Agenda Item #3K-6

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS
AGENDA ITEM SUMMARY

Meeting Date:	**November 18, 2014**	**Consent [X]** **Public Hearing [ ]**	**Regular [ ]**
Department:	**Water Utilities Department**		

I. EXECUTIVE BRIEF

Motion and Title: Staff recommends motion to approve: Work Authorization No. 28 with Globaltech, Inc. (R2012-0159) for the Water Treatment Plant No. 2 (WTP 2) Magnetic Ion Exchange (Miex) Regeneration System Improvements in the amount of $962,700.20.

Summary: On January 24, 2012, the Palm Beach County Board of County Commissioners (BCC) approved the contract for Water, Wastewater, and Reclaimed Water Improvements Design/Build Services (R2012-0159) with Globaltech, Inc. Work Authorization No. 28 will authorize the installation of an additional Miex regeneration unit along with improvements to the existing two (2) regeneration units at WTP 2. This Work Authorization is necessary to provide additional regeneration capacity needed for peak flows and to provide adequate redundancy under normal flows. The Small Business Enterprise (SBE) participation goal established by the SBE Ordinance is 15% overall. The contract with Globaltech, Inc. provides for SBE participation of 75% overall. This Work Authorization includes 98.71% overall SBE participation. The cumulative SBE participation, including this Work Authorization is 93.23% overall. Globaltech, Inc. is a Palm Beach County company. (WUD Project No. 14-093) District 2 (JM)

Background and Justification: On January 24, 2012, the Palm Beach County Board of County Commissioners (BCC) approved a contract with Globaltech, Inc. for Water, Wastewater, and Reclaimed Water Improvements Design/Build Services (R2012-0159). Work Authorization No. 28 provides for Design-Build services for the WTP 2 Miex Regeneration System Improvements. Globaltech, Inc. will provide builders risk insurance prior to commencement of construction.

Attachments:

1. Location Map
2. Two (2) Original Work Authorization No. 28

Recommended By: _____ 10-28-14
Department Director **Date**

Approved By: _____ 11-2-14
Assistant County Administrator **Date**

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2015	2016	2017	2018	2019
Capital Expenditures	$962,700.	0	0	0	0
External Revenues	0	0	0	0	0
Program Income (County)	0	0	0	0	0
In-Kind Match County	0	0	0	0	0
NET FISCAL IMPACT	$962,700.	0	0	0	0
# ADDITIONAL FTE POSITIONS (Cumulative)	0	0	0	0	0

Budget Account No.: Fund 4011 **Dept** 721 **Unit** W002 **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 (1) time capital expenditure from user fees with balance brought forward.

C. Department Fiscal Review: Debra M West

III. REVIEW COMMENTS

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

10/29/14
10/28-10/29 OFMB

10/31/14
Contract Development and Control
10-30-14

B. Legal Sufficiency:

11/3/14
Assistant County Attorney

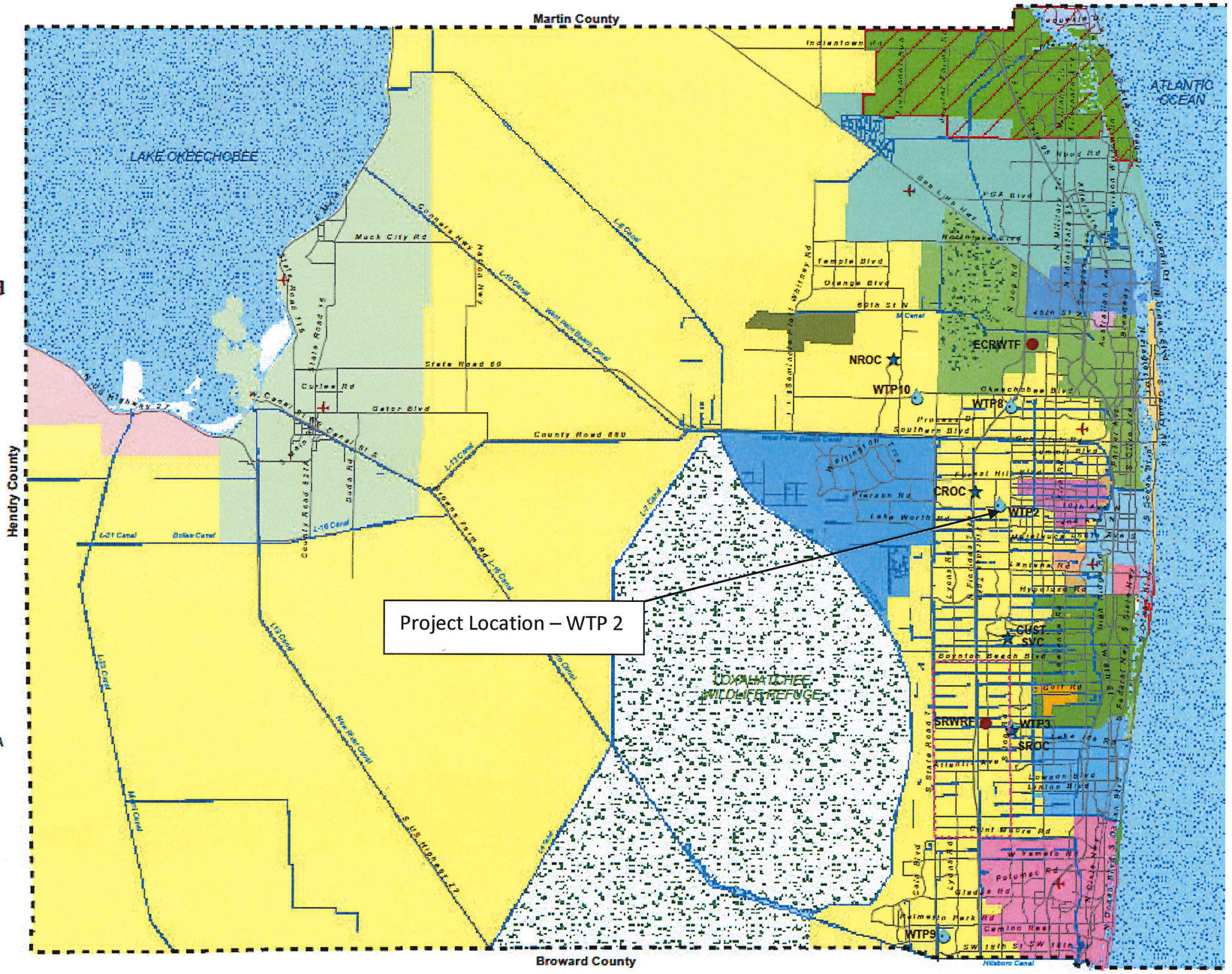
C. Other Department Review:

Department Director

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

ATTACHMENT – I
Project Location Map

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



WA-28 WTP 2 / Miex® Regeneration System Improvements WUD No. 14-093

WORK AUTHORIZATION NO. 28

Palm Beach County Water Utilities Department
Water, Wastewater & Reclaimed Water Improvements Design/Build Contract

Project No.: WUD 14-093
District: 2
Budget Line Item No.: 4011-721-W002-6541
Project Title: WTP 2 – Miex® Regeneration System Improvements

THIS AUTHORIZATION # 28 to the Contract for Water, Wastewater & Reclaimed Water Improvements Design/Build Services dated January 24, 2012 (R2012-0159), by and between Palm Beach County and the Design-Build Entity identified herein, is for the Design/Build Services of this Work Authorization. The Design-Build Entity provides for 75% SBE participation overall. This Work Authorization includes **98.71** % overall participation. The cumulative proposed SBE participation, including this authorization is **93.23** % overall. Additional authorizations will be utilized to meet or exceed the stated overall participation goal.

1. Design-Build Entity: Globaltech, Inc.

2. Address: 6001 Broken Sound Parkway NW, Suite 610, Boca Raton, FL 33487

3. Description of Services (Scope of Work) to be provided by the Design-Build Entity:

   See **ATTACHMENT - A**.

4. Services completed by the Design-Build Entity to date:

   See **ATTACHMENT - G**.

5. Design-Build Entity shall begin work promptly or deliver ordered materials within the following calendar days from the receipt of Building Permit and Notice to Proceed with construction:

   Substantial Completion 210 Calendar Days
   Final Construction Completion 270 Calendar Days
   Liquidated damages will apply as follows:
   $ 1,000 per day past substantial completion date.
   $ 500 per day past final completion date.
   (For Liquidated Damages Rates see **ATTACHMENT - B**)

6. The compensation to be paid to the Design-Build Entity for providing the requested services in accordance with the Guaranteed Maximum Price is $ **962,700.20**

7. EXCEPT AS HEREBY AMENDED, CHANGED OR MODIFIED, all other terms, conditions and obligations of the Contract dated **January 24, 2012** remain in full force and effect.

WORK AUTHORIZATION NO. 28

Project No.: WUD 14-093

Project Title: WTP 2 –Miex® Regeneration System Improvements

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

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

Sharon R. Bock, Clerk & Comptroller,
Palm Beach County

ATTEST:

Signed: _____

Typed Name: _____
Deputy Clerk

Approved as to Form and Legal Sufficiency

Signed: _____

Typed Name: _____
County Attorney

Palm Beach County,
Board of County Commissioners

Signed: _____
Mayor

_____
Date

JCS

CONTRACTOR: Globaltech, Inc.

ATTEST:

Witness

(Signature)

Richard D. Olson, P.E. / Proposal Manager
(Name and Title)

Bernard P. Gandy, P.E. / President & CFO
(Name and Title)

(CORPORATE SEAL)

October 9, 2014
Date

LIST OF ATTACHMENTS

WORK AUTHORIZATION NO. 28

Palm Beach County Water Utilities Department
Water, Wastewater & Reclaimed Water Improvements Design/Build Contract

ATTACHMENT - A	Scope of Work & Compensation
ATTACHMENT - B	Rate for Liquidated Damages
ATTACHMENT - C	Public Construction Bond
ATTACHMENT - D	Form of Guarantee
ATTACHMENT - E	Work Authorization Schedule of Bid Items
ATTACHMENT - F	SBE Schedule 1 & Schedule 2
ATTACHMENT - G	Authorization Status Report - Summary & Status of Authorizations
ATTACHMENT - H	Authorization Status Report - Summary of SBE/Minority Business Tracking
ATTACHMENT - I	Location Map
ATTACHMENT - J	Design-Build Criteria Report
ATTACHMENT - K	Vendor Quotes

ATTACHMENT A

WORK AUTHORIZATION NO. 28

Palm Beach County Water Utilities Department

Water, Wastewater & Reclaimed Water Services Design-Build Contract

SCOPE OF WORK
FOR

WTP 2 – Miex® Regeneration System Improvements

INTRODUCTION

Palm Beach County (County) entered into an agreement entitled Water, Wastewater & Reclaimed Water Improvements Design-Build Contract - Palm Beach County Water Utilities Department Project No. WUD 11-134 (CONTRACT) with Globaltech, Inc. (DESIGN BUILD ENTITY) to provide design-build services for various general activities on the Water, Wastewater & Reclaimed Water Services Design-Build Contract dated January 24, 2012, (R 2012-0159). This Work Authorization will be performed under that CONTRACT.

This Work Authorization encompasses providing services related to the following tasks:

- Installation of Owner-purchased Miex® regeneration skid (Regen System No. 3) as supplied by Orica WaterCare as required to improve capacity reliability and redundancy to the existing Miex® system at WTP 2.

- Complete upgrades and improvements to the existing Regen Skids No. 1 and 2 as required to integrate new Regen Skid No. 3 into the treatment system.

- Upgrades and modifications to existing site civil, structural, and ancillary mechanical, electrical, instrumentation and control, and process systems as required to accommodate the addition of Regen Skid No. 3. Also included are improvements to existing brine waste systems required for monitoring and compliance with anticipated industrial pretreatment regulations.

SCOPE OF SERVICES

Design Build Entity shall perform the Scope of Services described in the Design-Build Criteria Report – Magnetic Ion Exchange (Miex®) Regeneration System Improvements Water Treatment Plant 2 (Attachment J) and as described herein:

In order to improve capacity, redundancy, and reliability and to augment existing resin inventory PBCWUD has entered into a purchase order agreement with Orica WaterCare to supply a new resin regeneration skid, Regen Skid No. 3, to be integrated into the existing Miex® system and to work in conjunction with Regen Skids No. 1 and 2 as a unitary coordinated process. Additional resin will also be supplied under the purchase order.

Globaltech will prepare the site, receive, and install Regen Skid No. 3 and assist in startup and commissioning of the new equipment. Additionally, improvements will be made to the existing Regen Skids No. 1 and 2 to address existing operational concerns. Ancillary support facilities including brine waste, brine recycle tank, air compressors, brine concentrators, process water, electrical power, instrumentation and control, and existing process piping will be modified as well. A fresh resin supply pump will be purchased and installed on the new Regen Skid No. 3 and integrated into the existing electrical and control system.

The proposed work to be performed by the Design-Build Entity generally includes furnishing all labor, equipment, materials, tools, supervision, and services required to design, construct, test, and startup the proposed work is generally described as follows:

> Furnish and install improvements to Miex® Regen System No. 1and 2, install owner furnished Miex® Regen System No. 3, and furnish and install all items needed for Miex® regeneration system which are not included in the Orica WaterCare proposal. Extreme care shall be taken to minimize resin loss during construction. Contain all resin when pipes are cut or tanks are modified in a suitable container and reuse in Miex basin. Staging area will be adjacent to the Miex® treatment basin. WTP 2 is under construction for filter building and backwash recovery by others in the vicinity of the Miex® system and is to be noted in the Design-Build Entity's safety plan.

The following is the scope of services:

Task 1 – Administrative and Engineering Services

1. Meet with the County to review project scope.
2. Conduct utility locates.
3. Develop subcontracts with structural engineer, utility locator, and electrical contractor and other entities as may be required.
4. Prepare a preliminary (30%) design.
5. Submit five (5) copies of the 30% design to the County. Meet with the County to review the design.
6. Incorporate the County comments and proceed to 60%, 90%, and final design stages in accordance with the PBCWUD Water Utilities Minimum Design and Construction Standards, Engineering Design-Manual and security requirement.
7. Submit FDEP and building department permit applications.
8. Prepare detailed construction schedule to include as a minimum; engineering and permitting services, site mobilization, detailed construction activities, scheduled shutdowns and durations, equipment/material delivery times, testing, startup and commissioning.
9. Prepare submittals (or confirmation of compliance with PBCWUD design standards), administer and track submittal process.
10. Schedule meetings, inspections, and testing with PBCWUD staff.
11. Provide Engineer's site visits during construction to confirm construction is being performed in conformance with the Design Drawings and Specifications.
12. Prepare Record Drawings.

Task 2 – Construction Services

1. Modifications to Miex® Regen System No. 1 and 2:
    a. Grout base frames and column base plates of existing aluminum skids to existing concrete slab to dampen vibration and stabilize structure. Cut or modify skid plating as required to gain access for pouring of grout.
    b. Provide pipe supports and modifications necessary to reduce water hammer, provide for expansion and contraction, and provide for adequate support.
    c. Add flow meter, conductivity meter, and sample tap on brine waste tank at to aid in pretreatment ordinance compliance for sodium and chlorides.
    d. Restore level control functionality on Salt Tanks 1 and 2 and brine transfer tank and install flow meter to aid in pretreatment ordinance compliance for sodium and chlorides.
    e. Add compressor building air intake by cutting into west wall near former Cl2 scrubber pad and install thermostatically controlled air intake blower fan to prevent compressor room from overheating and accommodate adequate cooling of additional compressor(s) allowing for rollup doors to be closed. Provide electrical circuit to existing roof exhaust fan that was omitted in previous project. Globaltech will evaluate the installation of exhaust ductwork from the heat exchanger discharge of each compressor to improve cooling efficiency and reduce heat gain in the room.
    f. Relocate existing air operated diaphragm pumps from slab to existing skid bases following grouting and adapt suction and discharge piping to new location. It is anticipated that permanent piping will be installed to replace the existing hoses.

2. Install Miex® Regen System No. 3.
    a. Receive, offload, and inspect all Owner furnished equipment prior to installation. Notify Owner of any discrepancies or deficiencies.
    b. Structural design criteria shall include items bulleted in Carollo Engineers Preliminary Design Report, Structural Design Criteria, Chapter 7 (7.2, 7.4, 7.5, 7.6, 7.7, Tables 8.6 and 8.9) provided to Design Build Entity.
    c. Furnish and install all items needed for Miex® Regen System No. 3 which are not included in the Orica WaterCare proposal PR-2014-009 Rev 2 dated August 19, 2014.
        i. Relocate existing light pole and remove foundation. Provide new foundation if required.
        ii. Remove concrete slab under proposed Regen Skid No. 3 location, excavate and confirm raw water main piping in vicinity is adequately restrained, compact soil and install new concrete slab and regen tank base pad with expansion joints.
        iii. Evaluate either straddling existing raw water main piping (2' minimum clear each side) or concrete encasing existing raw water main.
        iv. Provide and install aluminum plate under regeneration skid grating to protect equipment and personnel similar to Regen Skid No. 1 and 2. (Not included in the Orica WaterCare proposal).
        v. Provide and install connecting walkway with handrails to match existing, add supports and anchoring as necessary

vi. Label all pipes similar to Regen Skid No. 1 and 2 and in accordance with PBCWUD design standards.

vii. Add compressed air capacity to accommodate third skid and provide additional firm capacity that currently does not exist. Install two (2) new frame mounted 40hp Ingersoll-Rand compressors with integrated dryer and one stand-alone 400 gallon vertical receiver. Remove one (1) existing 30hp compressor and receiver package from service and turn over to Owner or provide trade-in value. Provide stand-alone Ingersoll-Rand control panel for single point interface and control of all three compressors including lead/lag assignment and to improve ease of control by operations staff. Also, evaluate capacity of existing compressed air piping capacity to deliver adequate flow to MIEX process

viii. Lightning protection for all new and modified items.

ix. Provide and install new fresh resin pump and motor to be mounted on base plate provided on Regen Skid No. 3. Integrate pump into supplied process piping connections, anchor, and grout in place. Provide new VFD in compressor building as well as electrical supply and instrumentation and control conduit and conductors. Pump specification to be provided by Owner/Orica WaterCare.

x. Remove existing brine recycle tank and provide and install new, larger capacity, 8,500 gallon Polyprocess cross linked HDPE tank to match existing footprint, with ladder and matching appurtenances. Design-Build Entity to optimize tank size in the design process. Relocate existing process piping and conduits atop existing containment structure as required to extend height of existing perimeter containment wall and provide additional containment capacity needed for larger tank. Remove and reinstall existing containment access stairs on landing pads or steps as required to accommodate new containment wall height. It is anticipated that the wall height will be raised approximately nine to twelve inches. Coat new concrete surfaces to match existing coating system

xi. Install new looped 4-inch process water line with backflow preventers, pressure regulators, surge attenuation, and isolation valves to prevent single point failure. Design-Build Entity to confirm pressure and flow requirements during the design phase. It is anticipated that the existing looped 3-inch process water line originating adjacent to the lime silos will be replaced with a new 4-inch line including parallel backflow preventers.

xii. Install Regen Skid No. 3 control panel shipped lose from regeneration skid and provide power and control conduits to power and SCADA interface

xiii. Install Regen Skid No. 3 air diaphragm pump shipped lose from regeneration skid. Grout in place and connect air and process piping.

xiv. Connect all electrical and instrumentation to power and RIO panels beneath Miex® basin and air compressor room as applicable.
xv. Install new RIO panel with I/O rack, power supply, I/O modules, and devices and accessories required to accommodate new and future equipment. New I/O cabinet shall be located adjacent to existing Miex® RIO cabinet.
xvi. Coordinate SCADA tags with PBCWUD SCADA group.
xvii. Program new air compressors in sequence with remaining existing air compressor in new stand-alone air compressor control panel. All other programming will be provided by County or Orica WaterCare.
xviii. Replace existing short-radius 90 deg elbows in resin slurry lines at select locations with long-radius sweep elbows. Ten (10) locations are included in this scope of services
xix. Add ladder access to two (2) existing Miex® treatment basins to include new FRP hatch cut into existing cover system, FRP or 316 SS ladder fastened to basin wall, protective chute around ladder constructed of 316 SS, removal and partial relocation of existing J-tubes as required to accommodate ladder landing area, and repair of existing coating system at attachment points.
xx. Furnish and install minimum four (4) 4-inch wide fiberglass staff gages approximately 3-feet tall for measuring resin height in each of the Miex® basins. Fastening system shall be 316 SS and sealed for the watertight Miex® basin coating system.

d. New work shall be in compliance with the requirements of Specifications Project No. WUD 09-046
   i. Section 11700 Magnetic Ion Exchange (Miex®) Treatment System.
   ii. Section 11710 Magnetic Ion Exchange (Miex®) Treatment System- Testing.
   iii. Section 17000 Instrumentation Magnetic Ion Exchange (Miex®) Treatment System.
e. Conduct new soils testing where existing compacted soil is disturbed for concrete encasement or new structural slabs. Soil Boring report from Testing Laboratory of the Palm Beach (TLPB Report 09/086-1) dated August 11, 2009 has been provided to the Design-Build Entity.

3. Restore site to existing condition.
4. Provide O&M manuals supplied with new equipment. Updates to existing programming logic and Orica Supplied panel diagrams will be provided to Owner by others.

Permits and Fees

It shall be the Design-Build Entity's responsibility to secure all permits required to complete the work under this contract, except permits obtained by the Owner. The Design-Build Entity shall be responsible for all inspections and requirements to close-out the completed permits. The Owner shall pay all permit fees. The Design-Build

Entity shall be responsible for all Business tax fees for work within the county or Municipalities.

SALVAGED MATERIALS

1. Scrap metal to be placed in the County's salvage dumpster.
2. Non-metal waste such as concrete, PVC, fiberglass etc., to be hauled and legally disposed by Design/Builder.

ASSUMPTIONS

1. County will make available all existing record drawings as may be required to coordinate and complete this scope of services.
2. County will review all submittals and provide comments within one calendar week and notify Globaltech of status.
3. An Allowance of $25,000.00 is included in this Work Authorization. Access to the allowance shall be requested through an "Allowance Authorization Request" prior to spending any part of the Allowance.
4. Liquidated damages may be assessed at a rate of $1,000 per day up to Substantial completion and $500 per day from Substantial Completion until Final Completion (consistent with a Moderately Important Project as outlined in **Attachment B**).
5. OWNER shall provide:
    - IP Addresses where required
    - Programming of PLC and SCADA screens.

COMPENSATION

Compensation for this Work Authorization shall not exceed the Guaranteed Maximum Price of **$962,700.20** in accordance with the unit prices established in the Contract for construction services dated **January 24, 2012,** as approved by the Board of County Commissioners.

SBE/M-WBE PARTICIPATION

As described in the Contract (R2012-0159), SBE/M-WBE participation is included in ATTACHMENT F under this Authorization. The attached Schedule 1 defines the SBE/M-WBE applied to this Authorization/Contract and Schedule 2 establishes the SBE/M-WBE contribution from each subcontractor (Letter of Intent to perform as an SBE/M-WBE).

ATTACHMENT - B

WORK AUTHORIZATION NO. 28

Palm Beach County Water Utilities Department
Water, Wastewater & Reclaimed Water Improvements Design/Build Contract

Rates for Liquidated Damages

Palm Beach County Water Utilities Department shall establish liquidated damages rates for each Work Authorization based on the dollar amount and time sensitivity of the project. The rates shall be as follows according to a criticality rating of 1 through 3 assigned to each Work Authorization by the Department as established below:

Moderately Important Project (Criticality 2): Liquidated Damages
$1,000 per day after Substantial Completion Date
$500 per day after Final Completion Date

ATTACHMENT - C

October, 2014

Globaltech, Inc.
6001 Broken Sound Parkway NW
Suite 610
Boca Raton, Fl 33487

Project: WTP 2 MIEX System Regeneration Improvements (WUD 14-093)

The attached bond we have executed for you is known as a Public Construction Bond. **IT NEEDS TO BE SIGNED AND SEALED.**

Since October 1, 1988 the Public Works Bonding Law requires that the recording of performance and payment bonds be filed at the local courthouses where the public construction is being performed. Any such bond written pursuant to Section 255.05 Florida Statute must be recorded by the contractor and should be filed before the commencement of the work.

Nielson, Rosenhaus & Associates

Builders Notice Corp.
708 S. Andrews Avenue
P O Box 457
Ft. Lauderdale FL 33302
Ph: (800) 432-1959

FRONT PAGE OF
PUBLIC PAYMENT BOND

NIELSON, ROSENHAUS & ASSOCIATES
A NIELSON HOOVER GROUP COMPANY

October 17, 2014

Globaltech, Inc.
6001 Broken Sound Parkway NW, Ste. 610
Boca Raton, FL 33487

RE: Palm Beach County, as Obligee
Project: WTP 2 MIEX System Regeneration Improvements (WUD 14-093)
Bond No. SU1129848

Dear Ladies and Gentlemen:

Please supply us with the following information for the above captioned final bond:

Executed Contract with Date: X

This letter is also giving Globaltech, Inc. as Principal and/ or Palm Beach County, as Obligee, the authority to complete these bonds by dating the bonds with the contract date, execution and Power of Attorney dates. **The contract date MAY BE THE SAME date as the execution of the bond or PRIOR to the execution date of the bonds.**

We will forward this information onto your surety company upon our receipt. Please return as soon as possible.

Thank you for your cooperation.

Sincerely,

Brett Rosenhaus,
FL Resident Agent

SMART UNCOMPROMISING. TIMELY. EFFECTIVE. NIELSON HOOVER & COMPANY INC. SURETY SOLUTIONS THAT MAKE A DIFFERENCE.

8401 Lake Worth Road
Suite 2-231
Lake Worth, FL 33467
P: 561.713.1453
F: 561.713.1455

FRONT PAGE OF
PUBLIC PAYMENT BOND
Florida Statute 255.05

Attached to and part of BOND NO. SU1129848
In Compliance with Florida Statutes Chapter 255.05 (1) (a), Public Work. All other Bond page(s) are deemed subsequent to this page regardless of any number (s) that may be pre-printed thereon.

CONTRACTOR: Globaltech, Inc.
6001 Broken Sound Parkway
Suite 610
Boca Raton, Fl 33487
561-997-6433

SURETY: Arch Insurance Company
300 Plaza Three
Jersey City, NJ 07311
201-743-4000

AGENT: Nielson, Rosenhaus & Associates
8401 Lake Worth Road, Suite 2-231
Lake Worth, FL 33467
561-713-1453

OBLIGEE: Palm Beach County
8100 Forest Hill Boulevard
West Palm Beach, FL 33413
561-493-6000

PROJECT: WTP 2 MIEX System Regeneration Improvements (WUD 14-093)

THE PROVISIONS AND LIMITATIONS OF SECTION 255.05 FLORIDA STATUTES, INCLUDING BUT NOT LIMITED TO THE NOTICE AND TIME LIMITATIONS IN SECTIONS 255.05(2) AND 255.05(10), ARE INCORPORATED IN THIS BOND BY REFERENCE.

ATTACHMENT - C

PUBLIC CONSTRUCTION BOND

BOND NUMBER:	SU1129848
BOND AMOUNT:	$962,700.20
CONTRACT AMOUNT:	$962, 700.20
CONTRACTOR'S NAME:	Globaltech, Inc.
CONTRACTOR'S ADDRESS:	6001 Broken Sound Parkway NW Suite 610 Boca Raton, FL 33487
CONTRACTOR'S PHONE:	(561) 997-6433
SURETY COMPANY:	Arch Insurance Company
SURETY'S ADDRESS:	300 Plaza Three Jersey City, NJ 07311
OWNER'S NAME:	Palm Beach County
OWNER'S ADDRESS:	8100 Forest Hill Boulevard West Palm Beach, FL 33413
OWNER'S PHONE:	(561) 493-6000
DESCRIPTION OF WORK:	Installation of Owner-Purchased MIEX regeneration skid, upgrades to the existing Skids 1 and 2, and upgrades to existing process systems required to accommodate additional skid.
COUNTY'S PROJECT No:	WUD 14-093, WA-28
PROJECT LOCATION:	PBCUD WTP 2, 2956 Pinehurst Dr., West Palm Beach, FL 33413 (PCN 00-42-43-27-05-021-0291)
LEGAL DESCRIPTION:	WTP 2 MIEX System Regeneration Improvements (WUD 14-093)

PUBLIC CONSTRUCTION BOND

This Bond is issued in favor of the County conditioned on the full and faithful performance of the Contract.

KNOW ALL MEN BY THESE PRESENTS: that Contractor and Surety, are held and firmly bound unto

Palm Beach County Board of County Commissioners
301 N. Olive Avenue
West Palm Beach, Florida 33401

as Obligee, herein called County, for the use and benefit of claimant as herein below defined, in the amount of

Dollars $962,700.20

Nine hundred sixty-two thousand seven hundred dollars and twenty cents.

for the payment whereof Principal and Surety bind themselves, their heirs, personal representatives, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Principal has by written agreement dated _____, 20____, entered into a contract with the County for:

Project Name: WTP 2 MIEX System Regeneration Improvements
Project No.: WUD 14-093
Project Description: Installation of Owner-Purchased MIEX regeneration skid, upgrades to the existing Skids 1 and 2, and upgrades to existing process systems required to accommodate additional skid.
Project Location: PBCUD WTP 2, 2956 Pinehurst Dr., West Palm Beach, FL 33413 (PCN 00-42-43-27-05-021-0291)

in accordance with Design Criteria Drawings and Specifications prepared by:

Name of Design Firm: Globaltech, Inc.
Location of Firm: 6001 Broken Sound Parkway NW, Ste. 610, Boca Raton, FL 33487
Phone: (561) 997-6433
Fax: (561) 997-5811

which contract is by reference made a part hereof in its entirety, and is hereinafter referred to as the Contract.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs the contract dated _____, 20____, between Principal and County for the design and construction of WUD 14-093, the contract being made a part of this bond by reference, at the times and in the manner prescribed in the contract; and

2. Promptly makes payments to all claimants, as defined in Section 255.05, Florida Statutes, supplying Principal with labor, materials, or supplies, used directly or indirectly by Principal in the prosecution of the work provided for in the contract; and

3. Pays County all losses, damages (including liquidated damages), expenses, costs, and attorneys' fees, including appellate proceedings, that County sustains because of a default by Principal under the contract; and

4. Performs the guarantee of all work and materials furnished under the contract for the time specified in the contract, then this bond is void; otherwise it remains in full force.

5. Any changes in or under the contract documents and compliance or noncompliance with any formalities connected with the contract or the changes does not affect Surety's obligation under this bond and Surety waives notice of such changes.

6. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of construction liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against the bond.

7. Principal and Surety expressly acknowledge that any and all provisions relating to consequential, delay and liquidated damages contained in the contract are expressly covered by and made a part of this Performance, Labor and Material Payment Bond. Principal and Surety acknowledge that any such provisions lie within their obligations and within the policy coverage's and limitations of this instrument.

8. Section 255.05, Florida Statutes, as amended, together with all notice and time provisions contained therein, is incorporated herein, by reference, in its entirety. Any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2), Florida Statutes. This instrument regardless of its form, shall be construed and deemed a statutory bond issued in accordance with Section 255.05, Florida Statutes.

