

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2007	2008	2009	2010	2011
Capital Expenditures	\$179,376.00	0	0	0	0
External Revenues	(179,376.00)	0	0	0	0
Program Income (County)	0	0	0	0	0
In-Kind Match County	0	0	0	0	0
NET FISCAL IMPACT	0	0	0	0	0
# ADDITIONAL FTE POSITIONS (Cumulative)	0	0	0	0	0

Budget Account No.: Fund 4011 Dept 721 Unit W026 Object 6541

Is Item Included in Current Budget? Yes X No

Reporting Category N/A

B. Recommended Sources of Funds/Summary of Fiscal Impact:

One time capital expenditure from the user fees and balances brought forward. Capital expenditures shall be fully reimbursed from a combination of grant funding and annual payments to be received from the Cities of Belle Glade, South Bay, and Pahokee.

C. Department Fiscal Review: *[Signature]*

III. REVIEW COMMENTS

A. OFMB Fiscal and/or Contract Development and Control Comments:

[Signature] 6-6-07
 OFMB
 6-5-07
 CN 6/14/7

[Signature] 6/18/07
 Contract Development and Control

B. Legal Sufficiency:

[Signature] 6/11/07
 Assistant County Attorney

This item complies with current County policies.

C. Other Department Review:

 Department Director

This summary is not to be used as a basis for payment.

AUTHORIZATION NO. 21

CONSULTANT SERVICES AUTHORIZATION

Project No. WUD 03-169

Budget Line Item No.4011 721 W026 6541

Project Title: Lake Region Water Treatment Plant (LRWTP) Service Area – Potable Water Distribution Analysis

District No.: 6

THIS AUTHORIZATION No. 21, to the Contract for Consulting/Professional Services dated April 19, 2005 with an effective date of June 1, 2005 (Resolution/Document R-2005-0774), by and between Palm Beach County and the Consultant identified herein, is for the Consultant Services described in Item 3 of this Authorization. The Contract provides for 20.00% SBE participation overall. This Consultant Services Authorization includes 0.0% SBE participation. The cumulative SBE participation, including this authorization is 22.86% overall. Additional authorizations will be utilized to meet or exceed the stated overall participation goal.

1. **CONSULTANT: Camp Dresser & McKee Inc.**
2. **ADDRESS: 1601 Belvedere Rd., Suite 211 S., West Palm Beach, Florida 33406**
3. Description of Services to be provided by the Consultant:
Lake Region Water Treatment Plant (LRWTP) Service Area – Potable Water Distribution Analysis, as more fully described in EXHIBIT “A”.
4. Services completed by the Consultant to date:
See Exhibits “B” and “C”.
5. Consultant shall begin work promptly on the requested services.
6. The compensation to be paid to the Consultant for providing the requested services shall be:
 - A. Computation of time charges plus expenses, not to exceed N/A.
 - B. Fixed price of \$ 179,376.
7. This Authorization may be terminated by the County without cause or prior notice. In the event of termination not the fault of the Consultant, the Consultant shall be compensated for all services performed through the date of termination, together with reimbursable expenses (if applicable) then due.

PROJECT NO.: WUD 03-169

AUTHORIZATION NO. 21

Budget Line Item No. 4011-721-W026-6541

8. EXCEPT AS HEREBY AMENDED, CHANGED OR MODIFIED, all other terms, conditions and obligations of the Contract dated April 19, 2005 with an effective date of June 1, 2005 remain in full force and effect.

IN WITNESS WHEREOF, this Authorization is accepted, subject to the terms, conditions and obligations of the aforementioned Contract.

CONSULTANT:

PALM BEACH COUNTY

A POLITICAL SUBDIVISION OF
THE STATE OF FLORIDA
BOARD OF COUNTY
COMMISSIONERS OF PALM
BEACH COUNTY, FLORIDA

FIRM: Camp Dresser & McKee Inc.

Signed: 

Typed Name: Donald G. Munksgaard, P.E.

Title: Senior Vice President

Date: 5/21/07

ATTEST:

(Signed)

Addie Greene, Chairperson 

ATTEST:

Sharon Bock, Clerk & Comptroller
The Circuit Court

(Deputy Clerk)

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY:

(County Attorney)

BJS 5/24/07

EXHIBIT A

SCOPE OF SERVICES

LAKE REGION WATER TREATMENT PLANT (LRWTP) SERVICE AREA

POTABLE WATER DISTRIBUTION ANALYSIS

AUTHORIZATION NO. 21

WUD NO. 03-169

Camp Dresser & McKee Inc. (hereinafter referenced as ENGINEER) shall perform the following described engineering services related to a potable water distribution system analysis for the communities to be served by the Lake Region Water Treatment Plant (LRWTP). In general, the LRWTP will provide potable water on a wholesale basis to the City of Belle Glade, the City of Pahokee (and subsequently Canal Point area), and the City of South Bay (Tri-City Area). In particular, the Palm Beach County Water Utilities Department (PBCWUD) is concerned that the introduction of the finished water from the LRWTP could cause distribution system water quality upsets from either corrosion potential differences, and/or revised hydraulic flow regimes causing corrosion byproduct or biofilm disruptions. Associated with this concern is the perceived need to thoroughly clean all existing finished water storage facilities, as well as performing a thorough flushing of the various distribution system mains to facilitate introduction of the new quality finished water.

This evaluation will generally include the following major efforts:

- Calculation of historical and recommended distribution system water quality parameter values for corrosion potential related items such as Langelier Saturation Index (LSI), Calcium Carbonate Precipitation Potential (CCPP), total alkalinity, calcium hardness, sulfate, chloride, and pH.
- Collection and compilation of available data for the existing potable water distribution systems for the Tri-City Area, including:
 - Potable Water Distribution Atlases or Service Area Maps that identify distribution system pipe sizes, pipe types/materials, pipe age, valve locations, and pipe condition;
 - Available potable water distribution system engineering drawings that would be used to supplement information on the potable water distribution network;
 - Current potable water finished water demands on a minimum, average, and maximum day basis (MinDF, ADF, and MDF, respectively); and
 - Current potable water peak hour flow (PHF) pumping rates.

