

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS
AGENDA ITEM SUMMARY

Meeting Date: March 12, 2013 Consent [X] Regular []
Public Hearing []

Department: Water Utilities Department

I. EXECUTIVE BRIEF

Motion and Title: Staff recommends motion to approve: Work Authorization No. 10 with Globaltech, Inc. (R2012-0159) for Water Treatment Plan No. 2 (WTP 2) Wellfield Backup Power Improvements in the amount of \$716,189.09.

Summary: Work Authorization No. 10 will replace power supply system for seven (7) wells and install new remote telemetry units (RTU's) at six (6) wells. The electrical cables from WTP 2 to Wells 9, 10 and 11 are over 30 years old and need replacement. In addition, four (4) existing potable water wells will be connected to the WTP 2 emergency generator and will then utilize the lower Florida Power & Light Commercial Industrial Load Control rates. The Small Business Enterprise (SBE) participation goal established by the SBE Ordinance (R2002-0064) is 15% overall. The contract with Globaltech, Inc. provides for SBE participation of 75% overall. This Authorization includes 100% overall participation. The cumulative SBE participation, including this Work Authorization, is 85.94% overall. Globaltech is a Palm Beach County and Certified SBE Company. WUD Project No. 12-005 District 2 (JM)

Background and Justification: Work Authorization No. 10 will replace the aging 480V power supply system at Wells 9 to 11 with 4160V power cables and 480V/4160V transformers. Wells 12 to 15 are currently fed power directly from Florida Power and Light and will be connected to the WTP 2 power system which is under the FPL Commercial-Industrial Load Control Program. Wellfield capacity on the WTP 2 emergency power will be increased by approximately 6 MGD. The new 4160V system will also provide infrastructure for two (2) future wells. Six (6) new RTU's will be installed providing additional monitoring of the aquifer and well pumps for operational efficiency and redundancy.

Attachments:

- 1. Location Map
- 2. Two (2) Original Work Authorizations No. 10

Recommended By: Brenda Beardsley 2/12/13
Department Director Date

Approved By: Shanna Q. Byrd 2-22-13
Assistant County Administrator Date

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2013	2014	2015	2016	2017
Capital Expenditures	<u>\$716,189.09</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
External Revenues	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Program Income (County)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
In-Kind Match County	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
NET FISCAL IMPACT	<u>\$716,189.09</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
# ADDITIONAL FTE POSITIONS (Cumulative)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

Budget Account No.: Fund 4011 Dept 721 Unit W004 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 balances brought forward.

C. Department Fiscal Review: Selma M West

III. REVIEW COMMENTS

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

Johanna Weber
OFMB
JB 2/14
2/21/14

Dr. J. Jacoby 2/21/13
Contract Development and Control
2-21-13 B Wheeler

B. Legal Sufficiency:

James C. [Signature] 2/21/13
Assistant County Attorney

C. Other Department Review:

Department Director

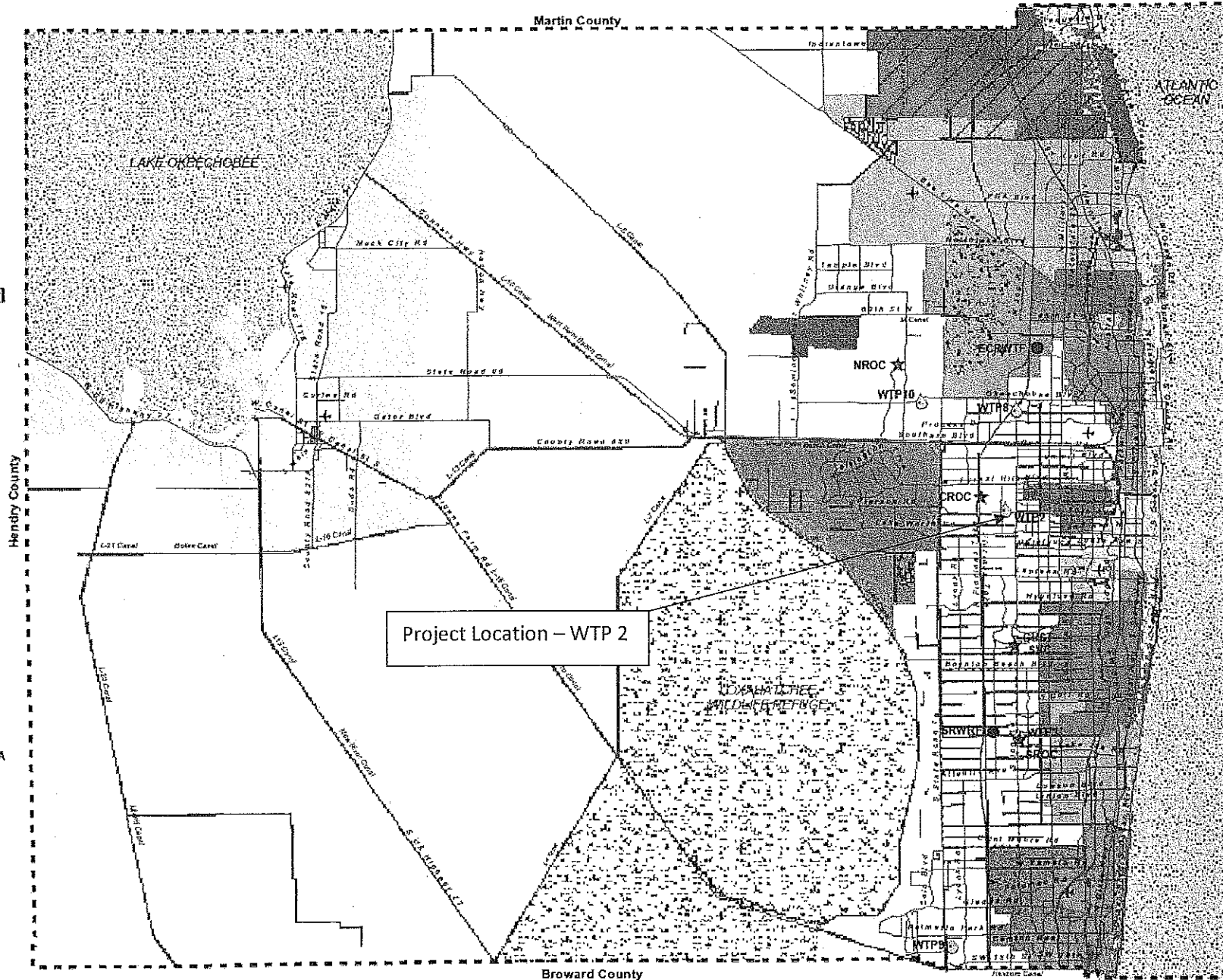
This summary is not to be used as a basis for payment.

ATTACHMENT – D
Project Location Map



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

Attachment 1



Legend

- MANDATORY RECLAIMED SA
- ☉ Water Treatment Facility
- ★ Administration
- Water Reclamation Facility
- ▬ COUNTY LIMITS
- P.B.C.W.U.D. SA



NOT TO SCALE

WORK AUTHORIZATION NO. 10

Project No.: WUD 12-005

Budget Line Item No.: 4011-721-W004-6541

Project Title: Water Treatment Plant No. 2 Wellfield Backup Power Improvements

District No.: 2

THIS AUTHORIZATION No. 10, to the Contract Water, Wastewater and Reclaimed Water Improvements Design-Build Services dated January 24, 2012 with an effective date of January 24, 2012 (Design/Build Contract R2012-0159), by and between Palm Beach County and the Design-Build Entity identified herein, is for the Construction Services described in Item 3 of this Authorization. The Contract provides for 75% SBE participation overall. This Work Authorization includes 100.00% overall participation. The cumulative SBE participation, including this authorization is 85.94% overall.

1. Design-Build Entity: Globaltech, Inc.
2. Address: 1075 Broken Sound Pkwy NW, Suite 103, Boca Raton, FL 33487
3. Description of Services to be provided by the Design-Build Entity:

Replace the aging power supply system to WTP 2 Wells 9 – 15 with 4160V power and to install Remote Telemetry Units (RTU) at each well. Power will now be provided at a lower cost per kilowatt hour (KWH) directly from the plant which is under the FPL Commercial-Industrial Load Control (CILC) Program. Wells 12 – 15 will now be connected to the WTP's emergency generator.

See EXHIBIT A, ATTACHMENT G & ATTACHMENT H

4. Services completed by the Design-Build Entity to date:
See ATTACHMENT E.
5. Design-Build Entity shall begin work promptly on the requested services.
6. The compensation to be paid to the Design-Build Entity for providing the requested services shall be:
 - A. Computation of time charges plus expenses, not to exceed \$ N/A
 - B. Guaranteed maximum price of \$716,189.09

7. This Authorization may be terminated by the County without cause or prior notice. In the event of termination not the fault of the Design-Build Entity, the Design-Build Entity shall be compensated for all services performed through the date of termination, together with reimbursable expenses (if applicable) then due.

8. EXCEPT AS HEREBY AMENDED, CHANGED OR MODIFIED, all other terms, conditions and obligations of the Contract dated 01/24/12 with an effective date of 01/24/12 remain in full force and effect.

IN WITNESS WHEREOF, the Board of County Commissioners of Palm Beach County, Florida, has made and executed this Contract on behalf of the said County and caused the seal of the said County to be affixed hereto, and the Design-Build Entity has hereunto set his hand and seal the day and year written. The Design-Build Entity represents that it is authorized to execute this contract on behalf of itself and its Surety.

ATTEST:

SHARON R. BOCK
CLERK AND COMPTROLLER

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

By: _____
Steven L. Abrams, Chair

APPROVED AS TO FORM AND LEGAL
SUFFICIENCY

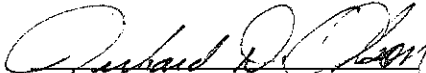
APPROVED AS TO TERMS AND
CONDITIONS

Assistant County Attorney

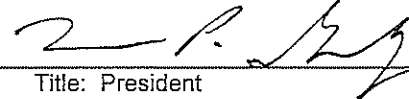


Bevin A. Beaudet, Director
Water Utilities Department

GLOBALTECH, INC.



(Witness signature)

By: 


Title: President
Florida

(Insert state of corporation)

Richard D. Olson

(Witness name printed)

(Date of execution)



(Witness signature)

Rebecca Koontz

(Witness name printed)

6001 Broken Sound Pkwy NW, Suite 610
Boca Raton, FL 33487

(Design-Build Entity's City, State, Zip Code)

(Corporate Seal)

EXHIBIT A

WORK AUTHORIZATION NO. 10

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT DESIGN-BUILD SERVICES

SCOPE OF WORK FOR WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS

INTRODUCTION

Palm Beach County (COUNTY) entered into an agreement entitled Water, Wastewater & Reclaimed Water Improvements Design/Build Contract - Palm Beach County Utilities Department Project No. WUD 11-134 (CONTRACT) with **Globaltech, Inc.** (DESIGN-BUILD ENTITY) to provide design-build services for various general activities on (Design/Build Contract R2012-0159). This Work Authorization will be performed under that CONTRACT.

SCOPE OF SERVICES

This project includes the implementation of the design for WTP 2 Wellfield Backup Power Improvements prepared under WUD Project No. 12-005. Work includes installing a new underground electrical feed line to Wells 9, 10, 11, 12, 13, 14 and 15 and connecting the remote wells with the plant and emergency power. A new RTU / PLC will be installed at each Well (except Well 14) to interface with the well operation and monitoring systems and with the WTP. Miscellaneous site improvements will be conducted to accommodate the required transformers and antenna.

Description of Services

The following work will be accomplished for each site:

Task 1 – Administrative, Procurement, and Design Services

1. Prepare detailed construction schedule to include as a minimum; engineering and permitting services, site mobilization, detailed construction activities, schedule shut downs and durations, equipment / material delivery times, testing, startup and commissioning.
2. Prepare submittals (or confirmation of compliance with PBCWUD design standards) administer and track submittal process.
3. Schedule meetings, inspections, and testing with PBCWUD staff.
4. Obtain PBC building and electrical permits. PBCWUD will pay for permit fees.
5. Provide Engineer's site visits during construction to confirm construction is being performed in conformance with Design Drawings and Specifications. Site visits to be performed by design professional.

Task 2 – Construction Services

1. Coordinate and establish staging area at the WTP 2 Facility. Mobilize to site.
2. Procure equipment and construct facilities. Improvements are based on 100% Drawings and Technical Specifications submitted to the County in October 2012 under WUD Project No. 12-005 and include the following:
 - a. Provide and install a new electrical breaker in the main electrical switchboard of the main electrical room (next to the high service pump room) at WTP 2.
 - b. Provide and install a new 480V to 4,160V transformer located just south of the electrical control room at WTP 2.
 - c. Provide and install a new underground electrical feeder to Wells 9, 10, 11, 12, 13, 14 and 15. The electrical feed line will be installed in an open cut trench with the exception of the crossing at Pinehurst Drive. The crossing at Pinehurst will be installed via a directional bore coordinated with PBCWUD.
 - d. At each well, a step down transformer will be installed to provide power to a new well starter and mini power zone for well power and 120V loads. Transformers will be installed on precast pads provided by Contractor.
 - e. A new RTU/PLC will be provided and installed at each well (except Well No. 14) to interface with a smart motor overload, flow meter, *in-situ* level/conductivity/temperature/pressure meter and miscellaneous other devices.
 - f. At Well No. 14, an existing RTU/PLC will be re-used and modified as necessary.
 - g. Provide and install a new antenna for each RTU/PLC for communication to the Plant control room.
 - h. At each well (except Well No. 14) the fencing will be enlarged to accommodate the new step down transformer and electrical equipment rack.

Task 3 – Commissioning Services

1. Start-up electrical and I&C systems designed and installed by Globaltech. Coordinated startup services with PBCWUD inspectors.
2. Transfer Warranty and Operation & Maintenance Manuals to Owner. Conduct Owner/Operator training as needed.
3. Close out permits with appropriate agencies.
4. Provide record drawings.

ASSUMPTIONS

1. County will make available all existing record drawings, submittals, equipment cut sheets, and programming/SCADA interface information as may be required to coordinate and complete this scope of services.

2. County and County's Consultant will review all submittals and provide comments within one calendar week and notify Globaltech of status.
3. Road crossing design, coordination and permitting will be provided by Palm Beach County Water Utility Department Staff.
4. Restoration of sod and landscaping will be provided by County.
5. Programming for each RTU/PLC will be coordinated and contracted by the County through a separate contract.
6. 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.

COMPENSATION

Compensation for Work Authorization No. 10 will be for a guaranteed maximum price of \$716,189.09, inclusive of allowances. Attachment A provides the compensation summary for the project.

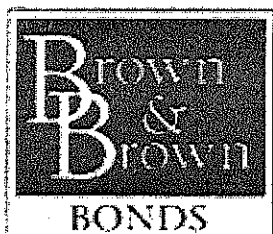
PROJECT SCHEDULE

The milestone completion schedule is provided in Attachment B. A detailed construction activity schedule will be provided under Task 1.1 of this WA. Schedule is subject to performance by Owner's selected equipment vendor.

SBE-M/WBE PARTICIPATION

As prescribed under Provision A.3 of the CONTRACT, SBE-M/WBE participation is included in Attachment C under this Authorization. Schedule 1 to Attachment C defines the SBE-M/WBE participation.

ATTACHMENT – A	Compensation Summary
ATTACHMENT – B	Project Schedule
ATTACHMENT – C	SBE-M/WBE Schedule 1 & 2
ATTACHMENT – D	Project Location Map
ATTACHMENT – E	Authorization Status Report
ATTACHMENT – F	Vendor Quotes
ATTACHMENT – G	Design Build Criteria Report
ATTACHMENT – H	Final Design Drawings



Brown & Brown of Florida, Inc.
1201 W. Cypress Creek Road, Ste 130 (Zip: 33309)
P.O. Box 5727
Fort Lauderdale, FL 33310-5727
954/776-2222 • FAX 954/772-7542
Statewide 1-800/339-0259

February 7, 2013

Globaltech, Inc.
Attention: Paul Gandy
6001 Broken Sound Pkwy, Suite 610
Boca Raton, FL 33487

RE: **Palm Beach County Board of County Commissioners, WTP 2 Wellfield Backup
Power ImprovemntsWUD12-005, \$716,189.09**

Dear Paul:

Enclosed please find the Public Construction Bond for the above captioned project, per your request. Also enclosed is a "Duplicate Original" for recording with the appropriate clerk of courts. Please forward a copy of the complete contract at your earliest convenience.

Since the contract is not yet dated, we did not date the bonds or powers of attorney. We hereby authorize either you or the Obligee to insert the dates on both the bonds and the powers of attorney once the contract is dated. You can date the bonds and powers the same date as the contract if you'd like.

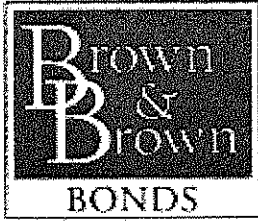
Should you have any questions in this regard, please do not hesitate to contact either Christopher M. Moore, or me at 1-800-648-9303.

Thank you for choosing Brown & Brown for your Surety Bonding needs.

Sincerely,

Vivian Santiago

Vivian Santiago
Surety Division Account Manager



Brown & Brown
1201 W. Cypress Creek Road, Ste 130 (Zip: 33309)
P.O. Box 5727
Fort Lauderdale, FL 33310-5727
954/776-2222 • FAX 954/776-7542
Statewide 1-800/339-0259

REMINDER NOTICE

FLORIDA STATUTE 255.05(1)(A) REQUIRES ALL CONTRACTORS FURNISHING PERFORMANCE AND PAYMENT BONDS ON PUBLIC WORK TO RECORD THE BONDS.

THE ATTACHED "DUPLICATE ORIGINAL" BOND IS ENCLOSED FOR RECORDING PURPOSES. PLEASE HAVE THE ATTACHED BOND RECORDED WITH THE CLERK OF COURT IN THE COUNTY OF THE PROJECT LOCATION, AND RETURN A PHOTOCOPY OF THE RECORDED BOND (INCLUDING BOOK AND PAGE NUMBER) TO OUR OFFICE.

FAILURE TO RECORD THE PAYMENT BOND MAY CAUSE FLORIDA COURTS TO RULE THAT THE BOND BECOMES A "COMMON LAW BOND" REMOVING IMPORTANT DEFENSES FROM THE CONTRACTOR AND IT'S SURETY.

PLEASE DO NOT HESITATE TO CONTACT OUR OFFICE SHOULD YOU HAVE ANY QUESTIONS REGARDING THIS NOTICE.

PUBLIC CONSTRUCTION BOND

BOND NUMBER: K08687389

BOND AMOUNT: \$716,189.09

CONTRACT AMOUNT: \$716,189.09

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: Westchester Fire Insurance Company

SURETY'S ADDRESS: 436 Walnut Street, WA10F
Philadelphia, PA 19106

OWNER'S NAME: PALM BEACH COUNTY WATER UTILITIES DEPT.

OWNER'S ADDRESS: 8100 Forest Hill Boulevard (P. O. Box 16097)
West Palm Beach, FL 33416

OWNER'S PHONE: (561) 493-6000

DESCRIPTION OF WORK: WTP 2 Wellfield Backup Power Improvements

PROJECT LOCATION: PBCWUD Water Treatment Plant 2, 2956 Pinehurst Drive, West Palm
Beach, FL, PCN 00-42-43-27-05-021-0291

LEGAL DESCRIPTION: WTP 2 Wellfield Backup Power Improvements -- Contract Number WUD 12-
005

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 (\$716,189.09)

(Seven hundred and sixteen thousand, one hundred and eighty nine dollars and nine 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 _____, entered into a contract with the County for

Project Name: WTP 2 Wellfield Backup Power Improvements

Project No.: WUD 12-005

Project Description: **This project includes design-build services for the replacement of the aging power supply system to WTP 2 Wells 9 through 15 with 4160V power and to install Remote Telemetry Units at each well.**

Project Location: PBCWUD Water Treatment Plant 2, 2956 Pinehurst Drive, West Palm Beach, FL, 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: 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 _____, between Principal and County for the design and construction of the WTP 2 Wellfield Backup Power Improvements, 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.

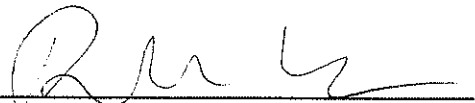
5. Any changes in or under the contract documents and compliance or noncompliance with any formalities connected with the contract or the changes does not affect Surety's obligation under this bond and Surety waives notice of such changes.

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.

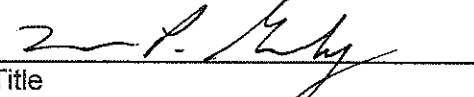
9. Any action brought under this instrument shall be brought in the state court of competent jurisdiction in Palm Beach County, Florida and not elsewhere.




Witness

Principal (Seal)

Globaltech, Inc.




Title



Witness

Surety (Seal)

Westchester Fire Insurance Company



Title Joanne M. Mursell, Attorney-In-Fact

FORM OF GUARANTEE

GUARANTEE FOR (Contractor and Surety Name) Globaltech, Inc. and Westchester Fire Insurance Company.

We the undersigned hereby guarantee that **Water Treatment Plant 2 Wellfield Backup Power Improvements (WUD 12-005)**, 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

Countersigned Resident Agent in Florida: Globaltech, Inc. (Seal)
(Contractor)

Joanne M. Mursell
(Agent)

By: [Signature]
(Signature)

By: [Signature]
(Signature)

Westchester Fire Insurance Company (Seal)
(Surety)

By: [Signature]
Joanne M. Mursell, (Signature)
Attorney-In-Fact

END OF SECTION

Power of Attorney

WESTCHESTER FIRE INSURANCE COMPANY

Know all men by these presents: That WESTCHESTER FIRE INSURANCE COMPANY, a corporation of the Commonwealth of Pennsylvania pursuant to the following Resolution, adopted by the Board of Directors of the said Company on December 11, 2006, to wit:

RESOLVED, that the following authorizations, relative to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into the ordinary course of business (such a "Written Commitment"):

- (1) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise.
- (2) Each duly appointed attorney-in-fact of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise, to the extent that such action is authorized by the grant of powers provided for in such person's written appointment as such attorney-in-fact.
- (3) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to appoint in writing any person the attorney-in-fact of the Company with full power and authority to execute, for and on behalf of the Company, under the seal of the Company or otherwise, such Written Commitments of the Company as may be specified in such written appointment, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
- (4) Each of the Chairman, the President and Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to delegate in writing any officer or other person the authority to execute, for and on behalf of the Company, under the Company's seal or otherwise, such Written Commitments of the Company as are specified in such written delegation, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
- (5) The signature of any officer or other person executing any Written Commitment of appointment or delegation pursuant to this Resolution, and the seal of the Company, may be affixed by facsimile on such Written Commitment or written appointment or delegation.

FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons to act for and on behalf of the Company, and such Resolution shall not limit or otherwise affect the exercise of any such power or authority otherwise validly granted or vested.

Does hereby nominate, constitute and appoint Gerald J. Arch, James F. Murphy, Joanne M. Mursell, Michael A. Holmes, all of the City of FT. LAUDERDALE, Florida each individually if there be more than one named, its true and lawful attorney-in-fact, to make, execute, seal and deliver on its behalf, and as its act and deed any and all bonds, undertakings, recognizances, contracts and other writings in the nature thereof in penalties not exceeding Ten million dollars & zero cents (\$10,000,000.00) and the execution of such writings in pursuance of these presents shall be as binding upon said Company, as fully and amply as if they had been duly executed and acknowledged by the regularly elected officers of the Company at its principal office.

IN WITNESS WHEREOF, the said Stephen M. Haney, Vice-President, has hereunto subscribed his name and affixed the Corporate seal of the said WESTCHESTER FIRE INSURANCE COMPANY this 23 day of January 2013.

WESTCHESTER FIRE INSURANCE COMPANY



Stephen M. Haney
Stephen M. Haney, Vice President

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF PHILADELPHIA ss.

On this 23 day of January, AD. 2013 before me, a Notary Public of the Commonwealth of Pennsylvania in and for the County of Philadelphia came Stephen M. Haney, Vice-President of the WESTCHESTER FIRE INSURANCE COMPANY, to me personally known to be the individual and officer who executed the preceding instrument, and he acknowledged that he executed the same, and that the seal affixed to the preceding instrument is the corporate seal of said Company; that the said corporate seal and his signature were duly affixed by the authority and direction of the said corporation, and that Resolution, adopted by the Board of Directors of said Company, referred to in the preceding instrument, is now in force.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal at the City of Philadelphia the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
KAREN E. BRANDT, Notary Public
City of Philadelphia, Phila. County
My Commission Expires September 28, 2014

Karen E. Brandt
Notary Public

I, the undersigned, Assistant Secretary of the WESTCHESTER FIRE INSURANCE COMPANY, do hereby certify that the original POWER OF ATTORNEY, of which the foregoing is a substantially true and correct copy, is in full force and effect.

In witness whereof, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of the Corporation, this _____ day of _____



William L. Kelly
William L. Kelly, Assistant Secretary

THIS POWER OF ATTORNEY MAY NOT BE USED TO EXECUTE ANY BOND WITH AN INCEPTION DATE AFTER January 23, 2015

ATTACHMENT - A
Compensation Summary



PBC Water Utilities Department
120343 PBC WTP2 Backup Power WA-10

Assembly#	Description	Unit	Quantity	Cost	Ext. Cost	Markup*	Ext. Price
Job: 120343 PBC WTP2 Backup Power WA-10							
Bid Item: 1 General Requirements							
2	General Conditions	LOT	1.00	20,267.5500			
L	Submittal Labor	HR	20.00	63.1400	1,262.80	1.2992	1,640.63
L	Progress Meeting	HR	40.00	64.7100	2,588.40	1.2992	3,362.85
L	Construction PM	HR	250.00	63.1400	15,785.00	1.2992	20,507.87
L	Purchasing & Subcontracts	HR	10.00	63.1350	631.35	1.2992	820.25
Bid Item Totals:					20,267.55		26,331.60
Bid Item: 2 Sitework							
	Fence Modifications & Rock	LOT	1.00	7,150.0000	7,150.00	1.1000	7,865.00
Bid Item Totals:					7,150.00		7,865.00
Bid Item: 3 Concrete							
	Pre Cast Concrete pad	LS	1.00	2,135.0000	2,135.00	1.1000	2,348.50
Bid Item Totals:					2,135.00		2,348.50
Bid Item: 13 I&C							
	I&C	LOT	1.00	69,054.0000	69,054.00	1.1500	79,412.10
Bid Item Totals:					69,054.00		79,412.10
Bid Item: 16 Electrical							
	Electrical Sub	LOT	1.00	476,500.0000	476,500.00	1.1000	524,150.00
Bid Item Totals:					476,500.00		524,150.00

Continued...

Assembly#	Description	Unit	Quantity	Cost	Ext. Cost	Markup*	Ext. Price
Bid Item: 25	Allowance	LOT	1.00	25,000.0000	25,000.00	1.0000	25,000.00
					Bid Item Totals:		25,000.00
Bid Item: 50	Engineering	LOT	1.00	35,000.0000	35,000.00	1.1000	38,500.00
	Electrical Engineering SDC				Bid Item Totals:		38,500.00
Bid Item: 60	Bonds	LOT	1.00	10,940.7753	10,940.78	1.1500	12,581.89
	Bonds & Certifications				Bid Item Totals:		12,581.89
					Grand Totals:		716,189.09

Note: All materials include an additional 6.0% markup for FL State sales tax.

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

ATTACHMENT – B

Project Schedule

WA-10: WTP 2 Wellfield Backup Power Improvements (WUD 12-005)

SCHEDULE

The project milestone completion durations for the project are as follows:

Services	Substantial Completion¹	Final Completion¹
Permitting		30 days from NTP
Submittal Review		45 days from NTP
Procurement		165 days from approved submittals
Construction	335 days from NTP	365 days from NTP
Startup Services	355 days from NTP	365 days from NTP

¹ Based upon receipt of required permits

ATTACHMENT - C

SCHEDULE #1

LIST OF PROPOSED SBE-M/WBE PRIME/SUBCONTRACTORS

PROJECT NAME: WA-10 / WTP 2 Wellfield Backup Power Improvements PROJECT NUMBER: WUD 12-005
NAME OF PRIME BIDDER: Globaltech, Inc. ADDRESS: 6001 Broken Sound Parkway NW, Suite 610, Boca Raton, FL 33487
CONTACT PERSON: Paul Gandy, P.E.
BID OPENING DATE: _____ PHONE NO. 561-997-6433 FAX NO. 561-997-5811
DEPARTMENT: _____

PLEASE IDENTIFY ALL APPLICABLE CATEGORIES

Name, Address, Telephone Number of SBE-M/WBE Contractor	(Check one or both Categories)		Dollar Amount				
	M/WBE	Small Business	Black	Hispanic	Women	Caucasian	Other (Please Specify)
Globaltech, Inc. (See above for Address and Number)		<input checked="" type="checkbox"/>	\$0.00	\$0.00	\$0.00	\$126,350.09	\$0.00
Powerline of South Florida, Inc. 711 Commercial Way, Suite 6 Jupiter, FL 33458 (561) 575-4270		<input checked="" type="checkbox"/>	\$0.00	\$0.00	\$0.00	\$485,785.00	\$0.00
Champion Controls, Inc. 811 NW 57th Place, Ft. Lauderdale, 33309 (954) 318-3090	<input checked="" type="checkbox"/>		\$0.00	\$0.00	\$69,054.00	\$0.00	\$0.00
Hillers Electrical Engineers, Inc. 23257 SR 7, Suite 100, Boca Raton 33428 (561) 451-9165		<input checked="" type="checkbox"/>	\$0.00	\$35,000.00	\$0.00	\$0.00	\$0.00
PRIME CONTRACTOR TO COMPLETE:	TOTAL:		\$0.00	\$35,000.00	\$69,054.00	\$612,135.09	\$0.00
BID PRICE: <u>\$716,189.09</u>	Total Value of SBE Participation:		<u>\$716,189.09</u>				

- 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 a 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 C

SCHEDULE 2

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

PROJECT NO. WUD 12-005 PROJECT NAME: WA 10 – WTP 2 Wellfield Backup Power 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 Minority Business Enterprise _____

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

Date of Palm Beach County Certification: August 6, 2011.

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	Implement WTP2 Wellfield Backup Power Imp. Design – Prepared by HEE October 2012	LS		\$476,500.00
2	Transformer Pads	LS		\$2,135.00
3	Well Fence Additions	LS		\$7,150.00

at the following price \$485,785.00 (Four hundred eighty-five thousand seven hundred eighty five dollars)
(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: \$ _____

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

Powerline of South Florida, Inc
(Print Name of SBE/MWBE Subcontractor)

By: 
(Signature)

THOMAS LAESSIG
(Print name/title of person executing on behalf of SBE-MWBE Subcontractor)

Date: January 8, 2013

**Palm Beach County
Office of Small Business Assistance**

Certifies That

POWERLINE OF SOUTH FLORIDA, INC.

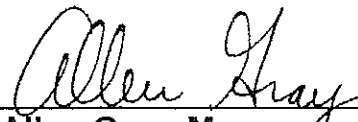
VENDOR # **VC0000115828**

is a Small Business Enterprise as prescribed by section 2-80.21 – 2-80.35 of the Palm Beach County Code for a three year period from August 6, 2011 - August 5, 2014

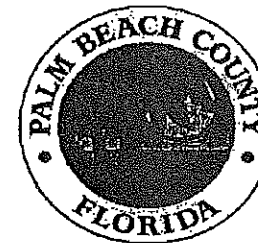
The following Services and/or Products are covered under this certification:

Electrical (New Construction)

Wiring and Other Electrical Maintenance and Repair Services


Allen Gray, Manager

8/1/2011



Palm Beach County Board of County Commissioners

Karen T. Marcus, Chair
Shelley Vana, Vice Chair
Paulette Burdick
Steven L. Abrams
Burt Aaronson
Jess R. Santamaria
Priscilla A. Taylor

County Administrator
Robert Weisman
Deputy County Administrator
Verdenia C. Baker

ATTACHMENT C

SCHEDULE 2

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

PROJECT NO. WUD 12-005 PROJECT NAME: WA 10 – WTP 2 Wellfield Backup
Power 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 Minority Business Enterprise _____

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

Date of Palm Beach County Certification: October 17, 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
<u>1</u>	<u>Electrical Engineering Construction Phase Services</u>	<u>L.S.</u>	<u>1</u>	<u>\$35,000.00</u>

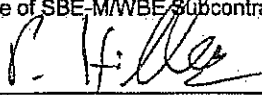
at the following price \$35,000 (Thirty five thousand dollars and no cents)
(Subcontractor's quote)

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: \$ _____.

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

Hillers Electrical Engineering, Inc.
(Print Name of SBE-M/WBE Subcontractor)

By: 
(Signature)

Paul Hillers, President
(Print name/title of person executing on behalf of SBE-M/WBE Subcontractor)

Date: January 8, 2013

**Palm Beach County
Office of Small Business Assistance**

Certifies That

HILLERS ELECTRICAL ENGINEERING, INC.

Vendor # HILL0026

*is a Small Business Enterprise as prescribed by section 2-80.21 – 2-80.35 of the Palm Beach
County Code for a three year period from October 17, 2012 to October 16, 2015*

The following Services and/or Products are covered under this certification:

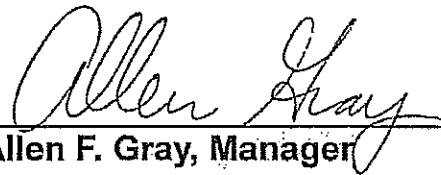
ELECTRICAL ENGINEERING SERVICES

Palm Beach County Board of County Commissioners

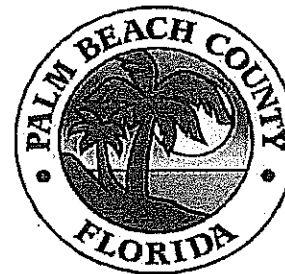
Shelley Vana, Chair
Steven L. Abrams, Vice Chairman
Karen T. Marcus
Paulette Burdick
Burt Aaronson
Jess R. Santamaria
Priscilla A. Taylor

County Administrator

Robert Weisman
Deputy County Administrator
Verdenia C. Baker


Allen F. Gray, Manager

10/17/2012



ATTACHMENT C

SCHEDULE 2

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

PROJECT NO. WUD 12-005 PROJECT NAME: WA 10 – WTP 2 Wellfield Backup Power 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 Minority Business Enterprise

Black Hispanic Women Caucasian Other (Please Specify)

Date of Palm Beach County Certification: _____

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	Provide RTU Panels for Wells 9, 10, 11, 12, 13 & 15	6	\$11,509.00	\$69,054.00

at the following price \$69,054 (Sixty nine thousand fifty four 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: \$ _____

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

Champion Controls, Inc.

(Print Name of SBE-M/WBE Subcontractor)

By: 

(Signature)

Chantal Wedderburn

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

Date: January 8, 2013



State of Florida
*Minority, Women &
Service-Disabled Veteran*
Business Certification

Champion Controls, Inc.

Is certified under the provisions of
287 and 295.187, Florida Statutes for a period from:

11/11/2011 to 11/11/2013

John P Miles, Secretary

Florida Department of Management Services
Office of Supplier Diversity

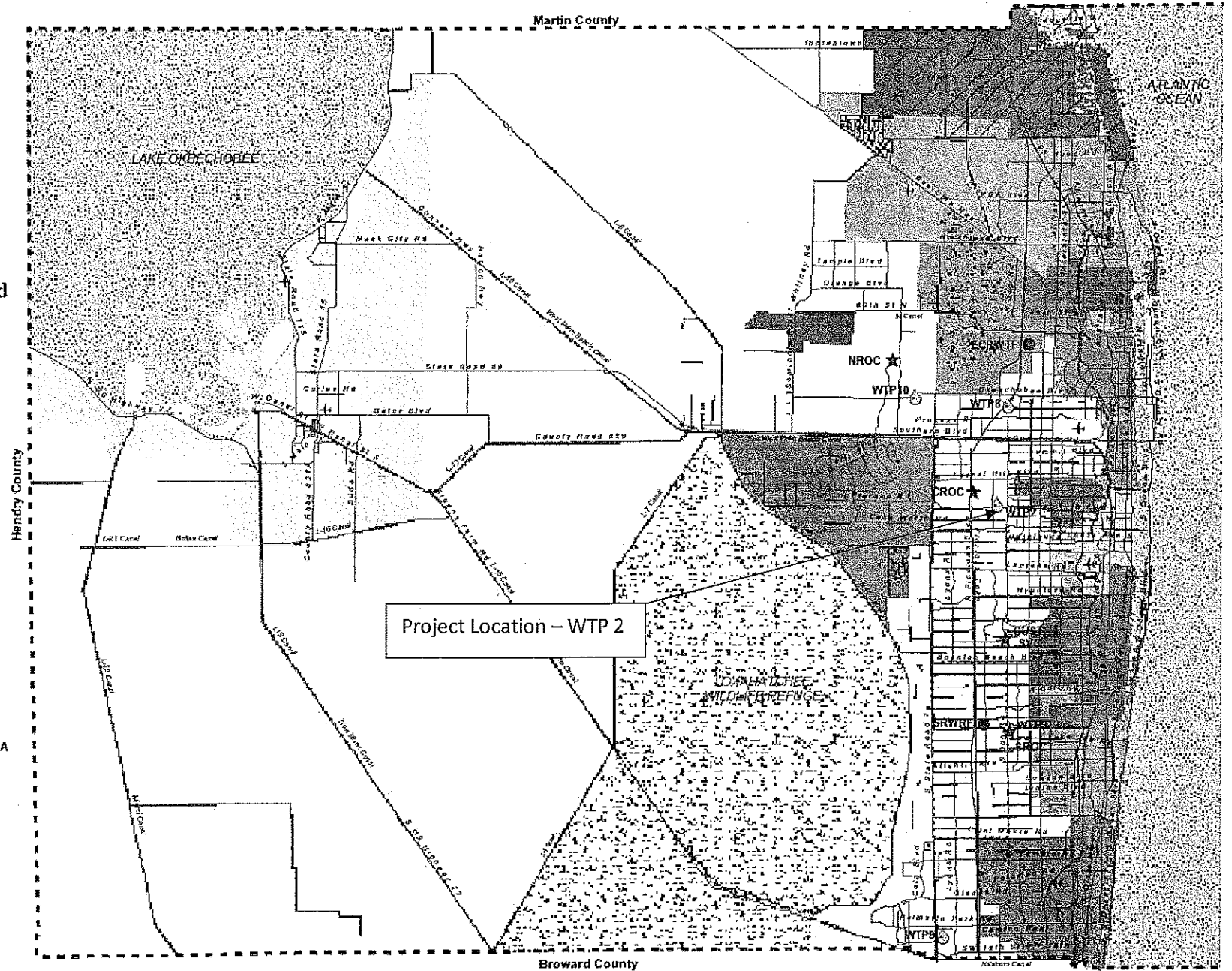
ATTACHMENT – D
Project Location Map



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

Legend

- MANDATORY RECLAIMED SA
- ☉ Water Treatment Facility
- ★ Administration
- Water Reclamation Facility
- - - COUNTY LIMITS
- P.B.C.W.U.D. SA



ATTACHMENT - E

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

SUMMARY AND STATUS OF SBE / MINORITY BUSINESS TRACKING SYSTEM

WA-10 / WTP 2 Wellfield Backup Power Improvements

	Total
Current Proposal	
Value of Consultant Service Authorization	\$0.00
Value of Work Authorization	\$716,189.09
Value of CSA and WA	\$716,189.09
Value of SBE Minority Letter of Intent	\$716,189.09
Actual Percentages	100.00%
Signed / Approved Authorizations	
Total Value of Approved Consultant Service Authorization	\$150,140.43
Total Value of Approved Work Authorization	\$1,813,148.43
Total Value of CSAs and WAs	\$1,963,288.86
Total Value of SBE Signed Subcontracts	\$1,586,599.86
Actual Percentages	80.81%
Signed Authorizations Plus Current Proposal	
Total Value of Approved CSAs Plus Current CSA Proposal	\$150,140.43
Total Value of Approved WAs Plus Current WA Proposal	\$2,529,337.52
Total Value of Approved and Proposed CSAs and WAs	\$2,679,477.95
Total Value of SBE Subcontracts and Letters of Intent	\$2,302,788.95
Actual Percentages	85.94%
GOAL	75%

ATTACHMENT – F

Vendor Quotes



MEMO

6001 Broken Sound Parkway NW, Suite 610
Boca Raton, Florida 33487
Phone: 561.997.6433; Fax: 561.997.5811
Email: solutions@globaltechdb.com

To: File **CC:** Paul Gandy, P.E.
From: Rick Olson, P.E. **Date:** January 9, 2013
Re: PBC WA-10 / WTP 2 Wellfield Backup Power Improvements

Comments:

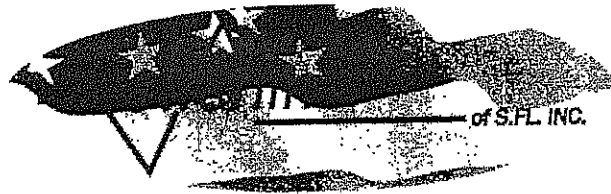
Globaltech submitted design plans (prepared by Hillers Electrical Engineers October 2012) for the installation of Backup Power Improvements to the WTP 2 Wellfield to three electrical subcontractors in December 2012. Bids contained three elements (electrical work, fencing and concrete slabs) and are summarized as follows:

Electron Corporation of South Florida - \$467,800
Powerline of South Florida - \$485,785
Energy Efficient Electric - \$507,960

Despite the fact that Electron Corporation provided the low bid, Globaltech recommends using Powerline of South Florida to complete the electrical installation. Our recommendation is based upon previous project delivery problems with Electron Corporation and observation that this firm is insufficiently staffed to complete a project of this magnitude. Conversely, we have been very pleased with the performance of Powerline of South Florida and believe that their project performance, staffing, and experience working at WTP 2 justifies the cost differential.

Globaltech will continue to negotiate the cost for electrical installation with Powerline of South Florida. In the event that we are able to close the cost differential (\$17,985), we will provide a refund (up to this amount) to the County.

"A Design-Build Company"



State Certificate # EC-13003753

Date: 19 Dec. 12

To: Globaltech, Inc.
1075 Broken Sound Pkwy NW
Suite 103
Boca Raton, FL 33487

Attention: Adam Moore

We Purpose to provide a complete Electrical Installation per Plans and Specifications.
For PBCWUD-WTP 2 Wellfield Backup Power Improvements WUD # 12-038

Section 16010-Basic Requirements
Section 16050-Basic Materials & Methods
Section 16111-Horizontal Directional Drilling
Section 16120 Conductors
Section 16450 Grounding
Section 16461 Pad Mount Transformers
Section 16950 Elect. Testing

Electrical Plans E-1 thru E-14

711 Commerce Way Suite # 6 Jupiter, FL. 33458
Ph. 561-575-4270 Fax 561-575-4269 Email: PowerlineOfSouth@bellsouth.net

Exceptions: 1. Instruments /RTU/Antennas

<u>8 - Transformer Pads Included</u>	<u>2135.00</u>
<u>7- Well Fence Additions</u>	<u>7150.00</u>

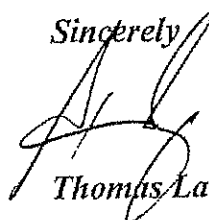
This Proposal subject to renegotiation after (90 Day Period)

Purposed Amount: \$ 476,500.00

(Four Hundred Seventy Six Thousand Five Hundred Dollars)

Thank you for the opportunity to provide this Proposal.

Sincerely



Thomas Laessig

President

SELECTED SUCCESSFUL
BID



State Certificate # EC-13003753

Electron Corp of South Fla.

Electrical Contractor
 8421 Winding Lake Dr. Jupiter, FL 33458
 (561) 744-1388 Fax (561) 744-5777

December 19, 2012

WTP - 2 Wellfield Backup Power

Electron Corp. of South Florida Proposes to Furnish and install the following sections complete with the exceptions as listed:

1. Section 16010 Basic Electrical Requirements;
2. Section 16050 Basic Electrical Materials & Methods;
3. Section 16110 Raceways;
4. Section 16111 Horizontal Directional Bore;
5. Section 16120 Conductors;
6. Section 16450 Grounding;
7. Section 16461 Padmounted Transformers;
8. Section 16950 Electrical Testing;
9. Section 03300 Cast-in Place Concrete (Slab over 4160 V Conduits)

Exceptions:

1. Section 03300 Cast-in Place Concrete (Transformer Pads)

Bid \$ 454,653.00 ✓

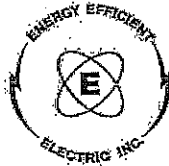
Furnish & Install 8 Transformer Pads \$ 4,627.00 ✓

Furnish & Install Fencing & Stone \$ 8,520.00 ✓

Please feel free to call me should you have any questions.


