Agenda Item Executive Summary

Item Name	Bittersweet Water Reclamation Facility Improvements-Approving Change Order #3 between Joseph J. Henderson & Son, Inc. and the Village of Bartlett	Committee or Board	Board

BUDGET IMPACT

Amount:	$374,868.26	*Budgeted*	$37,000,000.00 (Loan)
List what fund	Sewer Fund - IEPA Low Interest Loan		

EXECUTIVE SUMMARY

We have been working with Joseph J. Henderson & Son (JJH), Inc. on the Bittersweet Water Reclamation Facility improvements and ways to improve and reduce long term maintenance responsibilities in the future. Seven items are included in Change Order #3 for a total increase of $374,868.26:

- The majority of the change order is for a new generator. The water reclamation facility has two smaller generators that are used to power the facility in the event that we lose ComEd power. We had one of the generators scheduled for replacement this fiscal year in the amount of $200,000. After reviewing with our consultant and the contractor, it was determined that it would be much more efficient to install one large generator and replace both of the old generators. This allows us to eliminate the underground fuel tank and maintain only one generator in the future. We have had preliminary discussions with a vendor that is interested in purchasing the old generators. It is estimated that we could receive ~$50,000 for the existing generators. We postponed our lift station capital project for FY 23-24 to allow for the additional budget necessary to cover the new generator.
- The other items are miscellaneous increases and decreases that have come up during construction and are explained in the attached documents.

Change Orders 1 & 2 decreased the project by $760,165.51. With the increased costs in Change Order #3, the project cost has still been reduced by $385,297.28.

We recommend that the Village Board approve Change Order #3 with Joseph J. Henderson & Son, Inc.

ATTACHMENTS (PLEASE LIST)

Memo, Resolution, Exhibit A

ACTION REQUESTED

- ☐ For Discussion Only
- ⊟ Resolution
- ☐ Ordinance
- ⊟ Motion:

MOTION: I move to approve Resolution 2022-_____, a Resolution Approving of Change Order #3 to the Contract Between Joseph J. Henderson & Son, Inc. and the Village of Bartlett for the Bittersweet Water Reclamation Facility Improvements for a $374,868.26 Increase in the Original Contract Sum.

Staff: Dan Dinges, Director of Public Works Date: 10/7/22

PUBLIC WORKS

Memo

DATE: October 7, 2022

TO: Paula Schumacher
Village Administrator

FROM: Dan Dinges, PE
Director of Public Works

SUBJECT: Bittersweet Water Reclamation Facility Improvements
- Change Order #3

We have been working with Joseph J. Henderson & Son (JJH), Inc. on the Bittersweet Water Reclamation Facility improvements and ways to improve and reduce long term maintenance responsibilities in the future. Seven items are included in Change Order #3 for a total increase of $374,868.26:

- The majority of the change order is for a new generator. The water reclamation facility has two smaller generators that are used to power the facility in the event that we lose ComEd power. We had one of the generators scheduled for replacement this fiscal year in the amount of $200,000. After reviewing with our consultant and the contractor, it was determined that it would be much more efficient to install one large generator and replace both of the old generators. This allows us to eliminate the underground fuel tank and maintain only one generator in the future. We have had preliminary discussions with a vendor that is interested in purchasing the old generators. It is estimated that we could receive ~$50,000 for the existing generators. We postponed our lift station capital project for FY 23-24 to allow for the additional budget necessary to cover the new generator.
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Change Orders 1 & 2 decreased the project by $760,165.51. With the increased costs in Change Order #3, the project cost has still been reduced by $385,297.28.

We recommend that the Village Board approve Change Order #3 with Joseph J. Henderson & Son, Inc.

MOTION: I move to approve Resolution 2022-_____, a Resolution Approving of Change Order #3 to the Contract Between Joseph J. Henderson & Son, Inc. and the Village of Bartlett for the Bittersweet Water Reclamation Facility Improvements for a $374,868.26 Increase in the Original Contract Sum.

RESOLUTION NO. 2022 - _____

A RESOLUTION APPROVING OF CHANGE ORDER NO. 3 TO THE CONTRACT BETWEEN THE VILLAGE OF BARTLETT AND JOSEPH J. HENDERSON & SON, INC. FOR THE BITTERSWEET WATER RECLAMATION FACILITY IMPROVEMENTS FOR A $374,868.26 INCREASE IN THE ORIGINAL CONTRACT SUM

WHEREAS, the Village of Bartlett (the "Village") and Joseph J. Henderson & Son, Inc. (the "Contractor") entered into an Agreement approved by the Village on November 2, 2021, but last signed on and dated November 30, 2021 (the "Contract") for the Bittersweet Water Reclamation Facility Improvements in an original contract amount of $35,320,000.00 (the "Original Contract Sum"); and

WHEREAS, the Contract was awarded to the Contractor because it was the lowest responsible and responsive bidder for the Project after advertisement for public bids; and

WHEREAS, the Project came in over budget so the Village looked for ways to reduce the cost of the Project by modifying the scope and specifications for the Project, Change Orders No. 1 & 2 resulted in a credit/decrease/reduction in the Original Contract Sum of $760,165.54; and

WHEREAS, the Village has continued to work with the Contractor to look for additional ways to modify the scope and specifications for the Project to further reduce the overall cost, but retain the overall quality of the Project, and has come up with a series of seven additional changes that combined will increase the cost of the Project by $374,868.26, which are more fully described in Change Order No. 3 which is attached hereto as Exhibit A; and

WHEREAS, the proposed change in the scope of the work and specifications may be authorized by a change order to the Contract, provided the Corporate Authorities make a determination in writing that (1) the circumstances said to necessitate the change in performance were not reasonably foreseeable at the time the Contract was signed; (2) the change is germane to the original contract as signed; OR (3) the change order is in the best interest of the unit of local government and authorized by law (720 ILCS 5/33E-9); and

WHEREAS, the decrease in the cost of the Project combining Change Orders No. 1, No. 2, and No. 3 is $385,297.28; and

WHEREAS, the amended Contract Sum for the Project with Change Orders No. 1 No. 2 and No. 3 is $34,934,702.72;

NOW, THEREFORE, BE IT RESOLVED by the Village President and Board of Trustees of the Village of Bartlett (the "Corporate Authorities"), Cook, DuPage and Kane Counties, Illinois, as follows:

SECTION ONE: The Board hereby finds and determines that the circumstances necessitating the change in the scope and specifications of the Project included in Change Order No. 3 were not reasonably foreseeable at the time the Contract was signed; that Change Order No. 3 is germane to the original Contract as signed; and/or that Change Order No. 3 is in the best interest of the Village and is authorized by law.

SECTION TWO: That Change Order No. 3 attached hereto as Exhibit A, which increases the Original Contract Sum for the Project by $374,868.72, is hereby approved, and the Village Administrator is hereby authorized and directed to sign Change Order No. 3 on behalf of the Village, making the new Contract Sum, after an "INCREASE" in that amount (and including the previous reductions approved by Change Order No. 1 and No. 2), $34,934,702.72 (the "Third Amended Contract Sum").

SECTION THREE: SEVERABILITY. The various provisions of this Resolution are to be considered as severable, and of any part or portion of this Resolution shall be held invalid by any Court of competent jurisdiction, such decision shall not affect the validity of the remaining provisions of this Resolution.

SECTION FOUR: REPEAL OF PRIOR RESOLUTIONS. All prior Ordinances and Resolutions in conflict or inconsistent herewith are hereby expressly repealed only to the extent of such conflict or inconsistency.

SECTION FIVE: EFFECTIVE DATE. This Resolution shall be in full force and effect upon passage and approval.

ROLL CALL VOTE:

AYES:
NAYS:
ABSENT:

PASSED:

APPROVED:

_____
Kevin Wallace, Village President

ATTEST:

_____
Lorna Giless, Village Clerk

CERTIFICATION

I, Lorna Giless, do hereby certify that I am the Village Clerk of the Village of Bartlett, Cook, DuPage and Kane Counties, Illinois, and that the foregoing is a true, complete and exact copy of Resolution 2022 - _____ enacted on October 18, 2022 and approved on October 18, 2022 as the same appears from the official records of the Village of Bartlett.

_____

Lorna Giless, Village Clerk

EXHIBIT A

STRAND ASSOCIATES®
Excellence in Engineering
Since 1946

Strand Associates, Inc.®
910 West Wingra Drive
Madison, WI 53715
(P) 608.251.4843
www.strand.com

October 10, 2022

CHANGE ORDER NO. 3

PROJECT:	Bittersweet Water Reclamation Facility Improvements
OWNER:	Village of Bartlett, Illinois
CONTRACT:	1-2021
CONTRACTOR:	Joseph J. Henderson & Son, Inc.

Description of Change

3a	Provide nitrate recycle pump variable frequency drive, aeration blower breaker, air conditioner breaker, and Control Building roof air condition breaker in accordance with Cost Proposal Request (CPR) No. 007 issued June 8, 2022.	ADD	$5,943.53
3b	Provide aluminum planking supports at Ultraviolet Light Disinfection Structure in accordance with CPR No. 008 issued June 15, 2022.	ADD	$14,036.07
3c	Provide mud valves at Aeration Train No. 1 in accordance with CPR No. 009 issued June 15, 2022.	ADD	$6,580.00
3d	Change the 6-inch water main piping from ductile iron piping to C900 Certalock polyvinyl chloride piping with tracer wire and test stations.	(DEDUCT)	($19,768.19)
3e	Change 4-, 6-, and 8-inch drain piping from Class 53 ductile iron piping to Class 52 ductile iron piping.	(DEDUCT)	($1,536.15)
3f	Provide standby generator and associated modifications in accordance with CPR No. 11 issued August 10, 2022, items 011-01, 011-03, 011-04, 011-05, 011-06, 011-07, and 011-10.	ADD	$368,755.00
3g	Change floor door 4001B and 4101A sizes to 36.75 inches by 37.75 inches. Change floor door 1502B size to 38 inches by 56 inches.	ADD	$858.00
TOTAL VALUE OF THIS CHANGE ORDER:		ADD	$374,868.26

Contract Price Adjustment

Original Contract Price	$35,320,000.00
Previous Change Order Adjustments	($760,165.54)
Adjustment in Contract Price this Change Order	$374,868.26
Current Contract Price including this Change Order	$34,934,702.72

Contract Substantial Completion Date Adjustment

Original Contract Substantial Completion Date	December 31, 2023
Contract Substantial Completion Date Adjustments due to previous Change Orders	0 Days
Contract Substantial Completion Date Adjustments due to this Change Order	0 Days
Current Substantial Contract Completion Dates including all Change Orders	December 31, 2023

Contract Final Completion Date Adjustment

Original Contract Final Completion Date	May 15, 2024
Contract Final Completion Date Adjustments due to previous Change Orders	0 Days
Contract Final Completion Date Adjustments due to this Change Order	0 Days
Current Final Contract Completion Dates including all Change Orders	May 15, 2024

This document shall become a supplement to the Contract and all provisions will apply hereto.

RECOMMENDED

_____ _____
ENGINEER–Strand Associates, Inc.® Date

APPROVED

_____ _____
CONTRACTOR–Joseph J. Henderson & Son, Inc. Date

APPROVED

_____ _____
OWNER–Village of Bartlett, Illinois Date

Change Order Item 3a

STRAND ASSOCIATES®

Cost Proposal Request
Bittersweet Water Reclamation Facility Improvements
Village of Bartlett
Contract 1-2021
June 8, 2022

COST PROPOSAL NO.: 007

TO: Joseph J. Henderson & Son, Inc.
ISSUED BY: Phil Severson

DISTRIBUTION

Jason Rudolph	Joseph J. Henderson & Son, Inc.
Dan Dinges	Village of Bartlett
Phil Severson	Strand Associates, Inc.®
Randy Oliphant	Strand Associates, Inc.®

Please submit an itemized quotation for changes in the Contract Price and Time incidental to proposed modifications to the Contract Documents described herein.

THIS IS NOT A CHANGE ORDER NOR A DIRECTIVE TO PROCEED WITH THE WORK DESCRIBED HEREIN.

DESCRIPTIONS AFFECTING THE DRAWINGS

Drawing 99-E6.11 (Sheet 197)

007-01 Change Aeration Zone 1C and Aeration Zone 2C Nitrate Recycle Pumps (NRP-30-01 and NRP-30-02) full load amps (FLA) to 16-amps. Increase the heavy duty VFD size and thermal magnetic circuit breaker to accommodate higher FLA for each pump.

007-02 Change Aeration Blowers No. 1 thru No. 3 (B-95-01, B-95-02, and B-95-03) full load amps (FLA) to 125-amps. Decrease the thermal magnetic circuit breaker to be rated for 200-amps and feeder cables to be 3~2/0 in 2" conduit for each blower. Resize associated ground wire for each blower per the NEC.

007-03 Change Air Conditioner FLA to 7.1-amps. Decrease the air conditioner thermal magnetic circuit breaker to be rated for 15-amps and feeder cables to be 3~#12 in 3/4" conduit. Resize associated ground wire per the NEC.

007-04 Add a 15-amp thermal magnetic circuit breaker to MCC-95 for the Control Building Roof Air Conditioner. Roof air conditioner FLA is 7.7-amps. Add 3~#12 in 3/4" conduit from MCC-95 to roof air conditioner. Size associated ground wire per the NEC.

JOSEPH J. HENDERSON & SON, INC.
GENERAL CONTRACTOR
ESTABLISHED 1928

4288 Old Grand Avenue
Gurnee, IL 60031
PH: 847-244-3222
FX: 847-244-2490

Strand Associates
910 West Wingra Dr.
Madison, WI 53715

July 29, 2022

Attn: Mr. Phil Severson, P.E.

Project: Bittersweet Water Reclamation Facility Improvements
Village of Bartlett
Contract 1-2021

Subject: CPR-007 - MCC-95 Changes

SAI: Time request not accepted. Supporting documentation was not provided.

Mr. Severson,

JJ Henderson is providing this proposal as requested by CPR-007 to modify MCC-95 as required. IPS and Morse Electric have included a breakdown of their costs as part of the proposal. IPS have indicated this change to the work will affect the lead time of the materials. ~~An extension of the contract times of 45 workdays (63 calendar days) will be required~~. Please incorporate the value of this change and additional contract time into an Owner Change Order so materials can be released into production upon approval.

Total Cost for this CPR-007: $5,943.53

Thank you,

Jason Rudolph

Jason Rudolph
Senior Project Manager
Joseph J. Henderson & Son, Inc.
Cell: 847-812-1072

Bittersweet Water Reclaimation Facility Improvements **7/29/2022**
Village of Bartlett
Contract 1-2021
CPR-007

Modifications to MCC-95				
Qty	**Unit**	**Description**	**Unit Price**	**Cost**
COST				
		Materials & Labor		
1	LS	See attached Proposal for Breakdown of Costs by IPS	$ 3,333.00	$ 3,333.00
1	LS	See attached Proposal for Breakdown of Costs by Morse Electric	$ 2,327.50	$ 2,327.50
		5 % JJH Mark-up		$ 283.03
		Total Cost		**$ 5,943.53**

STRAND ASSOCIATES®

Cost Proposal Request
Bittersweet Water Reclamation Facility Improvements
Village of Bartlett
Contract 1-2021
June 8, 2022

COST PROPOSAL NO.: 007

TO: Joseph J. Henderson & Son, Inc.
ISSUED BY: Phil Severson

DISTRIBUTION

Jason Rudolph	Joseph J. Henderson & Son, Inc.
Dan Dinges	Village of Bartlett
Phil Severson	Strand Associates, Inc.®
Randy Oliphant	Strand Associates, Inc.®

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007-02 Change Aeration Blowers No. 1 thru No. 3 (B-95-01, B-95-02, and B-95-03) full load amps (FLA) to 125-amps. Decrease the thermal magnetic circuit breaker to be rated for 200-amps and feeder cables to be 3~2/0 in 2" conduit for each blower. Resize associated ground wire for each blower per the NEC.

007-03 Change Air Conditioner FLA to 7.1-amps. Decrease the air conditioner thermal magnetic circuit breaker to be rated for 15-amps and feeder cables to be 3~#12 in 3/4" conduit. Resize associated ground wire per the NEC.

007-04 Add a 15-amp thermal magnetic circuit breaker to MCC-95 for the Control Building Roof Air Conditioner. Roof air conditioner FLA is 7.7-amps. Add 3~#12 in 3/4" conduit from MCC-95 to roof air conditioner. Size associated ground wire per the NEC.

Integrated Process Solutions, Inc.

Corporate Office: PO Box 26, Fosston, MN 56542

34696 412 St. SE
Fosston, MN 56542
218.435.1703

107 Avon Ave S Ste. 2
Avon, MN 56310
320.345.1457

606 Cooper Road
Waunakee, WI 53597
608.849.4375

PROPOSAL - CPR-007 Control Building Electrical

IPS #

DATE: 6/27/2022

IPS Project No. 2270

OWNER: VILLAGE OF BARTLETT, IL

CONTRACTOR: JJ HENDERSON & SON, INC.

PROJECT: BITTERSWEET WATER RECLAMATION FACILITY IMPROVEMENTS

Integrated Process Solutions, Inc. is pleased to offer the below changes for modifying the design and contruction of MCC-95, located in the Control Building. Changes includes re-arrangement of MCC buckets to accomdated larger VFDs associated with the nitrate recycle pumps, changing circuit breaker sizes, and adding a circuit breaker. The following page includes the new, preliminary MCC layout. Please advise if changes to this are desired.

Type	No.	Description	Qty	Unit	Unit Cost	Total
LABOR	CO-R0020	Labor - Project Management	0	Hour	$125	$0
LABOR	CO-R0030	Labor - Engineering (correspond with Rockwell for changes, update drawings, additions to drawings)	10	Hour	$125	$1,250
LABOR	CO-R0040	Labor - Programming, PLC & HMI and testing	0	Hour	$125	$0
LABOR	CO-R0060	Labor - CAD (update submittal drawings)	2	Hour	$95	$190
LABOR	CO-R0080	Labor - Field Service/StartUp	0	Hour	$125	$0
LABOR	CO-R0090	Labor - Electrical Construction Labor	0	Hour	$75	$0
LABOR	CO-R0100	Labor - Media	0	Hour	$55	$0
LABOR	CO-R0160	Labor - Production (new breaker - test, install nameplate, document)	0.5	Hour	$75	$38
LABOR	CO-R0940	Labor - Shipping/receiving/freight	0	Hour	$75	$0
LABOR	CO-R1000	Subcontractor	0	LS	$0	$0
MISC		Mileage	0	Mile	$0.65	$0
MISC		Hotel and Per Diem	0	Day	$180	$0
LABOR	R0940	Shipping & Crating	0	Hour	$40	$0
					TOTAL LABOR	$1,478
ITEM	R0950	Freight - Incoming and Outgoing	0	Each	$0	$0
ITEM	Materials	Rockwell Powerflex MCC changes	1	Each	$1,552	$1,552
ITEM	Materials	Additional nameplate	1	Lot	$25	$25
ITEM			0	Lot	$0	$0
ITEM			0	Each	$0	$0
ITEM			0	Lot	$0	$0
ITEM			0	Each	$0	$0
ITEM			0	Each	$0	$0
						$0
						$0
						$0
						$0
						$0

Material Sum	$1,577
Material OH&P at 15%	$278
Subtotal	$1,855
Tax	$0
Labor from Above	$1,478
Total	**$3,333**

Estimated **Change** in Contract Price: **$3,333**

Estimated Change in Contract Times: **45 working days**

Note: Lead time increases by 45 working days from date of approval.

SAI: Time request not accepted. Supporting documentation was not provided.

ELEVATION VIEW

(FRONT)

TOTAL LINEUP LENGTH = 220 [5588]

REV	APPROVED	DATE	STAGE
A	SONAL T	25-APR-22	APPROVAL

PROJ. DOC. TYPE: Mechanical Lineup

PROJECT:
IPS - BARTLETT IL REVISED
MEC-95

CUSTOMER:
Van Meter Inc
99137832
S012009083

ORDER-LINE NUMBER:
6505509371-000400

LANG.: ENG

Rockwell Automation

MECHANICAL ELEVATION

DRAWN BY: SONAL T

DATE: 22-Apr-22

SIZE D | 10006671743 | VER 0

10006671743-SC11.DRW

PROPOSED CHANGE ORDER

Morse Electric, Inc.