- Development of a potable water distribution system hydraulic model for each of the three cities for pipe sizes from 6 inches and above.
- Conduct hydraulic modeling to determine fire flow with the LRWTP supplying finished water on a wholesale basis and consideration of the three utilities pumping from utility-specific finished water storage facilities.
- A Water Accountability Study to be used to (1) identify areas where excessive amounts of unaccounted-for water (UFW) exist, and to (2) determine the most probable causes and sources of said excessive UFW.
- Large meter records review to assist in the Water Accountability Study effort.
- Field investigation of the potable water systems to include (1) review of inspection reports, (2) discussion with each city's water utility operations' staff (3) analyses of pipe coupons supplied by PBCWUD or the cities, (4) leak detection studies to be conducted as part of the Water Accountability Study, and ultrasonic pipe wall testing to determine pipe wall thickness for selected pipes.
- Draft and Final Technical Memorandums to (1) summarize the findings of the various investigations, (2) recommended general potable water distribution system improvements and/or rehabilitation for the three cities, (3) provide a prioritized capital improvements list for the various potable water distribution program, (4) recommend appropriate corrosion inhibitor feed types and dosages, and (5) recommend a Distribution System Flushing Plan to be performed in conjunction with startup of the LRWTP.

The tasks and subtasks contained herein further detail the general services described in Exhibit A "SCOPE OF SERVICES" of the Palm Beach County Continuing Engineering Contract. The intent of this Authorization is for the ENGINEER to provide to the PBCWUD a potable water distribution analysis for the Tri-City water service area.

TASK 1 - PROJECT DATA COLLECTION AND KICKOFF MEETING

This task provides for a project kickoff meeting, data collection and compilation, and project update meetings.

Subtask 1.1 - Project Kickoff

A project kick-off meeting will be held with PBCWUD staff and Tri-City Area staff to discuss project schedule, administrative procedures, respective responsibilities, communications, contacts, expectations, progress reporting, data collection, and other project matters, as appropriate. The project kick-off meeting will set critical success factors and determine the process, activities, and tasks necessary to satisfy these success factors. Key stakeholders and project team members are expected to attend.

Subtask 1.2 - Data Collection

The ENGINEER will prepare a list of anticipated data requirements and submit this list to PBCWUD in advance of the project kickoff meeting. PBCWUD and/or the three cities will provide the ENGINEER with copies of available data as requested. The data needs will include, but not be limited to, the following items for each of the three cities:

- Monthly Operating Reports for the previous 36 months.
- Annual Primary and Secondary Drinking Water Standards analyses for the previous three years.
- Distribution System Atlases or all available distribution system piping drawings to show all pipes with a diameter of 6 inches or greater, including connection details for tanks and pump stations and valve locations.
- Large flow meter records.
- Distribution system water quality complaint logs.
- Work order records or logs identifying water main breaks/repairs, valve repairs/replacements, and other maintenance history.
- Available distribution system operations data including tank elevations, pumping records, and system pressures under known conditions.
- Descriptions of water meter replacement/change-out programs and available records.
- Current finished water storage and high service pumping capacities (including available pump curves) by each individual city.

Subtask 1.3 - Project Update Meetings

The ENGINEER and PBCWUD team members will hold project update meetings at key intervals during the project. It is anticipated that one meeting per month will be required over the 6-month project performance period. As part of the project update, ENGINEER will provide a status letter providing a synopsis of the work to date as well as summarize any interim findings.

TASK 2 - TRI-CITY DISTRIBUTION SYSTEM HISTORICAL AND RECOMMENDED WATER QUALITY PARAMETER VALUES

This task consists of calculating historical distribution system water quality for the three cities as it relates to corrosion potential and recommending finished water quality parameter values to be delivered from the LRWTP to meet recommended finished water quality to minimize corrosion potential.

Subtask 2.1 - Historical Finished Water Quality Description

The ENGINEER will summarize available water quality data for the three cities for parameters relating to corrosion potential and calculate appropriate corrosion potential indices.

Subtask 2.2 - Recommended LRWTP Finished Water Quality

The ENGINEER will provide recommendations for water quality parameter values for the finished water delivered from the LRWTP so as to minimize corrosion potential. These recommendations will also include recommendations for corrosion inhibitor feed types and dosages based upon subsequent work efforts including the analyses of pipe coupons.

TASK 3 - TRI-CITY SERVICE AREA DEMANDS AND WATER QUALITY CONCERNS

This task consists of determining current service area demands for the Tri-City utilities and identifying commonly received distribution system water quality complaints.

Subtask 3.1 - Service Area Demand Values

ENGINEER will perform the following efforts to determine flow values required for the proposed hydraulic model:

- Confirm service area boundaries with staff.
- Obtain, review, and evaluate available potable water demand data for the individual service areas from the three cities. The ENGINEER will not perform original demand values or projections based upon current or future population, respectively, but will utilize commonly available data such as Monthly Operating Report data.
- Develop appropriate current potable water demands including MinDF, ADF, MDF, and PHF, values to be used in water distribution system modeling effort.

TASK 4 - PIPE MATERIAL, PIPE AGE, AND COUPON ANALYSES

This task consists of evaluating existing pipe materials, pipe age, and obtained pipe coupons.

Subtask 4.1 - Pipe Materials and Age

ENGINEER will, using existing records, evaluate and summarize existing pipe materials and ages for existing water transmission and distribution piping that is 6 inches and greater in diameter.

