Agenda Item #3K-1

### PALM BEACH COUNTY **BOARD OF COUNTY COMMISSIONERS** AGENDA ITEM SUMMARY

Consent [X] Meeting Date: December 4, 2012

Public Hearing []

Regular []

**Department:** 

Water Utilities Department

## I. EXECUTIVE BRIEF

Motion and Title: Staff recommends motion to approve: Work Authorization No. 6 to the Contract for Water, Wastewater and Reclaimed Water Improvements Design-Build Services with Globaltech, Inc. (R2012-0159) for the Regional Wastewater Pump Station No. 5241 Improvements in the amount of \$277,780.62.

Summary: On January 24, 2012, the Palm Beach County Board of County Commissioners approved the Water Utilities Department Optimization and Improvements Design/Build Services Contract with Globaltech, Inc. (R2012-0159). This Work Authorization is a fixed price for replacement of the hydraulic pump discharge control valves with new check valves and piping improvements for the Regional Wastewater Pump Station No. 5241. 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 81.46% overall. Globaltech is a Palm Beach County firm and certified SBE company. (WUD Project No. 12-061) District 2 (JM)

Background and Justification: Globaltech, Inc. evaluated options for Pump Station No. 5241 valves under Consultant Services Authorization No. 2. A Technical Memorandum (TM) was submitted which provided recommendations for new check valves and additional pipe restraint along with cost estimates, schedule and sequence of construction. Work Authorization No. 6 is a fixed price to replace equipment that has reached the end of its useful life to improve the operation of the Regional Wastewater Pump Station No. 5241.

#### Attachments:

- 1. Location Map
- 2. Two (2) Original Work Authorization No. 6

Recommended By:

Beng Beauld Department Director

11/26/12

Approved By:

Administrator

### II. FISCAL IMPACT ANALYSIS

## A. Five Year Summary of Fiscal Impact:

Fiscal Years	2013	2014	2015	2016	2017
Capital Expenditures External Revenues Program Income (County) In-Kind Match County	\$277,780.62 0 0 0				
NET FISCAL IMPACT	<u>\$277,780.62</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 Org W031 Object 6547

Is Item Included in Current Budget? Yes X No

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

One (1) time operating expenditure from the user fees and balance brought forward.

## C. Department Fiscal Review: \_\_\_\_\_\_

### III. REVIEW COMMENTS

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

Legal sufficiency: Β.

C. Other Department Review:

**Department Director** 

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

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Water Utilities Department Service Area (SA) and Major Facilities







- Administration
- Water Reclaimation Facility
- P.B.C.W.U.D. SA



Pump Station 5241 Improvements / WUD 12-061

#### WORK AUTHORIZATION NO.6

Project No. WUD 12-061

Budget Line Item No. 4011-721-W031-6541

Project Title: Pump Station 5241 Improvements

District No.: 2

**THIS AUTHORIZATION No. 06,** 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 81.46% 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:

Provide Design-Build services for replacement of existing pump discharge control valves and addition of thrust restraints on existing piping. The existing control valves consist of hydraulically actuated plug valves that are aging and have exhibited failure. PBCWUD desires to replace the hydraulic system and plug valves with manual check valves.

See EXHIBIT "A".

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 \$\_\_\_\_\_\_
  - B. Fixed price of \$277,780.62
- 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.

Attachment # \_\_

### WUD No. 12-061

#### WORK AUTHORIZATION No. 6

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.

By: \_

ATTEST:

SHARON R. BOCK CLERK AND COMPTROLLER PALM BEACH COUNTY, FLORIDA, A POLITICAL SUBDIVISION OF THE STATE OF FLORIDA BOARD OF COUNTY COMMISSIONERS

🗧, Chair

APPROVED AS TO TERMS AND CONDITIONS

4 uA la Bevin A. Beaudet, Director

Water Utilities Department

GLOBALTECH, INC.

By: Title: President Florida

(Insert state of corporation)

September 27, 2012 (Date of execution)

1075 Broken Sound Pkwy NW, Suite 103 Boca Raton, FL 33487 (Design-Build Entity's City, State, Zip Code)

APPROVED AS TO FORMAND LEGAL SUFFICIENCY

Assistant County Attorney

ion

(Witness signature)

ICHARD (Witness name printed)

(Witness signature)

 $\langle$ ind (Witness name printed)

( -

(Corporate Seal)

#### **EXHIBIT - A**

#### WORK AUTHORIZATION NO.6

#### PALM BEACH COUNTY WATER UTILITIES DEPARTMENT DESIGN-BUILD SERVICES

#### SCOPE OF WORK FOR PUMP STATION 5241 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.

Globaltech has completed a Technical Memorandum under CSA-2 of the Contract which recommended replacement of existing pump discharge control valves and piping improvements. Drawings were provided which depicted the items of work scope.

#### SCOPE OF SERVICES

This project involves demolition of three existing 24-inch pump discharge control valves, hydraulic accumulator, hydraulic piping and controls; installation of three new 24-inch manual (swing) check valves; modification of existing pump discharge piping to accommodate laying length of new valves; addition of thrust restraint device to existing discharge riser pipe sleeve coupling at (Future) Pump No. 4; and removal of existing 48-inch suction gate valve parts in the lower level pump room.

The Scope of Services includes administrative and engineering services in support of the construction of the Work and Record Drawing preparation. This project will be designed and constructed in accordance with the Palm beach county Water Utilities Department Manual of Minimum Engineering Standards.

#### **Description of Services**

Task 1 – Administrative and Engineering Services

- 1. Attend kick-off meeting with staff and receive notice to proceed (NTP) prior to start of construction.
- 2. Prepare detailed construction schedule to include as a minimum; engineering and permitting services, site mobilization, detailed construction activities, scheduled shutdowns and durations, equipment/material delivery times, testing, startup and commissioning.
- 3. Prepare submittals (or confirmation of compliance with PBCWUD design standards), administer and track submittal process.
- 4. Schedule meetings, inspections, and testing with PBCWUD staff.

- 5. Provide Engineer's site visits during construction to confirm construction is being performed in conformance with the Design Drawings and Specifications.
- 6. Prepare Record Drawings and O&M Manuals at close of project.

#### Task 2 – Construction Services

- 1. Establish staging areas with staff at the site; mobilize to site.
- 2. Procure equipment and construct facilities. Improvements are based on the Technical Memorandum from CSA-2 of the Contract previously submitted to the PBCWUD. The specific improvements include the following:
  - a. Prepare access to lower pump room level from ground floor level for the purpose of removing demolished facilities and installing new equipment. Preparation includes de-constructing existing floor grating and grating support beams at two locations.
  - b. In accordance with the sequence of construction agreed upon by staff, remove existing hydraulic accumulator and control system including supply and return piping, control panels, and electrical and instrumentation and controls features. Existing power supply shall be terminated at the package system location in accordance with code requirements.
  - c. Remove existing hydraulic actuator, 24-inch plug valve, and downstream 24"x36" reducer and 36-inch spool piece at each pump location. 24"x36" reducer shall be reused. Work with staff to develop plan for operating existing wetwell jockey pump to provide dewatering of the wetwell as required to maintain levels below the pump working elevation.
  - d. Modify existing concrete pipe/reducer support to accommodate new reducer and spool piece laying length. Install new check valve, existing 24"x36" reducer, and new 36-inch spool piece between existing pump and 90 deg elbow at base of pump discharge riser at three locations.
  - e. Install new pipe thrust restraint assembly on (Future) Pump No. 4 discharge riser pipe at existing dresser-style coupling as indicated in attached TM.
  - f. Prepare surfaces and apply new coating system to new piping, valves, equipment, and modified concrete support structure and areas affected by demolition
  - g. Remove existing (disassembled) 48-inch suction gate valve bonnet, discs, and miscellaneous parts from the lower level pump room.
  - h. Modify existing control system to eliminate existing discharge valve control logic from pump START/STOP sequence. Connect new check valve limit switch to existing limit switch supervisory circuit. Control modifications based on limit switch operation will be coordinated with Staff.
  - i. Commission each valve train in sequence and provide manufacturer's startup and training services.
  - j. Reinstall floor grating framing members and reinstall floor grating

- k. Supply PBCWUD with scissor lift purchased from rental company at close of contract. Globaltech will solicit a quotation from the rental company for the scissor lift used by our forces for the work, including training and a standard warranty provided for used equipment meeting the general specifications provided in the TM. A "used" scissor lift up to a price of \$12,000 and acceptable to PBCWUD will be purchased at the end of the project. If funds remain in the Construction Allowance at the end of the project, PBCWUD may elect to apply the additional funding to the equipment purchase line item and purchase a new scissor lift. Any unused funds for the equipment purchase will be returned to PBCWUD at project close out.
- I. Cleanup worksite and demobilize.
- m. Prepare record drawings and O&M Manuals.

#### ASSUMPTIONS

- 1. A PBCHD or building permit will not be required.
- 2. PBCWUD will review all submittals and provide comments within one calendar week and notify Globaltech of status.
- 3. Existing wetwell jockey pump and temporary piping will provided adequate capacity to maintain wetwell level below the pump/piping working elevation
- 4. PBCWUD will dispose of hydraulic fluid in accumulator and piping system prior to demolition
- 5. All materials removed during demolition will become the responsibility and property of Globaltech and will be removed from the site and disposed of properly.
- 6. Liquidated Damages may be assessed for up to \$1,000 per day up to Substantial Completion and up to \$500 per day from Substantial Completion to Final Completion.
- 7. An allowance of \$25,000 is included.