9. Any action brought under this instrument shall be brought in the state court of competent jurisdiction in Palm Beach County, Florida and not elsewhere.

Witness

Rebecca Thomas
Print name

Witness

Jennifer LaFlam
Print name

Globaltech, Inc.
Principal (Seal)

Bernard P. Gandy
Print name

President of Globaltech, Inc.
Title

Arch Insurance Company
Surety (Seal)

Brett Rosenhaus
Print name

Title Attorney in Fact

ATTACHMENT - D

FORM OF GUARANTEE

GUARANTEE FOR GLOBALTECH INC. (CONTRACTOR) AND WESTCHESTER FIRE INSURANCE COMPANY (SURETY)

We the undersigned hereby guarantee that the **WTP 2 MIEX System Regeneration Improvements, WUD 14-093, WA-28.** Palm Beach County, Florida, which we have constructed and bonded, has been done in accordance with the plans and specifications; that the work constructed will fulfill the requirements of the guaranties included in the Contract Documents. We agree to repair or replace any or all of our work, together with any work of others which may be damaged in so doing, that may prove to be defective in the workmanship or materials within a period of one year from the date of Substantial Completion of all of the above named work by the County of Palm Beach, State of Florida, without any expense whatsoever to said County of Palm Beach, ordinary wear and tear and unusual abuse or neglect excepted by the County. When correction work is started, it shall be carried through to completion.

In the event of our failure to acknowledge notice, and commence corrections of defective work within five (5) calendar days after being notified in writing by the Board of County Commissioners, Palm Beach County, Florida, we, collectively or separately, do hereby authorize Palm Beach County to proceed to have said defects repaired and made good at our expense and we will honor and pay the costs and charges therefore upon demand.

DATED: _____
(notice of completion filing date)

SEAL AND NOTARIAL ACKNOWLEDGMENT OF SURETY

Globaltech, Inc. _____(Seal)
(Contractor)

By: _____ BERNARD P. GANLEY
(Signature) (Printed Name)

Arch Insurance Company _____(Seal)
(Surety)

By: _____ Brett Rosenhaus, Attorney in fact
(Signature) (Printed Name)

AIC 0000132103

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON BLUE BACKGROUND.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Mortgage, Note, Loan, Letter of Credit, Bank Deposit, Currency Rate, Interest Rate or Residential Value Guarantees.

POWER OF ATTORNEY

Know All Persons By These Presents:

That the Arch Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

Arthur Lawrence Colley, Audria R. Ward, Brett Rosenhaus, Charles D. Nielson, Charles J. Nielson, David R. Hoover, Edward T. Ward, F. Danny Gann, John R. Neu, Kevin Wojtowicz and Laura D. Mosholder of Lake Worth, FL (EACH)

its true and lawful Attorney(s)in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed:

Any and all bonds, undertakings, recognizances and other surety obligations, in the penal sum not exceeding Ninety Million Dollars ($90,000,000.00).

This authority does not permit the same obligation to be split into two or more bonds In order to bring each such bond within the dollar limit of authority as set forth herein.

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on September 15, 2011, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect.

"VOTED, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process."

This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on September 15, 2011:

VOTED, That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on September 15, 2011, and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company.

ATTACHMENT - E

WORK AUTHORIZATION COST SCHEDULE

Globaltech
A DESIGN - BUILD COMPANY

Takeoff Worksheet by Bid Item w/Tax & Markup

10/06/14

PBC Water Utilities Department
140455 PBC WTP 2 MIEX Regen Mods

Assembly#		Description	Unit	Quantity	Cost	Ext. Cost	Tax (%)	Markup*	Ext. Price
Job: 140455 PBC WTP 2 MIEX Regen Mods									
Bid Item:		**1 General Conditions**							
1		Temporary Facilities	LOT	1.00	6,720.00				
	L	Container Rental	Ea	6.00	125.00	750.00	6.00	1.1500	914.25
	L	Trailer Pick up/Delivery	Ea	2.00	200.00	400.00	6.00	1.1500	487.60
	L	Sanitary	Month	6.00	95.00	570.00	6.00	1.1500	694.83
	L	Job Site Office Supplies	LOT	1.00	200.00	200.00	6.00	1.1500	243.80
	L	Waste Hauling	LOT	8.00	600.00	4,800.00	6.00	1.1500	5,851.20
2		General Conditions	LOT	1.00	29,677.86				
	L	Submittal Labor	HR	30.0	71.08	2,132.40		1.2992	2,770.41
	L	O&M	HR	30.0	61.51	1,845.30		1.2992	2,397.41
	L	Progress Meeting	HR	20.0	87.79	1,755.80		1.2992	2,281.14
	L	Scheduling Labor	HR	20.0	71.08	1,421.60		1.2992	1,846.94
	L	Construction PM	HR	120.	71.08	8,529.60		1.2992	11,081.66
	L	Construction Superintendent	HR	160.	62.13	9,940.80		1.2992	12,915.09
	L	Safety	HR	12.0	71.08	852.96		1.2992	1,108.17
	L	Safety Equipment	HR	1.00	1,000.00	1,000.00	6.00	1.1500	1,219.00
	L	Building Permits	LOT	20.0	71.08	1,421.60		1.2992	1,846.94
	L	Office Admin	HR	20.0	38.89	777.80		1.2992	1,010.52
					Bid Item Totals:	**36,397.86**			**46,668.96**
Bid Item:		**2 Site Work**							
2001		Mobilization	LOT	1.00	2,991.38				
	L	Construction PM	HR	8.00	71.08	568.64		1.2992	738.78
	L	Construction Superintendent	HR	8.00	62.13	497.04		1.2992	645.75
	L	3 man Crew	CR-D	2.00	962.85	1,925.70		1.2992	2,501.87

Assembly#		Description	Unit	Quantity	Cost	Ext. Cost	Tax (%)	Markup*	Ext. Price
2221		Trenching, Backfilling, and Compaction (Water Line	LOT						
		Trenching	CR-D	3.00	962.85	2,888.55		1.2992	3,752.80
		Install 4" C-900 Pipe	CR-D	4.00	962.85	3,851.40		1.2992	5,003.74
		Backfill & Compaction	CR-D	2.00	962.85	1,925.70		1.2992	2,501.87
		Stone/Fill	LOT	1.00	2,000.00	2,000.00	6.00	1.2992	2,754.30
		Seed & Sod	LOT	1.00	4,000.00	4,000.00	6.00	1.2992	5,508.61
		Seed & Sod	CR-D	1.00	962.85	962.85		1.2992	1,250.93
		Underground Detection Tape	LOT	1.00	500.00	500.00	6.00	1.1500	609.50
2221		Trenching, Backfilling, and Compaction (20" Line)	LOT						
		Trenching	CR-D	2.00	962.85	1,925.70		1.2992	2,501.87
		Stone/Fill	LOT	1.00	1,000.00	1,000.00	6.00	1.1500	1,219.00
		Form & Materials	LOT	1.00	500.00	500.00	6.00	1.0000	530.00
		Cast In Place Concrete	LOT	10.0	175.00	1,750.00	6.00	1.1500	2,133.25
		Concrete Pump	LOT	1.00	600.00	600.00	6.00	1.1500	731.40
		Concrete Install	CR-D	1.00	962.85	962.85		1.2992	1,250.93
		Backfill & Compaction	CR-D	3.00	962.85	2,888.55		1.2992	3,752.80
2002		Demob	LOT	1.00	3,954.23				
	L	Construction PM	HR	8.00	71.08	568.64		1.2992	738.78
	L	Construction Superintendent	HR	8.00	62.13	497.04		1.2992	645.75
	L	3 man Crew	CR-D	3.00	962.85	2,888.55		1.2992	3,752.80
					Bid Item Totals:	**32,701.21**			**42,524.73**
Bid Item:		**3 Concrete**							
		Grout Equipment base	LOT	1.00	200.00	200.00	6.00	1.1500	243.80
		Grout/Concrete Pump Base	LOT	1.00	2,000.00	2,000.00	6.00	1.1500	2,438.00
		Form & Materials	LOT	1.00	500.00	500.00	6.00	1.1500	609.50
		3 man Crew	CR-D	4.00	962.85	3,851.40		1.2992	5,003.74
		Concrete Cutting	LOT	2.00	1,200.00	2,400.00		1.1000	2,640.00

Assembly#		Description	Unit	Quantity	Cost	Ext. Cost	Tax (%)	Markup*	Ext. Price
		Form & Materials	LOT	1.00	500.00	500.00	6.00	1.1500	609.50
		Concrete Pump	LOT	1.00	1,800.00	1,800.00	6.00	1.1500	2,194.20
		Cast In Place Concrete	LOT	50.0	175.00	8,750.00	6.00	1.1500	10,666.25
		5 Man Crew	CR-D	8.00	1,474.41	11,795.28		1.2992	15,324.43
		Construction PM	HR	10.0	71.08	710.80		1.2992	923.47
3300		Containment Wall Extension	LOT	1.00	45,775.71				
	L	Pipe Relocation & Tank Install	CR-D	10.0	962.85	9,628.50		1.2992	12,509.35
	L	SCH 80 PVC Pipe & Fittings	LOT	1.00	4,000.00	4,000.00	6.00	1.1500	4,876.00
	L	SS Unistrut 316 (DEEP)	Ea	5.00	120.00	600.00	6.00	1.1500	731.40
	L	SS Unistrut Hardware & Misc Fasteners	LOT	1.00	1,700.00	1,700.00	6.00	1.1500	2,072.30
	L	Stairs Removal and Reinstall	CR-D	2.00	962.85	1,925.70		1.2992	2,501.87
	L	Electrical Sub	LOT	1.00	5,000.00	5,000.00		1.1000	5,500.00
	L	Concrete Prep	CR-D	2.00	962.85	1,925.70		1.2992	2,501.87
	L	Form & Materials	LOT	1.00	2,000.00	2,000.00		1.2992	2,598.40
	L	Concrete Pump	LOT	1.00	600.00	600.00	6.00	1.1500	731.40
	L	Cast In Place Concrete	LOT	10.0	175.00	1,750.00	6.00	1.1500	2,133.25
	L	5 Man Crew	CR-D	6.00	1,474.41	8,846.46		1.2992	11,493.32
	L	Coatings	LOT	1.00	1,200.00	1,200.00	6.00	1.1500	1,462.80
	L	Misc Application Material	LOT	1.00	500.00	500.00	6.00	1.1500	609.50
	L	Coating Install	CR-D	3.00	962.85	2,888.55		1.2992	3,752.80
	L	Structural Engineering	LOT	1.00	2,500.00	2,500.00		1.1000	2,750.00
	L	Construction PM	HR	10.0	71.08	710.80		1.2992	923.47
		Intake Fan & Louver Opening							
		Concrete Cutting	LOT	1.00	1,200.00	1,200.00		1.1000	1,320.00
		3 man Crew	CR-D	2.00	962.85	1,925.70		1.2992	2,501.87
					Bid Item Totals:	**81,408.89**			**101,622.49**

Assembly#	Description	Unit	Quantity	Cost	Ext. Cost	Tax (%)	Markup*	Ext. Price
Bid Item:	**5 Metals**							
	SS Unistrut	LOT	10.0	120.00	1,200.00	6.00	1.1500	1,462.80
	SS Unistrut Hardware	LOT	1.00	1,500.00	1,500.00	6.00	1.1500	1,828.50
	SS Unistrut Pipe Clamp	LOT	1.00	2,000.00	2,000.00	6.00	1.1500	2,438.00
	New Tank SS Tie-Down	LOT	1.00	1,000.00	1,000.00	6.00	1.1500	1,219.00
	1/8" Thick Aluminum Sheet	LOT	1.00	2,000.00	2,000.00	6.00	1.1500	2,438.00
	Handrail	LOT	1.00	3,000.00	3,000.00	6.00	1.1500	3,657.00
	Walk Way & Grating	LOT	1.00	2,500.00	2,500.00	6.00	1.1500	3,047.50
	3 man Crew	CR-D	5.00	962.85	4,814.25		1.2992	6,254.67
	Field Welding and Cutting	LOT	3.00	1,200.00	3,600.00		1.1000	3,960.00
	Construction PM	HR	8.00	71.08	568.64		1.2992	738.78
	Basin Hatch, Ladder, and Chute (316 SS)	EA	2.00	35,000.00	70,000.00		1.0000	70,000.00
				Bid Item Totals:	**92,182.89**			**97,044.25**
Bid Item:	**9 Finishes**							
	Coatings	LOT	1.00	1,000.00	1,000.00	6.00	1.1500	1,219.00
	Misc Application Material	LOT	1.00	500.00	500.00	6.00	1.1500	609.50
	Signage	LOT	1.00	2,000.00	2,000.00	6.00	1.1500	2,438.00
	3 man Crew	CR-D	5.00	962.85	4,814.25		1.2992	6,254.67
	Construction PM	HR	8.00	71.08	568.64		1.2992	738.78
				Bid Item Totals:	**8,882.89**			**11,259.95**
Bid Item:	**11 Equipment**							
	Hayward Centrifugal Pump	Ea	1.00	27,839.00	27,839.00	6.00	1.1500	33,935.74
	Air Compressor	LOT	1.00	39,000.00	39,000.00	6.00	1.1500	47,541.00
	Air Compressor Control Panel	LOT	1.00	5,000.00	5,000.00	6.00	1.1500	6,095.00
	Air Compressor Misc Materials	LOT	1.00	2,000.00	2,000.00	6.00	1.1500	2,438.00
	HDPE Tanks	Ea	1.00	38,062.50	38,062.50	6.00	1.1500	46,398.19
	3 man Crew	CR-D	10.0	962.85	9,628.50		1.2992	12,509.35

Assembly#	Description	Unit	Quantity	Cost	Ext. Cost	Tax (%)	Markup*	Ext. Price
	Construction PM	HR	10.0	71.08	710.80		1.2992	923.47
				Bid Item Totals:	**122,240.80**			**149,840.75**
Bid Item:	**13 I&C**							
	RIO Panel, Pwr Supply/I/O Racks & Terminal	LOT	1.00	30,600.00	30,600.00	6.00	1.1500	37,301.40
	Level Transmitter/Gage	EA	1.00	10,000.00	10,000.00	6.00	1.1500	12,190.00
	Conductivity Meter (Brine Waste)	Ea	1.00	4,000.00	4,000.00	6.00	1.1500	4,876.00
	3 man Crew	CR-D	4.00	962.85	3,851.40		1.2992	5,003.74
	Construction PM	HR	8.00	71.08	568.64		1.2992	738.78
	Troubleshooting Existing Tank I&C (Salt 1&2)	HR	20.0	50.52	1,010.40		1.2992	1,312.71
	Electrical Sub	LOT	1.00	2,000.00	2,000.00		1.1000	2,200.00
				Bid Item Totals:	**52,030.44**			**63,622.63**
Bid Item:	**15 Mechanical**							
	4" RPZ	Ea	2.00	2,124.30	4,248.60	6.00	1.1500	5,179.05
	DI Pipe & Fittings	LOT	1.00	2,000.00	2,000.00	6.00	1.1500	2,438.00
	C-900 Pipe	LOT	1.00	2,500.00	2,500.00	6.00	1.1500	3,047.50
	SCH 80 PVC Pipe & Ftgs	LOT	1.00	2,000.00	2,000.00	6.00	1.1500	2,438.00
	Valves & Operators	Ea	1.00	2,000.00	2,000.00	6.00	1.1500	2,438.00
	Flange Kits & Misc Materials	LOT	1.00	1,000.00	1,000.00	6.00	1.1500	1,219.00
	3 man Crew	CR-D	3.00	962.85	2,888.55		1.2992	3,752.80
	Construction PM	HR	12.0	71.08	852.96		1.2992	1,108.17
	Intake Fan & Louver	LOT	1.00	8,500.00	8,500.00	6.00	1.1500	10,361.50
	Exhaust Air Duct Work	LOT	1.00	5,500.00	5,500.00	6.00	1.1500	6,704.50
	3 man Crew	CR-D	4.00	962.85	3,851.40		1.2992	5,003.74
	Flowmeter (Brine Waste & Transfer)	Ea	2.00	3,500.00	7,000.00	6.00	1.1500	8,533.00
	Sample Tap	LOT	1.00	500.00	500.00	6.00	1.1500	609.50
	Installation	CR-D	3.00	962.85	2,888.55		1.2992	3,752.80
	4" Expansion Coupling	Ea	20.0	500.00	10,000.00	6.00	1.1500	12,190.00

Assembly#	Description	Unit	Quantity	Cost	Ext. Cost	Tax (%)	Markup*	Ext. Price
	SCH 80 PVC Flange	Ea	20.0	65.07	1,301.40	6.00	1.1500	1,586.40
	Flange Kits & Misc Materials	LOT	1.00	2,000.00	2,000.00	6.00	1.1500	2,438.00
	3 man Crew	CR-D	5.00	962.85	4,814.25	6.00	1.2992	6,629.96
	Miex System Install							
	SCH 80 PVC Pipe & Ftgs	LOT	1.00	5,000.00	5,000.00	6.00	1.1500	6,095.00
	Flange Kits & Misc Materials	LOT	1.00	3,000.00	3,000.00	6.00	1.1500	3,657.00
	Misc Metals & Fasteners	LOT	1.00	1,000.00	1,000.00	6.00	1.1500	1,219.00
	Existing PVC Pipe Relocation	CR-D	3.00	962.85	2,888.55		1.2992	3,752.80
	Miex Equipment Install	CR-D	5.00	1,474.41	7,372.05		1.2992	9,577.77
	Cut Frame and Install Pump	CR-D	2.00	962.85	1,925.70		1.2992	2,501.87
	LR 90 Bends							
	LR 90 Bend	EA	10.0	140.83	1,408.30	6.00	1.1500	1,716.72
	4" PVC Flange	LOT	40.0	65.07	2,602.80	6.00	1.1500	3,172.82
	Flange Kits & Misc Materials	LOT	1.00	1,000.00	1,000.00	6.00	1.1500	1,219.00
	3 man Crew	CR-D	5.00	962.85	4,814.25		1.2992	6,254.67
	Construction PM	HR	10.0	71.08	710.80		1.2992	923.47
	Startup Crew	CR-D	2.00	962.85	1,925.70		1.2992	2,501.87
	Punch Out Crew	CR-D	2.00	962.85	1,925.70		1.2992	2,501.87
				Bid Item Totals:	**99,419.56**			**124,523.78**
Bid Item:	**16 Electrical**							
	Electrical Sub	LOT	1.00	120,000.00	120,000.00		1.1000	132,000.00
	VFD Panel	LOT	1.00	39,400.00	39,400.00	6.00	1.1500	48,028.60
	Construction PM (I&C)	HR	40.0	50.52	2,020.80		1.2992	2,625.42
				Bid Item Totals:	**161,420.80**			**182,654.02**

Assembly#	Description	Unit	Quantity	Cost	Ext. Cost	Tax (%)	Markup*	Ext. Price
Bid Item:	**18 Rental Equipment**							
	Scissor Lift	Month	2.00	824.00	1,648.00	6.00	1.1500	2,008.91
	10,000lb Traversing Fork Lift	Month	2.00	2,646.00	5,292.00	6.00	1.1500	6,450.95
	Plate Compactor reversible 7000-8000lb	LOT	2.00	750.00	1,500.00	6.00	1.1500	1,828.50
	4WD Backhoe	LOT	4.00	1,200.00	4,800.00	6.00	1.1500	5,851.20
	Crane - 40 Ton	Hr	40.0	130.00	5,200.00	6.00	1.1000	6,063.20
	Fuel	LOT	1,00	5.00	5,000.00	6.00	1.1500	6,095.00
	Saw Blade	LOT	5.00	90.00	450.00	6.00	1.1500	548.55
	Consumables	LOT	1.00	1,000.00	1,000.00	6.00	1.1500	1,219.00
				Bid Item Totals:	**24,890.00**			**30,065.31**
Bid Item:	**25 Allowance**							
	Allowance	LOT	1.00	25,000.00	25,000.00		1.0000	25,000.00
				Bid Item Totals:	**25,000.00**			**25,000.00**
Bid Item:	**50 Engineering**							
	Engineering	LOT	1.00	20,000.00	20,000.00		3.0000	60,000.00
				Bid Item Totals:	**20,000.00**			**60,000.00**
Bid Item:	**60 Bond & Insurance**							
	Bonds & Certifications	LOT	1.00	17,022.40	17,022.40		1.1500	19,575.76
	Builders Risk Insurance	LOT	1.00	7,215.28	7,215.28		1.1500	8,297.57
				Bid Item Totals:	**24,237.68**			**27,873.33**
				Grand Totals:	**780,813.02**			**962,700.20**

** Materials = 15%, Subcontractors = 10%, Labor at Burden = 29.92% (12% G&A x 16% Profit & Overhead)*

ATTACHMENT - F

SBE SCHEDULE 1 & 2

ATTACHMENT - F

SCHEDULE 1

LIST OF PROPOSED SBE-M/WBE PRIME/SUBCONTRACTORS

PROJECT NAME: WTP 2 - Miex® Regeneration System Improvements

PROJECT No: WUD 14-093

NAME OF PRIME BIDDER: Globaltech, Inc.
CONTACT PERSON: Bernard P. Gandy, President
BID OPENING DATE: N/A

ADDRESS: 6001 Broken Sound Parkway NW, Suite 610
PHONE NO.: 561-997-6433 FAX NO.: 561-997-5811
DEPARTMENT: N/A

PLEASE IDENTIFY ALL APPLICABLE CATEGORIES

Name, Address and Telephone Number of Minority Contractor	(Check one or both Categories) Minority Business	Small Business	Dollar Amount Black	Hispanic	Women	Caucasian	Other (Please Specify)
Globaltech, Inc., (561) 997-6433 6001 Broken Sound Parkway NW, Suite 610, Boca Raton, FL 33487	☐	☑	$ -	$ -	$ -	$ 820,800.20	$ -
Energy Efficient, Inc. Palm Beach, FL 33401, (561) 655-7211	☐	☑	$ -	$ -	$ -	$ 127,000.00	$ -
Bridge Design Associates, Inc. 1402 Royal Palm Beach Blvd., Bldg 200 West Poalm Beach, FL 33411 (561) 686-3660	☐	☑	$ -	$ -	$ -	$ 2,500.00	$ -
	☐	☐	$ -	$ -	$ -	$ -	$ -
PRIME CONTRACTOR TO COMPLETE:		TOTAL	$ -	$ -	$ -	$ 950,300.20	$ -

BID PRICE: $ 962,700.20 Total Value of SBE Participation: $ 950,300.20

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.

ATTACHMENT - F

SCHEDULE 2

LETTER OF INTENT TO PERFORM AS AN SBE OR M/WBE SUBCONTRACTOR

PROJECT NO. WUD 14-093 PROJECT NAME: WTP 2 – Miex® Regeneration System Improvements

TO: Globaltech, Inc.
(Name of Prime Bidder)

The undersigned is certified by Palm Beach County as a(n) – (check one or more, as applicable):

Small Business Enterprise XX Minority Business Enterprise ____

Black ____ Hispanic ____ Women ____ Caucasian XX Other (Please Specify) ____

Date of Palm Beach County Certification: November 24, 2012

The undersigned is prepared to perform the following described work in connection with the above project **(Specify in detail, particular work items or parts thereof to be performed):**

Line Item/Lot No.	Item Description	Qty / Units	Unit Price	Total Price
1	General Conditions	N/A	N/A	$ 46,668.96
2	Engineering	N/A	N/A	$ 60,000.00
3	Mechanical Construction	N/A	N/A	$ 661,257.91
4	Bonds & Insurance	N/A	N/A	$ 27,873.33
5	Allowance	N/A	N/A	$ 25,000.00

at the following price:

$ 820,800.20 (Eight hundred twenty thousand eight hundred dollars and twenty cents)
(Subcontractor's quote)

and will enter into a formal agreement for work with you conditioned upon your execution of a contract with Palm Beach County.

If undersigned intends to sub-subcontract any portion of this subcontract to a non-certified SBE subcontractor, the amount of any such subcontract must be stated: NONE.

The undersigned subcontractor understands that the provision of this form to prime bidder does not prevent subcontractor from providing quotations to other bidders

Globaltech, Inc.
(Print Name of SBE-M/WBE Subcontractor)

By: _____
(Signature)

Bernard P. Gandy / President & CFO
(Print name/title of person executing on behalf of SBE-M/WBE Subcontractor)

Date: October 6, 2014

ATTACHMENT - F

SCHEDULE 2

LETTER OF INTENT TO PERFORM AS AN SBE OR M/WBE SUBCONTRACTOR

PROJECT NO. WUD 14-093 PROJECT NAME: WTP – 2 Miex® Regeneration System Improvements

TO: Energy Efficient Electric, Inc.
(Name of Prime Bidder)

The undersigned is certified by Palm Beach County as a(n) – (check one or more, as applicable):

Small Business Enterprise XX Minority Business Enterprise _____

Black ____ Hispanic ____ Women ____ Caucasian XX Other (Please Specify) _____

Date of Palm Beach County Certification: September 4, 2012

The undersigned is prepared to perform the following described work in connection with the above project **(Specify in detail, particular work items or parts thereof to be performed)**:

Line Item/Lot No.	Item Description	Qty / Units	Unit Price	Total Price
1	Electrical Contracting	N/A	N/A	$ 120,000.00
2	Containment Wall Extension - Electrical	N/A	N/A	$ 5,000.00
3	I&C Electrical	N/A	N/A	$ 2,000.00
4		N/A	N/A	$
5		N/A	N/A	$

at the following price:

$ 127,000 (One hundred twenty seven thousand dollars and no cents).
(Subcontractor's quote)

and will enter into a formal agreement for work with you conditioned upon your execution of a contract with Palm Beach County.

If undersigned intends to sub-subcontract any portion of this subcontract to a non-certified SBE subcontractor, the amount of any such subcontract must be stated: NONE.

The undersigned subcontractor understands that the provision of this form to prime bidder does not prevent subcontractor from providing quotations to other bidders

Energy Efficient Electric, Inc.
(Print Name of SBE-M/WBE Subcontractor)

By: _____
(Signature)

Rene Viau / Vice President
(Print name/title of person executing on behalf of SBE-M/WBE Subcontractor)

Date: October 3, 2014

ATTACHMENT - F

SCHEDULE 2

LETTER OF INTENT TO PERFORM AS AN SBE OR M/WBE SUBCONTRACTOR

PROJECT NO. WUD 14-093 PROJECT NAME: WTP 2 – Miex® Regeneration System Improvements

TO: Bridge Design Associates, Inc.

(Name of Prime Bidder)

The undersigned is certified by Palm Beach County as a(n) – (check one or more, as applicable):

Small Business Enterprise XX Minority Business Enterprise _____

Black ____ Hispanic ____ Women ____ Caucasian XX Other (Please Specify) _____

Date of Palm Beach County Certification: October 24, 2012

The undersigned is prepared to perform the following described work in connection with the above project **(Specify in detail, particular work items or parts thereof to be performed):**

Line Item/Lot No.	Item Description	Qty / Units	Unit Price	Total Price
1	Structural Engineering	N/A	N/A	$ 2,500.00
2		N/A	N/A	$
3		N/A	N/A	$
4		N/A	N/A	$
5		N/A	N/A	$

at the following price:

$2,500.00 (Two thousand five hundred dollars and no cents)
(Subcontractor's quote)

and will enter into a formal agreement for work with you conditioned upon your execution of a contract with Palm Beach County.

If undersigned intends to sub-subcontract any portion of this subcontract to a non-certified SBE subcontractor, the amount of any such subcontract must be stated: NONE.

