







To: Scott Niehaus, Village Manager  
Through: Carl Goldsmith, Director of Public Works   
From: Tom Ellis, Operations Superintendent   
Date: March 18, 2019  
Subject: Roadway Lighting LED Replacement Project

Bid specifications were sent to the Master Intergovernmental Cooperative Purchasing Agreement (MICPA) with U.S. Communities Government Purchasing Alliance. Currently 497 communities in Illinois are participating in U.S. Communities Government Purchasing Alliance. The U.S. Communities Government Purchasing Alliance is a program that affords member communities an opportunity to participate in a program whereby a service or commodity is publically bid by a Lead Agency and the results of that competitive solicitation is available to all 90,000 public agencies. The Village used the same process for roofing projects on the Police Department, Village Hall and Public Works buildings. Graybar Electrical submitted the winning bid to US Communities for electrical supplies and fixtures. The bid results are as follows:

<u>Supplier</u>	<u>Total Price</u>
Graybar Electric 900 Regency Dr Glendale Heights, IL	\$61,400.15

This project consists of retrofitting 217 new LED street lamps fixtures in the existing Cobra head roadway lights. These components will be removed and replaced with 97 watt LED fixtures. A list of suggested lights to be part of this project is attached. Staff estimates an annual savings from electrical usage and maintenance costs of \$22,811.77.

Staff recommends approving the purchase of 100 LED light fixtures from Graybar Electrical through the US Communities contract in the amount of \$61,400.15.

This project will be funded by construction fund account 410.710.725.73310 ST 18-03.



900 REGENCY DR  
 GLENDALE HEIGHTS IL 60139-2287  
 Phone: 630-893-3600  
 Fax: 630-671-6600

To: VILLAGE OF LOMBARD/ELEC  
 255 E. WILSON  
 LOMBARD IL 60148-3926  
 Attn: ROB  
 Phone: 000-620-5740  
 Fax:  
 Email:

Date: 02/12/2019  
**Proj Name:**  
**GB Quote #:** 0232044079  
 Release Nbr:  
 Purchase Order Nbr:  
 Additional Ref#  
 Valid From: 02/12/2019  
 Valid To: 03/14/2019  
 Contact: STEPHEN PLELI  
 Email: stephen.pleli@graybar.com

**Proposal**

We Appreciate Your Request and Take Pleasure in Responding As Follows

**Notes: PRICING BASED ON US COMMUNITIES CONTRACT  
 EV-2370**

Item	Item/Type	Quantity	Supplier	Catalog Nbr	Description	Price	Unit	Ext.Price
100		217 EA	GENERAL ELEC	ERL1H10C340D GRAYGL		\$282.95	1	\$61,400.15

**Total in USD (Tax not included): \$61,400.15**

This equipment and associated installation charges may be financed for a low monthly payment through Graybar Financial Services (subject to credit approval). For more information call 1-800-241-7408 to speak with a leasing specialist.

To learn more about Graybar, visit our website at [www.graybar.com](http://www.graybar.com)

24-Hour Emergency Phone#: 1-800-GRAYBAR

Subject to the standard terms and conditions set forth in this document. Unless otherwise noted, freight terms are F.O.B. shipping point prepaid and bill. Unless noted the estimated ship date will be determined at the time of order placement.

