1) apply separately to each insured against whom claim is made and suit is brought, except with respect to limits of the insurer's liability;
 - (2) be endorsed to state that coverage shall not be suspended, voided or canceled by either party except after thirty (30) calendar days prior written notice by certified mail, return receipt requested, has been given to the City's Director of Human Resources.
- d) The City shall retain the right to review, at any time, coverage form, and amount of insurance.
- e) The procuring of required policies of insurance shall not be construed to limit Consultant's liability nor to fulfill the indemnification provisions and requirements of this Contract.
- f) The Consultant shall be solely responsible for payment of all premiums for insurance contributing to the satisfaction of this Contract and shall be solely responsible for the payment of any deductible and/or retention to which such policies are subject, whether or not the City is an insured under the policy. In the event that claims in excess of the insured amounts provided herein are filed by reason of operations under the contract, the amount excess of such claims, or any portion thereof, may be withheld from any payment due or to become due to the Consultant until such time the Consultant shall furnish additional security covering such claims as may be determined by the City.
- g) Claims Made Policies will be accepted for professional and hazardous materials and such other risks as are authorized by the city. All Claims Made Policies contributing to the satisfaction of the insurance requirements herein shall have an extended reporting period option or automatic coverage of not less than two years. If provided as an option, the Consultant agrees to purchase the extended reporting period on cancellation or termination unless a new policy is affected with a retroactive date, including at least the last policy year.
- h) Certificates of Insurance evidencing Claims Made or Occurrence form coverage and conditions to this Contract, as well as the City's Bid Number and description of work, are to be furnished to the City's Director of Human Resources, 401 West Venice Avenue, Venice, FL 34285, ten (10) business days prior to commencement of work and a minimum of thirty (30) calendar days prior to expiration of the insurance policy.

- i) Notices of Accidents and Notices of Claims associated with work being performed under this Contract, shall be provided to the Consultant's insurance company and the City's Director of Human Resources, as soon as practicable after notice to the insured.
- j) All property losses shall be payable to, and adjusted with, the City.

EXHIBIT C
CONSULTANT'S FEE PROPOSAL

COMPENSATION

For the Scope of Services described in this Agreement for Consultant Services, Consultant shall be compensated on a Lump Sum (LS) Basis for some Tasks / Subtasks and Not-to-Exceed (NTE) Method for some Tasks/subtasks as indicated in the table below. The total amount of compensation shall not exceed \$359,228.

Fee Breakdown		
Task	Payment Basis	Fee
Task 1 – Project Management	NTE	\$25,364
Task 2 – Pilot Testing	NTE	\$323,864
Pilot Testing City's Allowance	NTE	\$10,000
Future:		
Task 3 – Field Investigations		
Task 4 – Preliminary Design Report		
Task 5 – Detailed Design Services		
Task 6 – Permitting Services		
Task 7 – Bid Phase Services		
Task 8 – Construction Phase Services		
City's Allowance		
Total		\$359,228

For work under NTE Tasks, invoicing and compensation shall be per the billing rate method, based on the billing rates indicated in the Bill Rate Schedule. Compensation under NTE Tasks shall also include reimbursement for subconsultant costs and reasonable direct expenses incurred in execution of the work.