CCN #	**RFCO2_CPR007 NITRATE RCYCL VFD & BLOWER CHANGES**
Date:	7/20/2022
Project Name:	Bittersweet WWWTP
Project Number:	Bittersweet WWWTP
Page Number:	1

Work Description

We propose to furnish the labor, materail, equipment, and supervision required for the work associated with CPR 007, Nitrate Recycle Pump VFD and Blower HP changes , per the scope below:

007-01 - Change Aeration Zone 1C and Aeration Zone 2C Nitrate Recycle Pumps (NRP-30-01 and NRP-30-02) full load amps (FLA) to 16 amps. Increase the heavy duty VFD size and thermal magnetic circuit breaker to accomodate the higher FLA for each pump. THIS IS A NO COST CHANGE FOR MORSE ELECTRIC

007-02 - Change Aeration Blowers No. 1 thru No. 3 (B-95-01, B-95-02 and B-95-03) full load amps (FLA) to 125A. Decrease the thermal magnetic circuit breaker to be rated for 200A and feeder cables to be 3-2/0 in 2" conduit for each blower. Resize associated ground wire for each blower per the NEC. CREDIT IS BEING OFFERED ONLY FOR THE REDUCTION IN WIRE. THE 2-1/2" ALUMINUM CONDUIT IS ALREADY ON SITE AND NON-RETURNABLE, THEREFORE NO CREDIT IS BEING OFFERED FOR THE CONDUIT.

007-03 - Change Air Conditioner FLA to 7.1A. Decrease the air condtitioner thermal magnetic circuit breaker to be rated for 15A and Feeder cables to be 3#12 in 3/4" conduit. Resize associated ground wire per the NEC. CREDIT PROPOSAL FOR WIRE.

007-04 - Add a 15A thermal magnetic circuit breaker to MCC-95 for the Control Bldg. Roof Air Conditioner. Roof Air Conditioner FLA is 7.7A. Add 3#12 wires in 3/4" conduit from MCC-95 to roof air conditioner. Size associated ground wire per the NEC.
ADDER TO INCLUDE: A 100' 3/4" ALUMINUM CONDUIT RUN WITH 4/12 THHN WIRES, BLOCK WALL CORING AND TERMINATIONS.

Itemized Breakdown

Description	Qty	Total Mat.	Total Hrs.
3/4" ARC (AL)	100	206.81	10.00
3/4" ARC MYERS HUB	2	10.79	0.60
3/4" LB AL BODY, CVR, GASKET	1	7.69	0.68
1" C AL BODY, CVR, GASKET	1	11.19	0.90
3/4" ARC 90 ELBOW	6	100.65	3.15
3/4" AL STRUT CLAMP	12	46.84	0.92
#12 THHN	940	169.91	7.23
#10 THHN	-500	-138.22	-4.25
#6 THHN	126	98.00	1.68
#4 THHN	-126	-174.13	-1.94
#2/0 THHN	306	964.07	7.43
#4/0 THHN	-306	-1,628.84	-9.91
# 12 WIRE TERM-POWER	16	0.16	0.96

ORIGINAL

PROPOSED CHANGE ORDER

Description	Qty	Total Mat.	Total Hrs.
8' BLOCK CORE	2	20.00	2.00
Totals	**580**	**-305.08**	**19.45**

Summary

MATERIAL		
Total Material		**-305.08**
FOREMAN	(19.45 Hrs @ $113.10)	2,199.80
General Expenses		120.43
Overhead	(@ 10.000 %)	201.52
Markup	(@ 5.000 %)	110.83
Final Amount		**$2,327.50**

CLIENT ACCEPTANCE

CCN # RFCO2_CPR007 NITRATE RCYCL VFD & BLOWER CHANGES
Final Amount: $2,327.50

Name: _____

Date: _____

Signature: _____

Change Order #: _____

I hereby accept this quotation and authorize the contractor to complete the above described work.

ORIGINAL

Change Order Item 3b

JOSEPH J. HENDERSON & SON, INC.
GENERAL CONTRACTOR
ESTABLISHED 1928

4288 Old Grand Avenue
Gurnee, IL 60031
PH: 847-244-3222
FX: 847-244-2490

Strand Associates
910 West Wingra Dr.
Madison, WI 53715

9/15/22

Attn: Mr. Phil Severson, P.E.

Project: Bittersweet Water Reclamation Facility Improvements
Village of Bartlett
Contract 1-2021

Subject: CPR-008 – UV Planking Supports

Mr. Severson,

Joseph J. Henderson & Son, Inc. submits herewith the cost furnish and install additional UV Planking supports in accordance with CPR-008.

Total Additional Cost: $14,036.07

Sincerely,

Bill Marshalla

Bill Marshalla
Director of Operations
Joseph J. Henderson & Son, Inc.
PH: 847-244-3222

ESTIMATE SHEET

JOB:	1400-00	CONTRACTOR:	JJH	ESTIMATE NO.:	CPR-008
LOCATION:	BARTLETT BITTERSWEET WWTP	ENGINEER:	SAI	DATE:	09/06/22
ESTIMATOR:	BM	CHECKED BY:		BID DATE:	

JOB DESCRIPTION: CPR-008 - UV Disinfection Planking Supports

PHASE	DESCRIPTION	QTY.	UNIT	@	MATERIAL	HOURS	SUBC/MISC	TOTAL
				/				-
				/	-	-		-
	Dixie Metals- Additional Supports	1	LS	8775.00 /		-	8,775.00	8,775.00
	Aluminum I7x5.8 Support Beams							
				/	-	-		-
	Install additional supports	7	EA	/	-	28.00		3,094.28
	5/8"SS Exp Bolts	28	EA	12.00 /	336.00	-		336.00
				/	-	-		-
				/	-	-		-
				/	-	-		-
				/	-	-		-
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				/	-			-
				/	-			-
				/	-			-
				/	-			-
					336.00	28.00	8,775.00	12,205.28
						110.51		
				LABOR		3,094.28		
				MATERIAL		336.00		
				EQUIPMENT		8,775.00		
				SUB-TOTAL		12,205.28		
				15% OH&P		1,830.79		
				TOTAL CHANGE ORDER		**14,036.07**		

DIXIE METAL PRODUCTS, INC.

442 S.W. 54th Court
Ocala, FL 34474-1893

www.dixiemetals.com

352-873-2554

CHANGE ORDER #1

Project: BITTERSWEET WRF **Date: MARCH 31, 2022**

Attention: DAVID TRAVER

PER YOUR WRITTEN REQUEST PLEASE SEE THE COST IMPACT TO PROVIDE THE FOLLOWING:

ALUMINUM I7 X 5.8 SUPPORT BEAMS AT UV STRUCTURE
1 LOC /MILL-MASITC

$8775.00 F.O.B NOT INCLUDING TAX

NOTES

1. *DESIGN CALCULATIONS OR SIGNED AND SEALED DRAWINGS ARE NOT INCLUDED*
2. *FIELD MEASUREMENTS BY OTHERS*

EXCLUSIONS

1. *FILED WORK OR INSTALATION OF ANY KIND.*
2. *EPOXY OR GROUT.*
3. *NEOPRENE OF ANY KIND*
4. ANY ITEM NOT SPECIFICALLY LISTED IN THIS SCOPE.

THIS AMOUNT WILL BE INVOICED WITHIN 30 DAYS OF THE WORK. DIXIE METALS WILL NOT COMMENCE WITHOUT YOUR PRIOR AUTHORIZATION. KINDLY ISSUE A WRITTEN PURCHASE ORDER IF WE ARE TO PROCEED

AISC CERTIFIED FABRICATOR AND ERECTOR

Cost Proposal Request
Bittersweet Water Reclamation Facility Improvements
Village of Bartlett
Contract 1-2021
June 15, 2022

COST PROPOSAL NO.: 008

TO: Joseph J. Henderson & Son, Inc.
ISSUED BY: Phil Severson

DISTRIBUTION

Jason Rudolph — Joseph J. Henderson & Son, Inc.
Dan Dinges — Village of Bartlett
Troy W. Stinson — Strand Associates, Inc.®

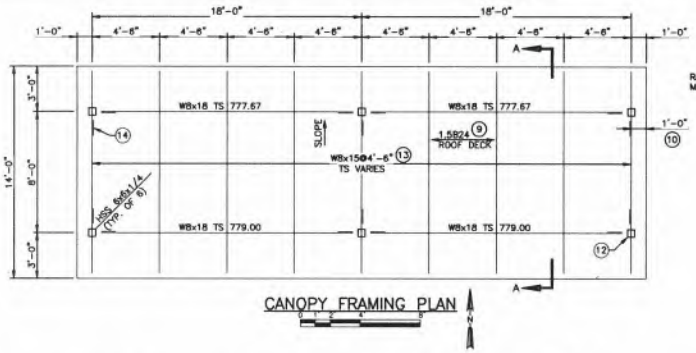
Please submit an itemized quotation for changes in the Contract Price and Time incidental to proposed modifications to the Contract Documents described herein.

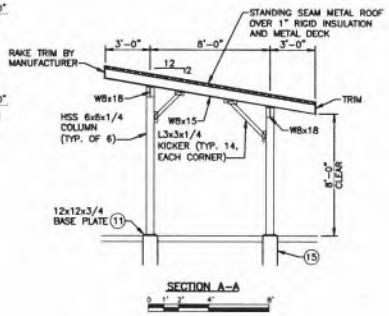
THIS IS NOT A CHANGE ORDER NOR A DIRECTIVE TO PROCEED WITH THE WORK DESCRIBED HEREIN.

DESCRIPTIONS AFFECTING THE DRAWINGS

Drawing 50-ASM3.01 (Sheet 127)

008-01 Add plank supports spanning 10'-0" across central weir trough channel. Plank supports shall be aluminum I 7 x 5.8 I-beams spaced at 5'-6" typical and one spacing of 6'-0" on west end. Plank shall be 1-1/2" thick and span from east to west. Fasten I-beams to concrete with 2~SS expansion bolts each end, one each side of web, embed 4".



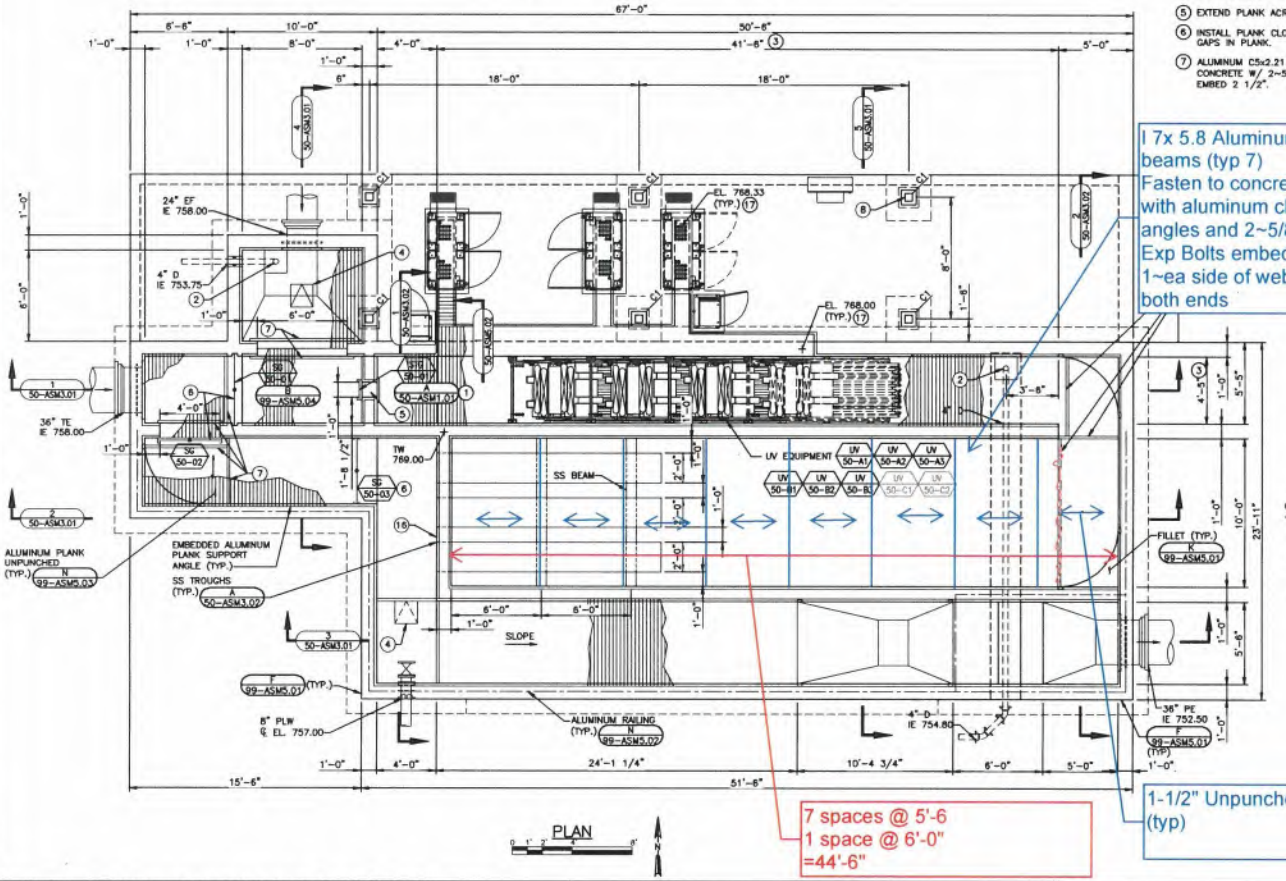


GENERAL NOTES:

1. SEE 99-ASM6.02 FOR GENERAL STRUCTURAL NOTES.
2. ALL UV EQUIPMENT LOCATIONS, DIMENSIONS, SERVICE TROUGH AND ASSOCIATED APPURTENANCES SHALL BE VERIFIED BY EQUIPMENT MANUFACTURER.
3. WALL REINFORCING NOT SHOWN THIS VIEW. SEE SECTIONS CORNERS AND TEES SHALL BE REINFORCED PER A 99-ASM5.01 AND H 99-ASM5.01
4. STANDING SEAM ROOF SHALL BE 24-GAUGE GALVANIZED STEEL, STAND N' SEAM, BY FABRAL, OR EQUAL WITH KYNAR COATING, COLOR BY OWNER. PROVIDE ALL REQUIRED CLIPS, ACCESSORIES, AND TRIM FOR A FINISHED INSTALLATION.
5. METAL DECK SHALL BE GALVANIZED STEEL MEETING ASTM A653 GRADE A AND MEETING STEEL DECK INSTITUTE STANDARDS.

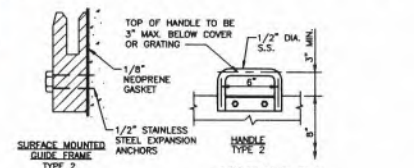
KEY NOTES:

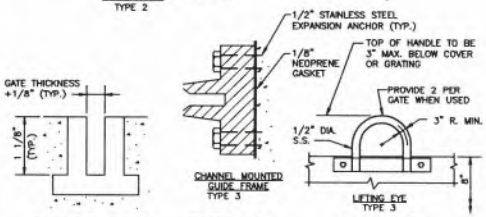
1. STOP GATE HANDLE SHALL EXTEND TO WITHIN 4 INCHES OF BOTTOM OF PLANK. PROVIDE 12-INCH REMOVABLE PLANK SECTION OVER GATE.
2. PROVIDE MUD DRAIN VALVE PER DETAIL B 15-ASM3.03 SIMILAR.
3. DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED BY EQUIPMENT MANUFACTURER.
4. PROVIDE 18"x18" ACCESS HATCH. PROVIDE SUPPLEMENTAL FRAMING.
5. EXTEND PLANK ACROSS OPENING.
6. INSTALL PLANK CLOSE TO GATE FRAME TO MINIMIZE GAPS IN PLANK.
7. ALUMINUM C5x2.21 GRATING SUPPORT. BOLT TO CONCRETE W/ 2-5/8" SS EXP. BOLTS EACH END, EMBED 2 1/2".
8. STEEL CANOPY COLUMN (TYP. OF 6). PROVIDE 1'-4"x1'-4" PIER WITH 4-#5 VERTICAL BARS AND #3@9" TIES.
9. 1.5B22 ROOF DECK FASTENED TO SUPPORTS IN 36/4 PATTERN (#12 TEK SCREWS) AND 1 SIDELAP CONNECTION (#10 TEK PER SPAN).
10. CANTILEVER ROOF DECK 1'-0".
11. PROVIDE 4-3/4" F1554 GRADE 36 ANCHOR BOLTS W/ NUT AND WASHER ON EMBEDDED END EMBED 1'-6".
12. SHEAR TAB CONNECTION.
13. W8x15'S TO RUN OVER TOPS OF COLUMNS AND W8x18 BEAMS. PROVIDE SLOPED BEARING AND PROVIDE STIFFENERS AT EACH BEARING LOCATION.
14. L3x3X1/4 KICKER (TYP. OF 14).
15. 16x16 PIER WITH 3'-0"x3'-0"x8" FOOTING W/ #4@6 E.W. CENTERED T/FTG. EL. 765.00 (TYP. OF 6).
16. 2'-0"x2'-9" TROUGH OPENING, BOTTOM EL. 762.00 (TYP. OF 3).
17. LAMP CABLE AND HYDRAULIC HOSE SERVICE TROUGH. SLOPE TO CHANNEL. VERIFY DIMENSIONS, LAYOUT AND DEPTH WITH EQUIPMENT MANUFACTURER. PROVIDE CABLE MANAGEMENT DIVIDERS OR BRACKETS AS REQUIRED BY EQUIPMENT MANUFACTURER.

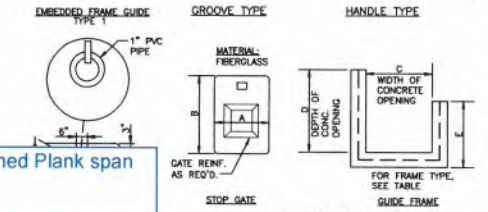


STOP GATE							GROOVES			
REFERENCE DWG. NUMBER	GATE NUMBER	NO. REQUIRED	THICKNESS	A	B	NO. OF HANDLES	TYPE OF HANDLES	NO. REQUIRED	TYPE OF GROOVES	C	D	R
50-ASM1.03	STG-50-01	1	1/4"	-	-	2	2	1	2	1'-0"	6'-0"	-

DIMENSIONS A AND B BY GATE MANUFACTURER.







A 50-ASM1.01 STOP GATES NO SCALE

ULTRAVIOLET LIGHT DISINFECTION PLAN

BITTERSWEET WATER RECLAMATION FACILITY IMPROVEMENTS
VILLAGE OF BARTLETT
DUPAGE COUNTY, ILLINOIS

NO.	REVISIONS	DATE:
1	ISSUED FOR CONSTRUCTION	12/01/2021
2	ADDENDUM NO. 2	07/28/2021

JOB NO. 1944.006
PROJECT MGR. TROY STINSON

STRAND ASSOCIATES®

SHEET 126
50-ASM1.01

Change Order Item 3c

JOSEPH J. HENDERSON & SON, INC.
GENERAL CONTRACTOR
ESTABLISHED 1928

4288 Old Grand Avenue
Gurnee, IL 60031
PH: 847-244-3222
FX: 847-244-2490

Strand Associates
910 West Wingra Dr.
Madison, WI 53715

9/6/22

Attn: Mr. Phil Severson, P.E.

Project: Bittersweet Water Reclamation Facility Improvements
Village of Bartlett
Contract 1-2021

Subject: CPR-009 – Aeration Train #1 Mud Valves

Mr. Severson,

Joseph J. Henderson & Son, Inc. submits herewith the cost complete concrete and pipe demolition as needed to install 10" mud valves in Aeration Zones 1C and 1B in accordance with CPR-009.

Total Additional Cost: $6,580.00

Sincerely,

Sam Henderson

Sam Henderson
Project Manager
Joseph J. Henderson & Son, Inc.
PH: 847-244-3222

ESTIMATE SHEET

JOB:	1400-00	CONTRACTOR:	JJH	ESTIMATE NO.:	CPR-009
LOCATION:	BARTLETT BITTERSWEET WWTP	ENGINEER:	SAI	DATE:	09/06/22
ESTIMATOR:	SH	CHECKED BY:		BID DATE:	

JOB DESCRIPTION: CPR-009 AERATION TRAIN #1 MUD VALVES

PHASE	DESCRIPTION	QTY.	UNIT	@	MATERIAL	HOURS	SUBC/MISC	TOTAL
				/				-
	Concrete Removals			/	-	-		-
	14" Dia. X 6" Deep Core	2	EA	750.00 /		-	1,500.00	1,500.00
	Break Out Concrete	2	EA	/ 3.00	-	6.00		654.00
				/	-	-		-
	Remove Existing 8" Dia. Pipe Bell	2	EA	/ 1.00	-	2.00		218.00
				/	-	-		-
	Surface Prep Concrete	2	EA	/ 1.00	-	2.00		218.00
				/	-	-		-
	Furnish & Install Adhesive Anchors	12	EA	/ 0.33	-	4.00		435.96
	Powers AC200+ Anchoring Epoxy	2	EA	30.00 /	60.00	-		60.00
	Anchor Studs	12	EA	10.00 /	120.00	-		120.00
				/	-	-		-
	Install Mud Valve	2	EA	/ 1.00	-	2.00		218.00
				/	-	-		-
	Grout Mud Valve in Place	2	EA	50.00 / 2.00	100.00	4.00		536.00
				/	-	-		-
	Credit - Install Mud Valve Existing Flange	2	EA	/ -1.00	-	(2.00)		(218.00)
				/	-			-
	Cost Increase to Upsize 8" Mud Valve to 10"	1	LS	1980.00 /	1,980.00			1,980.00
				/	-			-
				/	-			-
				/	-			-
				/	-			-
				/	-			-
				/	-			-
				/	-			-
					2,260.00	18.00	1,500.00	5,721.96
						109.00		
				LABOR		1,961.96		
				MATERIAL		2,260.00		
				EQUIPMENT		1,500.00		
				SUB-TOTAL		5,721.96		
				15% OH&P		858.29		
				TOTAL CHANGE ORDER		**6,580.25**		

LAI, Ltd.

