

RSLPP Lighting Upgrade Final Project Specifications & Proposal

Haverford Township

Board of Commissioners Meeting

August 5th, 2019

Discussion Topics

- **RSLPP Overview**
- **Project Development Overview**
- **Study Scope & Upgrade Recommendations**
- **Financial Results**
- **Next Steps**

RSLPP Overview

Benefits of LED Streetlights

- Reduce energy consumption and cost by 50-75%
- Reduce system maintenance costs by 50-80%
- Improve lighting performance and quality, leading to improved safety
- Reduce light pollution and trespass
- Controllable light source helps manage both the quality and quantity of light
- Advance control options provide additional cost savings opportunities



DVRPC's RSLPP assembles the resources needed to design, procure, and finance the transition to light-emitting-diode (LED) street lighting tailored to each municipality's needs. The RSLPP is designed to help municipalities overcome the barriers of implementing an LED conversion project, such as navigating the conversion process, identifying the best solutions, finding trusted project partners, and paying for the upfront cost of the project.

What are the benefits of LED streetlights?

- LEDs can reduce energy consumption and cost by 50-75% relative to incumbent technology.
- The longer lifespan of LEDs reduces system maintenance costs by 50-80%.
- LEDs provide improved lighting performance and quality, which can improve roadway safety.
- LEDs are a directional light source, which can reduce light pollution and trespass.
- LEDs are a controllable light source. Controls can help manage both the quality and quantity of light.

RSLPP Benefits

- RSLPP provides a **turnkey program approach** that supports all aspects of the project development, municipal decision-making, construction, the ability to access a pool of financing, and post-conversion project savings verification.
- RSLPP provides **technical design assistance** to ensure that all the benefits of an LED lighting system upgrade are realized and the unique needs of each municipality are met.
- RSLPP leverages the project scale of multiple municipalities in a **transparent pooled procurement model** that delivers the best product solutions at the best price. Solicitations for material, distributor, and installer will be developed by technical experts and issued by DVRPC on behalf of municipalities.
- RSLPP provides **project management support** to ensure the implementation of the project causes minimal disruption and expediently addresses any issues that arise during construction.
- RSLPP will arrange an **optional pool of low-cost financing**, structured so that energy cost savings exceed loan payments each year. All projects can be financed with no upfront capital contribution and municipalities may have the ability to reimburse upfront design costs at closing.

RSLPP Round 1 Program Results

DVRPC launched the first round of RSLPP in 2015, resulting in the conversion of more than 18,000 cobrahead and 8,800 "decorative" streetlights, 1,000 metered area lighting fixtures, and 5,700 traffic signals to LED across 35 municipalities in southeastern PA (a list of municipalities is provided on page two). 34% of these municipal projects included controls. The key results of these projects were:

- \$15.3 million net savings over 20 years.
- 10.6 million kilowatt hours and 5,500 Metric tons of CO2 emissions saved annually.
- Median payback for cobrahead-only projects was 8.7 years (including all program, project development, and financing costs). Median payback for whole projects, including cobrahead, decorative, metered area lighting, and controls, was 10 years. Communities that completed a PECCO buyback as part of this process had an average payback of 6.4 years.



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Save. Sustain. Light.

RSLPP Overview

- **Turnkey Program Approach**

- Feasibility Study
- Transparent Pooled Procurement
- Technical Design Assistance
- Project Development
- Municipal Decision-Making Support
- Optional Pool of Low-Cost Financing
- Project Management
- Post Construction Savings Verification

- **Round 1 Results**

- 35 municipalities in Southeastern PA implemented LED upgrade projects
- Over 25,000 street and area lighting fixtures upgraded to LED technology
- Over 5,500 traffic signal lamps upgraded to LED technology
- \$15.3M net savings over 20 years
- 10.6M kWh and 5,500 metric tons of CO2 emissions saved annually

- **RSLPP Round 2**

- 26 municipalities currently engaged in the feasibility phase of the program
- Approximately 15,000 streetlights represented



Pooled Procurement

- **Approach**

- DVRPC led pooled procurement leverages the project scale of multiple municipalities
- Municipalities “piggy-back” off DVRPC procurement via Chapter 19
- Solicitations for material, distributor, and installer products and services
- Comprehensive evaluation approach that delivers the best product and service solutions at the best price

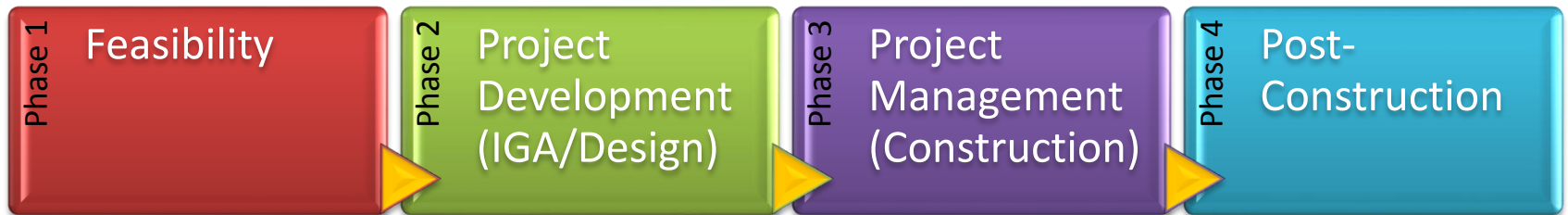
- **Results**

- Awards pending final contract execution to a single installation partner, a single distribution partner and six manufacturers representing all required product families
- Estimated 18% lower costs than the highly successful RSLPP Round 1 product and service portfolio