Labor Category	Sr. Project Manager	Sr Engineer 1	Sr. Operations Specialist	Operations Lead	Project Engineer 1	Sr. Technical Specialist (process)	Project Accountant	Clerical	Technical Specialist (QC)		Total Hours	Total Labor	Direct Expenses	Subconsultant Hour RO	Total Fee
	Project Director	Project Manager	Pilot Testing Lead / Consulting	Pilot Operations	Pilot Operations / Civil Eng	Ro Water Treatment Process	Accountant / Project Controls	Admin	QA/QC						
	242	170	215	125	140	242	107	86	207						
Phase 1 (Initial)															
Task 1 - Project Management	48	40	0	0	0	0	36	36	0		160	\$25,364	\$0	\$0	\$25,364
1.1 - Project Management and Administration	48	24					36	36			144	\$22,644			\$22,644
1.2 - Quality Assurance / Quality Control (QA/QC) Management		16									16	\$2,720			\$2,720
												\$0			
Task 2 - Pilot Testing	20	100	102	164	326	88	0	78	10		888	\$139,984	\$109,175	\$74,705	\$323,864
2.1 Kickoff Meeting	4	4	4		8	2		2			24	\$4,284			\$4,284
2.2 Collect and Review Plant Data		8	2			2					12	\$2,274			\$2,274
2.3 Pilot Testing															
2.3.A Desktop Evaluations		8	16		8	8		4			44	\$8,200			\$8,200
2.3.B. Pilot Testing (Two Pilots)															
1. Testing Protocol		4	8		16	8		4	2		42	\$7,334			\$7,334
2. Coordination with FDEP		4	4								8	\$1,540			\$1,540
3. Procurement, Mobilization/Demobilization, Installation		4	4	8	40	4					60	\$9,108			\$9,108
4. Startup and Training		4	8		32	4					48	\$7,848			\$7,848
5. Pilot Operation	8	28	28	156	158	28		48			454	\$65,240			\$65,240
6. Sampling and Testing		8	8		8						24	\$4,200			\$4,200
2.4 Pilot Testing Program Technical Memorandum & Workshop															
2.4.A. Draft Technical Memorandum	4	12	16		48	20		16	8		124	\$21,040			\$21,040
2.4.B. Draft Technical Memorandum Workshop	4	8	4			12					28	\$6,092			\$6,092
2.4.C. Final Technical Memorandum		8			8			4			20	\$2,824			\$2,824
2.5 Direct Expenses and Subconsultant Costs											0	\$0	\$109,175	\$74,705	\$183,880
Task 2A - Pilot Testing Owner's Allowance											0	\$0	\$0	\$0	\$10,000
Owner's Allowance															\$10,000
Phase 2 (Future - Design Services)															
Phase 3 (Future - Construction Phase Services)															
											1048	\$165,348	\$109,175	\$74,705	\$359,228

NTE Fee excluding Owner's Allowance \$349,228
Owner's Allowance \$10,000
Total Fee \$359,228

2.5 Direct Expenses and Subconsultant Expenses
Summary of Estimated Expenses

Expense Item	Source	Quantity	Unit	Unit Cost	Total Exp Cost	Total Sub Exp
Procurement / Pilot Rental / Setup						
ROMS pilot skid rental (Includes freight for delivery)	Consultant	5	months	\$4,500	\$22,500	
ROMS membranes procurement	Membrane manufacturers	16	each	\$250	\$4,000	
FSP pilot skid rental	Ham RO	5	months	\$7,500		\$37,500
FSP membranes procurement including freight	Ham RO (Toray)	14	each	\$300		\$4,200
FSP mob / demob / freight / piping install	Ham RO	1	LS	\$3,500		\$3,500
Antiscalant procurement	Various	1	LS	\$275	\$275	
Misc piping, tubing, connectors, valves, cartridge filters, PPE, etc.	Various	1	LS	\$3,000	\$3,000	
Electrical installation & permitting - ROMS	Electrician	1	LS	\$3,500	\$3,500	
FSP Cleaning Skid	Ham CIP Skid Rental	1	LS	\$1,500		\$1,500
FSP Cleaning Skid Chemicals	Chemical Supplier	1	LS	\$1,000		\$1,000
Pilot Operation						
Subconsultant engineering consultation: Includes review of membrane and antiscalant projections (Desktop Evaluations), testing protocol, pilot operation data, consultation and phone support during pilot operation, on-site training and start-up assistance	Ham RO	1	LS	\$7,695		\$7,695
On-site pilot support by Ham RO Technician for service, cleaning, etc.	Ham RO	5	days	\$950		\$4,750
Sampling and Testing						
Outside Laboratory Analysis (11 samples every 2 weeks x 6 bi-weekly periods)	Lab TBD	6	bi-weekly	\$6,350	\$38,100	
ROMS membrane autopsies (a set of 4 x 2)	American Water Chem.	8	elements	\$3,200	\$25,600	
Pilot Study Report						
Subconsultant engineering support for Pilot Study Report						\$5,000
Subconsultant Sales Tax Markup						
7% Sales tax						\$4,560
Miscellaneous						
Travel: (Mileage to site, one out of town trip by process specialist					\$6,500	
Outside and in-house reproduction					\$500	
Telephone, postage, courier, misc					\$200	
Contingency						
Pilot Expenses Contingency					\$5,000	\$5,000

