



Memo

TO: Mayor Manier and City Council
FROM: Kevin Schone, Public Works Manager
DATE: October 1, 2018
SUBJECT: Emergency Repairs – Deer Lane Lift Station

In May of this year the Deer Lane lift station started experiencing float problems causing personnel to be called out for high level alarms. The lift station has historically had problems with grease causing this problem. Because of this it was decided to install a pressure transducer to make the pump station more reliable. The float system is still utilized as the backup.

Personnel from Britton Electronics began installing the new pressure transducer and discovered other problems that needed attention including wiring issues with the pump, corroded connections, and also problems with the Add a Phase. The wiring issues and corroded connections were corrected while crews were on site and discussion about alternatives for replacing the Add a Phase started. Through these discussions it was decided to install VFD's to replace the Add a Phase.

On August 13th Britton Electronics provided pricing and rebate opportunities through Ameren and asked the City to complete the rebate application. On August 23rd the applications were completed and returned for processing by Britton Electronics. Towards the end of the week of September 7th, one of the two pumps at the Deer Lane lift station failed. It appeared that this failure was primarily due to the failure of the "add-a-phase" controller for that pump.

Staff confirmed with Ameren that the emergency replacement of the old "add-a-phase" controllers with VFD's would be permissible provided that the total reimbursable portion of the project cost would not exceed \$10,000. In this case, the eligible reimbursement would be \$125 per HP or \$1,875 per VFD for the 15HP pumps. Temporary repairs were made to the pump station until the two VFD's could be installed.

To date \$15,811.73 has been spent on the repairs and equipment purchases to get the pump station operating. An additional \$19,350 is expected for two new pump purchases for a total of \$35,161.73. Below is a breakdown of the cost associated with these repairs and purchases.

Contractor	VFD's	Transducer	Pump	Labor	Total
Britton Electronics	\$9,577	\$5,616.48			\$15,193.48
	Includes Labor	Includes Labor			
RNS				\$82	\$82
B&L					Pending
Foremost (Reman.)				\$5,862	
(Bench)				\$536.25	\$536.25
Linden & Co (New)			\$9675x2		\$19,350
(Reman.)				\$6,675	
Total					\$35,161.73

Alternative options to the second new pump purchase would be the rebuild option. The rebuild option from Foremost is 61% of the cost of a new pump and it should be noted that the pump will not have an explosion proof tag. The rebuild option from Fairbanks Morse is 69% of the cost of a new pump, plus freight, and we have been told if they get into the pump and there is anything additional this cost could increase.

Of the total amount above staff expects a rebate check in the amount of \$3,750 to be sent to the City for purchase of the two VFD's. There are sufficient funds within the wastewater budget for these repairs and purchases.

After gathering as many facts as possible staff recommends purchase of two new pumps. One as the replacement for the bad pump at Deer Lane and one to be used as a spare. We are also recommending approval for RNS and the benching fee for Foremost.

This matter has been placed on the City Council meeting agenda of Monday, October 1st, 2018 for review and ratification.



BRITTON
ELECTRONICS & AUTOMATION, INC.

PO Box 872
Pekin, IL 61555-0872

Phone # 309-353-5376
Fax # 309-353-1372

IDHR#: 116050-00
www.go-bea.com

<Deer Lane>
Invoice

Invoice Date 7/9/2018 Invoice No. 2187659

BILL TO:

City of Washington
Water Treatment Dept
301 Walnut St.
Washington, Illinois 61571

ACCT#:

PO#:

APPR: *65A*

AMOUNT: *5616.48*

**** SITE LOCATION ****

City of Washington
Wastewater Dept
301 Walnut St.
Washington, Illinois 61571

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project Name:
	Net 30	JWB	7/9/2018	On-Site-Ser...	PEKIN, IL	DLane-051518