The undersigned subcontractor understands that the provision of this form to prime bidder does not prevent subcontractor from providing quotations to other bidders

Bridge Design Associates, Inc.
(Print Name of SBE-M/WBE Subcontractor)

By: _____
(Signature)

Brian C. Rheault, P.E. / President
(Print name/title of person executing on behalf of SBE-M/WBE Subcontractor)

Date: October 3, 2014

ATTACHMENT - G

AUTHORIZATION STATUS REPORT
October 6, 2014

SUMMARY AND STATUS OF AUTHORIZATIONS

Auth. No.	Description	Status	Project Total Amount	Date Approved	WUD No. Assigned	Globaltech Project No.
	CONSULTANT SERVICE AUTHORIZATIONS					
CSA-1	WTP 8 Filter Media Replacement and Re-Rating	Approved	$31,399.22	3/8/12	12-002	120291
CSA-1.1	WTP 8 Filter Media Replacement and Re-Rating - Supplement 1	Approved	-$7,872.73	8/28/14	12-002	120291
CSA-2	Pump Station 5241 Improvements	Approved	$11,451.79	6/14/12	12-061	120302
CSA-3	WTP 2 Wellfield Backup Power Improvements	Approved	$49,975.00	7/9/12	12-005	120321
CSA-4	WTP 3 and SROC Security Upgrades	Approved	$24,786.20	8/22/12	10-028	120334
CSA-5	WTP 9 Permeate Flushing System Modifications	Cancelled	$0.00	-	-	120330
CSA-6	WTP 3 Membrane Cleaning System Modification	Approved	$32,528.22	9/28/12	12-004	120331
CSA-6.1	WTP 3 Membrane Cleaning System Modification - Supplement 1 / Project Cancelation	Approved	-$32,528.22	5/20/13	12-004	120331
CSA-7	SRPF Membrane Concentrate Bypass and PS 9S RPZ Installation	Cancelled	$0.00	-	12-021	120340
CSA-8	LRWTP PW-5 Pump Conversion	Pending				120347
CSA-9	SROC DIW Blending System	Cancelled	$0.00	-	-	120348
	Total CSAs		$109,739.48			

ATTACHMENT - G

AUTHORIZATION STATUS REPORT
October 6, 2014

SUMMARY AND STATUS OF AUTHORIZATIONS

Auth. No.	Description	Status	Project Total Amount	Date Approved	WUD No. Assigned	Globaltech Project No.
	WORK AUTHORIZATIONS					
WA-1	SW Boca Diversion PS Sound Attenuation	Approved	$16,814.95	7/5/12	12-067	120303
WA-2	WTP 8 Filters 4, 5 & 6 Media Replacement	Approved	$592,611.00	8/14/12	12-002	120309
WA-2.1	WTP 8 - Emergency Repair	Approved	$27,003.23	7/8/14	12-002	120309
WA-3	South Bay Repump Station Improvements	Approved	$290,022.00	9/11/12	12-030	120313
WA-3.1	South Bay Repump - BB Court Electrical	Approved	$22,486.92	12/12/12	12-030	120313
WA-3.2	South Bay Repump - Isolation Valve	Approved	$3,428.48	4/4/13	12-030	120313
WA-4	LRWTP MFP No. 3 VFD Replacement	Approved	$149,985.36	8/29/12	12-074	120332
WA-5	Online Water Quality Monitoring System	Approved	$399,844.00	9/11/12	10-072	120328
WA-5.1	Online Water Quality Monitoring System - Sup. 1	Approved	$73,165.54	6/5/13	10-072	120328
WA-6	Pump Station 5241 Improvements	Approved	$277,780.62	12/4/12	12-061	120336
WA-7	LRWTP PW-5 Pump Conversion	Pending			13-015	120338
WA-8	WTP 3 and SROC Security Upgrades	Approved	$63,603.58	11/14/12	13-011	120341
WA-9	LRWTP Well 1 Generator Pad	Pending			13-016	120345
WA-10	WTP 2 Wellfield Backup Power Improvements	Approved	$716,189.09	3/12/13	12-005	120343
WA-10.1	WTP 2 - Power Improvements - Time Extension	Approved	$0.00	5/21/14	12-005	120343
WA-11	SRPF Membrane Concentrate Bypass	Approved	$406,149.75	6/18/13	13-036	120357
WA-11.1	SRPF Membrane Concentrate Bypass - Sup. 1	Approved	$0.00	7/22/14	13-036	120357
WA-12	WTP 3 Chemical Improvements	Approved	$833,148.51	5/06/13	12-003	
WA-12.1	WTP 3 Chemical Improvements - Supplement 1	Pending			12-003	
WA-13	LRWTP Well Pump Repositioning	Approved	$30,496.69	2/21/13	11-112	120358
WA-14	WTP 3 Membrane Concentrate RPZ	Approved	$199,192.48	3/13/13	13-017	130362
WA-15	WTP 9 Membrane Concentrate RPZ's	Approved	$198,407.37	3/13/13	13-018	130364
WA-16	SW Boca Diversion Intake Modifications	Approved	$30,378.48	8/12/13	13-083	130370
WA-17	WTP 9 Permeate Flush System	Pending				130378
WA-18	WTP 8 - Filter Gallery Valve Replacement	Approved	$178,536.90	9/11/13	12-002	130385
WA-19	WRWWTF - Effluent Strailner & Screen Bypass	Approved	$182,163.55	11/06/13	13-093	130389
WA-19.1	WRWWTF - Effluent Strainer and Screen Bypass - Supplement 1	Approved	$0.00	7/22/14	13-093	130389
WA-20	WTP 11 - Membrane Replacement for Train 3	Approved	$111,015.20	3/05/14	14-039	
WA-21	WTP 8 - Hypo. Bldg. Generator Connection	Approved	$53,591.07	3/13/14	14-023	
WA-22	WTP 8 - Generator and Fuel Tank Removal	Approved	$172,108.06	9/17/14	14-023	
WA-23	SRWRF Digester Gas Improvements	Approved	$235,665.40	6/03/14	14-051	
WA-24	WTP 8 - Filter Gallery Valve Replacement	Approved	$516,850.57	6/03/14	12-002	140415
WA-25	LRWTP Degasifier Cleaning System	Pending				
WA-26	WTP 11 - VFD Replacements of MFPs & HSPs	Approved	$399,743.75	7/22/14	14-061	
WA-27	SW Boca Diversion Intake Structure Repairs	Pending			13-083	
WA-28	WTP 2 - Miex® Regeneration Syst. Improve.	Pending	$962,700.20		14-093	140455
	Total WAs		$7,143,082.75			
	Total CSAs + WAs		**$7,252,822.23**			

ATTACHMENT - H

AUTHORIZATION STATUS REPORT
WATER, WASTEWATER, AND RECLAIMED WATER IMPROVEMENTS DESIGN-BUILD SERVICES CONTRACT

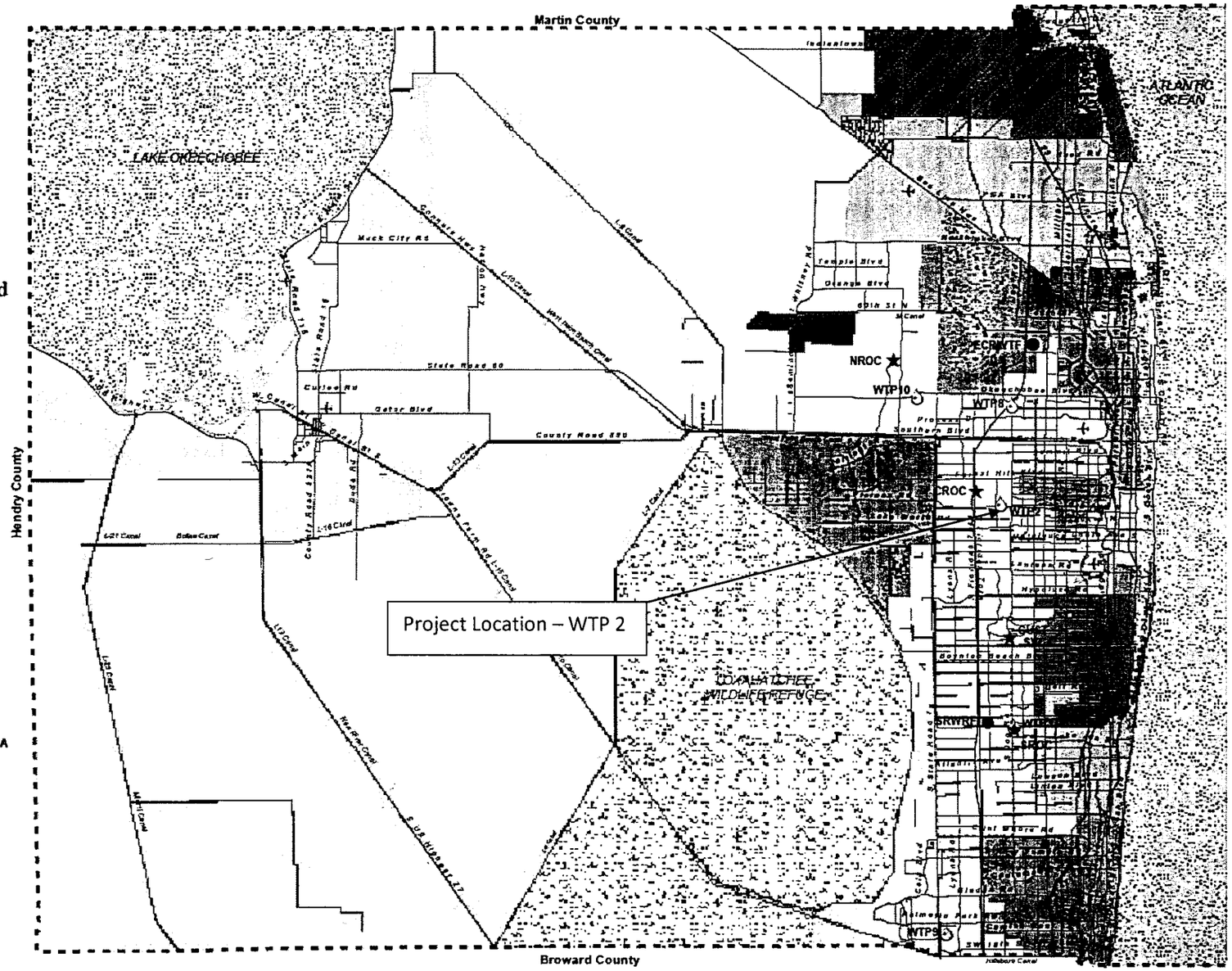
SUMMARY of SBE/MWBE TRACKING

WUD 14-093 / WTP 2 - Miex® Regeneration System Improvements

	Total
Current Proposal	
Value of Consultant Service Authorization	$0.00
Value of Work Authorization	$962,700.20
Value of CSA and WA	$962,700.20
Value of SBE Minority Letter of Intent	$950,300.20
Actual Percentages	98.71%
Signed / Approved Authorizations	
Total Value of Approved Consultant Service Authorization	$109,739.48
Total Value of Approved Work Authorization	$6,180,382.55
Total Value of CSAs and WAs	$6,290,122.03
Total Value of SBE Signed Subcontracts	$5,811,769.03
Actual Percentages	92.39%
Signed Authorizations Plus Current Proposal	
Total Value of Approved CSAs Plus Current CSA Proposal	$109,739.48
Total Value of Approved WAs Plus Current WA Proposal	$7,143,082.75
Total Value of Approved and Proposed CSAs and WAs	$7,252,822.23
Total Value of SBE Subcontracts and Letters of Intent	$6,762,069.23
Actual Percentages	93.23%
GOAL	75%

ATTACHMENT – I
Project Location Map

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

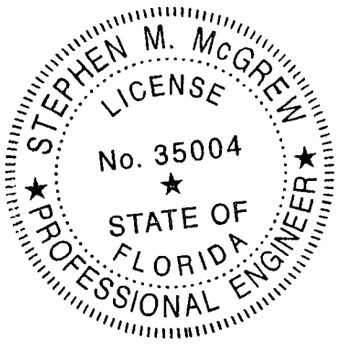


WA-28 WTP 2 / Miex® Regeneration System Improvements WUD No. 14-093

ATTACHMENT - J

Design-Build Criteria Report

Design Build Criteria
Magnetic Ion Exchange (Miex®) Regeneration System Improvements
Water Treatment Plant No. 2
Project No. WUD 14-093



10/9/2014

Stephen McGrew, P.E., DBIA
State of Florida Professional Engineer No. 35004
Palm Beach County Water Utilities Department
8100 Forest Hill Blvd.
West Palm Beach, FL 33413

Design Build Criteria
Magnetic Ion Exchange (Miex®) Regeneration System Improvements
Water Treatment Plant No. 2
Project No. WUD 14-093

Part 1 General

1.1 Summary of Work

A. **Legal description of the site:** Water Treatment Plant No. 2 (WTP 2), 2956 Pinehurst Drive, West Palm Beach, FL 33413, PCN 00-42-43-27-05-021-0291.

B. **Survey information concerning the site:** Owner will provide recent survey from WTP 2 Filter and Backwash Design. See Section 1.5 Site elevations, Lines, and Grades for Design-Build Entity requirements.

C. **Interior space requirements:** Provide required clearance under the electrical code from the proposed electrical panels. Provide adequate space to walk around proposed air compressor and Miex regeneration skid #3 without tripping hazards and adequate head room unless approved by the Owner.

D. **Material quality standards:** See Design Criteria below.

E. **Schematic layouts and conceptual design criteria of the project:** See Design Criteria below.

F. **Cost or budget estimates:** $1,000,000.00.

G. **Design and construction schedules:**
   i) Design Completion 90 days after receipt of executed Work Authorization and notice to proceed with design.

   ii) Substantial Construction Completion 210 Calendar Days after receipt of executed Work Authorization, Building permit and notice to proceed with construction.

   iii) Final Construction Completion 60 Calendar Days after Substantial Construction Completion

   iv) Liquidated damages for design and construction will apply as follows:
   $1,000 per day past substantial completion date.
   $500 per day past final completion date.

H. **Site development requirements:** Site plan approval for regeneration skid #3 will be submitted by the Owner.

I. **Provisions for utilities:** See Sections 1.3 Utilities and 1.7 Underground Utilities for Design-Build Entity requirements.

J. **Stormwater retention and disposal:** Provide siltation barriers for all existing storm drainage catch basins impacted by construction activities. Do not discharge directly to Lake Worth Drainage District canals. Do not impact filter and backwash construction by others.

K. **Parking requirements:** Only current County security badge holders can park inside the plant gate. Do not disrupt traffic flow for chemical deliveries. Project material deliveries shall be between 7:00 AM to 3:00 PM Monday through Friday excluding public holidays. WTP 2 is an active construction site for the filter and backwash contract and parking is not allowed near those construction and staging areas.

The proposed work to be performed by the Design-Build Entity generally includes furnishing all labor, equipment, materials, tools, supervision, and services required to design, construct, test, and startup the proposed work is described as follows:

Furnish and install improvements to Miex® regeneration system no. 1 and no. 2, install owner furnished Miex® regeneration system no. 3, furnish and install all items needed for Miex® regeneration system which are not included in the Orica WaterCare proposal. Furnish and install access ladders with chutes and hatches inside the two (2) Miex basins®. Extreme care shall be taken to minimize resin loss during construction. Contain all resin when pipes are cut or tanks are modified in a suitable container and reuse in Miex basin. Staging area will be adjacent to the Miex® treatment basin. WTP 2 is under construction for filter building and backwash recovery by others in the vicinity of the Miex® system and is to be noted in the Design-Build Entity's safety plan.

The following minimum design criteria shall be utilized:

1. Modifications to Miex® regeneration systems no. 1 and no. 2.
    a. Grout bases of aluminum skids to existing concrete slab.
    b. Provide pipe supports and modifications necessary to reduce water hammer, provide for expansion and contraction, and provide for adequate support.
    c. Add flow meter, conductivity meter and sample tap on brine waste to aid in pretreatment ordinance compliance for sodium and chlorides.

d. Restore level control functionality on brine transfer tank and install flow meter to aid in pretreatment ordinance compliance for sodium and chlorides.
e. Add compressor building air intake by cutting into CBS west wall by former Cl2 scrubber pad and install thermostat controlled air intake blower fan to prevent compressor room from overheating and accommodate adequate cooling of additional compressor(s) allowing for rollup doors to be closed.
f. Relocate existing air operated diaphragm pumps to existing skid bases and adapt suction and discharge piping to new location.

2. Install Miex® regeneration system no. 3.
    a. Inspect all Owner furnished equipment prior to installation.
    b. Design Criteria shall include items bulleted in Carollo Engineers Preliminary Design Report, Structural Design Criteria, Chapter 7 (7.2, 7.4, 7.5, 7.6, 7.7, Tables 8.6 and 8.9), see attachment 1.
    c. Furnish and install all items needed for Miex® regeneration system which are not included in the Orica WaterCare proposal PR-2014-009 Rev 2 dated August 19, 2014.
        i. Relocate existing light pole and remove foundation.
        ii. Remove concrete slab under proposed regeneration skid #3, confirm raw water main piping in vicinity is adequately restrained, compact soil and install new concrete slab with expansion joints.
        iii. For basis of proposal consider either straddling existing raw water main piping (2' minimum clear each side) or concrete encasing existing raw water main.
        iv. Aluminum plate under regeneration skid grating to protect equipment similar to regeneration skid #1 and #2 as it is not included in the Orica WaterCare proposal.
        v. Connecting walkway with handrails to match existing, add supports as necessary.
        vi. Label all pipes similar to regeneration skids #1 and #2.
        vii. Air compressor # 3 to match existing or provide larger capacity as required to accommodate three regeneration skids with largest compressor out of service.
        viii. Lightning protection for all new and modified items.
        ix. Fresh resin pump and motor (there is only one fresh resin pump which is a single point failure for existing Miex® system).
        x. Larger 8,500 gallon Polyprocessing cross linked HDPE brine tank to match existing footprint, with ladder and matching appurtenances. Design-Build Entity to optimize tank size in the design process. Design-Build Entity to confirm existing containment has adequate structural capacity and containment for wellfield protection.

xi. Looped potable water line with backflow preventors, pressure regulators, surge attenuation and isolation valves to prevent single point failure. Design-Build Entity to confirm pressure and flow requirements during the design phase.
xii. Install regeneration skid #3 control panel shipped lose from regeneration skid.
xiii. Install regeneration skid# 3 air diaphragm pump shipped lose from regeneration skid.
xiv. Connect all electrical and instrumentation to panel underneath Miex basin and air compressor room as applicable.
xv. Install adequate I/O as needed in existing I/O panel and/or new panel as required.
xvi. Coordinate SCADA tags with WUD SCADA group.
xvii. Program new air compressor # 3 in sequence with air compressors 1 and 2. All other programming will be provided by County or Orica WaterCare.

d. Comply with the requirements of Specifications Project No. WUD 09-046
   i. Section 11700 Magnetic Ion Exchange (Miex®) Treatment System.
   ii. Section 11710 Magnetic Ion Exchange (Miex®) Treatment System- Testing.
   iii. Section 17000 Instrumentation Magnetic Ion Exchange (Miex®) Treatment System.
e. Soil Boring report from Testing Laboratory of the Palm Beach (TLPB Report 09/086-1) dated August 11, 2009 has been provided to the Design-Build Entity.

3. Furnish and install access ladders and hatches for the two (2) Miex® basins.
   a. During the design phase determine the best location for installation of the ladders considering safety, accessibility, minimizing loss of tube settler area, the location of existing fiberglass deck and equipment supports and locations of existing electrical and instrumentation conduits.
   b. Ladders shall be 316 SS with Safe T Climb rail (or similar matching existing fall protection for WTP 2) and LadderUp® Safety Post or similar. Ladders shall extend from the floor of Miex basin to the bottom of the fiberglass deck. Fastening system shall be 316 SS and sealed for the watertight Miex basin coating system.
   c. Furnish and install custom fabricated 316 SS chute for the ladder access through the tube settlers. It is anticipated that two (2) existing tube settlers will be removed in each basin, one top

layer and one bottom layer. The chute will extend above the maximum high water elevation and extend to at least the bottom of the tube settler to prevent basin short circuit and resin loss. The edges of the chutes may have to be cushioned or rounded for safety depending upon clearances. Fastening system shall be 316 SS and sealed for the watertight Miex basin coating system.

d. Furnish and install fiberglass access hatches with handles similar to those originally installed on the Miex® basin. Provide labeling for each access hatch for confined space entry and mixer lock out and tag out is required before entry.
e. Furnish and install minimum four (4) 4" wide fiberglass staff gages approximately 3' tall for measuring resin height in each Miex® basin. Fastening system shall be 316 SS and sealed for the watertight Miex basin coating system.

4. Restore site to existing condition.

1.2 Permits and Fees

It shall be the Design-Build Entity's responsibility to secure all permits required to complete the work under this contract, except permits obtained by the Owner. The Design-Build Entity shall be responsible for all inspections and requirements to close-out the completed permits. The Owner shall pay all permit fees. The Design-Build Entity shall be responsible for all Business tax fees for work within the county or Municipalities.

1.3 Utility Services

The Design-Build Entity shall obtain the necessary utility services by making application for the services and paying such fees and charges required by the utility companies, including construction water meters, if required.

1.4 Tests

The Design-Build Entity shall pay for all required tests. Water required for pressure/leakage tests shall be furnished by the Owner.

1.5 Site elevations, Lines, and Grades

Where the dimensions and locations of existing piping and utilities are of critical importance in the installation or connection of proposed work, the Design-Build Entity shall verify such dimensions and locations in the field prior to the fabrication of any materials or equipment, which is dependent on the correctness of such information. The Design-Build Entity shall employ a land surveyor registered in the State of Florida. The Design-Build Entity shall locate and protect

survey control and reference points. The Design-Build Entity shall be responsible to establish elevations, lines, and levels, utilizing recognized engineering survey practices. The Design-Build Entity shall provide all labor, instruments and stakes, templates, and other materials necessary for marking and maintaining all lines and grades. The Design-Build Entity shall submit a copy of as-built drawings signed/sealed by the land surveyor that the elevations and locations of the work in Florida State plane coordinates are in conformance with the contract documents.

1.6 Work Area

The Design-Build Entity shall confine his activities to the site(s) designated by Owner for the work or staging areas for materials storage. All debris, materials, piping, and miscellaneous waste products from the proposed work shall be removed from the project as soon as possible. They shall be disposed of in accordance with applicable federal, state, and local regulations. The Design-Build Entity shall be responsible for determining these regulations and shall bear all costs or retain any profit associated with disposal of these items.

The Design-Build Entity shall protect his work throughout its length by the erection of suitable barricades and handrails, where required. The Design-Build Entity shall further indicate this work at night by the maintenance of suitable lights or flares, especially along or across thorough fares. Wherever it is necessary to cross a public walk, the Design-Build Entity shall provide suitable safe walkways with hand railings. The Design-Build Entity shall also comply with all laws or ordinances covering the protection of such work and the safety measures to be employed therein. The Design-Build Entity shall carry out his work so as not to deny access to private property. All utility access manholes, valves, and fire hydrants shall be kept accessible at all times.
No trenches or holes near walkways, in roadways or road shoulders are to be left open during night hours without the permission of the Owner.

1.7 Underground Utilities

All water pipes, storm drains, force mains, gas or other piping, telephone or power cables or conduits, and all other obstructions, whether or not shown, shall be temporarily removed from or supported across pipeline excavations. Before disconnecting any pipes or cables, the Design-Build Entity shall obtain permission from the Owner, or shall make suitable arrangements for their disconnection by the Owner. The Design-Build Entity shall be responsible for any damage to any such pipes, conduits or cables, and shall restore them to service promptly as soon as the work has progressed past the point involved. Approximate locations of known water, sanitary, drainage, power and telephone installations along route of new pipelines or in vicinity of the work are shown on as-built drawings, but must be verified in the field by the Design-Build Entity. The Design-Build Entity shall uncover these pipes, ducts, cables, etc., carefully, by

hand, to verify location and depth of cover. Any discrepancies or differences found shall be brought to the attention of the Owner in order that necessary changes may be made. Where fences, walls or other man made obstructions exist illegally in the public right-of-way, the Owner will have them removed upon adequate prior notice by the Design-Build Entity.

All exaction activity shall notify "SUNSHINE STATE" at 1 (800)-432 4770 at least forty-eight (48) hours prior to excavating for FPL and AT&T. Evidence of such notice shall be furnished to the Owner prior to excavating. Provide independent locate service for all PBC WUD buried pipelines and electrical.

Design of all underground water, wastewater and reclaimed water shall comply with the Palm Beach County Water Utilities Minimum Engineering Standards (latest edition), General Electrical Design Requirements, Palm Beach County Wellfield Protection Ordinance, Environmental Control Rule 1 (wastewater), Environmental Control Rule II (water) and applicable provisions of the Florida Administrative Code. Design submittal requirements shall be in accordance with the Palm Beach County Water Utilities Design Manual.

1.8 Maintenance of Operations

The Design-Build Entity's activities or any partial plant shutdowns shall minimize disruption to the treatment facilities and conveyance. The Design-Build Entity shall schedule and perform the proposed work in a manner such that the Owner can keep the existing treatment and conveyance facilities in continuous dependable operation. Operation of all existing valves, gates and equipment shall be performed by Owner.

1.9 Plant Shutdowns

Owner shall approve all plant shutdowns. If, in the opinion of Owner, a shutdown is not required in order for the Design-Build Entity to perform the proposed work, the Design-Build Entity shall use alternative methods to accomplish the work. All shutdowns shall be coordinated with and scheduled at times suitable to Owner. Owner shall be provided a minimum of 7 days notice of Design-Build Entity's need for any system or partial system shutdown. Additional notice may be required for certain shutdowns.

1.10 Project Coordination

Design-Build Entity shall be solely responsible for coordination of all of the proposed work. He shall supervise, direct and cooperate fully with all sub-contractors, manufacturers, fabricators, suppliers, distributors, installers, testing agencies and all others whose services, materials or equipment are required to ensure completion of the proposed work within the contract time.

Design-Build Entity shall cooperate with and coordinate his work with the work of any other contractor, utility service company or Owner's employees performing additional work related to the project at the site. Design-Build Entity shall not be responsible for damage done by Design-Build Entity's not under his jurisdiction. Design-Build Entity shall not be liable for any such loss or damage unless it is through the negligence of Design-Build Entity. Design-Build Entity shall also coordinate his work with the work of others to assure compliance with schedules.

Design-Build Entity shall attend and participate in all project coordination or progress meetings and report on the progress of all work and compliance with schedules.
The Design-Build Entity shall provide and maintain a field office with telephone facilities where he or a responsible representative of his organization may be reached at any time while work is in progress.

Part 2 Acceptance Test Requirements

The Design-Build Entity shall be responsible for coordinating and completing the overall system startup and testing. The Design-Build Entity is responsible for providing all labor, equipment, and materials for conducting systems startup and testing.

2.1 Starting and Placing Equipment in Operation

Design-Build Entity shall initially start-up and place all equipment installed into successful operation according to manufacturer's written instructions and as instructed by manufacturer's field representative. Design-Build Entity shall provide all material, labor, tools, equipment, chemicals, lubricants, and expendables required to complete start-up. No system or subsystem shall be started up for continuous operation unless all components of that system or subsystem, including instrumentation, have been tested and proven to be operable as required for proposed work

General system startup activities include: cleaning; removing temporary protective coatings; flushing and replacing greases and lubricants, where required by manufacturer; lubrication, checking shaft, and coupling alignments and resetting where required; checking and setting motor, pump and other equipment rotation, safety interlocks, and belt tensions; checking and correcting if necessary leveling plates, grout, bearing plates, anchor bolts, fasteners, and alignment of piping which may put stress on pumping equipment; performing any adjustments; providing chemicals and lubricants and all other required operating fluids; providing fuel, electricity, water, filters, and other expendables required for start-up of equipment.

Owner shall provide sufficient personnel to assist Design-Build Entity in the start-up, but the prime responsibility for proper mechanical operation shall belong to Design-Build Entity. Manufacturer's representatives shall be present during initial start-up and operation. Owner shall assume responsibility for operation of the equipment upon completion of start-up and placing equipment in operation.

2.2 Minimum Start-Up Requirements

A. After system has been placed in operation the Design-Build Entity shall clean strainers, drives, pockets, orifices, valve seats and headers in fluid system to assure freedom from foreign materials. He shall remove rust, scale and foreign materials from equipment and renew defaced surfaces. All visible leakage shall be repaired.

B. The Design-Build Entity shall check each electrical control circuit to assure that operation complies with regulations and requirements of proposed work and to provide desired performance. The Design-Build Entity shall vent gasses trapped in any part of systems and verify that liquids are drained from all parts of gas or air systems.

C. The Design-Build Entity shall inspect for cleanliness, and clean and remove all foreign materials, verify alignment, replace defective bearings and those, which run rough or noisy, and grease as necessary and in accord with manufacturer's recommendations.

D. The Design-Build Entity shall adjust tension in V-belt drives, and adjust varipitch sheaves and drives for proper equipment speed, adjust drives for alignment of sheaves and V-belts, and clean and remove foreign materials before starting operation.

E. The Design-Build Entity shall check each motor for comparison to amperage nameplate value and correct conditions which produce excessive current flow and exist due to equipment malfunction.

F. The Design-Build Entity shall check glands and seals for cleanliness and adjustment before running pump; inspect shaft sleeves for scoring; inspect mechanical faces, chambers, and seal rings, and replace if defective; and verify that piping system is free of dirt and scale before circulating liquid through the pump.

G. The Design-Build Entity shall inspect both hand and automatic control valves, clean bonnets and stems; tighten packing glands to assure no leakage, but permit valve stems to operate without galling; replace packing on any valve that continues to leak; remove and repair bonnets that leak; and coat packing gland threads and valve stems with a surface preparation of "Moly-Cote" or "Fel-Pro" after cleaning. The

Design-Build Entity shall verify that control valve seats are free from foreign material and are properly positioned for intended service.

2.3. Equipment Startup and Performance Testing

The Design-Build Entity shall be responsible for performance testing during startup of all mechanical, electrical, instrumentation, and piping equipment and systems.

A. Provide a testing plan setting forth the sequence in which all testing work required for the proposed upgrades will be implemented.

B. A documentation the results of all equipment and system tests and submit to the Owner. Provide calibration tags for all equipment certifying the date of calibration.

2.3. Instruction of Operations and Maintenance Personnel

Training shall be provided prior to turning the operation of a system, unit process or piece of equipment. Training shall be scheduled for each plant staff work shift accordingly. No system, unit process or any piece of equipment shall be started up for continuous operation without the approved operation and maintenance manuals being turned over to Owner.

Design-Build Entity shall provide services of supplier's operation and maintenance training specialists to instruct Owner's personnel in recommended operation and maintenance procedures for products and equipment. Supplier may be required to provide a combination of classroom and field training. All training shall be conducted at the site, unless otherwise stated in the Specifications. Owner reserves the right to videotape training sessions.

Training of plant's personnel shall commence only after acceptable preliminary operation and maintenance data have been provided and starting and placing equipment in operation and equipment and system startup and performance testing, has been completed. Provide written documentation and checklists outlining important training items. Provide spreadsheets needed to document new processes for input by operators.

Part 3 Technical Requirements

3.1. Plant Site / Civil Requirements

The Design-Build Entity shall be responsible for becoming completely familiar with the site conditions in connection with developing the final site plan including all site investigations, analysis of subsurface conditions, geotechnical

conditions, and soil borings. Limited geotechnical investigation data for the site are provided in Appendix A.

3.2 Demolitions

Design-Build Entity shall be responsible for all labor, materials, equipment and incidentals required for demolitions and pay for all disposal fees. Design-Build Entity shall not start removals without the permission of the Owner. At least 48 hours prior to commencement of any demolition activities, the Design-Build Entity shall advise the Owner, in writing, of the proposed schedule.

Design-Build Entity shall carry out operations so as to avoid interference with Owner's operations and work in the existing facilities. Design-Build Entity shall perform all demolition and removal work so as not to interfere with the use and safe passage to and from adjacent structures and shall prevent damage or injury to structures, occupants, and adjacent features, which might result from falling debris or other causes. Design-Build Entity shall erect and maintain barriers, lights, sidewalk sheds, and other necessary protective devices. The Design-Build Entity is responsible for repairing damage to the Owner's property or facilities.

Design-Build Entity shall not bring explosives on site nor use explosives without written consent of authorities having jurisdiction. Design-Build Entity shall use water sprinkling, temporary enclosures, and other suitable methods for dust control within the lowest practical level in compliance with governing regulations.
Surfaces of walls, floors, ceilings, or other areas, which are exposed by any of the removals, and which will remain as architecturally finished surfaces shall be repaired and re-finished by Design-Build Entity with the same or matching materials as the existing adjacent surface. Adjacent structures, facilities, and improvements of dust, dirt, and debris caused by demolition operations shall be cleaned and returned to pre-construction conditions.

Where piping that is to be removed passes through existing walls, the piping shall be cut off and properly capped on each side of the wall. When underground piping is to be altered or removed, the remaining piping shall be properly capped. Abandoned underground piping may be left in place and grouted under major structures/roadways, unless it interferes with the work. Any changes to potable water piping work shall be made in conformance with all applicable codes and under the same requirements as other underground piping.

All materials and equipment removed from existing work shall become the property of Design-Build Entity, except for those which Owner has identified and marked for their use. All materials and equipment marked by the Owner for

its use shall be carefully removed by Design-Build Entity so as not to be damaged, and shall be cleaned and stored in a protected location specified by the Owner. Design-Build Entity shall dispose of all demolition materials, equipment, debris, and all other items not marked by the Owner, off the work site and in conformance with all existing applicable laws and regulations. Upon completion of the work, all materials, equipment, waste, and debris of every sort shall be removed and premises shall be left, clean, neat and orderly.

3.3 Excavation and Backfill

Design-Build Entity shall furnish all labor, materials, equipment and incidentals required to perform all excavating, backfilling and disposing of earth materials required for the purpose of constructing structures, conduits, pipelines, grading, and other facilities required to complete the work in every respect.

Design-Build Entity shall be solely responsible for designing, installing, operating and maintaining whatever system is required to satisfactorily accomplish all necessary sheeting, bracing, protection, underpinning and dewatering.

Design-Build Entity shall be responsible for all field test data and shall submit to Owner copies of the following test reports from his testing laboratory.

Design-Build Entity shall perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction. Design-Build Entity shall obtain all necessary permits for work in roads, rights of way, etc. He shall also obtain permits as required by local, state and federal agencies for discharging water from excavations. The use of explosives will not be permitted.

Data on subsurface conditions will be made available by Owner for the convenience of Design-Build Entity. The reports are not intended as a representation or warranty of continuity of such conditions between soil borings. Owner will not be responsible for interpretations or conclusions drawn by Design-Build Entity. Additional test borings and other exploratory operations may be made by Design-Build Entity at no cost to Owner.