#### COMPENSATION

Compensation for Work Authorization No. 6 will not exceed the Lump Sum Amount (inclusive of allowances) of \$277,780.62. Attachment A provides the cost breakdown and fee. Attachment A is subdivided to summarize engineering and construction services.

#### PROJECT SCHEDULE

The milestone completion schedule is provided in Attachment B.

#### 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 M/WBE participation.

ATTACHMENT – A	Compensation Summary
ATTACHMENT – B	Project Schedule
ATTACHMENT – C	SBE Schedule 1
ATTACHMENT – D	Project Location Map
ATTACHMENT – E	Authorization Status Report
ATTACHMENT – F	Vendor Quote
ATTACHMENT – G	Technical Memorandum



October 15, 2012

Globaltech, Inc. Attn: Paul Gandy 1075 Broken Sound Pkwy NW #103 Boca Raton, FL 33487

## RE: Palm Beach County BOCC, Pump Station 5241 Improvements, \$277,780.62

Dear Paul:

Enclosed please find the NEC 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, CPCU or me at 1-800-648-9303.

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

Sinderely, Doreen Shearin Surety Division

## **PUBLIC CONSTRUCTION BOND**

BOND NUMBER:	K08	687304
BOND AMOUNT:	<u>\$277,7</u>	<u>780.62</u>
CONTRACT AMOUNT:	<u>\$277,7</u>	<u>780.62</u>
CONTRACTOR'S NAME:		Globaltech, Inc.
CONTRACTOR'S ADDRE	SS:	<u>1075 Broken Sound Parkway, NW</u> Suite #103 Boca Raton, FL 33487
CONTRACTOR'S PHONE	:	<u>561-997-6433</u>
SURETY COMPANY:	<u>We</u>	estchester Fire Insurance Company
SURETY'S ADDRESS:	<u>430</u> Ph	<u> 3 Walnut Street, WA10F</u> iladelphia, PA 19106
OWNER'S NAME:	<u>PA</u>	LM BEACH COUNTY WATER UTILITIES DEPT.
OWNER'S ADDRESS:	<u>810</u> We	00 Forest Hill Boulevard (P. O. Box 16097) est Palm Beach, FL 33416
OWNER'S PHONE:	<u>(56</u>	1)_493-6000
DESCRIPTION OF WORK	K: <u>Pu</u>	mp Station 5241 Improvements
PROJECT LOCATION:	<u>PB</u>	CWUD Pump Station #5241, West Palm Beach, FL
LEGAL DESCRIPTION:	Pu	mp Station 5241 Improvements – Contract Number WUD 12-061

PROJECT NO. WUD 12-061

BOND - 1

#### 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 (\$277,780.62)

(Two-hundred and seventy-seven-thousand, seven-hundred and eighty dollars and sixty-two 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: Pump Station 5241 Improvements Project No.: WUD 12-061

# Project Description: This project includes design-build services for the replacement of existing pump discharge control valves and addition of thrust restraints on existing piping.

Project Location: PBCWUD Pump Station #5241, West Palm Beach, FL

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 Pump Station 5241 Improvements, the contract being made a part of this bond by reference, at the times and in the manner prescribed in the contract; and

PROJECT NO. WUD 12-061

BOND - 2

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.

Principal Globaltech, Inc.

(Seal)

Surety Westchester Fire Insurance (Seal) Company

Title/ oanne M. Mursell, Attorney-In-Fa

PROJECT NO. WUD 12-061

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BOND - 3

#### FORM OF GUARANTEE

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

We the undersigned hereby guarantee that **Pump Station 5241 Improvements (WUD 12-061).** 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:

Joanne M. Mursell, Florida Resident Agent

(Agent) ne M Musell ature)

Globaltech, Inc. (Seal) (Contractor) By: (Signature)

Westchester Fire Insurance Company (Seal) (Surety)

M Mussell M Ø A (Signature) oanne M. Mursell, Attorney-In-Fact

**END OF SECTION** 

PROJECT NO.: WUD 12-061

**GUARANTEE - 1** 



## ATTACHMENT A

## **Compensation Summary**

## **ATTACHMENT - A**

WA-6 Pump Station 5241 Improvements

Compensation Summary

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	1 /	L									
		E6	E6	E5	E4	T5	Office	Office		*Sub-	
	Test Description	\$64.90	\$58.90	\$57.69	\$42.30	\$36.00	\$23.32	\$20.00	1	Consultant	Sub-
lask	lask Description	L/	L′	L′	L'	<u> </u>	<u> </u>	<u> </u>	Total Labor	Services	Consultant
1	Project Management/Coordination	['	<u> </u>	<u> </u>	<u> </u>						
	Project Management	8	<u> </u>		4		4			-	
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	Subtotal Task 2	4	0	o	4	8	2	0	\$ 763.44	\$ -	
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	Labor Hours	12	0	0	16	8	6	4			
	Labor Costs	\$778.80	\$0.00	\$0.00	\$676.80	\$288.00	\$139.92	\$80.00	\$1,963.52		
	Labor Multiplier	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00		
	Labor Total	\$2,336.40	\$0.00	\$0.00	\$2,030.40	\$864.00	\$419.76	\$240.00	\$5,890.56		ſ
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	ENGINEERING TOTAL	1	[]	·		,		i		\$6,000.00	ſ

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09/28/2012

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#### PBC Water Utilities Department 120336 PBC PS 5241 Impr. WA

Assembly#	Description	Unit	Quantity	Cost	Ext. Cost	Markup*	Ext. Price
Job: 120336 Pi	3C PS 5241 Impr. WA						
Bid Item:	1 General Requirements						
1	Temporary Facilities	TOT	1.00	192 0000			
Ĺ	Sanitary	Month	2.00	96.0000	192.00	1.1500	234.05
2	General Conditions	LOT	1.00	15,715.9330			
L	Submittal Labor	HR	10.00	63.1400	631.40	1.2992	820.31
L	Progress Meeting	HR	8.00	64.7100	517.68	1.2992	672.57
L	Scheduling Labor	HR	10.00	63.1400	631.40	1.2992	820.31
L	Construction PM	HR	135.00	63.1400	8,523.90	1.2992	11,074.25
L	Punch Out Crew	CR-D	2.00	1,014.3000	2,028.60	1.2992	2,635.56
L	Testing Services	LOT	1.00	250.0000	250.00	1.1500	287.50
· L	Safety Equipment	LOT	1.00	1,175.0000	1,175.00	1.1500	1,432.33
L	Safety Manager	HR	16.00	63.1830	1,010.93	1.2992	1,313.40
L	Purchasing & Subcontracts	HR	15.00	63.1350	947.03	1.2992	1,230.37
				Bid Item Totals:	15,907.94		20,520.65
Bid Item:	2 Demo						
2051	Demolition Concrete Pipe Supports	LOT	1.00	4,991.3000			
L	Demo Pipe Supports	CR-D	3.00	1,247.1000	3,741.30	1.1865	4,439.05
L	Rental Equipment General	LOT	1.00	1,250.0000	1,250.00	1.1550	1,530.38
2051	Demo Hydraulic System	LOT	1.00	2,494.2000			
e L	4 Man Crew	CR-D	2.00	1,247.1000	2,494.20	1.1865	2,959.37
2051	Demolition Remove Pipe and Fittings	LOT	1.00	3,741.3000			

### Takeoff Worksheet

Continued...

Assembly#	Description	Unit	Quantity	Cost	Ext. Cost	Markup*	Ext. Price
L	4 Man Crew	CR-D	3.00	1,247.1000	3,741.30	1.1865	4,439.05
"				Bid Item Totals:	11.226.80		13.367.85
Bid Item:	3 Concrete						,
3300	Concrete Pipe Supports	LOT	1.00	8,385.5000			
L	Forms and Rebar	LOT	1.00	750.0000	750.00	1.1500	914.25
L	Form New Pipe Supports & Dowel Rebar	CR-D	3.00	1,247.1000	3,741.30	1.2992	4,860.70
L	Cast In Place Concrete	LOT	6.00	150.0000	900.00	1.1500	1,097.10
L	Place & Finish Concrete	CR-D	1.00	1,247.1000	1,247.10	1.2992	1,620.23
L	Concrete Pump	LOT	1.00	500.0000	500.00	1.1500	609.50
L	Strip forms & Rub	CR-D	1.00	1,247.1000	1,247.10	1.2992	1,620.23
				Bid Item Totals:	8,385.50		10,722.01
Bid Item:	9 Coatings						
9000	Finishes	LOT	1.00	7,785.5000			
L	Coatings	LOT	1.00	1,050.0000	1,050.00	1.1500	1,279.95
L	Coat Piping	CR-D	5.00	1,247.1000	6,235.50	1.2992	8,101.16
Ľ	Scallfolding	LOT	1.00	500.0000	500.00	1.1500	609.50
				Bid Item Totals:	7,785.50		9,990.61
Bid Item:	11 Equipment						
	Scissor-Lift Purchase Allowance	EA	1.00	12,000.0000	12,000.00	1.1500	13,800.00
				Bid Item Totals:	12,000.00		13,800.00
Bid Item:	15 Mechanical						
15050	Flanged Piping & Valves	LOT	1.00	116,765.5300			
L	Piping General	LOT	3.00	25,546.6700	76,640.01	1.1500	93,424.17
L	Piping General	LOT	1.00	21,419.0200	21,419.02	1.1500	26,109.78
L	Install Pipe, Fittings & Valves	CR-D	15.00	1,247.1000	18,706.50	1.2992	24,303.48
			,				
15050	Restrain Exisiting Line	LOT	1.00	5,447.1000			

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**.**:

09/28/2012 09:55 AM

## Takeoff Worksheet

Continued...