 Albert Laessig
 President

Low Bid



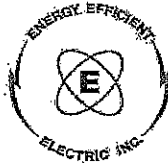
Energy Efficient Electric, Inc.
1600 Mercer Ave. Unit 6
West Palm Beach, FL. 33401
Phone (561) 655-7211 Fax (561) 655-9661
Mobile (561) 722-1383
E-Mail Address: bill@energyeff.com

December 18, 2012

Electrical Scope of Work
PBCWUD – WTP 2 Wellfield Backup Power Improvements
Quote 30640

We are pleased to provide your firm with our scope and proposal for the necessary electrical work on the above referenced project as stated below in the inclusions and clarifications. This quote is based on the specifications and plans provided by Globaltech.

1. Furnish and install the following electrical gear as shown on the electrical drawings E-1 thru E-14.
 - A. 1 – 500KVA Padmount Transformer
 - B. 7 – 75KVA Padmount Transformer
 - C. 7 – Mini Power Zones
 - D. 6 – Spare Fuses of each type supplied
 - E. 800A 3pole Switchboard Breaker
 - F. 7 – Combination Starters
 - G. 7 – TVSS units
2. Furnish and install Two (2) 3' x 3' x 3' precast manholes.
3. Furnish and install Two (2) pull boxes for future well #16.
4. Furnish and install underground conduit system as indicated on the bid set drawing.
5. Furnish and install a concrete cap and warning tape as detailed on drawing E-12.
6. Furnish and install "Underground Power line" warning signs as detailed on drawing E-14.
7. Provide necessary **ground penetrating radar detection survey** to locate existing electrical conduits and waterlines as indicated by "Key Note 2" on drawings E-2 & E-3 and for location areas for the directional drilling under Pinehurst Drive as specified in section 16111.
8. Provide necessary directional bore under Pinehurst drive as indicated on drawing E-3.
9. Provide necessary grounding at each transformer site as detailed on drawing E-14.



Energy Efficient Electric, Inc.
1600 Mercer Ave. Unit 6
West Palm Beach, FL. 33401
Phone (561) 655-7211 Fax (561) 655-9661
Mobile (561) 722-1383
E-Mail Address: bill@energyeff.com

Electrical Scope of Work
PBCWUD – WTP 2 Wellfield Backup Power Improvements
Quote 30640

10. Electrically connect new RTU. Install RTU on support rack but supplied by others.
11. Antenna system to be supplied and installed by others.
12. Furnish and install support racks at each well site as shown on drawings E-5, 6 & 7 and as detailed on drawing E-13.
13. Furnish and install new power junction boxes and supports at wells 9 thru 13.
14. Provide necessary coordination for FPL service removal at the existing wells.
15. Provide necessary demolition of existing well feeders as detailed on drawing E-4.
16. Provide "NETA" certified independent testing as specified in section 16950.
17. Trash disposal to onsite dumpster. Dumpster to be supplied by others.
18. PBC permit fees are not included in this quote.
19. Bonding is available but the bond premium is not included in the quote.
(Approximately 1.5%)

Items 1 thru 19	Lump Sum	<u>\$ 482,960.00</u>
		+ 25,000.00 FENCE + SLABS
		<u>\$ 507,960.00</u>

We appreciate the opportunity to quote your organization on this project. If you have any questions, contact me any time.

Regards,

Bill Scott

Bill Scott
Vice President



CHAMPION CONTROLS, INC.

Well 9 RTU Panel.....	Total: \$ 11,509.00
Well 10 RTU Panel	Total: \$ 11,509.00
Well 11 RTU Panel	Total: \$ 11,509.00
Well 12 RTU Panel.....	Total: \$ 11,509.00
Well 13 RTU Panel.....	Total: \$ 11,509.00
Well 15 RTU Panel.....	Total: \$ 11,509.00

Grand Total: \$ 69,054.00

II. General Notes:

- A) FOB Champion Controls, Inc. Taxes not included.
- B) Delivery eight (8) to ten (10) weeks after receipt of approved submittal/purchase order.
- C) Startup services are included: three (3) days. Add \$250 for each additional site visit.
- D) Programming of the PLC system will be done by the Owner per specifications.
- E) Existing SCADA system iFIX programming is not part of this contract and will be done by the Owner, PBCWUD SCADA group, per specifications.
- F) HMI/SCADA programming for all Wells done by Owner.
- G) Champion Controls will provide a factory trained representative for three (3) days for the satisfactory operation of the new RTU's per specifications.
- H) Champion Controls will provide manufacturer services for two (2) hours for on-site training on NEW smart overload soft starter per drawing E-11 #1. Training Notes.
- I) Well 14 with existing RTU to remain. RTU not included.
- J) Factory demonstration testing, I/O Checkout, Loop Status Reports, and Functional Acceptance Test will be conducted by Champion Controls per specifications.
- K) RTU spare parts per section 13400-5 3.01 C are included as stated above.
- L) Radio survey and antenna mast is included in our proposal.
- M) Mini power zone by others.
- N) Antenna structure mounting details by others.
- O) Instrumentation at existing wells to remain. NO instrumentation provided.
- P) Pull boxes by others.
- Q) TVSS mounted on side of combination starter panel by others.
- R) NEW 800A breaker for wells 9-15 for existing switchboard by others.
- S) Combination Starter control panels are rated @ 65KAIC.
- T) **No services, other than those described herein are included in this proposal. **
- U) Proposal is valid for 30 days.
- V) 2% 10, NET 30, zero percent retainage.
- W) Engineered submittals will be invoiced upon submission at the amount of 15% of project total.

Should you have any questions or comments, I may be contacted at (954) 318-3090.

Sincerely,

Farid Amador

Senior Estimator

Low Bid



C. C. CONTROL CORP.

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

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

CUSTOMER: GLOBALTECH, INC.

ATTN: ADAM MOORE

PHONE: 561-997-6433
FAX: 561-997-5811

PROJECT: SYSTEM 2 WELLS NO.9 THRU NO.15 IMPROVEMENTS
PALM BEACH COUNTY

DATE: 9/12/2012

DESCRIPTION QUAN TOTAL
PAGES 4

WELLS NO.9 THRU NO.13 AND NO.15

ITEM NO.1

WELL RTU PANEL

SCHAEFERS SPN4SS-36312 NEMA 4X 304 S.S.	1
WALL MOUNT ENCLOSURE W/ FOLL:	
A) SIZE: 36"H X 30"W X 12"D	
B) DOOR CLAMPS	
SCHAFERS SPP-3630 STEEL SUBPANEL	1
HOFFMAN AHCI10E CORROSION INHIBITOR	2
EDCO HSP-121A TVSS	1
AB MICROLOGIX 1400 PN. 1766-L32BXBA PROCESS	1
AB 1762-IF4 4CH ANALOG INPUT CARD	1
AB 1762-OF4 4CH ANALOG OUTPUT CARD	1
1000OHM 1/2W RESISTORS	4
ETHERNET PATCH CABLE PLC-RADIO	1
MDS INETAP/DG ETHERNET RADIO W/ FOLL:	1
MDS INETNV REMOTE MANAGEMENT ACCESS	1
CUSTOM ALUMINUM RADIO SHELF	1
POLYPHASER IS-50NX-C2 LIGHTING PROTECTOR	1
TESSCO JUMPER RG142 W/ 2 NMALE CONNECTOR	1
PULS UB10.241 DC UPS/CHARGER MODULE	1
PULS ML50.102 12VDC 4.2A POWER SUPPLY	1
PULS ML100.100 24VDC 4.2A POWER SUPPLY	1
PULS MLY02.100 10A DECOUPLING MODULE	1
POWER SONICS P12180F 18AH 12VDC BATTERY	1
AB 700-HA33A1-3-4 3PDT 120VAC RELAY	1
AB 700-HA33Z24-3-4 3PDT 24VDC RELAY	4
AB 700-HN101 11PIN SOCKET	5
PROGRESS P7007-30 24" FLUORESCENT LIGHT FD	1
SQD 9007 AP221 DOOR SWITCH	2

WELLS NO.9 THRU 15 IMPROVEMENTS

Page 1

WELL SMART OVERLOAD MODBUS

SERIAL CABLE AND CONNECTORS

BELDEN 8786 6C DATA CABLE 150
MISC. MODBUS SERIAL CONNECTORS 2

ITEM NO.5

MISC. SERVICES

STARTUP LOT
TRAINING LOT

ITEM NO.6

SPARE PARTS

HOFFMAN AHCI10E CORROSION INHIBITOR 6
EDCO HSP-121A TVSS 1
EDCO PC642C-036-X DUAL 4/20MA SURGE 1
ARRESTOR W/PCB1B BASE
AB MICROLOGIX 1400 PN. 1766-L32BXBA PROCESS 1
AB 1762-IF4 4CH ANALOG INPUT CARD 1
AB 1762-OF4 4CH ANALOG OUTPUT CARD 1
MDS INETAP/DG ETHERNET RADIO W/ FOLL: 1
MDS CLEARWAVE YAGGI ANTENNA, 10DB, 902-960 1
PULS ML50.102 12VDC 4.2A POWER SUPPLY 1
PULS ML100.100 24VDC 4.2A POWER SUPPLY 1

SUMMARY	QTY.	EACH	TOTAL
ITEMS NO.1 THRU NO.3 (WELL 9,10,11,12,13 & 15)	6	14200.00	85200.00
ITEMS NO.4 THRU NO.5 (WELL 14)	1	2900.00	2900.00
ITEM NO.6 (SPARE PARTS)	1	4300.00	4300.00
		TOTAL	92400.00

TOTAL SELL: \$92,400.00 PLUS TAX

EXCEPTIONS:

- A) QUOTE DOES NOT INCLUDE INSTALLATION
- B) QUOTE DOES NOT INCLUDE PROGRAMMING FOR MASTER SITE OR SCADA SYSTEM
- C) QUOTE DOES NOT INCLUDE RTU PROGRAMMING
- D) QUOTE DOES NOT INCLUDE INSTALLATION OF ANTENNA, OR COAX
- E) QUOTE DOES NOT INCLUDE THE 2" RGS CONDUIT FOR ANTENNA MAST

START-UP AND TRAINING SERVICE IS INCLUDED

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

Rick Olson

From: Paul F. Hillers <phillers@hillersee.com>
Sent: Monday, October 22, 2012 1:03 PM
To: Rick Olson
Cc: Paul Gandy
Subject: WTP 2 Wellfield Electrical

Rick;
our scope of services for the Services During Construction for the electrical and instrumentation upgrade of wells 9 through 15 is as follows:

- electrical and instrumentation shop drawing review
- minimum 3 site visits per well
- respond to RFI's
- minor change orders
- attend minimum 4 construction meetings
- prepare punch list for each well
- prepare "As-Builts" drawings
- provide start-up services

-
- X -PLC programming of the new RTU's including the new Modbus communication at each well with the corresponding In-
 - X Situ level/conductivity/temperature sensors
 - X -PLC coordination with the IFIX group

Our proposed electrical and instrumentation construction services fee is \$ 35,000. ✓

- X Our proposed PLC programming fee is \$ 45,000.

Thanks

Paul Hillers, P.E., President

Hillers Electrical Engineering, Inc.

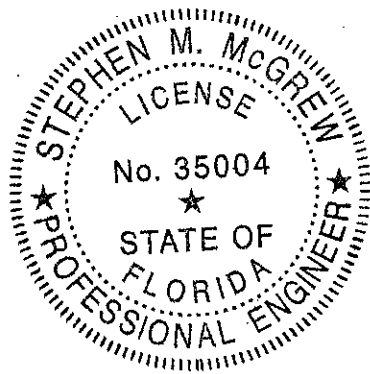
23257 State Road 7, Suite 100

Boca Raton, FL 33428

tel 561-451-9165 x221

TEAM MEMBER

ATTACHMENT G
Design Build Criteria Report



A handwritten signature in black ink, appearing to read "Stephen McGrew", followed by the date "1/10/2013".

Stephen McGrew, P.E.
P. E. License #35004
Palm Beach County
Water Utilities Department
8100 Forest Hill Boulevard
West Palm Beach, FL 33413

**Design Build Criteria
Water Treatment Plant No. 2
Electrical Backup Power Improvements
Project No. WUD 12-005**

Part 1 General

1.1 Summary of Work

The proposed work to be performed as described below is located at the following facility: Water Treatment Plant No. 2, 2956 Pinehurst Drive, West Palm Beach, FL 33413, PCN 00-42-43-27-05-021-0291.

The proposed work to be performed by the Design-builder 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 4160 V, 3 phase power to Wells 2W-9, 2W-10, 2W-11, 2W-12, 2W-13, 2W-14 and 2W-15. Install motor starters at wells 2W- 9, 2W-10, 2W-11, 2W-12, 2W-13, 2W-14 and 2W-15. -Install RTU's at wells 2W-9, 2W-10, 2W-11, 2W-12, 2W-13 and 2W-15.

The following design criteria shall be used:

1. Furnish and install new 500 KVA Nema 3R (painted steel) 480V/4160 pad mounted transformer (3 phase) south of high service pump building and connect to 480V switchgear with 800 amp breaker in SWBD-1. The 500 KVA transformer, conduits and wiring shall be sized for 3 future wells to be installed west of 2W-15.
2. Demolish starters and wiring in MCC 2 for wells 2W-9 to 2W-11. Coordinate and demolish FPL power to wells 2W-13 and 2W-14.
3. Furnish and install conduits, wiring and pull boxes for wells 2W-9 to 2W-15 along with 480V 3 phase conduit for future well 2W-16 in preserve area east of Pinehurst drive.
4. Furnish and install Nema 3R 75 KVA pad mounted transformers at each well. Top of concrete pad shall be above 100 year flood elevation.
5. Furnish and install combination starters sized for 40 Hp at each well.
6. Furnish and install 5 KVA 120V/240V transformers in Nema 3R 304 SS enclosures at each well
7. Furnish and install Nema 4 non-metallic junction boxes for pump cables at each well.

8. Furnish and install RTU's with antennas at wells 2W-9 to 2W-13 and 2W-15. Reuse existing RTU for well 2W-14. Provide additional instrumentation for conductivity (by others) and pressure (by others).
9. Transformers to have 60" minimum clearance from front side. Provide minimum 48" clearance from side of transformer to piping or electrical equipment.
10. Provide additional fence to match existing at wells 2W-9 to 2W-13.
11. Furnish and install grounding systems at each well.
12. Furnish and install aluminum supports, 316 SS unistrut and appurtenances.
13. Furnish and install directional drill of Pinehurst Drive electrical conduit with pilot bore plan.
14. Direct buried electrical conduit to have 4" thick concrete slab with 6" warning tape installed 12" above conduits.
15. Provide signage warning of buried high voltage power at maximum 300' intervals.
16. Furnish and install buried manholes and junction boxes labeled electrical.
17. Provide all other items necessary for complete functional system.
18. Provide engineering during construction and startup with exception of PLC programming in this Work Authorization.

1.2 Permits and Fees

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

1.3 Utility Services

The Design-builder 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-builder 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-builder

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-builder shall employ a land surveyor registered in the State of Florida. The Design-builder shall locate and protect survey control and reference points. The Design-builder shall be responsible to establish elevations, lines, and levels, utilizing recognized engineering survey practices. The Design-builder shall provide all labor, instruments and stakes, templates, and other materials necessary for marking and maintaining all lines and grades. The Design-builder 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-builder 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-builder shall be responsible for determining these regulations and shall bear all costs or retain any profit associated with disposal of these items.

The Design-builder shall protect his work throughout its length by the erection of suitable barricades and handrails, where required. The Design-builder shall further indicate this work at night by the maintenance of suitable lights or flares, especially along or across thoroughfares. Wherever it is necessary to cross a public walk, the Design-builder shall provide suitable safe walkways with hand railings. The Design-builder shall also comply with all laws or ordinances covering the protection of such work and the safety measures to be employed therein. The Design-builder 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-builder shall obtain permission from the Owner, or shall make suitable arrangements for their disconnection by the Owner. The Design-builder 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-builder. The Design-builder 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-builder.

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), 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-builder's activities or any partial plant shutdowns shall minimize disruption to the treatment facilities and conveyance. The Design-builder 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-builder to perform the proposed work, the Design-builder 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-builder's need for any system or partial system shutdown. Additional notice may be required for certain shutdowns.

1.10 Project Coordination

Design-builder 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-builder 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-builder shall not be responsible for damage done by Design-builders not under his jurisdiction. Design-builder shall not be liable for any such loss or damage unless it is through the negligence of Design-builder. Design-builder shall also coordinate his work with the work of others to assure compliance with schedules.

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

2.1 Starting and Placing Equipment in Operation

Design-builder 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-builder 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-builder in the start-up, but the prime responsibility for proper mechanical operation shall belong to Design-builder. 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-builder 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-builder 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-builder 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-builder 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-builder 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-builder 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-builder 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-builder 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-builder 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-builder 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.

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

Design-builder shall carry out operations so as to avoid interference with Owner's operations and work in the existing facilities. Design-builder 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-builder shall erect and maintain barriers, lights, sidewalk sheds, and other necessary protective devices. The Design-builder is responsible for repairing damage to the Owner's property or facilities.

Design-builder shall not bring explosives on site nor use explosives without written consent of authorities having jurisdiction. Design-builder 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-builder 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-builder, 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-builder so as not to be damaged, and shall be cleaned and stored in a protected location specified by the Owner. Design-builder 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-builder 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-builder 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-builder shall be responsible for all field test data and shall submit to Owner copies of the following test reports from his testing laboratory.

Design-builder shall perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction. Design-builder 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-builder. 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-builder. Additional test borings and other exploratory operations may be made by Design-builder 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-builder. Design-builder shall explore ahead of the required excavation to determine the exact location of all structures. They shall be supported and protected from injury by the Design-builder. If they are broken or injured, they shall be restored immediately by the Design-builder at its expense.

Design-builder shall locate existing underground utilities in the areas of work. If utilities are to remain in place, Design-builder shall provide adequate means of protection during earthwork operations. If uncharted or incorrectly charted piping or other utilities are encountered during excavation, Design-builder shall consult the Owner immediately for directions as to procedure. Design-builder shall

cooperate with Owner and utility companies in keeping respective services and facilities in operation. Design-builder shall repair damaged utilities to the satisfaction of Owner.

Design-builder 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-builder 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-builder 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-builder is responsible for the final sizing and selection of all equipment, piping, and materials. Design-builder 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. 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 or handling, any valves, pipe, fittings or specials receive any damage such material shall be rejected and replaced at the Design-builder'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-builder 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 lightning protection where practical and/or feasible.

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 3R 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 316 stainless steel or aluminum, 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-builder to act as guidance in fulfilling the operational intent of the conceptual documents. It shall be the Design-builder'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-builder shall not relieve Design-builder of their contractual responsibility to provide complete and successfully operating systems.

4.6 Raceway Systems

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

- A. Rigid aluminum conduit for exposed indoor and outdoor conduit runs in non-corrosive areas.
- B. PVC Schedule 40 for individual conduit runs direct buried in earth (minimum 24-inch burial depth).
- C. PVC Schedule 40 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.
- E. Flexible conduit for connections to motors and equipment shall 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 50 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-builder 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, coordination with the County SCADA group, 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-builder shall perform check out and start up of all system components and all 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.

Design-builder shall provide all test equipment necessary to perform the testing during system checkout and start up. Design-builder 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-builder 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-builder 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 Design-builder.

5.4. Instrumentation and Control System Field Test

Following the plant monitoring and control system checkout and initial operation, the Design-builder 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 Design-Builder, 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 where feasible. Exterior control panels shall be 304 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 H
Final Design Drawings



PALM BEACH COUNTY WATER UTILITIES DEPARTMENT WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS

WUD PROJECT No. 12-038

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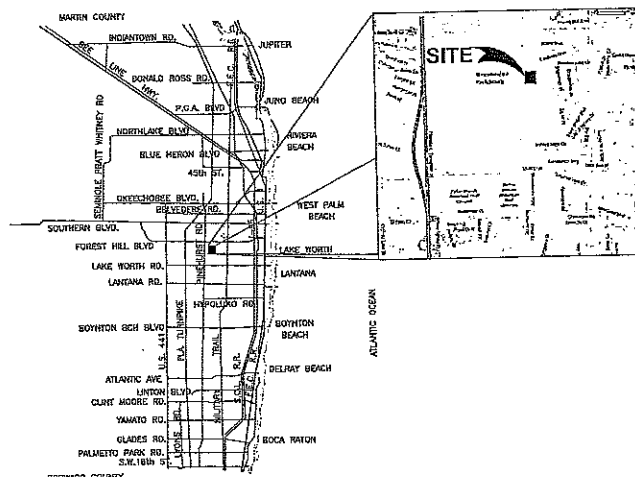
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VICINITY MAP
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In accordance with:
FS Chapter 281.301
FS Chapter 119.071 (3) (b)
FS Chapter 163



LOCATION MAP
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REPRODUCTION:
ATTENTION IS DIRECTED TO THE FACT THAT THESE
PLANS MAY HAVE BEEN REDUCED IN SIZE BY
REPRODUCTION. THIS MUST BE CONSIDERED WHEN
OBTAINING SCALED DATA.