Drawings from existing records showing certain surface and underground structures adjacent to the work will be made available by Owner. It is not guaranteed to be correct or complete and is shown for the convenience of the Design-Build Entity. Design-Build Entity shall explore ahead of the required excavation to determine the exact location of all structures. They shall be supported and protected from damage by the Design-Build Entity. If they are broken or damaged, they shall be restored immediately by the Design-Build Entity at its expense.

Design-Build Entity shall locate existing underground utilities in the areas of work. If utilities are to remain in place, Design-Build Entity shall provide adequate means of protection during earthwork operations. If uncharted or incorrectly charted piping or other utilities are encountered during excavation, Design-Build Entity shall consult the Owner immediately for directions as to procedure. Design-Build Entity shall cooperate with Owner and utility companies in keeping respective services and facilities in operation. Design-Build Entity shall repair damaged utilities to the satisfaction of Owner.

Design-Build Entity shall not interrupt existing utilities serving facilities occupied and used by Owner or others, except when permitted in writing by Owner and then only after acceptable temporary utility services have been provided.

3.4 Cast-In-Place Concrete

Design-Build Entity shall be responsible for providing concrete consisting of portland cement, fine and coarse aggregate, water, and approved admixtures; then combined, mixed, transported, placed, finished and cured to accommodate the proposed work. All admixtures, curing compounds, etc. used in concrete or the curing and repair of concrete, which can contact potable water, shall be certified as conforming to the requirements of ANSI/NSF 61 for contact with potable water when in the finished concrete.

3.5 Miscellaneous Metals

All metals shall be non-ferrous except of steel reinforcing and as approved by the Owner. All bolt, nuts and washers shall be 316 stainless steel the nuts shall be coated to prevent galling. Anchor bolts shall be 316 stainless steel. Stanchions, pipe supports, equipment bases, braces and straps shall be 316 stainless steel or aluminum.

3.6 Painting

Design-Build Entity shall provide all labor, materials, tools, equipment, and incidentals as required to furnish and apply paint systems for surface preparation and painting of all new and existing interior and exterior items and surfaces throughout the project areas. Mechanical and process items to be painted include new and existing walls, floors, piping, mechanical equipment, supports, and any pertinent accessory items or area damaged by the construction activity. Owner's approval shall be required for all components of the surface preparation, selection of colors, and paint system application before start of proposed work.

Color-coding of pipelines, valves, equipment and ducts shall comply with applicable standards of ANSI A13.1, ANSI Z535.1, and 40 CFR 1910.144. Finish coats of paint for pipelines and equipment shall be coded in basic colors. Colors shall be brilliant, distinctive shades matching safety and pipeline colors per ANSI Z535.1, Recommended Standards for Water Works; Recommended Standards

for Wastewater Facilities, color specifications for safety colors and other primary colors.

Provide pipe labels with flow arrows at each change in direction, tees (all sides) and every 20 feet of straight run.

3.7 Valves and Piping Requirements

The Design-Build Entity is responsible for the final sizing and selection of all equipment, piping, and materials. Design-Build Entity shall provide all labor, materials, equipment, and incidentals to furnish and install valves, piping, and fittings complete and operational as required for the proposed work. The Design-Build Entity shall conform to the Palm Beach County Water Utilities Manual of Minimum Design and Construction Standards. Valves, piping, and fittings, including linings and coatings, that will convey potable water or water that will be treated to become potable shall be certified by an accredited organization in accordance with ANSI/NSF 61 as being suitable for contact with potable water, and shall meet requirements of the regulatory authorities having jurisdiction at work site.

The following information shall be submitted to the Owner for review and approval: detailed drawings and data on valves, piping, joints, fittings, gaskets, harnessing, and all other pertinent information required for the manufacture and performance history of the product; certificates of compliance with all applicable referenced standards and any provisions for valves, piping, joints, fittings, coatings, linings, sleeves, gaskets, harnessing, and all other appurtenances; complete field pressure testing, flushing, and disinfection plan

Materials shall be delivered to the site to ensure uninterrupted progress of the work. Valves, piping, fittings, specials and accessories shall be handled carefully with approved handling devices. Materials shall be stored on heavy wood blocking or platforms so they are not in contact with the ground. Delivered materials shall be inspected for cracked, gouged, chipped, dented or other damaged material and immediately removed from site. If in the process of manufacture, transportation, storage of handling, any valves, pipe, fittings or specials receive any damage such material shall be rejected and replaced at the Design-Build Entity's expense.

Pipe interiors shall be kept completely free from dirt and foreign matter. All piping shall be installed in complete accordance with the manufacturer's instructions and recommendations. If any piping must be cut, the work shall be done in a satisfactory manner using a machine specifically designed for cutting the pipe, so as to avoid damage to the pipe and to leave a smooth end. The manufacturer's field representative shall certify the installations observed were satisfactorily completed and all installation crews were familiar with the proper methods and procedures for the pipeline installations.

3.8 Secondary Containment Piping

Secondary containment piping shall be furnished for all chemical piping outside of that chemical's containment area. Secondary containment piping shall be Schedule 80, PVC construction, with fittings, as required and rated for 50 psig. Inner and outer systems shall be factory assembled. Secondary containment piping shall be. System shall have centralizers that center and support carrier pipe within double containment pipe. No mechanical elastomeric seal system will be accepted. Installation of all containment piping shall be as recommended by the containment pipe manufacturer. Installers shall use testing equipment recommended by the manufacturer for double containment piping.

Part 4 Electrical Requirements

4.1 Basic Requirements

Design-Build Entity shall design and provide all labor, materials, equipment and incidentals to complete the electrical work. All systems shall be properly grounded. Exterior systems shall have lightening protection.

4.2 Codes

Material and equipment shall be installed in accordance with the current standards and recommendations of the National Electrical Code, the National Electrical Safety Code, and with local codes, which apply. Where discrepancies arise between codes, the most restrictive regulation shall apply.

4.3 Area Classifications

A. Wet Locations

The following areas shall be considered wet locations:

1. All outdoor areas.
2. All indoor areas below grade unless otherwise specified.
3. Materials, equipment and incidentals in areas identified as wet locations shall meet NEC and NEMA requirements for wet locations. Enclosures shall meet NEMA 4 requirements as a minimum. Conduits shall be terminated at enclosures with watertight, threaded hubs.

B. Corrosive Locations

All chemical storage and pumping areas or rooms. Materials, equipment and incidentals in areas identified as corrosive shall meet NEC and NEMA requirements for corrosive locations. Conduit systems shall be PVC and enclosures shall meet NEMA 4X requirements. Conduits shall be terminated at enclosures with watertight hubs. Independent supports shall be PVC-coated galvanized steel, or fiberglass-reinforced epoxy struts.

4.4 Electrical Equipment

All new electrical equipment shall be capable of operating successfully at full-rated load, without failure, with an ambient outside air temperature of 0 degrees F to 122 degrees F and an elevation of 400 feet (MSL). All electrical devices and equipment shall have ratings based on 75 degrees C terminations. All electrical equipment enclosures at a minimum shall meet NEMA 12 requirements.

4.5 Schematic Diagrams

Schematic diagrams shall be prepared by the Design-Build Entity to act as guidance in fulfilling the operational intent of the conceptual documents. It shall be the Design-Build Entity's responsibility to meet all safety and electrical codes, and to provide all equipment, appurtenances and specialty items required to provide for complete and operable systems. Review of control schemes submitted by Design-Build Entity shall not relieve Design-Build Entity of their contractual responsibility to provide complete and successfully operating systems.

4.6 Raceway Systems

Design-Build Entity shall furnish and install conduit and fittings to form complete, coordinated and grounded raceway systems. Design-Build Entity shall provide for the proper installation of all conduits for each system.

A. Rigid aluminum conduit for exposed indoor conduit runs in non-corrosive areas and rigid aluminum at all other sites.
B. PVC Schedule 80 for individual conduit runs direct buried in earth and PVC coated rigid steel at all other sites (minimum 24-inch burial depth).
C. Schedule 40 PVC for conduit runs embedded in or under structural concrete slabs or in concrete ductbanks (all sites).
D. PVC schedule 80 conduit for exposed indoor and outdoor runs in corrosive areas and PVC coated rigid steel at all other sites.
E. Flexible conduit for connections to motors and equipment.
F. be provided.

4.7 Inspections, Testing and Adjustments

Accompany the normal installation tests with inspections to demonstrate to the satisfaction of the required judicial authorities the following:

A. Connections: All circuits are properly connected in accordance with the drawings and applicable approved shop drawings.
B. Operation: All circuits and devices are operable.
C. Identification: All conductors are properly identified at each terminal.

Test each electrical circuit after permanent cables are in place to demonstrate that the circuit and connected equipment perform satisfactorily and that they are free from improper grounds and short circuits. Individually test 600-volt cables for insulation resistance between phases and from each phase to ground. Test after cables are installed and before they are put in service with a Megger whose rating is suitable for the tested circuit. Tests shall meet with the applicable specifications of ICEA S 66 524 and NEMA WC7 1971. The insulation resistance

for any given conductor shall not be less than 1 megohm for 600 volt and less service. Any cable not meeting this value or which fails when tested under full load conditions shall be replaced with a new cable for the full length.

Test shielded instrumentation cable shields with an ohmmeter for continuity along the full length of the cable and for shield continuity to ground. Connect shielded instrumentation cables to a calibrated 4-20 milliamp DC signal transmitter and receiver. Test at 4, 12, and 20 milliamp transmitter settings.

Test the completed ground systems for continuity and for resistance to ground using an electrical ground resistance tester. Ground system resistance must be less than 5 ohms. Add up to two additional rods, spaced at 20 feet minimum from other electrodes, until resistance is less than 5 ohms.

Operate all starters, circuit breakers and associated equipment to demonstrate suitability and compliance with Specifications and reference standards, except for short circuit interrupting rating or other inherent design features covered by shop tests. Test all motors for direction of rotation and reverse connections if necessary. Check control circuits to determine that operation and sequence are correct and adjust limit switches, pressure switches, float switches, timers and other devices to give proper operation.

Part 5 Instrumentation and Control Requirements

5.1 General

Design-Build Entity shall provide all labor, materials, equipment and incidentals as shown, specified and required to furnish, install, calibrate, test, start-up and place in satisfactory operation a complete and operating system for proposed work, including programming of the PLC, SCADA, and all required wire terminations. Tag number, equipment number, and description shall match the Owners numbering convention standards.

5.2 Calibration, Start-Up and Testing

Field verify the calibration and performance of each instrument prior to start-up of the associated equipment, and document on a separate sheet for each.

5.3 System Check-Out and Start-Up Responsibilities

Design-Build Entity shall retain the services of the system supplier to supervise and/or perform check out and start up of all system components. As part of these services, the system supplier shall coordinate and include check-out and start-up for those equipment items not manufactured or provided by him. The services of an authorized manufacturer's representative to check the equipment installation and place the equipment in operation may be required. The manufacturer's representative shall be thoroughly knowledgeable about the installation, operation and maintenance of the equipment.

Check and approve the installation of all instrumentation and control system components and all cable and wiring connections between the various system components prior to placing the various processes and equipment into operation. Conduct a complete system checkout and adjustment, including calibration of all instruments, tuning of control loops, checking operation functions, and testing of final control actions. When there are future operational functions included in this work, they should be included in the system checkout. All problems encountered shall be promptly corrected to prevent any delays in start up of the various unit processes.

System supplier shall provide all test equipment necessary to perform the testing during system checkout and start up. Design-Build Entity and system supplier shall be responsible for initial operation of monitoring and control system and shall make any required changes, adjustment or replacements for operation, monitoring and control of the various processes and equipment necessary to perform the functions intended.

Design-Build Entity shall furnish to the Owner certified calibration reports for field instruments and panel mounted devices specified in this Section as soon as calibration is completed. Design-Build Entity shall furnish Owner an installation inspection report certifying that all equipment has been installed correctly and is operating properly. The report shall be signed by authorized representatives of both Design-Build Entity and the system supplier.

5.4. Instrumentation and Control System Field Test

Following the plant monitoring and control system checkout and initial operation, system supplier, under the supervision of the Design-Build Entity, shall perform a complete system test to verify that all equipment and programmed software is operating properly as a fully integrated system, and that the intended monitoring and control functions are fully implemented and operational. Any defects or problems found during the test shall be corrected by system supplier, and then retested to demonstrate proper operation. Following demonstration of all system functions, the plant monitoring and control system including field sensors/transducers and instruments, and telemetry system shall be running and fully operational for a continuous 72 hour period.

5.5 Control Panels and Enclosures

Control panels located inside control or electrical room areas shall be NEMA 12 rated unless differently noted on drawings. All others shall be stainless steel or non-metallic NEMA 4 except in corrosive areas, which shall be NEMA 4X. Provide panel ventilation or air conditioning if required by ambient conditions. Use pan type construction for doors. Door widths shall not exceed 36-inches. Exterior panel with displays shall face north. Exterior control panels shall be 316 stainless steel with powder coated white epoxy exterior finish.

5.6 Surge Protection

Surge protection shall be provided to protect all electronic instrumentation from surges propagating along the signal, telephone, and power supply lines. Locate the suppression device as close as possible to the load device. The protection systems shall be such that the protection level shall not interfere with normal operation, but shall be lower than the instrument surge withstand level, and be maintenance free and self-restoring. Instruments shall be housed in suitable metallic cases, properly grounded. Ground wires for all surge protectors shall be connected to a good earth ground and where practical each ground wire run individually and insulated from each other.

ATTACHMENT - 1

Preliminary Design Report, Structural Design Criteria, Chapter 7 (7.2, 7.4, 7.5, 7.6 and 7.7). Chapter 8 ((Tables 8.6 and 8.9)

Palm Beach County Water Utilities Department

MIEX® TREATMENT SYSTEM – SYSTEM 2 WTP

PRELIMINARY DESIGN REPORT
PROJECT NO. WUD 09-046

JULY 2009

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EXECUTIVE SUMMARY

ES 1.0 INTRODUCTION

It is Palm Beach County Water Utilities Department's (PBCWUD) intention to replace the existing ozone treatment system at System 2 Water Treatment Plant (WTP). PBCWUD desires that the replacement technology to the existing ozone system remove dissolved organic carbon (DOC), as well as color from the source water; therefore, selected the option of a high rate magnetic ion exchange (MIEX®) treatment system for installation at System 2 WTP. There will be no changes to the raw water supply system, softening process (precipitators), filters, chlorine disinfection facilities (other than what is discussed in Chapter 4 regarding the use of the existing salt saturators associated with the onsite sodium hypochlorite generation system), chemical feed facilities, clearwell storage, or finished water pumping and distribution associated with this project. However, the total plant flow will be increased from 14.5 mgd to 16.4 mgd by utilizing more available filtration capacity without modifications to the softening basins or filters.

There are 14 groundwater supply wells that serve System 2 WTP. The supply wells draw from the local underground Biscayne Aquifer. System 2 WTP has two separate conventional lime softening treatment trains. Precipitator No. 1, serving one train, is rated at 3.5 mgd and Precipitator No. 2, serving the other train, is rated for 11.0 mgd. Dual media filtration follows softening and there are 14 existing filters. The total plant capacity was previously based on the maximum softening capacity, although the filters are rated at a total capacity of 16.7 mgd. Ozone was installed at System 2 WTP in 1994 to achieve color reduction of the finished water but is to be removed as a result of this project for multiple reasons. An existing maintenance building was identified on-site as a potential location to locate the virgin resin storage, virgin resin tank, and accessories associated with the MIEX® treatment system. The plant currently produces all of the chlorine used by the treatment process on-site with sodium hypochlorite generating equipment, which has sufficient capacity so this system may be utilized to pump saturated brine to the saturated brine storage tank associated with the MIEX® system.

The regulatory evaluation involved a review of current and anticipated water quality regulations that may be impacted by the MIEX® process. This review was performed in consideration of the following current and anticipated drinking water regulations that are directly applicable to this project.

Use of the MIEX® treatment system will provide water quality benefits because the use of this process will reduce disinfection byproducts (DBPs) via the reduction of DBP forming organic precursors. Based on State and federal regulations, as well as the laboratory testing performed by Orica and PBCWUD's desire to reduce color and organics, it is recommended that PBCWUD establish a realistic finished water color goal of less than or

equal to 5 cu. Operations at System 2 WTP have utilized softening for both color removal, as well as calcium removal. With the installation of the MIEX® treatment system, the reliance of the precipitators for color removal will be diminished. One method of optimizing the softening process is to bypass a portion of the flow around the precipitators in order to produce an optimal blend of finished water hardness. Up to 1.9 mgd may bypass softening to be blended with softener effluent to increase the total plant capacity to 16.4 mgd. This will allow the softeners to operate at a combined flow of 14.5 mgd while utilizing more available filtration capacity without any upgrades or modifications to the filters.

The high rate (HR) MIEX® treatment system utilizes ion exchange with magnetized anionic resin in a fluidized bed reactor (referred to as the contactor). As a result of investigating the HR MIEX® design parameters, the rated capacity of the System 2 WTP, and reviewing the process and project cost considerations with PBCWUD and Orica, two HR MIEX® process trains operating at a hydraulic loading rate of 10 gpm/ft^2 are recommended, along with the other required systems including a resin regeneration system to provide regeneration at a rate of 600 bed volumes (BV). The incorporation of the MIEX® treatment system at the System 2 WTP will be provided in two phases. Phases I and II will be designed and bid concurrently; however, Phase II will be a bid alternate. Ozone demolition will be bid as a deductive bid alternate as well. Should bid prices be received within PBCWUD's available funds, the complete project will be constructed.

The proposed MIEX® treatment system was sited to the North of the existing maintenance building due to its proximity to the building (where virgin resin will be transferred and stored), as well as its location near the edge of the Zone 1 boundary of Well No. 2. This area is generally open without a significant number of buried utilities. There are some advantages and disadvantages to locating the treatment process in this area, but this alternative was ultimately selected. Civil elements of the System 2 WTP project include a boundary and topographic survey of the site, paving, grading, drainage, a gravity waste line, mechanical piping, and a traffic statement.

The proposed MIEX® system will be powered from the existing electrical distribution system in the Ozone building. The existing FPL power line and power poles, located on the North of the maintenance building, will need to be relocated. Hillers Electrical Engineering will coordinate with FPL for the details of this relocation. A new main MIEX® control panel, NEMA 12 rated steel enclosure, will be provided by Orica for the proposed MIEX® system. A new SCADA computer system will be provided, which will have Intellution iFIX and be connected to the existing Ethernet switch.

The total estimated construction cost for both Phases I and II is $9,270,000. If the Phase II alternate is not selected, then the total estimated construction cost for Phase I alone is $7,080,000.

Palm Beach County Water Utilities Department

MIEX TREATMENT SYSTEM – SYSTEM 2 WTP

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7.1 STRUCTURAL DESIGN CRITERIA

This chapter presents the design criteria for the MIEX® treatment system proposed for the System 2 Water Treatment Plant (WTP).

7.2 SCOPE

The structures include:

1. Contactors
2. Foundations for the following structures:
   a. Contactors
   b. Regeneration System Skid
   c. Recycled Brine Tank

7.3 SERVICEABILITY AND EXPOSURE

For structures containing water, the Z factor of 115 kips/in shall be used for the water treatment plant.

7.4 WIND DESIGN

See the following for wind design parameters for the 2007 Florida Building Code:

3 second Gust Wind Speed:	140 mph
$Exposure_s$:	B
Importance Factor:	1.15

Use ASCE 7-05 analysis methods as supplemented by the 2007 Florida Building Code.

7.5 LIVE LOAD

Design live loads based on Carollo Engineer's Project Engineers Manual, Structural Design Criteria or as indicated on the table below unless loads from the 2007 Florida Building Code are larger.

- Liquid Load - 63 pcf times the height of liquid (lateral and vertical)
- Equipment Access Areas -100 psf
- Equipment Loads-Use actual equipment loads as provided by process, mechanical or electrical group.

- Electrical Equipment Areas - 250 psf
- Stairs - 100 psf
- Walkways and Elevated Platforms - 60 psf
- Handrails, guardrails, and grab bars - per 2007 Florida Building Code

7.6 MATERIALS

The contactors will be constructed of reinforced concrete. Foundations will be constructed of reinforced concrete. Metal used for structural framing, stairs, etc. will be aluminum. The use of steel will be limited, and where provided, will shop coated with epoxy for corrosion protection.

Concrete:	F'_c = 4,000 psi
Reinforcing bars:	Grade 60
Steel:	A 992 Grade 50 for W Shapes
	A 36 for other structural steel
Aluminum:	6061-T6
Masonry:	F'_m = 1,500 psi

7.7 SOIL LOAD AND FOUNDATION DESIGN

- Design soil load shall be based on the geotechnical report.
- Foundation design shall be based on the geotechnical report.

PROCESS MECHANICAL CRITERIA

8.1 PROCESS/MECHANICAL DESIGN CRITERIA

This chapter presents the design criteria for the MIEX® treatment system proposed for the System 2 Water Treatment Plant (WTP). Each component of the MIEX® treatment system will be designed to treat the influent raw water to meet the treatment objectives and water quality goal presented in Chapter 3.

8.2 OPERATIONAL FLOW CONTROL AND MIEX® BYPASS

8.2.1 MIEX® Bypass

The MIEX® process bypass will allow raw water to be diverted directly to the precipitators without treatment by MIEX®. Control of this bypass is accomplished by a flow meter and control valve in the 24-inch influent water main to Precipitator No's. 1 & 2. Design criteria for the MIEX® process bypass are summarized in Table 8.1.

Table 8.1 Table MIEX® Bypass Design Criteria
MIEX® Treatment System – System 2 WTP
Palm Beach County Water Utilities Department

Description	Criteria	Units
Design Flow	0-7.25	mgd
Valve position	25-75	% open
Meter Type	Magnetic flow tube	
Valve		
Type	Butterfly	
Actuator	Electric	

8.2.2 Softening Process Bypass

The Softening process bypass will allow MIEX® treated water to bypass the softening for blending downstream of the existing softeners. Control of this bypass is accomplished by a flow meter and control valve in a 24-inch pipe connecting the MIEX® basin effluent to upstream of the filters in Train 2. Design criteria for the softening process bypass are summarized in Table 8.2.

Table 8.2 Softening Process Bypass Design Criteria MIEX® Treatment System – System 2 WTP Palm Beach County Water Utilities Department		
Description	**Criteria**	**Units**
Design Flow	0 - 1.9	mgd
Valve position	25-75	% open
Meter Type	Magnetic flow tube	
Valve		
Type	Butterfly	
Actuator	Electric	

8.3 CONTACTORS

8.3.1 Raw Water Distribution

Raw water, under pressure from the well pumps, will be conveyed via the existing on site 24-inch and 14-inch transmission mains to a flow distribution structure at the head of the MIEX® contactor basins. The discharge piping from Well No. 1, an 8-inch line, will be re-routed to tie into a new 30-inch common header. Removal of a portion of the 8-inch line is necessary, as it would conflict with the location selected for the contactors. Therefore, the 24-inch, 14-inch, and a new 8-inch line will converge into a 30-inch steel pipeline, which discharges into the influent distribution structure. Raw water flow, the amount of water to achieve the 14.5 million gallons per day (mgd) rating of the WTP, will enter the distribution structure and flow over two weirs into two separate collection chambers. The weirs will split the flow equally between the two contactors. Flow from the collection chamber will pass through a 24-inch steel pipe and be distributed into the contactor/fluidized bed of resin. Laterals branching out from the 24-inch steel piping will provide even flow distribution in each contactor. Table 8.3 summarizes the criteria of the influent distribution structure.

Table 8.3 Influent Distribution Structure Design Criteria MIEX® Treatment System – System 2 WTP Palm Beach County Water Utilities Department		
Description	**Criteria**	**Units**
Structure Type	Cast-in-place concrete	
Hydraulic Loading Rate	0.25	ft/s
Weir Length	4	ft
Weir Type	Fiberglass, fixed	
Gate Type	Downward closing slide gate	

Resin addition (from the fresh resin tank) is accomplished in the influent flow distribution structure. Resin is added in this location to ensure equal distribution of (both new and fresh) resin between Contactor Nos. 1 and 2. Each weir will be provided with a downward closing gate for isolation. An overflow pipe from the resin transfer tank will discharge upstream of the weirs as well.

8.3.2 Contactor

Upon being distributed evenly into the fluidized resin bed, raw water flows upward through the contactor. Table 8.4 summarizes the criteria of the contactors:

Table 8.4 Contactor Process Design Criteria
MIEX® Treatment System – System 2 WTP
Palm Beach County Water Utilities Department

Description	Criteria	Units
Structure Type	Cast-in-place concrete	
Volume, Reaction Zone, per Contactor	3,750-6,250	ft^3
Basin Length, Width	25	ft
Water Depth, Reaction Zone	6-10	ft
Detention Time, in reaction chamber		
At Min Tube Settler Elevation	5.0	min.
At Max Tube Settler Elevation	10.0	min.
Hydraulic Loading Rate	10.0	gpm/ft^2
Weir Loading Rate, Max.	20	gpm/ft
Maximum Process Flowrate, per contactor (at design hydraulic loading rate)	9.0	mgd

Surface (platform) mounted propeller mixers will provide mixing input energy to keep the bed fluidized. This fluidization will provide contact between the raw water and resin for the ion exchange process to occur. The variable speed mixers will be controlled and interfaced through the Orica supplied PLC. Table 8.5 identifies the mixer criteria, shaft material, and drive information.

Table 8.5 Propeller Mixer Design Criteria
MIEX® Treatment System – System 2 WTP
Palm Beach County Water Utilities Department

Description	Criteria	Units
Number of mixers, per	9	

Table 8.5 Propeller Mixer Design Criteria MIEX® Treatment System – System 2 WTP Palm Beach County Water Utilities Department		
Description	**Criteria**	**Units**
contactor		
Motor Horsepower, per mixer	2.0	hp
Tip Speed, maximum	7.5	ft/s
Pumping Capacity	11,000	gpm
Shaft and propeller material	Type 316 SS	
Drive Type	VFD	
Volts/Phase/Hertz	460/3/60	

An airlift pump will be utilized at each contactor to transfer resin slurry from the fluidized bed to the resin transfer tank (located on top of the contactors), where it will be thickened prior to regeneration. Controls for the valves in the compressed air system, which supplies air to the pump is controlled and interfaced through the Orica supplied PLC. The airlift pump criteria are listed in Table 8.6.

Table 8.6 Air Lift Pump Design Criteria MIEX® Treatment System - System 2 WTP Palm Beach County Water Utilities Department		
Description	**Criteria**	**Units**
Number of pumps, per contactor	1	
Rated flow	50	gpm
Air demand, each	10	scfm
Air pressure required at inlet	8	psig
Air source	Compressor	
Required lift	14	ft
Piping material	PVC	

The resin transfer tank criteria are listed in Table 8.7.

Table 8.7 Resin Transfer Tank Design Criteria MIEX® Treatment System – System 2 WTP Palm Beach County Water Utilities Department		
Description	**Criteria**	**Units**
Number of tanks	1	
Nominal Capacity	2,800	gal

Table 8.7 Resin Transfer Tank Design Criteria MIEX® Treatment System – System 2 WTP Palm Beach County Water Utilities Department		
Description	**Criteria**	**Units**
Tank Diameter	8	ft
Material	HDPE	

Tube settlers will be provided in each contactor, which will be supported by a series of steel beams. There will be two layers of tubes; each layer will be 2-feet thick. The units supplied will be NSF approved. In an effort to minimize the volume of excess resin in inventory in the reaction zone, the elevations of the steel beam supports will be adjustable. A minimum of two mounting locations will be provided. If excessive tube fouling or resin loss is observed during operation, relocation of the tube settlers to a higher elevation will be possible without any design changes or new construction required. The tube settler design criteria are summarized in Table 8.8.

Table 8.8 Tube Settler Design Criteria MIEX® Treatment System – System 2 WTP Palm Beach County Water Utilities Department		
Description	**Criteria**	**Units**
Number of layers of tubes	2	
Layer height	2	ft
Hydraulic diameter, Max.	2	in
Hydraulic loading rate (9 mgd per train)	10	gpm/ft^2
Material	PVC	

Two rotary screw air compressors with integral receivers will be provided to meet the compressed air needs of the system. One air compressor will be dedicated as the duty compressor and the other as standby. The air compressors will be installed in the existing maintenance building near the virgin resin storage and feed system. Controls to the compressors and compressed air system will be controlled and interfaced through the Orica supplied PLC. Table 8.9 summarizes the air compressor design criteria.

Table 8.9 Air Compressor Design Criteria MIEX® Treatment System – System 2 WTP Palm Beach County Water Utilities Department		
Description	**Criteria**	**Units**
Number of units	2	
Type	Rotary Screw	
Displacement	83	Scfm

Table 8.9 Air Compressor Design Criteria MIEX® Treatment System – System 2 WTP Palm Beach County Water Utilities Department		
Description	**Criteria**	**Units**
Operating Pressure	125	psig
Receiver Volume (each compressor)	240	Gal
Motor Horsepower (each)	20	hp
Motor Speed	1,800	rpm

8.3.3 Regeneration System

The regeneration system will be designed to remove DOC from the resin by exchanging it with chloride ions utilizing a salt brine solution (NaCl). Control of the valves, pumps, and mixers will be accomplished and interfaced through the Orica supplied PLC. The design criteria for the regeneration system are summarized in Table 8.10.

Table 8.10 Regeneration System Design Criteria MIEX® Treatment System – System 2 WTP Palm Beach County Water Utilities Department		
Description	**Criteria**	**Units**
Tanks		
Regeneration rate		
Maximum	600	BV
Minimum	1,000	BV
Volume of resin per cycle	1,600	gal
Number of tanks	2	
Nominal capacity, each	6,500	gal
Tank diameter, each	11'-0"	ft
Material	FRP	
Mixers		
Number of mixers, per tank	1	
Motor Horsepower	2.0	hp
Tip Speed, maximum	12.0	ft/s
Shaft and propeller material	Type 316 SS	
Drive Type	Constant Speed	
Volts/Phase/Hertz	460/3/60	

Table 8.10 Regeneration System Design Criteria MIEX® Treatment System – System 2 WTP Palm Beach County Water Utilities Department		
Description	**Criteria**	**Units**
Underdrain Pump		
Type	Air operated, double diaphragm	
Number of pumps, per regeneration tank	1	
Rated flow	75	gpm
Air pressure required at inlet	40-60	psig
Pump material	Polypropylene	
Fresh Resin Pump		
Type	Centrifugal, screw type impeller	
Number of pumps, per regeneration tank	1	
Rated flow	150	gpm
Rated head	58	ft
Motor horsepower	10.0	hp
Drive Type	VFD	
Volts/Phase/Hertz	460/3/60	

Following a regeneration cycle, the fresh resin pump transfers resin to the fresh resin tank, where it is stored and fed slowly back into the contactors. The design criteria for the fresh resin tank are summarized in Table 8.11.

Table 8.11 Fresh Resin Tank Design Criteria MIEX® Treatment System - System 2 WTP Palm Beach County Water Utilities Department		
Description	**Criteria**	**Units**
Number of tanks	1	
Nominal Capacity	2,800	gal
Tank Diameter	8	ft
Material	HDPE	

8.3.4 Virgin Resin System

The virgin resin system consists of a virgin resin tank with mixer, bulk virgin resin storage bag opening mechanism "bag buster", virgin resin transfer pump, and virgin resin bulk storage (up to three bags). The virgin resin transfer pump conveys virgin resin from the virgin resin tank to the regeneration tank. Control of the valves, pump, and mixer will be accomplished and interfaced through the Orica supplied PLC. Table 8.12 summarizes the design criteria for the virgin resin system.