Assembly#	Description	Unit	Quantity	Cost	Ext. Cost	Markup*	Ext. Price
L	Piping General	LOT	1.00	4.200.0000	4.200.00	1.1500	5,119,80
L	Restrain Existing Line	CR-D	1.00	1,247.1000	1,247.10	1.2992	1,620.23
				Bid Item Totals:	122,212.63		150,577.46
Bid Item:	16 Electrical						
	Electrical Sub	LOT	1.00	4,250.0000	4,250.00	1.1000	4,675.00
		×		Bid Item Totals:	4,250.00		4,675.00
Bid Item:	18 Rental Equipment						•
18001	Tools & Consumables	LOT	1.00	1.500.0000			
L	Misc Tools	LOT	1.00	500.0000	500.00	1.1500	609.50
L	Misc Materials & Dunnage	LOT	1.00	1,000.0000	1,000.00	1.1500	1,219.00
18002	Rental Equipment	LOT	1.00	14,150,0000			
L	Carry deck Crane	LOT	1.00	8.000.0000	8.000.00	1 1500	9 752 00
L	Fuel	GAL	500.00	4.5000	2.250.00	1.0000	2.250.00
L	8 Ton Rigger	LOT	2.00	500.0000	1,000.00	1.1500	1.219.00
L	Warehouse forklift	LOT	2.00	1,200.0000	2,400.00	1.1500	2.925.60
L	Fuel	LOT	1.00	500.0000	500.00	1.1500	609.50
				Bid Item Totals:	15,650.00		18,584.60
Bid Item:	25 Allowance						
	Allowance	LOT	1.00	25,000.0000	25,000.00	1.0000	25,000.00
			· ·	Bid Item Totals:	25,000.00		25,000.00
Bid Item:	50 Engineering						
	Engineering	LOT	1.00	6,000.0000	6,000.00	1.0000	6,000.00
				<b>Bid Item Totals:</b>	6,000.00		6,000.00
Bid Item:	60 Bonds						
	Bonds & Certifications	LOT	1.00	3,949.9500	3,949.95	1.1500	4,542.44
				Bid Item Totals:	3,949.95		4,542.44

 $\mathbf{x}$ 

Takeoff Work	sheet						09/28/12
Continued				· · · · · · · · · · · · · · · · · · ·		······································	
Assembly#	Description	Unit	Quantity	Cost	Ext. Cost	Markup*	Ext. Price
Note: All materials	include an additional 6.0% markup for	FL State sales tax.		Grand Totals:	232,368.32		277,780.62

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

09/28/2012 09:55 AM

## **ATTACHMENT - B**

## PROJECT SCHEDULE

#### SCHEDULE

The completion dates for this work will be as follows (starting from DESIGN-BUILD ENTITY'S receipt of Notice to Proceed).

Design-Build Services	Substantial Completion <sup>(1)</sup>	Final Completion <sup>(1)</sup>
Engineering		2 Weeks
Procurement		8 Weeks
Installation	16 Weeks	20 Weeks
Startup Services		20 Weeks

<sup>(1)</sup> Dependent on permitting

#### ATTACHMENT C

#### SCHEDULE #1

### LIST OF PROPOSED SBE-M/WBE PRIME/SUBCONTRACTORS

PROJECT NAME:	WA#6 - Pump Station 5241 Improvements		PROJECT NUMBER	WUD 12-061
NAME OF PRIME BIDDER:	Globaltech, Inc. Paul Gandy, P.E.	ADDRESS:	1075 Broken Soun FL 33487	d Parkway NW, Suite 103, Boca Raton,
BID OPENING DATE:		PHONE NO. DEPARTMENT:	561-997-6433	FAX NO. <u>561-997-5811</u>

#### PLEASE IDENTIFY ALL APPLICABLE CATEGORIES

Name Address, Telephone Number of SBE-	(Check one or	both Categories)		Dollar Amount				
W/MBE Contractor	Minority Business	Small Business	Black	Hispanic	Women	Caucasian	Other (Please Specify)	
Globaltech, Inc.			\$0.00	\$0.00	\$0.00	\$273,530.62	\$0.00	
(See above for Address and Number)						<b>\$</b>	+	
Energy Efficient Electric, Inc.					_			
1600 Nercer Avenue, Unit 6		✓	\$0.00	\$0.00	\$0.00	\$4,250.00	Ş0.00	
West Palm Beach, FL 33401			-					
PRIME CONTRACTOR TO COMPLETE	•	TOTAL:	\$0.00	\$0.00	\$0.00	\$277,780.62	\$0.00	
BID PRICE: \$277,780.62	2 Total Value	of SBE Participation:	\$277	780.62	-			

NOTE:

1. The amount listed on this form for a Subcontractor must be supported by price or precentage included on Schedule 2 or a proposal from each Subcontactor 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 puposes only.

## ATTACHMENT C

#### **SCHEDULE 2**

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

PROJECT	WA 6 – Pump Station 5241 PROJECT NOWUD 12-061 PROJECT NAME:Improvements										
TO: _G	TO: Globaltech, Inc.										
			(Name of Prime Bi	dder)							
The under	signed	l is certified by F	alm Beach County as	a(n) – (check one or	more, as applic	able):					
Sr	Small Business Enterprise X Minority Business Enterprise										
Black	_ Hisp	oanic Wo	omen Caucasian	Other (Please	Specify)						
Date of Pa	lm Be	ach County Cerl	tification: <u>September 4</u> ,	2012		·					
The unders (Specify in	igned i detail	s prepared to perf particular work	orm the following describ Items or parts thereof to	ed work in connection v o be performed):	with the above pr	oject					
Line ltem/ Lot No,		item i	Description	Qty / Units	Unit Price	Total Price					
1	******	Electrical Co	Intracting Services	L.S	1	\$4,250.00					

at the following price <u>\$4,250 (Four thousand two hundred fifty dollars)</u> (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

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

۱ By:

(Signature)

Bill Scott – Vice President (Print name/title of person executing on behalf of SBE-M/WBE Subcontractor)

Date: September 26, 2012

## Palm Beach County Office of Small Business Assistance

## Certifies That ENERGY EFFICIENT ELECTRIC, INC.

Vendor # VC0000130772

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 September 4 2012 to September 3, 2015

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

## ELECTRICAL (NEW CONSTRUCTION); WIRING AND OTHER ELECTRICAL MAINTENANCE AND REPAIR SERVICES

Allen F. Gray, Manager

9/4/2012



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

Palm Beach County Board of County Commissioners

County Administrator Robert Weisman Deputy County Administrator Verdenia C. Baker



## ATTACHMENT - E

#### AUTHORIZATION STATUS REPORT September 28, 2012

#### SUMMARY AND STATUS OF REQUESTS FOR AUTHORIZATIONS

Auth. No.	Description	Status	Project Total Amount	Date Approved	WUD No. Assigned	Giobaltech Project No.
	CONSULTANT SERVICE AUTHORIZATIONS					
CSA-1	WTP 8 Filter Media Replacement and Re-Rating	Approved	\$31 399 22	3/8/2012	12-002	GT 120291
CSA-2	Pump Station 5241 Improvements	Approved	\$11 451 79	6/14/2012	12-061	GT 120302
CSA-3	WTP 2 Weilfield Backup Power Improvements	Approved	\$49,975.00	7/9/2012	12-005	GT 120321
CSA-4	WTP 3 and SROC Security Upgrades	Approved	\$24,786,20	8/22/12	10-028	GT 120334
CSA-5	WTP 9 Pemeate Flushing System Modifications	Pending				
CSA-6	WTP 3 Membrane Cleaning System Modification	Pending				
CSA-7	SRPF Membrane Concentrate Bypass and PS 9S RPZ Installation	Pending				
		,				
	Total CSAs		\$117,612,21			
	WORK AUTHORIZATIONS					
WA-1	SW Boca Diversion PS Sound Attenuation	Approved	\$16.814.95	7/5/2012	12-067	GT 120303
WA-2	WTP 8 Filters 4, 5 & 6 Media Replacement	Approved	\$592,611.00	8/14/2012	12-002	GT 120309
WA-3	South Bay Repump Station Improvements	Approved	\$290,022.00	9/11/12	12-030	GT 120313
WA-4	LRWTP MFP No. 3 VFD Replacement	Approved	\$149,985.36	8/29/12	12-074	GT 120332
WA-5	Online Water Quality Monitoring System	Approved	\$399,844.00	9/11/12	10-072	GT 120328
WA-6	Pump Station 5241 Improvements	Pending	\$277,780.62			
WA-7	LRWTP Well 5 Conversion	Pending				
WA-8	WTP 3 and SROC Security Upgrades	Pending				
	Total WAs		\$1,727,057.93			
	Total CSAs + WAs		\$1,844,670.14			

## 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-6: Pump Station 5241 Improvements (WUD 12-061)

	Total
Current Proposal	
Value of Consultant Service Authorization	\$0.00
Value of Work Authorization	\$277,780.62
Value of CSA and WA	\$277,780.62
Value of SBE Minority Letter of Intent	\$277,780.62
Actual Percentages	100.00%
Signed / Approved Authorizations	
Total Value of Approved Consultant Service Authorization	\$117,612.21
Total Value of Approved Work Authorization	\$1,449,277.31
Total Value of CSAs and WAs	\$1,566,889.52
Total Value of SBE Signed Subcontracts	\$1,224,937.52
Actual Percentages	78.17%
Signed Authorizations Plus Current Proposal	
Total Value of Approved CSAs Plus Current CSA Proposal	\$117,612.21
Total Value of Approved WAs Plus Current WA Proposal	\$1,727,057.93
Total Value of Approved and Proposed CSAs and WAs	\$1,844,670.14
Total Value of SBE Subcontracts and Letters of Intent	\$1,502,718.14
Actual Percentages	81.46%
GOAL	75%

## ATTACHMENT F

Vendor Quotes (Provided in Technical Memorandum)

## ATTACHEMENT G

## **Technical Memorandum**



**TECHNICAL MEMORANDUM** 1075 Broken Sound Pkwy NW, Suite 103 Boca Raton, Florida 33487 Phone: 561.997.6433, Fax: 561.997.5811 Email: solutions@globaltechdb.com

DATE: September 27, 2012

TO: PBCWUD

FROM: Paul Gandy, PE/Globaltech, Inc.