PROJECT No. GT68

OCTOBER 2012

ELECTRICAL LEGEND		ABBREVIATIONS	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	CONNECTION POINT TO EQUIPMENT SPECIFIED, FURNISHED AND INSTALLED UNDER OTHER SECTIONS. RACEWAY, CONDUCTOR AND CONNECTION IN THIS SECTION.		TRANSFORMER VOLTAGES, PHASE AND RATING INDICATED AS APPLICABLE 120V 480-120/208V 15 KVA, 3P
	INDICATES RACEWAY AND CIRCUIT CONDUCTORS. FIRST NUMBER IS RACEWAY SIZE. THE FOLLOWING NUMBERS ARE THE CONDUCTOR QUANTITIES, SIZES, AND TYPES.		PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN
	MOTOR, SCOURREL CAGE INDUCTION - HORSEPOWER INDICATED		PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED
	LUMINAIRE AND POLE - SEE SCHEDULE FOR TYPE		REMOTE DEVICE
	WALL MOUNTED LUMINAIRE - SEE SCHEDULE FOR TYPE		SELECTOR SWITCH: MAINTAINED CONTACT WITH CONTACT POSITION INDICATED, CHART IDENTIFIES OPERATION
	LIGHTING FIXTURE POWER AND SWITCHING LEGEND X=FIXTURE TYPE Y=PANEL-CIRCUIT BRKR Z=SWITCH IF NO Z INDICATED, CONNECT DIRECTLY TO CIRCUIT BREAKER.		CONTACT - NORMALLY OPEN WITH COIL INDICATED
	GROUND ROD - 3/4" x 20' COPPER CLAD UNLESS OTHERWISE NOTED		CONTACT - NORMALLY CLOSED WITH COIL INDICATED
	GROUND ROD WITH TEST WELL - 3/4" x 20' COPPER CLAD UNLESS OTHERWISE NOTED		MAGNETIC STARTER WITH NEMA SIZE INDICATED
	WALL SWITCH: 2- DOUBLE POLE P- PILOT LIGHT 3- THREE WAY K- KEY OPERATED 4- FOUR WAY D- DIMMER WP-WEATHERPROOF CRE-CORROSION RESISTANT		MOTOR CIRCUIT PROTECTOR, MAGNETIC, 3 POLE UNLESS INDICATED OTHERWISE.
	MANUAL MOTOR STARTER SWITCH, NEMA 4X UNLESS OTHERWISE NOTED. NUMBER OF POLES AS REQUIRED		CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE UNLESS INDICATED OTHERWISE.
	GENERATOR		FUSED SWITCH, SWITCH AND FUSE CURRENT RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE.
	CONVENIENCE RECEPTACLE 20A RATED- DUPLEX UNLESS SPECIFIED OTHERWISE		SWITCH - CURRENT RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE.
	WP-WEATHERPROOF C- CLOCK HANGER		TRANSIENT VOLTAGE SURGE SUPPRESSION
	TL-TWIST LOCK CRE-CORROSION RESISTANT		DEMOLITION TO BE REMOVED OR DELETED
	GFI-GROUND FAULT INTERRUPTER		FUSE
	JUNCTION BOX NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. 4X = NEMA 4X SS		CONTROL RELAY, X=SEQUENTIAL NUMBER
	TELEPHONE RECEPTACLE (OUTLET BOX, 18" AFF) W - WALL MOUNTED, 48" AFF		FPL HANDHOLE SUPPLIED BY FPL AND INSTALL BY CONTRACTOR
	CONDUIT/CONDUCTOR - REFER TO CIRCUIT SCHEDULE	ABBREVIATIONS	
	HOME RUN - PANEL AND CIRCUIT NUMBER SHOWN	DESCRIPTION	DESCRIPTION
	EXPOSED CONDUIT AND CONDUCTORS	AFF	ABOVE FINISHED FLOOR
	CONDUIT, STUBBED AND CAPPED AS SHOWN	AFD	ABOVE FINISHED GRADE
	GROUND WIRE, #4/0 UNLESS OTHERWISE NOTED	AI	ANALYTICAL INSTRUMENT
	NONFUSED DISCONNECT SWITCH, SIZE INDICATED, 3 POLE UNLESS INDICATED OTHERWISE. NEMA 12 ENCLOSURE, 4X = NEMA 4X 316 STAINLESS STEEL	AT	ANALYTICAL INSTRUMENT TRANSMITTER
	FUSED DISCONNECT SWITCH, SIZE INDICATED, (60 = SWITCH RATING; 40 = FUSE RATING) 3 POLE UNLESS INDICATED OTHERWISE. NEMA 12 ENCLOSURE, 4X = NEMA 4X 316 STAINLESS STEEL	AE	ANALYTICAL ELEMENT
	LIGHTING CONDUCTOR, CURRENT RATING INDICATED. NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. SEE CONTROL DIAGRAM FOR NUMBER OF POLES. 4X = NEMA 4X 316 STAINLESS STEEL	C	CONDUIT, CONTACTOR
	MAGNETIC STARTER, NEMA SIZE INDICATED, NEMA 12 ENCLOSURE, UNLESS INDICATED OTHERWISE. SEE CONTROL DIAGRAM. 4X = NEMA 4X 316 STAINLESS STEEL	CB	CIRCUIT BREAKER
	COMBINATION (FUSE OR CIRCUIT BREAKER AS INDICATED), MAGNETIC STARTER, NEMA SIZE INDICATED, NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. SEE CONTROL SCHEMATIC DIAGRAM. 4X = NEMA 4X 316 STAINLESS STEEL	CKT	CIRCUIT
	GROUND ROD, 3/4" x 20'	CPT	CONTROL POWER TRANSFORMER
		CR	CONTROL RELAY
		CT	CURRENT TRANSFORMER
		DNV	DIVISION
		ETM	ELAPSED TIME METER
		EXST	EXISTING
		F, FU	FUSE
		FI	FLOW INDICATOR
		FM	FLOW METER
		FS01	FLOW SWITCH 01
		FT	FLOW TRANSMITTER
		FUT	FUTURE
		FVWR	FULL VOLTAGE NON-REVERSING STARTER
		GALV	GALVANIZED
		GEN	GENERATOR
		GFI	GROUND FAULT INTERRUPTER
		GND	GROUND
		H	HANDHOLE
		HDA	HAND/ON/AUTO
		HOR	HAND/OFF/REMOTE
		HWAC	HEATING, VENTILATING & AIR CONDITIONING
		IC	INTERRUPTING CAPACITY
		I & C	INSTRUMENTATION AND CONTROL
		IP	INSTRUMENT PANEL (PANELBOARD)
		J, J-BOX	JUNCTION BOX
		LC	LIGHTING CONTACTOR
		LR	LOCAL/REMOTE
		LS	LIMIT SWITCH
		LITG	LIGHTING
		M	MAGNETIC CONTACTOR COIL OR MOTOR
		MCC	MOTOR CONTROL CENTER
		MOP	MAIN DISTRIBUTION PANEL
		MH	MOTOR HEATER, MANHOLE
		MLO	MAIN LUGS ONLY
		MPZ	MINI POWER ZONE
		MTD	MOTOR TEMPERATURE DETECTOR
		N	NEUTRAL
		NC	NORMALLY CLOSED
		NEMA	NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION
		NO	NORMALLY OPEN
		NTS	NOT TO SCALE
		OL	OVERLOAD RELAY
		SS	316 STAINLESS STEEL

GENERAL NOTES AND SPECIFICATIONS:

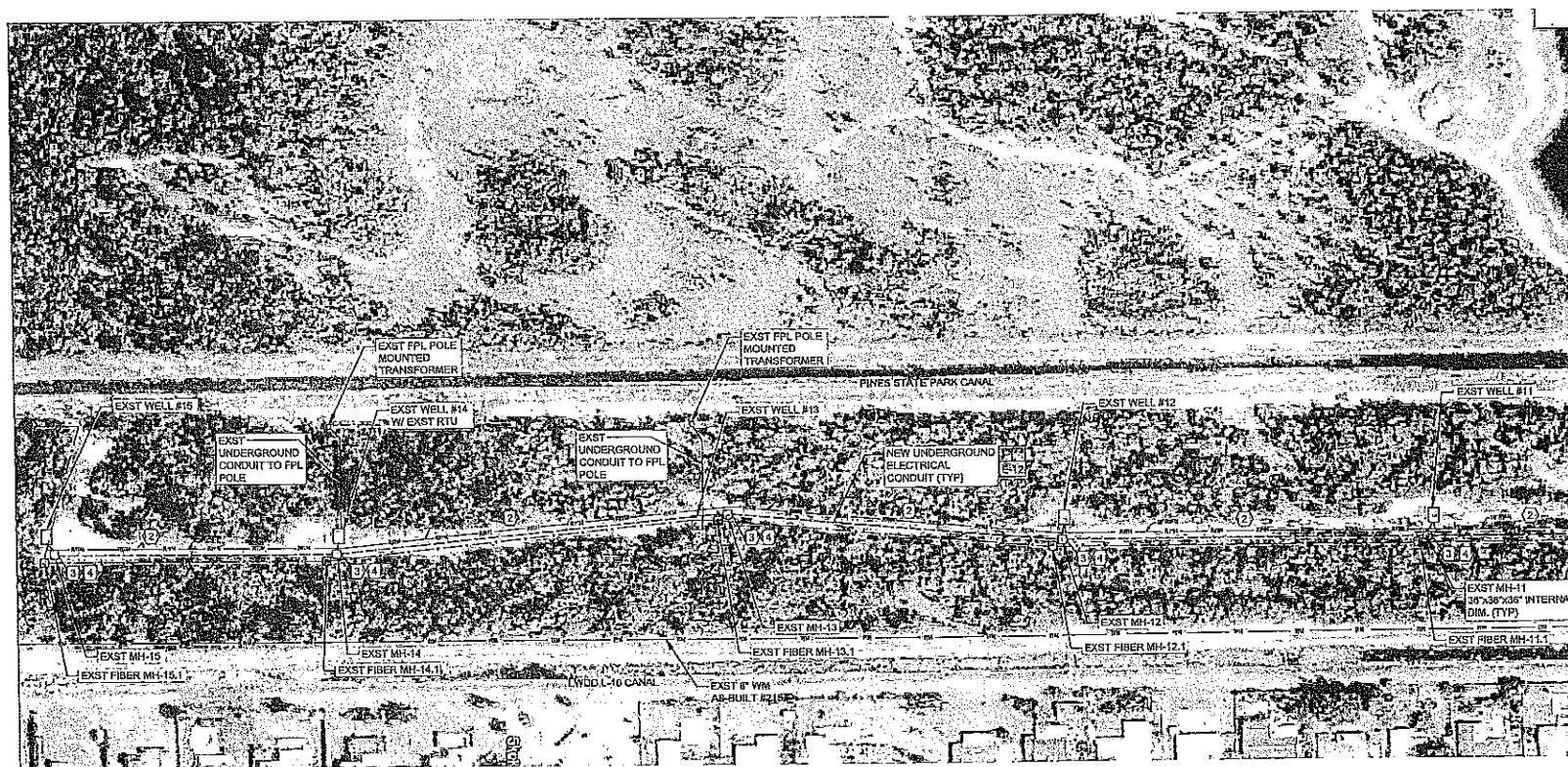
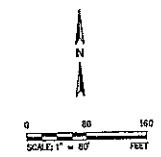
- THE SCOPE OF WORK SHALL CONSIST PRIMARILY OF THE FOLLOWING:
 - PROVIDE NEW POWER DISTRIBUTION TO EXISTING WELL NO. 9, 10, 11, 12, 13, 14 AND 15 AS SHOWN ON DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR TO INSTALL THE ELECTRICAL SYSTEMS AS INDICATED PER PLANS AND SPECIFICATIONS. ITEMS NOT SHOWN BUT OBVIOUSLY NECESSARY FOR COMPLETION OF THE WORK SHALL BE INCLUDED.
- THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, NATIONAL ELECTRICAL SAFETY CODE, LOCAL CODES, CITY CODES AND ALL PALM BEACH COUNTY CODES.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, INSPECTIONS AND APPROVALS AND TO INCLUDE ALL FEES AS PART OF HIS BID IF NOT OTHERWISE NOTED. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE ENGINEER AND OWNER.
- THE CONTRACTOR SHALL, BEFORE SUBMITTING HIS BID, VISIT THE SITE OF THE PROJECT AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS. NO ALLOWANCE WILL BE MADE FOR EXISTING CONDITIONS OR FAILURE OF THE CONTRACTOR TO OBSERVE THEM.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH ALL LOCAL UTILITIES, INCLUDING THE POWER UTILITY TO MEET ALL OF THEIR INSTALLATION REQUIREMENTS, ALL FEES, LABOR, EQUIPMENT OR MATERIALS NECESSARY TO MEET THESE REQUIREMENTS IS TO BE INCLUDED IN THE BID. THE CONTRACTOR SHALL OBTAIN DELIVER AND INSTALL ALL CONDUITS, PULL-BOXES AND EQUIPMENT AS REQUIRED BY THE UTILITIES TO THEIR SPECIFICATIONS.
- ALL CONTRACTOR EQUIPMENT AND MATERIAL SHALL BE NEW, UNUSED AND U.L. LISTED.
- THE CONTRACTOR IS RESPONSIBLE TO TEST ALL SYSTEMS INSTALLED OR MODIFIED UNDER THIS PROJECT AND REPAIR OR REPLACE ALL DEFECTIVE WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER.
- ALL EQUIPMENT FURNISHED AND INSTALLED BY THE CONTRACTOR SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE.
- COORDINATE ALL ELECTRICAL EQUIPMENT LOCATIONS AND VERIFY ALL OBSTRUCTIONS WITH ALL SUBCONTRACTORS AND EQUIPMENT SUPPLIERS PRIOR TO ANY INSTALLATION.
- NOT ALL CONDUITS SHOWN ON RISER AND ONE-LINE DIAGRAMS ARE SHOWN ON BUILDING OR SITE LAYOUTS. CONTRACTOR SHALL SUPPLY ALL CONDUITS AND CABLES AS SHOWN ON RISER AND ONE-LINE DIAGRAMS. THE DRAWINGS ARE NOT INTENDED TO SHOW THE EXACT LOCATION OF CONDUIT RUNS. THESE ARE TO BE COORDINATED WITH THE OTHER TRADES SO THAT CONFLICTS ARE AVOIDED PRIOR TO INSTALLATIONS. ALL LOCATIONS OF EQUIPMENT, PANELS ETC. ARE SHOWN FOR ILLUSTRATION PURPOSES. CONTRACTOR SHALL VERIFY EXACT LOCATION AND SIZE AND INSTALL AS SUCH WITH CORRESPONDING CONDUIT STUB-UPS. DRAWINGS ARE SCHEMATIC AND SHOWN FOR CLARITY.
- ALL REFERENCES TO A PARTICULAR MANUFACTURER ARE GIVEN ON AN "APPROVED EQUAL" BASIS.
- MINIMUM DEPTH FROM TOP OF DUCTBANKS OR CONDUITS TO FINISHED GRADE SHALL BE 24" UNLESS OTHERWISE NOTED. CONCRETE CAP SHALL BE INSTALLED ABOVE ALL DIRECT BURIED UNDERGROUND CONDUIT. ABOVEGROUND WARNING SIGNS FOR UNDERGROUND CONDUIT SHALL BE INSTALLED AT EVERY 300'.

- ALL EXCAVATIONS FOR CONDUITS AND HANDHOLES NEAR EXISTING PIPING, CONDUIT AND EQUIPMENT SHALL BE HAND EXCAVATED AND COORDINATED WITH PLANT ENGINEER.
- CONDUCTOR PULLING TENSIONS SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATION.
- MINIMUM DISTANCE ALLOWED BETWEEN CROSSING POWER CONDUITS AND INSTRUMENTATION CONDUITS SHALL BE 6 INCHES SEPARATION. MINIMUM DISTANCE ALLOWED BETWEEN PARALLEL POWER CONDUITS AND INSTRUMENTATION CONDUITS SHALL BE:

VOLTAGE	DISTANCE
480V	2 FT
120V	1 FT
- IN MANHOLE/PULL BOX WHERE THE POWER AND INSTRUMENTATION CABLE SHARE, THE INSTRUMENTATION CABLE SHALL RACK ON ONE SIDE OF MANHOLE AND THE POWER CABLE SHALL RACK ON THE OPPOSITE SIDE OF MANHOLE.
- SCHEDULE 40 PVC SHALL BE USED UNDERGROUND. ALL ABOVE GRADE CONDUITS SHALL BE ALUMINUM.
- ALL 600V CONDUCTORS SHALL BE COPPER. NO ALUMINUM ALLOWED UNLESS SPECIFICALLY INDICATED. INSTRUMENTATION CABLE SHALL BE TYPE B2 TWISTED SHIELDED PAIR (TSP).
- FLEXIBLE CONDUITS SHALL BE USED TO TERMINATE ALL MOTORS AND OTHER VIBRATING EQUIPMENT AND SHALL BE BETWEEN 18" AND 3' IN LENGTH.
- ALL SPARE CONDUITS SHALL BE CAPPED WITH A PVC CAP AND A NYLON PULL STRING INSTALLED WITH IDENTIFICATION ON BOTH ENDS.
- CONTRACTOR SHALL RESTORE SIDEWALKS, ROADWAYS, SOO AND SPRINKLER SYSTEM PIPING TO MATCH EXISTING AFTER THE COMPLETION OF THE CONDUIT AND PULLBOX INSTALLATION.
- ALL MATERIAL IN DESIGNATED CORROSIVE AREAS SHALL BE NEMA 4X 316 STAINLESS STEEL.
- ALL CONTROL PANELS SHALL BE CONSTRUCTED BY A UL 508A APPROVED PANEL VENDOR AND SHALL BEAR A UL 508A LABEL ON THE PANEL.
- INSTRUMENTATION IS LOW VOLTAGE SIGNALS SUCH AS 4-20MA. POWER CONDUIT SHALL ONLY CROSS INSTRUMENTATION CONDUIT PERPENDICULARLY AT RIGHT ANGLES WITH 6" SEPARATION.
- CONTRACTOR SHALL PROVIDE RECORD DRAWINGS TO THE OWNER WITHIN 30 DAYS OF SYSTEM ACCEPTANCE.
- CONTRACTOR SHALL PROVIDE OPERATION MANUALS TO THE OWNER.
- THE MAXIMUM VOLTAGE DROP FOR BRANCH CIRCUIT CONDUCTORS IS 3% PER FLORIDA BUILDING CODE AND NEC.
- DEMOLISH ALL ITEMS AS INDICATED ON DRAWINGS AND TURN OVER TO THE OWNER AT THE OWNER'S DISCRETION AND PROPERLY DISPOSE OF ALL DEMOLITION ITEMS NOT WANTED BY THE OWNER.
- NO TOP CONDUIT PENETRATIONS ARE ALLOWED IN ALL PANELS.
- PROVIDE FIREPROOFING TAPE ON SKV CABLES IN ALL MANHOLES. PROVIDE ENOUGH SLACK OF SKV CABLES TO RACK IN ALL MANHOLES.

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In accordance with:
FS Chapter 281.301
FS Chapter 118.071 (3) (b)
FS Chapter 153

<p>DESIGNED BY: P.M.H. CHECKED BY: T.A. DRAWN BY: T.W. CROSS CHECK BY: R.L.C. APPROVED BY: P.A.H. DATE: OCTOBER 2012</p>	<p>HILLERS ELECTRICAL ENGINEERING, INC. 2885 STATE ROAD 100, SUITE 100 BOCA RATON, FLORIDA 33488 (561) 997-8433 FAX: (561) 997-5811 WWW.HILLERS-EE.COM</p>	<p>1075 BROKEN SOUND PARK NW, SUITE 103 BOCA RATON, FLORIDA 33487 PH: (561) 997-8433 FAX: (561) 997-5811 CERTIFICATE OF AUTH. No. E.B.-0007225 LICENSE No. C.G.C.-1507230</p>	<p>PBCWUD - WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS PBCWUD PROJECT No. 12-038</p>	<p>PROJECT NO. 0708 E-LAWG</p>
<p>Globaltech A DESIGN - BUILD COMPANY</p>				<p>SHEET NO. E-1</p>



CONTINUED ON DRAWING E-3

CONDUIT CROSSING NOTE:
 1. UNDERGROUND 4160V POWER CONDUIT SHALL CROSS THE EXISTING UTILITIES AT 24" BELOW GRADE OR LOWER TO AVOID THE CONFLICTS.

EXISTING WELL #11, 12, 13, 14 & 15 ELECTRICAL SITE PLAN

SCALE: 1" = 80'-0"

- LEGEND**
- NEW UNDERGROUND ELECTRICAL CONDUIT INSTALLED IN EARTHROCK WITH CONCRETE CAP. SEE ONE LINE FOR SIZE AND QUANTITY
 - EXISTING 2" UNDERGROUND FIBER OPTIC CONDUIT
 - EXISTING UNDERGROUND WATER MAIN
 - EXISTING UNDERGROUND WASTEWATER FORCE MAIN
 - EXISTING UNDERGROUND BRINE WASTE LINE
 - EXISTING UNDERGROUND RAW WATER MAIN
 - EXISTING/FUTURE UNDERGROUND ELECTRICAL CONDUIT

NOTES:

- EXISTING UTILITY LOCATIONS SHOWN ON DRAWINGS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY AND ADJUST ACCORDINGLY. ANY CONFLICTS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION BEFORE SUBMITTING THE BID.

SEQUENCE OF CONSTRUCTION:
 BELOW IS THE SUGGESTED SEQUENCE OF CONSTRUCTION. CONTRACTOR SHALL PROVIDE A DETAILED CONSTRUCTION SEQUENCE BEFORE CONSTRUCTION BEGINS. AT ALL TIMES, NO MORE THAN TWO WELLS ARE ALLOWED TO BE OUT OF SERVICE.

- WELLS 9 & 10 POWER, INSTRUMENTATION AND RTU.
- WELLS 11 & 12 POWER, INSTRUMENTATION AND RTU.
- WELL 13 POWER, INSTRUMENTATION AND RTU.
- WELLS 14 & 15 POWER, INSTRUMENTATION AND RTU.

- KEYED NOTES:**
- CONTRACTOR SHALL PROVIDE AND INSTALL DIRECTIONAL BORED CONDUITS (MINIMUM 36" BELOW GRADE) BETWEEN MANHOLE MH-4 AND MH-8. COORDINATE CONDUIT ROUTING AT ROADWAY CROSSING WITH THE COUNTY. FIELD VERIFY DIRECTIONAL CONDUIT ENTRY & EXIT LOCATION AND ADJUST ACCORDINGLY. SEE SPECIFICATION 16111 FOR ADDITIONAL INFORMATION.
 - CONTRACTOR SHALL HIRE A PRIVATE COMPANY TO LOCATE EXISTING UTILITIES INCLUDING EXISTING FIBER DUCTBANK AND WATER LINE RUNNING PARALLEL TO NEW ELECTRICAL DUCTBANK ON THE WEST SIDE OF PINEHURST DRIVE AND EXISTING WATER LINES RUNNING PARALLEL TO NEW ELECTRICAL DUCTBANK ON EAST SIDE OF PINEHURST DRIVE. INSTALL NEW DUCTBANK MINIMUM 6 FT FROM WATER LINE AND FIELD ADJUST ROUTING AS NEEDED.
 - CONTRACTOR SHALL COORDINATE WITH THE OWNER AND SEQUENCE OF CONSTRUCTION AND REMOVE EXISTING PVC CONTROL J-BOX LOCATED INSIDE THE EXISTING MANHOLES AND REMOVE ALL EXISTING INSTRUMENTATION CABLES BACK TO WELL #14.
 - CONTRACTOR SHALL CLEAN AND CORE DRILL EXISTING MANHOLES FOR NEW CONDUITS INSTALLATION. PROVIDE AND INSTALL NEW CABLE RACKS, CABLE HOOKS AND CABLE RACK INSULATION, THE SAME AS SHOWN IN NEW MAN-HOLE DETAIL, IN EXISTING MANHOLES AND RACK NEW CABLES. PROVIDE GROUNDING TO ALL NEW CABLE RACKS WITH EXISTING GROUND ROD.
 - CONTRACTOR SHALL HAND DIG FROM UNDERGROUND FPL LINE TO HIGH SERVICE PUMP BUILDING.