Table 8.12 Virgin Resin System Design Criteria
MIEX® Treatment System - System 2 WTP
Palm Beach County Water Utilities Department

Description	Criteria	Units
Tank		
Number of tanks	1	
Nominal capacity, each	800	gal
Tank length, width	5'-6"	ft
Material	Carbon Steel	
Mixer		
Number of mixers, per tank	1	
Motor Horsepower	0.5	hp
Tip Speed, maximum	12.0	ft/s
Shaft and propeller material	Type 316 SS	
Drive Type	Constant Speed	
Volts/Phase/Hertz	460/3/60	
Virgin Resin Pump		
Type	Air operated, double diaphragm	
Number of pumps	1	
Rated flow	15	gpm
Air pressure required at inlet	30-40	psig
Pump material	Polypropylene	

The existing 2-ton hoist in the maintenance building will be utilized to transfer the bulk virgin resin storage bags. This includes truck-unloading, transfer to the storage location (adjacent to virgin resin storage tank), and then to the bag buster for virgin resin feed.

The existing man doors, as well as large doors associated with the hoist monorail system will be replaced with hurricane rated steel doors.

8.3.5 Recycled Brine Tank

The recycled brine tank will be used to store brine recycled during the regeneration process. Table 8.13 summarizes the design criteria for the recycled brine tank.

Table 8.13 Recycled Brine Tank Design Criteria
MIEX® Treatment System – System 2 WTP
Palm Beach County Water Utilities Department

Description	Criteria	Units
Number of tanks	1	
Nominal capacity, each	6,000	gal
Tank diameter, each	10'-0"	ft
Material	HDPE	

The recycled brine pump will transfer recycled brine from the recycled brine tank to the regeneration tank. Table 8.14 summarizes the design criteria for the recycled brine pump.

Table 8.14 Recycled Brine Pump Design Criteria
MIEX® Treatment System – System 2 WTP
Palm Beach County Water Utilities Department

Description	Criteria	Units
Type	Centrifugal	
Number of pumps	2	
Rated flow	180	gpm
Rated head	20	ft
Pump impeller/casing material	Non-metallic	
Motor horsepower	10	hp
Drive Type	Magnetic coupled	
Volts/Phase/Hertz	460/3/60	

8.3.6 Saturated Brine Tank and Pumping

Saturated brine solution will be pumped from the saturators associated with the existing on-site sodium hypochlorite generation system via the saturated brine storage pump to the saturated brine tank. Table 8.15 summarizes the saturated brine storage pump criteria. Since this pump is critical to the operation of the regeneration system, a duty and standby pump will be installed. Controls of the saturated brine storage pump will be accomplished

and interfaced through plant control system, with signals calling the pumps to run from the Orica Provided PLC.

Table 8.15 Saturated Brine Storage Pump Design Criteria MIEX® Treatment System – System 2 WTP Palm Beach County Water Utilities Department

Description	Criteria	Units
Type	Centrifugal	
Number of pumps	2	
Rated flow	10	gpm
Rated head	15	ft
Pump impeller/casing material	Non-metallic	
Motor horsepower	1	hp
Drive Type	Magnetic coupled	
Volts/Phase/Hertz	460/3/60	

Saturated brine will be stored in the saturated brine storage tank as the demand flow rate for saturated brine during a regeneration cycle is greater than the available flow rate of the saturators. Saturated brine will be continuously be pumped to the tank to maintain a high level setpoint. The design criteria for the saturated brine storage tank are summarized in Table 8.16.

Table 8.16 Saturated Brine Storage Tank Design Criteria MIEX® Treatment System – System 2 WTP Palm Beach County Water Utilities Department

Description	Criteria	Units
Number of tanks	1	
Nominal capacity, each	1,000	gal
Tank diameter, each	6	ft
Material	FRP	

During the step when saturated brine is required in a regeneration cycle, the saturated brine transfer pump will covey saturated brine solution from the saturated brine tank to the regeneration tank. Controls of the saturated brine transfer pump will be accomplished and interfaced through plant control system, with signals calling the pumps to run from the Orica Provided PLC. Table 8.17 summarizes the criteria of the saturated brine transfer pump. Due to the importance of this pump on the operation of the regeneration system, a duty and standby pump will be installed.

Table 8.17 Saturated Brine Transfer Pump Design Criteria MIEX® Treatment System – System 2 WTP Palm Beach County Water Utilities Department		
Description	**Criteria**	**Units**
Type	Centrifugal	
Number of pumps	2	
Rated flow	50	gpm
Rated head	40	ft
Pump casing/impeller material	Non-metallic	
Motor horsepower	2.0	hp
Drive Type	Magnetic coupled	
Volts/Phase/Hertz	460/3/60	

8.3.7 Brine Waste Disposal

Waste brine from the regeneration process will be disposed via the plant wastewater lift station that is currently being designed and constructed. The regeneration system underdrain pump, discussed previously, will convey the waste brine and discharge to the influent wet well of the lift station. An air gap will be provided, at the pump discharge, to eliminate the potential for a cross-connection. The pump will be controlled and interfaced through the Orica supplied PLC. Table 8.18. The underdrain pump design criteria were summarized previously in Table 8.10.

Table 8.18 Waste Brine Design Criteria MIEX® Treatment System – System 2 WTP Palm Beach County Water Utilities Department		
Description	**Criteria**	**Units**
Waste brine volume	600	gal/MG[1]
Waste brine concentration, NaCl	90,000-100,000	mg/L
Note: 1. Units refer to million gallons (MG) of water treated.		

8.4 MATERIALS

A preliminary mechanical valve list, provided by Orica, is included in Appendix C. Valve types, materials, and service conditions are included in this list. A preliminary standard mechanical specification, provided by Orica, is also included in Appendix C. Performance requirements and standards materials for the Orica supplied equipment is included in this specification.

8.5 PROCESS FLOW DIAGRAM

Process and instrumentation and control (P&ID) diagrams developed by Orica are presented as Figures 8.1 through 8.8.

ABBREVIATIONS

AI	ANALOG INPUT
AO	ANALOG OUTPUT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
CI	CAST IRON
CONC	CONCENTRIC
CS	CARBON STEEL
DI	DISCRETE INPUT
ECC	ECCENTRIC
EL	ELEVATION
FC	FAIL CLOSED
FI	FAIL INDETERMINATE
FL	FAIL LOCKED
FLG	FLANGE
FO	FAIL OPEN
GPM	GALLONS PER MINUTE
HP	HIGH PRESSURE
LC	LOCKED CLOSED
LO	LOCKED OPEN
LLL	LOW PRESSURE CONDENSATE
LP	LOW PRESSURE
LT	LOW TEMPERATURE
MAX	MAX
MCC	MOTOR CONTROL CENTER
MIN	MINIMUM
MW	MAINWAY
NC	NORMALLY CLOSED
NLL	NORMAL LIQUID LEVEL
NO	NORMALLY OPEN
ORIF	ORIFICE
PE	PRESSURE END
RED	REDUCER
SC	SAMPLE CONNECTION
SCH	SCHEDULE
SD	SHUTDOWN
SP	SAMPLE POINT
SS	STAINLESS STEEL
STD	STANDARD
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TYP	TYPICAL
TIP	TIE IN POINT

PIPING CLASS

SYMBOL	ANSI RATING	BASE MATERIAL
A1		CARBON STL
A2	150# RF	304
C1	SCH 80	PVC
D1	SCH 40	DUCTILE IRON

LINE CONTENTS

REF. DWG.
NOTE

LINE CONTENTS IN OR OUT OF DRAWING

VALVE SYMBOLS

GATE VALVE
GLOBE VALVE
BALL VALVE
BUTTERFLY VALVE
CHECK VALVE
DIAPHRAM VALVE
NEEDLE VALVE
PINCH VALVE
RELIEF VALVE
VALVE WITH HAND OPERATOR
SOLENOID VALVE
ELECTRICAL MOTOR OPERATED VALVE
DIAPHRAM OPERATED VALVE
3-WAY SOLENOID VALVE
ROTOMETER
PRESSURE REDUCING VALVE (SELF CONTAINED)
PISTON OPERATED VALVE
QUICK COUPLING HOSE CONNECTION
THREADED HOSE CONNECTION
FLOAT VALVE

GENERAL SYMBOLS

UNION
DRAIN
"Y" STRAINER
"T" STRAINER
FLEXIBLE HOSE
FLANGE
REDUCER (CONCENTRIC)
DIAPHRAGM SEAL
CENTRIFULGAL PUMP FOOT MOUNTED
CENTRIFUGAL PUMP RECEIVER MOUNTED
SLOPE LINE
MAGNETIC FLOW METER
PADDLE WHEEL FLOW METER
DOUBLE DIAPHRAGM PUMP (AIR OPERATED)
DOUBLE DIAPHRAGM PUMP (MOTOR OPERATED)
BLOWER OR FAN
COMPRESSOR
ANALYTICAL POINT
ADJUSTABLE SPEED CONTROL (ELECTRIC)
VARIABLE SPEED DRIVE (MECHANICAL)
VARIABLE FREQUENCY DRIVE
REDUCER/MOTOR DRIVE UNIT

IDENTIFICATION LETTERS

	FIRST LETTER: MEASURED OR INITIATING VARIABLE	FIRST LETTER: MODIFIER	SUCCEEDING LETTER: READOUT OR PASSIVE FUNCTION	SUCCEEDING LETTER: OUTPUT FUNCTION	SUCCEEDING LETTER: MODIFIER
A	ANALYSIS		ALARM	USER'S CHOICE	USER'S CHOICE
B	BURNER, COMBUSTION		USER'S CHOICE	CONTROL	(CLOSED)
C	CONDUCTIVITY				
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE (EMF)		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	GAUGING		GLASS, VIEWING DEVICE		
H	HAND (MANUAL)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOISTURE	MOMENTARY			MIDDLE INTERMEDIATE
N	USER'S CHOICE	(NORMALLY)	USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		(OPEN)
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL	UNCLASSIFIED	
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED		UNCLASSIFIED
Y	EVENT, STATE, OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

INSTRUMENTIDENTIFICATION

	FIELD MOUNTED	PRIMARY LOCATION FIELD PANEL MOUNTED	PRIMARY LOCATION INACCESSIBLE OR BEHIND PANEL	AUXILIARY LOCATION MAIN CONTROL ROOM	AUXILIARY LOCATION INACCESSIBLE OR BEHIND PANEL
DISCRETE INSTRUMENT	◯	⊖	⊖	⊖	⊜
SHARED DISPLAY, SHARED CONTROL	◯	⊖	⊖	⊖	⊜
COMPUTER FUNCTION	⬡	⬡	⬡	⬡	⬡
PROGRAMMABLE LOGIC CONTROL	◇	◇	◇	◇	◇

HHA PANEL #3 — ALARMS/ACTIONS — PANEL LO.

UNDEFINED INTERLOCK LOGIC

EXAMPLE ALARMS OR ACTIONS

HA HIGH ALARM
HHA HIGH HIGH ALARM
HOA HAND/OFF/AUTO
HOR HAND/OFF/REMOTE
JOR JOG/OFF/REMOTE
LOR LOCAL/OFF/REMOTE
OO ON/OFF

GENERAL SYMBOLS (CONT.)

SEPARATOR
FILTER/REGULATOR
FILTER
VENT
MIXER
SAFETY SHOWER WITH EYEWASH

LINE LEGEND

EQUIPMENT BOUNDARY
EXISTING
MAIN PROCESS FLOW DIRECTION OF FLOW SHOWN
SECONDARY PROCESS FLOW
PNEUMATIC SIGNAL
ELECTRIC SIGNAL
CAPILLARY TUBE OR FILTER SYSTEM
ELECTRIC BINARY
SOFTWARE OR DATA LINK
MECHANICAL LINK
HYDRAULIC
ELECTROMAGNETIC OR SONIC SIGNAL (GUIDED)
ELECTROMAGNETIC OR SONIC SIG. (UNGUIDED)
EQUIPMENT NOT BY ORICA
PA — PLANT AIR SUPPLY
IA — INSTRUMENT QUALITY AIR
WS — PLANT WATER U.O.M.

LINE NUMBERING SYSTEM

EXAMPLE: CSW 12" A2 100 I

- SERVICE (SEE SERVICE TABLE)
- NOMINAL PIPE SIZE
- PIPING CLASS (SEE PIPING TABLE)
- LINE NUMBER
- INSULATION, NOTES, WHERE INCLUDED

SERVICE

AS AIR SCOUR
BR BRINE
DR DRAIN
ME MIEX TREATED WATER
FR FRESH RESIN
HPA HIGH PRESSURE AIR
LR LOADED RESIN
OF OVERFLOW
RBS RINSE/BRINE/SUPERNATANT WASTE
RM RINSE/MAKEUP
RR RECYCLED RESIN
RWRAW WATER
SA SAMPLE
SALT BULK SALT
SSS SATURATED SALT SOLUTION
SR SPENT RESIN
SRR SUPERNATANT/BRINE/RINSE WATER
SWSERVICE WATER
VR VIRGIN RESIN
WMMAKEUP WATER
WWWASTE BRINE
WSSOFT WATER

Figure 8.1

REV	REVISION DESCRIPTION	DATE	CHANGED BY	CHECKED BY	SUBMITTED BY
A	PROPOSAL	9 JUL 09	D.GORLOW		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN FT-IN

PROJECT NUMBER:
PROJECT MANAGER:
STATUS:
ARCHIVE:
OTHER:

ORICA WATERCARE

ORICA	SIGNATURE	DATE
DRAWN	D.GORLOW	9 JUL 09
DESIGNED		
ENGINEERING CHECK		
CLIENT	SIGNATURE	DATE
CLIENT REVIEW	-	-
CLIENT ACCEPTANCE	-	-

CAD FILE NAME

MIEX PRE-TREATMENT SYSTEM

PALM BEACH COUNTY, FL 14.5 MGD

PIPING & INSTRUMENTATION DIAGRAM P&ID SYMBOLS

REVISION: A | DRAWING NO.: NAXXXX-00-03-001 | SHEET NO.: 1 OF 1

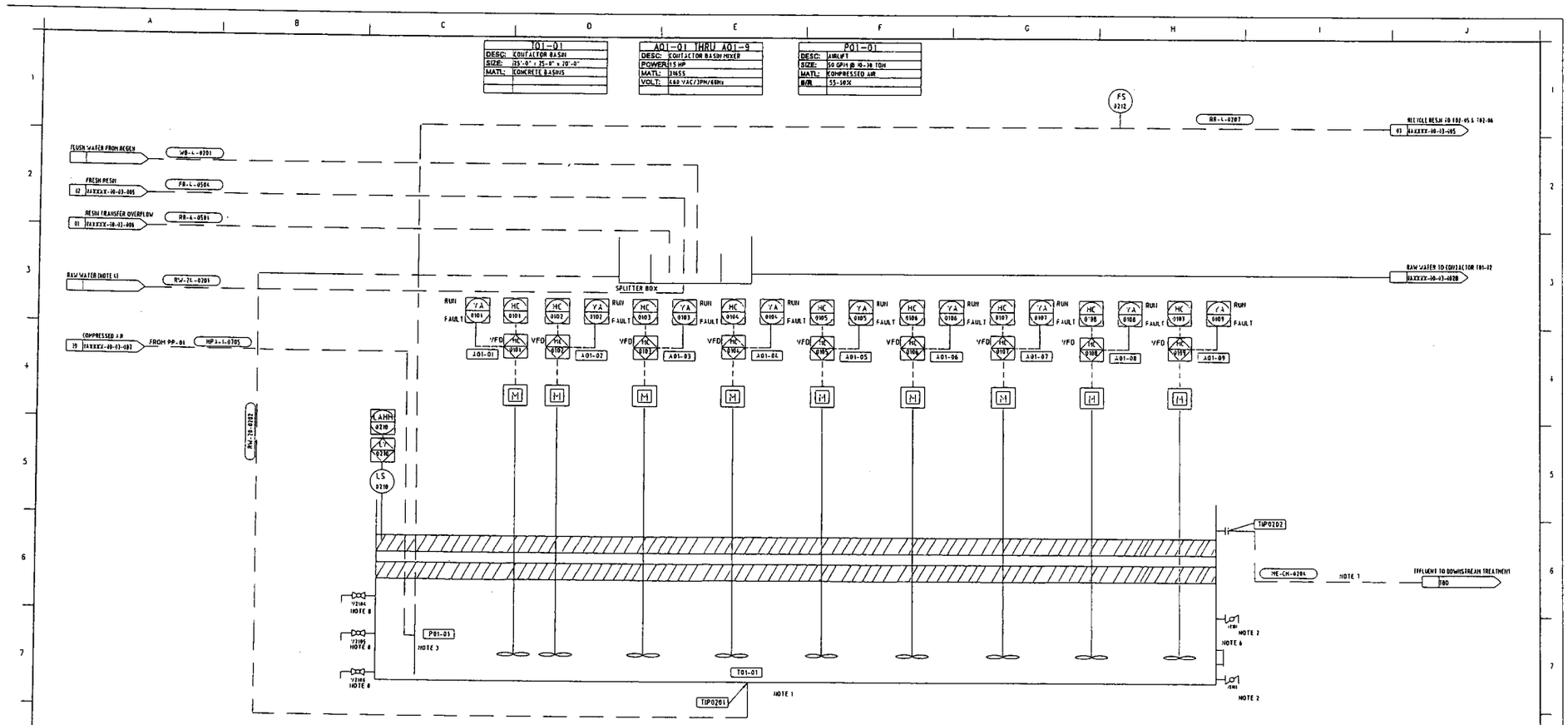

Figure 8.2

REV	REVISION DESCRIPTION	DATE	CHANGED BY	CHECKED BY	SUBMITTED BY
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PROJECT MANAGER:

STATUS: PRELIMINARY

ARCHIVE:

OTHER: -

ORICA WATERCARE

ORICA	SIGNATURE	DATE
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ENGINEERING CHECK		
CLIENT	SIGNATURE	DATE
CLIENT REVIEW	-	-
CLIENT APPROVAL	-	-

CAD FILE NAME

MIEX PRE-TREATMENT SYSTEM

PALM BEACH COUNTY, FL 14.5 MGD

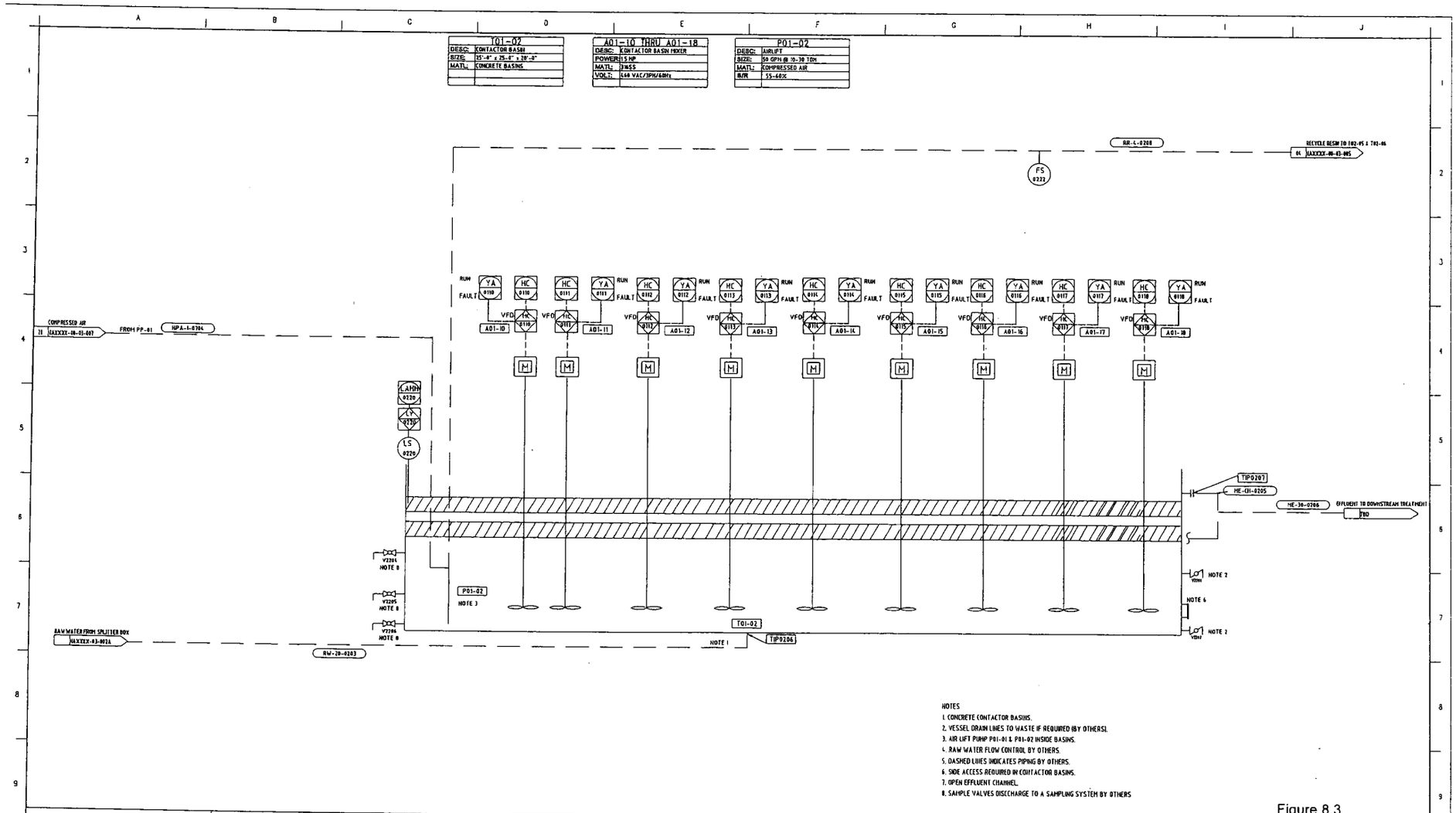
PIPING & INSTRUMENTATION DIAGRAM

CONTACTOR TANKS

DRAWING NO. NAXXXX-03-002A

REV. A

SHEET NO. 1 OF 1



NOTES
1. CONCRETE CONTACTOR BASINS.
2. VESSEL DRAIN LINES TO WASTE IF REQUIRED (BY OTHERS).
3. AIR LIFT PUMP P01-01 & P01-02 INSIDE BASINS.
4. RAW WATER FLOW CONTROL BY OTHERS.
5. DASHED LINES INDICATES PIPING BY OTHERS.
6. SIDE ACCESS REQUIRED IN CONTACTOR BASINS.
7. OPEN EFFLUENT CHANNEL.
8. SAMPLE VALVES DISCCHARGE TO A SAMPLING SYSTEM BY OTHERS

Figure 8.3

REV	REVISION DESCRIPTION	DATE	CHANGED BY	CHECKED BY	SUBMITTED BY
A	PROPOSAL	9 JUL 09	D.GORLOW		

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PROJECT NUMBER:
PROJECT MANAGER:
STATUS: PRELIMINARY
ARCHIVE:
OTHER:

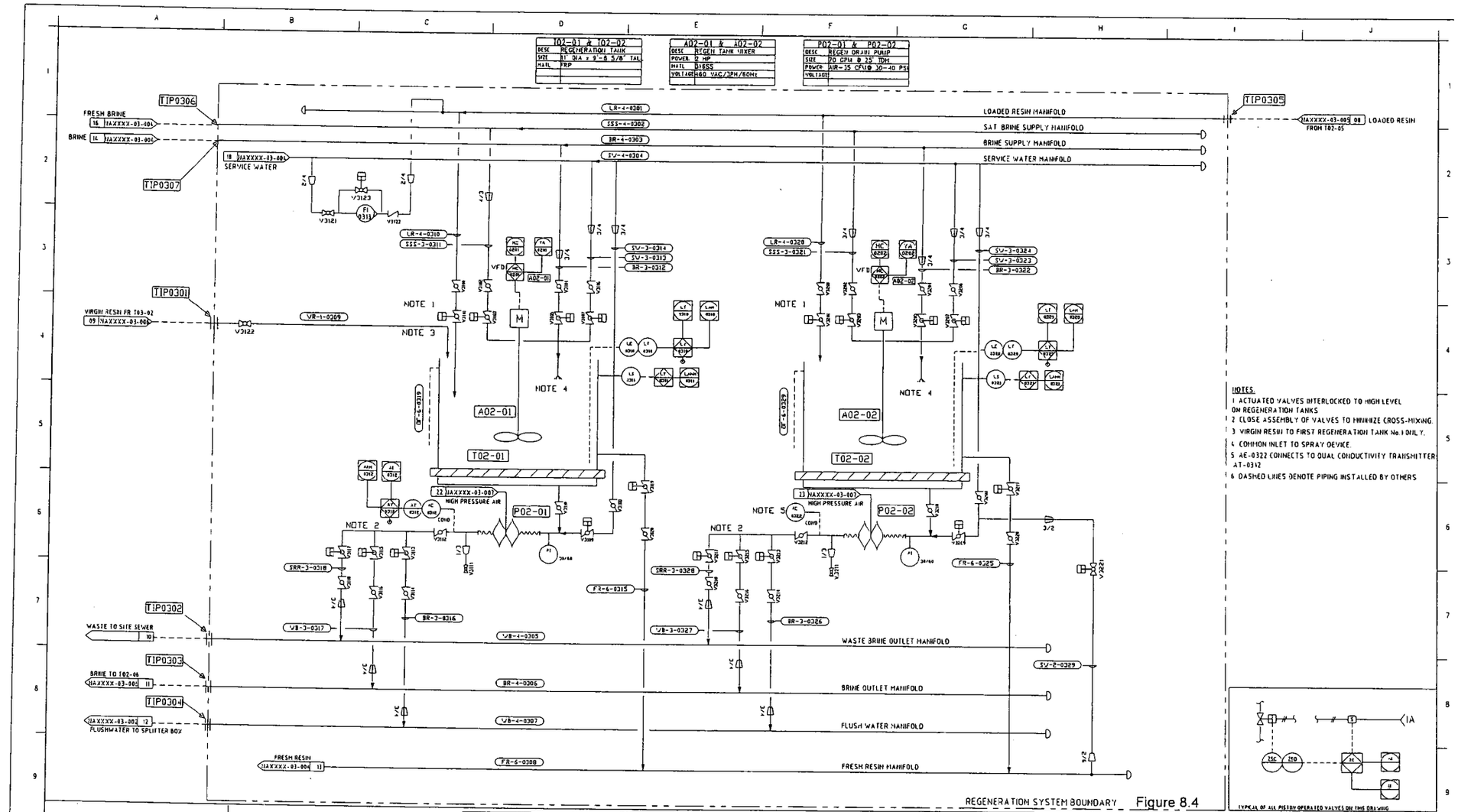
ORICA WATERCARE

ORICA	SIGNATURE	DATE
DRAWN	D.GORLOW	9 JUL 09
DESIGNED		
ENGINEERING CHECK		
CLIENT	SIGNATURE	DATE
CLIENT INSPECT	-	-
CLIENT APPROVED	-	-

CAD FILE NAME:

MIEX PRE-TREATMENT SYSTEM
PALM BEACH COUNTY, FL 14.5 MGD
PIPING & INSTRUMENTATION DIAGRAM
CONTACTOR TANKS

REVISION: A | DRAWING NO.: NAXXXX-03-002B | SHEET NO.: 1 OF 1



REGENERATION SYSTEM BOUNDARY

Figure 8.4

REV	REVISION DESCRIPTION	DATE	CHANGED BY	CHECKED BY	SUBMITTED BY
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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN FT-IN

PROJECT NUMBER:

PROJECT MANAGER:

STATUS: PRELIMINARY

ARCHIVE:

OTHER: -

ORICA WATERCARE

	SIGNATURE	DATE
DRAWN	D.GORLOW	9 JUL 09
DESIGNED		
ENGINEERING CHECK		
CLIENT	SIGNATURE	DATE
CLIENT REVIEW	-	-
CLIENT APPROVED	-	-