Qty	Item Code	Description	Price Each	Amount
1	GEN-ITEM	3/8 X 1-1/4 FEND WASH 5P; 3/8 SPLIT LOCK WASH 5PC; EYE BOLT 3/8"X4" S.S; Orange Wirenuts	20.06	20.06T
1	GEN-ITEM	Mercury Free NO floats for liftstation	70.20	70.20T
9	GEN-ITEM	NSI IT-1/0 1/0-14 AWG Polaris Insul-Tap Conn	19.36	174.24T
1	GEN-ITEM	NSI IPL1/0-3 1/0-14 AWG Polaris Insulated Multi-Tap Conn 3 Port	37.88	37.88T
1	GEN-ITEM	BC 01001AA - 05PSI Submersible Pressure Transducer with accuracy of 0.5%, 5 PSI range (11.53 FT of Head), 2-wire 10-30VDC power, 4-20ma output, mounted on 316SS transducer protection device with 40Ft. watertight polyurethane jacketed cable.	840.00	840.00T
1	Truck Charge	Subtotal on > Truck Charge	30.00	1,142.38
3	PW-01	LABOR RATE PER IL Prevailing Wage Act [820 ILCS 130/11a] Service Date: 05/16/18 Tech: John Cardosi Description: Troubleshoot pump problems, checked amp readings and megged out pumps 1 & 2.	116.95	350.85

Billing Questions: A/R Dept. (309) 353-5376

Subtotal

Invoice is Due by: **8/8/2018**

IL Sales Tax 8.5%...

Payments/Credits

A late fee of 1.5% per month will be charged if paid after **8/8/2018**

INVOICE TOTAL

Please detach, retain top portion for your records and return bottom portion with your remittance.

Please Remit Payment To:	Customer No.	Invoice No.	Due Date	Payments/Credits	Invoice Total	Amount Remit
BEA OF ILLINOIS P.O. Box 872 Pekin, IL 61555-0872	WASH07-05	2187659	8/8/2018			
Thank You for Your Business.						

Note: Tax Exempt E9993-0811-07

JOB NAME: DLane-051518
Page 1

PO# Verbal



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	Net 30	JWB	7/9/2018	On-Site-Ser...	PEKIN, IL	DLane-051518

Qty	Item Code	Description	Price Each	Amount
3	PW-01	LABOR RATE PER IL Prevailing Wage Act [820 ILCS 130/11a] Service Date: 05/16/18 Tech: George Hill Description: Began troubleshooting Pump 1. Verified terminations, megged motor.	116.95	350.85
8	PW-01	LABOR RATE PER IL Prevailing Wage Act [820 ILCS 130/11a] Service Date: 05/17/18 Tech: John Cardosi Description: Finished troubleshooting pumps - Pumps #2 is bad. Also verified that the pumps are hooked up to the motor starters incorrectly (switched). Installed the transducer and connected it to the PLC.	116.95	935.60
8	PW-01	LABOR RATE PER IL Prevailing Wage Act [820 ILCS 130/11a] Service Date: 05/17/18 Tech: George Hill Description: Completed troubleshooting of pumps, determined pumps wired incorrectly per motor starters. Determined that Pump #2 had low resistance readings to ground, therefore making the OCPD trip. Installed transducer.	116.95	935.60

Billing Questions: A/R Dept. (309) 353-5376

Subtotal

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	WASH07-05	2187659	8/8/2018			
BEA OF ILLINOIS P.O. Box 872 Pekin, IL 61555-0872						
<i>Thank You for Your Business.</i>						

Note: Tax Exempt E9993-0811-07

JOB NAME: DLane-051518
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P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project Name:
	Net 30	JWB	7/9/2018	On-Site-Ser...	PEKIN, IL	DLane-051518