Subtask 4.2 - Coupon Sampling Program Protocol

ENGINEER will provide technical assistance to PBCWUD and/or individual cities staff who will provide field forces necessary for obtaining the samples. The protocol will be focused

on obtaining samples in an unobtrusive manner as possible so as to minimize disruption of biofilm and corrosion by-product layers. ENGINEER will provide ten copies of a pipe coupon sampling program protocol for use by the described forces to use in obtaining the pipe coupons.

Subtask 4.3 - Pipe Coupon Sample Corrosion and Biofilm Analyses

ENGINEER will arrange for the shipment and analysis of pipe coupons and samples by specialty laboratories as subcontracted by PBCWUD. It is assumed that a corrosion analysis and biofilm characterization will be performed on each of up to ten samples. ENGINEER will receive and review the reports from the subcontracted laboratories. The biofilm analysis will include a measurement of biofilm thickness, characterization of the overall physical attributes, and speciation of the biofilm. The corrosion analysis will include loss of metal (rate of corrosion) measurements, type and degree of corrosion, and analysis of the corrosion by-products using x-ray diffraction and other appropriate tests.

TASK 5 - WATER TRANSMISSION AND DISTRIBUTION SYSTEM HYDRAULIC MODELING

Subtask 5.1 - Hydraulic Model Analyses

The ENGINEER will develop a WaterCAD water transmission and distribution system model, including lines 6 inches and greater in diameter for each of the three cities. For each city's service area, this model will be based upon the data collected under Task 1 and the demands developed under Task 3. The hydraulic modeling will be performed to determine distribution system flow and water age characteristics under the described flow conditions. The hydraulic modeling and calibration task will be performed by the ENGINEER. The ENGINEER will utilize available service area maps and available engineering drawings to accurately represent the locations, connections, and lengths of the finished water pipes in the system that are 6 inches in diameter or greater. The hydraulic model effort will include the following:

- Existing demands allocated to nodes throughout the model.
- Ground elevations assigned to each node.
- Initial C-values assigned to each pipe, based on the diameter, age, and material of construction.
- Pump curves for each finished water pump and booster pump.
- Physical data for each storage facility including diameter, operating range, and configuration.
- Any closed valves used to isolate different pressure zones.
- System operating valves, such as pressure reducing valves.

- Master meter locations.

ENGINEER will provide PBCWUD an electronic copy of the draft (pre-calibration) model.

Subtask 5.2 - Calibrate Model for Hydraulics

Model calibration for hydraulics is required prior to time-of-travel or water quality calibration modeling efforts. The accuracy of a computer model is highly dependent on its degree of calibration. To determine the level to which the computer model is calibrated, actual field conditions based on hydrant flow tests will be simulated using the model. ENGINEER will work with PBCWUD and each city's operational staff to identify up to 50 hydrant flow test locations and up to 20 hydraulic loss of gradient (i.e., C-test) locations. ENGINEER will identify system operational data that should be collected at the time of each flow test.

Hydrant flow test locations will be strategically selected to represent the entire system. C-test locations will be based on the diameter, age, and material of the pipes in the distribution system; accessibility; ability to isolate the pipe section; and impact to traffic and existing customers. It is assumed that hydrant flow tests and C-tests will be conducted by PBCWUD and/or individual Tri-City staff. It has been further assumed that ENGINEER's personnel will not perform any of the described field calibration efforts.

After checking the model's physical and operational data and following the field testing, the ENGINEER will configure the model for calibration. The ENGINEER will incorporate demand data (for the period coincident with field testing), configure physical model data to match water system configuration, and incorporate operational data. The ENGINEER will run simulations to compare model results to field measured values. A calibrated model will predict, within reasonable limits, actual system operation as measured by flows, levels, and pressures.

Model calibration will be accomplished using an iterative process where simulation results are compared to field measured values. Where there is disagreement, the model parameters will be adjusted, the model will be rerun, and the results rechecked. This process continues until model results agree reasonably with field observations. In some cases, it will not be possible to match field-measured values. In these cases, the ENGINEER will identify calibration issues and possible reasons for the disagreement. It is sometimes discovered that the actual water system configuration is not what it was understood to be. For example, the water system may contain an inadvertently closed valve (i.e., should normally be open). Calibration issues will be summarized for discussion.

ENGINEER will provide PBCWUD an electronic copy of the calibrated hydraulic model.

TASK 6 - IDENTIFY EXISTING DISTRIBUTION SYSTEM CONCERNS

The ENGINEER will develop a list of distribution system concerns that can be readily identified from the hydraulic model as well as the previously described pipe material/age and coupon analyses. The detailed scope of work for this task is described as follows:

Subtask 6.1 - Ultrasonic Pipe Wall Testing

ENGINEER will prepare and distribute ten copies of an ultrasonic pipe wall testing protocol to be performed by a specialty firm that will be subcontracted by PBCWUD. This specialty firm will evaluate up to ten exposed pipes at canal and bridge crossings, utilizing ultrasonic wall testing of pipe to determine the wall thickness and any chemical scale buildup on the interior wall of the pipe. ENGINEER will receive and review the reports from the subcontracted firm. If possible, ultrasonic pipe wall testing should be coordinated and conducted with at least one coupon sampling location so as to provide verification information.

Subtask 6.2 - Distribution System Concerns Identification

On completion of the efforts described above including the hydraulic modeling effort, ENGINEER will identify, list, or produce the following concerns or work efforts on an individual city basis:

- The probability of flow reversal under normal operating conditions.
- Identify heavily corroded or potentially heavily corroded pipes.
- Identify areas of stagnant or poorly circulating (looping) flow.
- Estimate water age within the project area.
- Develop a specific area of concern flushing protocol to minimize the probability of flow reversal in older pipes and maximize the ability to purge the pipes within the project area during LRWTP startup and initial operation.