Since 1958

5400 Newport Drive • Suite #10 • Rolling Meadows, Illinois 60008 • 847/392-0990 • FAX 847/392-1095

Change Order Proposal

To:	Sam Henderson	From:	Richard Hussey
	Joseph J. Henderson & Son, Inc.		LAI, Ltd
Email:	SamH@jjhenderson.com	Pages:	1 of 1
Phone:	(847) 276-1409	Date:	10/05/2022
Re:	Bartlett Bittersweet Mud Valves – Section 40 23 10 PO# 1400016		

Please find below Change Order amount requested due to changing (2) 8" mud valves to 10":

Qty	Description	Price Each	Extension
1	Change (2) 8" Mud Valves to 10" Valves w/Viton Seats	$ 1,978.00	$ 1,978.00
		Total	$ 1,978.00

Taxes not included.
Quote is valid for 30 days.

STRAND ASSOCIATES®

Cost Proposal Request
Bittersweet Water Reclamation Facility Improvements
Village of Bartlett
Contract 1-2021
June 15, 2022

COST PROPOSAL NO.: 009

TO: Joseph J. Henderson & Son, Inc.
ISSUED BY: Phil Severson

DISTRIBUTION

Jason Rudolph	Joseph J. Henderson & Son, Inc.
Dan Dinges	Village of Bartlett
Troy W. Stinson	Strand Associates, Inc.®
Randy Oliphant	Strand Associates, Inc.®

Please submit an itemized quotation for changes in the Contract Price and Time incidental to proposed modifications to the Contract Documents described herein.

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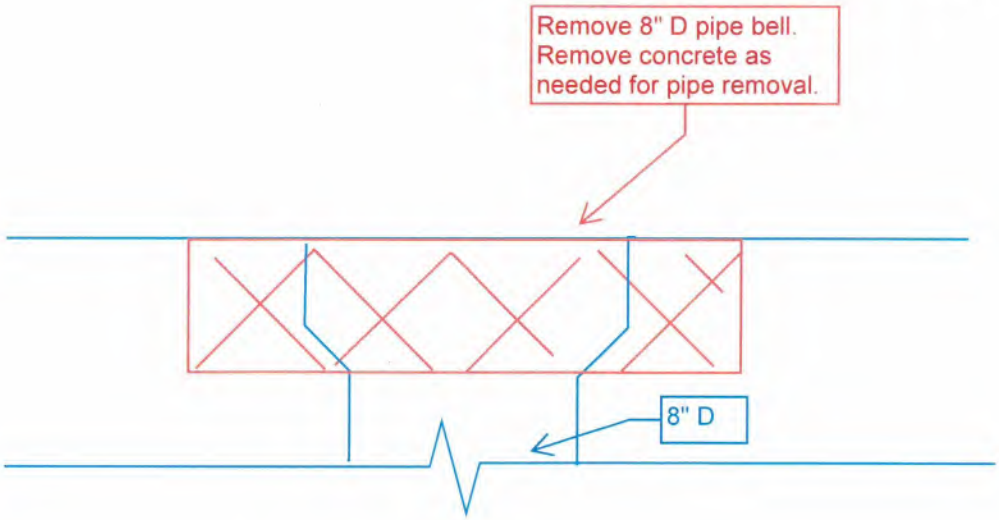
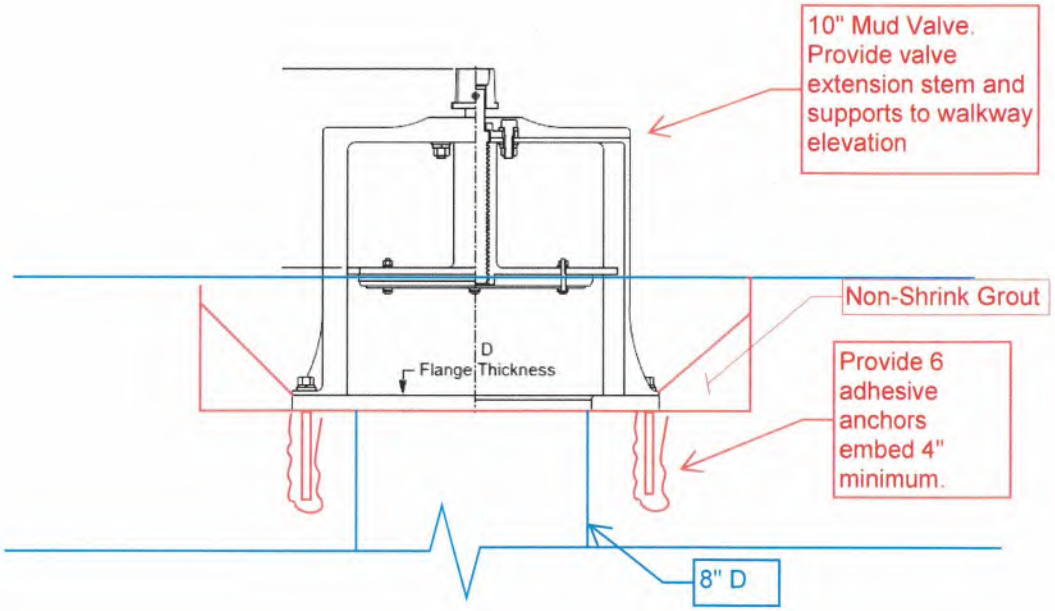
DESCRIPTIONS AFFECTING THE DRAWINGS

Drawing 30-ASM1.01 (Sheet 90)

009-01 Change the mud valves in Aeration Zone 1C and Aeration Zone 1B to provide demolition and mud valves as shown on the attached drawing.



EXISTING DRAIN DEMOLITION
NTS



AERATION TANK NO. 1 MUD VALVES
NTS

Change Order Item 3d

JOSEPH J. HENDERSON & SON, INC.
GENERAL CONTRACTOR
ESTABLISHED 1928

4288 Old Grand Avenue
Gurnee, IL 60031
PH: 847-244-3222
FX: 847-244-2490

Strand Associates
910 West Wingra Dr.
Madison, WI 53715

7/29/22 REV2

Attn: Mr. Phil Severson, P.E.

Project: Bittersweet Water Reclamation Facility Improvements
Village of Bartlett
Contract 1-2021

Subject: Cost Proposal - Utilize 6" PVC C-900 in place of 6" Ductile Iron

Mr. Severson,

JJ Henderson is providing this credit proposal to provide 6" PVC Certa-Lok C-900 restrained joint pipe in lieu of 6" Ductile Iron on the PW line. The credit is determined by comparing the costs of the two materials and the items required and or associated with them for proper install.

Total Credit for this material exchange is: $19,768.19

Thank you,

Jason Rudolph

Jason Rudolph
Senior Project Manager
Joseph J. Henderson & Son, Inc.
Cell: 847-812-1072

Bittersweet Water Reclaimation Facility Improvements **7/29/22 REV2**
Village of Bartlett
Contract 1-2021
CPR-000

Utilize PVC C-900 vs. Ductile Iron				
Qty	**Unit**	**Description**	**Unit Price**	**Cost**
CREDITS				
		Materials		
28	JTS	Cable Bonding Fittings	$ (15.00)	$ (420.00)
34	JTS	Cable Bonding Pipe	$ (15.00)	$ (510.00)
785	LF	6" DIP Tyton	$ (30.00)	$ (23,550.00)
515	LF	6" DIP TR-Flex	$ (32.19)	$ (16,577.85)
28	EA	6" DI Mega-Lugs	$ (75.00)	$ (2,100.00)
1	LS	25 % Restock on Mega-Lugs	$ 525.00	$ 525.00
		Retain Polywrap to wrap fittings		
COST				
		Materials		
1300	LF	6" C-900 PVC Certalock	$ 16.00	$ 20,800.00
3	Rolls	Tracer Wire (500' spools)	$ 150.00	$ 450.00
4	EA	Test Station, Light Duty box and marker	$ 95.00	$ 380.00
28	EA	PVC Mega-Lugs	$ 42.00	$ 1,176.00
1	LS	Delivery and Handling	$ 1,000.00	$ 1,000.00
		Total Net Credit		$ (18,826.85)
		Less Mark Up - 5% on Net Credit		$ (941.34)
		Final Credit Amount		**$ (19,768.19)**

Change Order Item 3e

JOSEPH J. HENDERSON & SON, INC.
GENERAL CONTRACTOR
ESTABLISHED 1928

4288 Old Grand Avenue
Gurnee, IL 60031
PH: 847-244-3222
FX: 847-244-2490

Strand Associates
910 West Wingra Dr.
Madison, WI 53715

8/3/22

Attn: Mr. Phil Severson, P.E.

Project: Bittersweet Water Reclamation Facility Improvements
Village of Bartlett
Contract 1-2021

Subject: CPR-000 - RFI-048 - Class 52 Ductile in Lieu of Class 53 Ductile at Drain Lines

Mr. Severson,

JJ Henderson is providing this CREDIT proposal to utilize Class 52 Ductile Iron piping in lieu of the specified Class 53 Ductile Iron piping at all drain lines per RFI-048.

Total Credit $1,536.15

Sincerely,

Jason Rudolph

Jason Rudolph
Senior Project Manager
Joseph J. Henderson & Son, Inc.
PH: 847-244-3222 FX: 847-244-9572
Cell: 847-812-1072

Bittersweet Water Reclaimation Facility Improvements **8/3/2022**
Village of Bartlett
Contract 1-2021
CPR-000

Class 53 to Class 52 Ductile at Drain Lines				
Qty	**Unit**	**Description**	**Unit Price**	**Cost**
COST				
		Materials & Labor		
1	LS	Credit to utilize Class 52 Ductile Iron Pipe in lieu of Class 53 at all drain lines	$ 1,463.00	$ 1,463.00
		Total Net Credit		$ 1,463.00
		Less Mark Up - 5% on Net Credit		$ 73.15
		Final **Credit** Amount		**$ 1,536.15**

Rudolph, Jason M.

From: Severson, Phil <Phil.Severson@strand.com>
Sent: Monday, July 25, 2022 8:26 AM
To: Henderson, Sam; Rudolph, Jason M.
Cc: Santos, Jorge
Subject: RE: Bartlett RFI 048 Class 52 ductile iron pipe

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Jason and Sam,

The Owner will accept the proposed change of 4", 6", and 8" drain underground ductile iron piping from class 53 to class 52 with a credit of $1,463.00. Please provide a cost proposal with supporting pricing information from Core & Main to be included in the pending change order.

Thanks,
Phil

From: Henderson, Sam <SamH@jjhenderson.com>
Sent: Friday, July 22, 2022 12:18 PM
To: Severson, Phil <Phil.Severson@strand.com>; Rudolph, Jason M. <JasonR@jjhenderson.com>
Cc: Santos, Jorge <JorgeS@jjhenderson.com>
Subject: RE: Bartlett RFI 048 Class 52 ductile iron pipe

[EXTERNAL EMAIL]: Verify sender before opening links or attachments.

The total credit would be $1,463.00. This includes the 5% we have to give back on the actual cost of the credit per Article 11 of the GC's.

Sam Henderson
Project Manager
Joseph J. Henderson & Son, Inc.
(847) 276-1409 Cell
(847) 244-3222 Office

From: Severson, Phil <Phil.Severson@strand.com>
Sent: Friday, July 22, 2022 9:38 AM
To: Rudolph, Jason M. <JasonR@jjhenderson.com>
Cc: Henderson, Sam <SamH@jjhenderson.com>; Santos, Jorge <JorgeS@jjhenderson.com>
Subject: RE: Bartlett RFI 048 Class 52 ductile iron pipe

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Jason and Sam,

What overall credit is proposed for this change? Can you provide a minimum credit and then follow-up with the cost proposal later?

Thanks,
Phil

From: Rudolph, Jason M. <JasonR@jjhenderson.com>
Sent: Wednesday, July 20, 2022 8:31 AM
To: Severson, Phil <Phil.Severson@strand.com>
Cc: Henderson, Sam <SamH@jjhenderson.com>; Santos, Jorge <JorgeS@jjhenderson.com>
Subject: RE: Bartlett RFI 048 Class 52 ductile iron pipe

[EXTERNAL EMAIL]: Verify sender before opening links or attachments.

Phil,

See below for price differences, provided by Core and Main, between Class 53 and Class 52 pipe as requested.

Difference in cost for 8" Tyton Joint Pipe Per Foot - -$2.41

Difference in cost for 6" Tyton Joint Pipe Per Foot - -$1.24

Difference in cost for 4" Tyton Joint Pipe Per Foot - +$0.36

Thanks.

Jason Rudolph
Senior Project Manager
Joseph J. Henderson & Son, Inc.
847-812-1072

Sent from Mail for Windows

From: Rudolph, Jason M.
Sent: Tuesday, July 19, 2022 2:38 PM
To: Severson, Phil
Cc: Henderson, Sam; Santos, Jorge
Subject: RE: Bartlett RFI 048 Class 52 ductile iron pipe

We don't have the numbers yet. Core and Main is working on it.

There may be a slight credit.

Can we get permission to use the pipe on the remaining drain work at Structure 50? This would be 2 sticks of pipe so we can finish the drain.

Thanks.

Jason Rudolph
Senior Project Manager
Joseph J. Henderson & Son, Inc.
847-812-1072

Sent from Mail for Windows

From: Severson, Phil
Sent: Tuesday, July 19, 2022 2:37 PM
To: Rudolph, Jason M.
Cc: Henderson, Sam; Santos, Jorge
Subject: Bartlett RFI 048 Class 52 ductile iron pipe

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Jason,

Following up on the discussion last week. Any updates on the cost difference and proposed credit regarding RFI 048?

Thanks,
Phil

Phil Severson, P.E.
Strand Associates, Inc.®
608.251.4843 ext. 1248
phil.severson@strand.com | www.strand.com
P.E. (TX, WI)

STRAND ASSOCIATES®
Excellence in Engineering℠

JOSEPH J. HENDERSON & SON, INC.
General Contractor ~ Design Builder
Established 1928

4288 Old Grand Avenue
Gurnee, IL 60031
PH: (847)244-3222

Request For Information

TO: Strand Associates, Inc.	**RFI #:** 048
CC:	**Date:** 7/13/2022
Subject: Buried Ductile Iron Drain Pipe Material	**Spec Section:** 33 30 10
Drawing: 44, 46, 47	

This is a request for clarification/interpretation on the following:
Reference attachment.

Prepared By: Sam Henderson	Date Response Needed: 7/15/2022

Response:

See the following page.

Response Prepared By:
Response Returned to Contractor On:
CC:

STRAND ASSOCIATES®

Request for Information

Contract No.:	1-2021	RFI No.:	048 ~~046~~
Project Name:	Bittersweet Water Reclamation Facility Improvements	Date Received:	**7/13/2022**
Owner:	Village of Bartlett, IL	Date Required:	**7/15/2022**
Contractor:	Joseph J. Henderson & Son, Inc.	Date Responded:	7/25/2022
Specification Section:	33 30 10	Page No.:	44, 46, 47
Drawing Sheet No.:	05-M1.02, 05-M1.04, 05-M1.05	Detail:	N/A

REQUEST:

Specification Section 33 30 10, Part 2.03.A calls for 4", 6", & 8" Ductile Iron piping to be Class 53.

We were notified by our pipe supplier that Class 53 pipe is not available and will not be for the foreseeable future, however Class 52 is.

We request approval to furnish and install Class 52 Ductile Iron Piping for the 4", 6", & 8" Drain lines. Reference the attached drawing for locations.

PROPOSED SOLUTION (If applicable):

By: JJ Henderson & Son, Inc.	Signature: *Sam Henderson*	Date: 7/13/2022

RESPONSE:

Contractor provided a proposed credit of $1,463.00 for this change. The 4", 6", and 8" drain piping is acceptable to Owner to be Class 52 piping for the proposed credit. The Class 52 4", 6", and 8" ductile irong drain piping shall be as specified in Section 33 30 10 - Buried Piping and Appurtenances.

Provide a cost proposal for this change to be included in the pending change order.

STRAND ASSOCIATES®

Request for Information

By: Phil Severson	Signature: Phil Severson	Date: 7 / 25 /2022

Change Order Item 3f

STRAND ASSOCIATES®

Cost Proposal Request
Bittersweet Water Reclamation Facility Improvements
Village of Bartlett
Contract 1-2021
August 10, 2022

COST PROPOSAL NO.: 011

TO: Joseph J. Henderson & Son, Inc.
ISSUED BY: Troy W. Stinson

DISTRIBUTION

Jason Rudolph — Joseph J. Henderson & Son, Inc.
Dan Dinges — Village of Bartlett
Phil Severson — Strand Associates, Inc.®

Please submit an itemized quotation for changes in the Contract Price and Time incidental to proposed modifications to the Contract Documents described herein.

THIS IS NOT A CHANGE ORDER NOR A DIRECTIVE TO PROCEED WITH THE WORK DESCRIBED HEREIN.

DESCRIPTIONS AFFECTING THE SPECIFICATIONS

011-01 Replace Section 26 32 13-Standby Power System (paralleling controls and modifications to existing generators) with the attached Section 26 32 13-Standby Power System CPR No. 11 (new generator). Generator shall be as manufactured by Caterpillar. Contact Joe Gregorovich of Altorfer Power Systems, (630) 450-7958, and reference the cost proposal included as an appendix with this CPR. CONTRACTOR and generator manufacturer and/or supplier may renegotiate any elements of the proposal including, but not limited to, scope of supply, price and delivery, as mutually agreed, while still meeting all Contract requirements. Note that the proposal is provided for CONTRACTOR's convenience in negotiation of a final agreement with the generator manufacturer and/or supplier and shall not supersede any Contract requirements

011-02 Provide a credit for the deletion of all work associated with paralleling controls and modifications to existing generators.

011-03 Provide a credit for the deletion of PLC inputs and all associated conduit and wiring for signals associated with the 500kW Standby Generator listed in Section 26 09 90-SCADA System I/O Listing under SCC-95. The PLC inputs and associated conduit and wiring listed under "600kW Standby Generator" shall be used for statuses/alarms from the new generator.

011-04 Provide a credit for construction sequencing associated with installation of a new generator as opposed to reusing the existing generators. Installation of the new generator may begin at any time. The new generator, if it can be obtained and installed in time for the various outages, may be used as a temporary power source for electrical outages described in the electrical construction sequence in Section 01 11 00-Summary of Work. CONTRACTOR will be responsible for all generator system operation, including but not limited to, fuel costs and alarm monitoring during any planned power outages.

DESCRIPTIONS AFFECTING THE DRAWINGS

Drawing 05-E1.01

011-05 Provide all work associated with the generator installation as shown on the attached updated electrical site plan and enlarged plan (05-E4.01, new plan sheet).

Drawing 95-D1.01

Please submit individual itemized quotations for each of the items below.

011-06 Remove both existing generators. It is anticipated that the existing double door on the south wall of the Generator Room is sufficient to remove generators without additional openings. Contractor shall field verify. Contractor is responsible for dismantling generators as required for removal. Disconnect and plug NPW piping, exhaust piping, and all other ancillary connections to the existing generators.

011-07 Remove all existing generator exhaust piping and appurtenances. Provide a galvanized steel cap on the existing generator exhaust piping.

011-08 Provide a potential credit for CONTRACTOR salvage of both existing generators. If this potential credit is not accepted, the existing generators shall be removed and remain property of Owner. Contractor shall move generators to Owner-directed location on the WWTP site.

