

**WORK ASSIGNMENT NO. 2016-02 PURSUANT TO
THE JUNE 28, 2016 AGREEMENT BETWEEN THE
CITY OF VENICE, FLORIDA AND
STANTEC CONSULTING SERVICES INC.**

WHEREAS, on June 28, 2016, the City of Venice, Florida (“OWNER”) and *Stantec Consulting Services Inc.* (“CONSULTANT”), entered into an Agreement whereby the CONSULTANT would perform professional services for the OWNER pursuant to an executed Work Assignment; and

WHEREAS, the OWNER wishes to authorize the CONSULTANT to perform professional services concerning *Reclaimed Water Master Plan Update* as more particularly described in the Scope of Services herein; and

WHEREAS, the CONSULTANT wishes to perform such professional services,

NOW THEREFORE, in consideration of the premises and mutual covenants contained in the June 28, 2016, Agreement and this Work Assignment, the parties agree as follows:

1. General description of the project. The OWNER’s Reclaimed Water Master Plan (Master Plan) was completed in 2012 and the OWNER has followed the Master Plan CIP. The objective of this work is to update the Master Plan and to update the reclaimed water capital improvement program.
2. Scope of services to be performed. CONSULTANT shall perform the services described in the Scope of Services attached hereto as Attachment “A”.
3. Compensation to be paid. OWNER shall pay the CONSULTANT the sum of *one hundred twenty eight thousand three hundred ninety seven dollars and no cents (\$128,397.00)* for performance of the professional services specified in this work assignment.
4. Time for completion. The Notice to Proceed will be the day the OWNER council approves this Work Authorization. CONSULTANT shall complete the professional design services specified in this work assignment within *160* days from the date of this Work Assignment Approval. CONSULTANT shall submit to OWNER the Final Reclaimed Water Master Plan Update within 30 days of receiving comments from the OWNER.
5. The terms and conditions of the June 28, 2016 Agreement shall remain in full force and effect until the completion of this Work Assignment.

IN WITNESS WHEREOF, the parties have executed this Work Assignment on the____ day of _____, 2016.

STANTEC CONSULTING SERVICES, INC.

Thomas J. Hunt

CITY OF VENICE, FLORIDA

By: _____

Mayor:

ATTEST:

City Clerk

Attachment A

City of Venice

Reclaimed Water Master Plan Update

Scope of Services

Background

The OWNER's Reclaimed Water Master Plan (Master Plan) was completed in 2012. The objectives of the Master Plan were to develop a guide for management of the storage and distribution of the OWNER's reclaimed water for existing and future customers and developments and to develop a capital improvement program. The methodology of the Master Plan included:

- Data collection from the OWNER, County, and regulatory agencies.
- Identification of existing and potential reclaimed water users and associated reclaimed water demand.
- Evaluation of reclaimed water system using a hydraulic model.
- Field investigation of the existing system components.
- Analysis of system storage using FDEP's LandAp2010.
- A review of the regulatory requirements.
- Development of reclaimed water system improvements, as capital improvement projects and associated cost estimates and the potential rate impact of these projects.

Scope of Services

TASK 1.0 PROJECT MANAGEMENT

This project shall follow CONSULTANT's ISO 9001 project management guidelines, which primarily include a project plan, schedule, QA-QC, regular monitoring and regular meetings.

TASK 1.1 MEETINGS

This task includes up to four progress meetings with staff.

TASK 2.0 UPDATE EXISTING 2012 RECLAIMED WATER MASTER PLAN EVALUATIONS

TASK 2.1 POPULATION AND RECLAIMED WATER DEMAND PROJECTIONS

The 2012 Master Plan projected the OWNER's population through 2030 and the associated reclaimed water demand in five year increments. This Master Plan Update will follow the same population projection methodology for the planning period of 2015 to 2035 in five year increments.

For demand projections, Stantec will request existing data from 2010 to 2015 and this data and flow will be summarized by annual and monthly values as well as monthly average day and peak day values.

- Existing WRF influent flows

- Distribution of flow from Sarasota County and the OWNER
- Flows sent to the reclaimed water system and for disposal wells
- Customer reclaimed water billing data for bulk and individual meters
- Customer potable water billing data for bulk and individual meters (this may provide useful information in areas of no reclaimed water meters)
- Population values

Based on the above information, application rates will be determined and used in the modeling upon approval by the OWNER. Based on planning information provided by the OWNER, areas to be developed will be considered to be connected to the reclaimed water system over the planning period. The reclaimed water demand will be based on acreage and application rates.