Qty	Item Code	Description	Price Each	Amount
8	PW-01	LABOR RATE PER IL Prevailing Wage Act [820 ILCS 130/11a] Service Date: 05/18/18 Tech: John Cardoso Description: Replaced high level float switch and moved all floats to transducers's chain kit. Fixed pump hook-ups. Switched them so motor starter #1 starts Pump #1 and motor starter #2 starts Pump #1. Removed all wire nuts and replaced with Polaris' on the motor wiring.	116.95	935.60
8	PW-01	LABOR RATE PER IL Prevailing Wage Act [820 ILCS 130/11a] Service Date: 05/18/18 Tech: George Hill Description: Replaced and moved floats to transducer chain kit, verified floats were working correctly. Swapped motor leads and respliced.	116.95	935.60

Billing Questions: A/R Dept. (309) 353-5376

Invoice is Due by: 8/8/2018

A late fee of 1.5% per month will be charged if paid after 8/8/2018

Subtotal	\$5,616.48
IL Sales Tax 8.5%...	\$0.00
Payments/Credits	\$0.00
INVOICE TOTAL	\$5,616.48

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Please Remit Payment To:	Customer No.	Invoice No.	Due Date	Payments/Credits	Invoice Total	Amount Remit
	WASH07-05	2187659	8/8/2018	\$0.00	\$5,616.48	
BEA OF ILLINOIS P.O. Box 872 Pekin, IL 61555-0872						
<i>Thank You for Your Business.</i>						

Note: Tax Exempt E9993-0811-07

JOB NAME: DLane-051518
Page 3

PO# Verbal



6518 W. Plank Road
Peoria, IL 61604
Phone: 800-747-8423
Fax: 309-699-2289

Job Estimate

Job No.: 021015
Date: 09/14/18
Page: 1

Sold To:	Customer Number: WASH50 CITY OF WASHINGTON 301 WALNUT ST WASHINGTON, IL 61571 Telephone: 309-444-3196 Fax: 000-000-0000	Ship To:	Ship To Number: 000001 CITY OF WASHINGTON 955 ERNEST STREET WASHINGTON, IL 61571 Telephone: 309-444-3196 Fax: 000-000-0000
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Job Number	Recv'd Date	Sales Code	Location	Ship Via	Terms
021015	09/07/18	TT1			NET 30

Customer PO:	NEED PO	PO Release:		Misc Number:	
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Order	Item #/Description/Notes	Unit Price	Extension
	Nameplate Data: MANUF:FAIRBANKS MORSE, SER#:1032635, MODEL#:D5432MV, RPM:1750, HP/KW:15, VOLTS:230, AMPS:43.4, PHASE:3, MOTOR MFG:US ELECTRIC, MOTOR M#:U015C2214BLX1131A, MOTOR S#:1032635, FRAME:210T, SIZE:4, PUMP CONFIG:SUBMERSIBLE PUMP, UL#:LBT994255, CLASS, GRP:CLASS I DIV I GRP C,D Special Instructions: CONDUCT REPAIR AS IF WE WERE PERFORMIG A UL CERTIFICATION. WRITE UP JOB, TAKE DOCUMENTARY PHOTOS DISMANTLE & INSPECT PERFORM U.L. MECHANICAL INSPECTION STEAM CLEAN STATOR & BAKE DRY ELECTRICALLY TEST AC WINDINGS, / D6 ELECTRICALLY TEST INDUCTION ROTOR I.D. PARTS/PROCEDURES NEEDED FOR REPAIR STEAM CLEAN PUMP PARTS SKIM CUT ROTOR IRON MFG NEW G-10 TERMINAL BOARD WELD & MACH LOWER MECHANICAL SEAL SURFAC REPAIR EXTERNAL LEADS RELUG AS NEEDED REPAIR INTERNAL WIRING		

Continued...