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 FS Chapter 119.071 (3) (b)
 FS Chapter 153

REV.	DATE	BY	CHKD	REMARKS

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CHECKED BY: S.L.C.	
APPROVED BY: P.F.H.	
DATE: OCTOBER 2012	

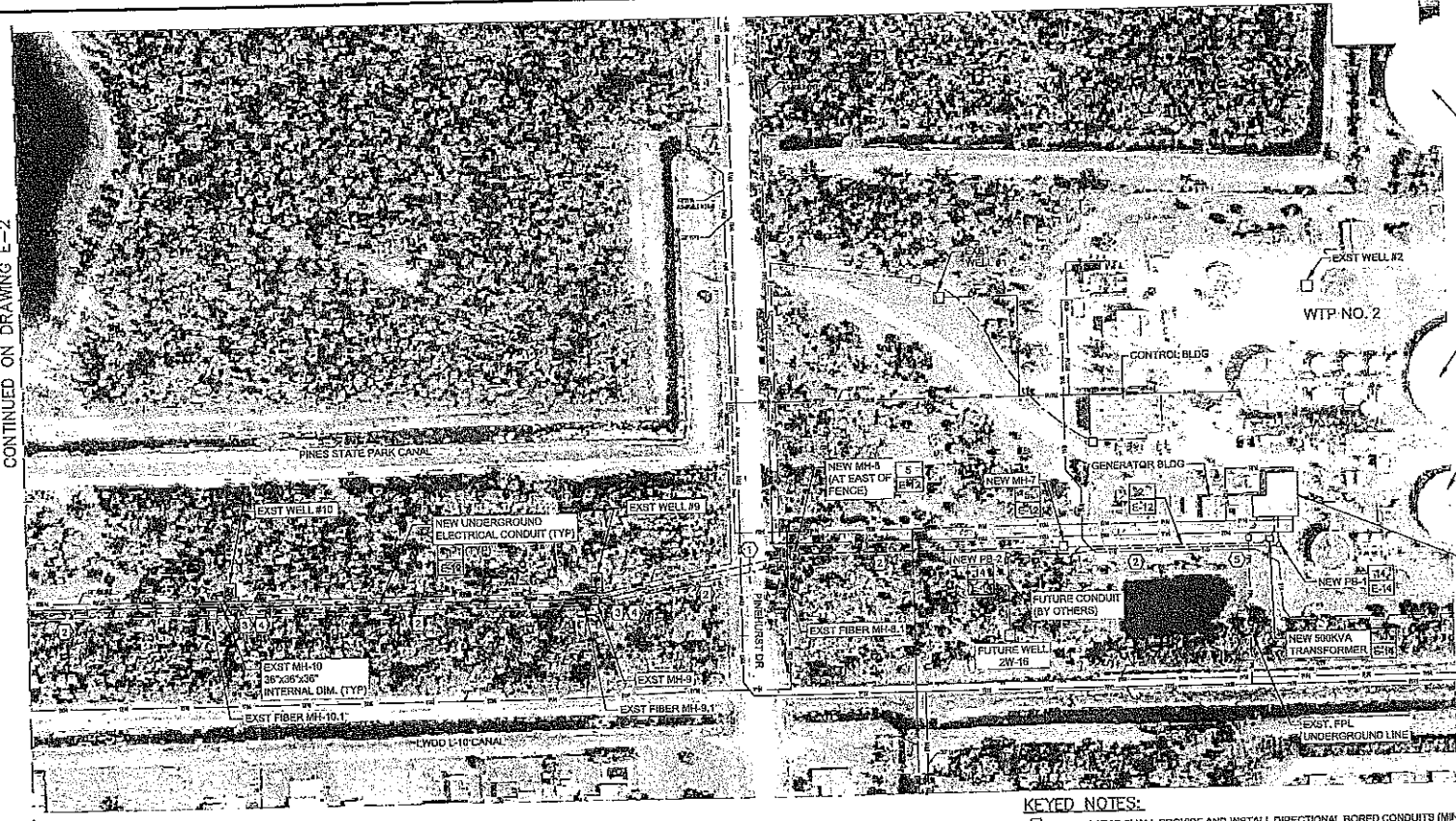
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PBCWUD - WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS
 PBCWUD PROJECT No. 12-038
**EXISTING WELL #11, 12, 13, 14 & 15
 ELECTRICAL SITE PLAN**

PROJECT NO. 0708
FILE NAME: E-2.DWG
SHEET NO. E-2

CONTINUED ON DRAWING E-2



CONDUIT CROSSING NOTE:
 1. UNDERGROUND 480V POWER CONDUIT SHALL CROSS THE EXISTING UTILITIES AT 2" BELOW GRADE OR LOWER TO AVOID THE CONFLICTS.

- LEGEND**
- NEW UNDERGROUND ELECTRICAL CONDUIT INSTALLED IN EARTH/ROCK WITH CONCRETE CAP. SEE ONE LINE FOR SIZE AND QUANTITY
 - - - - - EXISTING 2" UNDERGROUND FIBER OPTIC CONDUIT
 - MH --- EXISTING UNDERGROUND WATER MAIN
 - WY --- EXISTING UNDERGROUND WASTEWATER FORCE MAIN
 - WB --- EXISTING UNDERGROUND BRINE WASTE LINE
 - RW --- EXISTING UNDERGROUND RAW WATER MAIN
 - RFE --- EXISTING/FUTURE UNDERGROUND ELECTRICAL CONDUIT

NOTES:
 1. EXISTING UTILITY LOCATIONS SHOWN ON DRAWINGS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY AND ADJUST ACCORDINGLY. ANY CONFLICTS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION BEFORE SUBMITTING THE BID.

WTP-2 AND EXISTING WELLS #9 & #10 ELECTRICAL SITE PLAN
 SCALE: 1" = 80'-0"

- SEQUENCE OF CONSTRUCTION:**
 BELOW IS THE SUGGESTED SEQUENCE OF CONSTRUCTION. CONTRACTOR SHALL PROVIDE A DETAILED CONSTRUCTION SEQUENCE BEFORE CONSTRUCTION BEGINS. AT ALL TIMES, NO MORE THAN TWO WELLS ARE ALLOWED TO BE OUT OF SERVICE.
1. WELLS 9 & 10 POWER, INSTRUMENTATION AND RTU.
 2. WELLS 11 & 12 POWER, INSTRUMENTATION AND RTU.
 3. WELL 13 POWER, INSTRUMENTATION AND RTU.
 4. WELLS 14 & 15 POWER, INSTRUMENTATION AND RTU.

KEYED NOTES:

1. CONTRACTOR SHALL PROVIDE AND INSTALL DIRECTIONAL BORED CONDUITS (MINIMUM 36" BELOW GRADE) BETWEEN MANHOLE MH-8 AND MH-9. COORDINATE CONDUIT ROUTING AT ROADWAY CROSSING WITH THE COUNTY. FIELD VERIFY DIRECTIONAL CONDUIT ENTRY & EXIT LOCATION AND ADJUST ACCORDINGLY. SEE SPECIFICATION 16111 FOR ADDITIONAL INFORMATION.
2. CONTRACTOR SHALL HIRE A PRIVATE COMPANY TO LOCATE EXISTING UTILITIES INCLUDING EXISTING FIBER DUCTBANK AND WATER LINE RUNNING PARALLEL TO NEW ELECTRICAL DUCTBANK ON THE WEST SIDE OF PINEHURST DRIVE AND EXISTING WATER LINES RUNNING PARALLEL TO NEW ELECTRICAL DUCTBANK ON EAST SIDE OF PINEHURST DRIVE. INSTALL NEW DUCTBANK MINIMUM 6 FT FROM WATER LINE AND FIELD ADJUST ROUTING AS NEEDED.
3. CONTRACTOR SHALL COORDINATE WITH THE OWNER AND SEQUENCE OF CONSTRUCTION AND REMOVE EXISTING PVC CONTROL J-BOX LOCATED INSIDE THE EXISTING MANHOLES AND REMOVE ALL EXISTING INSTRUMENTATION CABLES BACK TO WELL #14.
4. CONTRACTOR SHALL CLEAN AND CORE DRILL EXISTING MANHOLES FOR NEW CONDUITS INSTALLATION. PROVIDE AND INSTALL NEW CABLE RACKS, CABLE HOOKS AND CABLE RACK INSULATION, THE SAME AS SHOWN IN NEW MANHOLE DETAIL. IN EXISTING MANHOLES AND RACK NEW CABLES. PROVIDE GROUNDING TO ALL NEW CABLE RACKS WITH EXISTING GROUND ROD.
5. CONTRACTOR SHALL HAND DIG FROM UNDERGROUND PPL LINE TO HIGH SERVICE PUMP BUILDING.

CONFIDENTIAL
 THIS WELD DOCUMENT NOT FOR PUBLIC DISCLOSURE
 In accordance with:
 FS Chapter 281.501
 FS Chapter 119.071 (3) (b)
 FS Chapter 153

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: P.F.H.
 DRAWN BY: T.V.
 SHEET CHECKED BY: T.V.
 CROSS CHECKED BY: R.L.O.
 APPROVED BY: [Signature]
 DATE: OCTOBER 2012

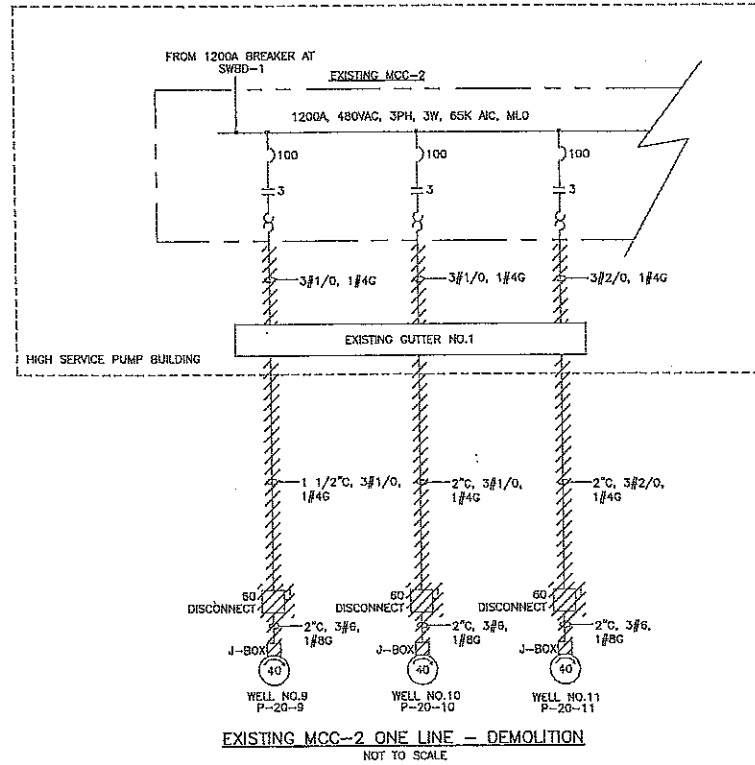
HILLERS ELECTRICAL ENGINEERING, INC.
 2745 STATE ROAD 1, SUITE 100
 BOCA RATON, FLORIDA 33487
 (561) 997-6433
 (561) 997-5811
 FAX: (561) 997-5811
 CERTIFICATE OF AUTH. No. E3-0007225
 LICENSE No. C.C.C.-1597230

1075 BROKEN SOUND PKWY NW, SUITE 103
 BOCA RATON, FLORIDA 33487
 PH: (561) 997-6433
 FAX: (561) 997-5811
 CERTIFICATE OF AUTH. No. E3-0007225
 LICENSE No. C.C.C.-1597230

Globaltech
 A DESIGN - BUILD COMPANY

PBCWUD - WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS
 PBCWUD PROJECT No. 12-038
**WTP-2 AND EXISTING WELLS #9 & 10
 ELECTRICAL SITE PLAN**

PROJECT NO. 12-038
 FILE NAME: E-3.DWG
 SHEET NO. E-3



DEMOLITION NOTES:

1. CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING POWER CABLES FOR WELL #9, 10 AND 11 FROM EXISTING MCC-2 TO EXISTING GUTTER #1.
2. CONTRACTOR SHALL ABANDON EXISTING POWER CABLES AND CONDUITS IN PLACE FROM EXISTING GUTTER #1 TO EXISTING WELL #9, 10 AND 11 DISCONNECT SWITCHES.
3. PROVIDE TAGS ON ABANDONED WELL POWER CABLES ON BOTH ENDS.
4. CUT ABANDONED CONDUITS, FLUSH WITH FINISHED GRADE AND CAP AT WELL LOCATION.
5. CONTRACTOR SHALL REMOVE EXISTING WELL DISCONNECT SWITCHES FROM WELL #9, 10 AND 11 AND TURN OVER TO THE OWNER.
6. CONTRACTOR SHALL PROVIDE ELECTRICAL DEMOLITION WORK FOR WELL, 12, 13, 14 AND 15 AS SHOWN ON DEMOLITION PLAN.

EXISTING MCC-2 ONE LINE - DEMOLITION
NOT TO SCALE

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In accordance with:
FS Chapter 281.301
FS Chapter 119.071 (3) (b)
FS Chapter 183

REV. NO.	DATE	BY	CHKD	REMARKS

DESIGNED BY: PJKL
 DRAWN BY: YAN
 SHEET CHECK BY: TNE
 CHECKED BY: RLCC
 APPROVED BY: PAUL F. HILLERS, P. E.
 DATE: OCTOBER 2012
 No. 41022

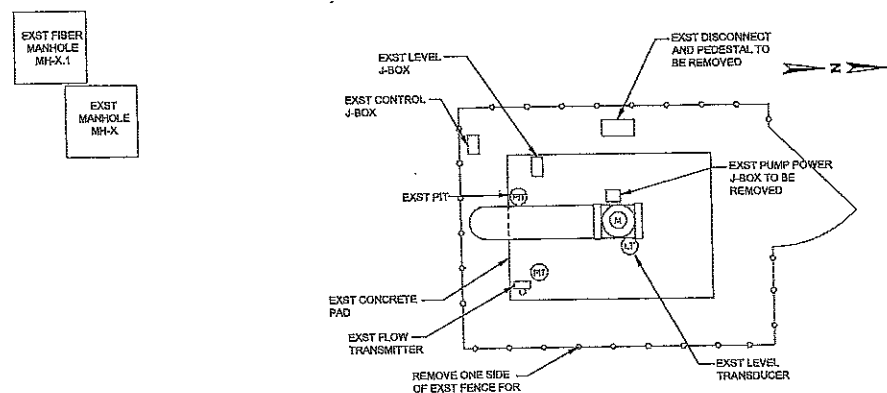
HILLERS ELECTRICAL
 ENGINEERING, INC.
 2425 STATE ROAD P. BOX 100
 BOCA RATON, FLORIDA 33434
 (561) 997-5433
 FAX: (561) 997-5811
 LICENSE No. C.G.C.-1507230

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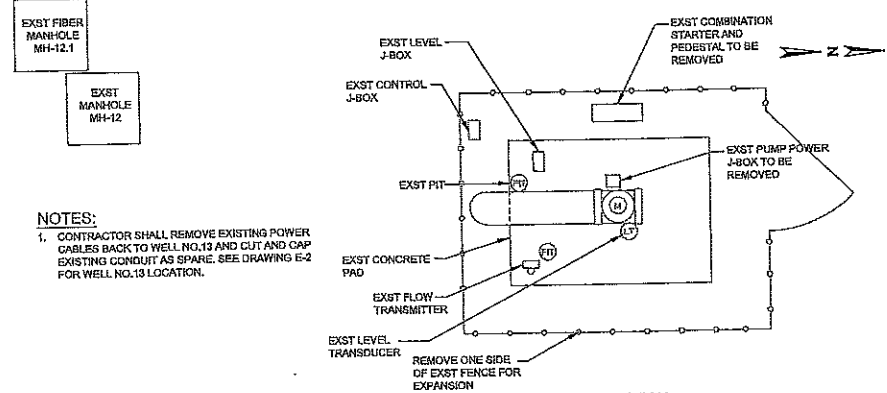
1075 BROKEN SOUND PKWY NW, SUITE 103
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 FAX: (561) 997-5811
 CERTIFICATE OF AUTH. No. E.B.-0007225
 LICENSE No. C.G.C.-1507230

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 PBCWUD PROJECT No. 12-038
ELECTRICAL ONE LINE - DEMOLITION

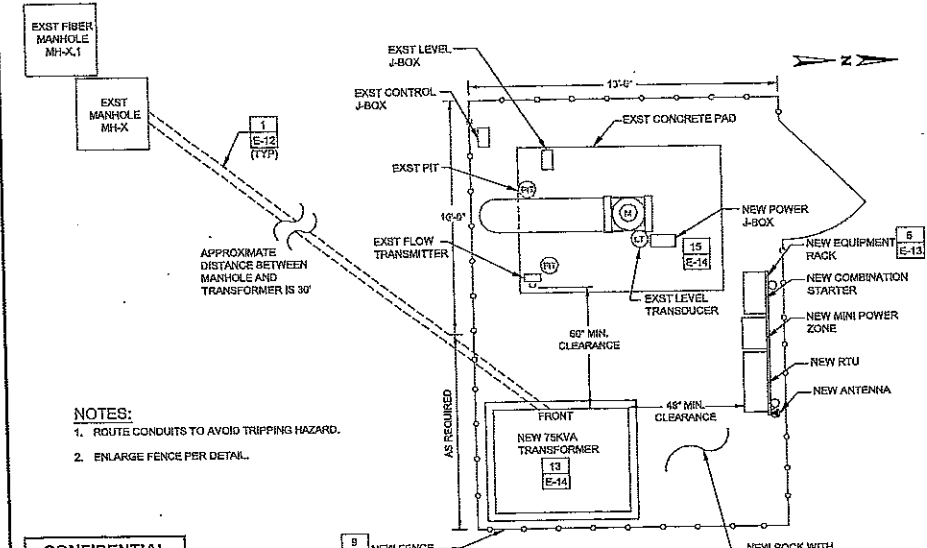
PROJECT NO.	DATE
FILE NAME	6-4.DWG
SHEET NO.	
E-4	



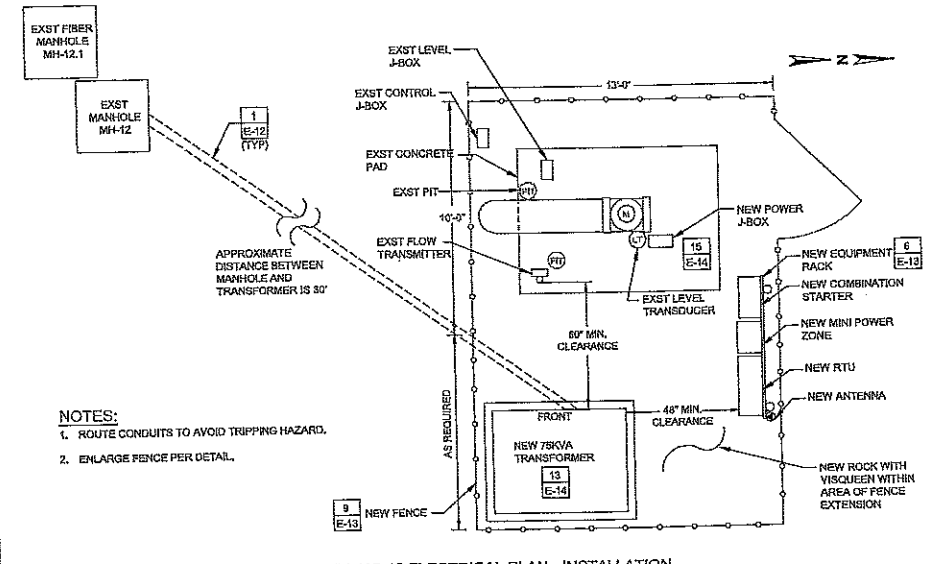
WELL NO. X ELECTRICAL PLAN - DEMOLITION
X = 9, 10, 11
NOT TO SCALE



WELL NO. 12 ELECTRICAL PLAN - DEMOLITION
NOT TO SCALE



WELL NO. X ELECTRICAL PLAN - INSTALLATION
X = 9, 10, 11
NOT TO SCALE



WELL NO. 12 ELECTRICAL PLAN - INSTALLATION
NOT TO SCALE

- NOTES:
1. ROUTE CONDUITS TO AVOID TRIPPING HAZARD.
 2. ENLARGE FENCE PER DETAIL.

- NOTES:
1. ROUTE CONDUITS TO AVOID TRIPPING HAZARD.
 2. ENLARGE FENCE PER DETAIL.

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PBC WUD DOCUMENT
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In accordance with
FS Chapter 281.301
FS Chapter 149.071 (3) (b)
FS Chapter 163

DESIGNED BY: P.F.H.	DATE: OCTOBER 2012
DRAWN BY: T.J.L.	
CHECKED BY: E.L.C.	
APPROVED BY: PAUL F. HILLERS, P.E.	