SUBJECT: PS 5241 Improvements – Check Valve Replacement

#### **Introduction**

Pump Station (PS) 5241, located on Haverhill Road immediately south of Okeechobee Blvd (SW corner), serves as an inline booster pump station for wastewater flows in the 48-inch forcemain along Haverhill Road ultimately discharging at the ECRWRF. The pump station was originally constructed in 1975 and now serves as a backup pump station in the event of upstream pump station failures (PS 5229). Although the pump station is on standby status, reliability is essential in the event it is needed for emergency full time service for an interim period.

Presently, reliability has been compromised by the failing hydraulically actuated discharge check valves which have been in service since original construction. This Technical Memorandum (TM) summarizes the state of the existing valves and provides a recommendation for replacement. Ancillary issues including access for pump shaft maintenance and restraint of existing piping is addressed.

#### **Background**

PS 5241 currently has three dry-pit centrifugal pumps installed with space for a future fourth pump including suction and discharge piping and valves with blind flanges (no check valve). Installation of a fourth pump is not being considered now nor in the foreseeable future. Although the station has three operable pumps at present, none can be used due to the failing discharge check valves. Figure 1 shows the pump room floor plan.

The check valve system consists of discharge plug valves which are hydraulically actuated based on control signals as part of the startup/shutdown sequence. The system includes a Dezurik reduced port plug valve with hydraulic actuator and position indicator at each pump, discharge check valve control panel at each pump, packaged oil accumulator/hydraulic pressure unit, and hydraulic fluid supply and return piping, fittings, and valves between the oil accumulator and the valve control panels and valve actuators. Currently, one check valve is frozen shut and cannot be opened under actuator force; one check valve has a failed actuator; and the third check valve is operational. September 27, 2012 20f 4

Replacement parts are getting increasingly difficult to locate and extensive downtime is required for frequent repairs of the aging system. Additionally, given limited access it is difficult to safely handle the heavy replacement components required for system renewal and repair. Since the department has moved to stand-alone swing check valves with limit switches for open/close indication as the standard arrangement, the failing system will be replaced with new standard equipment.

During review of the station it was discovered that the future Pump No. 4 discharge riser has an unrestrained Dresser style sleeve-coupling at the wall penetration and does not have the benefit of an offsetting force (opposing moment) in the future pump discharge line as do Pumps 1 through 3. This line is normally exposed to forcemain pressures and could be dislodged by unexpected high pressure due to surge or unintended shut-off heads.

Also, during station review and discussions with staff it was discovered that access is limited for servicing the upper shaft bearings on the existing pumps and requires the use of ladders to access the universal joints which could be as high as 28 feet above the pump room floor.

Proposed solutions are discussed in the following section.

#### **Improvements**

The failing hydraulically actuated discharge check valve system will be replaced with WUD approved swing check valves with limit switches for open/close indication. Given that the station is not in full time use and will see only intermittent service, we sought economy in the valve selection from the approved list. The new valve will be 24-inch diameter to match the diameter of the existing valves. When comparing the traditional APCO swing check valves used at many of the stations with the Val-Matic Surge Buster check valves we found a vendor price difference of \$32,300 vs. \$25,080 each. The APCO model is a hearty valve which employs outside lever and weights and a spring cushion return for surge control. The Val-Matic model employs an internal spring return for the disk, designed to eliminate surge, and has no external shaft for lever, weights, and springs. The valve also has an external adjustment which allows operators to manually open the disc temporarily for back-flushing of upstream equipment and piping. Each valve has a proven track record and given the intermittent use of the station we believe the Val-Matic model to be a suitable economical choice.

Figure 1 shows the demolition plan for the pump room. The sequence of construction is presented in the attached schedule. The existing discharge valves, oil accumulator, hydraulic fluid piping, valve control panels, and conduit and conductors will be removed as required. The existing 36-inch spool piece and 24" x 36" reducer will be removed. The reducer will be reused and a new spool piece will be provided.

Figure 2 shows the new valve installation. The shorter laying length of the new valve will require a new, longer 36-inch spool piece and relocation of the existing reducer. The existing concrete reducer support will be modified for the new configuration. The 36-inch vertical discharge riser for Pump No.s 1 through 3 and the 48-inch suction piping will not be disturbed.

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September 27, 2012 3of 4

As mentioned, the new valves will be equipped with limit switches to provide Open/Closed status to replace the existing valve limit switches. The existing control logic for opening and closing the discharge control valves on pump startup and shutdown will be modified or abandoned as required to accommodate removal of the hydraulic valve system.

For providing access to service the upper shaft universal joints we propose supplying the County with a scissor lift platform suitable for the height and limited maneuvering space on the pump room level. The mobile platform would remain in the space as needed for maintenance and service. We will negotiate the sale of the rental unit needed for this project at project's end (directly between Globaltech and the vendor). If for any reason the WUD does not desire to purchase a used unit, purchase of a new unit will be negotiated at a price acceptable to staff. A cut sheet of the proposed unit is attached. The sale price of the unit would be in the range of \$8,500 to \$12,000 and could be accommodated by the remaining allowance. Globaltech has experience with this purchase method in the past for our own equipment inventory and we have had good success.

#### Schedule and Sequence of Construction

The construction schedule and sequence of construction is shown in the attachments. As mentioned, the sequence can be modified depending on the actual conditions at the station at the start of construction. Of particular importance will be maintaining the wetwell at depressed levels during construction to allow disassembly of the pump discharge piping and valve. Although the station is in bypass mode, seepage at the yard valves does cause the wetwell level to rise. A smaller 'jockey' pump is in service which can be used to pull down levels during disassembly. This activity will be coordinated with WUD operating staff prior to, and during, construction. Total project time is 19 weeks following notice to proceed. Permits will not be required since this project is for renewal and replacement.

#### **Cost Estimate**

The cost breakdown for the proposed Work Authorization which includes construction, engineering services during construction, and transfer of a used lift at end of construction is shown in the attachments. The current estimated GMP is \$263,980.62.

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September 27, 2012 40f 4

## Attachments

List of Figures

- Figure 1 -Pump Room Demolition Plan
- Figure 2 -Pump Room Improvements Plant

Attachment A -Schedule and Sequence of Construction

Attachment B -Cost Breakdown

Attachment C -Cut Sheets

- Val-Matic Check Valve
- 36-inch Pipe Restrain Collar
- Scissor Lift

#### S:\CLIENT\PBCWUD\CSAs\2012 Contract\CSA-02 PS 5241 Improvements (120302)\TM\TM-PS 5241 9-27-12.docx





# <u>Attachment A</u> Schedule & Sequence of Construction

							F	PS 524	1 Imp	rovem	ents										
D	-	Task Name			October			1	Novem	ber			Dec	ember				January		·	
1	0		9/30	) 10/7	10/14	10/21	10/28	11/4	11/11	11/18	11/25	12/2	12/9	12/16	12/23	12/30	1/6	1/13	1/20	1/27	2/3
2		NTP	▲ 10	/1										+							
		Procurament										<u> </u>									<u> </u>
4	l	Submittals								•											
		Valvos																			
		Dine Dectroint										····		ļ				ļ			ļ
		Pipe Restraint	1_																		
/		Piping/Spool Po	· S			-		and a deader of the	[	· · · ·											ļ
8		Mobilization																			
9		Wetwell Level Co	itrol Plan																		
10		Pump No. 1				-		2						Í							
11		Demolition						939°5													
12	111	Installation									131 (C (C 1888)										
13		Electrical/I&C																			
14		Startup										ممدي ال								- Val I.	
15		Pump No. 2									-										
16		Demoltion						- Constant Loon													
17		Installation																			
18	Ē	Electrical/I&C										2									
19		Startup																			
20		Pump No. 3				A.1.7														-	
21	<b>H</b>	Demolition																			
22		Installation			-																
23		Electrical/I&C	· · · · · · · · · · · · · · · · · · ·														ەكەرىنىيىنى بەر ئەر				
24		Startup																			
25		Pipe Restraint																			
26		Bonnet/Disc Rem	oval		-																
27		Oil Accumulator F	temoval																		
28		Final Electrical/I&	c																		
29		Coatings/Cleanur																			
30		Closeout	·																		
																	<b>.</b>				
			Task			Fxte	rnai Tasks				Manı	ial Task				Finich	-only				
			Solit			Evto	rnal Milos	tone	*		Dure	tion-only				- Deseli	ina				
Projec	t: PS 52	241 Schedule and Se	Milectoro	▲			the Tack	lone	· •			ial cum	on Dalle			Deadl			•		_
Date:	Thu 9/2	27/12	winescone	-		inac	uve task	•	` <u> </u>	· · · · · · · · · · · · · · · · · · ·		ai summ	ary Kollu	h		Progre	255				
			Summary	<b>~</b>			tive Miles	tone	*		Manı	uai Summ	ary			,					
			Project Summary			Inac	tive Sumn	nary	V		Start-	-only			·····						
									Page	1									,		_