011-09 Provide a separate cost for the following demolition. Remove concrete equipment bases and patch floor to match existing under both existing generators. Remove day tanks, cooling unit, interior fuel piping, and appurtenances. Remove generator cooling NPW piping and appurtenances to isolation valve in basement and cap piping.

Drawing 99-E6.01

011-10 Provide conduit and wiring from the new generator to SWBD-95 as shown on the attached updated one-line diagram. Provide circuit breaker in MCC-95, transformer, circuit breaker disconnect, and associated conduit and wiring as shown on the attached updated one-line diagram. Transformer shall be wall-mounted on the north wall of the Blower Room in Structure 95. Provide a credit for all conduit and wiring from the existing generators to SWBD-95.

SECTION 26 32 13

STANDBY POWER SYSTEM

PART 1–GENERAL

1.01 SUMMARY

A. Work Included: Steel base assembly, diesel engine, generator, engine-generator set controls, environmental systems.

B. Related Sections and Divisions:
   1. Applicable provisions of Division 01 shall govern work in this section.
   2. The following listing of related sections is provided for the convenience of CONTRACTOR and is not necessarily all-inclusive. Other sections of the specifications not referenced below shall also apply to the extent required for proper performance of this work. All other sections of Division 26.

1.02 SUBMITTALS

A. Submit shop drawings and product data in accordance with provisions of Section 01 33 00–Submittals.

B. Shop drawings shall include the following:
   1. Detailed descriptions of equipment to be furnished, including all deviations from these specifications.
   2. Detailed layouts of all equipment and ancillary items.
   3. The manufacturer shall furnish schematic and wiring diagrams for the generator and an interconnection wiring diagram for the entire standby system. Test reports certified by the manufacturer shall be provided to ENGINEER for the entire system.

C. Include all fees and coordination to obtain the aboveground storage tank permit for the subbase fuel tank as required in Paragraph 3.01.G.

1.03 QUALITY ASSURANCE

A. The generator shall be listed by Underwriters Laboratories, Inc., UL2200, and be certified by the Canadian Standards Association.

1.04 OPERATING CONDITIONS

A. Engine-generator set shall be capable of continuous standby rating at 1,800 rpm, 0.8 PF, three-phase, 3-wire, 480 volts, at 60 hertz, and shall have a minimum capability of 900 kW, 1125 kVA prime and 1000 kW, 1250 kVA standby.

B. The generator set manufacturer shall verify the engine is capable of driving the generator with all accessories in place and operating, at the generator set kW rating after derating for the range of temperature expected in service, and the altitude of the installation. Site conditions are 100°F maximum ambient and 900 feet altitude.

C. Voltage regulation shall be ±0.5% of rated voltage for any constant load between no load and rated load.

D. Frequency regulation shall be isochronous from steady state no load to steady state rated load. Random frequency variation with any steady load from no load to full load shall not exceed ±0.25%.

E. Random Voltage Variation: The cyclic variations in RMS voltage shall not exceed ±0.5% of rated voltage for constant loads from no load to rated load, with constant ambient and operating temperature.

F. Total Harmonic Distortion: The sum of AC voltage wave-form harmonics shall meet NEMA MG1 and shall not exceed 5% of rated voltage (L-N, L-L, L-L-L), and no single harmonic shall exceed 3% of rated voltage.

G. Telephone Influence Factor: TIF shall be less than 50 per NEMA MG1-22.43.

H. The engine-generator set shall accept a single step load of 100% nameplate kW and power factor, less applicable derating factors, with the engine-generator set at operating temperature.

I. Motor starting capability shall be a minimum of 5521 kVA. The generator set shall be capable of recovering to a minimum of 90% of rated no load voltage following the application of the specified kVA load at near zero power factor applied to the generator set. Maximum voltage dip on application of this load, considering both alternator performance and engine speed changes shall not exceed 25%.

1.05 WARRANTY

A. Standard One-Year Warranty: Unless otherwise stated below, manufacturer shall warrant the equipment to be free from defects in material and workmanship for a period of one year from the earlier of either the date established for partial utilization in accordance with GC15.03 and 15.04, as modified in the Supplementary Conditions, or Substantial Completion of the project.

PART 2–PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. The AC engine-generator set shall be as manufactured by Cummins Power Generation Model DQFAD, Kohler, or Caterpillar.

B. The drawings and specifications were prepared based on Cummins Power Generation. CONTRACTOR shall include in the Bid and shall be responsible for the cost of any changes to accommodate other equipment including, but not limited to, structural, mechanical, and electrical work. CONTRACTOR shall also pay additional costs necessary for revisions of drawings and/or specifications by ENGINEER.

2.02 STEEL BASE ASSEMBLY

A. The engine-generator set shall be mounted on a heavy-duty steel base to maintain alignment between components. The base shall incorporate a battery tray with hold-down clamps within the rails.

B. The steel base assembly shall be provided with an integral fuel tank with a minimum usable fuel capacity of 2,000 gallons as required to provide a minimum continuous runtime of 24 hours at full load without re-fueling. A fuel gauge shall be mounted within the tank. The fuel tank shall be furnished with a rust preventative coating. The fuel tank shall be pressure tested for a minimum of 2 hours to provide its integrity. The fuel tank shall be UL-142 listed and labeled, and include secondary containment. Fuel tank shall be Illinois-labeled and manufactured in accordance with the 2018 International Building Code. CONTRACTOR shall obtain tank installation plan review and written approval from the Office of the Illinois Fire Marshall or authorized agent per the Office of the Illinois Fire Marshall prior to tank installation. All costs associated with plan approval shall be included in the bid.

C. Provide a low-level alarm activated at 30% for fuel tank with spare contacts for future remote indication.

D. Provide a float switch in the rupture basin for remote indication of fuel tank leak.

2.03 ACCESS STAIRS AND PLATFORMS

A. Provide stairway-type access platforms on both sides of the generator as shown on the Drawings. Stairs and platforms shall be designed to support a uniform 100 PSF live load, and shall conform to the requirements of OSHA performance standards for public and industrial applications and the 2018 International Building Code. Platform heights shall be flush with bottom of entrance door frames, be 48 inches wide, and length as required to extend continuously along the side of the generator and for all entrance doors to use the same platform and stairway. Stairway and platform structure shall be aluminum construction with aluminum handrail extended above the platform to meet the requirements of OSHA performance standards for public and industrial applications and the 2018 International Building Code. Stairway and platform walking surfaces shall be molded, fire-resistant, grit-injected, yellow fiberglass grating in a square-mesh pattern. Fiberglass grating shall be as manufactured by McNICHOLS, or equal. Bolt fiberglass grating section together with stainless-steel hardware as required. Generator enclosure shall include corrosion-resistant, stainless-steel hardware as required to rigidly attached stairway and platform structure to generator enclosure.

2.04 ENGINE

A. The engine shall be stationary, liquid-cooled, diesel for use with No. 2 diesel fuel. The design shall be 4-cycle, 12-cylinder, minimum displacement of 1,860 cubic inches, as required by engine manufacturer. Engine shall be certified as capable of driving the generator of the rating indicated above on a continuous standby basis for the duration of normal source interruptions.

B. Engine accessories shall include the following:
   1. A 35-volt DC electric starter as required by the engine manufacturer.
   2. Replaceable dry element air cleaner with restriction indicator.

3. Positive displacement, mechanical, full-pressure lubrication oil pump, full-flow lubrication oil filters with replaceable elements, pressure relief valve, dipstick oil level indicator, and oil drain valve with hose extension. Provide all lubricants for proper operation of the unit.
4. An electronic governor system shall provide automatic isochronous frequency regulation. The governing system dynamic capabilities shall be controlled as a function of engine coolant temperature to provide fast, stable operation at varying engine operating temperature conditions. The control system shall actively control the fuel rate and excitation as appropriate to the state of the generator set. Fuel rate shall be regulated as a function of starting, accelerating to start disconnect speed, and accelerating to rated speed.
5. Engine protective devices to indicate alarm and engine shutdown for the following:
   a. Low coolant temperature alarm.
   b. Low coolant level alarm and shutdown.
   c. Low lubrication oil pressure alarm and shutdown.
   d. High coolant temperature alarm and shutdown.
   e. Over-speed shutdown.
   f. Over-crank shutdown.
6. Battery charging alternator, 40-amp minimum, with solid-state voltage regulator.
7. Engine shall be radiator-cooled by engine-mounted radiator system including belt-driven pusher fan, coolant pump, and thermostat temperature control. Rotating parts shall be guarded against accidental contact. The cooling system shall be rated for full-rated load operation in a 104°F ambient condition. Provide radiator drain extension to the side of the generator. Extension shall include shutoff valve.
8. The equipment supplier shall provide 50% ethylene glycol antifreeze solution to fill engine cooling system.
9. Engine-mounted thermostatically controlled coolant heaters (quantity of two) to aid in quick starting. The coolant heaters shall be sized as recommended by the engine manufacturer to warm the engine to a minimum of 104°F in a 40°F ambient, in compliance with NFPA 110 requirements. Heaters shall be rated single-phase, 208 volts, approximately 3,750 watts each, and be disconnected whenever the engine starts. Heaters shall be UL 499 listed and labeled. The coolant heater(s) shall include provisions to isolate the heater for replacement of the heater element without draining the coolant from the generator set. CONTRACTOR shall provide proper circuit from normal utility power source.
10. Vibration isolators, spring/pad type, quantity as recommended by the generator set manufacturer.
11. An engine-driven, mechanical, positive displacement fuel pump and fuel filter with replaceable spin-on canister element.
12. Flexible supply and return fuel lines.
13. The engine shall be provided with all fuel system piping required for automatic operation of the system. All piping shall be black iron and be sized to provide proper fuel flow for the engine.
14. Provide a 150-watt, 120 VAC engine oil heater for generators located outdoors.

2.05 ENGINE EXHAUST SYSTEM

A. Exhaust muffler shall be provided for the engine of size as recommended by manufacturer. Muffler shall be of the critical grade-type. Exhaust inlet location shall be selected by CONTRACTOR. Coordinate with Division 23 based on actual installation and project conditions.

B. Stainless steel flexible exhaust connections shall be provided as required for connection between engine exhaust manifold and exhaust line in compliance with applicable codes and regulations.

C. Provide an exhaust condensation trap with manual drain valve to trap and drain off exhaust condensation to prevent condensation from entering the engine.

D. Provide a suitable rain cap at the stack outlet. Provide all necessary flanges and special fittings for proper installation.

2.06 STARTING AND CONTROL BATTERIES

A. A UL-listed/CSA-certified 10-ampere voltage regulated battery charger shall be provided for the engine-generator set.

B. Charger shall be UL 1236-BBHH listed and CSA or CUL certified for use in emergency applications.

C. The charger shall be compliant with UL 991 requirements for vibration resistance.

D. The charger shall be capable of charging a fully discharged battery without damage to the charger. It shall be capable of returning a fully discharged battery to fully charged condition within 24 hours. The charger shall be UL labeled with the maximum battery amp-hour rating that can be recharged within 24 hours. The label shall indicate that the charger is suitable for charging of 200 AH batteries in accordance with NFPA requirements.

E. The charger shall incorporate a 4-rate charging algorithm, to provide trickle charge rate to restore fully discharged batteries, a bulk charge rate to provide fastest possible recharge after normal discharge, an absorption state to return the battery to 100% of charge, and a float stage to maintain a fully charged battery and supply battery loads when the generator set is not operating. In addition, the charger shall include an equalization timer. Charge rates shall be temperature compensated based on the temperature directly sensed at the battery.

F. The DC output voltage regulation shall be within ±1%. The DC output ripple current shall not exceed 1 amp at rated output current level.

G. The charger shall include the following features:
   1. Two-line alphanumeric display with programming keys to allow display of DC output ammeter and voltmeters (5% accuracy or better), display alarm messages, and perform programming.
   2. LED indicating lamps to indicate normal charging (green), equalize charge state (amber), and fault condition (red).
   3. AC input overcurrent, over voltage, and under voltage protection.
   4. DC output overcurrent protection.
   5. Alarm output relay.
   6. Corrosive-resistant aluminum enclosure.

H. A calcium/lead antimony storage battery set of the heavy-duty starting-type shall be provided. Battery voltage shall be compatible with starting system. The battery set shall be rated no less than 1600 CCA and shall be capable of a minimum of three 15-second cranking cycles. A battery rack constructed in conformance with NEC requirements and necessary cables and clamps shall be provided.

2.07 GENERATOR

A. The generator shall be a single prelubricated bearing, self-aligning, 4-pole, two-thirds pitch, brushless, synchronous-type, revolving field with amortisseur windings, and with direct driven centrifugal blower fan for proper cooling and minimum noise. No brushes will be allowed. Generator shall be directly connected to engine fly wheel housing and driven through a flexible coupling to provide permanent alignment. Generator design shall prevent potentially damaging shaft currents.

B. Insulation shall meet NEMA standards for Class H and shall be UL 1446 listed. The maximum temperature rise shall not exceed 125°C at 40°C ambient.

C. The generator shall be three-phase, broad-range, reconnectable and shall have 12 leads brought out to allow connection by user to obtain any of the available voltages for the unit.

D. The generator set shall be capable of delivering rated output (kVA) at rated frequency and power factor, at any voltage not more than 5% above or below rated voltage.

E. A permanent magnet generator (PMG) shall be included to provide a reliable source of excitation power for optimum motor starting and short circuit performance. The PMG and controls shall be capable of sustaining and regulating current supplied to a single-phase or three-phase fault at approximately 300% of rated current for not more than 10 seconds.

F. The subtransient reactance of the alternator shall not exceed 15%, based on the standby rating of the generator set.

G. Provide a 2000 amp mainline circuit breaker with the engine-generator set. Circuit breaker shall meet the requirements specified in Section 26 28 00–Overcurrent Protective Devices.

2.08 ENGINE-GENERATOR SET CONTROL

A. The generator set shall be provided with a microprocessor-based control system that is designed to provide automatic starting, monitoring, and control functions for the generator set. The control system shall also be designed to allow local monitoring and control of the generator set, and remote monitoring and control as described in this specification.

B. The generator set mounted controls shall include the following features and functions:
   1. Control Switches:
      a. Mode Select Switch: The mode select switch shall initiate the following control modes. When in the RUN or MANUAL position the generator set shall start, and accelerate to rated speed and voltage. In the OFF position the generator set shall immediately stop, bypassing all time delays. In the AUTO position the generator set shall be ready to accept a signal from a remote device to start and accelerate to rated speed and voltage.
      b. EMERGENCY STOP switch: Switch shall be Red "mushroom-head" pushbutton. Depressing the emergency stop switch shall cause the generator set to immediately shut down and be locked out from automatic restarting.
      c. RESET switch: The RESET switch shall be used to clear a fault and allow restarting the generator set after it has shut down for any fault condition.
      d. PANEL LAMP switch: Depressing the panel lamp switch shall cause the entire panel to be lighted with DC control power. The panel lamps shall automatically be switched

off 10 minutes after the switch is depressed, or after the switch is depressed a second time.

C. Generator Set AC Output Metering: The generator set shall be provided with a metering set including the following features and functions:
   1. Digital metering set, 1% accuracy, to indicate generator RMS voltage and current (all three phases), frequency, output current, output kW, kWh, and power factor. Generator output voltage shall be available in line-to-line and line-to-neutral voltages, and shall display all three-phase voltages (line to neutral or line to line) simultaneously.
   2. The control system shall log total number of operating hours and total kWh, as well as total values since reset.

D. Generator Set Alarm and Status Display:
   1. The generator set control shall include LED alarm and status indication lamps. The lamps shall be high-intensity LED type. The lamp condition shall be clearly apparent under bright room lighting conditions. Functions indicated by the lamps shall include:
      a. The control shall include green lamps to indicate that the generator set is running at rated frequency and voltage, and that a remote start signal has been received at the generator set. The running signal shall be based on actual sensed voltage and frequency on the output terminals of the generator set.
      b. The control shall include a flashing red lamp to indicate that the control is not in automatic state and red common shutdown lamp.
      c. The control shall include an amber common warning indication lamp.
   2. The generator set control shall indicate the existence of the warning and shutdown conditions on the control panel. Conditions required to be annunciated shall include:
      a. Low oil pressure (warning).
      b. Low oil pressure (shutdown).
      c. Oil pressure sensor failure (warning).
      d. Low coolant temperature (warning).
      e. High coolant temperature (warning).
      f. High coolant temperature (shutdown).
      g. High oil temperature (warning).
      h. Engine temperature sensor failure (warning).
      i. Low coolant level (warning).
      j. Fail to crank (shutdown).
      k. Fail to start/overcrank (shutdown).
      l. Overspeed (shutdown).
      m. Low DC voltage (warning).
      n. High DC voltage (warning).
      o. Weak battery (warning).
      p. Low fuel tank (warning).
      q. High AC voltage (shutdown).
      r. Low AC voltage (shutdown).
      s. Under frequency (shutdown).
      t. Overcurrent (warning).
      u. Overcurrent (shutdown).
      v. Short circuit (shutdown).
      w. Overload (warning).
      x. Emergency stop (shutdown).
      y. (4) configurable conditions.
   3. Provisions shall be made for indication of four customer-specified alarm or shutdown conditions. All contacts shall be rated for 5 amps at 120 VAC. Relays shall be provided

when necessary. Labeling of the customer-specified alarm or shutdown conditions shall be of the same type and quality as the above-specified conditions. The nonautomatic indicating lamp shall be red and shall flash to indicate that the generator set is not able to automatically respond to a command to start from a remote location.

E. Engine Status Monitoring:
   1. The following information shall be available from a digital status panel on the generator set control:
      a. Engine oil pressure (psi or kPA).
      b. Engine coolant temperature (degrees F or C).
      c. Engine oil temperature (degrees F or C).
      d. Engine speed (rpm).
      e. Number of hours of operation (hours).
      f. Number of start attempts.
      g. Battery voltage (DC volts).
   2. The control system shall also incorporate a data logging and display provision to allow logging of the last 10 warning or shutdown indications on the generator set.

F. Engine Control Functions:
   1. The control system provided shall include a cycle cranking system which allows for user selected crank time, rest time, and number of cycles. Initial settings shall be for three cranking periods of 15 seconds each, with 15-second rest period between cranking periods and a 75-second overcrank lockout per NFPA 110.
   2. Manual Run/Stop Control Switch: When the mode control switch is in the MANUAL position and the MANUAL RUN/STOP switch is pressed, the Generator set shall start, bypassing time delay start. If the generator set is running in the MANUAL mode, pressing the RUN/STOP switch shall cause the generator set to shut down after a cool-down at idle period.
   3. The control system shall include an engine governor control which functions to provide steady state frequency regulation, as noted elsewhere in this specification. The governor control shall include adjustments for gain, damping, and a ramping function to control engine speed and limit exhaust smoke while the unit is starting.
   4. The control system shall include sensor failure monitoring logic for speed sensing, oil pressure, and engine temperature which is capable of discriminating between failed sensor or wiring components, and an actual failure conditions.

G. Alternator Control Functions:
   1. The generator set shall include a full wave rectified automatic digital voltage regulation system that is matched and prototype tested by the engine manufacturer with the governing system provided. It shall be immune from misoperation due to load-induced voltage waveform distortion and provide a pulse width modulated output to the alternator exciter. The voltage regulation system shall be equipped with three-phase RMS sensing and shall control buildup of AC generator voltage to provide a linear rise and limit overshoot. The system shall include a torque-matching characteristic, which shall reduce output voltage in proportion to frequency below an adjustable frequency threshold. Torque matching characteristic shall be adjustable for roll-off frequency and rate and be capable of being curve-matched to the engine torque curve with adjustments in the field. The voltage regulator shall include adjustments for gain, damping, and frequency roll-off. Adjustments shall be broad range, and made via digital raise-lower switches, with an alphanumeric LED readout to indicate setting level. Rotary potentiometers for system adjustments are not acceptable.

2. A microprocessor-based protection device shall be provided to individually monitor all phases of the output current of the generator set and initiate an alarm (overcurrent warning) when load current exceeds 110% (adjustable) of the rated current of the generator set on any phase for more than 60 seconds (adjustable). The device shall shut down and lockout the generator set when output current level approaches the thermal damage point of the alternator (overcurrent shutdown). The protective functions provided shall be in compliance with the requirements of NFPA70 article 445.
3. A microprocessor-based protection device shall be provided to monitor all phases of the output current for short-circuit conditions. The control/protection system shall monitor the current level and voltage. The controls shall shut down and lockout the generator set when output current level approaches the thermal damage point of the alternator (short-circuit shutdown). The protective functions provided shall be in compliance with the requirements of NFPA70 article 445.
4. Controls shall be provided to monitor the kW load on the generator set and initiate an alarm condition (overload) when total load on the generator set exceeds the generator set rating for in excess of 5 seconds (adjustable). Controls shall include a load shed control to operate a set of dry contacts (for use in shedding customer load devices) when the generator set is overloaded.
5. A microprocessor-based AC over and undervoltage monitoring system that responds only to true RMS voltage conditions shall be provided. The system shall initiate shutdown of the generator set when alternator output voltage exceeds 110% (adjustable) of the operator-set voltage level for more than 10 seconds (adjustable), or with no intentional delay when voltage exceeds 130% (adjustable). Undervoltage shutdown shall occur when the output voltage of the alternator is less than 85% (adjustable) for more than 10 seconds (adjustable). The system shall monitor individual phases and be connected line to neutral on three-phase 4-wire generator sets and for systems that are solidly grounded.
6. The generator set control shall include a 120 VAC control heater.

