

DISTRICT 4

VILLAGE OF LOMBARD
REQUEST FOR BOARD OF TRUSTEES ACTION
For Inclusion on Board Agenda

 X Resolution or Ordinance (Blue) _____ Waiver of First Requested
_____ Recommendations of Boards, Commissions & Committees (Green)
_____ Other Business (Pink)

TO: PRESIDENT AND BOARD OF TRUSTEES

FROM: Scott Niehaus, Village Manager

DATE: October 11, 2018 (COW) (B of T) **Date:** November 15, 2018

TITLE: Central Pressure Adjusting Station Improvements
Change Order No. 1 (Solar Option)

SUBMITTED BY: David P. Gorman, P.E., Assistant Director of Public Works *DPG*

BACKGROUND/POLICY IMPLICATIONS:

Change Order No. 1 is a net increase of \$112,000.00. Change Order #1 incorporates a PV (Photovoltaic) Electrical System for the new Pressure Adjusting Station Building

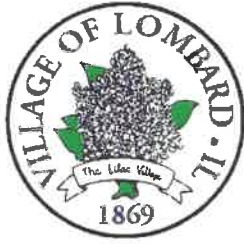
FISCAL IMPACT/FUNDING SOURCE:

Current Contract Amount: \$2,093,000.00
Change Order #1: \$112,000.00
Total Revised Contract Amount: \$2,205,000.00
Project #: WA 17-01
PO #: 2018-00002549
Account: Water/Sewer Capital Reserve 520.790.715.75420

Review (as necessary):

Village Attorney X _____ Date _____
Finance Director X _____ Date _____
Village Manager X _____ Date _____

NOTE: All materials must be submitted to and approved by the Village Manager's Office by 12:00 noon, Wednesday, prior to the Agenda Distribution.



To: Scott Niehaus, Village Manager
 Through: Carl S. Goldsmith, Director of Public Works
 From: Raymond Schwab, Civil Engineer II
 Date: October 10, 2018
 Subject: Central Pressure Adjusting Station Improvements
 Change Order #1 (Solar Option)

Attached, please find Change Order #1 (final) in the amount of \$112,000 which incorporates the PV (Photovoltaic) Electrical System for the new Pressure Adjusting Station Building.¹

The PV system was included as an alternative bid item in the original bid document. Staff did not initially recommend award of the alternate when the item was presented to the Board of Trustees on September 6th. Please note JJ Henderson's bid for the PV system was the lowest among the submitted bids. To address conformity with Public Act 85-1295, JJ Henderson would have still been low bidder if the alternate bid item was initially recommended for award by Village staff. The bid tabulation for the project is attached for reference.

After project award, the consulting design engineer Christopher B. Burke Engineering LTD (CBBEL), presented documentation that a positive net return on investment could be achieved by utilizing the solar technology option.

Given the availability of renewable energy credits (REC) the initial cost of the PV system can be significantly offset. A REC of \$8,640 is available for using the smart inverter which converts direct current (DC) produced by the solar panels to alternating current (AC). A PV incentive grant of \$73,084 is also available. After energizing the PV system, 20% of the total grant will be returned to the Village. The balance (80%) of the grant will be distributed evenly over the next four years. Therefore, the net cost of the PV system is \$30,276 after four years (\$112,000 - \$8,640 - \$73,084). The return on investment (ROI) is estimated at approximately 10 years. Refer to the attachment supplied by CBBEL and Hardt Electric.

The installing contractor and CBBEL will complete the necessary paperwork for the incentives/rebates and submit them to the State of Illinois. CBBEL will follow up with the State for the remaining rebates over the next four years. Maintenance required for the PV panels is limited to periodic wash down to maintain efficiency and an annual inspection of the inverter and PV panel connections. ComEd is required by the ICC to provide net metering for small PV systems connected to the electrical grid.

This change order will be presented to the Public Works Committee on November 13, 2018. If the Committee recommends approval, please present this change order to the President and Board of Trustees for their review and approval at their regular meeting on November 15, 2018. If approved, please have a scanned signed copy forwarded to Ray Schwab, Civil Engineer II of the Engineering Division.

1. Source Wikipedia

A Photovoltaic Electrical System is a power system designed to supply usable solar power. It consists of an arrangement of several components, including solar panels to absorb and convert sunlight into electricity, a solar inverter to change the electric current from DC to AC.