# <u>Attachment B</u> Cost Breakdown



## ATTACHMENT - A Compensation Summary 08/30/12

#### 120336: PBC PS 5241 Impr. WA

: PBC Water Utilities Department

Assembly#	Description	Unit	Quantity	Cost	Ext. Cost	6% Sales Tax	Markup*	Ext. Price
Bid Item:	1 General Requirements							
1	Temporary Facilities	LOT	1.00	190.0000				
· L	Sanitary	Month	2.00	95.0000	190.00	11.40	1.1500	231.61
2	General Conditions	LOT	1.00	15,540.2450				
L	Submittal Labor	HR	10.00	63.1400	631.40		1.2992	820.31
L	Progress Meeting	HR	8.00	64.7100	517.68		1.2992	672.57
L	Scheduling Labor	HR	10.00	63.1400	631.40		1.2992	820.31
. <b>L</b>	Construction PM	HR	135.00	63.1400	8,523.90		1.2992	11.074.25
L	Punch Out Crew	CR-D	2.00	1,014.3000	2,028.60		1.2992	2,635,56
L	Testing Services	LOT	1.00	250.0000	250.00		1.1500	287 50
L	Safety Equipment	LOT	1.00	1,000.0000	1,000.00	60.00	1.1500	1.219.00
L	Safety Manager	HR	16.00	63.1400	1,010.24		1.2992	1.312.50
L	Purchasing & Subcontracts	HR	15.00	63.1350	947.03		1.2992	1,230.37
Bid Item:	2 Demo			Bid Item Totals:	15,730.25	71.40		20,303.98
2051	Demolition Concrete Pipe Supports	LOT	1.00	4.741.3000				
L	Demo Pipe Supports	CR-D	3.00	1,247,1000	3 741 30		1 1865	4 430 05
L	Rental Equipment General	LOT	1.00	1,000.0000	1,000.00	60.00	1.1550	1,224.30
2051	Demo Hydraulic System	LOT	1.00	2.494.2000				
L	4 Man Crew	CR-D	2.00	1,247.1000	2,494.20		1.1865	2,959.37
2051	Demolition Remove Pipe and Fittings	LOT	1.00	3.741.3000				

## PBC ATTACHMENT

Continued...

Assembly#	Description	Unit	Quantity	Cost	Ext. Cost	6% Sales Tax	Markup*	Ext. Price
L	4 Man Crew	CR-D	3.00	1,247.1000	3,741.30		1.1865	4,439.05
Bid Item:	3 Concrete			Bid Item Totals:	10,976.80	60.00		13,061.77
3300	Concrete Pipe Supports	LOT	1.00	8.135.5000				
L	Forms and Rebar	LOT	1.00	500.0000	500.00	30.00	1 1500	609 50
L	Form New Pipe Supports & Dowel Re	CR-D	3.00	1.247.1000	3.741.30	00100	1 2992	4 860 70
L	Cast In Place Concrete	LOT	6.00	150.0000	900.00	54.00	1.1500	1.097.10
L	Place & Finish Concrete	CR-D	1.00	1,247,1000	1.247.10		1.2992	1,620,23
L	Concrete Pump	LOT	1.00	500.0000	500.00	30.00	1.1500	609.50
L	Strip forms & Rub	CR-D	1.00	1,247.1000	1,247.10		1.2992	1,620.23
				Bid Item Totals:	8.135.50	114.00		10 417 26
Bid Item:	9 Coatings				-,			10,711.20
9000	Finishes	LOT	1.00	7 735 5000				
L	Coatings	LOT	1.00	1,000,0000	1 000 00	60.00	1 1500	1 219 00
L	Coat Piping	CR-D	5.00	1,247,1000	6,235,50	00.00	1 2992	8 101 16
L	Scallfolding	LOT	1.00	500.0000	500.00	30.00	1.1500	609.50
Bid Item:	15 Mechanical			Bid Item Totals:	7,735.50	90.00		9,929.66
Dia Rem.	is mechanical							
15050	Flanged Piping & Valves	LOT	1.00	116,765,5300				
L	Piping General	LOT	3.00	25,546.6700	76.640.01	4,598,40	1,1500	93,424,17
L	Piping General	LOT	1.00	21,419.0200	21.419.02	1.285.14	1 1500	26 109 78
L	Install Pipe, Fittings & Valves	CR-D	15.00	1,247.1000	18,706.50	1,200111	1.2992	24,303.48
15050	Restrain Exisiting Line	LOT	1.00	5 447 1000				
L	Piping General	LOT	1.00	4 200 0000	4 200 00	252.00	1 1500	5 110 90
Ĺ	Restrain Existing Line	CR-D	1.00	1,247.1000	1,247.10	202.00	1.2992	1,620.23

Page 2

08/30/2012 12:00 P**M**  .

## PBC ATTACHMENT

Continued...

Assembly#	Description	Unit	Quantity	Cost	Ext. Cost	6% Sales Tax	Markup*	Ext. Price
	· · ·				100.010.00			
Bid Item:	16 Electrical			Bid item Totals:	122,212.63	6,135.54		150,577.46
	Electrical Sub	LOT	1.00	8,000.0000	8,000.00		1.1000	8,800.00
Did Hama				Bid Item Totals:	8,000.00			8,800.00
Bid item:	18 Rental Equipment							
18001	Tools & Consumables	LOT	1.00	750.0000				
L	Misc Loois	LOT	1.00	250.0000	250.00	15.00	1.1500	304.75
. <b>L</b>	Misc Materials & Dunnage	LOT	1.00	500.0000	500.00	30.00	1.1500	609.50
18002	Rental Equipment	LOT	1.00	12,200,0000				
L	Carry deck Crane	LOT	1.00	8,000,0000	8 000 00	480.00	1 1500	0 752 00
L	Fuel	GAL	500.00	4.0000	2,000,00	400.00	1,0000	2,732.00
L	8 Ton Rigger	LOT	1.00	500.0000	500.00	30.00	1.1500	609.50
L	Warehouse forklift	LOT	1.00	1,200.0000	1,200.00	72.00	1.1500	1.462.80
L	Fuel	LOT	1.00	500.0000	500.00	30.00	1.1500	609.50
				Bid Item Totals:	12,950.00	657.00		15,348.05
Bid Item:	25 Allowance							-
	Allowance	LOT	1.00	25,000.0000	25,000.00		1.0000	25,000.00
Bid Item:	50 Engineering			Bid Item Totals:	25,000.00			25,000.00
	Engineering	LOT	1.00	6,000.0000	6,000.00		1.0000	6,000.00
Bid Item:	60 Bonds			Bid Item Totals:	6,000.00			6,000.00
	Bonds & Certifications	LOT	1.00	3,949.9500	3,949.95	······································	1.1500	4,542.44
				Bid Item Totals:	3,949.95			4,542.44

08/30/12

PBC ATTACI	HMENT						08/30/12
Assembly#	Description	Unit	Quantity	Cost	Ext. Cost	6% Sales Tax Markup*	Ext. Price
				= Grand Totals:	220,690.63	7,127.94	263,980.62

Note: All materials include an additional 6.0% markup for FL State sales tax. Markup is applied after tax is added to the Ext. Cost.

\* Materials = 15%, Subcontractors = 10%, Labor at Burden = 29.92% (12% G&A x 16% Profit & Overhead), Engineering = See next page for Engineering Summary

Report 9-5-0-12 Adam

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# Val-Matic Check Valve

## SURGEBUSTER<sup>®</sup> SWING CHECK VALVE SERIES NO. 7200BFMI & 7200ABFMI ANSI CLASS 125 STANDARD MATERIALS OF CONSTRUCTION

,

PART NO.	PART NAME	MATERIAL
1	BODY BODY	DUCTILE IRON ASTM A536, GRADE 65-45-12 (250 CWP) CAST IRON ASTM A126, CLASS B (150 CWP)
2	COVER	DUCTILE IRON ASTM A536, GRADE 65-45-12 (250 CWP) CAST IRON ASTM A126, CLASS B (150 CWP)
3	DISC	BUNA-N W/ ALLOY STEEL & NYLON REINFORCEMENT
4	COVER SEAL (4"-12") COVER SEAL (2"-3", 14"-42")	BUNA-N COMPRESSED NON-ASBESTOS FIBER
5A	COVER BOLT	ALLOY STEEL SAE GRADE 5, PLATED
5B	COVER BOLT NUT (4"-12")	ALLOY STEEL, PLATED
5C	WASHER	ALLOY STEEL, PLATED
6	BACKFLOW ACTUATOR (OPTIONAL)	BRASS
13	DISC ACCELERATOR	STAINLESS STEEL, TYPE 302
14	MECHANICAL INDICATOR (OPTIONAL, SIZES 3"-42")	STAINLESS STEEL, TYPE 316
		NOTE: ALL SPECIFICATIONS AS LAST REVISED.