H. A common fail contact for remote indication at the SCADA system shall be provided. An auxiliary generator running contact shall also be provided for remote indication at the SCADA System. All contacts shall be rated for 5 amps at 120 VAC.

2.09 WEATHER-PROTECTIVE GENERATOR ENCLOSURE

A. Generator set weather-protective housing shall be provided factory-assembled to generator set base and radiator cowling. Housing shall provide ample airflow for generator set operation at rated load in the ambient conditions previously specified. All sheet metal shall be primed for corrosion protection and finish painted with the manufacturer's standard color using a two-step electrocoating paint process, or equal, meeting the performance requirements specified below. All surfaces of all metal parts shall be primed and painted. The painting process shall result in a coating that meets the following requirements:
1. Primer thickness 0.5 to 2.0 mils. Top coat thickness 0.8 to 1.2 mils.
2. Gloss according to ASTM D523, 80% ±5%. Gloss retention after 1 year shall exceed 50%.
3. Crosshatch adhesion according to ASTM D3359, 4B-5B.
4. Impact resistance according to ASTM D2794, 120-inch pounds to 160-inch pounds.
5. Salt spray according to ASTM B117, 1000+ hours.
6. Humidity according to ASTM D2247, 1000+ hours.
7. Water soak according to ASTM D2247, 1000+ hours.

B. Painting of hoses, clamps, wiring harnesses, and other nonmetallic service parts shall not be acceptable. Fasteners used shall be corrosion-resistant and designed to minimize marring of the painted surface when removed for normal installation of service work.

C. The enclosure shall include hinged doors for access to both sides of the engine and alternator and the control equipment. Key locking and padlockable door latches shall be provided for all doors. All hardware and door hinges shall be stainless steel. All doors shall be provided with door stops to hold them in the open position.

D. The enclosure shall include flexible coolant and lubricating oil drain lines that extend to the exterior of the enclosure, with internal drain valves and external radiator fill provision.

E. The enclosure shall be provided with an exhaust silencer which is mounted inside of the enclosure. Silencer exhaust shall include a raincap and rainshield.

F. The generator set shall be provided with a sound-attenuated housing which allows the generator set to operate at full rated load in an ambient temperature of up to 100°F. The enclosure shall reduce the sound level of the generator set while operating at full-rated load to a maximum of 76 dBA at any location, 7 meters from the generator set in a free-field environment.

G. The enclosure shall be insulated with nonhydroscopic materials.

2.10 GENERATOR EMERGENCY SHUTDOWN PUSHBUTTON CONTROL STATION

A. Furnish a red mushroom head, maintained-type pushbutton control station for manual initiation of a generator emergency shutdown. When the emergency stop pushbutton is pressed, the generator shall shut down and remain shut down until the emergency stop pushbutton is manually reset and the generator is called to run.

B. The control station shall be labeled "Generator Emergency Shutdown."

C. The control station shall be provided with a NEMA 4X, stainless steel enclosure and two sets of N.O. and N.C. contacts to monitor signal at the generator.

PART 3–EXECUTION

3.01 INSTALLATION

A. The standby power system shall be installed as shown on the drawings and in accordance with the manufacturer's recommendations and all applicable codes.

B. Installation of equipment shall include providing all interconnecting wiring between all major equipment provided for the on-site power system. CONTRACTOR shall also perform interconnecting wiring between equipment sections (when required), under the supervision of the equipment supplier.

C. Equipment shall be installed on concrete housekeeping pads. Equipment shall be permanently fastened to the pad in accordance with manufacturer's instructions and seismic requirements of the site. All connections (e.g., fuel, water, electrical) to generator shall be made with flexible material/fitting to accommodate unit vibration.

D. Equipment shall be initially started and operated by representatives of the manufacturer.

E. All equipment shall be physically inspected for damage. Scratches and other installation damage shall be repaired prior to final system testing. Equipment shall be thoroughly cleaned to remove all dirt and construction debris prior to initial operation and final testing of the system.

F. Generator fuel storage tank and system shall be installed by a certified installer in accordance with the 2018 International Building Code and the Office of Illinois State Fire Marshall requirements.

G. Submit all required documents to the Office of the Illinois State Fire Marshall to obtain aboveground storage tank permit for the subbase fuel tank. Permit shall also be submitted to ENGINEER and OWNER. Coordinate with the Office of the Illinois State Fire Marshall to conduct any required inspections following installation of the subbase tank.

H. CONTRACTOR shall perform an on-site vacuum test of the subbase fuel tank and submit results to ENGINEER, OWNER, and the State Fire Marshall.

3.02 FIELD START-UP AND COMMISSIONING

A. Provide the services of a qualified factory-trained manufacturer's representative to assist CONTRACTOR in installation and start-up of the equipment specified in this section. The manufacturer's representative shall provide technical direction and assistance to CONTRACTOR in general operation of the equipment, connections and adjustments, and testing of the assembly and components contained therein.

B. The manufacturer's representative shall provide inspection of the final installation. The manufacturer's representative shall perform site start-up and functional testing of the system. Upon completion of the manufacturer's start-up and testing, the manufacturer shall generate a site start-up and test report, documenting all systems checked, as well as any incomplete work remaining and operational deficiencies.

C. CONTRACTOR shall provide a training session for up to three OWNER's representatives for one normal work day (not including start-up) at a job-site location determined by OWNER. The training session shall be conducted by a manufacturer's qualified representative. The training program shall consist of instruction on operation and testing of the assembly and major components within the assembly.

D. CONTRACTOR shall provide three copies of the manufacturer's site start-up and test report to ENGINEER for review. Once ENGINEER has reviewed the report and all equipment is operating in accordance with the specifications, ENGINEER will make one site visit to check operation of the system. If the system is not ready or does not operate as specified, OWNER shall deduct payment to CONTRACTOR and make payment to ENGINEER for additional travel, expenses, and site visits until the equipment operates as specified. CONTRACTOR shall be responsible for all fuel, and electrical costs required to check operation of the system.

3.03 TESTING

A. In addition to the standard factory tests, there shall be a 4-hour continuous load bank test at the jobsite before connection to load transfer switch, with loads from 10% to 100% of rated capacity to check voltage, frequency, fuel, air cooling, and ventilating systems so that they can be determined adequate for the application. This test shall be accomplished with a portable three-phase resistive load bank. All emergency warning and detection equipment shall be demonstrated to be operable by simulating failures. A signed test report shall be submitted to OWNER and ENGINEER with deficiencies noted, if any. After this test, the generator shall be connected to the plant and the operation and maintenance of the unit comprehensively demonstrated to OWNER. Correct phasing between the engine-generator and station shall be verified so that it will handle load. A minimum of two power failures shall be simulated.

B. In addition to the load bank test above, after the unit is connected to the system, three simulated outages and a 4-hour run period on the actual facility shall also be provided.

C. CONTRACTOR shall be responsible for all fuel costs for these tests.

END OF SECTION

ALTORFER POWER SYSTEMS · 301 S MITCHELL · ADDISON, IL 60101

Caterpillar Electric Power Generator Set Quotation

July 14, 2022
Ref #: 31089330

Submitted to: Mary Seehafer @ Strand Associates

Project Name: Bartlett WWTP
Caterpillar C32.– 1000kW Outdoor Diesel Standby Generator

We submit to you Altorfer Power System's quotation for the Caterpillar engine driven generator sets. This offer is to sell new Caterpillar generator sets as rated below at 0.8 Power Factor suitable for standby use. This system includes the standard accessories provided by Caterpillar with optional peripheral equipment and services as identified in this proposal through our interpretation of the project requirements.

Top-level equipment and services offerings provided under this proposal:

- ✓ One (1) Caterpillar 1000kW Diesel Fueled, 277/480V, 3-phase Standby Rated Generator
- ✓ One (1) Caterpillar Sound Attenuated Enclosure (75dBA @ 23ft)
- ✓ One (1) Caterpillar Factory 2100 Gallon Tank
- ✓ Caterpillar Five (5) Year Warranty
- ✓ Start-up and On-Site Resistive Load Bank Testing Services

Additionally, we have detailed the equipment configuration and services relative to our understanding of these requirements in the body of this document. Please check it for correctness and completeness to be certain that it meets your needs. Please contact us for any clarifications or refinements that may be necessary to meet the scope of the project, as you understand it.

At the conclusion of this quote you will find the quoted price and additional commercial related information regarding the terms of this sale. Thank you for considering Altorfer Power Systems and the opportunity to provide your equipment and service needs. We are firmly committed to providing the best possible support and service during the life cycle of this project.

Sincerely,
Jim Sylvester
Altorfer / Caterpillar

Standard Equipment Caterpillar 1000kW

Engine

- Diesel driven engine, 1800 RPM
- Electronic isochronous governor

Generator

- 1000kW generator, standby rated, engine mounted and tested, Class H Insulation, .8 power factor, 3 phase, 4 wire, 105C temperature rise, 71.9 gal/hour fuel rate
- Caterpillar Digital Controller
- Permanent Magnet Excitation
- Power center

Digital Control Panel

Instrumentation

- LCD display with adjustable contrast and backlight with auto power off
- AC metering: Volts 3-phase (L-L & L-N); Amps (per phase & average); Frequency; kW (total & per phase); kVA (total & per phase); kVAr (total & per phase); Power Factor (overall & per phase); kW hours; kVAr hours
- DC metering: Battery Volts; Engine hours run; Engine Jacket Water Temperature (in °C or °F); o Lube oil pressure (in psi, kPa or bar); Engine speed (rpm); Crank attempt counter; Start counter

Protection

- Fail to start shutdown
- Low oil pressure shutdown
- High engine temperature
- Approaching high coolant temperature alarm
- Approaching low oil pressure alarm
- Not in auto mode alarm
- Underspeed/Overspeed
- Loss of engine speed detection
- Low/High battery voltage
- Battery charger failure (if fitted)
- Under volts, over volts
- Under frequency, over frequency
- Overcurrent

Controls

- Run key and LED indicator
- Auto key and LED indicator
- Stop key and LED indicator
- Lamp test key
- Alarm acknowledge key
- Menu navigation keys
- Engine and AC metering shortcut keys

- All control module keys have tactile feedback
- Lock down emergency stop push button.
- Service interval counter.

Caterpillar Sound Attenuated Enclosure (75dBA @ 23ft)

- Internally mounted critical grade silencer
- Robust/highly corrosion resistant construction
- Steel Construction
- Lockable, gasketed doors provide secure access to maintenance items (battery, fuel fill, oil, and coolant)
- Lube oil and coolant drains piped to exterior of enclosure and terminated with drain valves
- Radiator guard
- Fixed Intake Louvers
- Gravity Discharge Dampers
- 100A Load Center
- GFCI Receptacles
- Stairs and platforms

Caterpillar Factory 2100 Gallon Tank

- Conduit Access Stub Up Area
- Level Indicator
- Low Fuel Level Alarm Switch
- Fuel in Rupture Basin

Cooling System

- Radiator with guard
- Coolant drain line with valve
- Coolant heater

Starting System

- Single starting motor
- 24 volt lead acid batteries
- Charging alternator
- Battery charger

General

- One (1) 2000A Circuit Breaker
- Linear Vibration Isolators
- First fill lubricating oil
- First fill antifreeze, installed
- O & M Manuals

Additional Equipment (shipped loose)

Remote Annunciator (shipped loose) – Qty 1

- Each Annunciator includes sixteen (16) LED's for annunciation of alarm conditions and system status.
- Includes Alarm Horn and Alarm Acknowledge pushbuttons.
- Meets NFPA 99/110 requirements for remote annunciation on Emergency Standby Generator Systems.
- Label cards are provided next to each set of LED by to indicate various alarms and events.
- Designed and Tested to meet stringent Impulse Shock and Operating Vibration requirements

Technical Field Service to Include:
Note: Field Services do not include initial fuel fill or replenishment, videotaping, sound measurements, or city permits for load testing on site.

Installation Audit:
A pre-start audit is available when time and circumstances permit, to be performed by Altorfer Power Systems Project Manager prior to dispatching our field service technician to perform the equipment startup; this will insure site work is completed. These services are to be performed during normal business hours, Monday through Friday 7:30 am to 3:30 pm. Additionally, our local project managers are available for consult during the entire life of the project.

Equipment Startup:
One (1) day of on-site start-up testing are included for only the equipment purchased through Altorfer Power Systems. Time allowed for our factory certified technician is based on accessibility, site preparation and safety concerns for both equipment and personal. This includes systems preparation, equipment start-up and functional operational test utilizing building load only. We will endeavor to meet the requirements of all interested parties as is reasonable, but informing & scheduling of all authorities, inspectors, etc. is the responsibility of the customer; all services included in this quotation are to be performed during normal business hours, Monday through Friday 7:30 am to 3:30 pm. Additional personal required or revisits as dictated by the site, will require a written request for services with a change order by an authorized person and will be billed at prevailing rates.

Equipment Load Bank Testing with Portable Load Bank
Allocated for this project is a four (4) hour on-site load bank test utilizing a resistive load bank at 1.0 Power Factor. Time allowed for 1 (one) factory certified technician is based on accessibility, site preparation and safety concerns for both equipment and personal. Altorfer Power Systems will provide a portable load bank (sized to the generator rating) and 100 feet of power cable. Cable runs greater than 100 (one hundred) feet will be billed at prevailing rates. These services are to be performed during normal business hours, Monday through Friday 7:30 am to 3:30 pm. Addition personal required or revisits as dictated by the site, will require a written request for services with a change order by an authorized person and will be billed at prevailing rates.

Training:

The appropriate Altorfer personnel are available to provide a basic/up to one (1) hour training on site on the same trip during the unit has been started up. If more time is required, or additional sessions are required, arrangements can be negotiated.

Warranty:
Caterpillar Five (5) Year warranty applies unless extended service coverage is purchased. Standard manufacturer's warranty applies to all non-Caterpillar equipment. Altorfer will administer all warranty claims during the appropriate warranty period. All other manufacturers warranty is for components only. Labor associated with these claims will be charged accordingly. Copy of warranty statements will be provided at project submittal.

Availability:
Determined after approved release. Equipment submittal time is to be negotiated.

Financial Terms:
Net cash 30 days upon receipt of invoice, with credit approval. Equipment will be invoiced at the contracted amount when ready for shipment. Retainers are not allowed unless previously negotiated and are identified in this proposal. Late charges of 1-1/2% per month will be assessed for late payments and customer will also be responsible for any collection costs and expenses, including reasonable attorney's fees. Equipment storage fees may apply when delivery is not accepted when ready for shipment. Sales tax is **NOT** included in the purchase price and will be charged at the current tax rate, if applicable.

Additional Terms and Conditions:
The scope of supply for this quotation is limited to the equipment and services listed in this proposal. The bill of material herein does not include demolition, removal, terminations, installation, labor, fuel, fuel piping, air ducting, exhaust silencer installation, exhaust piping or electrical wiring between loose items such as engine, control gear, transfer switches, day tanks, battery charger, etc. Coordination studies & relay settings & relay testing services are not included. Permitting not included. The customer is responsible for any and all installation of the above Equipment unless specifically modified by this proposal. All equipment needed to perform any loading or unloading of the Equipment supplied by Altorfer Power Systems is the responsibility of the customer unless specifically modified by this proposal. Unless specifically listed in our bill of material, equipment not indicated is to be supplied by others. We reserve the right to correct any errors or omissions. Customer's signature on this quotation or the issuance of a purchase order or other acknowledgement by customer for the Equipment shall constitute acceptance of this quotation subject only to the terms and conditions set forth herein notwithstanding any terms and conditions contained in any such purchase order or other acknowledgment or communication from the customer which are different from or in addition to the terms and conditions of this quotation. This quotation is subject to any applicable manufacturer's general terms and conditions of sale. Changes to the terms of this quotation may only be made by the express written agreement of Altorfer Power Systems. Altorfer Power Systems shall not be responsible for any consequential, special, indirect or liquidated damages hereunder or for any manufacturer or other delays beyond Altorfer's control. Altorfer Power Systems will not be responsible for any labor or material charges by others associated with the

start-up and installation of this equipment unless previously agreed upon, in writing by Altorfer Power Systems. This quotation expires in 30 calendar days or sooner with notice and is subject to prior sale. The prices stated herein are subject to any manufacturer increases if the order is not released for manufacture within 90 calendar days from order date or, if drawings for approval are required, the drawings are not returned and released for manufacture within 30 calendar days of mailing date. For any completed order, scheduled for shipment, that is held, delayed or rescheduled at the request of the Buyer, Seller may, at its sole option, ship to storage, invoice, and transfer title, all at the sole cost and risk of loss of the Buyer. Buyer may terminate or cancel an order by written notice and upon payment of appropriate charges based upon a percentage of the quoted sales price at the stage of completion: 10% hold for approval status and 100% after release for manufacture status.

Exceptions & Clarifications:

- ✓ Quotation is based on generator specification 263213 only (no drawings provided at time of quote). If actual job site conditions/local codes require a change in BOM, all such changes will be quoted and billed accordingly.
- ✓ Oil heater not provided as it is not recommended by Caterpillar

Total price for these product and services:

- ✓ One (1) Caterpillar 1000kW Diesel Fueled, 277/480V, 3-phase Standby Rated Generator
- ✓ One (1) Caterpillar Sound Attenuated Enclosure (75dBA @ 23ft)
- ✓ One (1) Caterpillar Factory 2100 Gallon Tank
- ✓ Caterpillar Five (5) Year Warranty
- ✓ Start-up and On-Site Resistive Load Bank Testing Services

$264,293.00 (Plus tax)
FOB: Jobsite Tailgate

2022 Supply Chain Volatility Note - Altorfer Power Systems continuously strives to reduce costs and optimize productivity whenever possible. Unfortunately, the current volatility of the supply chain has necessitated a price review process that will take place at the time we receive a "release for production" for this project. We will review the cost basis that was used at the time of quotation and if we find our inputs have increased, we will issue a revised proposal before accepting your "release for production".

ACCEPTANCE:

_____

Customer Signature

DATE: _____

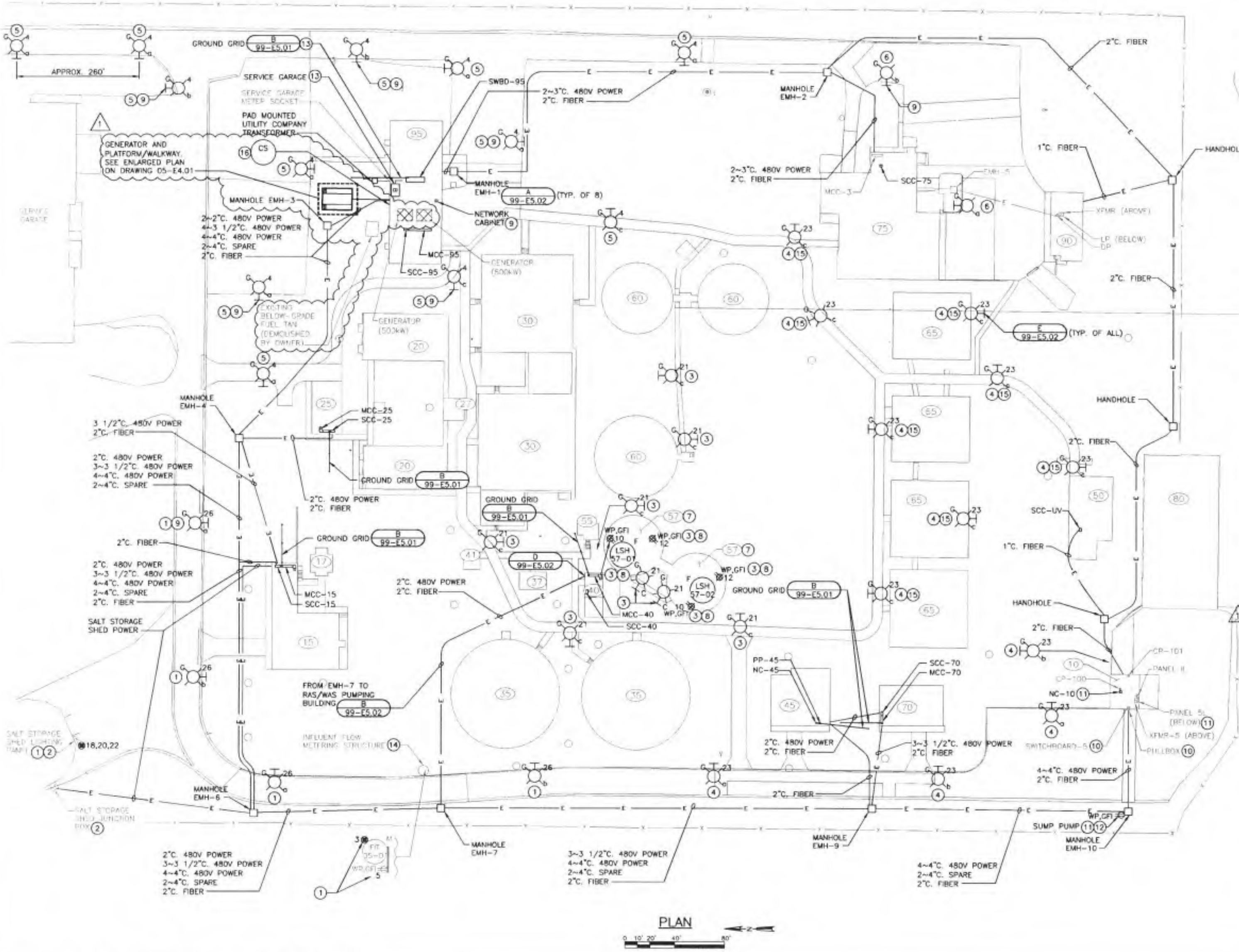
ALTORFER POWER SYSTEMS

_____

Jim Sylvester
Email: jim.sylvester@altorfer.com
Phone: 630-516-4414
Mobile: 630-360-0228
Sales Engineer, Electric Power Generation

Should you have any questions or comments on this matter, please do not hesitate to contact us.