Attachment: Change Order #1, Bid Tab & ROI

R E S O L U T I O N
R _____

A RESOLUTION AUTHORIZING A CHANGE ORDER
INVOLVING AN INCREASE/DECREASE IN THE DOLLAR AMOUNT OF
THE CONTRACT OF \$10,000 OR MORE AND/OR EXTENDING/ SHORTENING THE
TIME IN WHICH THE CONTRACT IS TO BE COMPLETED BY THIRTY (30) DAYS
OR MORE

WHEREAS, pursuant to Illinois Compiled Statutes, Chapter 720, Section 5/33E-9, units of local government are required to make specific findings prior to authorizing any change order relative to a contract which would increase or decrease the dollar amount of the contract by \$10,000 or more, or would extend or shorten the time in which the contract is to be completed by thirty (30) days or more; and

WHEREAS, staff has presented and recommended the proposed Change Order No.1 to the contract between the Village of Lombard and Joseph J. Henderson & Son, Inc. regarding the Central Pressure Adjusting Station Improvements project, as attached hereto as Exhibit "A" and made part hereof, (the "Change Order") to the Corporate Authorities of the Village of Lombard; and

WHEREAS, said Change Order attached hereto as Exhibit "A" would increase the dollar amount of the contract by \$112,000.00.

NOW, THEREFORE, BE IT RESOLVED BY THE PRESIDENT AND BOARD OF TRUSTEES OF THE VILLAGE OF LOMBARD, DU PAGE COUNTY, ILLINOIS, as follows:

SECTION 1: That after reviewing the explanation of staff as to the necessity of and reasons for the Change Order attached hereto as Exhibit "A", the President and Board of Trustees find as follows:

- A. That the circumstances which necessitated said Change Order were not reasonably foreseeable at the time the contract was entered into.
- B. That the basis of the Change Order was not within the contemplation of the contract when the contract was signed.
- C. That it is in the best interests of the Village of Lombard to approve the Change Order in its proposed form.
- D. That to the extent that it may have been necessary to go to bid relative to the work contemplated by said Change Order; bidding is hereby specifically waived as to the Change Order work.

SECTION 2: That having made the findings set forth in Section 1 above, the President and Board of Trustees hereby approve the Change Order attached hereto as Exhibit "A", and direct and authorize the Village President and Village Clerk to execute said Change Order on behalf of the Village.

Adopted this 15th day of November, 2018, pursuant to a roll call vote as follows:

Ayes: _____

Nays: _____

Absent: _____

Approved by me this 15th day of November, 2018.

Keith Giagnorio
Village President

ATTEST:

Sharon Kuderna
Village Clerk

VILLAGE OF LOMBARD CHANGE ORDER

PROJECT NAME: Central Pressure Adjusting Station Improvements PROJECT NO.: WA 17 01
 LOCATION: 20 East St. Charles Road CHANGE ORDER: 1
 CONTRACTOR: JJ Henderson & Son DATE: 10/10/2018
 DESCRIPTION OF CHANGE ORDER: Incorporation of solar power lighting system

ORIGINAL CONTRACT AMOUNT:	[1] <u>\$2,093,000.00</u>
TOTAL OF PREVIOUS AUTHORIZED CHANGE ORDERS:	[2] <u>\$0.00</u>
CURRENT CONTRACT AMOUNT: ((1)+[2])	[3] <u>\$2,093,000.00</u>
PROPOSED CHANGE ORDER: (PENDING APPROVAL)	[4] <u>\$112,000.00</u>
PROPOSED REVISED CONTRACT AMOUNT: (PENDING APPROVAL) ((3)+[4])	[5] <u>\$2,205,000.00</u>

NET OF ALL CHANGE ORDERS: (PENDING APPROVAL) ((2)+[4])	<u>\$112,000.00</u>
TIME EXTENSION OR REDUCTION:	<u>None</u>
TOTAL CONTRACT TIME:	<u>270 Calendar Days</u>
BUDGET ESTIMATE: (Demolition & Parking Lot/PA Station)	<u>\$2,475,000.00</u>
ENGINEER'S ESTIMATE: (Demolition & Parking Lot/PA Station)	<u>\$2,075,000.00</u>

RECOMMENDED FOR ACCEPTANCE :

<u>Ray Schwalb</u>	<u>10/10/2018</u>	Approved By:	
Resident Engineer	Date	Director of Finance	Date
<u>[Signature]</u>	<u>10-10-2018</u>	Approved By:	
Contractor	Date	(<small><\$10K or 25%</small>) Village Manager	Date
<u>[Signature]</u>	<u>10/12/18</u>	Approved By:	
Village Engineer	Date	(<small>>\$10K or 25%</small>) Village President	Date
<u>[Signature]</u>	<u>10/12/18</u>	Attest:	
Director of Public Works	Date	Village Clerk	Date
<u>[Signature]</u>	<u>10/12/18</u>		
Assistant Director of Finance	Date		

It is understood that as part of this change order that the Contractor agrees that all bonds, permits, insurance and guarantees are hereby extended to incorporate this Change Order.