MATERIALS OF CONSTRUCTION	DATE 11/17/08 DRWG. NO.
VAL MATIC <sup>®</sup> VALVE AND MANUFACTURING CORP.	VM-7202BFMI-M



Manual No. SBCV-OM1-5

## SurgeBuster<sup>®</sup> Check Valve

## Operation, Maintenance and Installation Manual

INTRODUCTION	1
RECEIVING AND STORAGE	1
DESCRIPTION OF OPERATION	1
INSTALLATION	2
VALVE CONSTRUCTION	2
MAINTENANCE	2
TROUBLESHOOTING	3
DISASSEMBLY	3
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BACKFLOW ACTUATOR (OPTIONAL)	4
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LIMIT SWITCH (OPTIONAL)	5
PARTS AND SERVICE	6
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VAL-MATIC VALVE AND MANUFACTURING CORP.

905 RIVERSIDE DRIVE = ELMHURST, IL 60126 PHONE (630)941-7600 = FAX (630)941-8042

## VAL-MATIC'S SURGEBUSTER<sup>®</sup> CHECK VALVE OPERATION, MAINTENANCE AND INSTALLATION

1

#### INTRODUCTION

The Surgebuster<sup>®</sup> Check Valve has been designed to give years of trouble-free operation. This manual will provide you with the information needed to properly install and maintain the valve and to ensure a long service life. The valve is opened by the fluid flow in one direction and closes automatically to prevent flow in the reverse direction.

An optional backflow actuator may be mounted on the bottom of the valve to allow manual backflow through the valve in the reverse direction.

Optional Mechanical Indicators and Limit Switches may be mounted on the valve cover to provide local and remote position indication.

The valve is of the swing check type utilizing an angled seat and fully encapsulated, resilient disc. It is capable of handling a wide range of fluids including flows containing suspended solids. The Size, Flow Direction, Maximum Working Pressure, and Series No. are stamped on the nameplate for reference.

#### CAUTION:

Do not use valve for line testing at pressures higher than nameplate rating or damage to valve may occur.

The "Maximum Working Pressure" is the non-shock pressure rating of the valve at 150°F. The valve is not intended as an isolation valve for line testing above the valve rating.

#### **RECEIVING AND STORAGE**

Inspect valves upon receipt for damage in shipment. Unload all valves carefully to the ground without dropping. Do not allow lifting slings or chains to come in contact with the seat area; use eyebolts or rods through the flange holes on large valves.

#### WARNING

Do not use threaded holes in cover for lifting the valve. Serious injury may result.

Valves should remain crated, clean and dry until installed to prevent weather related damage. For long term storage greater than six months, the rubber surfaces of the disc should be coated with a thin film of FDA approved grease such as Lubriko #CW-606. Do not expose disc to sunlight or ozone for any extended period.



FIGURE 1. SURGEBUSTER® CHECK VALVE

#### DESCRIPTION OF VALVE OPERATION

The valve is designed to prevent reverse flow automatically. During system flow conditions, the movement of the fluid forces the disc to the open position allowing 100% un-restricted flow area through the valve. Under reverse flow conditions, the disc rapidly returns to the closed position to prevent reverse flow.

Several optional features are a backflow actuator, mechanical indicator, and limit switch. All of these options ship loose of the valve and require field installation.

#### INSTALLATION

Correct installation of the Surgebuster<sup>®</sup> is important for proper operation. It may be installed in either horizontal or vertical flow-up applications. However, when horizontal, the valve must be installed with the nameplate facing up and the cover level. In all installations, the flow arrow cast in the valve cover must be pointed in the direction of flow during normal system operation.

WARNING
Do not use threaded holes in cover for lifting the valve. Serious injury may result.

<u>FLANGED ENDS</u>: Flanged valves can be mated with raised or flat-faced pipe flanges equipped with full-face or ring-type resilient gaskets. The valve and adjacent piping must be supported and aligned to prevent cantilevered stress on the valve. Once the flange bolts or studs are lubricated and inserted around the flange, tighten them uniformly hand tight. The tightening of the bolts should then be done in graduated steps using the **crossover tightening** method. Recommended lubricated torque values for use with resilient gaskets (75 durometer) are given in Table 1. If leakage occurs, allow gaskets to absorb fluid and check torque and leakage after 24 hours. Do not exceed bolt rating or extrude gasket.

<u>CAUTION:</u> The use of ring gaskets or excessive bolt torque may damage valve flanges.					
	FL	ANGE BOLTS			
<u>VALVE</u>	<u>BOLT</u>	RECOM.	_ <u>MAX.</u>		
<u>SIZE</u>	<u>DIA</u>	TORQUE	TORQUE		
(in)	(in)	(ft-lbs)	(ft-lbs)		
3	5/8	25	90		
4	5/8	25	90		
6	3/4	30	150		
8	3/4	40	150		
10	7/8	45	205		
12	7/8	65	205		
14	1	80	300		
16		80	300		
20 24	1 1/8 1 1/8 1 1/4	100 100 150	4∠5 425 600		
30	1 1/4	160	600		
36	1 1/2	300	900		
44	1 1/2	300	900		

**TABLE 1. FLANGE BOLT TORQUES** 

#### VALVE CONSTRUCTION

The standard Surgebuster<sup>®</sup> Check Valve is constructed of rugged cast iron with a rubber encapsulated disc. See the specific Materials List submitted for the order if other than standard cast iron construction. The disc is the only moving part assuring long life with minimal maintenance. The general details of construction are illustrated in Figure 2. The body (1) is flanged for connection to the pipeline with an open top sealed with a cast cover (2). The disc (3) and disc accelerator (13) are retained by the cover.



#### ITEM DESCRIPTION MATERIAL Body Ductile Iron - 250 psi 1 Cast Iron - 150 psi Ductile Iron – 250 psi Cast Iron – 150 psi Steel With Buna-N Facing 2 Cover Disc\* 3 Buna-N or Non-Asbestos Cover seal\* 4 5 Cover Bolt Alloy Steel 13 Accelerator Stainless Steel **\*RECOMMENDED SPARE PART**

FIGURE 2. CHECK VALVE CONSTRUCTION

#### MAINTENANCE

The SurgeBuster<sup>®</sup> Check Valve requires no scheduled lubrication or maintenance. For service or inspection, the valve can be serviced without removal from the line.

<u>VALVE INSPECTION</u>: If inspection of the valve is required, follow the Disassembly Instructions given on page 3.

2

#### TROUBLESHOOTING

Several problems and solutions are presented below to assist you in troubleshooting the valve assembly in an efficient manner.

- <u>Leakage at Bottom Actuator</u>: Remove line pressure and exercise actuator. If leak persists, replace seals in actuator; see the Backflow Actuator Seal Replacement Procedure on page 4.
- <u>Leakage at Cover or Flanges</u>: Tighten bolts, replace cover seal.
- <u>Valve Leaks when Closed</u>: Inspect disc for damage and replace. Inspect metal seating surface and clean if necessary.
- <u>Valve Does not Open</u>: Check for obstruction in valve or pipeline; see Disassembly procedure on page 4. Operating pressure may be less than cracking pressure. If less than 0.5 psig, review application with factory.
- <u>Valve Slams Closed</u>: Add additional accelerator.

#### DISASSEMBLY

The valve can be disassembled without removing it from the pipeline. Or for convenience, the valve can be removed from the line. All work on the valve should be performed by a skilled mechanic with proper tools and a power hoist for larger valves. Disassembly may be required to inspect the disc for wear or the valve for deposits.

#### WARNING:

The line must be drained before removing the cover or pressure may be released causing bodily harm.

- 1. Relieve pressure and drain the pipeline. Refer to Figure 2 on page 2. Remove the cover bolts (5) on the top cover.
- 2. Pry cover (2) loose and lift off valve body. 14" and larger valves have tapped holes in cover for lifting eyes.
- 3. Remove disc (3) and inspect for cracks, tears or damage in rubber sealing surface.
- 4. Clean and inspect parts. Replace worn parts as necessary and lubricate parts with FDA grease such as Lubriko #CW-606.

#### **RE-ASSEMBLY**

All parts must be cleaned. Gasket surfaces should be cleaned with a stiff wire brush in the direction of the serrations or machine marks. Worn parts, gaskets and seals should be replaced during reassembly.

- 1. Lay disc (3) over seat with beaded seating surface directed down.
- Lay disc accelerator (13) over center of disc hinge. If two accelerators are provided, stack them over the center of the disc hinge.
- 3. Lay cover gasket (4) and cover (2) over bolt holes and disc hinge.
- 4. Insert lubricated bolts (5) noting that the bolts in the hinge area are longer than the other cover bolts.
- 5. Cover bolts should be tightened to the following specifications during assembly.

COVER BOLTS						
VALVE	SIZE	TORQUE (FT-LBS)				
2"-2.5"	1/2"	75				
3"	7/16"	50				
4"	1/2"	75				
6"	7/16"	50				
8"	9/16"	110				
10"	3/4"	250				
12"-20"	7/8"	400				
24"	1"	500				
30"	1 1/8"	600				
36"	1 1/4"	900				
42"	1 1/2"	1,400				

#### TABLE 2. VALVE COVER BOLT TORQUES

## BACKFLOW ACTUATOR FIELD INSTALLATION AND MAINTENANCE (OPTIONAL)

#### BACKFLOW ACTUATOR OPERATION:

An optional backflow actuator assembly is available which can be easily installed in the field. The actuator is not designed to operate at the valve's Maximum Working Pressure rating. Therefore, prior to using the actuator, close the pump isolation valve and bleed off line pressure. To operate, turn the handle clockwise. This will open the valve disc allowing backflow through the valve. The handle should turn easily. When resistance is felt, the disc has reached its body stop and is in the full open position. Upon completion of the back flushing operation, turn the handle counter-clockwise and the valve will automatically return to the closed position. Lock the actuator in the closed position with the jam nut provided. The system is again ready for normal operation

#### WARNING:

Relieve line pressure before using backflow actuator or damage may occur.