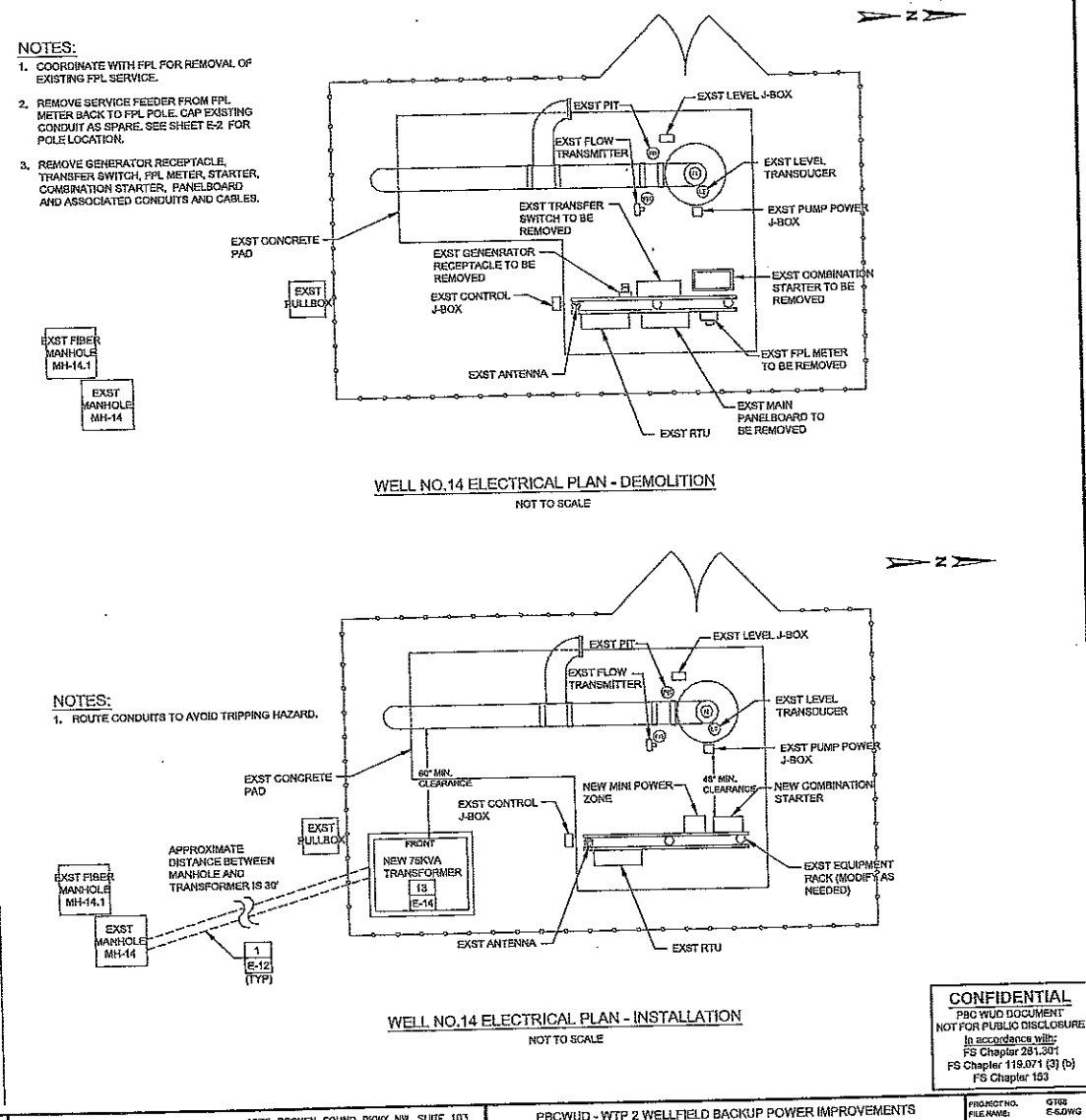
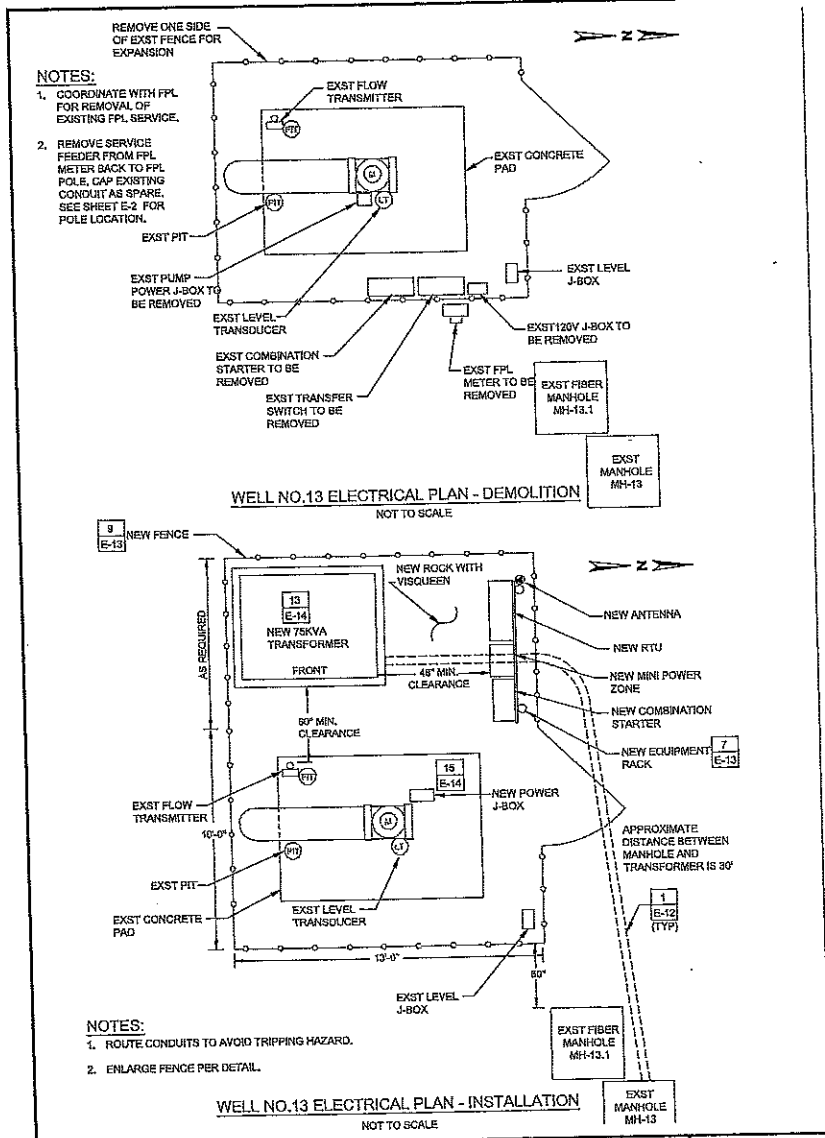
HILLERS ELECTRICAL ENGINEERING, INC.
25345 SE 26TH ST., SUITE 104
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FAX: 561-997-5811
WWW.HILLERS-EE.COM

Globaltech
A DESIGN - BUILD COMPANY

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LICENSE No. C.G.C.-1507230

PBCWUD - WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS
PBCWUD PROJECT No. 12-038
WELL #9, 10, 11 & 12 ELECTRICAL PLAN

PROJECT NO. 1208
FILE NAME: 04.DWG
SHEET NO. E-5



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PBCWUD DOCUMENT
NOT FOR PUBLIC DISCLOSURE
In accordance with:
FS Chapter 281.301
FS Chapter 119.071 (3) (b)
FS Chapter 183

DESIGNED BY	T.Z.
DRAWN BY	T.W.
CHECKED BY	R.L.C.
APPROVED BY	PAUL F. HILLERS, P. E.
DATE	OCTOBER 29, 2012
NO.	41022

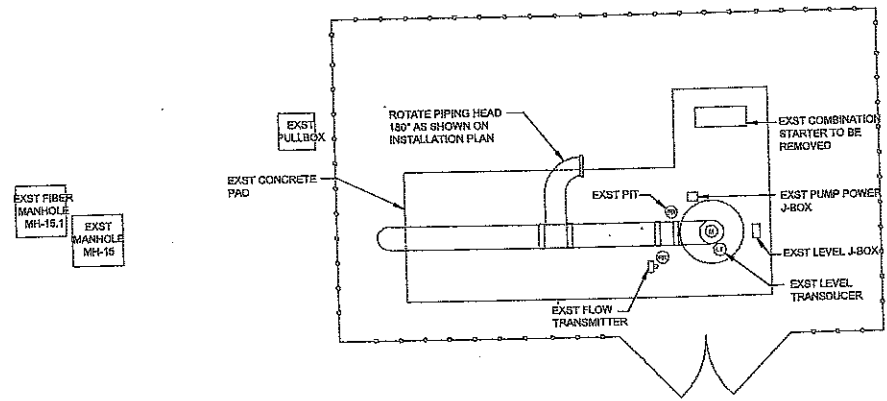
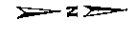
HILLERS ELECTRICAL
ENGINEERING & ARCH. INC.
2800 S.W. 11TH ST., SUITE 100
BOCA RATON, FLORIDA 33432
(561) 997-8433
FAX: (561) 997-8811
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PH: (561) 997-8433
FAX: (561) 997-8811
CERTIFICATE OF AUTH. No. E-6-0007225
LICENSE No. C.C.C.-1507330

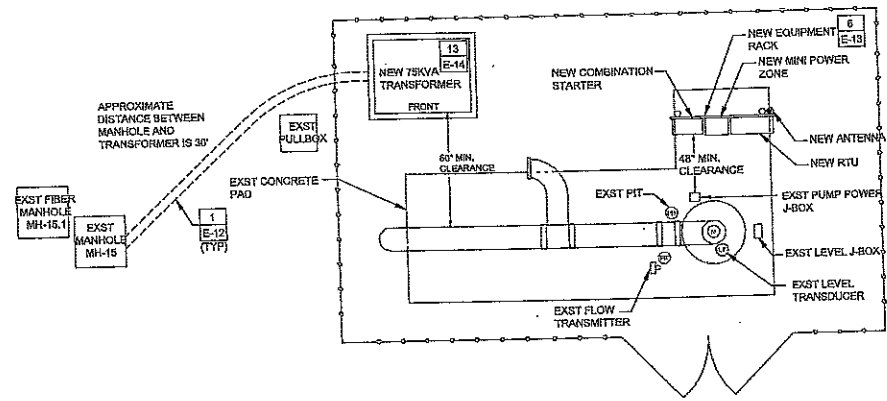
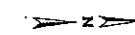
PBCWUD - WTP 2 WELL FIELD BACKUP POWER IMPROVEMENTS
PBCWUD PROJECT No. 12-038
WELL #13 & 14 ELECTRICAL PLAN

PROJECT NO. 0308
FILE NAME: E-6.DWG
SHEET NO. E-6



WELL NO.15 ELECTRICAL PLAN - DEMOLITION
NOT TO SCALE

NOTES:
1. CONTRACTOR SHALL REMOVE EXISTING POWER CABLES BACK TO WELL NO.14 AND CUT AND CAP EXISTING CONDUIT AS SPARE. SEE DRAWING E-2 FOR WELL NO.14 LOCATION.



WELL NO.15 ELECTRICAL PLAN - INSTALLATION
NOT TO SCALE

NOTES:
1. ROUTE CONDUITS TO AVOID TRIPPING HAZARD.

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In accordance with:
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FS Chapter 119.071 (3) (b)
FS Chapter 153

REV. NO.	DATE	BY	CHKD	REMARKS

DESIGNED BY: P.F.M.
CHECKED BY: T.K.
DATE: OCTOBER 2012

PAUL F. MILLERS, P.E.
No. 41022

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2125 STATE ROAD 7, SUITE 103
BOCA RATON, FLORIDA 33487
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CERTIFICATE OF AUTH. No. E.B.-0007225
LICENSE No. C.C.C.-1507230

PBCWUD - WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS
PBCWUD PROJECT No. 12-038
WELL #15 ELECTRICAL PLAN

PROJECT NO. 12-038
SHEET NO. E-7

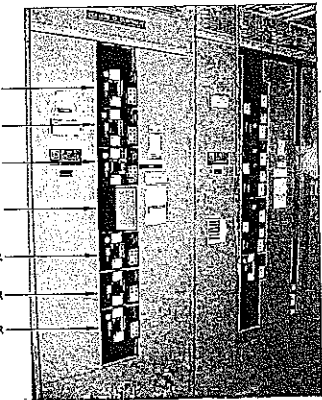
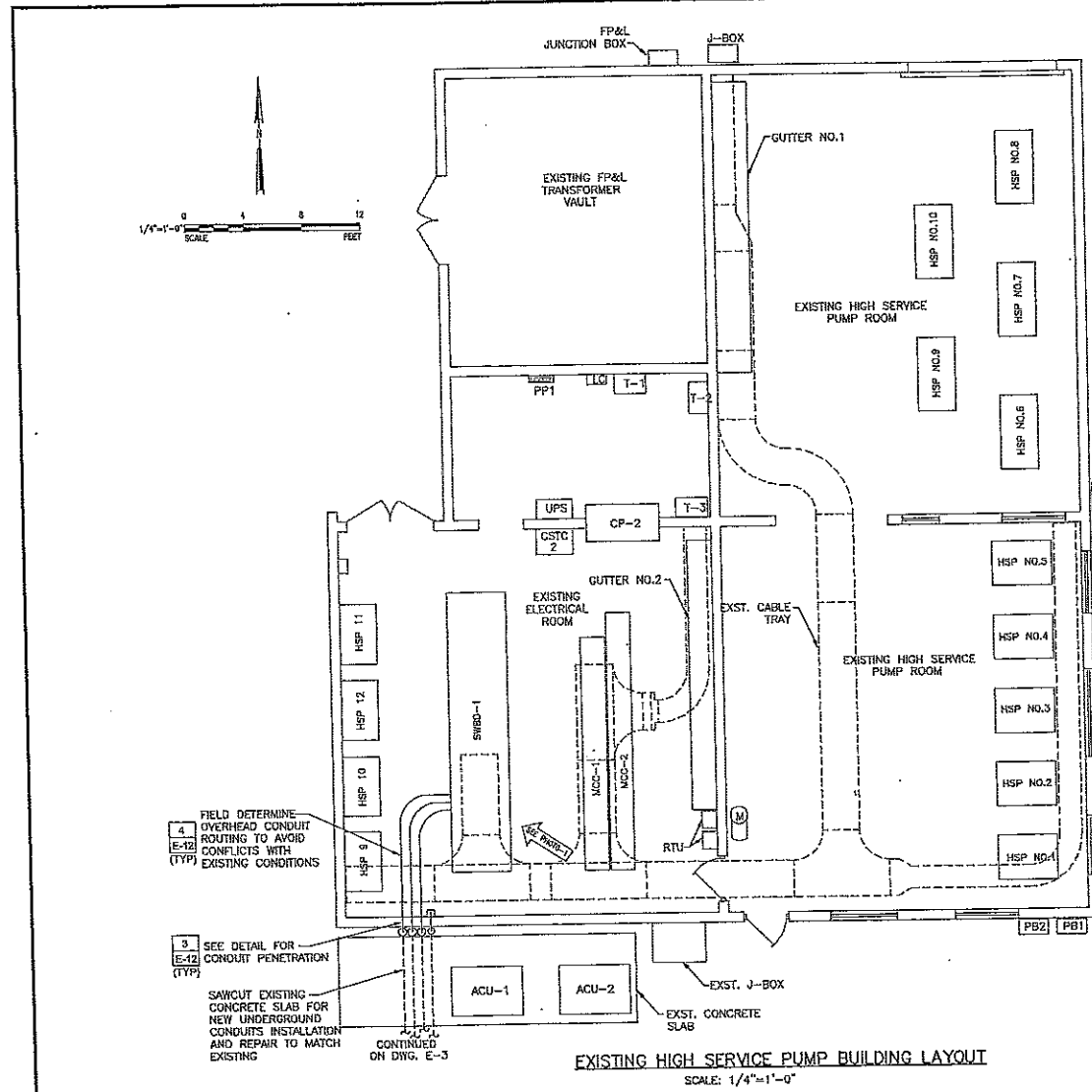
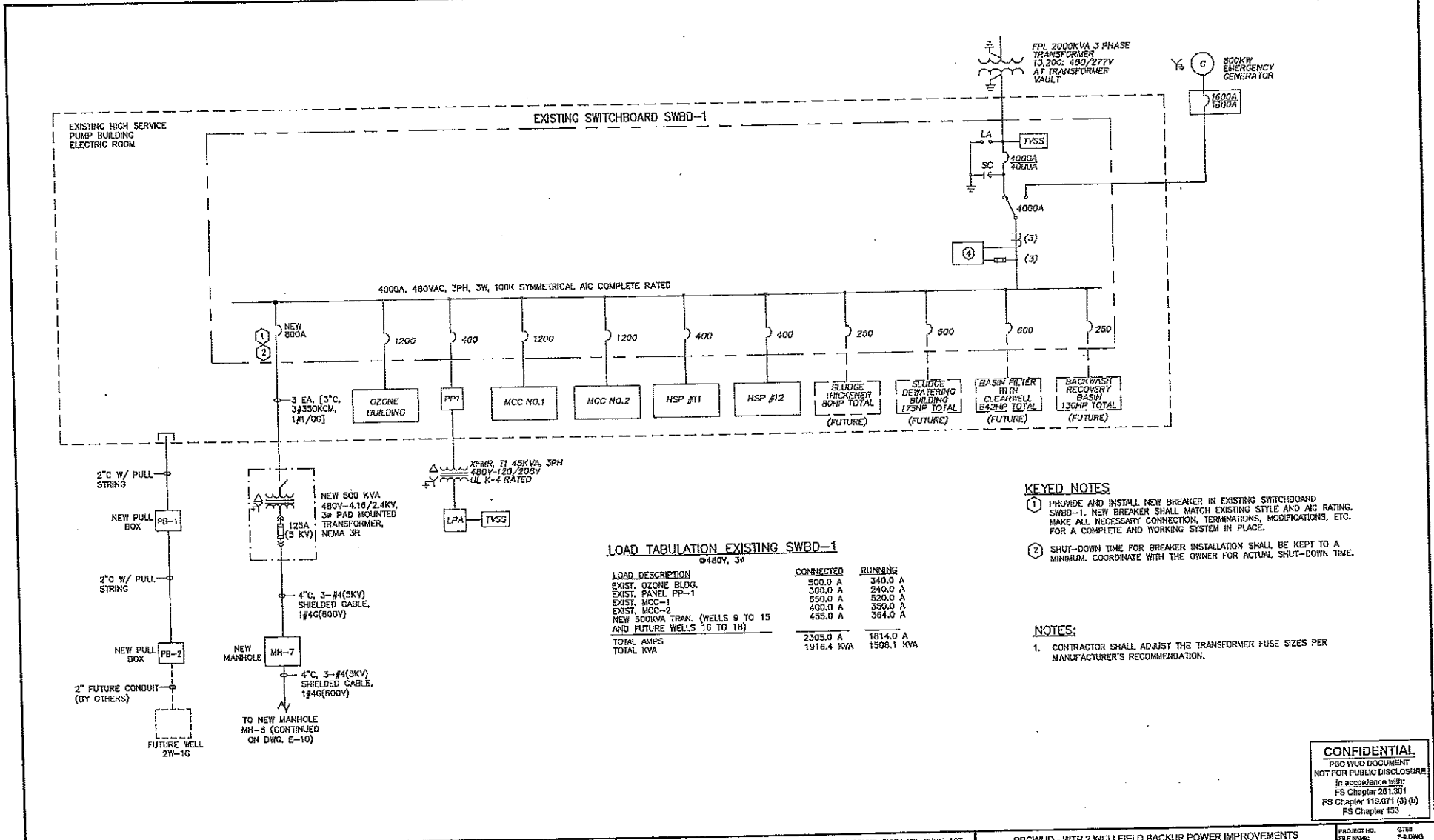


PHOTO 1 - EXISTING SWITCHBOARD SWBD-1 ELEVATION PLAN
NOT TO SCALE

- 4 FIELD DETERMINE OVERHEAD CONDUIT ROUTING TO AVOID CONFLICTS WITH EXISTING CONDITIONS (TYP)
- 3 SEE DETAIL FOR E-12 CONDUIT PENETRATION (TYP)
SAWOUT EXISTING CONCRETE SLAB FOR NEW UNDERGROUND CONDUITS INSTALLATION AND REPAIR TO MATCH EXISTING

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In accordance with:
FS Chapter 281.301
FS Chapter 119.071 (3) (b)
FS Chapter 153

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REV.	DATE	UNW	CRK	REMARKS																



- KEYED NOTES**
- ① PROVIDE AND INSTALL NEW BREAKER IN EXISTING SWITCHBOARD SWBD-1. NEW BREAKER SHALL MATCH EXISTING STYLE AND AIC RATING. MAKE ALL NECESSARY CONNECTION, TERMINATIONS, MODIFICATIONS, ETC. FOR A COMPLETE AND WORKING SYSTEM IN PLACE.
 - ② SHUT-DOWN TIME FOR BREAKER INSTALLATION SHALL BE KEPT TO A MINIMUM. COORDINATE WITH THE OWNER FOR ACTUAL SHUT-DOWN TIME.

LOAD TABULATION EXISTING SWBD-1

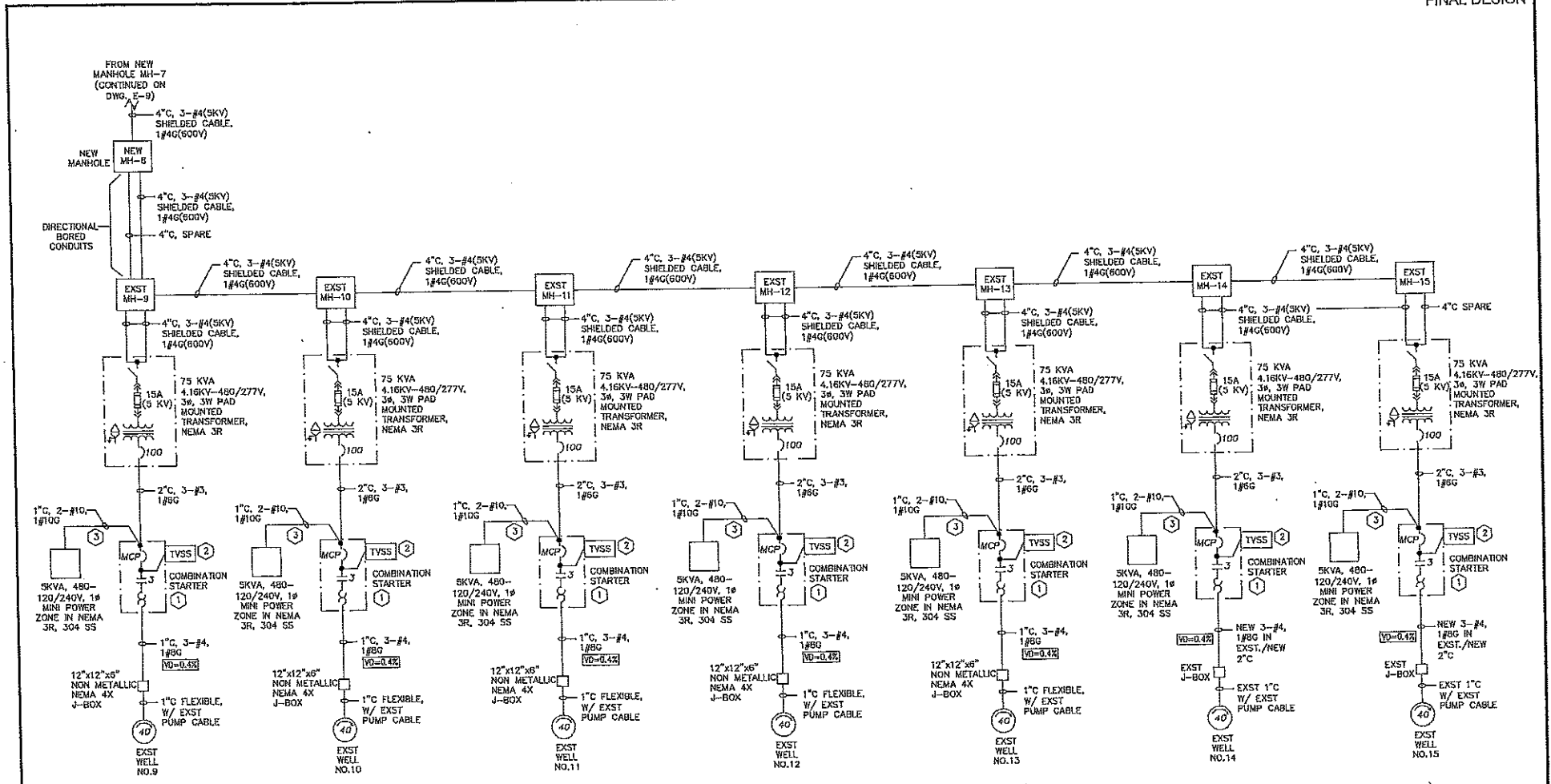
LOAD DESCRIPTION	CONNECTED	RUNNING
EXIST. OZONE BLDG.	500.0 A	340.0 A
EXIST. PANEL PP-1	300.0 A	240.0 A
EXIST. MCC-1	650.0 A	520.0 A
EXIST. MCC-2	400.0 A	350.0 A
NEW 500KVA TRAN. (WELLS 9 TO 15 AND FUTURE WELLS 16 TO 18)	495.0 A	364.0 A
TOTAL AMPS	2395.0 A	1814.0 A
TOTAL KVA	1916.4 KVA	1508.1 KVA

- NOTES:**
- 1. CONTRACTOR SHALL ADJUST THE TRANSFORMER FUSE SIZES PER MANUFACTURER'S RECOMMENDATION.