Central Pressure Adjusting Station Improvements
Change Order #: 1

10/10/2018

No.	Item	Current Quantity	Unit	Unit Price	Revised Quantity	Difference	Amount	Description
26 31 00/01	PV Electrical System	0.0	L. Sum	\$112,000.00	1.0	1.0	\$112,000.00	Addition of solar power electrical system for the new building

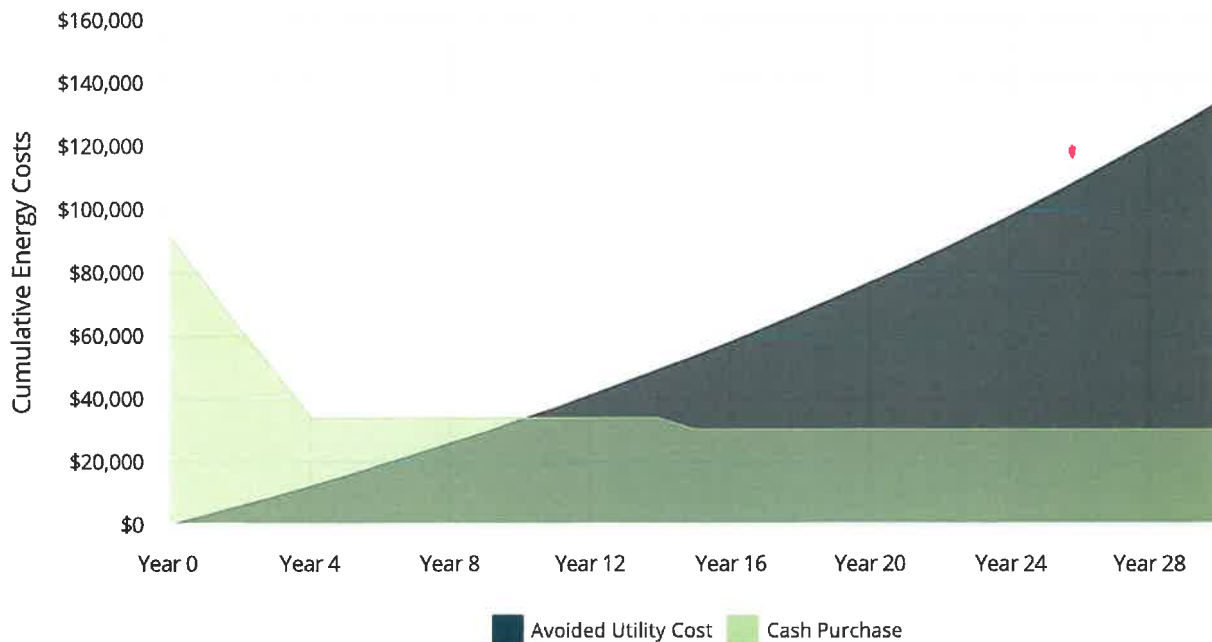
TOTAL AMOUNT = \$112,000.00

2 Project Summary

Payment Options	Cash Purchase
Upfront Payment	-
Total Payments	\$112,000
Rebates and Incentives	\$81,724
Net Payments	\$30,276
30-Year Electric Bill Savings	\$133,953
Electric Bill Savings Year 1	\$2,938
30-Year IRR	8.09%
30-Year LCOE PV	\$0.025
30-Year NPV	\$23,489
Payback Period	10.2 Years

Combined Solar PV Rating
 Power Rating: 34,560 W-DC
 Power Rating: 31,460 W-AC-CEC

Cumulative Energy Costs By Payment Option



3.1.1 PV System Details

General Information

Facility: Facility #1
 Address: 255 E Wilson Ave Lombard IL 60148

Solar PV System Rating

Power Rating: 34,560 W-DC
 Power Rating: 31,460 W-AC-CEC

Solar PV Equipment Description

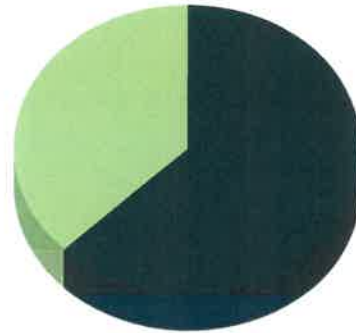
Solar Panels: (96) SunPower SPR-X22-360-COM
 Inverters: (1) SMA America STP30000TL-US-10 (480V)