The CONSULTANT will develop one modeling scenario that follows the interlocal agreement between the OWNER and Sarasota County Utilities. In addition, the planning period population projections will be requested from the OWNER sufficient to update the application rates with historic usage over the planning period. The OWNER shall also provide ArcGIS files necessary to update the Master Plan.

TASK 2.2 RECLAIMED WATER SYSTEM COMPONENTS

The Master Plan Update will include evaluation of the condition of the existing reclaimed water disposal and distribution system. The evaluation will include a field investigation of the following sites:

- Eastside WRF including reclaimed water high service pumps, ground storage tank, lined pond, and pond return pumps
- Reclaimed water delivery control devices including those at the bulk users (Bird Bay, Capri Isles North, Lake Venice, Venetian Golf and River Club, and Waterford, the Curry Creek surface water discharge, RO concentrate discharge connection, and the Sarasota County interconnect
- Bulk user storage ponds
- The 7.5 MG ground storage tank and pond filtration
- Updated reclaimed water pipe network summary

TASK 2.3 POTENTIAL RECLAIMED WATER USERS AND APPLICATION SITES

The Master Plan Update will review potential reclaimed water users and application sites. The potential reclaimed water users will in part be determined using potable water irrigation use data, planning information, and OWNER input. The evaluation will also include the identification of additional potential users such as the Chuck Reiter Little League Fields and the Venice High school Athletic Fields. All potential user demands will be updated for the period 2015 through 2035.

TASK 2.4 REGULATORY REVIEW

The operating permit is currently under review by FDEP and therefore no regulatory review will be performed as part of this work.

TASK 2.5 RECLAIMED WATER STORAGE

The Master Plan Update will summarize the storage requirements as set forth by 62-610.464 F.A.C. (although the OWNER is exempt from this regulation it governs standard storage capacity for comparison purposes) and the existing storage capacity within the system). An analysis using LandAp 2010 will be performed to determine the required storage of the system based on current and future reclaimed water flow, historical hydrologic data, and groundwater characteristics of the OWNER. The future analysis will include two scenarios at five year increments as previously stated. The first scenario assumes only the wastewater generated by the OWNER is available for reclaimed water supply. The second scenario assumes the wastewater flow from Sarasota County is available for reclaimed water supply into the future. Recommendations for additional storage will be made to account for any deficits in storage for the period from 2015 through 2035.

TASK 2.6 HYDRAULIC ANALYSIS

The OWNER will provide the 2012 hydraulic model. The model will be updated using the existing GIS provided by the OWNER and only include pipes 3-inch and greater in diameter. The model will be run:

- under steady state conditions
- include wastewater flow from Sarasota County
- include a 1.0 inch/week application rate for existing and potential users

The model evaluation will include model runs for an annual average daily flow condition and a peak hour flow condition.

Peak factors will be determined for each type of user, bulk, individual, park, median, future development, and Sarasota County interconnect. The peak factors will be developed based on delivery period, existing demand data, and field testing.

The model will be evaluated based on the following typical standards:

- Maximum design velocity of 7.0 fps.
- Minimum pipeline pressure of 40 psi.
- Hazen Williams friction coefficient of 120.
- Maximum headloss of 8 psi/1000LF

Assumptions of the model include the elevations of pipes based on two foot contours, the Sarasota County interconnect opened and closed, and no discharge to Curry Creek.

The Master Plan Update will include an update of the model pipe networks, model demands, and any system improvements that have occurred since the 2012 Master Plan model. The peak factors will be evaluated for continued use in the model update. The model is assumed to be calibrated and will not be calibrated in the model update. The model will be run under the 2015 existing and 2035 planning scenarios to review for deficiencies. Simulations and resultant recommendations for projects will be made to improve those deficiencies and included in the Capital Improvement Plan.

Task 3.0 Beneficial Hydrogeologic Reclaimed Water Uses

The OWNER has requested hydrogeologic services to investigate the feasibility of utilizing reclaimed water for indirect reuse, aquifer storage, and a salinity barrier. Under

this task these opportunities will be considered and will be included in the Reuse Master Plan under alternatives section of the Master Plan.