ENGINEER will utilize the results and findings of the information obtained under Subtask 7.2, "System Wide Leak Detection Survey" to assist with this task.

Note that ENGINEER will **not** provide any specific distribution system improvements or associated capital cost estimates in this effort. Any such capital improvement project list development and associated cost estimation could be performed under a separate authorization by PBCWUD or the individual cities.

Subtask 6.3 - Specific Fire Flow Improvements

ENGINEER will utilize the hydraulic model to identify specific improvements to the various utility's distribution systems to meet the specifically addressed Water Alerts for Battalion 7 as provided in the Memorandum authored by Mr. Steve Collins and dated October 2, 2006. The recommendations will include pipe material, pipe diameter, recommended routing, estimated length, and a planning level capital cost estimate for the required construction by specific improvement.

TASK 7- EVALUATION OF EXISTING FINISHED WATER STORAGE AND HIGH SERVICE PUMPING CAPACITY

This task provides for a study and report of the existing Finished Water Storage and High Service Pumping Capacity at each of the Tri-City utilities. The existing available storage and pumping capacity will be evaluated in comparison to the minimum acceptable storage and pumping capacities to meet the Peak Hourly Demand and the Fire Flow Demand as determined by American Water Works Association and PBCWUD standards. A summary and recommendation of any required storage and pumping improvements shall be included.

Subtask 7.1 - Existing Storage and High Service Pumping Capacities

ENGINEER will obtain and compile existing finished water storage and high service pumping data including pump curves for each of the three cities.

Subtask 7.2 - Recommended Storage and High Service Pumping Capacities

ENGINEER will evaluate existing storage and high service pumping capacities to recommended or required standards for peak hour and/or fire flow requirements for the individual cities. ENGINEER will provide a list of recommended storage and/or high service pumping upgrades necessary to meet said requirements. Note that ENGINEER will **not** provide any associated capital cost estimates in this effort. Any such capital improvement project list development and associated cost estimation could be performed under a separate authorization by PBCWUD or the individual cities.

TASK 8 - UNACCOUNTED-FOR WATER EVALUATION

This task provides for a determination of unaccounted-for water (UFW) for the Cities of South Bay and Pahokee to supplement a previous similar effort provided for the City of Belle Glade.

Subtask 8.1 - Coordination with PBCWUD for Finished Water Reporting Accuracy

PBCWUD staff will interview the staff of the Cities of South Bay and Pahokee to determine the methodology utilized to date to determine and report raw water flows, backwash water flows, and finished water flows. PBCWUD will also utilize an independent testing firm to test any finished water meters and determine the existing accuracy of these meters. The ENGINEER will meet with PBCWUD to obtain and review this information in order to determine the overall accuracy of past finished water reporting.

Subtask 8.2 - System-Wide Comprehensive Leak Detection Survey

ENGINEER will employ an independent subconsultant to perform a comprehensive field leak detection survey of 100 percent of the water service lines 6 inches in diameter and greater in the City of South Bay's and the City of Pahokee's potable water distribution systems. As leaks are identified, the flow rates of the leaks will be estimated and recorded in order to determine an accurate estimate of the amount of finished water lost to leaks. The

location of the leaks shall be provided to PBCWUD and the two cities. The subcontractor shall perform and complete the comprehensive survey within the 45-day schedule allowed for this activity.

Subtask 8.3 - Coordinate Meter Testing Program with PBCWUD

PBCWUD staff is currently testing customer water meters in the Cities of South Bay and Pahokee. PBCWUD staff will test all meters of size two inches and larger for registration accuracy, and will provide the ENGINEER with the results. The ENGINEER will analyze the results of all meter tests to estimate the percentage of water losses due to meter inaccuracies.

Subtask 8.4 - Analyze the City of South Bay's and the City of Pahokee's Billing and Collection Procedures

ENGINEER will meet with the City of South Bay's and the City of Pahokee's staff to obtain a thorough understanding of the Cities' billing and collection procedures. ENGINEER will compute a statistically significant number of accounts to be reviewed in detail to determine the validity of the meter reading/billing/collection process, and estimate the percentage of water and revenue lost due to inadequacies in the existing system.

ENGINEER will pay particular attention to any outside large accounts including any Sugar Cooperative account(s) and the Palm Beach County Jail account(s) and will include them in the review.

Subtask 8.5 - Estimate Miscellaneous Losses

ENGINEER will meet with appropriate Cities' staff to identify water losses due to the following activities:

- Hydrant and Main Flushing.
- Street Sweeping.
- Construction.
- Fire Protection.
- Water Treatment Plant.
- Wastewater Treatment Plant.
- Wastewater Lift Stations.
- Test Meters.
- Pipeline Flushing.

- Cleaning Sewer Lines.
- Interconnect Flushing.
- Charging Lines for Water and Force Main Pressure and Leak Testing.
- Bacteriological Sampling.

Based on the results, ENGINEER will estimate the percentage of water loss resulting from these activities.

Subtask 8.6 - Review City of South Bay's and City of Pahokee's Turn-Off Policy and Enforcement Activities

ENGINEER will meet with appropriate staff for the two referenced Cities to obtain a thorough understanding of the Cities' turn-off policy and associated enforcement activities. ENGINEER will obtain from the Cities a comprehensive listing of delinquent accounts and accounts that have been turned off for delinquency/non-payment.

ENGINEER will provide PBCWUD with a listing of delinquent accounts to be verified in the field by PBCWUD staff. The number of accounts provided will be statistically significant to achieve the desired level of confidence. Based on the results of the field verification, ENGINEER will estimate the percentage of water loss due to this component.

TASK 9 - DRAFT AND FINAL REPORTS

This task provides for draft and final reports, as well as a draft report review meeting.