BACKFLOW ACTUATOR FIELD INSTALLATION: The backflow actuator is supplied as an optional assembly from the factory, which is shipped loose with the valve.

<u>WARNING:</u> Removal of the bottom plug while under pressure may cause bodily harm.

- 1. Depressurize and drain the pipeline.
- 2. Remove the pipe plug in the bottom boss of the valve.
- Inspect the backflow rod and place in the nonextended position. (The rod should extend about 1" past the end of the brass bushing.) Apply Teflon thread sealant to brass threads.
- Insert the threaded end of the assembly into the valve boss. Slowly turn the assembly into the boss taking care not to cross-thread the bushing. Continue turning the assembly into the valve for a tight fit.

BACKFLOW ACTUATOR SEAL REPLACEMENT: There are two parts (8 & 9) on the backflow actuator that are subject to wear. To replace the seals, the pipeline must first be depressurized and drained. Next, remove the backflow assembly from the valve by turning the brass bushing (6) counter-clockwise. Disassemble the actuator as follows:

- 1. Remove one of the vinyl caps (12).
- 2. Remove the T-Handle (10) and jam nut (11) from the rod (7).
- 3. Remove the rod (7) from the bushing (6) by screwing in the rod fully clockwise and pull the rod through the valve end of the bushing (6).
- 4. Lubricate new seals with FDA approved grease such as Lubriko #CW-606 and install in the bushing end grooves.
- 5. Clean, lubricate, and reinstall rod in bushing.
- 6. Re-install jam nut (11) and T-Handle (10).
- 7. Place vinyl cap (12) on handle (10).
- 8. Apply Teflon thread sealant to bushing and carefully thread into valve taking care not to cross-thread the bushing



#### FIG. 3. BACKFLOW ACTUATOR ASSEMBLY

<u>ITEM</u>	DESCRIPTIO	MATERIAL
6	Bushing	Brass
7	Rod	Stainless Steel
8	Rod Wiper*	Molythane
9	O-Ring*	Buna-N
10	Handle	Stainless Steel
11	Jam nut	Brass
12	Cap*	Vinyl
	*RECOMN	IENDED SPARE PART
R/	CKELOW AC	TILATOR PARTS LIST

4

## **MECHANICAL INDICATOR (OPTIONAL)**

The mechanical indicator is an option that fits into the cover and can easily be installed in the field by going through the following steps. The mechanical indicator is used to visually indicate when the valve is opened or closed.

1. Remove line pressure and drain valve.



- 2. Remove the pipe plug from the cover.
- 3. Apply pipe joint compound to indicator body (21) threads.
- 4. Insert the indicator body (21), without the indicator plate (27), into the valve cover and tighten. Make sure that two of the tapped holes in the indicator body (21) are aligned with the valve and pipeline. This will ensure proper orientation of the indicator plate.
- 5. Remove the two socket head screws (31) from the indicator body (21). 6. Slide the indicator plate (27) over the indicator rod
- (23) and spring (28).
- 7. Align the indicator plate (27) as shown on the back of this card and secure with the 5mm socket head screws (31).
- 8. Connect the spring (28) to the indicator plate (27) notch



FIG. 4. MECHANICAL INDICATOR ASSEMBLY

Mechanical Indicator Parts List					
Description Material					
Body	Brass				
Bushing	Brass				
Rod	Stainless Steel T316				
Plate	Stainless Steel T316				
Spring	Stainless Steel T302				
Screws	Stainless Steel T316				
	Mechanical Description Body Bushing Rod Plate Spring Screws				

#### LIMIT SWITCH (OPTIONAL)

The limit switch is used in conjunction with the Mechanical Indicator. The standard limit switch is MICROSWITCH Model Number 914CE20-3. The limit switch is SCADA (Supervisory Control and Data Acquisition) compatible for applications requiring open/close indication.

#### NEMA Ratings: 1, 2, 4, 6, 6P, 12, 13 UL Ratings: 5 AMPS, 1/10 HP, 125 or 250 VAC, SPDT

Installation:

- 1. Attach limit switch assembly to indicator using the supplied screws (34) and bracket (31).
- Position the assembly so that the switch trips 2 when the valve is closed.
- 3. Connect wiring to either the normally open or normally closed contact as shown in the schematic diagram.



FIGURE 5. LIMIT SWITCH ASSEMBLY

#### PARTS AND SERVICE

Parts and service are available from your local representative or the factory. Make note of the valve Model No and Working Pressure located on the valve nameplate and contact:

Val-Matic Valve and Mfg. Corp. 905 Riverside Drive Elmhurst, IL 60126 PH: 630/941-7600 FAX: 630/941-8042

A sales representative will quote prices for parts or arrange for service as needed.

#### WARRANTY INFORMATION

#### VAL-MATIC SURGEBUSTER LIMITED WARRANTY

Val-Matic Valve and Manufacturing Corporation warrants the Surgebuster to outperform any manufacturer's normally equipped Air Cushion, Weight and Lever Swing Check Valve with respect to surge pressure normally generated by check valve closure for installations within the manufacturer's published ratings of the valve with regard to pressure, temperature and installation orientation. Should the Val-Matic Surgebuster fail to outperform any Air Cushion, Weight and Lever Swing Check Valve during a period of twelve (12) months from the date of installation or eighteen (18) months from the date of shipment, whichever comes first, Val-Matic shall pay for the cost of replacement of the Surgebuster with a comparably rated Air Cushion, Weight and Lever Swing Check valve. This warranty is subject to the following restrictions:

- 1. This warranty shall not apply when valve performance is or has been affected by misuse, abuse or negligence in either installation, operation or maintenance
- 2. 3. This warranty shall not apply to the cost of maintenance, adjustment, or installation of the Surgebuster.
- The Surgebuster shall not be operated outside the specifications as published by Val-Matic. Notices of claims against this warranty must be sent via certified mail to Val-Matic within 15 days of the first instance of an event giving rise 4. to a possible claim against this warranty. Val-Matic shall have the right to test and adjust the Surgebuster and any replacement valve in the customer's application with the system operating thru full on/off cycles as needed. If the customer replaces a Surgebuster valve pursuant to this warranty, the installation and application of the new valve must be identical to the the the the the the the total the customer replaces as the second seco
- 5. to that of the valve being replaced in all respects, including, but not limited to, location and placement of the Surgebuster valve. Val-Matic shall in no event be liable for costs or expenses in excess of the cost of the replacement valve.
- 6. This warranty is limited to pressure surges generated by check valve closure under reverse flow conditions. It does not apply to pressure surges generated by other system dynamics.
- 7. If, after the customer replaces the Surgebuster with a normally equipped Air Cushlon, Weight and Lever Swing Check Valve and Val-Matic tests such replacement valve in the customer's application, such tests shows the Surgebuster valve producing less surge pressure than the replacement valve, then the customer shall be responsible for the expenses incurred by Val-Matic. If the tests show the Surgebuster valve are shown the Surgebuster valve and the replacement valve, then the customer shall be responsible for the expenses incurred by Val-Matic.
- Valve, after adjustment valve, then the customer shall be responsible for the expenses incurred by Val-Matic. If the tests show the Surgebuster valve, after adjustment produced more surge pressure than the replacement valve, then Val-Matic shall reimburse customer for the documented cost of replacement of the Surgebuster valve. Val-Matic's sole liability and the customer's sole remedy under this warranty and for any and all other claims arising out of the purchase and use of the Surgebuster valve, shall be limited to replacement of the valve. In no event will Val-Matic be liable for consequential damages even if Val-Matic has been advised of the possibility of such damages. This warranty is expressly in lieu of any other expressed or implied warranties, including any implied warranty of merchantability or fitness for a particular purpose, and any other obligation on the part of Val-Matic. 8.
- part of Val-Matic. If Val-Matic shall, at the request of the customer, render assistance of any kind in operating the valve, or any part of it, or in remedying any 9.
- defects at the time, the assistance shall in no case be deemed an acknowledgment on Val-Matic's part of a breach by it of this warranty, or excuse for any failure of the customer to fully keep and perform the conditions of this warranty. This warranty shall be construed according to the laws of the State of Illinois. Any actions brought to enforce this warranty must be brought in the state or federal courts located in Cook County, Illinois. The prevailing party in any litigation concerning this warranty shall be entitled to recover its reasonable attorneys fees and costs from the non-prevailing party. 10.

#### LIMITED WARRANTY

All products are warranted to be free of defects in material and workmanship for a period of one year from the date of shipment, subject to the limitations below.

If the purchaser believes a product is defective, the purchaser shall: (a) Notify the manufacturer, state the alleged defect and request permission to return the product; (b) if permission is given, return the product with transportation prepaid. If the product is accepted for return and found to be defective, the manufacturer will, at his discretion, either repair or replace the product, f.o.b. factory, within 60 days of receipt, or refund the purchase price. Other than to repair, replace or refund as described above, purchaser agrees that manufacturer shall not be liable for any loss, costs, expenses or damages of any kind arising out of the product, its use, installation or replacement, labeling, instructions, information or technical data of any kind, description of product use, sample or model, warnings or lack of any of the foregoing. NO OTHER WARRANTIES, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, ARE MADE OR AUTHORIZED. NO AFFIRMATION OF FACT, PROMISE, DESCRIPTION OF PRODUCT OF USE OR SAMPLE OR MODEL SHALL CREATE ANY WARRANTY FROM MANUFACTURER, UNLESS SIGNED BY THE PRESIDENT OF THE MANUFACTURER. These products are not manufactured, sold or intended for personal, family or household purposes.