Total \$109,175 \$74,705

**Bill Rate Schedule
Black & Veatch**

Labor Category	Hourly Billing Rate
Technician / Graphics I	\$100
Technician / Graphics II	\$120
Sr. Technician / Sr. Graphics	\$138
Sr. Designer	\$154
Clerical	\$86
Administrative Assistant	\$100
Project Accountant	\$107
Staff Engineer I	\$108
Staff Engineer II	\$115
Staff Engineer III	\$128
Project Engineer I	\$140
Project Engineer II	\$155
Sr. Engineer I	\$170
Sr. Engineer II	\$195
Engineering Manager	\$207
Sr. Engineering Manager	\$224
Project Architect I	\$140
Project Architect II	\$174
Sr. Architect	\$207
Cost Estimator / Scheduler	\$155
Sr. Cost Estimator / Scheduler	\$190
Operations Lead	\$125
Operations Specialist	\$173
Sr. Operations Specialist	\$215
Resident Inspector I	\$134
Resident Inspector II	\$145
Resident Inspector III	\$155
Sr. Resident Inspector	\$190
Construction Manager	\$224
Project Manager	\$224
Sr. Project Manager	\$242
Project Director	\$259
Sr. Project Director	\$284
Technical Specialist	\$207
Sr. Technical Specialist	\$242
Technical Expert	\$275
Sr. Technical Expert	\$295

Rates include markups for overhead and profit. Rates are valid for a period of two years following the date of execution of the contract. It is understood that rates may be adjusted to account for cost-of-living thereafter, as mutually agreed. It is understood that expenses will be compensated separately.

Attachment 1 – Subconsultant Proposals



HARN R/O SYSTEMS, INC. – 310 CENTER COURT – VENICE, FLORIDA 34285
(P) 941-488-9671 - (F) 941-488-9400

Black & Veatch	ATTN: STEVEN KING, P.E.	5/21/2019
3405 W. Dr. M.L. King Jr. Blvd., Suite 125	Email: KingS@bv.com	
Tampa, FL 33607	Re: RO Pilot System Lease Proposal	

Harn R/O Systems, Inc. is pleased to provide the following proposal to provide equipment and services for a reverse osmosis (RO) pilot system as follows:

1. Provide one (1) nominal 20,000 GPD pilot study reverse osmosis system, configured in a 2:2:1:1 array of 4" diameter three and four element vessels for a two stage design. The unit is designed to replicate a full-scale system and can achieve 80-85% recovery without the use of concentrate recycle.

The unit is self-contained, but it must be installed in a sheltered, weather-protected location. The R/O unit will be leased for a minimum period of three (3) months. R/O membranes, delivery, installation, start-up and training services are not included in the lease price. Harn R/O Systems can provide installation, startup supervision and operator training for an additional fee, per below.

Lease one (1) R/O Pilot Unit for the sum of\$7,500 per month

Local operation staff and onsite data monitoring is not included

2. Provide eighteen (18) Toray TMG-10D Reverse Osmosis membrane elements.....\$4,950 (plus freight)
3. Provide Engineering assistance including review of membrane and anti-scalant Projections (desktop study), pilot operation data and protocol, consultation and phone support during pilot operation, on-site training and start-up assistance.....\$7,695
4. Engineering support for development of pilot study report (PDR by B&V)\$5,000
5. R/O expendables, i.e. cartridge filters..... No Charge
6. Avista scale inhibitor No Charge
7. Provide pilot cleaning system (chemicals not included)..... \$1,500 If required
8. Provide membrane autopsy of up to two elements at the conclusion of the pilot study. Autopsy requirements are highly dependent on the performance of the pilot and may vary.....By Others
9. Mobilization, mechanical installation & demobilization (Harn R/O Systems) including connection to existing water supply.....\$3,500.00
10. Electrical Installation & Permitting (if req'd) & demobilization (Harn Pilot)\$2,500.00
11. Onsite support a Harn R/O technician for service or cleaning on our pilot\$950.00/day

We Propose hereby to furnish material and labor – complete in accordance with above specifications, for the sum of:
See above, additional permits, bonds, and taxes not included, payment due Net 30

Monthly rental fee is billed at the beginning of each month. Delivery cost, Start-up labor, membrane cost, and misc. expenses are billed with the first month's rent. Autopsies and return freight are billed after completion

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workmen's Compensation Insurance.

Acceptance of Proposal - The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Date of Acceptance: _____

Authorized Kyle Jennings, P.E.

Signature _____

NOTE: This proposal may be withdrawn by us if not accepted within 30 days.

Signature _____

Signature: _____