Energy Consumption Mix

Annual Energy Use: 113,712 kWh

Solar PV Equipment Typical Lifespan

Solar Panels: Greater than 30 Years
 Inverters: 15 Years



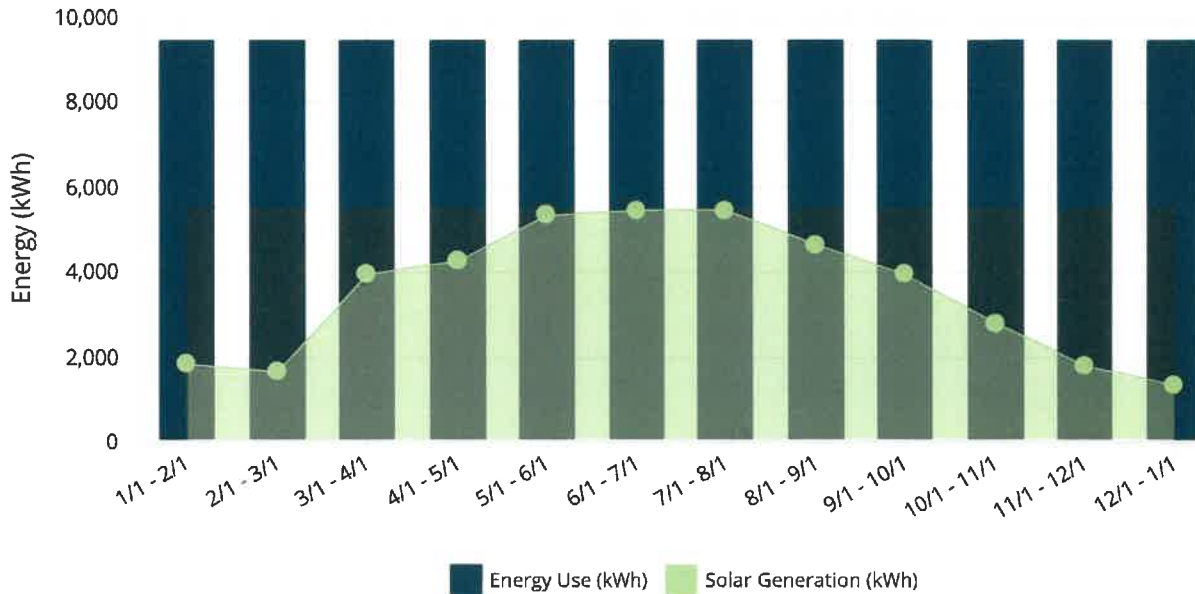
Solar PV System Cost And Incentives

Solar PV System Cost	\$112,000
REC	-\$8,640
PV Incentive	-\$73,084

Net Solar PV System Cost: \$30,276

Utility	71,130 kWh (62.55%)
Solar PV	42,582 kWh (37.45%)

Monthly Energy Use vs Solar Generation



Central Pressure Adjusting Station Improvements (#5887735)

Owner: Village of Lombard, IL

Solicitor: Village of Lombard, IL

08/30/2018 11:00 AM CDT

Section Title	Line Item	Item Code	Item Description	UoM	Quantity	Joseph J. Henderson & Soi, Inc.		IHC Construction Companies, LLC.		Bolter Construction Company Inc.		Frontier Construction, Inc.		Poulos, Inc.		Martam Construction, Inc.	
						Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension
Base Bid	1	Job	Central Pressure Adjusting Station Project	L. Sum	1	\$2,093,000.00	\$2,093,000.00	\$2,114,000.00	\$2,114,000.00	\$2,199,900.00	\$2,199,900.00	\$2,231,500.00	\$2,231,500.00	\$2,374,000.00	\$2,374,000.00	\$2,447,000.00	\$2,447,000.00
Unit Price Items	UP#1	202Vol	Removal and Disposal of Unsuitable Material	CY	100	\$36.00	\$3,600.00	\$95.70	\$9,570.00	\$45.00	\$4,500.00	\$30.00	\$3,000.00	\$75.00	\$7,500.00	\$85.00	\$8,500.00
Alternate	UP#2	213Vol	Exploration Trench, 8 Foot Depth	CY	100	\$90.00	\$9,000.00	\$58.70	\$5,870.00	\$100.00	\$10,000.00	\$55.00	\$5,500.00	\$60.00	\$6,000.00	\$125.00	\$12,500.00
	Electrical	26 31 00/01	PV Electrical System	L. Sum	1	\$112,000.00	\$112,000.00	\$118,817.00	\$118,817.00	\$119,800.00	\$119,800.00	\$113,000.00	\$113,000.00	\$116,000.00	\$116,000.00	\$750,000.00	\$750,000.00