# 36-inch Pipe Restrain Collar

### STAR National Products Restraining System Specifications and Ordering Information

The STAR National Products joint restraining system can be used to its best advantage when the installer has a full understanding of the manufacturers recommended procedures and installation techniques.

STAR National Products anchored joint restraints can be supplied as shown below, or mixed and matched in any combination to suit your piping system needs. Material specifications and product requirements are listed below.



WWW.dresser.com

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NOTE: Always follow the proper installation instructions and warnings when using any STAR National Products or Dresser® joint restraining products.



Note: TieBolt® and TieAnchor® are registered trademarks, and TiePiata™ is a trademark of STAR National Products, Inc., Columbus, OH Dresser® is a registered trademark of Dresser, Inc., Dallas, TX

Piping Specialties 41 Fisher Avenue, Bradford, PA 15701	
Phone: (814) 362-9200 Fax: (814) 362-9344 Fax: dandarlag @dramos.com	
22006 Dresser, Inc.	



## **STAR National Products Anchor Restraining System Product Overview**

## The modern, safe, economical answer to prevent pipe joint separation...

During the installation of above ground and below ground piping systems, it is often necessary to take steps to restrain the pipe from joint separation. While a number of different methods have been used, the STAR National Products anchor restraining techniques have been proven to be both reliable and economical, eliminating the many disadvantages inherent in other pipe joint restraining methods.

110

Today's joint restraint problems are becoming more complex. Whether steel, cast or ductile iron, the STAR National Products joint anchor restraint system offers a wide range of flexibility and adaptability, and can be customized to meet most field construction requirements.

specific advantages:

LOCKED together

**VISUAL** checking

#### **Restraining Harness Configurations**

Joint restraint styles shown below may be mixed and matched in various combinations to satisfy your restraint requirements according to pipe type and application.



# **Scissor Lift**



## Self-Propelled Scissor Lifts

GS<sup>™</sup>-2046, GS-2646 & GS-3246

## Features

#### Standard Features Measurements

#### GS-2046

- · 26 ft (8.10 m) working height
- Up to 1,200 lbs (545 kg) lift capacity GS-2646
- 32 ft (9.92 m) working height
- Up to 1,000 lbs (454 kg) lift capacity GS-3246
- 38 ft (11.75 m) working height
- Up to 700 lbs (318 kg) lift capacity

#### Productivity

- 89 x 45.3 in (2.26 x 1.15 m)
- steel platform 36 in (.91 m) extension deck
- · Folding rails with full height swing gate
- Dual front wheel drive
- Universal 20 amp smart charger
- Rear recessed charger receptacle
- Smart Link 2 speed lift and proportional drive
- Platform control with battery charge indicator and diagnostic display
- On-board diagnostic system
- · AC power to platform
- · Lanyard attachment points
- Manual platform lowering valve
- Emergency stop at both platform
- and ground controls
- Rear wheel multiple disc brakes
- · Front wheel hydraulic dynamic braking Brake release
- · Swing-out component trays
- · Solid non-marking tires
- · Pothole guards
- · Tilt level sensor with audible alarm
- Descent alarm
- · Electronic horn • Hour meter

#### Power

24 V DC (four 6 V 225 Ah batteries)

Genie United States 18340 NE 76th Street P.O. Box 97030 Redmond, Washington 98073-9730 Telephone +1 (425) 881-1800 Toll Free in USA/Canada +1 (800)-536-1800 Fax +1 (425) 883-3475

Genie Europe The Maltings Wharf Road Grantham NG31 6BH UK Telephone +44 (0)1476 584333 Fax +44 (0)1476 584334 Email: AWP-InfoEurope@terex.com

**Options & Accessories** 

- Productivity Options
- Air line to platform
- Dual flashing beacons Motion alarm
- Automotive horn
- Biodegradable hydraulic fluid

#### **Power Options**

- Power inverter (120 V/60 Hz)
- EE rating
  - AGM maintenance-free batteries



Distributed By:

Effective Date: February, 2012. Product specifications a for instructions on the proper use of this equipment. Fall is the standard written warranty applicable to the partic subsidiaries in the USA and many other countries. Gank mentanty applicable to nes of Terex Corporation

GS46 0210H, Part No. 109379

www.genielift.com



## Self-Propelled Scissor Lifts GS<sup>™</sup>-2046, GS-2646 & GS-3246

## Specifications

woders	65-2046		GS-2646		GS-3246	
Measurements	US	Metric	US	Metric	US	Metric
Working height maximum*	26 ft	8.10 m	32 #	0 02 m	29 #	11 75 m
A Platform height maximum	20 ft	6.10 m	26 ft	7.02 m	3011	0.75 m
A Platform height stowed	3 ft 4.8 in	1.04 m	3 ff 9 6 in	1 16 m	4 ft 2 75 in	1 20 m
A Platform length - outside	7 ft 5 ln	2.26 m	7 ft 5 in	2.26 m	7 ft 5 in	2.26 m
extended	10 ft 5 in	3.18 m	10 ft 5 in	3.18 m	10 ft 5 in	3.18 m
Slide-out platform extension deck	3 ft	.91 m	3 ft		3 ft	.91 m
A Platform width - outside	3 ft 9.3 in	1.15 m	3 ft 9.3 in	1.15 m	3 ft 9.3 in	1.15 m
Guardrail height	·····	·····	3 ft 7 in	1.09 m	3 ft 7 in	1.09 m
Toeboard height	6 in	.15 m	6 in	.15 m	6 in	.15 m
A Height - slowed: folding guardralls	7 ft	2.13 m	7 ft 5 in	2.26 m	7 ft 10 in	2.39 m
rails folded	5 ft 1 in	1.55 m	5 ft 6 in	1.68 m	5 ft 11 in	1.80 m
A Length - stowed	7 ft 11 in	2.41 m	7 ft 11 in	2.41 m	7 ft 11 in	2.41 m
extended	10 ft 10.5 in	3.31 m	10 ft 10.5 in	3.31 m	10 ft 10.5 in	3.31 m
AWidth	3 ft 10 in	1.17 m	3 ft 10 in	1.17 m	3 ft 10 in	1.17 m
A Wheelbase	6 ft 1 In	1.85 m	6 ft 1 in	1.85 m	6 ft 1 in	1.85 m
A Ground clearance - center	4 in	.10 m	4 in	.10 m	4 in	.10 m
<ul> <li>with pothole guards deployed</li> </ul>	.75 in	.019 m	.75 in	.019 m	.75 in	.019 m
Productivity						• • • • • • •
Maximum platform occupancy**	4	4	3	3	2	2
Lift capacity	1,200 lbs	544 kg	1.000 lbs	454 kg	700 lbs	318 kg
Lift capacity - extension deck	250 lbs	113 kg	250 lbs	113 kg	250 lbs	113 kg
Drive speed - stowed	2.2 mph	3.5 km/h	2.2 mph	3.5 km/h	2.2 mph	3.5 km/h
Drive speed - raised	0.5 mph	0.8 km/h	0.5 mph	0.8 km/h	0.5 mph	6 8 km/h
Gradeability - stowed	***	30%		30%	<u></u>	25%
Turning radius - Inside	zero	zero	zero	zero	Zero	zero
Turning radius - outside	7 ft 6 in	2.29 m	7 ft 6 in	2.29 m	7 ft 6 in	2.29 m
Raise / lower speed	30 / 33 sec	30 / 33 sec	30 / 38 sec	30 / 38 sec	57 / 35 sec	57 / 35 sec
Controls	proportional		proportional		proportional	
Drive	dual front wheel		dual front wheel		dual front wheel	
Multiple disc brakes	dual rear wheel		dual rear wheel	······	dual rear wheel	
Tires - solid non-marking	15 x 5 x 11 in	38 x 13 x 28 cm	15 x 5 x 11 in	38 x 13 x 28 cm	15 x 5 x 11 in	38 x 13 x 28 cm
Power						
Power source	24 V DC (four 6 V	225 Ah batteries)	24 V (four 6 V 225	i Ah batteries)	24 V (four 6 V 225	Ah batteries)
Hydraulic system capacity	3.75 gal	14.2 L	3.75 gal	14.2 L	4.5 gal	17 L
Weight****						*******
ANSI/CSA	3.977 lbs	1 804 kg	1212 100	1 056 1/4	6 011 16-	0.064.00
CE/AUS	4.351 lbs	1,004 kg	4,312 108 5 205 lbc	1,900 KU	0,211 (05 6 000 lbs	2,304 Kg
Standarda Compliance		1,01 + Kg		2,447 Ky	0,200 105	2,012 Ky
orandarus oompiiance	ansi a92.6, CSA	B354.2, CE Compliand	ce, AS 1418.10			
	<u> </u>	- [7		* The metric equivalen	t of working height adds	2 m to platform
	H		4.	height, U.S. adds 6 f " CE/AUS markets: Tv.	t to platform height. o gerson maximum occu	nadev on all
				models. GS-3246 ou	tdoor maximum occupar	ky is one person.
			$\rightarrow$	manual for details re	to arriving on slopes. Sea garding slope ratings.	operators
	Francisco		$\langle \langle \rangle$	**** Weight will vary depe	anding on options and/or	country
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