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 In accordance with:
 FS Chapter 281.001
 FS Chapter 118.071 (3) (b)
 FS Chapter 153

	DESIGNED BY: P.F.H. DRAWN BY: T.A.C. SHEET CHECK BY: T.M. CROSS CHECK BY: R.L.C. APPROVED BY: _____ DATE: OCTOBER 2015	HILLIERS ELECTRICAL ENGINEERING, INC. 1800 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33486 (561) 997-6433 WWW.HILLIERS.COM	1075 BROKEN SOUND PKWY NW, SUITE 103 BOCA RATON, FLORIDA 33487 PH: (561) 997-6433 FAX: (561) 997-9811 CERTIFICATE OF AUTH. No. E.B.-0007225 LICENSE No. C.G.C.-1507226	PBCWUD - WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS PBCWUD PROJECT No. 12-038 ELECTRICAL ONE LINE	PROJECT NO. 12-038 SHEET NO. E-9
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REV. NO.	DATE	DRWN	CHGD	REMARKS



KEYED NOTES

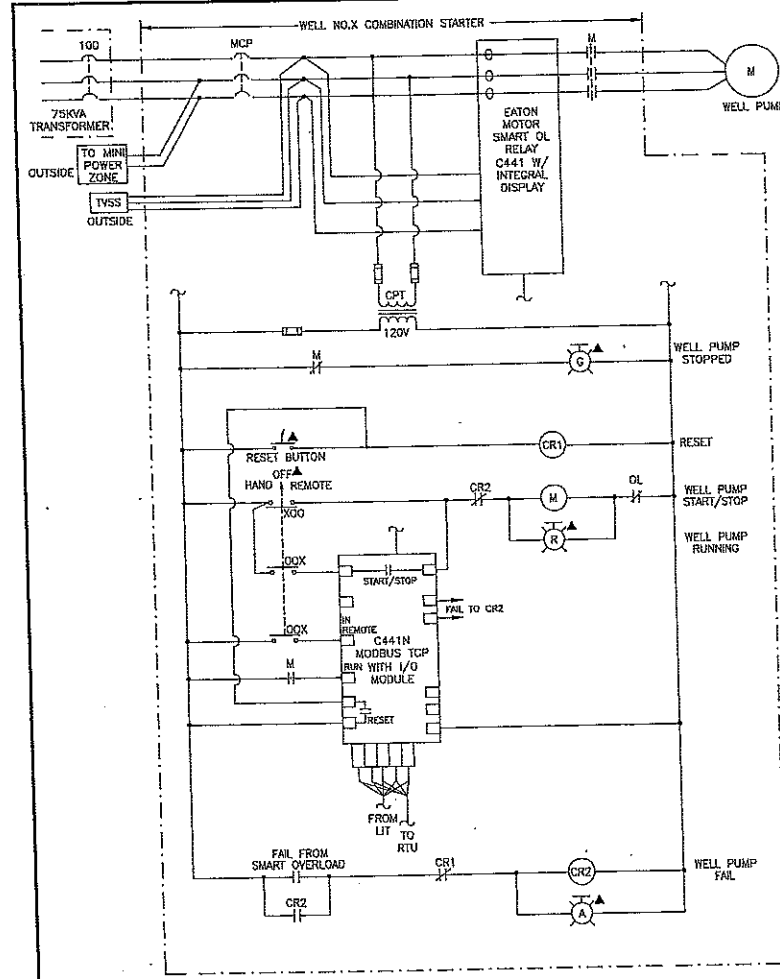
- ① CONTRACTOR SHALL PROVIDE AND INSTALL NEW COMBINATION STARTER WITH SMART OVERLOAD AND CONTROL TRANSFORMER IN NEMA 4X, 304 SS, EPOXY-PAINTED WHITE ENCLOSURE. SMART OVERLOAD SHALL HAS INTEGRAL DISPLAY AND MODBUS TOP WITH I/O COMMUNICATION MODULE MANUFACTURED BY EATON MODEL: G441. LINE SIDE AND LOAD SIDE LUGS SHALL ACCEPT WIRES AS SHOWN IN ONE LINE AND SCHEMATIC.
- ② CONTRACTOR SHALL PROVIDE AND INSTALL NEW SURGE PROTECTIVE DEVICE/TVSS IN NEMA 4X 304 STAINLESS STEEL ENCLOSURE, PROVIDE 1" C, 3/8, 1/8" AND MAKE ALL NECESSARY CONNECTIONS FOR A COMPLETE WORKING SYSTEM.
- ③ THE CONDUCTOR LENGTH TO NEW MINI POWER ZONE SHALL BE LESS THAN 10 FEET TO MEET THE NEC ARTICLE 240.21 (TAP RULE).

NOTES:

- 1. CONTRACTOR SHALL ADJUST THE TRANSFORMER FUSE SIZES PER MANUFACTURER'S RECOMMENDATION.
- 2. 100A, 480V BREAKER IN 75 KVA PAD MOUNTED TRANSFORMER SHALL BE SERVICE ENTRANCE RATED.

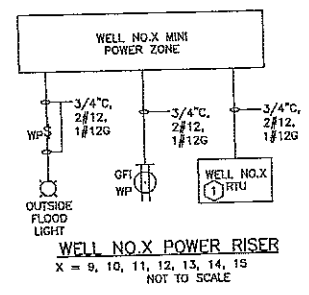
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 FS Chapter 281.301
 FS Chapter 119.071 (3) (b)
 FS Chapter 153

DESIGNED BY: P.F.H. DRAWN BY: J.W. CHECKED BY: R.L.C. APPROVED BY: PAUL F. HILLERS, P.E. DATE: OCTOBER 2012				MILLERS ELECTRICAL ENGINEERING, INC. 1075 BROKEN SOUND PKWY NW, SUITE 103 BOCA RATON, FLORIDA 33487 PH: (561) 997-6433 FAX: (561) 997-5811 CERTIFICATE OF AUTH. No. E.B.-0007225 LICENSE No. C.C.C.-1907230		PBCWUD - WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS PBCWUD PROJECT No. 12-038 ELECTRICAL ONE LINE		PROJECT NO. 018 FILE NAME: E-10.DWG SHEET NO. E-10	
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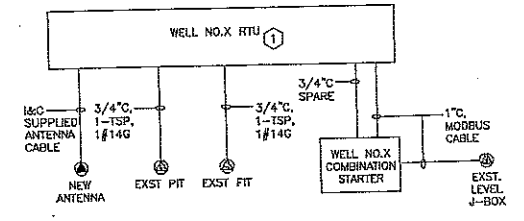


▲ MOUNT ON PANEL FRONT
WELL NO.X COMBINATION STARTER SCHEMATIC
 X = 9, 10, 11, 12, 13, 14, 15 NOT TO SCALE

TRAINING NOTES:
 1. CONTRACTOR SHALL HIRE MANUFACTURER FOR 2-HOUR ON-SITE TRAINING WITH COUNTY'S PERSONNEL RELATED TO SMART OVERLOAD. PROVIDE DETAIL MANUALS. ALL COST SHALL BE INCLUDED IN THE CONTRACT PRICE.



WELL NO.X POWER RISER
 X = 9, 10, 11, 12, 13, 14, 15 NOT TO SCALE



WELL NO.X CONTROL RISER
 X = 9, 10, 11, 12, 13, 14, 15 NOT TO SCALE

MODBUS CABLE = BELDEN MODBUS RS-232 SHIELDED TWISTED PAIR MODEL: 8777 OR EQUAL.

TYPICAL NEW MINI POWER ZONE SCHEDULE

BUS AMPS		LOAD	POLES	AMPS	BUS		AMPS	POLES	LOAD	BUS AMPS	
A	B				A	B				A	B
3.0	5.0	RTU	1	20	1	2	30	2	MAIN BREAKER		
		RECEPTACLE	1	20	3	4	1	1	1		
1.3		OUTSIDE FLOOD LIGHT	1	20	5	6			SPACE		
		SPACE			7	8			SPACE		
		SPACE			9	10			SPACE		
		SPACE			11	12			SPACE		

TOTAL AMPS: BUS A 4.3 BUS B 5.0 CONNECTED Kva 1.2

RATED VOLTAGE: 120/240 277/480 1 PHASE, 3 WIRE BRANCH POLES 12 20 30 42

RATED AMPS: 60 225 400 CABINET: SURFACE FLUSH SERVICE ENTRANCE RATED

NEUTRAL BUS 100% 150% 200% GROUND BUS HINGED DOOR KEYPAD DOOR LATCH LOCATION: _____

CIRCUIT BREAKER (BOLT-IN) BRANCH DEVICES SPD ENCLOSURE TYPE NEMA 1 NEMA 3R 304 SS NEMA 4X

PRIMARY 15 AMP & SECONDARY 30 AMP BREAKER TO BE GFI BREAKERS

PANEL BOARD MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF 10,000 AMPS SYMMETRICAL.

MFR'S. EATON, SQUARE D, GE COPPER BUSSES MAIN LUGS SETS SIZE: _____

MONITORING DATA FROM SMART OVERLOAD VIA MODBUS

- RUNNING
- FAIL
- REMOTE RESET
- START/STOP
- AVERAGE RMS CURRENT
- AVERAGE RMS VOLTAGE
- MOTOR THERMAL CAPACITY (THERMAL OVERLOAD)
- TRIP REASON
- OVERLOAD
- PHASE LOSS

NOTE:
 SMART OVERLOAD SHALL SHUT DOWN THE PUMP ONLY IN OVERLOAD OR PHASE LOSS CONDITION. THE OTHER MONITORING DATA INCLUDING GROUND FAULT AND VOLTAGE UNBALANCE, ETC., SHALL ONLY GENERATE ALARM WITHOUT SHUTTING DOWN THE PUMP.

KEYED NOTES:

① ALL WELLS RTU'S ARE NEW EXCEPT WELL NO.14

REV. NO.	DATE	BY	CHKD	REMARKS

DESIGNED BY: PAUL F. HILLERS, P.E.	DATE: OCTOBER 2012
CHECKED BY: T.M.	
APPROVED BY: R.L.C.	
DATE: _____	

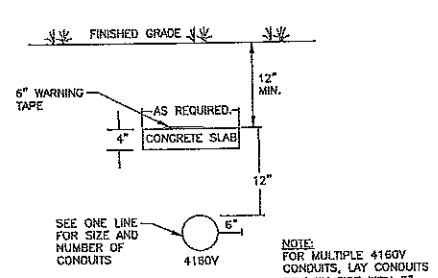
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 PH: (561) 997-6433
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 LICENSE No. C.C.C.-1907230

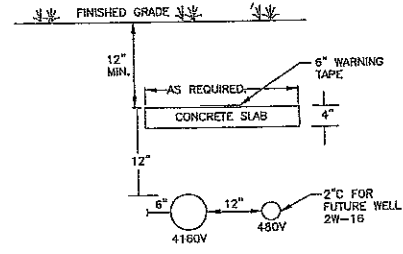
PBCWUD - WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS
 PBCWUD PROJECT No. 12-038
ELECTRICAL RISER AND SCHEMATIC

PROJECT NO. 12-038
 SHEET NO. E-11

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 FS Chapter 119.071 (3) (b)
 FS Chapter 153



1 DIRECT BURIED 4160V CONDUITS DETAIL
NOT TO SCALE

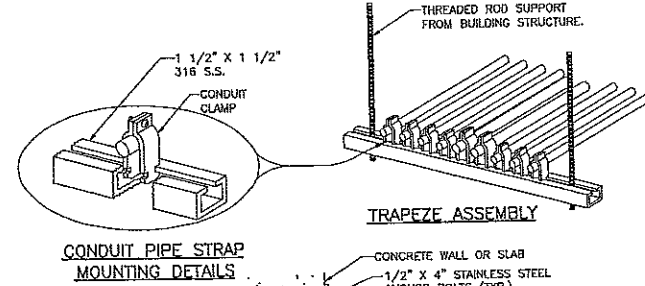


2 DIRECT BURIED 480V AND 4160V CONDUITS DETAIL
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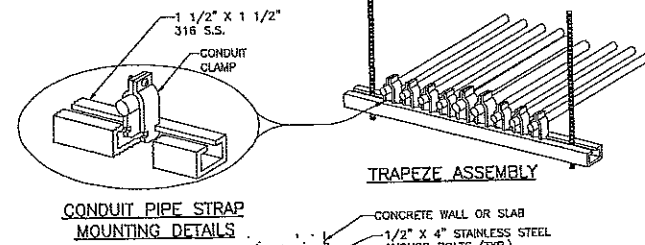
MANHOLE NOTES:

1. CABLE RACK, JOSLYN J-5125 OR EQUAL, CABLE HOOKS, JOSLYN J-5131A OR EQUAL, CABLE RACK INSULATORS, JOSLYN J-5120.
2. PULLING-IN IRONS INSTALL OPPOSITE CONDUIT ENTRANCE. POSITION BELOW LEVEL OF CONDUIT ENTRANCE. HUBBART & CO. CATALOG 9119 OR EQUAL.
3. TERMINATE ALL DUCTS IN MANHOLE WITH END BELLS.
4. MANHOLE COVERS SHALL BE MARKED "ELECTRICAL POWER" OR "ELECTRICAL INSTRUMENTATION" BY THE MANUFACTURER, WITH RAISED LETTERS. THE CONTRACTOR SHALL STAMP IN THE MANHOLE COVERS THE IDENTIFICATION NUMBER OF THE MANHOLE, LETTERS AND NUMBERS SHALL BE 2" HIGH. AS AN ALTERNATE THE CONTRACTOR MAY INSTALL SST NAMEPLATES ATTACHED WITH FOUR SST BOLTS TO THE MANHOLE COVERS INDICATING THE MANHOLE NUMBER. LETTERS AND NUMBERS TO BE RAISED AND 2" HIGH. SUBMIT ONE SAMPLE NAMEPLATE FOR ENGINEER'S APPROVAL PRIOR TO INSTALLATION.
5. GROUND ROD, 3/4"x20'-0, COPPER CLAD.
6. BOND ALL METALLIC PARTS TO GROUNDING SYSTEM.
7. PRECAST CONCRETE MANHOLE WITH COVER, U.S. PRECAST CORP. OR EQUAL.
8. ALL MANHOLES SHALL BE H-20-44 TRAFFIC RATED.
9. MINIMUM MANHOLE INTERNAL DIMENSIONS 36"L x 36"W x 36"D

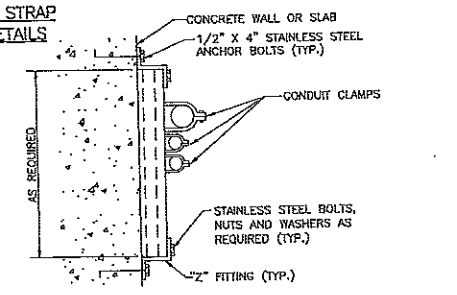
- NOTES:**
1. THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
 2. CHANNEL AND ALL SUPPORT DEVICES TO BE 316 STAINLESS STEEL.
 3. CHANNELS TO BE SPACED 5' MAXIMUM.



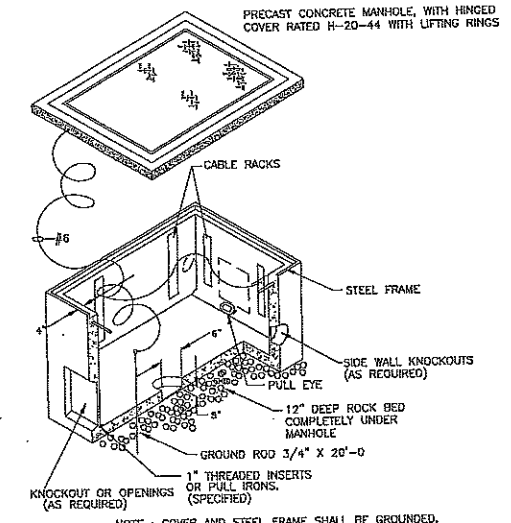
3 HIGH SERVICE PUMP BUILDING SOUTH EXTERIOR WALL
NOT TO SCALE



4 CONDUIT SUPPORT
NOT TO SCALE



5 CONDUIT SUPPORT
NOT TO SCALE



6 NEW MANHOLE DETAIL
NOT TO SCALE

CONFIDENTIAL
PBG WUD DOCUMENT
NOT FOR PUBLIC DISCLOSURE
In accordance with:
FS Chapter 281.301
FS Chapter 119.071 (3) (b)
FS Chapter 153

DESIGNED BY: P.J.L.	PAUL F. HILLERS, P.E.
DRAWN BY: T.J.L.	No. 41022
CHECKED BY: T.M.	
DATE: OCTOBER 2012	

HILLERS ELECTRICAL ENGINEERING, INC.
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FAX: (561) 997-5811
CERTIFICATE OF AUTH. No. E.B.-0007225
LICENSE No. C.G.C.-1507230

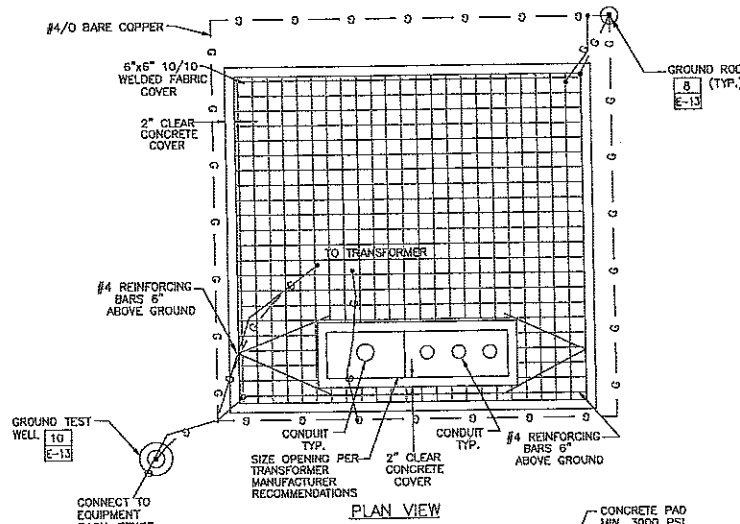
PBGWUD - WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS
PBGWUD PROJECT No. 12-038
ELECTRICAL DETAILS

PROJECT NO. 0789
FILE NAME: E-12.DWG
SHEET NO. E-12

REV. NO.	DATE	BY	CHKD	REMARKS

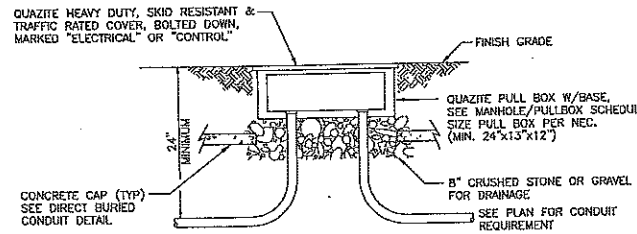
FOR 75 KVA TRANSFORMER:
 MAXIMUM TRANSFORMER ENCLOSURE DIMENSION: 68"W x 52"D x 55"H
 APPROXIMATE TRANSFORMER WEIGHT: 3500 LB

FOR 500 KVA TRANSFORMER:
 MAXIMUM TRANSFORMER ENCLOSURE DIMENSION: 72"W x 56"D x 55"H
 APPROXIMATE TRANSFORMER WEIGHT: 6000 LB



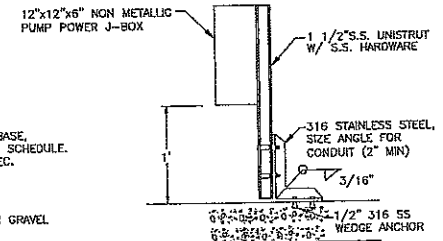
13 TYPICAL TRANSFORMER PAD DETAIL
 VAR NOT TO SCALE

- NOTES:
1. INSTALL THREADED INSERTS AS REQUIRED BY TRANSFORMER MANUFACTURER TO ANCHOR TRANSFORMER TO PAD.
 2. VERIFY TRANSFORMER SIZE WITH MANUFACTURER AND PAD SHALL EXTEND AT LEAST 4 INCHES ON ALL SIDES WITH 30 DEGREE DOWN SLOPE BEYOND TRANSFORMER.
 3. PROVIDE GROUNDING TO ALL PAD MOUNTED TRANSFORMERS.

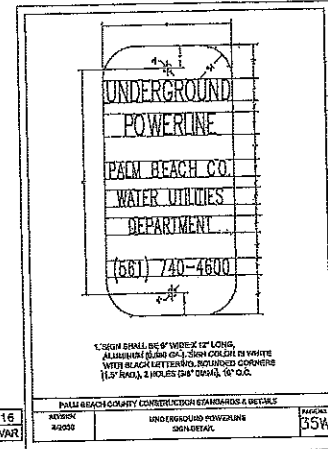


14 QUAZITE PULL BOX DETAIL
 VAR NOT TO SCALE

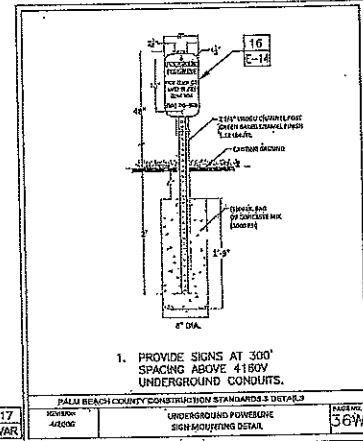
NOTE: ONLY USE THIS PULL BOX FOR LOCATIONS WHERE THE REFERENCE IS STATED CLEARLY TO THIS DETAIL.