CAD FILE NAME

EQUIPMENT SERVICE: MIEX PRE-TREATMENT SYSTEM

TITLE: PALM BEACH COUNTY, FL 14.5 MGD PIPING & INSTRUMENTATION DIAGRAM REGENERATION

SHEET A | DRAWING NO. NAXXXX-00-03-003 | SHEET NO. 1 OF 1

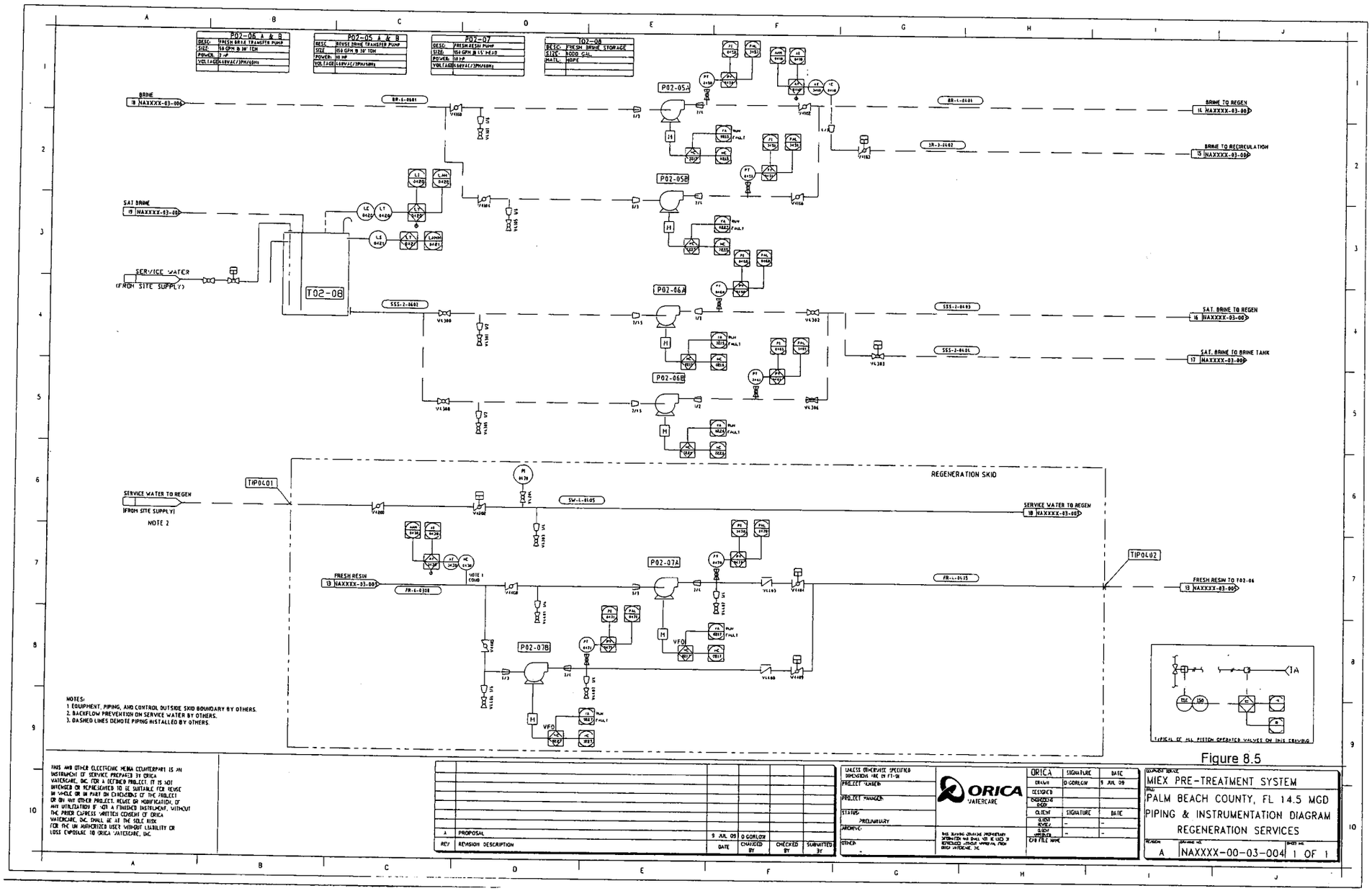

P02-06 A & B
DESC: FRESH BRINE TRANSFER PUMP
SIZE: 50 GPM @ 30' TDH
POWER: 3 HP
VOLTAGE: 460V/3/60
P02-05 A & B
DESC: REUSE BRINE TRANSFER PUMP
SIZE: 150 GPM @ 30' TDH
POWER: 10 HP
VOLTAGE: 460V/3/60
P02-07
DESC: FRESH RESIN PUMP
SIZE: 150 GPM @ 115' HEAD
POWER: 10 HP
VOLTAGE: 460V/3/60
T02-08
DESC: FRESH BRINE STORAGE
SIZE: 8000 GAL
MAT'L: HDPE
BRINE
18 NAXXXX-03-00
SAT BRINE
19 NAXXXX-03-00
SERVICE WATER
(FROM SITE SUPPLY)
T02-08
P02-05A
P02-05B
P02-06A
P02-06B
P02-07A
P02-07B
BRINE TO REGEN
14 NAXXXX-03-00
BRINE TO RECIRCULATION
15 NAXXXX-03-00
SAT. BRINE TO REGEN
16 NAXXXX-03-00
SAT. BRINE TO BRINE TANK
17 NAXXXX-03-00
REGENERATION SKID
SERVICE WATER TO REGEN
(FROM SITE SUPPLY)
NOTE 2
TIP0L01
TIP0L02
SERVICE WATER TO REGEN
18 NAXXXX-03-00
FRESH RESIN
13 NAXXXX-03-00
FRESH RESIN TO T02-06
13 NAXXXX-03-00
VFD
NOTES:
1. EQUIPMENT, PIPING, AND CONTROL OUTSIDE SKID BOUNDARY BY OTHERS.
2. BACKFLOW PREVENTION ON SERVICE WATER BY OTHERS.
3. DASHED LINES DENOTE PIPING INSTALLED BY OTHERS.
TYPICAL OF ALL PISTON OPERATED VALVES ON THIS DRAWING
THIS AND OTHER ELECTRONIC MEDIA COUNTERPART IS AN INSTRUMENT OF SERVICE PREPARED BY ORICA WATERCARE, INC. FOR A DEFINED PROJECT. IT IS NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE IN WHOLE OR IN PART ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. REUSE OR MODIFICATION, OR ANY UTILIZATION BY ANY A FINANCE INSTRUMENT, WITHOUT THE PRIOR EXPRESS WRITTEN CONSENT OF ORICA WATERCARE, INC. SHALL BE AT THE SOLE RISK FOR THE UNAUTHORIZED USER WITHOUT LIABILITY OR LOSS EXPOSURE TO ORICA WATERCARE, INC.
A PROPOSAL 9 JUL 09 D GORLOW
REV REVISION DESCRIPTION DATE CHANGED BY CHECKED BY SUBMITTED BY
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN FT-IN
PROJECT OWNER
PROJECT MANAGER
STATUS PRELIMINARY
ARCHIVE
OTHER
ORICA WATERCARE
THIS DRAWING CONTAINS PROPRIETARY INFORMATION AND SHALL NOT BE USED IN REPRODUCED WITHOUT WRITTEN PERMISSION FROM ORICA WATERCARE, INC
ORICA SIGNATURE DATE
DRAWN D GORLOW 9 JUL 09
DESIGNED
ENGINEER
CLIENT SIGNATURE DATE
CLIENT -
CLIENT -
OTHER -
CAD FILE NAME
EQUIPMENT SERVICE
MIEX PRE-TREATMENT SYSTEM
TITLE
PALM BEACH COUNTY, FL 14.5 MGD
PIPING & INSTRUMENTATION DIAGRAM
REGENERATION SERVICES
REVISION A
DRAWING NO. NAXXXX-00-03-004
SHEET NO. 1 OF 1

Figure 8.5

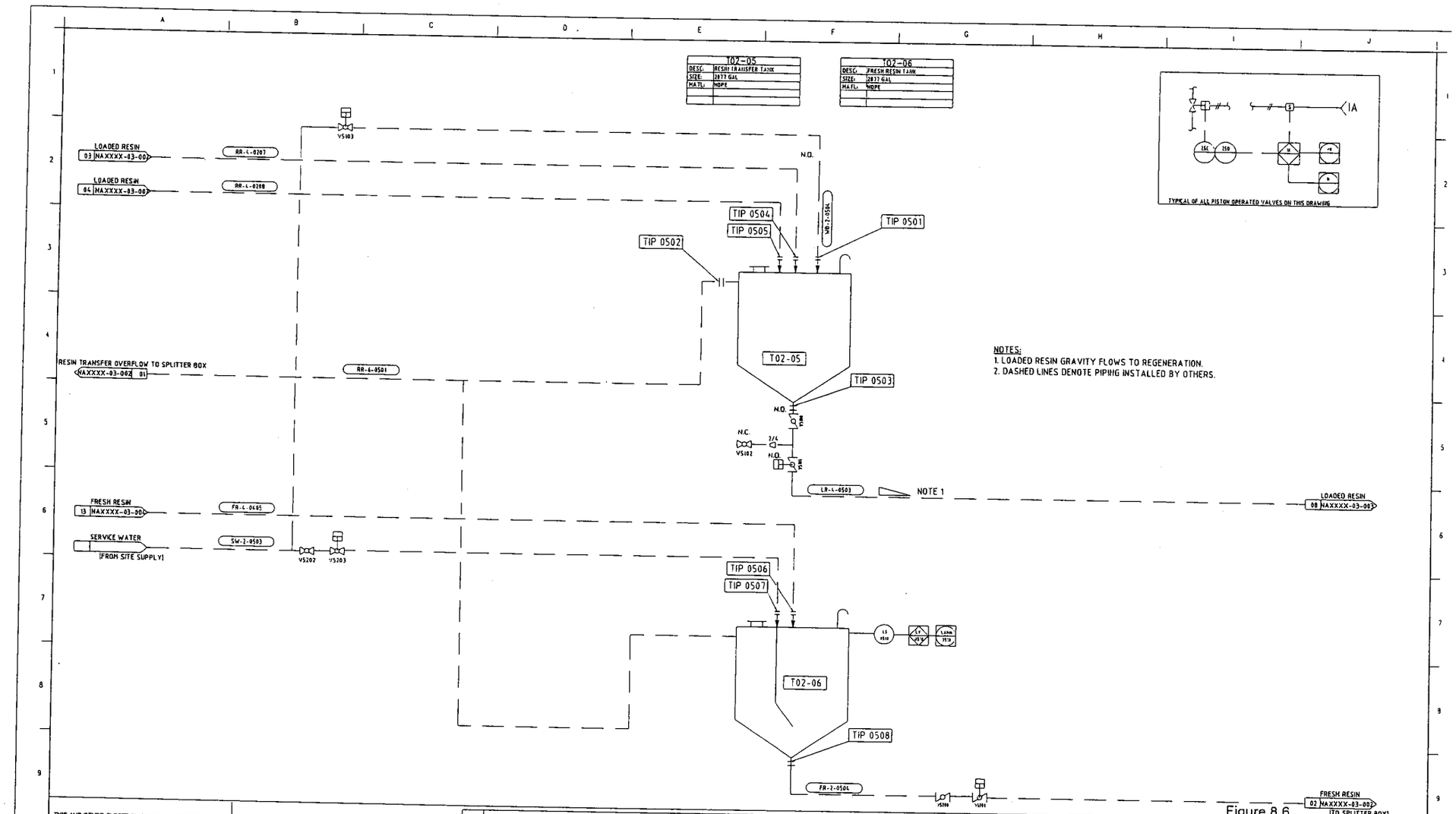


Figure 8.6

REV	REVISION DESCRIPTION	DATE	CHANGED BY	CHECKED BY	SUBMITTED BY
A	PROPOSAL	9 JUL 09	D.GORLOW		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN FT-IN

PROJECT NUMBER:

PROJECT MANAGER:

STATUS: PRELIMINARY

ARCHIVE:

OTHER: -

ORICA WATERCARE

	SIGNATURE	DATE
DRAWN	D.GORLOW	9 JUL 09
DESIGNED		
ENGINEERING CHECK		
CLIENT	SIGNATURE	DATE
CLIENT REVIEW	-	-
CLIENT APPROVED	-	-

CAD FILE NAME

ENGINEER DESIGN

MIEX PRE-TREATMENT SYSTEM

TITLE

PALM BEACH COUNTY, FL 14.5 MGD
PIPING & INSTRUMENTATION DIAGRAM
RESIN TRANSFER

REVISION A | DRAWING NO. NAXXXX-00-03-005 | SHEET NO. 1 OF 1

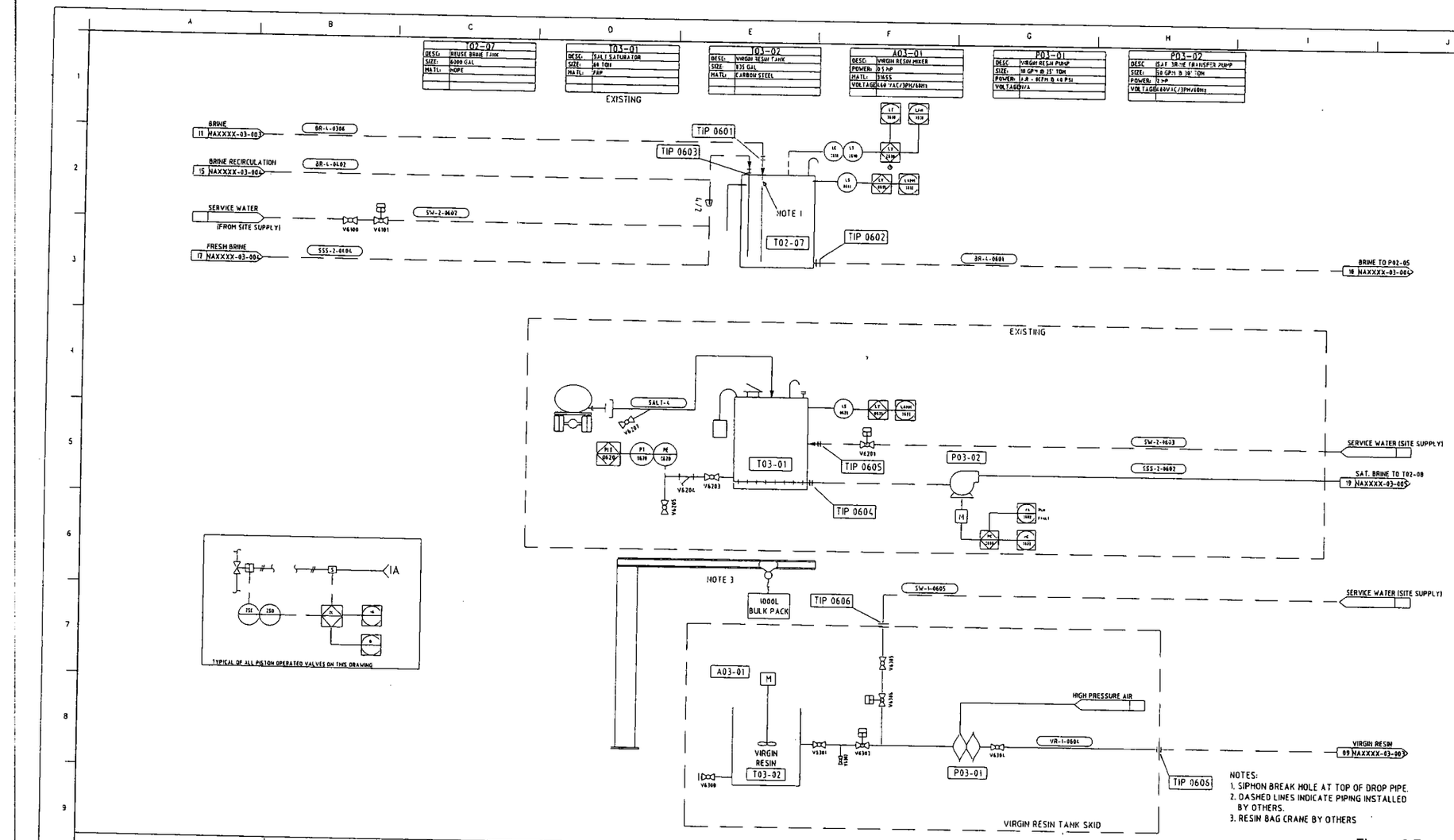


Figure 8.7

REV	REVISION DESCRIPTION	DATE	CHANGED BY	CHECKED BY	SUBMITTED BY
A	PROPOSAL	9 JUL 09	D.CORLOW		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN FT-IN
PROJECT NUMBER:
PROJECT MANAGER:
STATUS: PRELIMINARY
ARCHIVE: 140807
OTHER: -

ORICA WATERCARE

ORICA	SIGNATURE	DATE
DRAWN	D.CORLOW	9 JUL 09
DESIGNED		
ENGINEERING CHECK		

CLIENT	SIGNATURE	DATE
CLIENT REVIEW	-	-
CLIENT APPROVED	-	-

CAD FILE NAME:

MIEX PRE-TREATMENT SYSTEM
PALM BEACH COUNTY, FL 14.5 MGD
PIPING & INSTRUMENTATION DIAGRAM
SALT, BRINE & VIRGIN RESIN

DRAWING SIZE	DRAWING NO.	SHEET NO. OF NO.
A	NAXXXX-00-03-006	1 OF 1

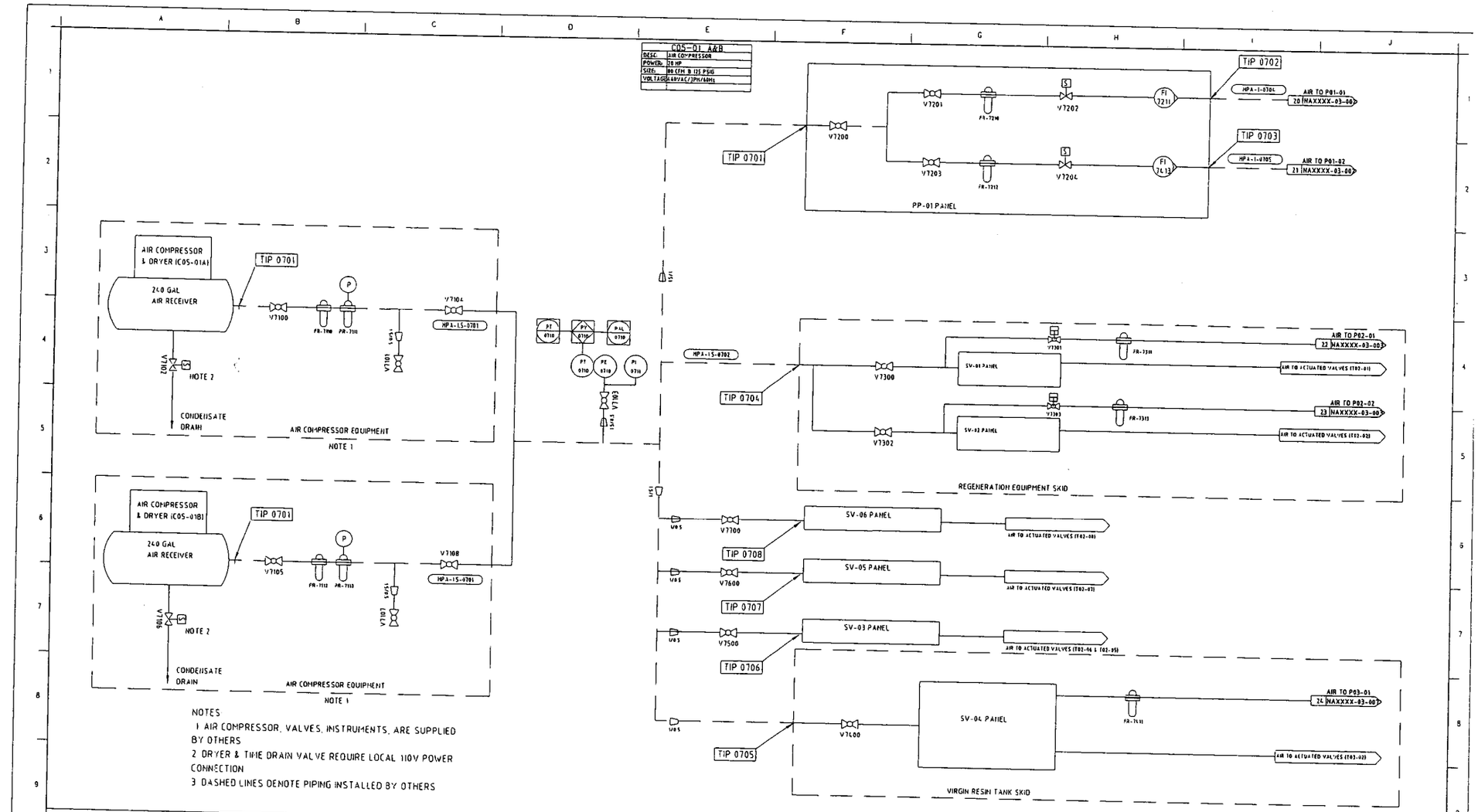


Figure 8.8

REV	REVISION DESCRIPTION	DATE	CHANGED BY	CHECKED BY	SUBMITTED BY
A	PROPOSAL	9 JUL 09	D.GORLOW		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN FT-IN
PROJECT NUMBER:
PROJECT MANAGER:
STATUS: PRELIMINARY
ARCHIVE:
OTHER: -

ORICA WATERCARE

ORICA	SIGNATURE	DATE
DRAWN	D GORLOW	9 JUL 09
DESIGNED		
DIMENSIONS CHECK		
CLIENT	SIGNATURE	DATE
CLIENT REVIEW	-	-
CLIENT APPROVED	-	-

CAD FILE NAME:

MIEX PRE-TREATMENT
PALM BEACH COUNTY, FL 14.5 MGD
PIPING & INSTRUMENTATION DIAGRAM
COMPRESSOR

DRAWING NO. NAXXXX-00-03-0071
REV A
SHEET 1 OF 1

ATTACHMENT - 2

Orica Watercare PBCWUD System No. 2 - Regeneration Module

PR-2014-009

PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT
System No.2

SCOPE OF WORK
Regeneration Module

DATE: AUGUST 19, 2014
DOCUMENT NO: PR-2014-009
REVISION: 2

MOSS-KELLEY, INC.
3300 UNIVERSITY DRIVE, SUITE 705
CORAL SPRINGS, FL 33065
PH: 1-954-755-2092
EMAIL: JBK@MOSSKELLEY.COM
WWW.MOSSKELLEY.COM
ATTN: JIM KELLEY

ORICA WATERCARE, INC.
33101 EAST QUINCY AVENUE
WATKINS, CO 80137
PH: 1-877-414-MIEX OR 1-303-268-5243
EMAIL: MIEX@ORICA.COM
WWW.MIEXRESIN.COM

GENERAL INFORMATION

This Scope of Work outlines Orica Watercare Inc.'s scope for the equipment supply of one (1) MIEX® Regeneration Module capable of supporting the design basis treatment rate at the Palm Beach County WTP#2 MIEX® system.

SCOPE OF SUPPLY

1. Equipment Package with Regeneration System:

Equipment components for one (1) MIEX® R3300 Regeneration Module

:

A. Resin Regeneration Module

Description: One (1) complete resin regeneration module (1 x R3300 model) skid module. The following equipment will be part of the packaged regeneration module supplied by ORICA. Site setting and installation of module including interconnections BY OTHERS.

Equipment Supplied:

- Resin Regeneration Vessel: One (1) FRP regeneration vessel; 11 foot diameter each with resin bed depth of 2 – 2.5 feet, including underdrain.
- Vessel Agitator: One (1) regeneration vessel agitator unit (with motor, gearbox, stainless steel shaft and axial flow impeller).
- Underdrain Pump: One (1) air operated diaphragm underdrain pump used for separating resin / liquid, constructed from plastic.
- Level Transmitter: One (1) vessel radar level transmitter.
- Conductivity Probe: One (1) conductivity probe and transmitter for the vessel underdrain system.
- Air Actuated Process Valves: A set of air operated actuated valves with position feedback for each resin vessel; valves constructed from PVC / EPDM.
- Manual Process Valves: A set of manual operated valves; valves constructed from PVC / EPDM.
- Skid/Frame: One (1) set of Aluminum skids/frames for mounting mixer, instruments, valves, pump, associated piping and controls. Included is access stair and catwalk with handrails, kick-plates etc for maintenance and viewing into regeneration tanks.
- Resin Process Piping: One (1) set of piping for resin duties on the regeneration skid to distribute resin to and from the regeneration vessels. Piping and fittings constructed from SCH 80 PVC.
- Brine Process Piping: One (1) set of piping for brine duties on the regeneration skid to distribute brine to and from the regeneration vessels. Piping and fittings constructed from SCH 80 PVC.
- Service Water Piping: One (1) set of piping for service water duties on the regeneration skid to distribute service water to applicable skid/vessel services. Piping and fittings constructed from SCH 80 PVC.
- Service Air Piping: One (1) set of piping/tubing for service air duties on the regeneration skid to distribute compressed air to applicable skid/vessel services. Pipe/tube and fittings constructed from stainless steel and poly tubing.

B. Resin Inventory

General:

- Initial MIEX® Inventory is to support added tank volume: 9 totes
- Ongoing operating make-up resin is NOT INCLUDED.
- Startup and Testing make-up resin is INCLUDED

C. Field Service

General: A total of one (1) eight-hour working day shall be provided in a total of one (1) trip during construction to provide technical advice with design and installation/construction checks of Orica supplied equipment. No PHYSICAL WORKS to assist with site installation works are included in this proposal.

A total of four (4) eight-hour working days shall be provided in a total of one (1) trip during commissioning and start-up to carry of out the following works with site operations staff:

- Initial dry testing and water testing of plant components including component QC testing, as applicable.
- MIEX® treatment plant commissioning.
- Start-up and initial operation of the MIEX® treatment plant.

D. Documentation

General: System will be delivered with a full Operations and Maintenance Manual including P&ID's, electrical schematics and panel layouts, process equipment cut-sheets and operation/maintenance manuals, and other system information. Two (2) hard copies and one (1) electronic copy will be provided.

E. General Comments/Clarifications on Equipment Supply

General: Skid/Frame Structure: Equipment skid is constructed from Aluminum unless otherwise specified. Some equipment and pipe supports on equipment skids may be constructed from 304 stainless steel.

Additions/Clarifications:

- Nylon lock nuts to be included on all flange connections
- Rubber lining to be included on all PVC pipe clamps
- Udrains pump discharge to include a liquid filled pressure gauge
- All pneumatically operated valves to include Asahi actuators
- Udrain pump to be Almatec brand, 2" with dampener

Process Piping: Process piping and fittings that is pre-fabricated on equipment skids shall be constructed from:

- Sch 80 PVC for MIEX® resin duties.
- Sch 80 PVC for brine duties.
- Sch 80 PVC for service water duties.
- Stainless steel pipe for compressed air (for main header line); and nylon or PP tubing for individual lines to equipment items (e.g. from electric solenoid valve to air actuated valve).

Anchors: All equipment skids and tanks are designed with footing pads and hold-down features. ALL anchors/hold down bolts, washers, nuts and grout for leveling skids shall be BY OTHERS.

Electrical Assembly of Equipment Skids: The equipment skids will be pre-wired in the shop as much as practical. Field wiring to equipment skids will be terminated in junctions boxes installed on the equipment skids.

PLC Programming: The necessary programmable logic controller (PLC) programming for the MIEX® Treatment Plant will be supplied in ladder logic format based on Allen Bradley components. Developer software is NOT INCLUDED.

SITE SAFETY

It is the responsibility of the Buyer to provide a safe working environment for any Orica Watercare employees visiting or supplying equipment or services described herein at the buyer's site, as required or defined by local State Regulations.

ALL Orica Watercare employees must at all times adhere to Orica's corporate Safety, Health and Environment Procedures, whether it be on an Orica Site or a customer's contractor's, agent's etc. site. Often the requirements of some of Orica's SH&E Procedures in specific areas exceed that of State or National requirements, that can prevent or restrict Orica Employees (or contractors acting under the direction of an Orica Employee) performing a specific duty or task, or may require additional safety reviews or safety equipment etc. before Orica employees or their contractors undertake duty or task in question.

EQUIPMENT PRICING

EQUIPMENT ITEM	PRICE
One (1) Equipment Supply Package for one (1) R3300 Regeneration Module, including associated Initial Resin Inventory.	$563,200.00

Prices quoted are FOB destination. Payment terms are Net 30 days.

ATTACHMENTS

Attachments: Orica Watercare Standard Limited Warranty and Palm Beach County PO Terms and Conditions 08-19-2014

ORICA WATERCARE

Project: PBC WTP #2 R3300
Regen Skid
Proposal No.: PR-2014-009R2
Date: August 19, 2014

LIMITED WARRANTY

Orica Watercare Inc. (ORICA) warrants all new equipment manufactured by ORICA against defects in material and workmanship, and will repair or replace at ORICA's expense, F.O.B. shipping point, any part(s) returned to ORICA which upon ORICA's examination are shown to have failed under normal use and service within twelve (12) months from date of equipment start-up, or eighteen (18) months from shipment to the purchaser, whichever occurs first. The warranty for repaired or replacement equipment shall continue for the remainder of the original warranty period, or for a period of six (6) months, whichever is longer. ORICA shall not be responsible for providing working access to the defective equipment, including disassembly and reassembly of the equipment, or for providing transportation to and from the repair facility, all of which shall be at purchaser's expense.

When the nature of the warranty item is such that it is appropriate in the judgment of ORICA to make such repairs or modifications at the site of operation, purchaser agrees to provide site access to ORICA or its sub-contractors, during normal working hours 8:00 a.m. to 5:00 p.m., Monday through Friday, exclusive of holidays. Labor performed at other times at the request of purchaser will be billed at the applicable rate then prevailing for services provided.

THE FOREGOING WARRANTY SHALL CONSTITUTE THE SOLE AND EXCLUSIVE REMEDY OF PURCHASER AND IS IN LIEU OF ALL OTHER WARRANTIES, REPRESENTATIONS, CONDITIONS, RIGHTS AND REMEDIES WITH RESPECT TO THE QUALITY, CONDITION OR PERFORMANCE OF THE EQUIPMENT, WHETHER EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE AND WHETHER WRITTEN OR ORAL. ALL OTHER WARRANTIES, REPRESENTATIONS, CONDITIONS, RIGHTS AND REMEDIES, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY, DURABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXPRESSLY DISCLAIMED AND EXCLUDED TO THE FULLEST EXTENT PERMITTED BY LAW. ORICA SHALL NOT BE LIABLE FOR ANY CONTINGENT, SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGE OR LOSS OF ANY KIND, INCLUDING BUT NOT LIMITED TO, LOSS OF PROFITS, DUE TO PARITAL OR COMPLETE INOPERABILITY OF ORICA'S EQUIPMENT FOR ANY REASON WHATSOEVER.

ORICA only warrants equipment that has been paid for in full and which was put into service for its intended purpose. The warranty contained herein shall not apply to normal wear and tear, defects in materials provided by purchaser, or those items such as media, resin, and the like that are normally replaced or consumed as part of routine operation or maintenance of the equipment.

The warranty contained herein shall terminate if the equipment failure giving rise to a claim under warranty results from (a) unauthorized modification, repair or alteration, (b) improper or abnormal operation, application, maintenance or installation, (c) damage during shipment, or (d) operation, handling or other dealings with the equipment in a negligent manner.

Palm Beach County
Purchase Order/Term Contract Standard Terms and Conditions

The following Terms and Conditions are applicable to this purchase order/contract entered into by and between **Palm Beach County** (referred to as Buyer) and **ORICA WATERCARE, INC.** (referred to as Seller).

MODIFICATIONS
No modifications of this order/contract, including but not limited to these terms and conditions, shall be binding upon Buyer unless approved by an authorized representative of Buyer's Purchasing Office.

ASSIGNMENTS

Assignments are prohibited unless prior written consent is given by the Buyer and the Seller.

EXCUSABLE DELAYS
The Buyer may grant additional time for any delay if the delay will not adversely impact the best interest of the County and is due to causes beyond the control of the Seller. Such grant must be in writing and made part of the order/contract.

DEFAULT
The County may, by written notice of default to the successful bidder, terminate the contract in whole or in part if the successful bidder fails to satisfactorily perform any provisions of this solicitation or resultant contract, or fails to make progress so as to endanger performance under the terms and conditions of this solicitation or resultant contract, or provides repeated non-performance, or does not remedy such failure within a period of 10 days (or such period as the Director of Purchasing may authorize in writing) after receipt of notice from the Director of Purchasing specifying such failure. In the event the County terminates this contract in whole or in part because of default of the successful bidder, the County may procure goods and/or services similar to those terminated, and the successful bidder shall be liable for any excess costs incurred due to this action.

If it is determined that the successful bidder was not in default or that the default was excusable (e.g., failure due to causes beyond the control of, or without the fault or negligence of, the successful bidder), the rights and obligations of the parties shall be those provided in "Termination".

TERMINATION
The Buyer may, whenever the interests of the County so require, terminate the order/contract, in whole or in part, for the convenience of the County upon five (5) days written notice to Seller. Unless directed differently in the notice of termination, the Seller shall incur no further obligations in connection with the order/contract.

NO THIRD PARTY BENEFICIARY
No provision of this Contract is intended to, or shall be construed to, create any third party beneficiary or to provide any rights to any person or entity not a party to this Contract, including but not limited to any citizen or employees of the COUNTY and/or successful bidder.

FOB
The F.O.B. point shall be destination. If Buyer agrees, freight charges may be prepaid by the Seller and listed on the invoice; however, Seller retains title and assumes all responsibility, liability and risk in transit, and shall be responsible for the filing of claims for loss or damages.

PAYMENT TERMS
The Seller agrees that payment terms shall be Net 30. Interest penalties will only be paid in accordance with the Florida Prompt Payment Act, Florida Statute 218.70.