Project Development Overview

DSP Services for each RSLPP Phase

We are here
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Data driven analysis of upgrade opportunities resulting in a feasibility study

Field audits, design and analysis resulting in a final design project proposal

Management of the project installation including reporting and issue resolution during construction

Confirmation of project savings and strategies for on-going maintenance

Municipality-Specific Solutions & Implementation Management

Program Level Support

Study Scope & Upgrade Recommendations

Final Project Specifications & Proposal

- Executive Summary
- Existing Lighting System
- Design Approach and Standardized Upgrade Plan
- Upgrade Details & Savings
- Financial Analysis & Summary

Roadway, Street & Area Lighting Upgrade Project Specifications & Proposal

Haverford Township

7/25/2019

Prepared by:

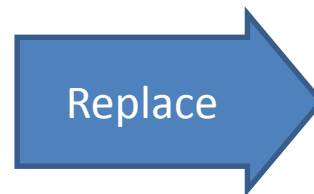


Keystone Lighting Solutions
Michael Fuller, President

In Partnership with:

**Delaware Valley Regional Planning Commission's
Regional Streetlight Procurement Program**

Unmetered Streetlight – Cobrahead Upgrades



- (1,006) Existing “cobrahead” fixtures of varying wattages and lamp technology with photocell control
 - Approximately 2,500 cobraheads upgraded in previous phases

- (880) New LED “cobrahead” fixtures of varying wattages with photocell control
 - Re-use existing arms
 - (126) existing LED cobrahead fixtures will not be upgraded

Unmetered Streetlight – Decorative Upgrades



- (21) Existing 4-sided colonial fixtures of varying wattages and lamp technology with photocell control



- 39-watt LED 4-sided colonial fixtures with photocell control
 - Re-use existing poles

Financial Results

Payback Matrix

PECO Baseline Adjustments	Energy Savings/Year	Maintenance Savings/Year	Total Operating Savings/Year	Material Costs	Install Costs	KLS Fees	DVRPC Program Costs	Cost Contingency	Rebates	Total Project Costs	Payback (Years)
Streetlight Adjustment	\$6,187	\$0	\$6,187	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0

Typical ECM Combinations	Energy Savings/Year	Maintenance Savings/Year	Total Operating Savings/Year	Material Costs	Install Costs	KLS Fees	DVRPC Program Costs	Cost Contingency	Rebates	Total Project Costs	Payback (Years)
Cobrahead Only ¹	\$20,769	\$9,060	\$29,828	\$123,237	\$74,800	\$34,204	\$7,651	\$9,902	(\$45,503)	\$204,291	6.8
Cobrahead + Decorative ¹	\$21,129	\$9,109	\$30,238	\$130,712	\$76,585	\$35,938	\$8,016	\$10,365	(\$46,634)	\$214,982	7.1
Cobrahead + Decorative ¹ + Manual Controls	\$21,129	\$9,109	\$30,238	\$158,314	\$76,585	\$35,938	\$8,016	\$11,745	(\$46,634)	\$243,964	8.1
Cobrahead + Decorative ¹ + Network Controls	\$26,061	\$9,109	\$30,238	\$293,136	\$81,178	\$35,938	\$8,016	\$18,486	(\$46,634)	\$390,120	12.9

Payback Matrix

Typical ECM Combinations	Energy Savings/Year	Maintenance Savings/Year	Total Operating Savings/Year	Material Costs	Install Costs	KLS Fees	DVRPC Program Costs	Cost Contingency	Rebates	Total Project Costs	Payback (Years)
Cobrahead + Decorative ¹ + Manual Controls	\$21,129	\$9,109	\$30,238	\$158,314	\$76,585	\$35,938	\$8,016	\$11,745	(\$46,634)	\$243,964	8.1

Notes:

1) Includes costs and savings of ECM upgrade + PECO baseline adjustments

Next Steps

Looking Forward to Phase 3 (Construction)

- **Council Project Decision**
 - Signed resolution approving movement to Phase 3 Construction
 - Approval of management execution of Construction Contract
- **Execute Construction Contract**
- **Materials Ordered**
- **Pre-Construction Meeting**
- **Construction & Project Management**
- **PECO Bill Updates**
- **PECO Final Rebate Application**

Next Steps

- **Final Proposal Questions & Discussion**
- **Action on Resolution to Advance to RSLPP Phase 3 (Construction)**
- **Sign Construction Contract**
- **Estimated October Construction Start**

Thank
You!