Subtask 9.1 - Draft Report and Review Meeting

ENGINEER will provide ten copies of a draft report documenting the findings, results, conclusions, and recommendations of the effort. Report will include specific recommendations for a LRWTP Startup Flushing Plan. After a suitable review period by PBCWUD, ENGINEER will prepare for, attend, and participate in a review meeting with PBCWUD to review the draft report and receive comments.

Subtask 9.2 - Final Report

ENGINEER will incorporate all appropriate review comments, prepare final report, and distribute ten copies of the final report.

OTHER SERVICES NOT INCLUDED IN THIS SCOPE OF SERVICES

The following list of items are not included in this Scope of Services, but will be addressed in separate proposals or will be negotiated separately with PBCWUD, if required:

- Excavation for field verification of the actual locations of existing underground utilities and structures. If field verification is necessary, excavation shall be provided by PBCWUD as directed by the ENGINEER.

PBCWUD RESPONSIBILITIES

PBCWUD shall provide the following to the ENGINEER in a timely manner:

- Pipe coupons for each city at recommended location.
- Fees for permits.
- Review of ENGINEER work products.
- Analytical laboratory services as described herein.

LABOR HOUR ESTIMATE AND PROJECT COST ESTIMATE

See Attachment A for the labor hours' estimate and project cost estimate for the lump sum contract.

Attachment A - Budget

Attachment B - Project Schedule

Attachment C - M/WBE Schedule 1 & 2

Attachment D - Location Map

Attachment A
 Authorization No. 21
 Lake Region Water Treatment Plant Service Area
 Potable Water Distribution Analysis

Proposal Budget Disaggregation

LABOR CATEGORY	RAW HOURLY RATE	SUBTASK																						TOTAL HOURS	LABOR @ 3.0 MULT		
		1.1	1.2	1.3	2.1	2.2	3.1	4.1	4.2	4.3	5.1	5.2	6.1	6.2	6.3	7.1	7.2	8.1	8.2	8.3	8.4	8.5	8.6			9.1	9.2
Officer	50.00	2	8	8	8	8	2	2	8	8	24	8	4	2	2	2	2	2	2	2	8	4	4	4	2	126	\$18,900.00
Principal/Associate	48.00	4	8	12	16	16	4	8	16	16	40	16	16	8	8	4	8	8	8	4	24	16	16	16	4	296	\$42,624.00
Senior Professional	42.00	8	16	16	24	12	16	16	24	24	80	40	20	12	16	16	24	16	24	8	40	24	24	8	8	516	\$85,016.00
Professional II	30.00	8	24	16	8	0	24	40	0	0	0	0	0	0	0	8	12	0	0	12	0	0	0	24	16	192	\$17,280.00
Professional I	25.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0.00
Project Administration	25.00	0	2	0	0	2	0	2	2	2	2	2	2	0	0	0	0	0	2	0	0	0	0	0	0	18	\$1,350.00
Clerk/Typist	17.00	4	8	4	4	4	4	4	4	4	8	4	4	2	2	2	2	2	2	2	2	2	2	8	2	86	\$4,386.00
Technician/Drafter	19.00	4	4	4	0	0	0	0	8	8	16	2	0	0	0	0	0	0	4	0	0	0	0	8	2	60	\$3,420.00
TOTAL LABOR HOURS		30	70	60	60	42	50	72	62	62	170	72	46	24	28	32	48	28	42	28	74	46	46	68	34	1,294	
TOTAL LABOR DOLLARS																											\$152,976.00
SUBCONTRACTORS																											
Heath Consulting, Inc																				\$24,000							\$24,000
																											\$0
																											\$0
SUBTOTAL SUBCONTRACTORS																											\$24,000
SUBCONTRACTOR MARKUP (10%)																											\$2,400
TOTAL SUBCONTRACTORS																											\$26,400
EXPENSES																											
Travel																											\$0
Copies, Production, Postage																											\$0
TOTAL EXPENSES																											\$0
TOTAL FEE FOR AUTHORIZATION																											\$179,376.00

ATTACHMENT B
 PROPOSED PROJECT SCHEDULE
 AUTHORIZATION NO. 21

WUD 03-169

TASK NO	DESCRIPTION	TASK DURATION (DAYS)	CUMULATIVE DURATION (DAYS)
1	Kick-off Meeting and Data Compilation and Update Project Meetings	15	15
2	Tri- City Distribution System Historical and Recommended Water Quality Parameter Values	45	45
3	Tri City Service Area Demands and Water Quality Concerns	15	60
4	Pipe Material, Pipe Age, and Coupon Analyses	30	90
5	Water Transmission and Distribution System Hydraulic Modeling	45	135
6	Identify Existing Distribution System Concerns	30	165
7	Evaluation of Existing Finished Water Storage and High Service Pumping Capacity	30	165
8	Unaccounted-for Water Evaluation	45	165
9	Draft and Final Letter Reports	30	195

ATTACHMENT C

SCHEDULE #1

LIST OF PROPOSED SBE-M/WBE PRIME/SUBCONTRACTORS

PROJECT NAME: Lake Region Water Treatment Plant Service Area PROJECT NUMBER: WUD 03-169
Potable Water Distribution Analysis

NAME OF PRIME BIDDER: Camp Dresser & McKee Inc. ADDRESS: 1601 Belevedere Rd, Ste. 211S, WPB, FL 33406
 CONTACT PERSON: Donald G. Munksgaard, P.E. PHONE NO. 561-689-3336 FAX NO. 561-389-9713
 BID OPENING DATE: _____ DEPARTMENT: Water Utilities / Engineering