Note: Palm Beach County Vendors can now be paid by Credit Card via the County's voluntary Payment Manager Program. For vendors who don't have a merchant account, one is needed to utilize the Program. For vendors with a merchant account, you will need to enroll with Wells Fargo. For information, contact the Wells Fargo Supplier Onboarding Team at (866) 377-9533 or **supplieronboardingteam@wellsfargo.com** or the Palm Beach County Clerk & Comptroller at **pbcpaymentmgr@mypalmbeachclerk.com.**

INVOICING
Seller must render original invoice to the Palm Beach County Finance Department, P.O. Box 4036, West Palm Beach, Florida 334024036.

TAXES

The Buyer is exempt from Federal and State taxes.

PURCHASE ORDER

The Buyer will not accept any goods delivered or services performed unless a duly authorized purchase order has been issued for said goods and/or services. The purchase order number must appear on all invoices, packing slips and all correspondence concerning the order.

CONTRACT

Seller agrees that by submitting an offer (i.e. Request for Quotation) which is accepted by the Buyer (i.e. Purchase Order, Term Contract Notice) a binding contract is formed in accordance with the Buyer's terms, conditions and specifications as set forth in the solicitation and this purchase order. Seller certifies that the offer has been made by an officer *or* employee having the authority to bind the Seller. Accordingly, payment will only be made to the company and the address as provided in the Seller's offer unless prior written authorization is received from the Buyer.

PRICING

(1) Unless specifically requested in the specifications, any response containing modifying or escalation clauses shall be rejected.
(2) The price offered must be in accordance with the unit of measure provided on the response page(s). One (1) space or line requires only one (1) single, fixed unit price. Anything other than a single, fixed unit price shall result in the rejection of your response.
(3) Seller warrants by virtue of submitting an offer that prices shall remain firm for a period of ninety (90) days from the date of opening to allow for evaluation and award.
(4) Prices shall remain firm for the initial and any subsequent term unless modified by a special condition.
(5) All unit prices bid should be within two (2) decimal points. If bidder's pricing exceeds two (2) decimal points, Purchasing reserves the right to round up or down accordingly.

DELIVERIES

Deliveries are to be made Monday through Friday, excluding holidays, unless otherwise stipulated.

INSPECTION/ACCEPTANCE

All goods and/or services provided on this Purchase Order are subject to inspection and acceptance upon receipt or completion by an authorized representative of the Buyer. Payment shall not be authorized until the goods and/or services have been received, accepted and properly invoiced.

QUANTITIES

Quantities specified in the order/contract cannot be changed without Buyer approval. Goods shipped in excess of quantity designated may be returned at Seller's expense.

DISCRIMINATION PROHIBITED

Sellers doing business with the Buyer are prohibited from discriminating against any employee or client because of race, color, religion, disability, sex, age, national origin, ancestry, marital status, familial status, sexual orientation, gender identity and expression, or genetic information.

LEGAL REQUIREMENTS

The Seller must strictly comply with all Federal, State, County and local laws, ordinances, rules and regulations that in any manner affect the goods and/or services provided herein. The UCC shall prevail as the basis for contractual obligations between the Seller and the Buyer for any terms and conditions not addressed. The Buyer shall not be liable to the Seller for any legal fees, court costs, or other legal expenses arising from the interpretation or enforcement of this order/contract, or from any other matter generated by or relating to this order/contract.

CRIMINAL HISTORY RECORDS CHECK ORDINANCE

Pursuant to Ordinance 2003-030, the Palm Beach County Criminal History Records Check Ordinance ("Ordinance"), the County will conduct fingerprint based criminal history record checks on all persons not employed by the County who repair, deliver, or provide goods or services for, to, or on behalf of the County. A fingerprint based criminal history record check shall be conducted on all employees and subcontractors of vendors, including repair persons and delivery persons, who are unescorted when entering a facility determined to be critical to the public safety and security of the County. County facilities that require this heightened level of security are identified in Resolution R-2003-1274, as may be amended. The bidder is solely responsible for understanding the financial, schedule, and staffing implications of this Ordinance. Further, the bidder acknowledges that its bid price includes any and all direct or indirect costs associated with compliance with this Ordinance, except for the applicable FDLE/FBI fees that shall be paid by the County.

PUBLIC ENTITY CRIMES

In accordance with the Florida Public Entity Crime Statute 287.132.133, persons and affiliates who are entering into a contract or performing any work in furtherance with Palm Beach County certifies that it, its affiliates, suppliers, subcontractors and consultants who will perform hereunder, have not been placed on the convicted vendor list maintained by the State of Florida Department of Management Services within the 36 months immediately preceding the date hereof. This notice is required by Florida Statute 287.133
(3) (a).

SBE PROGRAM

In accordance with the Small Business Enterprise Program a preference is given to certified small businesses.

INDEMNIFICATION

To the extent authorized by law, Seller shall indemnify, save and hold harmless the Buyer, its employees and agents against any and all claims, damages, liability and court awards including costs, expenses and attorney fees incurred as a result of any act or omission by the Seller, or its employees, agents, subcontractors or assignees pursuant to the terms and conditions of this order/contract.

MATERIAL SAFETY DATA SHEETS (MSDS)

Seller compliance is required under Chapter 442, Florida Statutes; that any toxic substance delivered as a part of this order/contract must be accompanied by an MSDS.

ENDORSEMENTS

No endorsements by the Buyer of the goods and/or services will be used by the Seller in any way, manner or form.

VENUE

Any and all legal actions arising from or necessary to enforce this order/contract will be held in Palm Beach County.

PUBLIC RECORDS

Any information submitted relating to this order/contract will become a public document pursuant to Section 119.07, F.S.

SALES PROMOTIONS / PRICE REDUCTIONS

Should sales promotions occur during the term of the contract that lower the price of the procured item, the successful bidder shall extend to the County the lower price offered by the manufacturer on any such promotional item. Further, any price decreases effectuated during the contract period by reason of market change or otherwise, shall be passed on to the County. Additionally, anytime after award, the bidder may offer a reduced price which shall remain in effect for the duration of the contract.

PERFORMANCE DURING EMERGENCY

By submitting a bid, bidder agrees and promises that, during and after a public emergency, disaster, hurricane, flood, or acts of God, the County shall be given "first priority" for all goods and services under this contract. Bidder agrees to provide all goods and services to the County during and after the emergency at the terms, conditions, and prices as provided in this solicitation on a "first priority" basis. Bidder shall furnish a 24-hour phone number to the County in the event of such an emergency. Failure to provide the stated priority during and after an emergency shall constitute breach of contract and make the bidder subject to sanctions from doing further business with the County.

PALM BEACH COUNTY OFFICE OF THE INSPECTOR GENERAL AUDIT REQUIREMENTS

Pursuant to Palm Beach County Code, Section 2-421 - 2-440, as amended, Palm Beach County's Office of Inspector General is authorized to review past, present and proposed County contracts, transactions, accounts, and records. The Inspector General's authority includes, but is not limited to, the power to audit, investigate, monitor, and inspect the activities of entities contracting with the County, or anyone acting on their behalf, in order to ensure compliance with contract requirements and to detect corruption and fraud.

GLADES UTILITY AUTHORITY "GUA" PURCHASES

Pursuant to Section 2-54(f)(11), Palm Beach County Code, purchases made for the "GUA" may be awarded only to those vendors located in the Glades, as defined in the Palm Beach County Code. However, if no response is received from a vendor located in Glades, the good or service shall be re-solicited to all vendors and awarded to the lowest, responsive, responsible bidder.

LIMITATION OF LIABILITY

IN NO EVENT SHALL SELLER OR BUYER BE LIABLE, WHETHER ARISING UNDER CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE, FOR INCIDENTAL, INDIRECT, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY KIND, INCLUDING WITHOUT LIMITATION LOST PROFITS, LOST CAPITAL OR REVENUES OR LOSS BY REASON OF SERVICE INTERRUPTION OR INCREASED EXPENSE OF OPERATION. UNDER NO CIRCUMSTANCES SHALL SELLER'S OR BUYER'S LIABILITY EXCEED THE SALE PRICE OF THE GOODS GIVING RISE TO THE LIABILITY. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO SELLER'S DUTY TO INDEMNIFY BUYER, NOR SHALL IT APPLY TO THIRD-PARTY CLAIMS OF DEATH, PERSONAL INJURY, OR PROPERTY DAMAGE.

INTELLECTUAL PROPERTY

SELLER IS THE SOLE AND EXCLUSIVE OWNER OF THE INTELLECTUAL PROPERTY IN THE GOODS AND THE RIGHTS ATTACHED TO THAT INTELLECTUAL PROPERTY. NOTHING HEREIN GRANTS TO BUYER ANY RIGHT, TITLE OR INTEREST IN OR TO ANY OF THE INTELLECTUAL PROPERTY IN THE GOODS. BUYER SHALL NOT CLAIM TO HAVE ACQUIRED ANY RIGHT, TITLE OR INTEREST TO THE INTELLECTUAL PROPERTY IN THE GOODS BY VIRTUE OF PURCHASING GOODS SOLD HEREUNDER. AS USED HEREIN, "INTELLECTUAL PROPERTY" MEANS ANY INTELLECTUAL OR INDUSTRIAL PROPERTY RIGHT ANYWHERE IN THE WORLD INCLUDING, WITHOUT LIMITATION, ANY PATENT, PATENT APPLICATION, UTILITY MODEL, COPYRIGHT (INCLUDING COPYRIGHT IN MANUALS, DATABASES, AND PROMOTIONAL MATERIALS), REGISTERED DESIGN AND OTHER DESIGN RIGHTS, AND ANY OTHER RIGHTS THAT MAY SUBSIST ANYWHERE IN THE WORLD IN IMPROVEMENTS, INVENTIONS AND OTHER MANUFACTURING PROCESSES OR TECHNICAL AND OTHER INFORMATION OF SELLER.

Effective from 08/19/14

ORICA WATERCARE

Signature

Randy A CABLE
Print Name

President N.A.
Title

8-20-24
Date

PALM BEACH COUNTY

Signature

Print Name

Title

Date

ATTACHMENT - K

Vendor Quotes

ATTACHMENT - K

Vendor Quote – Arle Compressor Systems Corp.

Arle Compressor System Corporation is the local representative for Ingersoll Rand. We are expanding and modifying the original system with Ingersoll Rand equipment. Therefore the equipment is "sole sourced" and only one quote was obtained.

Arle Compressor Systems Corp.
10650 N.W. SOUTH RIVER DRIVE
MEDLEY, FL 33178
PHONE: 305-888-8978
FAX: 305-882-0122

Ingersoll Rand

Quote Summary

Quote #: VQ-09252014A - GLOBAL TECH

All amounts are displayed in USD

Base Offer

Product Description	Qty	Unit Price	Extended Price
UP6-40 125psi HA Rotary Screw Compressor with Dryer	2	$19,335.00	$38,670.00
460V Totally Enclosed Fan Cooled Motor	2	$0.00	$0.00
Star-Delta Starter	2	$0.00	$0.00
Dryer	2	$0.00	$0.00
High Dust Air Filter	2	$0.00	$0.00
Modulation	2	$0.00	$0.00
Power Outage Restart Option	2	$0.00	$0.00
Baseplate Mounted	2	$0.00	$0.00
UM Separator	2	$0.00	$0.00
Ultra Coolant	2	$0.00	$0.00
Start-up Kit	2	$0.00	$0.00
(FA400IH), 1 1/2" NPT, 235 SCFM, AUTODRAIN	2	$465.00	$930.00
RECEIVER,VERT 400GAL/165PSI	1	$2,500.00	$2,500.00
Tank Kit - Includes: Safety Valve, Air Pressure Gauge, and Electric Drain Valve	1	$0.00	$0.00
Trade-In for existing UP6-20-125 HA	1	-($3,100.00)	-($3,100.00)

Total Quote Price: $39,000.00

Shipment Date	: 3 - 6 WEEKS
Payment Term	: 50% DOWN, BALANCE PRIOR TO DELIVERY
FOB	: MIAMI, FL
Freight Terms	: ZERO

Prepared By:

Arle Compressor Systems Corp.
10650 N.W. South River Drive
Medley, FL 33178
Adolf Guevara
Systems Engineer
Phone: 305-888-8978
Email: adolf@arlecompressor.com

Rotary Screw Air Compressor
UP6-40HA SSR with Dryer

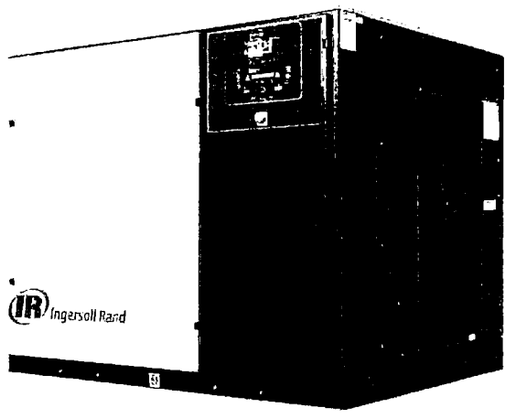


Image for reference only

Technical Information:

Capacity:
- 181 cfm @ 125 psig (UP6-40-125HA)

Maximum Operating Pressure:
- 125 psig (UP6-40-125HA)

Weight: 2686 lbs.

Connection Size: 1.5" NPT

Dimensions (L x W x H): 67.4"x 54.3"x 52.8"

Additional Engineering Data available upon request

Product Description:

The design of the Ingersoll Rand Rotary screw air compressor combines a high efficiency integrated compression module, simple diagnostics, quiet operation and a compact footprint. Options include integrated air treatment and advanced controls.

These features deliver unparalleled reliability, ease of operation and flexibility in placement and application. The addition of the integrated dryer increases the life and enhances performance of down stream tools and equipment.

Key Features & Benefits:

- Integrated Dryer (NEMA 1 only)
- Low Sound Enclosure (69 dba)
- Ultra Coolant
- NEMA 4 / TEFC / Star-Delta Starter
- Power Outage Restart Option
- Load / No Load with Auto Start / Stop
- High Dust Filter
- Moisture Separator
- Intellisys Controller
- Modulation Control

Key Options Available:

- Outdoor Modification
- Low Ambient

Visit the Ingersoll Rand website for further information http://www.ingersollrandproducts.com

Ingersoll Rand

High Efficiency Coalescing Filter
FA400 IH

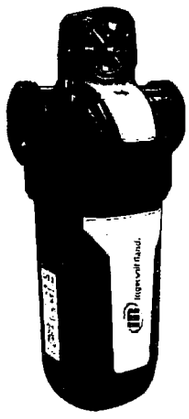


Image for reference only

Technical Information:

Capacity: 235 scfm

Maximum Operating Pressure: 250 psig

Weight: 5.2 lbs.

Connection Size: 1 1/2" NPT

Condensate Connection: 1/2" NPT

Dimensions (W x H): 5.08" x 16.11"

Additional Engineering Data available upon request

Product Description:

The Ingersoll Rand General Purpose filter provides particulate removal to 0.01 micron and coalescing filtration to 0.008 ppm (W). These filters are supplied as the pre filters with Ingersoll Rand heatless desiccant dryers.

Compressed air quality is important to the customer's product quality. Coalescing filters remove lubricant and water particles that can contaminate the customer's end product. High quality Ingersoll Rand filters provide this protection along with the added benefit of low-pressure drop. Each additional 2 psig of downstream pressure drop requires 1% additional compressor drive motor bhp. By minimizing pressure drop, these filters reduce the customer's energy costs.

Key Features & Benefits:

- Pressure Die Cast Aluminum Body
- Dual Scale Pressure Differential Gauge
- Proprietary Corrosion Resistant Coating
- Automatic Drain Valve

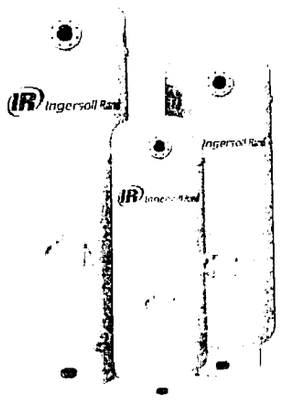
Key Options Available:

- Replacement Element
- Mounting Kit
- Manual Drain Kits
- O-Ring Kit

Visit the Ingersoll Rand website for further information http://www.ingersollrandproducts.com

Ingersoll Rand

Installation Solutions – Air Receiver Tanks
Vertical 80-500 Gallons



Horizontal Air Receivers available upon request

Technical Information:

Capacity: 80-500 Gallons

Design Configurators:

- Vertical Tanks
- Topplate & Mounting Options
- Internal and External Coatings

Design Specifications:

- ASME Code Section VIII, Division 1
- CSA B.51 latest edition
- Overload, Coast Guard Specifications, California PE and American Board of Shipping (ABS)

Product Description:

Air Receiver Tanks are an important part of compressed air systems. When adequately sized, they prevent rapid cycling of fixed speed compressors and assist in realizing full unloaded power during periods of low demand. With variable speed compressors, the receiver tank softens the ramp rate and allows the compressor to precisely match the customer's pressure requirement.

Air Receiver Tanks benefits provide increased compressor reliability and lower energy costs. They also reduce system pressure drift which can affect the customer's process and consume excessive horsepower/energy.

To ensure user safety and to meet the ASME Code requirements, Ingersoll Rand Remote Receiver Tanks are tested after completion to ensure that they can sustain pressures 1.3 times their MAWP.

Please be aware that for every tank order, an accessory kit should be ordered which will include a drain valve, a pressure gauge, a relief valve and decals

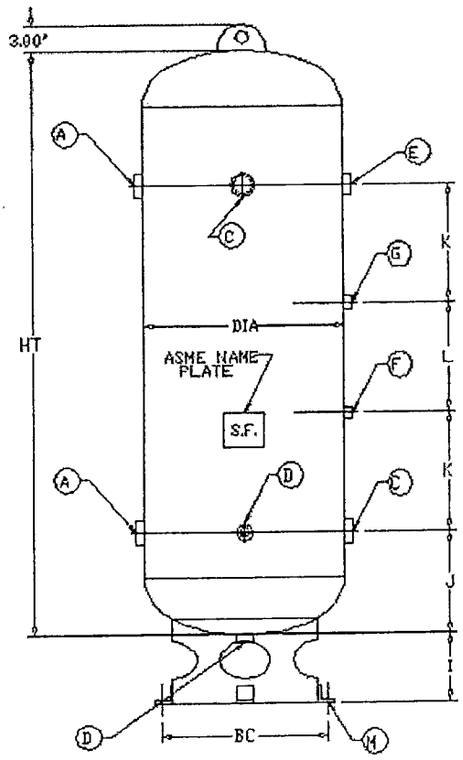
Key Options Available:

- PNLD II No Loss Drain Valve Kits
- EDV-2000 Electronic Drain Valve Kits
- System Saver Drain Valve Kits
- Electronic No Loss Drain Valve Kits
- SimplAir EPL & Evolution Pipe

Visit the Ingersoll Rand website for further information http://www.ingersollrandproducts.com

Ingersoll Rand

Vertical 80-500 Gallon - Standard Skirt



			Openings (NPT)						Dimensions					
PSI	GAL	DIA X L	A	C	D	E	F	G	I	J	K	L	M	BC
165	400	36" X 93"	2	3	1	2-1/2	1/2	1/4	8	16	20	20	11/16	32

ATTACHMENT - K

Vendor Quote – Barney's Pumps Inc.

Barney's Pumps is the local vendor for Hayward Gordan Centrifugal Pumps. We are expanding and modifying the original system with Hayward Gordan equipment to match what is existing. Therefore, the equipment is "sole sourced" and only one quote was obtained.

QUOTATION NUMBER
23-14-0709

BARNEY'S PUMPS INC.

12080 NW 40th Street
Coral Springs, FL 33065-7602
Broward (954) 346-0669
Dade (305) 945-0279

DATE: August 15, 2014

TO: Bruce
Globaltech
bruced@globaltechdb.com
Tel: 561-997-6433
Fax:

FOR SHIPMENT TO: Palm Beach County WTP #2
Tel:
Fax:

PROJECT: Spare Hayward Gordon Pump

Delivery	Via	From	F.O.B.	Terms
15-17 weeks	Bestway	Barney's Pumps	Destination	net 30

ITEM	QTY	DESCRIPTION	PRICE
		Electrical: 460V/3Ø/60Hz COS: 150 GPM @ 58' TDH	
A	1	Hayward Gordon Model XCS4A-VDP Screw Centrifugal Pump Vertical dry-pit configuration, cast-iron casing, high chrome impeller and cone, single cartridge mechanical seal with silicon carbide vs silicon carbide faces, complete with 10 HP, 1800 RPM, TEFC motor. Duplicate of S/N 320794	$28,550.00
		Price includes standard freight to the jobsite.	
		Delivery is F.O.B. Barney's Pumps. Start-up and training services are NOT included. Taxes, anchor bolts, piping, field wiring, etc. are not included. ***If shop drawings are required for approval, please request them from our office.***	

The following items are attached: Bulletin Performance curve Elevation drawing

Prices quoted are firm for 30 days (unless otherwise noted), then subject to adjustment to agree with prices at time of shipment and subject to any tax required by law. This quotation is subject to Barney's Pumps standard terms of sale and warranty which is attached. We appreciate the opportunity to serve you and trust that we are favored with your order.

BARNEY'S PUMPS INC.

JIM KING

Authorized Signature

Barney's Pumps Terms of Sale & Warranty

1. Pricing is based upon these and our manufacturer's standard terms and conditions of sale. Copies of manufacturer's documents are available for review. No other terms or conditions of sale apply unless accepted in writing by the Barney's Pumps Credit Manager or an officer of the company. Quoted prices do not include any taxes and are valid for THIRTY (30) days from the date of Barney's Pumps' proposal unless otherwise noted on the proposal. If the proposal is not unconditionally accepted, in writing, within that timeframe, Barney's Pumps reserves the right to modify pricing.
2. Standard payment terms are net 30 days from invoice date. *For contractor sales: Minimum 90% net 30 days – Balance of retainage due at start-up OR eighty (80) days from invoice date, whichever occurs first.*
3. We reserve the right to charge one and one-half percent (1-1/2%) of the past due balance per month. If it becomes necessary for us to employ an attorney or to bring suit to recover any amount, the Purchaser agrees to pay all of our court costs, legal expenses, and reasonable attorney's fees in connection therewith. These remedies are not in lieu of any other remedies so provided by applicable law.
4. Shipping and shop drawing production schedules are estimates based on current market conditions; they are subject to revision. We will not be liable or responsible for any delays caused by late shipment to us, or by any other matters beyond our control (Force Majeure) either in whole or in part.
5. If requested, shop drawings will be provided for submittal, review and approval to ensure that you, our customer, can be sure that Barney's Pumps has the correct perception of what you require. Any order where shop drawings are provided is contingent upon the approval of those shop drawings that, when approved, shall become the only specifications for the materials/goods you wish to purchase. Barney's Pumps cannot and does not warrant, guarantee or represent that materials/goods are suitable for any particular purpose nor does Barney's Pumps warrant, guarantee or represent that the materials/goods will be or have been approved for use by any other party. The customer is not authorized to rely on any warranty or representation by Barney's Pumps not contained in this document or otherwise provided in writing.
6. Purchaser must inspect all materials/goods for damage or shortage at the time of delivery. Claims for damage or shortage must be given in writing at the time of delivery to the carrier, and we must be notified in writing of any such claim within five (5) days.
7. Materials/goods may not be returned without our consent and will be subject to a restocking charge plus any freight costs involved.
8. LIMITED WARRANTY: Materials/goods manufactured by others are warranted only under the conditions and to the extent that they are warranted by the manufacturer(s) of said materials/goods, whose warranties will be furnished and assigned to Purchaser on request. We will not be liable for any breach of such warranty and Barney's Pumps does not provide any express or implied warranty concerning such materials/goods.
   With respect to materials/goods manufactured by Barney's Pumps, including Unitron Controls® electrical control panels, we warrant said materials/goods only to the original purchaser and only against defects in workmanship and material, subject to the limitations described below. The warranty period shall be the lesser of one year from startup or eighteen (18) months from date of shipment. It is the original purchaser's responsibility to ensure that the equipment is properly lubricated and that electrical components used in the control panels are free from rust and operate properly prior to start-up. This warranty does not apply to damage resulting from accident, alteration, misuse or abuse. Parts of products, or accessories, manufactured by others are warranted only to the extent of the original manufacturer's express warranty, if any. We warrant to the original purchaser that any part which proves to be defective in material or workmanship will be repaired or replaced at no charge with a new or remanufactured part, F.O.B. Lakeland, Florida. The original purchaser shall assume all responsibility and expense for removal, reinstallation, and freight to and from Lakeland, Florida. Any item designated as manufactured by others shall be covered only by the express warranty of the manufacturer thereof, if any.
   EXCLUSION OF ALL OTHER WARRANTIES: THE WARRANTIES CONTAINED HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED; ALL OTHER EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTIBILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED AND EXCLUDED FROM THIS TRANSACTION AND SHALL NOT APPLY TO ANY GOODS OR MATERIALS PRODUCED OR MANUFACTURED BY BARNEY'S PUMPS.
   For those items partially or totally manufactured by others and incorporated into our system(s) for resale, we pass along their warranty in total, but do not offer additional warranties, nor certify that they meet the intent of any request.
   Other than the above express warranty, Barney's Pumps makes no other warranties or representations whatsoever. In order for our said warranty to be enforceable, we must first be given a written notice and a reasonable opportunity to inspect the materials/goods alleged to be defective, as well as the installation and use thereof. Warranty is determined solely by the manufacturer of the materials/goods.
9. Service, Repair and Maintenance Work: From time to time, Barney's Pumps may perform service, repair and maintenance work for the customer on materials/goods purchased by the customer and/or provide training to the customers concerning said materials/goods. For all repair and maintenance work performed by Barney's Pumps at Barney's Pumps facility, Barney's Pumps warrants said repair and maintenance work against defects in material and workmanship only for the ninety (90) days from the completion of said repair and maintenance work. For service, repair and maintenance in the field and for training to customers, Barney's Pumps warrants only that said service, repair and maintenance and field training shall be free from defects in materials and workmanship for ninety (90) days.
10. In no event will we be liable for consequential damages, incidental damages, special damages, indirect damages, loss of use, loss of performance, loss of operations, loss of profit, or any other damages with respect to any materials/goods supplied by us, whether solely manufactured by us or others. Barney's Pumps and the original purchaser agree that the sole and exclusive remedy against Barney's Pumps regarding goods and materials manufactured by Barney's Pumps shall be for the repair or replacement of defective parts as provided above.
    Indemnification and/or Hold Harmless is not accepted by Barney's Pumps. This in no way diminishes the rights of either party. It is simply our corporate policy to rely on our extensive warranty outlined above.

effective: 18 September 2013

Bruce Rahmani BRIDGE DESIGN ASSOCIATES - STRUCTURAL ENG.

From: Brian Rheault <brianr@bridgedesignassociates.com>
Sent: Friday, September 19, 2014 9:17 AM
To: Bruce Rahmani
Subject: RE: PBC WTP 2 - Containment Area

Categories: Personal

Bruce

It appears the original design will be adequate to add up to one foot of height to the existing wall. We estimated #5 rebar at 12 inches on center each way and the use of 5000 psi concrete to achieve the proper water cement ratio and protection from corrosive fluids.

Please budget $2500 for design and construction phase services for our efforts on this project.

Brian

From: Bruce Rahmani [mailto:bruce@globaltechdb.com]
Sent: Thursday, September 18, 2014 12:26 PM
To: Brian Rheault
Subject: PBC WTP 2 - Containment Area

Brian,

As per our conversation earlier, we would like to raise existing containment wall at PBC WTP 2 by approximately 9-12" and need to know if this is possible based on attached record drawings. Please let me know if there is any other information that you might need.

Thank you

Bruce Rahmani
Project Manager
(561) 997-6433 O
(954) 882-1169 M
(561) 997-5811 F

Globaltech
A DESIGN - BUILD COMPANY

ATTACHMENT - K

Vendor Quote – C.C. Control Corporation

C.C. Control Corp., provided the electrical panels for the original Miex ® system. To match the existing equipment, C.C Control Corp., was contacted to provide quotes to match existing components. Therefore, the equipment is "sole sourced" and only one quote was obtained.

C. C. CONTROL CORP.

5760 CORPORATE WAY, SUITE 100
WEST PALM BEACH, FLORIDA 33407

PHONE: 561 293-3975
FAX: 561 293-3976

CUSTOMER: GLOBALTECH

ATTN: NICO SHANER

PROJECT: WTP NO.2 EXISTING MIEX REMOTE I/O PANEL
PALM BEACH COUNTY WATER UTILITIES DEPT.

DATE: 9/25/2014

DESCRIPTION	**QUAN**	**TOTAL PAGES 3**

C. C. CONTROL CORP. PROPOSES TO FURNISH THE FOLLOWING COMPLETE WITH EXCEPTIONS AS LISTED:

EXCEPTIONS:

A) QUOTE DOES NOT INCLUDE CONDUIT SYSTEM.
B) QUOTE DOES NOT INCLUDE WIRE/CABLE.
C) QUOTE DOES NOT INCLUDE INSTALLATION.
D) QUOTE DOES NOT INCLUDE FIELD TERMINATIONS.
E) QUOTE DOES NOT INCLUDE ANY PANEL MTG. RACKS
F) QUOTE DOES NOT INCLUDE ANY ELEC. OR PNEUMATIC OP. VALVES.
G) QUOTE DOES NOT INCLUDE SOLENOIDS.
H) QUOTE DOES NOT INCLUDE ANY PIPE TAPS OR PIPE SADDLES.
I) QUOTE DOES NOT INCLUDE FIELD PNEUMATIC IMPULSE PIPING, TEST TAPS, OR SHUT-OFF VALVES.
J) QUOTE DOES NOT INCLUDE ANY PANEL OR J-BOX MOUNTING HARDWARE
K) QUOTE DOES NOT INCLUDE PLC OR SCADA PROGRAMMING

ITEM NO.1

EXIST. MIEX PLC REMOTE I/O PANEL

NEMA 3R 316 S.S. WALL MOUNT ENCLOSURE W/ FOLL:	1
A) SIZE: 48"H X 36"W X 12"D	
B) 3PT. PADLOCKABLE HANDLE	
C) 316 S.S. DRIPSHIELD	
D) WHITE EXTERIOR FINISH	
E) STEEL SUBPANEL	
HOFFMAN A-HCI10E CORROSION INHIBITOR	1
EDCO HSP-121A SURGE ARRESTER	1
PROGRESS P7007-30 24" UNDERCABINET LYTE	1
HUBBELL CS115-I SINGLE 15A TOGGLE SWITCH	1
HUBBELL GF15IL GFI RECEPTACLE 15A	1
HUBBELL SS26 GFI PLATE SS	1
HUBBELL 5251-I SINGLE 15A RECEPT.	1
HUBBELL S7 S.S. SINGLE RECEPT. PLATE	1

SQD QOU115 120V BRKR	3
SQD QOU120 120V BRKR	1
APC 500VA UPS	1
AB 1756-A13 13 SLOT CONTROLLOGIX CHASSIS	1
AB 1756-PA75 POWER SUPPLY	1
AB 1756-EN2T CLX ETHERNET/IP 10/100 BRIDGE	1
AB 1756-IA16I 16 POINT, 120VAC ISOLATED DI	2
AB 1756-OA16I DIGITAL OUTPUT MODULE 16PT.	2
AB 1756-IF16 ANALOG INPUT 8CH.	3
AB 1756-TBNH 20 POSITION NEMA SCREW CLAMP BLCK	3
AB 1756-TBCH 36 POSITION NEMA SCREW CLAMP BLCK	4
AB 1756-N2 EMPTY SLOT FILLER CARD	5
PULS SLR10.100 10A 24VDC POWER SUPPLY	1
AB 700-HA33A1-3-4 3PDT 120VAC RELAY	32
AB 700-HN101 11PIN SOCKET	32
EDCO PC642C-036-X DUAL SIGNAL SURGE PROTECTOR	15
PHOENIX 2881007 DT-LAN-CAT.6+ ENET SURGE PROTECTOR	1
ENTRELEC M4/6.D2 115271.22 600V DOUBLE DECK GREY TERMINALS	70
ENTRELEC FEM6D 118499.23 GREY END SECTION	4
ENTRELEC BJM6D 173520.22 10 POLE JUMPER BAR	7
ENTRELEC D2,5/6.DA 115541.11 300V TRIPLE DECK GREY TERMINALS	30
ENTRELEC FED3E 116771.20 GREY END SECTION	1
ENTRELEC BAMH 114836.00 HIGH END STOP	2
ENTRELEC M4/6 115116.07 GREY 600V TERMINALS	20
ENTRELEC FEM6 118368.10 END SECTION	1
ENTRELEC BAM 20635116 END STOP	2
ENTRELEC PREPRINTED TERMINAL MARKERS	LOT
GRND. BUS	1
WIRE, DUCT & NAMEPLATES	LOT
U.L. 508A LABEL	LOT

ITEM NO.2

MODS TO EXIST. MIEX PLC PANEL

PHOENIX 2881007 DT-LAN-CAT.6+ ENET SURGE PROTECTOR	1

ITEM NO.3

ETHERNET CABLE

BELDEN CAT 5E ETHERNET CABLE	250
ETHERNET CAT5E RJ45 JACKS	2

ITEM NO.4

SERVICE SUMMARY

MODIFICATIONS TO EXIST. PANEL	LOT
CAT5E COPPER ETHERNET CABLE TREMINATIONS	LOT
START-UP	LOT
TRAINING	LOT
O & M MANUALS	LOT

SELL: $30,600.00 PLUS TAX

NOTE!!