The CONSULTANT will provide with assistance from RMA Geologic Consultants, Inc. (RMA) an evaluation of the feasibility of; constructing a reclaimed water aquifer storage and recovery (ASR) system; a reclaimed water salinity barrier system; and the potential for indirect potable water reuse for the OWNER. The CONSULTANT will evaluate the feasibility of these options, as well as provide an estimate of probable cost. CONSULTANT will also provide risk analyses, cost-benefit analyses, and an evaluation of permit-ability. The CONSULTANT will perform the following subtasks below which is intended to provide an overview of the beneficial reclaimed water systems regulatory and hydrogeologic feasibility. This work is not intended to provide preliminary design documents.

3.1 Regulatory Coordination

Appropriate coordination will be provided throughout the project with the OWNER, the Florida Department of Environmental Protection (FDEP), and the Southwest Florida Water Management District (SWFWMD).

3.2 Hydrogeologic Data Review

Available well data for the OWNER's supply wells and monitoring wells will be provided by the OWNER (and possibly SWFWMD) and reviewed. Available data for other wells within the OWNER's utilities service area, as well as a minimum of six miles outside the service area (to assure accuracy of the mapping within the service area) will be acquired from SWFWMD records or from adjacent OWNER's and reviewed.

3.3 Prepare Comprehensive Hydrogeologic Evaluation

The data compiled above will be assimilated into a series of maps and cross-sections. The maps will include structure contour maps of aquifers and confining units and maps of aquifer parameters and water quality.

3.4 Select Potential Aquifer Zones

The information from the maps and cross-sections will be integrated with OWNER infrastructure data to select potential aquifer zones and sites for either a reclaimed water ASR system or a reclaimed water salinity barrier system.

3.5 Report Preparation

Findings and information from the above tasks will be summarized with recommendations for types of systems, feasibility of those systems, possible locations, and estimates of probable costs.

TASK 4.0 CAPITAL IMPROVEMENT PROGRAM

The Master Plan Update will include a capital improvement program based on the evaluation of the existing system improvements determined by the hydraulic model results, future improvements based on the future reclaimed water demand and the hydraulic model results, current and future storage requirements, evaluation of current operations, and the additional analysis as described in Task 2.0. The projects will include

cost estimates and will be for the period 2015 through 2035. Project sheets will be developed to support the CIP.

TASK 5 REPORTS

This task includes the following components:

- Draft Report preparation and submittal (five hardcopies and one digital copy).
- Meeting to review the Draft Report to go over the OWNER's comments.
- Final Report Submittal (ten hardcopies and one digital copy along with key computer files used to prepare the Master Plan).

Requested information

- Previous master plan digital files which may include:
 - Word Text
 - Spreadsheets
 - Databases
 - GIS files and projects
 - Reclaim water model files (additional information on the system for the model may be requested depending upon the information in the model and systems added in the field that are not in the model)
- Private and wholesale reclaimed water meter billing – past three years by month including name, address, & meter size.
- GIS file of reclaimed water meters or street address
- Past three years of reclaimed water meter records from OWNER systems
- Population Projections
- Existing Hydrogeologic well and monitoring well information as listed below but not limited to the list below
 - Wells, sizes, and depths (casings)
 - 3-yrs of withdrawal rates/volumes
 - 3-yrs of Monthly reports

FEE AND SCHEDULE

Task 1 Project Mgt	\$ 5,924
Task 2 Update	\$ 50,341
Task 3 Hydrogeologic	\$ 32,788
Task 4 CIP	\$ 13,408
Task 5 Reports	\$ 15,936
 Subtotal	 \$118,397
 OWNERS' Allowance (for unforeseen items)	 \$ 10,000
 Total	 \$128,397

This Work Assignment includes an OWNER'S Allowance of \$10,000 for unforeseen tasks required to complete the project, which will be used only with the written approval of the OWNER. A scope description and fee breakdown will be provided to the OWNER for any proposed use of the OWNER'S Allowance.

The Notice to Proceed will be the day the OWNER council approves this Work Authorization. CONSULTANT shall submit the DRAFT Reclaimed Water Master Plan Update within 160 days from the date of this Work Assignment approval. CONSULTANT shall submit to OWNER the Final Reclaimed Water Master Plan Update within 30 days of receiving comments from the OWNER.