PLEASE IDENTIFY ALL APPLICABLE CATEGORIES

Name, Address and Telephone Number of Minority Contractor	(Check one or both Categories)		Dollar Amount				
	Minority Business	Small Business	Black	Hispanic	Women	Caucasian	Other (Please Specify)
	<input type="checkbox"/>	<input type="checkbox"/>	\$ -	\$ -	\$ -	\$ -	\$ -
	<input type="checkbox"/>	<input type="checkbox"/>	\$ -	\$ -	\$ -	\$ -	\$ -
	<input type="checkbox"/>	<input type="checkbox"/>	\$ -	\$ -	\$ -	\$ -	\$ -
	<input type="checkbox"/>	<input type="checkbox"/>	\$ -	\$ -	\$ -	\$ -	\$ -
	<input type="checkbox"/>	<input type="checkbox"/>	\$ -	\$ -	\$ -	\$ -	\$ -
PRIME CONTRACTOR TO COMPLETE:	\$ 179,376.00	TOTAL	\$ -	\$ -	\$ -	\$ -	\$ -
BID PRICE: <u>\$179,376.00</u>	Total Value of SBE Participation:		\$ -				

- NOTE:**
1. The amount listed on this form for a Subcontractor must be supported by price or percentage included on Schedule 2 or a proposal from each Subcontractor listed in order to be counted toward goal attainment.
 2. Firms may be certified by Palm Beach County as an SBE and/or an M/WBE. If firms are certified as both an SBE and M/WBE, please indicate the dollar amount under the appropriate category.
 3. M/WBE information is being collected for tracking purposes only.



**Palm Beach County
Water Utilities
Department
Service Area (SA) and
Major Facilities**

Legend

- P.B.C.W.U.D. SA
- MANDATORY RECLAIMED SA
- - - - Palm Beach County Limits
- ★ Administration
- Water Reclamation Facility
- ▲ Water Treatment Facility
- ⊕ Wetlands