THIS IS A BUDGETARY NUMBER BASED ON THE INFORMATION PROVIDED AT THE TIME OF THE QUOTE.

FOB: JOB SITE
DEL: 8 - 10 WEEKS
AFTER APPROVED DRAWINGS
TERMS: NET 30 DAYS
(SUBJECT TO CREDIT APPROVAL)

WARRANTY: ALL WARRANTIES SHALL EXPIRE ONE (1) YEAR FROM DATE OF START-UP FROM SELLER TO BUYER UNLESS SPECIALLY INDICATED OTHERWISE AND WILL BE NULL AND VOID UNLESS MATERIALS ARE STORED UNDER PROPER CONDITIONS DETERMINED BY C.C. CONTROL CORP.

LUIS L. GARCIA

Bruce Rahmani

From: Nico Shaner
Sent: Thursday, October 2, 2014 4:49 PM
To: Bruce Rahmani
Subject: FW: budgetary pricing (VFD/starter panel) - MIEX
Attachments: 20141002161305170.pdf

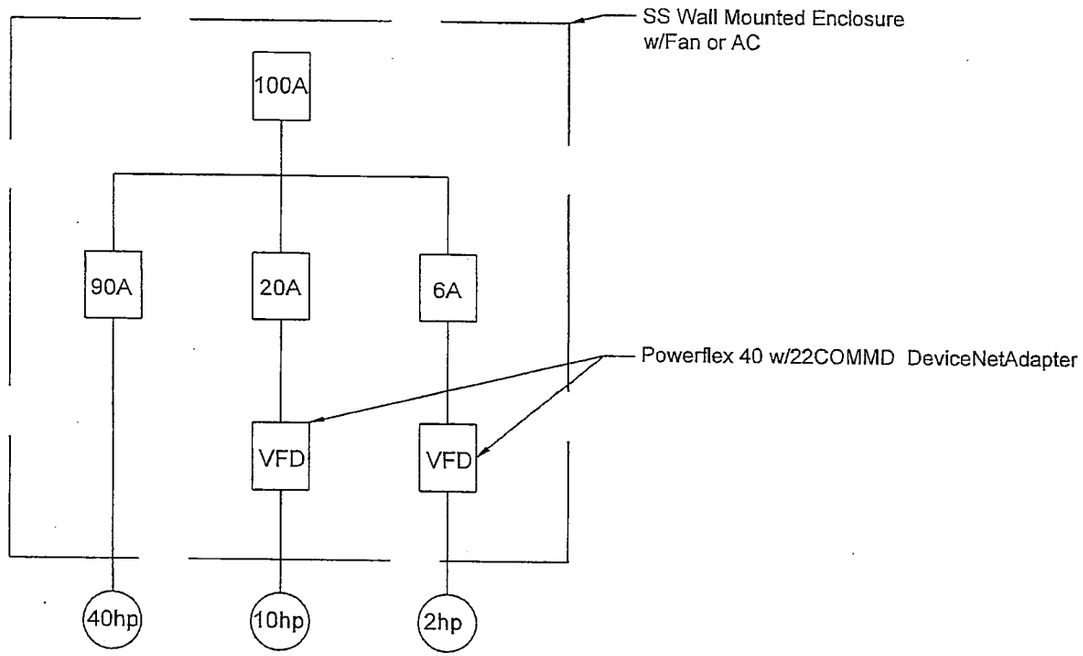
This is budgetary pricing from CC control for the VFD/Starter panel (CP2) to be installed in the maintenance bldg. next to the existing CP1 MCC. Price is $39,500.00 plus tax.

1-line diagram of CP2 is attached

Regards,
--
Nico Shaner
Globaltech, Inc.
6001 Broken Sound Pkwy NW
Suite 610
Boca Raton, FL 33487
nshaner@globaltechdb.com
561-997-6433 - office
404-226-7645 - cell
www.globaltechdb.com

From: Luis Garcia [mailto:LGARCIA@cccontrolcorp.com]
Sent: Thursday, October 02, 2014 4:22 PM
To: Nico Shaner
Subject: budgetary pricing

Nico,
Our price for a control panel that will control the components on the one line diagram attached would run approx.. $39,500.00 plus tax. This is a budgetary number based on the information provided and attached. Thank You.


SS Wall Mounted Enclosure
w/Fan or AC
100A
90A
20A
6A
Powerflex 40 w/22COMMD DeviceNetAdapter
VFD
VFD
40hp
10hp
2hp

ATTACHMENT - K

Vendor Quote – Energy Efficient Electric, Inc.

Energy Efficient Electric (EEE) installed the original electrical system and is therefore most familiar with the work requirements. Electrical work associated with this project was "sole sourced" to EEE and only one quote was obtained.

Energy Efficient Electric, Inc.
1600 Mercer Ave. Unit 6
West Palm Beach, FL. 33401
Phone (561) 655-7211 Fax (561) 655-9661
Mobile (561) 722-1381
E-Mail Address: rene@energyeff.com

State License #EC 0001096

August 8, 2014

Electrical Scope of Work
PBC WTP 2 MIEX Skid

Quote # 30903

We are pleased to provide your firm with our scope and proposal for the necessary electrical work on the above referenced project. Our scope and proposal is based on preliminary scope of work produced by Nico and a job site walk thru.

Included:

1. Assist with the installation of CP-2 and LIT's furnished by others.
2. Furnish SS NF disconnects for the agitator, resin pump and air compressor.
3. Furnish and install a 100 amp breaker in PP-1 to feed CP-2.
4. Furnish and install (2) vapor proof light fixtures at the new skid.
5. Furnish switches and receptacles.
6. Relocate light pole.
7. Furnish and install a 100 amp rated conduit and feeder wire from PP-1 to CP-2.
8. Furnish and install conduit and feeder wire from panel CP-2 to the agitator, resin pump and compressor.
9. Furnish and install branch circuits from MPZ-1 to the SV panel, light fixtures, receptacles and LIT's.
10. Furnish and install conduit, discrete and analog cables from RIO-10 to the terminal boxes on the skids.
11. Furnish and install power and control conduit and wire from CP-2 to the new compressor.
12. Furnish and install conduit, power wiring, and signal cable from new flow meter (installed by GT) on 2" brine line in Hypo/Brine containment area.
    a. Conduit and wiring from flow meter to existing SV-06 Panel.
    b. Modify SV-06 Panel, furnish and install new 5A control power breaker to power flow meter, from existing panel 120V service.
13. Furnish and install new signal cable from SV-06 to Hypo Control Panel in generator building (IF POSSIBLE)
    a. There is an existing 1" conduit with 3 twisted shielded pair cables (#16awg) already installed. One of these cables labeled "R" is spare and can be used for flow meter signal.
    b. If possible, we would still like to pull another TW/SH/pair from SV-06 through existing conduit to Hypo control panel, to keep as spare.
14. Furnish and install conduit, power wiring, and signal cable from New flow meter (installed b GT) on 4" brine to waste line at rear of recycled brine containment area:
    a. Conduit and wiring from flow meter to existing SV-05 control panel
    b. Modify SV-05 Panel, furnish and install new 5A control power breaker to power flow meter, from existing panel 120V service. Furnish and install terminal blocks if necessary

Energy Efficient Electric, Inc.
1600 Mercer Ave. Unit 6
West Palm Beach, FL. 33401
Phone (561) 655-7211 Fax (561) 655-9661
Mobile (561) 722-1381
E-Mail Address: rene@energyeff.com

   a. Conduit and wiring from conductivity meter to existing SV-05 control panel
   b. Modify SV-05 Panel, furnish and install new 5A control power breaker to power conductivity meter, from existing panel 120V service. Furnish and install terminal blocks if necessary

16. Furnish and install conduit, power wiring, and signal cable from New level transmitter (installed b GT) on recycled brine tank:
   a. Conduit and wiring from level transmitter to existing SV-05 control panel
   b. Modify SV-05 Panel, furnish and install new 5A control power breaker to power level transmitter, from existing panel 120V service. Furnish and install terminal blocks if necessary
17. Furnish and install signal cable from SV-05 Panel to PLC-10 panel (inside maintenance building) for new flow meter, level transmitter, and conductivity meter
   a. There is an existing 2" conduit from SV-05 to PLC-10. It currently has 1 TW/Sh/Pair pulled through it, and no pull string.
   b. Use existing 2" conduit to pull 6 TW/SH/Pairs (3 for new equipment, and 3 spairs
   c. Termination of field wiring in PLC-10 to be included, GT to provide termination points

Excluded:

1. Permit fees.
2. Concrete and asphalt cutting and patching.
3. Concrete pads.
4. Pumps, CP-2, LIT's, AIT's and floats.

Lump Sum **$120,000**

We appreciate the opportunity to quote your organization on this project. If you have any questions, please call me at the office.

Thank You Very Kindly,

Rene Viau

Vice President

VERBAL QUOTES FOR ADDITIONAL WORK

- CONTAINMENT WALL - ELECTRICAL EXTENSION - $5,000
- I+C MODIFICATIONS — $2,000

TOTAL LUMP SUM PRICE — $127,000

ATTACHMENT - K

Vendor Quote – Greenheck

The quote for the fan and motor were a small component of the entire project. In order to meet time constraints only a single quote was obtained.

GREENHECK
Building Value in Air.

09/26/14

Quotation for Project: PBCO WTP 2 MIEX SYSTEM

CUSTOMER: 111 BUDGET PRICING
1375 North Killian Drive
Lake Park FL 33403-1939
Phone 561.844.9767
Fax 561.844.9792

Sales Office: CORS-AIR
1375 NORTH KILLIAN DR
LAKE PARK FL 33403-1939
Phone: (561)844-9767
Fax: (561)844-9792
Priced By: Edward King
Email: ed@cors-air.com

Design Criteria

Elevation: (ft) 20
Power: 60 Cycle

Destination Country: United States
*** Name and Location of end user is required for all Export orders.*

TERMS

Program Type: Standard
Order Terms: Standard Terms
Freight Terms: Prepaid

MISCELLANEOUS CHARGES

Minimum Billing Charge		$0.00
Minimum Finish Charge		$0.00
Banking Fees per Draw		$0.00
Export Packaging Fee		$0.00
Interest Charges	None	$0.00
Freight Quote Amount		$0.00
Lift Gate Charge	No	$0.00
Union Driver Charge	No	N/A
Flat Bed Charge	No	N/A

Total Billing Price (USD) $6,735.25

Standard Terms & Conditions of Sale Apply.
Sales tax is the responsibility of the buyer, unless tax exempt certificate is provided.
Payment Terms are Net - 30 days, subject to credit approval.

Created in CAPS 4.15.1512
Job Creation Date 09/24/14

PRICES AS QUOTED VALID FOR 90 DAYS

PBCO WTP 2 MIEX SYSTEM

Mark: SF - 1 **Model:** SBCS-3H36-10 **Product Family:** Fan

Qty	FRPM	Volume	Total SP
1	846	9,600 CFM	0.375 in. wg

SELECTION		MOTOR SPECS	
Air Stream Temp.:	70 F	Include Motor & Drive:	Yes
Elevation:	20 ft	Motor Size:	1 hp
Drive Loss:	5.8 %	Operating Power:	1.15 hp
Baffled:		Motor Enclosure:	ODP
Allow Motor SF:	Yes	Cycle:	60
Relaxed Constraints:	No	Phase:	3
		Voltage:	460
		RPM:	1725
Motor Design:	NEMA	Number of Windings:	1
		Efficiency Rating:	Standard

Options & Accessories

Motor VFD Rated without Shaft Grounding Protection
Motor with Thermal Overload
Dual Drives
UL/cUL 705 Listed - "Power Ventilators"
Short Wall Hsg, Flush Int, (2B-Sup), w/ OSHA Grd., Ctd with Hi-Pro Polyester, Concrete Gray-RAL 7023
Switch, NEMA-1, Toggle, Junction Box Mounted & Wired
Coating Hi-Pro Polyester, Concrete Gray-RAL 7023, Fan & Attached Accessories
Extended Lube Lines
Bearings with Grease Fittings

Mark: SF - 1 LOUVER **Model:** ESD-635D **Product Family:** Louver

Construction Features

Frame Depth (in.):	6	Frame Thickness (in.):	0.125	Louver Material:	Aluminum
Frame Type:	Flanged	Flange Extension:	Exterior	Flange Extension (in.):	1.5
Sizing:	Rough Opening	Fixed Blade Thick. (in.):	0.081	Shape:	Rectangular
Welded Construction:	Yes				

Options and Accessories

Finish

Louver Finish Type:	Mill				

BirdScreen

Bird Screen:	Internal	Bird Screen Mat'l:	Aluminum	Bird Screen Type:	3/4x0.050 Flat Exp.
Bird Screen Finish:	Mill				

Mounting

Build. Substrate Cond.:	CMU	Struct. Depth (in.):	8.000		

Warranty

Product Warranty:	1 Yr (Standard)

Summary

ID #	Tag	Qty.	W (in.)	H (in.)	Free Area (ft2)	Sect. Wide	Sect. High	Sect. Ship	Sleeve Length (in.)	Blade Thick. (in.)	Max Struct. Depth (in.)	Installation Method
1-1	LVR	1	50.000	50.000	9.61	1	1	1	16	0.081	14.500	Flange/ Sleeve

The maximum design wind load is 150 PSF. Please refer to the product data submittal information for installation instructions. Any additional structural reinforcing members or materials not otherwise shown as "By Greenheck" shall be considered by others. Unless indicated otherwise the following are NOT included in the quote provided: structural steel, anchors into surrounding substrate or structure, shims, backer rod, sealant, dissimilar material isolation, field measuring, installation, flashing, trim, enclosures, blankoff panels, mullion covers, hinged frames, removable subframes, custom bird/insect screen, 3-coat, metallic and/or exotic paint finishes, bituminous paints, taxes, PE stamped structural calculations or job specific engineered submittal drawings.

Mark: SF -1 WHOOD **Model:** WTHD-48-90 **Product Family:** Accessories

Qty: 1 **90 Degree Weatherhood**

Weatherhood Size: 48, Aluminum 90 deg. with Bird Screen

Mark: SF - 1 DISCHARGE HOOD **Model:** WTHD-36 **Product Family:** Accessories

Qty: 1 **45 Degree Weatherhood**

Weatherhood Size: 36, Galvanized 45 deg. with Bird Screen

GREENHECK
Building Value in Air.

09/26/14

Quotation for Project: PBCO WTP 2 MIEX SYSTEM

CUSTOMER: 111 BUDGET PRICING
1375 North Killian Drive
Lake Park FL 33403-1939
Phone 561.844.9767
Fax 561.844.9792

Sales Office: CORS-AIR
1375 NORTH KILLIAN DR
LAKE PARK FL 33403-1939
Phone: (561)844-9767
Fax: (561)844-9792
Priced By: Edward King
Email: ed@cors-air.com

Design Criteria

Elevation: (ft) 20
Power: 60 Cycle

Destination Country: United States
*** Name and Location of end user is required for all Export orders.*

TERMS

Program Type: Standard
Order Terms: Standard Terms
Freight Terms: Prepaid

MISCELLANEOUS CHARGES

Minimum Billing Charge		$0.00
Minimum Finish Charge		$110.82
Banking Fees per Draw		$0.00
Export Packaging Fee		$0.00
Interest Charges	None	$0.00
Freight Quote Amount		$0.00
Lift Gate Charge	No	$0.00
Union Driver Charge	No	N/A
Flat Bed Charge	No	N/A

Total Billing Price (USD) $1,761.75

Standard Terms & Conditions of Sale Apply.
Sales tax is the responsibility of the buyer, unless tax exempt certificate is provided.
Payment Terms are Net - 30 days, subject to credit approval.

Created in CAPS 4.15.1512
Job Creation Date 09/24/14

PRICES AS QUOTED VALID FOR 90 DAYS

PBCO WTP 2 MIEX SYSTEM

Mark: RELIEF LOUVER **Model:** EHH-601D **Product Family:** Louver

Construction Features

Frame Depth (in.):	6	Frame Thickness (in.):	0.081	Louver Material:	Aluminum
Frame Type:	Channel	Sizing:	Rough Opening	Fixed Blade Thick. (in.):	0.081
Shape:	Rectangular	Welded Construction:	Yes		

Options and Accessories

Finish

Louver Finish Type:	Kynar 70% (2 coat)	Louver Finish Color:	Bone White (GF102)

Insect Screen

Insect Screen Location:	Internal	Insect Screen Type:	Aluminum

Mounting

Build. Substrate Cond.:	CMU	Struct. Depth (in.):	8.000

Warranty

Product Warranty:	1 Yr (Standard)	Finish Warranty:	10 Yrs (Standard)

Summary

ID #	Tag	Qty.	W (in.)	H (in.)	Free Area (ft2)	Sect. Wide	Sect. High	Sect. Ship	Sleeve Length (in.)	Blade Thick. (in.)	Max Struct. Depth (in.)	Installation Method
2-1	RELIEF	1	48.000	48.000	7.13	1	1	1	None	0.081	Infinite	Channel

The maximum design wind load is 150 PSF. Please refer to the product data submittal information for installation instructions. Any additional structural reinforcing members or materials not otherwise shown as "By Greenheck" shall be considered by others. Unless indicated otherwise the following are NOT included in the quote provided: structural steel, anchors into surrounding substrate or structure, shims, backer rod, sealant, dissimilar material isolation, field measuring, installation, flashing, trim, enclosures, blankoff panels, mullion covers, hinged frames, removable subframes, custom bird/insect screen, 3-coat, metallic and/or exotic paint finishes, bituminous paints, taxes, PE stamped structural calculations or job specific engineered submittal drawings.

GREENHECK FAN CORPORATION - TERMS & CONDITIONS

1. SELLER'S TERMS TO GOVERN: Only the terms and conditions stated herein shall be binding upon The Greenheck Fan Corporation (hereinafter "SELLER"). No modification, amendment or change, whether in Buyer's purchase order, shipping release forms or otherwise shall obligate SELLER unless authorized in writing by SELLER's Wisconsin office. The Buyer shall be conclusively presumed to have accepted the terms and conditions set forth herein, thereby creating a contract limited to these terms, if Buyer does not object in writing to these terms within five (5) business days after their receipt.

2. PRICES: Unless otherwise specifically provided in SELLER's quotation or acknowledgement, prices are valid for goods required for delivery within 90 days following acceptance. Thereafter, prices are subject to change due to inflation, transportation or surcharge on material. Prices include transportation charges predicated on a single shipment and any partial shipments may result in additional cost to the Buyer.

3. TAXES & CUSTOMS: To the prices quoted add any manufacturer's gross receipts, sales, or use tax, customs, either international, federal, state, or local, payable on the transaction any applicable statute.

4. PAYMENT: Payment terms for goods shipped hereunder will be net 30 days.. Should the Buyer default in the timely payment to SELLER of sums due on an order, SELLER is entitled to any remedies provided in this contract or by law. If Buyer fails to pay any amounts when due, Buyer shall pay SELLER interest thereon at a periodic rate of one and one-half percent (1.5%) per month (or, the maximum allowable legal interest rate), together with all costs and expenses (including without limitation reasonable attorneys' fees and disbursements and court costs) incurred by SELLER.

5. PERFORMANCE: SELLER shall be obligated to furnish only the goods described in its quotation or acknowledgement, and agreed to in writing.
The duty to perform under any order on the part of SELLER and the price thereof is subject to the approval of its Credit Department, and is contingent upon strikes, accidents, floods, act(s) of terrorism, fires, fuel shortages, the inability to procure materials from the usual sources of supply, the requirements of the US Government (through the use of priorities or preference or any other manner) that SELLER divert either the material or the finished product to the direct or indirect benefit of the Government, or upon any like or unlike cause beyond the reasonable control of SELLER. Upon disapproval of the Credit Department or upon the occurrence of any such event, SELLER may delay performance or, at its option, renegotiate prices and terms and conditions of sale with Buyer. If SELLER elects to renegotiate and SELLER and the Buyer are unable to agree on revised prices or terms, SELLER may cancel without any liability.

6. SHIPMENT DATE: Shipment dates are estimates only. Shipment shall be FOB factory or warehouse at named shipping point with title passing to the Buyer upon delivery to the carrier by SELLER. SELLER specifically rejects any order containing a time is of the essence clause or liquidated damage penalties for late shipments.

7. **LIABILITY DISCLAIMER: TO THE MAXIMUM EXTENT PERMITTED BY LAW, IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, BUSINESS INTERRUPTION, LOST PROFITS OR LOSSES RESULTING FROM THE INSTALLATION, USE, MISUSE, OR INABILITY TO USE THE PRODUCT. THIS EXCLUSION APPLIES REGARDLESS OF WHETHER SUCH DAMAGES ARE SOUGHT BASED ON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT, OR ANY OTHER LEGAL THEORY EVEN IF THE PARTY WAS INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. SHOULD SELLER NEVERTHELESS BE FOUND LIABLE FOR ANY DAMAGES, THEY SHALL BE LIMITED TO THE PURCHASE PRICE FOR THE PARTICULAR PIECE OR ITEM OF EQUIPMENT**.

8. CHANGES: With SELLER'S permission, changes may be made to orders prior to the start of fabrication at the current price list. Changes made after fabrication has started will result in an increase in price deemed appropriate by SELLER to recover all associated labor and material costs, including normal overhead and profit.

9. CANCELLATION: In the event that all or a portion of an order is cancelled by the Buyer without cause, the Buyer shall be liable to SELLER for cancellation charges including, but not limited to, SELLER's incurred costs and such profits as would have been realized by SELLER from the transaction had the agreement not been canceled by Buyer.

10. RISK OF LOSS: Risk of loss, including but not limited to loss of goods from shortages, damages or transit delays, shall pass to the Buyer when the goods have been delivered to any transportation carrier (excluding proprietary transportation facilities of SELLER). Any claims for damage to, or loss or misdelivery or damage of the goods shall be filed with SELLER.

11. LIMITED WARRANTY AND LIABILITY: SELLER warrants to Buyer that products manufactured are free from defects in material and workmanship for a period of 12 months from the date of shipment. SELLER's obligations and liabilities under this warranty are limited to furnishing FOB factory or warehouse at SELLER's designated shipping point, freight allowed to Buyer's city, (or point of export for shipments outside the conterminous United States) replacement equipment (or at the option of SELLER parts therefore) for all Seller's products not conforming to this warranty and which have been returned to the manufacturer. No liability whatever shall attach to SELLER until said products have been paid for and such liability shall be strictly limited to the purchase price of the equipment shown to be defective. SELLER may make further warranty protection available on an optional extra-cost basis and which must be authorized and in writing.

ANY MISUSE, NEGLECT, FAILURE TO FOLLOW INSTRUCTIONS OR MANUALS OF INSTALLATION OR MAINTAINANCE REPAIR, SERVICE, RELOCATION OR ALTERATION TO OR OF, OR OTHER TAMPERING WITH, THE PRODUCTS PERFORMED BY ANY PERSON OR ENTITY OTHER THAN SELLER WITHOUT SELLER'S PRIOR WRITTEN APPROVAL OR ANY USE OF REPLACEMENT PARTS NOT SUPPLIED BY SELLER, SHALL IMMEDIATELY VOID AND CANCEL ALL WARRANTIES WITH RESPECT TO THE AFFECTED PRODUCTS.

THE WARRANTY AND LIABILITY SET FORTH HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES WHETHER IN CONTRACT OR IN NEGLIGENCE, EXPRESSED OR IMPLIED, IN LAW OR IN FACT, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE. SELLER PROVIDES NO INDEPENDENT WARRANTY FOR THIRD PARTY PRODUCTS OR COMPONENTS SOLD TOGETHER OR INCORPORATED WITH SELLER'S PRODUCT(S). Electrical components are warranted only to the extent warranted by the original manufacturer. To the extent that SELLER is entitled to pass through a warranty of the original equipment manufacturer of the electrical goods sold, SELLER will pass through such warranties to Buyer.

12. AUTHORITY OF SELLER'S AGENTS: No agent, employee or representative of SELLER has the authority to bind SELLER to any affirmation, representation or warranty concerning the goods sold under this contract, and unless an affirmation, representation or warranty made by an authorized agent, employee or representative is specifically included within this bargain it shall not in any way be enforceable by the Buyer.

13. ASSIGNMENT/DELEGATION: No right or interest under this contract may be assigned by the Buyer, nor may any obligation or performance under this contract be delegated by the Buyer without SELLER's written permission. Any attempted assignment or delegation shall be void and ineffective for all purposes. SELLER may assign its rights or obligations under this Agreement in the event of a merger or change of control of SELLER.

14. GOVERNING LAW: This agreement shall be governed and construed in accordance with the laws State of Wisconsin. Buyer consents to jurisdiction in the Circuit Court of Wausau, WI or the Federal District Court for the Western District of WI in Eau Claire, WI.

15. INDEMNIFICATION: SELLER agrees to indemnify, defend and hold harmless Buyer from and against any and all damages, liabilities, actions, causes of action, suits, claims, demands, losses, costs and expenses (including without limitation attorneys' fees, disbursements and courts costs) for injury to or death of persons or damage to property to the extent caused by a defect in SELLER'S product. Buyer agrees to indemnify, defend and hold harmless SELLER from and against any and all damages, liabilities, actions, causes of action, suits, claims, demands, losses, costs and expenses (including without limitation attorneys' fees, disbursements and courts costs) for injury to or death of persons or damage to property to the extent caused by the negligence or willful misconduct of Buyer, a third party, or Buyer's employees, agents, representatives or contractors. Each party shall provide the other with prompt written notice of any claim covered hereunder, and the indemnifying party shall have the right to assume exclusive control of the defense or settlement of such claim.

16. RETURNS: Goods shall not be returned except by written permission of SELLER pursuant SELLER's returned goods policy.

17. EXPORT CONTROLS. Items purchased may be subject to US and other countries export controls and customs regulations and laws. Buyer agrees it shall not export or enter into an agreement for the export any goods from SELLER to any prohibited or embargoed country or to any denied, blocked or restricted person or entity including those so designated by the US Dept. of Commerce or Treasury.

18. ENTIRETY OF AGREEMENT: This document, together with any other documents furnished by SELLER shall set forth the entire agreement between the parties. Should any portion herein be deemed to be illegal, invalid or unenforceable the same shall not effect other terms or provisions of this Agreement which shall be deemed modified to the extent necessary to render it enforceable, and the rights and obligations of the parties shall be construed and enforced accordingly. No waiver by either party of any rights under this Agreement will be effective unless it is in writing signed by the party against whom it is being enforced.

ATTACHMENT - K

Vendor Quote – Heyward Florida Incorporated

The cost quote for the PE Brine Storage Tank was obtained by the WTP 2 Superintendent to match existing tanks and preferences To match the existing equipment, a single quote was obtained and the equipment was "sole sourced.

Heyward
FLORIDA INCORPORATED

415 Country Club Drive
Winter Park, Florida 32789
P- 407.628.1880
Fax- 407.628.9860

July 21, 2014

Mr. Eric Hill / Maintenance Supervisor
PBC Water Utilities
Water Treatment Plant # 2
Palm Beach County, FL

Subject: PolyProcessing High Density Cross-Linked PE Tank for Brine Storage

Dear Eric,

Heyward Incorporated, the authorized municipal distributor of **Poly Processing Company** high performance chemical storage tanks in Florida, is pleased to offer the following information for your review and consideration:

ONE (1) 8500 Gallon PolyProcessing Vertical Storage Tank for Brine
Features:
Diameter: 10'-0", Height: 16'-9"
1.9 SPG, OR-1000 Lined, Natural or Black in Color
NSF-61 Certified
Manway: 24" Safety Surge w/ EPDM Gasket
Brine Fill: 4" Bulkhead Connection
Salt Water Fill: 4" Bulkhead Connection
Level Switch Fitting: 1" BOSS Connection
Level Transducer: 4" Universal Ball Dome Fitting
Vent: 6"
Overflow: 6" UBD Bulkhead
Drain: 4" w/ Flexijoint Connector, Siphon Leg
Ladder: 17' FRP w/ Walk Through
SS Restraint System

~~**PRICE: $ 36,250.00**~~ $38,062.50 As per conversation with Hayward on 9/15/14. Price change based on outlet configuration

Terms of Shipment: F.O.B. shipping point, truck freight allowed.

Please note: Pricing does not include unloading, foundations, field piping, field wiring, electrical controls or any sales or use taxes.

Terms of Payments: Net 30 days.

Typical manufacturing lead time: approximately 3 -4 weeks after receipt of final approved shop drawings and your authorization to proceed with manufacture.

Please consider our proposal valid for sixty days after date of proposal. Should you wish to place an order after the expiration date, please contact our office for pricing confirmation.

Our pricing includes only items specified and excludes installation, concrete slabs, anchor bolts, unloading or any applicable state or local sales and use taxes.

Should you favor us with an order, please address it as follows:

HEYWARD FLORIDA INCORPORATED
415 COUNTRY CLUB DRIVE
WINTER PARK, FLORIDA

Attached are our standard Terms and Conditions of Sale, which are an integral part of this proposal.

Please contact our office with any questions or comments regarding our offering.

Regards,
HEYWARD FLORIDA INCORPORATED – distributors for
POLY PROCESSING COMPANY

Kimberly Newman
Winter Park Office