Once equipment is delivered and installed, service requires two weeks' notice to schedule startup and load bank testing.



GENERAL NOTES:

1. REFER TO SPECIFICATION SECTION 01 11 00 FOR INFORMATION ON CONSTRUCTION SEQUENCING.
2. REFER TO SPECIFICATION SECTION 26 09 90 FOR WIRING ASSOCIATED WITH THE SCADA SYSTEM.

KEY NOTES:

(1) POWERED FROM LIGHTING PANEL LP-15 LOCATED IN MCC-15 IN THE PRELIMINARY TREATMENT BUILDING.

(2) POWER CONDUIT AND WIRING TO SALT STORAGE SHED LIGHTING PANEL SHALL BE ROUTED THROUGH EXISTING SALT STORAGE SHED JUNCTION BOX AND THROUGH EXISTING CONDUIT FROM JUNCTION BOX TO LIGHTING PANEL.

(3) POWERED FROM LIGHTING PANEL LP-40 LOCATED IN MCC-40 IN THE RAS/WAS PUMPING BUILDING.

(4) POWERED FROM LIGHTING PANEL LP-70 LOCATED IN THE AEROBIC DIGESTER BLOWER BUILDING.

(5) POWERED FROM LIGHTING PANEL LP-95 LOCATED IN MCC-95 IN THE CONTROL BUILDING.

(6) POWERED FROM PANEL 4L LOCATED IN THE BIOSOLIDS DEWATERING BUILDING. PROVIDE 2-#12 AND #12 GROUND IN 3/4" CONDUIT FROM SPARE 20-AMP, SINGLE-POLE BRANCH CIRCUIT BREAKER IN PANEL 4L TO LIGHT.

(7) ALL ELECTRICAL WORK AND EQUIPMENT FROM THE MINIMUM OPERATING WATER SURFACE TO THE TOP OF THE TANK WALLS, WITHIN 18" ABOVE THE TOP OF THE TANK WALLS TO 18" BEYOND THE EXTERIOR OF THE WALLS, AND WITHIN 10 FEET HORIZONTALLY FROM THE TANK WALLS TO 18" AFG SHALL BE RATED FOR A CLASS I, DIVISION 2, GROUPS C AND D LOCATION.

(8) MOUNT RECEPTACLES TO EXISTING FIRST FLUSH HOLDING TANK CATWALK HAND RAIL PER DETAIL F 99-E5.02.

(9) PROVIDE 2-3/4" CONDUITS FROM NETWORK CABINET IN CONTROL BUILDING TO LIGHT POLE FOR FUTURE CCTV CAMERA POWER AND DATA CABLES.

(10) POWER FEED TO SWITCHBOARD-5 SHALL BE ROUTED THROUGH EXISTING PULL BOX ON EXTERIOR OF INFLUENT PUMPING BUILDING.

(11) EXISTING PANEL 5L IS A CUTLER-HAMMER, MODLE CHB, 120/208V, 3ø, 4W, 100-AMP, 14kAIC PANELBOARD. PROVIDE TWO 20A, SINGLE-POLE BRANCH CIRCUIT BREAKERS FOR POWER TO NC-10 AND EMH-10 SUMP PUMP RECEPTACLE. PROVIDE 2-#12 AND #12 GROUND IN 3/4" CONDUIT FROM PANEL 5L TO NC-10 AND EMH-10 SUMP PUMP RECEPTACLE.

(12) RECEPTACLE SHALL BE MOUNTED IN MANHOLE AND SHALL BE ACCESSIBLE WITHOUT ENTERING MANHOLE.

(13) PROVIDE GROUND GRID FROM SERVICE GARAGE CIRCUIT BREAKER. CONNECT SERVICE GARAGE GROUND GRID TO SWBD-95 GROUND GRID.

(14) ALL ELECTRICAL WORK AND EQUIPMENT IN METERING STRUCTURE SHALL BE RATED FOR A CLASS I, DIVISION 1, GROUPS C AND D LOCATION. ALL ELECTRICAL WORK AND EQUIPMENT 3'-0" FROM THE ACCESS HATCH (ALL SIDES) TO 18" ABOVE GRADE SHALL BE RATED FOR A CLASS I, DIVISION 2, GROUPS C AND D LOCATION.

(15) PROVIDE MINIMUM #8 AWG POWER WIRING TO LIGHT POLE FROM LP-70.

(16) CONTROL STATION FURNISHED AS SPECIFIED IN SECTION 26 32 13 AND INSTALLED BY DIVISION 26. PROVIDE 2-#14 IN 3/4" CONDUIT FROM CONTROL STATION TO GENERATOR FOR GENERATOR EMERGENCY SHUTDOWN.

STRUCTURE IDENTIFICATION

- **00 - General**
- **05 - Site**
- **10 - Influent Pumping Building**
- **15 - Preliminary Treatment Building**
- **17 - Influent Splitter Structure**
- **20 - Primary Clarifiers**
- **25 - Primary Sludge Pumping Building**
- **27 - Primary Effluent Splitter Structure**
- **30 - Aeration Tanks**
- **35 - Final Clarifiers**
- **37 - Mixed Liquor Splitter Structure**
- **40 - RAS/WAS Pumping Building**
- **41 - RAS Splitter Valve Vault**
- **45 - Tertiary Filtration Building**
- **50 - Ultraviolet Light Disinfection**
- **55 - Excess Flow Splitter Structure**
- **57 - First Flush Holding Tanks**
- **60 - Excess Flow Clarifiers**
- **65 - Aerobic Digesters**
- **70 - Aerobic Digester Blower Building**
- **75 - Biosolids Dewatering Building**
- **80 - Biosolids Storage Building**
- **90 - Chemical Phosphorus Removal Building**
- **95 - Control Building**

NO.	REVISIONS	DATE:
1	CPR-011	08/08/2022

SITE
OVERALL ELECTRICAL PLAN

BITTERSWEET WATER RECLAMATION FACILITY IMPROVEMENTS
VILLAGE OF BARTLETT
DUPAGE COUNTY, ILLINOIS

JOB NO. 1944.006

PROJECT MGR.

STRAND ASSOCIATES®

SHEET 48
05-E1.01

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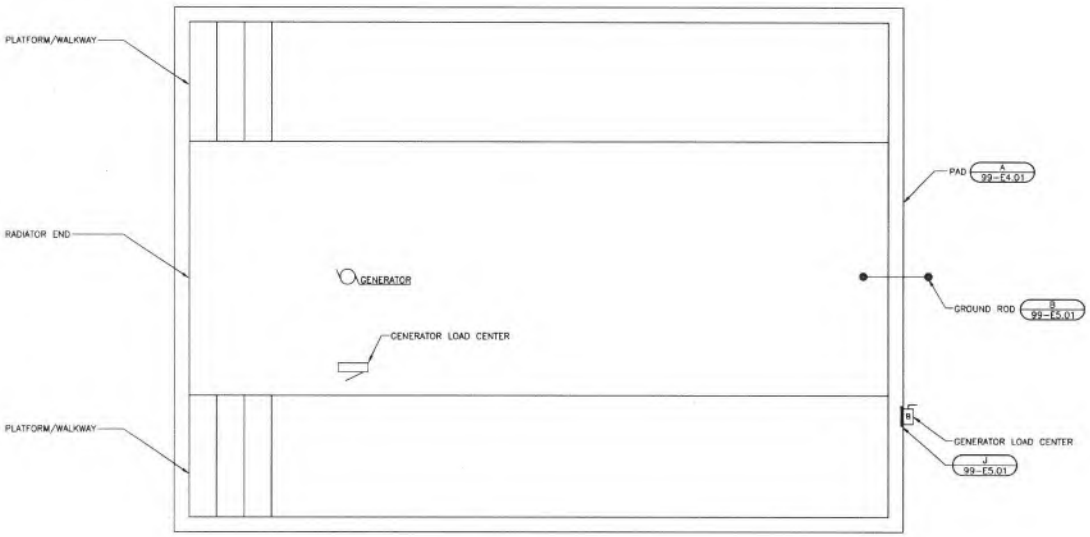
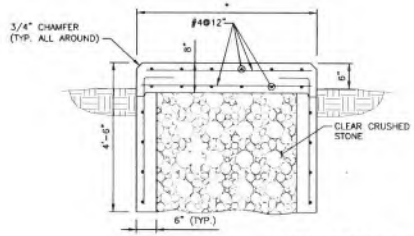


GENERATOR – ENLARGED PLAN



SECTION

* VERIFY WITH GENERATOR MANUFACTURER. EXTEND PAD SIX INCHES PAST GENERATOR AND PLATFORM/WALKWAY, ALL SIDES

A
05-E4.01
GENERATOR PAD
NO SCALE

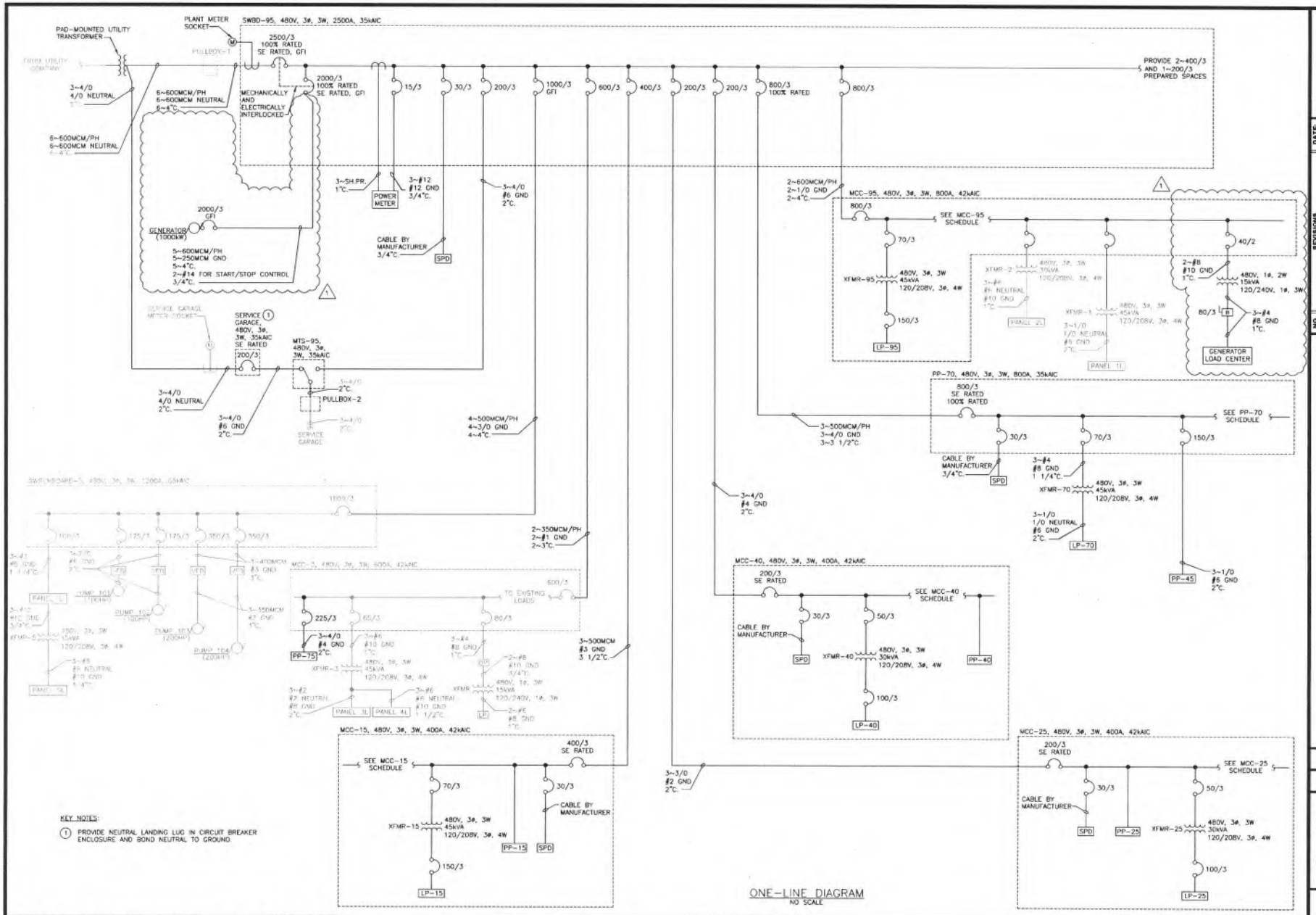
NO.	REVISIONS	DATE:
1	CHR-011	08/08/2022

SITE
GENERATOR - ENLARGED PLAN
BITTERSWEET WATER RECLAMATION FACILITY IMPROVEMENTS
VILLAGE OF BARTLETT
DUPAGE COUNTY, ILLINOIS

JOB NO.
1944.006
PROJECT MGR.

STRAND ASSOCIATES®

SHEET
05-E4.01



ONE-LINE DIAGRAM
NO SCALE

NO.	REVISIONS	DATE:
1	DPK-dl11	08/08/2022

ELECTRICAL
ONE-LINE DIAGRAM - 1

BITTERSWEET WATER RECLAMATION FACILITY IMPROVEMENTS
VILLAGE OF BARTLETT
DUPAGE COUNTY, ILLINOIS

JOB NO.
1944.006

PROJECT MGR.

STRAND ASSOCIATES®

SHEET
187
99-E6.01

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JOSEPH J. HENDERSON & SON, INC.
GENERAL CONTRACTOR
ESTABLISHED 1928

4288 Old Grand Avenue
Gurnee, IL 60031
PH: 847-244-3222
FX: 847-244-2490

Attn: Mr. Phil Severson
Strand Associates
910 West Wingra Dr.
Madison, WI 53715

September 22, 2022

Project: Village of Bartlett Bittersweet Water Reclamation Facility Improvements Project (Contract 1-2021)

Subject: CPR-011 – New Generator (REV01)

Mr. Severson,

Joseph J. Henderson & Son, Inc. submits herewith our proposal for work described in CPR #011. This proposal is based on the following work items: 011-01, 011-02, 011-03, 011-04, 011-05, 011-06, 011-07, 011-08, 011-09, and 011-10. Reference attachments for a breakdown of change order costs.

At this time, we do not know how this change order will impact the schedules critical path but reserve our right to a time extension if necessary.

Please incorporate the value of this change into an Owner Change Order so materials can be released into production upon approval.

The total cost to complete this work is **Three Hundred Sixty-Eight Thousand Seven Hundred Fifty-Five Dollars ($368,755.00)**

Thank you,

Sam Henderson

Sam Henderson
Project Manager
Joseph J. Henderson & Son, Inc.
Office: (847) 244-3222

9/22/2022 3:55 PM

Bartlett WWTP CO 11

SPEC	DESCRIPTION	011-01	011-02	011-03	011-04	011-05	011-06	011-07	011-08	011-09	011-10
	Demolition						$ 9,200.00	$ 6,400.00	$ -	$ -	
	excavation					$ 23,127.00					
	Rebar Furnish					$ 3,300.00					
	Rebar Install					Included					
	Concrete					$ 55,820.00					
	Electrical	3,261	$ (1,958.00)	$ 9.00		$ 135,233.06					
	Modification of Exisiting Generators		$ (200,000.00)								
	New Generator and walkways					$ 264,293.00					
	Set Generator					In Concrete					
	Fuel for Generator					$ 21,000.00					
	SCADA					$ 4,232.00					
	SUBTOTAL		$ (201,958.00)	$ 9.00	0	$ 507,005.06	$ 9,200.00	$ 6,400.00	$ -	$ -	$ -
	TOTAL										

ESTIMATE SHEET

JOB:	Bartlett WWTP CO11	CONTRACTOR:	JJH	ESTIMATE NO.:	
LOCATION:	Bartlett, IL	ENGINEER:		DATE:	
ESTIMATOR:	Gilman	CHECKED BY:		BID DATE:	

JOB DESCRIPTION: CPR-011 (REV01)

PHASE	DESCRIPTION	QTY.	UNIT	@	MATERIAL	HOURS	SUBC/MISC	TOTAL
	Concrete			/				-
	Concrete Walls 6"x4'			/	-			-
	Form and Strip	688	SF	3.00 / 8.00	2,064.00	86.00		11,782.00
	Pour	6.6888889	CY	130.00 / 0.50	869.56	13.38		2,381.24
	Patch	688	SF	0.10 / 40.00	68.80	17.20		2,012.40
	C&S	688	SF	0.10 / 250.00	68.80	2.75		379.78
				/	-			-
	Slab on Grade 17x26			/	-			-
	Fine Grade	442	SF	/ 125.00	-	3.54		399.57
	Form and Strip	86	LF	3.00 / 4.00	258.00	21.50		2,687.50
	Pour	9.0037037	CY	130.00 / 1.00	1,170.48	9.00		2,187.90
	Chamfer	86	LF	2.00 / 10.00	172.00	8.60		1,143.80
	C&S	442	SF	0.10 / 250.00	44.20	1.77		243.98
				/	-			-
	Set Walkways	2	EA	100.00 / 24.00	200.00	48.00		5,624.00
	Set Stairs	2	EA	50.00 / 8.00	100.00	16.00		1,908.00
	Set Handrail	146	LF	1.00 / 4.00	146.00	36.50		4,270.50
				/	-			-
	Set Generator	1	EA	/ 32.00	-	32.00	7,441.50	11,057.50
				/	-			-
				/	-			-
	Small Tools	296.24	hr	/ 2.00	-		592.47	592.47
	Super	29.62	hr	/ 115.00	-		3,406.73	3,406.73
	Truck	1	mn	/ 800.00	-		800.00	800.00
	Gas	1	mn	/ 250.00	-		250.00	250.00
	Lull	1	mn	/ 1900.00	-		1,900.00	1,900.00
	Lull Fuel	1	mn	/ 1000.00	-		1,000.00	1,000.00
	Layout	16	hr	/ 112.00	-		1,792.00	1,792.00
				/	-			-
				/	-			-
				/	-			-
				/	-			-
				/	-			-
					5,161.84	296.24	17,182.71	55,819.38
						113.00		
				LABOR		33,474.84		
				MATERIAL		5,161.84		
				EQUIPMENT		17,182.71		
				TOTAL		55,819.38		

Henderson, Sam

From: Swanson, Cory (Harris) <cory.swanson@harrisrebar.com>
Sent: Monday, September 12, 2022 10:18 AM
To: Gilman, Marcus P.
Cc: Henderson, Sam; Reynolds, Chris (Harris)
Subject: RE: Bartlett WRF - CPR 011 Generator

Marc-

Furnish & Install rebar for (1) 17' x 26' Generator pad per CPR011 at Bartlett Bittersweet WRF:

$3,300.00

Includes: Rebar, supports for top mat, labor to install and (1) delivery to site.