To: VILLAGE OF LOMBARD/ELEC  
255 E. WILSON  
LOMBARD IL 60148-3926  
Attn: ROB

Date: 02/12/2019  
Proj Name:  
GB Quote #: 0232044079

## Proposal

We Appreciate Your Request and Take Pleasure in Responding As Follows

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### GRAYBAR ELECTRIC COMPANY, INC. TERMS AND CONDITIONS OF SALE

1. **ACCEPTANCE OF ORDER; TERMINATION** - Acceptance of any order is subject to credit approval and acceptance of order by Graybar Electric Company, Inc. ("Graybar") and, when applicable, Graybar's suppliers. If credit of the buyer of the goods ("Buyer") becomes unsatisfactory to Graybar, Graybar reserves the right to terminate upon notice to Buyer and without liability to Graybar.
2. **PRICES AND SHIPMENTS** - Unless otherwise quoted, prices shall be those in effect at time of shipment, which shall be made F.O.B. shipping point, prepaid and bill.
3. **RETURN OF GOODS** - Credit may be allowed for goods returned with prior approval. A deduction may be made from credits issued to cover cost of handling.
4. **TAXES** - Prices shown do not include sales or other taxes imposed on the sale of goods. Taxes now or hereafter imposed upon sales or shipments will be added to the purchase price. Buyer agrees to reimburse Graybar for any such tax or provide Graybar with acceptable tax exemption certificate.
5. **DELAY IN DELIVERY** - Graybar is not to be accountable for delays in delivery occasioned by acts of God, failure of its suppliers to ship or deliver on time, or other circumstances beyond Graybar's reasonable control. Factory shipment or delivery dates are the best estimates of our suppliers, and in no case shall Graybar be liable for any consequential or special damages arising from any delay in shipment or delivery.
6. **LIMITED WARRANTIES** - Graybar warrants that all goods sold are free of any security interest and will make available to Buyer all transferable warranties (including without limitation warranties with respect to intellectual property infringement) made to Graybar by the manufacturer of the goods. **GRAYBAR MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES, AND SPECIFICALLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE, UNLESS OTHERWISE AGREED IN WRITING BY AN AUTHORIZED REPRESENTATIVE OF GRAYBAR. PRODUCTS SOLD HEREUNDER ARE NOT INTENDED FOR USE IN OR IN CONNECTION WITH (1) ANY SAFETY APPLICATION OR THE CONTAINMENT AREA OF A NUCLEAR FACILITY, OR (2) IN A HEALTHCARE APPLICATION, WHERE THE GOODS HAVE POTENTIAL FOR DIRECT PATIENT CONTACT OR WHERE A SIX (6) FOOT CLEARANCE FROM A PATIENT CANNOT BE MAINTAINED AT ALL TIMES.**
7. **LIMITATION OF LIABILITY** - Buyer's remedies under this agreement are subject to any limitations contained in manufacturer's terms and conditions to Graybar, a copy of which will be furnished upon written request. Furthermore, Graybar's liability shall be limited to either repair or replacement of the goods or refund of the purchase price, all at Graybar's option, and **IN NO CASE SHALL GRAYBAR BE LIABLE FOR INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES.** In addition, claims for shortages, other than loss in transit, must be made in writing not more than five (5) days after receipt of shipment.
8. **WAIVER** - The failure of Graybar to insist upon the performance of any of the terms or conditions of this agreement or to exercise any right hereunder shall not be deemed to be a waiver of such terms, conditions, or rights in the future, nor shall it be deemed to be a waiver of any other term, condition, or right under this agreement.
9. **MODIFICATION OF TERMS AND CONDITIONS** - These terms and conditions supersede all other communications, negotiations, and prior oral or written statements regarding the subject matter of these terms and conditions. No change, modification, rescission, discharge, abandonment, or waiver of these terms and conditions shall be binding upon Graybar unless made in writing and signed on its behalf by a duly authorized representative of Graybar. No conditions, usage of trade, course of dealing or performance, understanding or agreement, purporting to modify, vary, explain, or supplement these terms and conditions shall be binding unless hereafter made in writing and signed by the party to be bound. Any proposed modifications or additional terms are specifically rejected and deemed a material alteration hereof. If this document shall be deemed an acceptance of a prior offer by Buyer, such acceptance is expressly conditional upon Buyer's assent to any additional or different terms set forth herein.
10. **REELS** - When Graybar ships returnable reels, a reel deposit may be included in the invoice. The Buyer should contact the nearest Graybar service location to return reels.
11. **CERTIFICATION** - Graybar hereby certifies that these goods were produced in compliance with all applicable requirements of Sections 6, 7, and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor issued under Section 14 thereof. This agreement is subject to Executive Order 11246, as amended, the Rehabilitation Act of 1973, as amended, the Vietnam Veterans Readjustment Assistance Act of 1974, as amended, E.O. 13496, 29 CFR Part 471, Appendix A to Subpart A, and the corresponding regulations, to the extent required by law. 41 CFR 60-1.4, 60-741.5, and 60-250.5 are incorporated herein by reference, to the extent legally required.
12. **FOREIGN CORRUPT PRACTICES ACT** - Buyer shall comply with applicable laws and regulations relating to anti-corruption, including, without limitation, (i) the United States Foreign Corrupt Practices Act (FCPA) (15 U.S.C. §§78dd-1, et. seq.) irrespective of the place of performance, and (ii) laws and regulations implementing the Organization for Economic Cooperation and Development's Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, the U.N. Convention Against Corruption, and the Inter-American Convention Against Corruption in Buyer's country or any country where performance of this agreement or delivery of goods will occur.
13. **ASSIGNMENT** - Buyer shall not assign its rights or delegate its duties hereunder or any interest herein without the prior written consent of Graybar, and any such assignment, without such consent, shall be void.
14. **GENERAL PROVISIONS** - All typographical or clerical errors made by Graybar in any quotation, acknowledgment or publication are subject to correction. This agreement shall be governed by the laws of the State of Missouri applicable to contracts to be formed and fully performed within the State of Missouri, without giving effect to the choice or conflicts of law provisions thereof. All suits arising from or concerning this agreement shall be filed in the Circuit Court of St. Louis County, Missouri, or the United States District Court for the Eastern District of Missouri, and no other place unless otherwise determined in Graybar's sole discretion. Buyer hereby irrevocably consents to the jurisdiction of such court or courts and agrees to appear in any such action upon written notice thereof.
15. **PAYMENT TERMS** - Payment terms shall be as stated on Graybar's invoice or as otherwise mutually agreed. As a condition of the sales agreement, a monthly service charge of the lesser of 1-1/2% or the maximum permitted by law may be added to all accounts not paid by net due date. Visa, MasterCard, American Express, and Discover credit cards are accepted at point of purchase only.
16. **EXPORTING** - Buyer acknowledges that this order and the performance thereof are subject to compliance with any and all applicable United States laws, regulations, or orders. Buyer agrees to comply with all such laws, regulations, and orders, including, if applicable, all requirements of the International Traffic in Arms Regulations and/or the Export Administration Act, as may be amended. Buyer further agrees that if the export laws are applicable, it will not disclose or re-export any technical data received under this order to any countries for which the United States government requires an export license or other supporting documentation at the time of export or transfer, unless Buyer has obtained prior written authorization from the United States Office of Export Control or other authority responsible for such matters.