15 PUMP POWER J-BOX
 VAR NOT TO SCALE



16 UNDERGROUND POWERLINE SIGN DETAIL
 VAR 35W



17 UNDERGROUND POWERLINE SIGN MOUNTING DETAIL
 VAR 36W

1. PROVIDE SIGNS AT 300' SPACING ABOVE 4180V UNDERGROUND CONDUITS.

REV.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: P.F.H.	CHECKED BY: T.M.
DRAWN BY: T.M.	APPROVED BY: P.F.H.
SHEET COUNT BY: R.L.C.	DATE: OCTOBER 2012
ISSUED UNDER NO.:	PAUL F. HILLERS, P.E. No. 41022

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 CERTIFICATE OF AUTH. No. E.B.-0007225
 LICENSE No. C.C.C.-1507230

PBCWUD - WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS
 PBCWUD PROJECT No. 12-038
ELECTRICAL DETAILS

CONFIDENTIAL
 PBC WUD DOCUMENT
 NOT FOR PUBLIC DISCLOSURE
 In accordance with:
 FS Chapter 281.301
 FS Chapter 119.071 (3) (b)
 FS Chapter 153

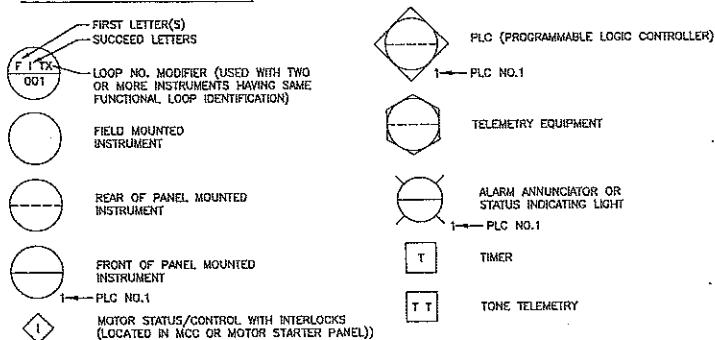
PROJECT NO. 07M E-14.DWG
 SHEET NO. E-14

INSTRUMENT SOCIETY OF AMERICA TABLE

LETTER	FIRST LETTER		SUCCEEDING LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (*)		ALARM		USERS CHOICE (*)
B	BURNER FLAME		USERS CHOICE (*)	USERS CHOICE (*)	
C	CONDUCTIVITY			CONTROL	CLOSE
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	GAUGE		GLASS	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME OR SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		
M	MOTION				LOW
N	STROKE		USERS CHOICE (*)	USERS CHOICE (*)	MIDDLE
O	LOOP VEH. DETECTOR		ORIFICE		NORMAL
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		OPEN
Q	QUANTITY OR EVENT		INTEGRATE		
R	RATIO		RECORD OR PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE (*)		MULTIFUNCTION (*)		
V	VISCOSITY			VALVE	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED (*)		UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	PHOTO CELL		LIGHT SOURCE	DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	
Z	POSITION				

(*) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL.

INSTRUMENT IDENTIFICATION



NOTES FOR ALL I-DRAWINGS:

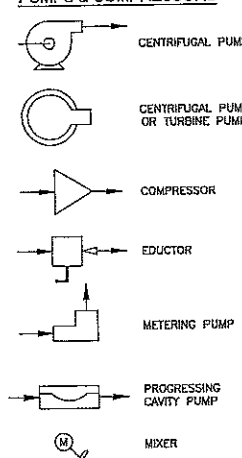
- ◆ INDICATES EQUIPMENT TO BE SUPPLIED BY RTU/INSTRUMENT CONTRACTOR.
 - # INDICATES LIMIT SWITCH TO BE SUPPLIED WITH VALVE.
 - ## INDICATES EQUIPMENT TO BE SUPPLIED BY ELECTRICAL CONTRACTOR.
 - *** INDICATES EQUIPMENT TO BE SUPPLIED BY MECHANICAL CONTRACTOR.
 - ▲ INDICATES EQUIPMENT ARE EXISTING/INSTALLED BY OWNER
 - EXISTING TO BE MODIFIED
- SEE ELECTRICAL DRAWINGS FOR ACTUAL LOCATION OF CONTROL PANELS AND RTU.

INSTRUMENTATION LEGEND

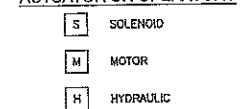
INSTRUMENT ABBREVIATION (I&C ONLY)

- ACC ACCELERATOR
- BFP BELT FILTER PRESS
- CL2 CHLORINE
- CLW CLEARWELL
- COM COMMON
- COND CONDUCTIVITY
- CP CONTROL PANEL
- DI, AI DISCRETE INPUT, ANALOG INPUT
- DO, AO DISCRETE OUTPUT, ANALOG OUTPUT
- D.O. DISSOLVED OXYGEN
- DR DISTANCE RELAY
- EFFL EFFLUENT
- EP ELECTRICAL PANEL
- ES EMERGENCY STOP
- ETM ELAPSED TIME METER
- FD CHEMICAL FEEDER
- FIL FILTER
- GEN GENERATOR
- HLO HIGH-LOW-OFF
- HLOR HIGH-LOW-OFF-REMOTE
- HOA HAND-OFF-AUTO
- HOTC HAND-OFF-TIMER-COMPUTER
- H/L HIGH/LOW
- HSP HIGH SERVICE PUMP
- INFL INFLUENT
- JP JOCKEY PUMP
- LOS LOCK-OUT-STOP
- LPU LINE PROTECTION UNIT
- MCC MOTOR CONTROL CENTER
- MCP MAIN CONTROL PANEL
- ME MISCELLANEOUS EQUIPMENT
- M.G. MILLION GALLON
- MOV MOTOR OPERATED VALVE
- OCA OPEN-CLOSE-AUTO
- OC OPEN-CLOSE
- OO ON-OFF
- ORP OXIDATION REDUCTION POTENTIAL
- OSC OPEN-STOP-CLOSE
- OSOR OPEN-STOP-CLOSE-REMOTE
- PH HYDROGEN ION CONCENTRATION
- PRES PRESSURE
- RES RESTORE
- RF (ADMITTANCE) LEVEL MONITOR
- R/P REMOTE I/O PANEL
- R/L REMOTE/LOCAL
- RSP REMOTE SETPOINT
- SA SURGE ARRESTER
- SEC SECONDARY
- SL SLAKER
- SF SONIC FLOWMETER
- SP SETPOINT
- SS START/STOP
- ST STEP
- STOR STORAGE
- SUS SUSPENDED SOLIDS
- TD THERMAL DISPERSION
- TP TRANSFER PUMP
- TURB TURBIDITY
- VFD VARIABLE FREQUENCY DRIVE

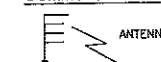
PUMPS & COMPRESSORS



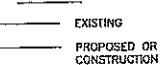
ACTUATOR OR OPERATORS



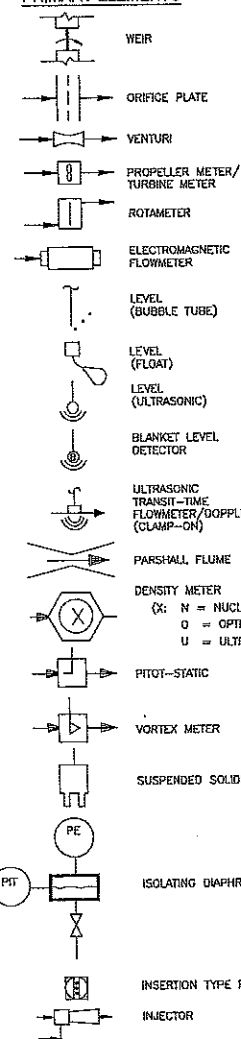
COMMUNICATION



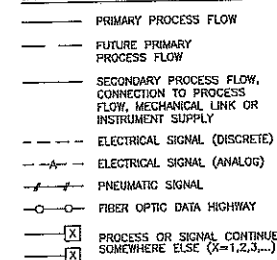
LEGEND



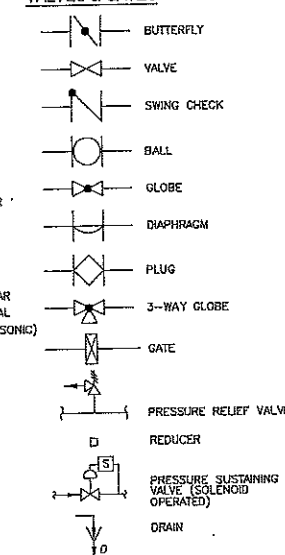
PRIMARY ELEMENTS



INSTRUMENT LINE SYMBOLS

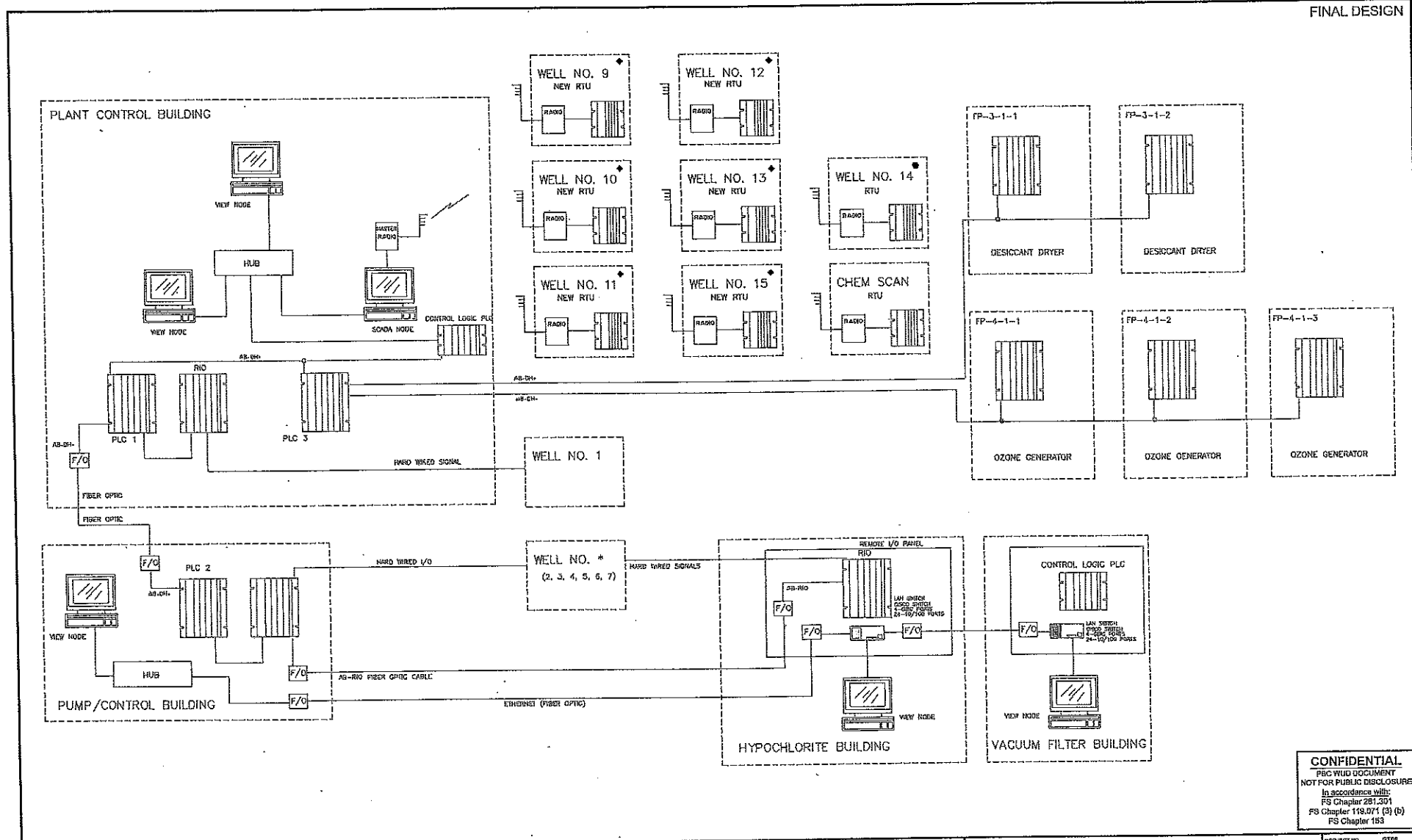


VALVES & GATES



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 In accordance with:
 FS Chapter 281.301
 FS Chapter 112.071 (9) (b)
 FS Chapter 153

DESIGNED BY: P.F.H.	DATE: 10/28/2012	REVISIONS:	REMARKS:	HILLERS ELECTRICAL ENGINEERING, INC. 2200 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33487 TEL: (561) 997-5811 FAX: (561) 997-5811 WWW.HILLERS.COM	1075 BROKEN SOUND HWY. SUITE 103 BOCA RATON, FLORIDA 33487 PH: (561) 997-5433 FAX: (561) 997-5811 CERTIFICATE OF AUTH. No. E.B.-0007225 LICENSE No. C.G.C.-1507230	PBCWUD - WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS PBCWUD PROJECT No. 12-038 INSTRUMENTATION LEGEND AND SYMBOLS	PARALLEL NO. 0318 FILENAME: 0318 SHEET NO. 1-1
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 In accordance with:
 FS Chapter 281.201
 FS Chapter 118.071 (3) (b)
 FS Chapter 153

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: P.F.H.	CHECKED BY: T.M.
DRAWN BY: T.M.	APPROVED BY: P.F.H.
DATE: OCTOBER 2012	

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 FAX: (561) 997-5811
 LICENSE NO. 00000000

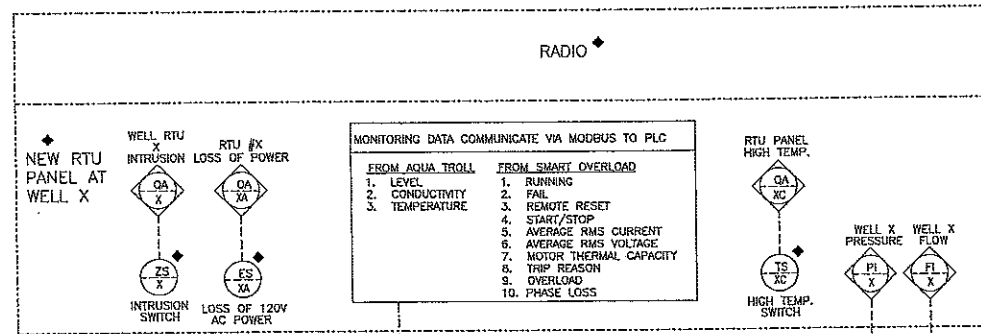
Globaltech
 A DESIGN - BUILD COMPANY

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 CERTIFICATE OF AUTH. No. E.B.-0007225
 LICENSE No. C.C.C.-1507230

PBCWUD - WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS
 PBCWUD PROJECT No. 12-038
COMMUNICATION BLOCK DIAGRAM

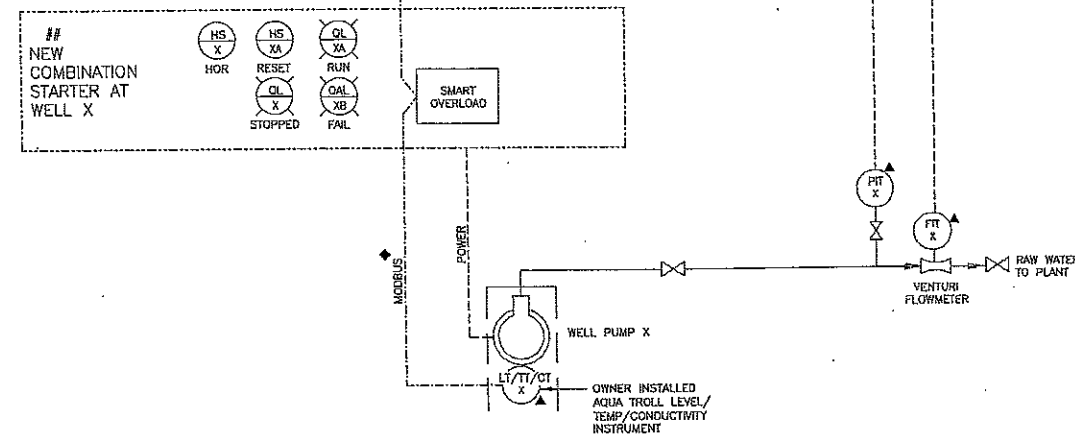
PROJECT NO. 12-038
 SHEET NO. 1-2

TO PLANT 2 MASTER RADIO



NOTES:

1. AQUA TROLL LEVEL/TEMP./CONDUCTIVITY INSTRUMENT AND SMART OVERLOAD SHALL DAISY CHAIN WITH MODBUS CABLE.

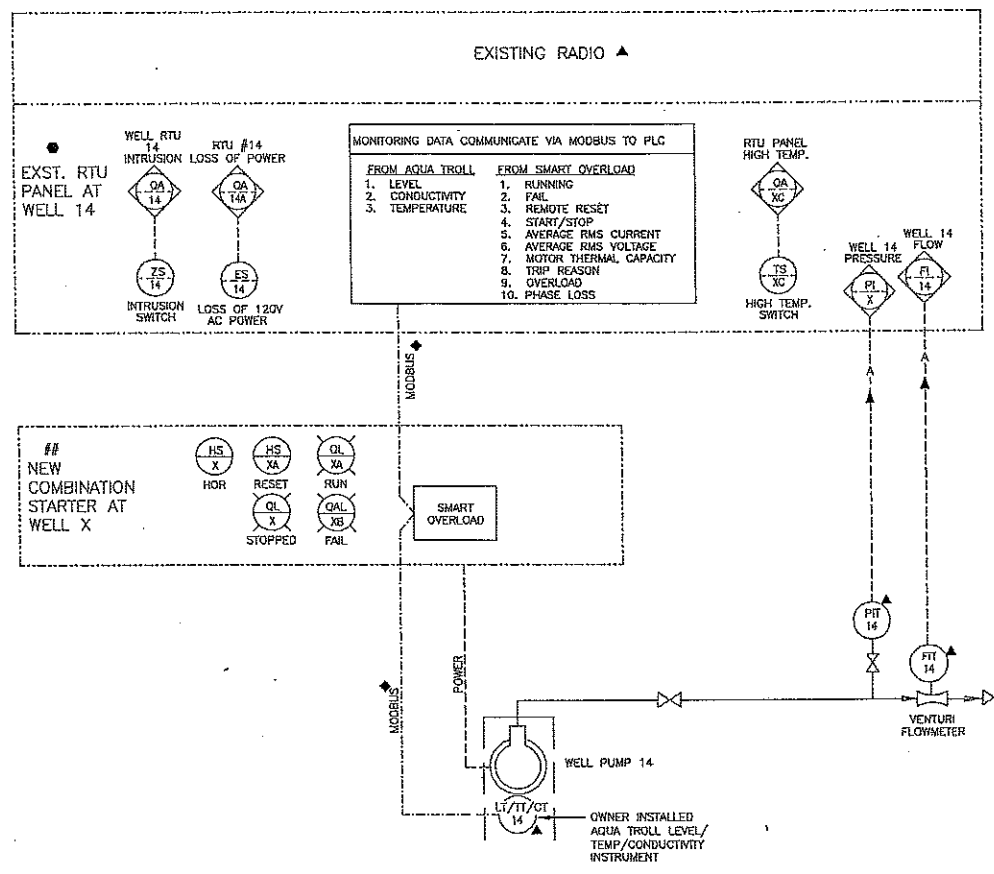


WELL 'X' P&ID
NOT TO SCALE WHERE X = 9, 10, 11, 12, 13, 15

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PBC WUD DOCUMENT
NOT FOR PUBLIC DISCLOSURE
In accordance with:
FS Chapter 281.301
FS Chapter 118.071 (3) (b)
FS Chapter 153

REVISIONS: NO. DATE DRAWN CHECKED REMARKS				DESIGNED BY: PPH DRAWN BY: TML CHECKED BY: TML CHECKED BY: RLG APPROVED BY: _____ DATE: OCTOBER 2012	MILLERS ELECTRICAL ENGINEERS, INC. 2025 STATE ROAD 7, SUITE 100 DEER BEACH, FLORIDA 33442 (813) 987-8433 (813) 987-8433 (813) 987-8433	Globaltech A DESIGN - BUILD COMPANY 1075 BROKEN SOUND PKWY NW, SUITE 103 BOCA RATON, FLORIDA 33487 PH: (561) 997-8433 FAX: (561) 997-8811 CERTIFICATE OF AUTH. No. E.C.-0007225 LICENSE No. C.C.G.-1507230	PBCWUD - WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS PBCWUD PROJECT No. 12-038 WELL #9, 10, 11, 12, 13 AND 15 - P & ID	PROJECT NO. CTR# FILE NAME: B301WG SHEET NO. 1-3
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TO PLANT 2 MASTER RADIO



NOTES:

1. AQUA TROLL LEVEL/TEMP./CONDUCTIVITY INSTRUMENT AND SMART OVERLOAD SHALL DAISSY CHAIN WITH MODBUS CABLE.
2. EXISTING RTU 14 HAS ALLEN BRADLEY MICROLOGIX 1100 PLC AND SERIAL-TO-ETHERNET MODBUS GATEWAYS MODEL: MGATE-MB3170 BY MOXA.
3. MODBUS CABLE FROM SMART OVERLOAD SHALL BE CONNECTED TO EXISTING SERIAL-TO-ETHERNET MODBUS GATEWAYS AT RTU.

WELL 14 P&ID
NOT TO SCALE

CONFIDENTIAL
PBG WUD DOCUMENT
NOT FOR PUBLIC DISCLOSURE
In accordance with:
FS Chapter 281.304
FS Chapter 119.071 (3) (b)
FS Chapter 153

DESIGNED BY: PJPL	<p>HILLERS ELECTRICAL ENGINEERING, INC. 2501 STATE ROAD 2, SUITE 200 DUNN, NORTH CAROLINA 27824 TEL: 919-286-1000 WWW.HILLERS-EE.COM</p>	<p>1075 BROKEN SOUND PKWY NW, SUITE 103 BOCA RATON, FLORIDA 33487 PH: (561) 997-6433 FAX: (561) 997-5811 CERTIFICATE OF AUTH. No. E.B.-0807225 LICENSE No. C.G.C.-1507230</p>	<p>PBCWUD - WTP 2 WELLFIELD BACKUP POWER IMPROVEMENTS PBCWUD PROJECT No. 12-038 WELL #14 - P & ID</p>	PROJECT NO. 0168
DRAWN BY: TAL				FILE NAME: H410VIG
SHEET CHECK BY: TJP				SHEET NO. 1-4
DESIGN CHECK BY: PJPL				
APPROVED BY: PAUL F. HILLERS, P. E. DATE: OCTOBER 2012	No. 41022			

REV. NO.	DATE	DRWN	CHNG	REMARKS