Excludes: Sales Tax and Epoxy Rebar

If you need anything else, please let us know.

Thanks.

Cory

Cory Swanson
Estimating & Sales
Phone: 815.547.8998 x2678
Cell: 815.262.1867

From: Gilman, Marcus P. <MarcusG@jjhenderson.com>
Sent: Friday, September 9, 2022 10:47 AM
To: Swanson, Cory (Harris) <cory.swanson@harrisrebar.com>
Cc: Henderson, Sam <SamH@jjhenderson.com>
Subject: RE: Bartlett WRF - CPR 011 Generator

Pad is 17'x26'

Marc Gilman
JJ Henderson
847-276-6228

From: Swanson, Cory (Harris) <cory.swanson@harrisrebar.com>
Sent: Thursday, September 1, 2022 10:07 AM
To: Gilman, Marcus P. <MarcusG@jjhenderson.com>
Cc: Henderson, Sam <SamH@jjhenderson.com>
Subject: RE: Bartlett WRF - CPR 011 Generator

9/20/2022 - REVISED BARTLETT - BITTERSWEET C.P. #011 - ADD GENERATOR PAD DESCRIPTION	QTY	U/M	UNITS PER HOUR	JJH TOTAL LAB/OPER HOURS	JJH OPER/LAB PER HOUR	JJH TOTAL OPER/LAB	JJH EQUIPMENT PER HOUR	JJH TOTAL EQUIPMENT	JJH FUEL/MAINT PER HOUR	JJH TOTAL FUEL/MAINT	JJH TOTAL PRICE	FULL RENT UNIT PRICE	FULL RENT TOTAL PRICE	SUB UNIT PRICE	SUB TOTAL PRICE	TRUCKING UNIT PRICE	TRUCKING TOTAL PRICE	GC'S/ALLOW UNIT PRICE	GC'S/ALLOW TOTAL PRICE	TOTAL UNIT PRICE	TOTAL PRICE
GENERATOR PAD - EXCAVATION/B-F																					
BACKHOE	20	HRS		20	$128.37	$2,567.40	$50.00	$1,000.00	$45.00	$900.00	$4,467.40	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$223.37	$4,467.40
SKID STEER	8	HRS		8	$128.37	$1,026.96	$25.00	$200.00	$45.00	$360.00	$1,586.96	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$198.37	$1,586.96
LABORER	20	HRS		20	$101.00	$2,020.00	$0.00	$0.00	$0.00	$0.00	$2,020.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$101.00	$2,020.00
CCDD HAUL OFF	16	LDS			$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$295.00	$4,720.00	$0.00	$0.00	$295.00	$4,720.00
CA-7 MATERIAL	320	TONS			$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$23.25	$7,440.00	$0.00	$0.00	$23.25	$7,440.00
LAYOUT	1	LDS			$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,500.00	$1,500.00	$1,500.00	$1,500.00
FOREMAN/TRUCK	8	HRS		8	$128.00	$1,024.00	$10.00	$80.00	$15.00	$120.00	$1,224.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$153.00	$1,224.00
LABOR INCREASE	56	HRS			$3.00	$168.00	$0.00	$0.00	$0.00	$0.00	$168.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$3.00	$168.00
				$6.00		$6,806.36		$1,280.00		$1,380.00	$9,466.36		$0.00		$0.00		$12,160.00		$1,500.00		$23,126.36

Henderson, Sam

From: Jeff Olson <jeffo@knockitdown.com>
Sent: Wednesday, September 7, 2022 3:02 PM
To: Gilman, Marcus P.
Cc: Henderson, Sam
Subject: RE: Bartlett WRF - CPR 011 Generator

If they accept it, I'll provide something formal.

011-06 Remove Generators:	$9,200
011-07 Remove Piping:	$6,400
~~011-08 Potential Credit & Move:~~	~~$9,500~~
~~011-09 Concrete Pad & Trim:~~	~~$13,700~~

On item 011-08, I'm only able to offer them a credit for the scrap value of the generators which is pennies compared to selling them. That minor salvage credit is built into that cost and the balance of the cost is moving it across their site. Used generators don't sell a year in advance; we would have to see if there were any buyers at the time they were ready to be moved.

Thanks,

Jeff Olson | Project Manager/ Estimator

Alpine KNOCK IT DOWN.com DEMOLITION SERVICES LLC

WBE/DBE/FBE CERTIFIED
COMMERCIAL • INDUSTRIAL • INFRASTRUCTURE • HEALTHCARE • EDUCATION
3515 Stern Avenue
St. Charles, Illinois 60174
☎:630-761-0700 | 🖷: 630-761-0777 | Cell: 630.352.8802 www.knockitdown.com

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Morse Electric, Inc.

Bittersweet WRF Improvements

CPR011 Generator Install

Morse Response to Engineer's Comments

1. What are the existing conflicts

Morse Response: Existing underground utilities and ductbanks.

2. Group all deducts together and all additions together.

Morse Response: Our bidding software does not allow the proposal summary to be displayed in that manner.

3. Where is all the PVC coated conduit being used?

Morse Response: PVC coated conduit is being used from the elbows turning out of the ductbank to the pull-box that is being mounted on the side of the building to allow the transition from underground/exterior to trapeze mounted conduits inside the Control Building. This is per Specifications.

4. 1.5 weeks to glue together PVC conduit seems excessive.

Morse Response: The total hours are based on the Industry Standard NECA labor units and includes, setting and placing, field bends and cuts, and material handling and staging.

5. 125' to transformer?

Morse Response: This quantity of #8 wire is also the ground wire from the secondary of the transformer to the enclosed circuit breaker and generator Lighting Panel.

6. 434' from the transformer to the generator?

Morse Response: The wrong unit number was entered for the #4 wire. This has been corrected on this revision.

( ) 395 S. Main Street • Dubuque, IA 52003-7428 • Phone 563.556.0828 • Fax 563.556.7431
(x) 500 W. South Street • Freeport, IL 61032-6836 • Phone 815.266.4200 • Fax 815.235.1036
( ) 1390 Gateway Blvd • Beloit, WI 53511 • Phone 608.299.0170 • Fax 815.266.8998

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Morse Electric, Inc.

7. Where do we have #2 conductors?

Morse Response: These lugs are for the transformer conductors, primary and secondary. This the range of lug.

8. What is this box for (6X6X4SS)?

Morse Response: This box is to allow us to exit the building with controls from the SCC to the generator.

9. Quantity of #8 Terms?

Morse Response: These terms are for transformer primary, secondary ground wire to enclosed breaker and ground wire from enclosed breaker to generator Lighting Panel.

10. 3 days for startup?

Morse Response: This is to assist with pad layout, startup and commissioning, troubleshooting and load bank testing.

11. What is this pull box for (42X36X08)?

Morse Response: This is to be mounted on the building to transition ductbank conduits to allow building penetration.

12. Where are the 4" and 1" EXP/Deflection fittings being used?

Morse Response: These are used where conduits leave the ductbank and penetrate the ground to the pull-box on the building. These are required per specifications.

13. Explain these charges?

Morse Response: This was an oversight. Our software automatically adds OH&P for the individual General Expense items. These were not individually removed and inadvertently carried over and were added to the overall OH&P. These charges have been removed.

14.

Morse Response:

15.

Morse Response:

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( ) 1390 Gateway Blvd • Beloit, WI 53511 • Phone 608.299.0170 • Fax 815.266.8998

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Henderson, Sam

From: Verlyn Swanson <VSwanson@themorsegroup.com>
Sent: Thursday, September 22, 2022 3:42 PM
To: Henderson, Sam
Cc: Marshalla, Bill G.; Santos, Jorge; Gilman, Marcus P.; Jim Davis
Subject: RE: Bartlett - CPR-011 Comments
Attachments: CPR011_Generator Install_Engineer's Comment Responses_REV 1docx.pdf; MORSE RFCO3_CPR011_GENERATOR INSTALL REV 1.pdf

Sam,

Attached is my revised proposal. I have also attached a response sheet addressing each of their comments.
Here is the breakdown per Item on the CPR.
Please note I broke out item 3 & 10 to show what part is a credit and what part is new charges.

|| ITEM 011-01 GENERATOR COMMISSIONING ASSIST.	3,261.30
|| ITEM 011-02 EXIST. PARRALLING CONTROL WIRING CREDIT	-1,957.99
|| ITEM 011-03A SCADA CONTROLS CREDIT	-3,890.94
|| ITEM 011-10A CREDIT FOR EXIST. GENERATOR ELECTRICAL AND CONTROLS	-47,023.18
|| ITEM 011-10B NEW GENERATOR ELECTRICAL COMPLETE	182,256.24
|| ITEM 011-03B SCADA CONTROLS NEW	3,899.79
TOTAL PROPOSAL	136,545.22

Please let me know if you have any questions.

Thanks,

Verlyn Swanson | Project Manager

MORSE ELECTRIC

1390 Gateway Blvd. | Beloit, WI | 53511
C:608.425.9444 | P: 608.856.7311
E: VSwanson@themorsegroup.com

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THE MORSE GROUP
"OUR PEOPLE BUILD SYSTEMS, OUR CULTURE BUILDS PARTNERSHIPS"
www.themorsegroup.com

PROPOSED CHANGE ORDER

Morse Electric, Inc.

CCN #	**RFCO3_CPR011_GENERATOR INSTALL_REV 1**
Date:	9/22/2022
Project Name:	Bittersweet WWWTP
Project Number:	Bittersweet WWWTP
Page Number:	1

Work Description

We propose to furnish the labor, materail, equipment, and supervision required for the work associated with CPR011, GENERATOR INSTALL , per the scope below.
·ITEM 011-01 - Replace 26 32 13 Standby Power System (paralleling controls and modifications to existing generators). **NOTE: New generator to be procured by JJH including setting and placing, fuel, excavation and concrete pad, starting & commissioning, load bank and platform installation. All generator 120/240V lights, receptacles, battery charger, block heaters and controls to be installed and pre-wired in conduit by generator manufacturer to generator load center. Morse to provide layout, commissioning/startup and load bank assistance.**
·ITEM 011-02 - Morse is providing a CREDIT for control conduit, wire and terminations between existing units. All other paralleling controls and modifications credits are provided by JJH.
·ITEM 011-03 - Morse is providing a CREDIT for SCADA controls/alarms from **each** existing generator to SCC-95. This proposal includes new conduit, wire and terminations from SCC-95 to new generator.
·ITEM 011-04 - There is NO CREDIT offered for construction sequencing due to the unkown lead time and delivery of generator.
·ITEM 011-05 - Generator installation by JJH. All electrical work and connections are proposed under ITEM 011-10.
·ITEM 011-06 - ITEM 011-09 - Provided by JJH.
·ITEM 011-010 - CREDIT provided for all electrical power and control conduit, wiring and terminations to existing generators. This proposal includes all new electrical power and control, ductbank, conduit, wire and terminations to new generator.

CLARIFICATIONS:

We are including concrete encased ductbank from Building 95 to the generator due to existing conflicts that will prevent us from getting full 24" coverage.

Itemized Breakdown

Description	Qty	Total Mat.	Total Hrs.
1" GRC CUT&THREAD	9	2.48	3.83
4" GRC CUT&THREAD	10	2.75	13.75
3/4" ARC (AL)	-80	-190.15	-8.00
1" ARC (AL)	85	294.41	10.20
3" ARC (AL)	-200	-1,797.88	-50.00
4" ARC (AL)	175	2,460.45	70.00
3/4" ARC MYERS HUB	-2	-11.87	-0.50
3" ARC MYERS HUB	-5	-166.23	-2.50
4" ARC MYERS HUB	5	284.07	3.13
3/4" ARC 90 ELBOW	-6	-110.72	-2.63
1" ARC 90 ELBOW	-2	-51.40	-1.00
3" ARC 90 ELBOW	-15	-3,124.53	-10.31
4" ARC 90 ELBOW	10	3,852.08	7.50

ORIGINAL

PROPOSED CHANGE ORDER

Description	Qty	Total Mat.	Total Hrs.
3/4" AL STRUT CLAMP	-10	-44.23	-0.64
1" AL STRUT CLAMP	12	60.43	0.84
3" AL STRUT CLAMP	-25	-227.43	-3.97
4" AL STRUT CLAMP	25	288.76	5.34
3/4" ARC CUT&THREAD	-6	-1.65	-2.25
1" PVC COATED GRC	120	1,598.28	15.60
4" PVC COATED GRC	50	3,684.04	21.00
1" PVC/CTD MYERS HUB	5	514.70	2.19
4" PVC/CTD MYERS HUB	5	3,318.25	3.75
1" PVC/CTD 90 ELBOW	13	568.56	4.88
4" PVC/CTD 90 ELBOW	10	3,962.12	23.25
4" PVC/CTD STRUT STRAP	20	930.02	4.28
1" PVC SCH-40	210	357.06	11.55
4" PVC SCH-40	300	2,803.20	60.00
CARLON E942F 1" PVC FEMALE ADAPTER	4	9.98	0.60
CARLON E942N 4" PVC FEMALE ADAPTER	10	179.72	5.00
CARLON E940F 1" PVC COUPLING	2	2.88	0.00
CARLON E940N 4" PVC COUPLING	28	398.71	0.00
4" PVC 45 ELBOW SCH-40	5	103.30	7.50
2"x3" BASE SPACER	12	23.60	0.45
4"x3" BASE SPACER	36	88.94	1.80
4"x3" INTERMEDIATE SPACER	72	157.98	2.25
3/4" LT FLEX	-18	-34.57	-1.11
1" LT FLEX	15	47.02	1.10
3" LT FLEX	-15	-229.42	-3.85
4" LT FLEX	15	372.07	4.78
3/4" LT STRAIGHT CONN	-12	-45.63	-2.55
1" LT STRAIGHT CONN	10	53.42	2.13
3" LT STRAIGHT CONN	-10	-1,329.56	-4.38
4" LT STRAIGHT CONN	10	1,565.43	6.25
3/8" S/S CONCRETE INSERT	32	280.00	8.00
3/8" S/S SADDLE WASHER	8	28.64	0.10
3/8" S/S ALL THREAD	60	284.62	3.00
1 5/8" S/S CHANNEL	23	803.55	3.45
#14 XHHW CU	637	98.13	3.44
#10 XHHW CU	50	15.67	0.35
#8 XHHW CU	252	137.16	2.21
#4 XHHW CU	492	598.58	6.31
#1/0 XHHW CU	-120	-304.83	-2.15
#2/0 XHHW CU	-180	-571.44	-3.65
#250MCM XHHW CU	675	3,880.36	20.50
#400MCM XHHW CU	-540	-4,895.09	-23.69
#500MCM XHHW CU	-360	-4,088.67	-17.41
#600MCM XHHW CU	2,025	29,042.31	107.06
#4/0 BARE-CU	50	250.55	1.75
#2 MECH-LUG	6	3.65	0.60
#250 MCM MECH-LUG	1	3.29	0.21
BURIED UTILITY TAPE (3"x100')	1	24.96	0.62
1/4" POLYROPE (M)	540	20.26	2.02
A-606CHNFSS 6x6x4 4X	1	297.24	0.87
1" FIELD CUT KO	10	11.00	5.00
4" FIELD CUT KO	10	11.00	8.80
TIE WIRE (PER LB)	1	13.20	1.87
# 14 WIRE TERM-POWER	-50	-0.50	-2.50
# 10 WIRE TERM-POWER	1	0.01	0.05
# 8 WIRE TERM-POWER	7	0.07	1.05
# 4 WIRE TERM-POWER	12	0.12	2.64
# 1/0 WIRE TERM-POWER	-4	-0.04	-1.52
# 2/0 WIRE TERM-POWER	-6	-0.06	-2.52
# 250 MCM TERM-POWER	10	0.10	5.30
# 400 MCM TERM-POWER	-18	-0.18	-12.24
# 500 MCM TERM-POWER	-12	-0.12	-9.00
# 600 MCM TERM-POWER	30	0.30	24.30

ORIGINAL

PROPOSED CHANGE ORDER

Description	Qty	Total Mat.	Total Hrs.
#14 WIRE TERM-CONTROL	-29	-0.29	-2.90
3/4"x10' CU CLAD GRD ROD	1	137.64	1.25
CADWELD 4/0 CABLE>GRD ROD	1	16.50	0.31
EXCAVATION (CUBIC YARD)	28	1,540.00	5.60
CONCRETE 2500 LB (YARD)	12	1,848.00	2.40
GENERATOR COMMISSIONING & STARTUP ASSIST.	1	0.01	24.00
42X36X08 NEMA 4X 3316 SS PULL BOX	1	1,831.31	4.00
4" CORE/SEAL	5	495.00	5.00
1" CORE SEAL	4	154.00	4.00
4" 45deg. ARC elbow	10	2,035.00	3.00
15KVA WALL MT. 1PH XFMR	1	0.01	2.00
40A MCC REPLACEMENT BUCKET (FBO)	1	0.01	2.00
4" EXP/DEFLECTION FITTING	5	5,489.00	1.50
1" EXP/'DEFLECTION FITTING	4	1,108.80	0.80
GEN. E-STOP (FBO)	1	0.01	1.50
80A NEMA 4X SS ENC. BREAKER	1	0.01	2.00
1-5/8" SS POST BASE	2	198.00	0.40
SS 24" PLATE	1	275.00	0.50
BLOCK CORE	0	0.00	0.00
Totals	**4,571**	**61,691.27**	**391.44**

Summary

MATERIAL		
SAND/STONE		250.00
GEAR-EATON		5,169.00
Total Material		**67,110.27**
FOREMAN	(391.44 Hrs @ $113.10)	44,271.86
FIELD TRUCK @ $5.00 PER HOUR	(401.00 @ 0.00 @ $5.00 + 0.000 % + 0.000 % + 0.000 %)	2,005.00
MISCELLANEOUS MATERIAL @ 2%	(61,691.27 @ 0.00 @ $0.02 + 0.000 % + 0.000 % + 0.000 %)	1,233.83
Overhead	(@ 10.000 %)	11,462.10
Markup	(@ 5.000 %)	6,304.15
EXCAVATION	($3,500.00 + 0.000 % + 0.000 % + 5.000 %)	3,675.00
SPOILS REMOVAL	($460.00 + 0.000 % + 0.000 % + 5.000 %)	483.00
Final Amount		**$136,545.21**

CLIENT ACCEPTANCE

CCN # RFCO3_CPR011_GENERATOR INSTALL_REV 1
Final Amount: $136,545.21

Name: _____

Date: _____

Signature: _____

Change Order #: _____

I hereby accept this quotation and authorize the contractor to complete the above described work.

ORIGINAL

Integrated Process Solutions, Inc.

Corporate Office: PO Box 26, Fosston, MN 56542

34696 412 St. SE
Fosston, MN 56542
218.435.1703

107 Avon Ave S Ste. 2
Avon, MN 56310
320.345.1457

606 Cooper Road
Waunakee, WI 53597
608.849.4375

PROPOSAL - CPR-011 Generator

IPS #

DATE: 9/13/2022

IPS Project No. 2270

OWNER: VILLAGE OF BARTLETT, IL

CONTRACTOR: JJ HENDERSON & SON, INC.

PROJECT: BITTERSWEET WATER RECLAMATION FACILITY IMPROVEMENTS

Integrated Process Solutions, Inc. is pleased to offer the below changes for installation of a new stanby generator in accordance with CPR-011.

Type	No.	Description	Qty	Unit	Unit Cost	Total
LABOR	CO-R0020	Labor - Project Management	0	Hour	$150	$0
LABOR	CO-R0030	Labor - Engineering (update wiring schematics for MCC-95 and SCC-95, update submittal and O&M documents)	6	Hour	$150	$900
LABOR	CO-R0040	Labor - Programming, PLC & HMI and testing	0	Hour	$150	$0
LABOR	CO-R0060	Labor - CAD (update MCC and PLC submittal drawings)	4	Hour	$95	$380
LABOR	CO-R0080	Labor - Field Service/StartUp	0	Hour	$125	$0
LABOR	CO-R0090	Labor - Electrical Construction Labor	0	Hour	$85	$0
LABOR	CO-R0100	Labor - Media	0	Hour	$55	$0
LABOR	CO-R0160	Labor - Production (new breaker - test, install nameplate, document)	2	Hour	$75	$150
LABOR	CO-R0940	Labor - Shipping/receiving/freight	0	Hour	$75	$0
LABOR	CO-R1000	Subcontractor	0	LS	$0	$0
MISC		Mileage	0	Mile	$0.65	$0
MISC		Hotel and Per Diem	0	Day	$180	$0
LABOR	R0940	Shipping & Crating	1	Hour	$40	$40
					TOTAL LABOR	$1,470
ITEM	R0950	Freight - Incoming and Outgoing	1	Each	$110	$110
ITEM	Materials	MCC-95 circuit breaker bucket and blank (filler) door	1	Each	$2,223	$2,223
ITEM	Materials	Additional nameplate	1	Lot	$15	$15
ITEM			0	Lot	$0	$0
ITEM			0	Each	$0	$0
ITEM			0	Lot	$0	$0
ITEM			0	Each	$0	$0
ITEM			0	Each	$0	$0
						$0
						$0
						$0
						$0
						$0

Material Sum	$2,348
Material OH&P at 15%	$414
Subtotal	$2,762
Tax	$0
Labor from Above	$1,470
Total	**$4,232**

Estimated **Change** in Contract Price: **$4,103**

Estimated Change in Contract Times: **60 working days**

Note: Lead time increases by 60 working days from date of approval.