Lump Sum of All Cost
Associated VFD's, BEA, B&L, TY



6518 W. Plank Road
Peoria, IL 61604
Phone: 800-747-8423
Fax: 309-699-2289

Job Estimate

Job No.: 021015
Date: 09/14/18
Page: 2

Sold To:	Customer Number: WASH50 CITY OF WASHINGTON 301 WALNUT ST WASHINGTON, IL 61571 Telephone: 309-444-3196 Fax: 000-000-0000	Ship To:	Ship To Number: 000001 CITY OF WASHINGTON 955 ERNEST STREET WASHINGTON, IL 61571 Telephone: 309-444-3196 Fax: 000-000-0000
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Job Number	Recv'd Date	Sales Code	Location	Ship Via	Terms
021015	09/07/18	TT1		CUST P/U	NET 30

Customer PO:	NEED PO	PO Release:		Misc Number:	
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Order	Item #/Description/Notes	Unit Price	Extension
	DIP & BAKE STATOR IN EPOXY VARNISH DYNAMICALLY BALANCE ROTOR WITH IMPELLER INSTALL NEW MECHANICAL SEALS INSTALL NEW O-RINGS CLEAN CORE & TAP HOLES PREP PARTS FOR ASSEMBLY ASSEMBLE SUB PUMP UNDERWATER TANK TEST & RECORD VIDEO PAINT EXTERIOR W/ EPOXY PAINT RESTORE / ATTACH LABELING & TAGS FINAL Q/A GREEN TAG INSPECTION PREP FOR SHIPPING FAG BALL BEARING - SEALED MAX-LOAD BALL BEARING LOWER MECHANICAL SEAL UPPER MECHANICAL SEAL DISCHARGE GASKET O-RING KIT LABOR TO DATE = \$536.25 AND IS INCLUDED IN THE ABOVE QUOTATION. FOREMOST INDUSTRIAL TECHNOLOGIES IS AN EASA-ACCREDITED SERVICE CENTER. FOREMOST INDUSTRIAL TECHNOLOGIES IS AN AUTHORIZED UL SERVICE CENTER.		

Continued...





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Job Number	Recv'd Date	Sales Code	Location	Ship Via	Terms
021015	09/07/18	TT1		CUST P/U	NET 30

Customer PO:	NEED PO	PO Release:		Misc Number:	
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Order	Item #/Description/Notes	Unit Price	Extension
	PER AGREEMENT WITH RJ, WE WILL REPAIR THIS PUMP AS IF IT WERE GOING TO BE UL CERTIFIED, EVEN THOUGH THE MOTOR CANNOT BE CERTIFIED DUE TO THE SHORT FLAME PATH. THE MANUFACTURER OF THE MOTOR OBTAINED A WAIVER FROM UL IN ORDER TO HAVE A SHORTER FLAME PATH, WHICH OTHERWISE WOULD NOT BE ALLOWED.		

Total	5,862.52
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Repair estimate valid for 30 calendar days
from the above date.
Total is plus sales tax if applicable.
Based Upon Our Standard Terms And Conditions.

Linden & Company

800 W. Deerbrook
Peoria, IL 61615
309-691-4811 Phone
309-691-8451 Fax
Phone # 309-691-4811 lindenco@aol.com
Fax # 309-691-8451

To:
City of Washington
115 W. Jefferson
Washington, IL 61571
Attn: Ed Andrews

Quotation

Quotation No. 13510
Date 9/12/2018
Project Deer Lane Lift Station
Project
Engineer
Bid Date 9/12/2018

Qty	Description	Rate	Total
1	Fairbanks Nijhuis 4" Model #D5432MV Submersible Pump with 15 HP, 1750 RPM, 230/3/60 Explosion Proof Motor. (less base elbow)	9,675.00	9,675.00
Sales Tax and Installation are not included.		Total	\$9,675.00

Delivery 3-4 weeks

By: 

Terms Net 30

Linden & Co. extends to the purchaser only those conditions of sale and guarantees offered by the manufacturer(s) of the equipment proposed above. Copies of these conditions of sale and guarantees will be furnished the purchaser upon request. All sales are subject to approval of purchaser's credit. Prices quoted are for acceptance within 30 days and are subject to change without notice. Quoted delivery dates are approximate Linden & Co. assumes no obligations, direct or consequential, for late delivery by the manufacturer(s) of the quoted equipment. Freight charges are not included in the quoted price(s),