NOT TO SCALE

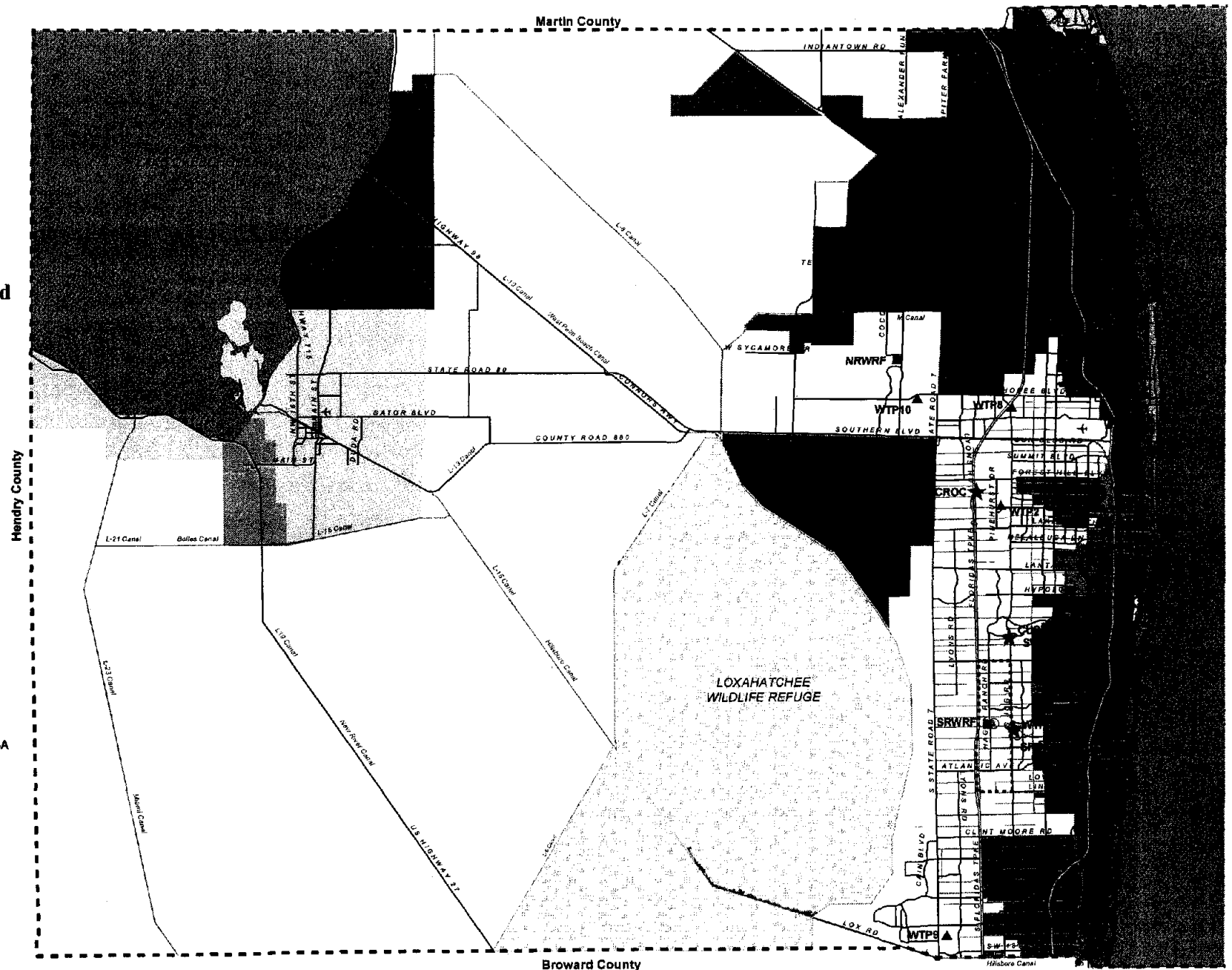


EXHIBIT B

AUTHORIZATION STATUS REPORT

AUTHORIZATION NO. 21

SUMMARY AND STATUS OF REQUESTS FOR AUTHORIZATIONS

NO.	DESCRIPTION	STATUS	PROJECT TOTAL AMOUNT	ACTUAL AMOUNT	DATE APPROVED	WUD NO. ASSIGNED
1	Water Treatment Plant No. 8 Expansion	Approved	\$ 854,184	\$ 854,184	06/21/2005	05-146
1.1	Water Treatment Plant No. 8 Expansion - Additional Services during Design	Approved	\$ 94,952	\$ 94,952	07/05/2006	05-146
1.2	Water Treatment Plant No. 8 Expansion - Additional Services during Design	Approved	\$ 9,404	\$ 9,404	02/12/2007	05-146
2	Alternative Water Supply (Senate Bill 444) Fundraising Assistance for the LRWTP and the Century Village North Reclaimed Water Facility and Pipeline Project	Approved	\$ 36,984	\$ 36,984	10/12/2005	05-220
2.1	Grant Funding Assistance for the Lake Region Water Treatment Plant	Approved	\$ 49,850	\$ 49,850	11/09/2005	05-220
3	Water Treatment Plant No. 2 Engineering Services	Approved	\$ 9,963	\$ 9,963	10/05/2005	05-219
4	Lake Region Water Treatment Plant - Services During Construction	Approved	\$ 460,900	\$ 460,900	11/01/2005	06-015
5	Technical Assistance and Grant Funding Support for Water Supply Projects	Approved	\$ 24,848	\$ 24,848	01/25/2006	06-024
6	Water Treatment Plant Nos. 2, 8 & 9 Modifications - Additional Limited Construction Services	Approved	\$ 38,642	\$ 38,642	12/14/2005	01-182B
7	Water Treatment Plant Nos. 3, 8 & Lake Region Ground Storage Tank Addition	Approved	\$ 40,018	\$ 40,018	01/25/2006	06-025
8	Technical Assistance, Coordination and Grant Funding Support for FY 2006/2007 Alternative Water Supply and Other Projects	Approved	\$ 91,972	\$ 91,972	03/29/2006	06-080
9	Response to WUP RAI #2 for the Southwest Boca Diversion Project	Approved	\$ 12,072	\$ 12,072	08/01/2006	04-218
10	Water Treatment Plant No. 8 - Limited Services during Construction	Approved	\$ 218,328	\$ 218,328	05/02/2006	05-146
11	Lake Region Water Treatment Plant - Additional Services During Design - Subsurface Utility Location	Approved	\$ 62,951	\$ 62,951	07/05/2006	03-169
11.1	Lake Region Water Treatment Plant - Surveying Service	Approved	\$ 90,407	\$ 90,407	08/09/2006	03-169
11.2	Lake Region Water Treatment Plant - Additional Services during Design	Approved	\$ 7,884	\$ 7,884	02/12/2007	03-169
11.3	Lake Region Water Treatment Plant - Additional Services during Design - Addendum Preparation and Request for Information Response	Approved	\$ 25,000	\$ 25,000	03/05/2007	03-169
12	Lake Region Water Treatment Plant - Wellfield and Master Meters - Limited Services during Construction	Approved	\$ 96,153	\$ 96,153	02/14/2007	07-067

EXHIBIT B

AUTHORIZATION STATUS REPORT

AUTHORIZATION NO. 21

SUMMARY AND STATUS OF REQUESTS FOR AUTHORIZATIONS

13	Response to Water Use Permit RAI No. 6, Evaluation of Surficial Aquifer Water Supply for 10-yr Projected Withdrawals, and Permitting of New Withdrawals for a LPRO Plant at WTP No. 10	Approved	\$ 98,952	\$ 98,952	07/05/2006	06-143
14	Water Treatment Plant Nos. 3 & 9 - Conversion to LPRO process Engineering Study	Approved	\$ 48,132	\$ 48,132	06/30/2006	06-142
15	System-wide Wellfield Improvements Project - Additional Bidding Services	Approved	\$ 23,842	\$ 23,842	08/01/2006	05-041
15.1	System-wide Wellfield Improvements Project Limited Services during Construction	Approved	\$ 95,726	\$ 95,726	03/14/2007	05-041
16	Lime Sludge Study for WTP Nos. 8 and 2 and Conceptual Site Plan for WTP No. 2 - Engineering Study	Approved	\$ 46,920	\$ 46,920	02/15/2007	07-068
17	Lake Region Water Treatment Plant - Additional Services during Construction	Approved	\$ 75,176	\$ 75,176	02/21/2007	06-015
18	Water Treatment Plant Nos. 2 and 8 Ferric Chloride Addition - Final Design and Bidding Services	Pending	\$ 68,696	Pending	Pending	07-114
19	Water Treatment Plant Nos. 2, 3, 8, 9, and Lake Region Portable Sodium Hypochlorite Onsite Generation System - Final Design	Approved	\$ 62,364	\$ 62,364	05/16/2007	07-115
20	Water Treatment Plant No. 2 Preliminary Design, Final Design, Bidding and Permitting Services	Pending	\$ 391,198	Pending	Pending	07-134
21	Lake Region Water Treatment Plant Service Area - Potable Water Distribution Analysis	Pending	\$ 179,376	Pending	Pending	03-169
	TOTALS		\$ 3,314,894	\$ 2,675,624		