ALTORFER POWER SYSTEMS · 301 S MITCHELL · ADDISON, IL 60101

Caterpillar Electric Power Generator Set Quotation

September 7, 2022
Ref #: 31089330

Submitted to: Marcus Gilman @ JJ Henderson

Project Name: Bartlett WWTP
Caterpillar C32.– 1000kW Outdoor Diesel Standby Generator

We submit to you Altorfer Power System's quotation for the Caterpillar engine driven generator sets. This offer is to sell new Caterpillar generator sets as rated below at 0.8 Power Factor suitable for standby use. This system includes the standard accessories provided by Caterpillar with optional peripheral equipment and services as identified in this proposal through our interpretation of the project requirements.

Top-level equipment and services offerings provided under this proposal:

- ✓ One (1) Caterpillar 1000kW Diesel Fueled, 277/480V, 3-phase Standby Rated Generator
- ✓ One (1) Caterpillar Sound Attenuated Enclosure (75dBA @ 23ft)
- ✓ One (1) Caterpillar Factory 2100 Gallon Tank
- ✓ Caterpillar Five (5) Year Warranty
- ✓ Start-up and On-Site Resistive Load Bank Testing Services

Additionally, we have detailed the equipment configuration and services relative to our understanding of these requirements in the body of this document. Please check it for correctness and completeness to be certain that it meets your needs. Please contact us for any clarifications or refinements that may be necessary to meet the scope of the project, as you understand it.

At the conclusion of this quote you will find the quoted price and additional commercial related information regarding the terms of this sale. Thank you for considering Altorfer Power Systems and the opportunity to provide your equipment and service needs. We are firmly committed to providing the best possible support and service during the life cycle of this project.

Sincerely,
Jim Sylvester
Altorfer / Caterpillar

Standard Equipment Caterpillar 1000kW

Engine

- Diesel driven engine, 1800 RPM
- Electronic isochronous governor

Generator

- 1000kW generator, standby rated, engine mounted and tested, Class H Insulation, .8 power factor, 3 phase, 4 wire, 105C temperature rise, 71.9 gal/hour fuel rate
- Caterpillar Digital Controller
- Permanent Magnet Excitation
- Power center

Digital Control Panel

Instrumentation

- LCD display with adjustable contrast and backlight with auto power off
- AC metering: Volts 3-phase (L-L & L-N); Amps (per phase & average); Frequency; kW (total & per phase); kVA (total & per phase); kVAr (total & per phase); Power Factor (overall & per phase); kW hours; kVAr hours
- DC metering: Battery Volts; Engine hours run; Engine Jacket Water Temperature (in °C or °F); o Lube oil pressure (in psi, kPa or bar); Engine speed (rpm); Crank attempt counter; Start counter

Protection

- Fail to start shutdown
- Low oil pressure shutdown
- High engine temperature
- Approaching high coolant temperature alarm
- Approaching low oil pressure alarm
- Not in auto mode alarm
- Underspeed/Overspeed
- Loss of engine speed detection
- Low/High battery voltage
- Battery charger failure (if fitted)
- Under volts, over volts
- Under frequency, over frequency
- Overcurrent

Controls

- Run key and LED indicator
- Auto key and LED indicator
- Stop key and LED indicator
- Lamp test key
- Alarm acknowledge key
- Menu navigation keys
- Engine and AC metering shortcut keys

- All control module keys have tactile feedback
- Lock down emergency stop push button.
- Service interval counter.

Caterpillar Sound Attenuated Enclosure (75dBA @ 23ft)

- Internally mounted critical grade silencer
- Robust/highly corrosion resistant construction
- Steel Construction
- Lockable, gasketed doors provide secure access to maintenance items (battery, fuel fill, oil, and coolant)
- Lube oil and coolant drains piped to exterior of enclosure and terminated with drain valves
- Radiator guard
- Fixed Intake Louvers
- Gravity Discharge Dampers
- 100A Load Center
- GFCI Receptacles
- Stairs and platforms

Caterpillar Factory 2100 Gallon Tank

- Conduit Access Stub Up Area
- Level Indicator
- Low Fuel Level Alarm Switch
- Fuel in Rupture Basin

Cooling System

- Radiator with guard
- Coolant drain line with valve
- Coolant heater

Starting System

- Single starting motor
- 24 volt lead acid batteries
- Charging alternator
- Battery charger

General

- One (1) 2000A Circuit Breaker
- Linear Vibration Isolators
- First fill lubricating oil
- First fill antifreeze, installed
- O & M Manuals

Additional Equipment (shipped loose)

Remote Annunciator (shipped loose) – Qty 1

- Each Annunciator includes sixteen (16) LED's for annunciation of alarm conditions and system status.
- Includes Alarm Horn and Alarm Acknowledge pushbuttons.
- Meets NFPA 99/110 requirements for remote annunciation on Emergency Standby Generator Systems.
- Label cards are provided next to each set of LED by to indicate various alarms and events.
- Designed and Tested to meet stringent Impulse Shock and Operating Vibration requirements

Technical Field Service to Include:
Note: Field Services do not include initial fuel fill or replenishment, videotaping, sound measurements, or city permits for load testing on site.

Installation Audit:
A pre-start audit is available when time and circumstances permit, to be performed by Altorfer Power Systems Project Manager prior to dispatching our field service technician to perform the equipment startup; this will insure site work is completed. These services are to be performed during normal business hours, Monday through Friday 7:30 am to 3:30 pm. Additionally, our local project managers are available for consult during the entire life of the project.

Equipment Startup:
One (1) day of on-site start-up testing are included for only the equipment purchased through Altorfer Power Systems. Time allowed for our factory certified technician is based on accessibility, site preparation and safety concerns for both equipment and personal. This includes systems preparation, equipment start-up and functional operational test utilizing building load only. We will endeavor to meet the requirements of all interested parties as is reasonable, but informing & scheduling of all authorities, inspectors, etc. is the responsibility of the customer; all services included in this quotation are to be performed during normal business hours, Monday through Friday 7:30 am to 3:30 pm. Additional personal required or revisits as dictated by the site, will require a written request for services with a change order by an authorized person and will be billed at prevailing rates.

Equipment Load Bank Testing with Portable Load Bank
Allocated for this project is a four (4) hour on-site load bank test utilizing a resistive load bank at 1.0 Power Factor. Time allowed for 1 (one) factory certified technician is based on accessibility, site preparation and safety concerns for both equipment and personal. Altorfer Power Systems will provide a portable load bank (sized to the generator rating) and 100 feet of power cable. Cable runs greater than 100 (one hundred) feet will be billed at prevailing rates. These services are to be performed during normal business hours, Monday through Friday 7:30 am to 3:30 pm. Addition personal required or revisits as dictated by the site, will require a written request for services with a change order by an authorized person and will be billed at prevailing rates.

Training:

The appropriate Altorfer personnel are available to provide a basic/up to one (1) hour training on site on the same trip during the unit has been started up. If more time is required, or additional sessions are required, arrangements can be negotiated.

Warranty:
Caterpillar Five (5) Year warranty applies unless extended service coverage is purchased. Standard manufacturer's warranty applies to all non-Caterpillar equipment. Altorfer will administer all warranty claims during the appropriate warranty period. All other manufacturers warranty is for components only. Labor associated with these claims will be charged accordingly. Copy of warranty statements will be provided at project submittal.

Availability:
Determined after approved release. Equipment submittal time is to be negotiated.

Financial Terms:
Net cash 30 days upon receipt of invoice, with credit approval. Equipment will be invoiced at the contracted amount when ready for shipment. Retainers are not allowed unless previously negotiated and are identified in this proposal. Late charges of 1-1/2% per month will be assessed for late payments and customer will also be responsible for any collection costs and expenses, including reasonable attorney's fees. Equipment storage fees may apply when delivery is not accepted when ready for shipment. Sales tax is **NOT** included in the purchase price and will be charged at the current tax rate, if applicable.

Additional Terms and Conditions:
The scope of supply for this quotation is limited to the equipment and services listed in this proposal. The bill of material herein does not include demolition, removal, terminations, installation, labor, fuel, fuel piping, air ducting, exhaust silencer installation, exhaust piping or electrical wiring between loose items such as engine, control gear, transfer switches, day tanks, battery charger, etc. Coordination studies & relay settings & relay testing services are not included. Permitting not included. The customer is responsible for any and all installation of the above Equipment unless specifically modified by this proposal. All equipment needed to perform any loading or unloading of the Equipment supplied by Altorfer Power Systems is the responsibility of the customer unless specifically modified by this proposal. Unless specifically listed in our bill of material, equipment not indicated is to be supplied by others. We reserve the right to correct any errors or omissions. Customer's signature on this quotation or the issuance of a purchase order or other acknowledgement by customer for the Equipment shall constitute acceptance of this quotation subject only to the terms and conditions set forth herein notwithstanding any terms and conditions contained in any such purchase order or other acknowledgment or communication from the customer which are different from or in addition to the terms and conditions of this quotation. This quotation is subject to any applicable manufacturer's general terms and conditions of sale. Changes to the terms of this quotation may only be made by the express written agreement of Altorfer Power Systems. Altorfer Power Systems shall not be responsible for any consequential, special, indirect or liquidated damages hereunder or for any manufacturer or other delays beyond Altorfer's control. Altorfer Power Systems will not be responsible for any labor or material charges by others associated with the

start-up and installation of this equipment unless previously agreed upon, in writing by Altorfer Power Systems. This quotation expires in 30 calendar days or sooner with notice and is subject to prior sale. The prices stated herein are subject to any manufacturer increases if the order is not released for manufacture within 90 calendar days from order date or, if drawings for approval are required, the drawings are not returned and released for manufacture within 30 calendar days of mailing date. For any completed order, scheduled for shipment, that is held, delayed or rescheduled at the request of the Buyer, Seller may, at its sole option, ship to storage, invoice, and transfer title, all at the sole cost and risk of loss of the Buyer. Buyer may terminate or cancel an order by written notice and upon payment of appropriate charges based upon a percentage of the quoted sales price at the stage of completion: 10% hold for approval status and 100% after release for manufacture status.

ALTORFER POWER SYSTEMS · 301 S MITCHELL · ADDISON, IL 60101

Exceptions & Clarifications:

- ✓ Quotation is based on generator specification 263213 only (no drawings provided at time of quote). If actual job site conditions/local codes require a change in BOM, all such changes will be quoted and billed accordingly.
- ✓ Oil heater not provided as it is not recommended by Caterpillar

Total price for these product and services:

- ✓ One (1) Caterpillar 1000kW Diesel Fueled, 277/480V, 3-phase Standby Rated Generator
- ✓ One (1) Caterpillar Sound Attenuated Enclosure (75dBA @ 23ft)
- ✓ One (1) Caterpillar Factory 2100 Gallon Tank
- ✓ Caterpillar Five (5) Year Warranty
- ✓ Start-up and On-Site Resistive Load Bank Testing Services

$264,293.00 (Plus tax) This price does not include tax.
FOB: Jobsite Tailgate

2022 Supply Chain Volatility Note - Altorfer Power Systems continuously strives to reduce costs and optimize productivity whenever possible. Unfortunately, the current volatility of the supply chain has necessitated a price review process that will take place at the time we receive a "release for production" for this project. We will review the cost basis that was used at the time of quotation and if we find our inputs have increased, we will issue a revised proposal before accepting your "release for production".

ACCEPTANCE:

Customer Signature

DATE: _____

ALTORFER POWER SYSTEMS

Jim Sylvester
Email: jim.sylvester@altorfer.com
Phone: 630-516-4414
Mobile: 630-360-0228
Sales Engineer, Electric Power Generation

Should you have any questions or comments on this matter, please do not hesitate to contact us.

Once equipment is delivered and installed, service requires two weeks' notice to schedule startup and load bank testing.

Change Order Item 3g

ESTIMATE SHEET

JOB:	1400-00	CONTRACTOR:	JJH	ESTIMATE NO.:	
LOCATION:	BARTLETT BITTERSWEET WWTP	ENGINEER:	SAI	DATE:	09/08/22
ESTIMATOR:	BM	CHECKED BY:		BID DATE:	

JOB DESCRIPTION: Floor Door Size changes per Submittal Review

Door #	DESCRIPTION	QTY.	UNIT	@	MATERIAL	HOURS	SUBC/MISC	TOTAL
								-
0501A	Scum Wet Well 3'0" x 3'0"	1	ea	-998.00 /	(998.00)	-		(998.00)
	Revised to 36.75 x 37.75	1	EA	1200.00 /	1,200.00			1,200.00
				/	-	-		-
4001B	RAS/WAS Pumping Bldg 3'0" x 3'0"	1	ea	-998.00 /	(998.00)	-		(998.00)
	Revised to 36.75 x 37.75	1	EA	1200.00 /	1,200.00			1,200.00
4101A	RAS Splitter Valve Vault 3'0" x 3'0"	1	ea	-998.00 /	(998.00)	-		(998.00)
	Revised to 36.75 x 37.75	1	EA	1200.00 /	1,200.00			1,200.00
1502B	Prelim Treatment Bldg 3'0" x 4'0"	1	ea	-1483.00 /	(1,483.00)	-		(1,483.00)
	Revised to 38"x 56"	1	EA	1825.00 /	1,825.00			1,825.00
4001C & D	RAS/WAS Pumping Bldg 3'0" x 3'9"	2	ea	-1147.00 /	(2,294.00)	-		(2,294.00)
	Revised to 38 x 58	2	EA	1940.00 /	3,880.00			3,880.00
	NOTE: Drwgs states 31"x40" clear opening							
						-		-
4001E	RAS/WAS Pumping Bldg 2'6" x 2'6"	1	ea	-811.00 /	(811.00)	-		(811.00)
	Revised to 36.75 x 30.75	1	EA	1070.00 /	1,070.00			1,070.00
				/	-			-
				/	-			-
				/	-			-
				/	-			-
				/	-		746	-
					2,793.00	-	-	2,793.00
						109.00		
				LABOR		-		
				MATERIAL		2,793.00		
				EQUIPMENT		-		
				SUB-TOTAL		2,793.00		
				15% OH&P		419.00		
				TOTAL CHANGE ORDER		3,212.00		

provide original size per door schedule

provide original size per door schedule

provide original size per door schedule

746

746

112.00 (rounded)

858.00

Agenda Item Executive Summary

Item Name	Sale of Surplus Property	Committee or Board	Board

BUDGET IMPACT			
Amount:	N/A	*Budgeted*	N/A
List what fund	N/A		

EXECUTIVE SUMMARY

The Public Works Department wishes to dispose of surplus items and personal property of the Village through internet auction.

The surplus vehicles and property are to be auctioned by Obenauf Auction Services. As part of their service, Obenauf identifies potential bidders who may be interested in the type of vehicles and equipment the departments wish to sell. The Village has utilized Obenauf in prior years and the service they provide has proven to be a very effective method for disposal of the Village's surplus property.

Attached is an ordinance authorizing the sale of surplus property through internet auction as well as a list of all surplus property to be sold.

ATTACHMENTS (PLEASE LIST)

Memo

Ordinance

Surplus Property List

ACTION REQUESTED

For Discussion Only

Resolution

✓ Ordinance

✓ Motion: **MOVE TO APPROVE ORDINANCE # 2022-____, AN ORDINANCE AUTHORIZING THE SALE BY INTERNET AUCTION OF SURPLUS PROPERTY OWNED BY THE VILLAGE OF BARTLETT**

Staff: Tyler Isham, Assistant Director of Public Works Date: 10/10/2022

22-16

PUBLIC WORKS

Memo

To:	Paula Schumacher, Village Administrator
From:	Tyler Isham, Assistant Director of Public Works
Subject:	**Sale of Village Owned Surplus Property**
Date:	October 10, 2022

The Public Works Department wishes to dispose of surplus items and personal property of the Village through internet auction.

The surplus vehicles and property are to be auctioned by Obenauf Auction Services. As part of their service, Obenauf identifies potential bidders who may be interested in the type of vehicles and equipment the departments wish to sell. The Village has utilized Obenauf in prior years and the service they provide has proven to be a very effective method for disposal of the Village's surplus property.

Attached is an ordinance authorizing the sale of surplus property through internet auction as well as a list of all surplus property to be sold.

MOTION

MOTION TO APPROVE ORDINANCE # 2022-____, AN ORDINANCE AUTHORIZING THE SALE BY INTERNET AUCTION OF SURPLUS PROPERTY OWNED BY THE VILLAGE OF BARTLETT

Ti/attachments

ORDINANCE 2022-____

AN ORDINANCE AUTHORIZING THE SALE BY INTERNET AUCTION OF SURPLUS PERSONAL PROPERTY OWNED BY THE VILLAGE OF BARTLETT

WHEREAS, the Illinois Municipal Code requires the adoption of an ordinance passed by a simple majority of the corporate authorities then holding office declaring personal property that the Village of Bartlett (the "Village") desires to sell "no longer necessary or useful to or for the best interest of" the Village, and that transfer of said personal property be set in any manner that the corporate authorities may designate with or without advertising the sale (65 ILCS 5/11-76-4); and

WHEREAS, staff has recommended that the Corporate Authorities authorize the sale of the used vehicles and equipment described on Attachment A, a copy of which is attached hereto and incorporated herein (the "Surplus Vehicles and Equipment"), as it is no longer necessary or useful or for the best interest of the Village, through the Obenauf Auction Service Incorporated and eBay on-line auction site to the respective highest bidders bidding on the purchase of the Surplus Vehicles & Equipment;

NOW, THEREFORE, BE IT ORDAINED by the President and Board of Trustees of the Village of Bartlett, Cook, DuPage and Kane Counties, Illinois, as follows:

SECTION ONE: Pursuant to Section 11-76-4 of the Illinois Municipal Code, the President and Board of Trustees of the Village (the "Board") hereby find and declare that the Vehicles and Equipment, defined in the recitals herein and listed on Attachment A is no longer necessary or useful to or for the best interest of the Village.

SECTION TWO: Pursuant to said Section 11-76-4 and the Village's home rule authority, the Board authorizes the Village Administrator, or her designee, to sell the Surplus Vehicles and Equipment through the Obenauf Auction Services Incorporated and eBay on-line auction site to the respective highest bidders.

SECTION THREE: The Village Administrator and the Assistant Village Administrator, or either of them, are each hereby authorized and directed to sign vehicle titles and such other documents as may be necessary to transfer ownership of the Surplus Vehicles and Equipment as provided herein upon receipt of the proceeds of the sale.

SECTION FOUR: SEVERABILITY. If any section, paragraph or provision of this Ordinance shall be held to be invalid or unenforceable for any reason, the invalidity or unenforceability of such section, paragraph or provision shall not affect any of the remaining provisions of this Ordinance.

SECTION FIVE: REPEAL OF PRIOR ORDINANCES. All prior Ordinances and Resolutions in conflict or inconsistent herewith are hereby expressly repealed only to the extent of such conflict or inconsistency.

SECTION SEVEN: EFFECTIVE DATE. This Ordinance shall be in full force and effect from and after its passage, by a vote of majority of the corporate authorities and approval in the manner provided by law.

ROLL CALL VOTE:

AYES:

NAYS:

ABSENT:

PASSED: **October 18, 2022**

APPROVED: **October 18, 2022**

_____
Kevin Wallace, Village President

ATTEST:

_____
Lorna Giless, Village Clerk

CERTIFICATION

I, the undersigned, do hereby certify that I am the Village Clerk of the Village of Bartlett, Cook, DuPage and Kane Counties, Illinois, and that the foregoing is a true, complete and exact copy of Ordinance 2022- _____ enacted on October 18, 2022, and approved on October 18, 2022, as the same appears from the official records of the Village of Bartlett.

_____
Lorna Giless, Village Clerk

Attachment A: Surplus Items

Serial / VIN	Yr	Make	Model / Description	Equipment Number
3GSC193ZX9S628337	2009	Saturn	Vue/Hybrid SUV	09-216
	2011	Billy Goat	Blower	
			Office Chairs (x12)	