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Signed: \_\_\_\_\_

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Street Lighting  
Equipment  
Corporation  
(954) 961-9140

# Universal ROI Calculator

## An Estimating Tool to Compare Payback of LED Lighting

Click for Wide Screen Version

**Please read:**

Light levels are NOT calculated or suggested.

This calculator gives payback time, and both the annual and life-time savings figures for energy, maintenance, and CO<sub>2</sub> production. It calculates Lighting Power Density from area of at least 50 square feet per fixture, and provides the maximum fixtures allowed from a target LPD. It's not exclusive to LED, can compare any lighting.

**Simple ROI** is calculated on product lifetime with the industry standard  $[(\text{Payback} - \text{Investment}) \div \text{Investment} \times 100]$  formula. Cost may be full direct if retrofit, or may be difference (Original - New) if complete new installation. Include ALL COSTS and verify calculations before implementing a solution. Check with your electric utility provider for rate structures related to Lighting Power Density (LPD/UPD). Site owner not responsible for errors, misapplications or oversights.

Start with the **Tab** key, or select an entry with mouse.  
Step forward with **Tab**; fill in shaded **??** cells as required.  
Step back with **Shift Tab**.

**Set up basic parameters for energy statistics:**

Original (HID) Fixture Wattage + Ballast	265	Watts
- LED Wattage	97	Watts
= Saved per Fixture	168	Watts
× Fixture Quantity	217	
= Power Saved	36456 W	= 36.456 kW
× Daily use	10	Hours
× Weekly use	7	Days
× Yearly use	52	Weeks
= Annual Energy Savings	132699.84	kWhr
× Power Cost	\$ 0.10	per kWhr
= Annual Energy Cost Savings	\$13269.98	

**Hour-Day-Week Notes:**  
 • For Occ. sensors or dimming, use average hours  
 • For photocell use nighttime hours  
 • Use decimal weeks if holidays affect lighting (1 day = 0.14 wk)

ANSI/ASHRAE/IESNA Standard 90.1-2007  
**Lighting Power Density Section**

LPD = Total Watts ÷ Total Square Feet	
1000 Sq-Ft per Fixture = 217000 Total	
Enter Target LED LPD	0.10
This LPD combo allows 224 LED fixtures.	
<b>LPD Statistics W/Ft<sup>2</sup></b>	
Original LPD	0.265
- LED LPD	0.097
= Saved	0.168

**LPD Notes:**  
 • Target LPD uses LED Watts and Quantity, and affects only the count below it.  
 • HID LPD = LED projection when = Watts.

**Investment:**

Cost for 1 LED Fixture, Fully Installed = ('Per-Fixture' costs and discounts here.)	\$ 283	May be direct cost if retrofit, or difference between LED and the fixture it substitutes if a new installation. Include all costs & labor.
\$283 × 217 fixtures = \$61411.00 + FIXED JOB COSTS \$ 100 = \$61511 Investment		
Subtract a rebate from JOB COSTS, or, enter negative (-)JOB COSTS if rebate only.		

**Energy cost savings and reduced CO<sub>2</sub> production during LED lifetime:**

LED Life	50000	Hours
÷ Hours of use per year	3640.00	Hrs/Year
= LED Operational Lifetime	13.74	Years
× Annual Savings	\$13269.98	
= Lifetime Energy Cost Savings	\$182279.95	

**CO<sub>2</sub> reductions \***  
 112.79 Tons Less per year  
 1549.73 Tons Less per lifetime

**Maintenance savings during LED lifetime:**

LED Life	50000	Hours
÷ Original fixture life	12000	Hours
× Number of fixtures	217	
× Fully burdened repair cost of original fixture.	\$ 145	Group relamping, ballasts and photocells. Include labor, fuel, travel, equipment, inventory, etc.
= Lifetime Maintenance Savings	\$131104.17	