EXHIBIT C

AUTHORIZATION STATUS REPORT

AUTHORIZATION NO. 21

SUMMARY OF SBE TRACKING SYSTEM

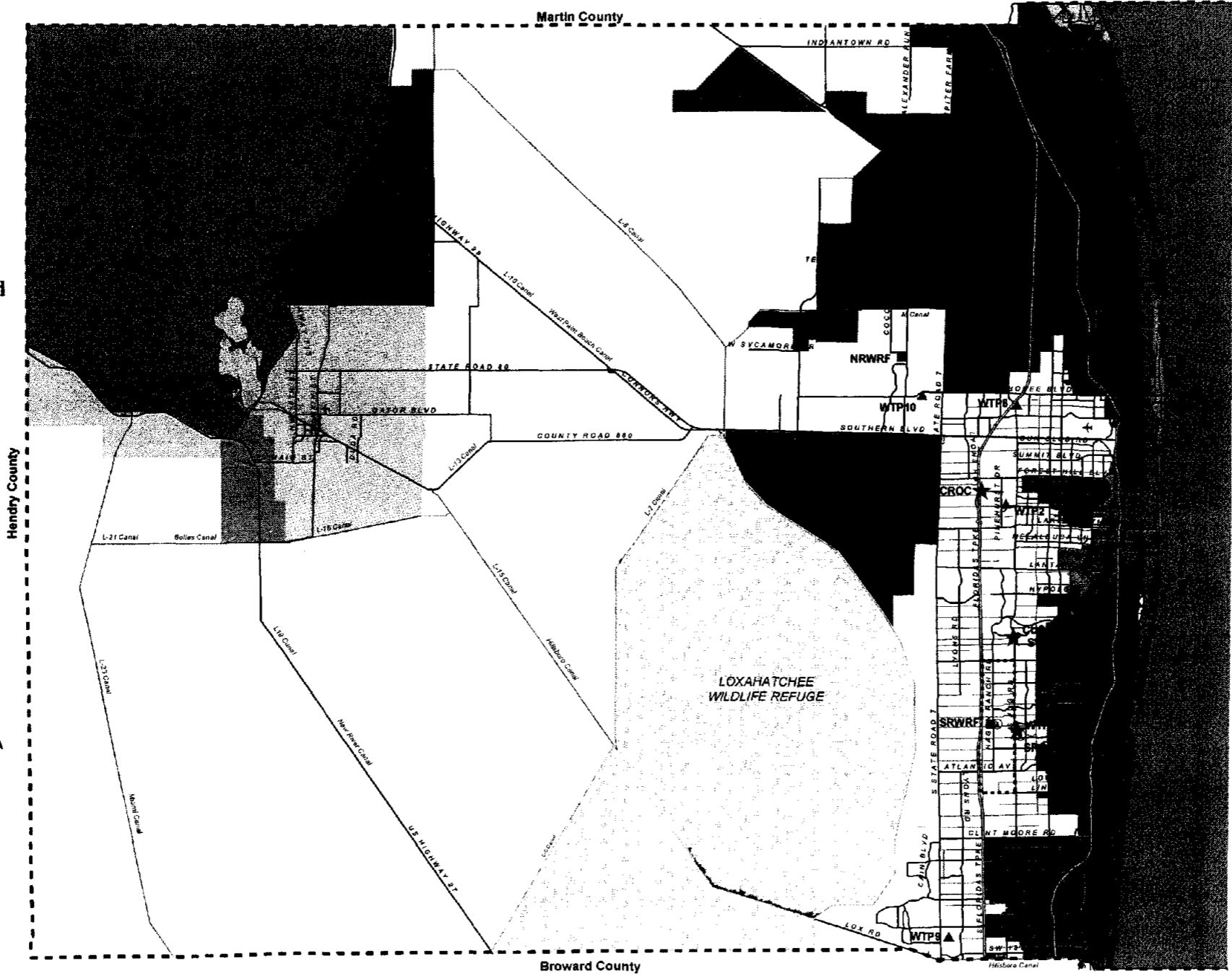
	TOTAL	SBE
<u>Current Proposal</u>		
Value of Authorization No. 21	\$ 179,376	
Value of SBE Letters of Intent	\$ -	\$ -
Actual Percentage	0.00%	
<u>Signed Authorizations</u>		
Authorization No. 1	854,184	183,744
Authorization No. 1.1	94,952	5,000
Authorization No. 1.2	9,404	8,162
Authorization No. 2	36,984	6,000
Authorization No. 2.1	49,850	-
Authorization No. 3	9,963	-
Authorization No. 4	460,900	137,600
Authorization No. 5	24,848	2,500
Authorization No. 6	38,642	10,000
Authorization No. 7	40,018	5,000
Authorization No. 8	91,972	18,400
Authorization No. 9	12,072	-
Authorization No. 10	218,328	84,000
Authorization No. 11	62,951	-
Authorization No. 11.1	90,407	67,480
Authorization No. 11.2	7,884	6,780
Authorization No. 11.3	25,000	-
Authorization No. 12	96,153	42,000
Authorization No. 13	98,952	-
Authorization No. 14	48,132	-
Authorization No. 15	23,842	8,000
Authorization No. 15.1	95,726	58,000
Authorization No. 16	46,920	-
Authorization No. 17	75,176	10,000
Authorization No. 19	62,364	-
Total Value of Signed Authorizations	2,675,624	652,666
Total Value of SBE Letters of Intent	\$ 652,666	
Actual Percentage	24.39%	
<u>Signed Authorizations Plus Current Proposal</u>	\$2,855,000.00	
Total Value of Authorizations	\$ 2,855,000	
Total Value of Subcontracts & Letters of Intent	\$ 652,666	
Actual Percentage	22.86%	
GOAL	20.00%	



**Palm Beach County
Water Utilities
Department
Service Area (SA) and
Major Facilities**

Attachment 2

- Legend**
- P.B.C.W.U.D. SA
 - MANDATORY RECLAIMED SA
 - - - - Palm Beach County Limits
 - ★ Administration
 - Water Reclamation Facility
 - ▲ Water Treatment Facility
 - ⊙ Wetlands



Attachment D