**Payback time and ROI based on amortized changeout cost savings per year:**

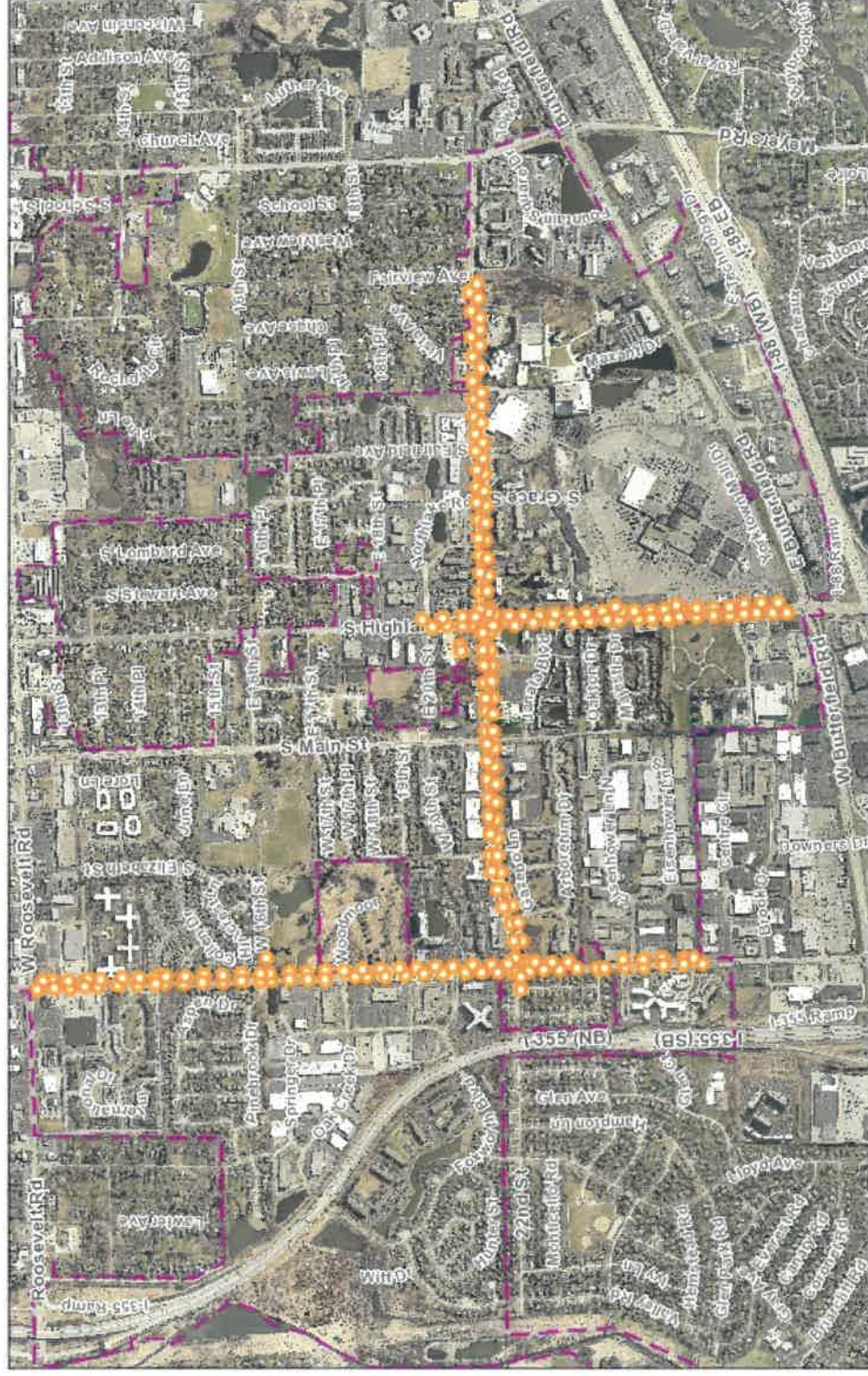
Lifetime Maintenance Savings	\$131104.17	
÷ LED Lifetime	13.74	Years
= Amortized Maintenance Savings	\$9541.79	Per Year
<b>Payback</b>		
Investment ÷ Energy Savings	\$61511 ÷ \$13269.98	= 4.64 Years on energy alone
Investment ÷ (Energy + Maint. Savings)	\$61511 ÷ \$22811.77	= 2.70 Years on energy & maint.
<b>Simple ROI</b>	(Payback - Investment) ÷ Investment	= 409.48 % ROI

**RESTORE DEFAULT VALUES**

\*US national average CO<sub>2</sub> emissions caused by various power generation capabilities, value provided by the US EPA.



### 480 HPS Cobra Head



February 28, 2019

○ All Light Fixtures

1:25,372

