

# RSLPP Investment Grade Audit

## Lansdale Borough

### Smart, Sustainable, Green



# Agenda

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1. Project highlights
2. Field Audit results
3. Prescriptive design
4. Photometrics
5. Final design
6. Product Selection
7. Energy Saving summary
8. Final Project Analysis

# Project Highlights

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## Project Pros

- Bulk purchasing (material)
- Good mixture ratio of Cobra head vs Decorative Fixtures
- Electric rates advantageous to an LED retrofit
- Strong oversight by RSLPP
- Knowledgeable municipal electric department

## Project Cons

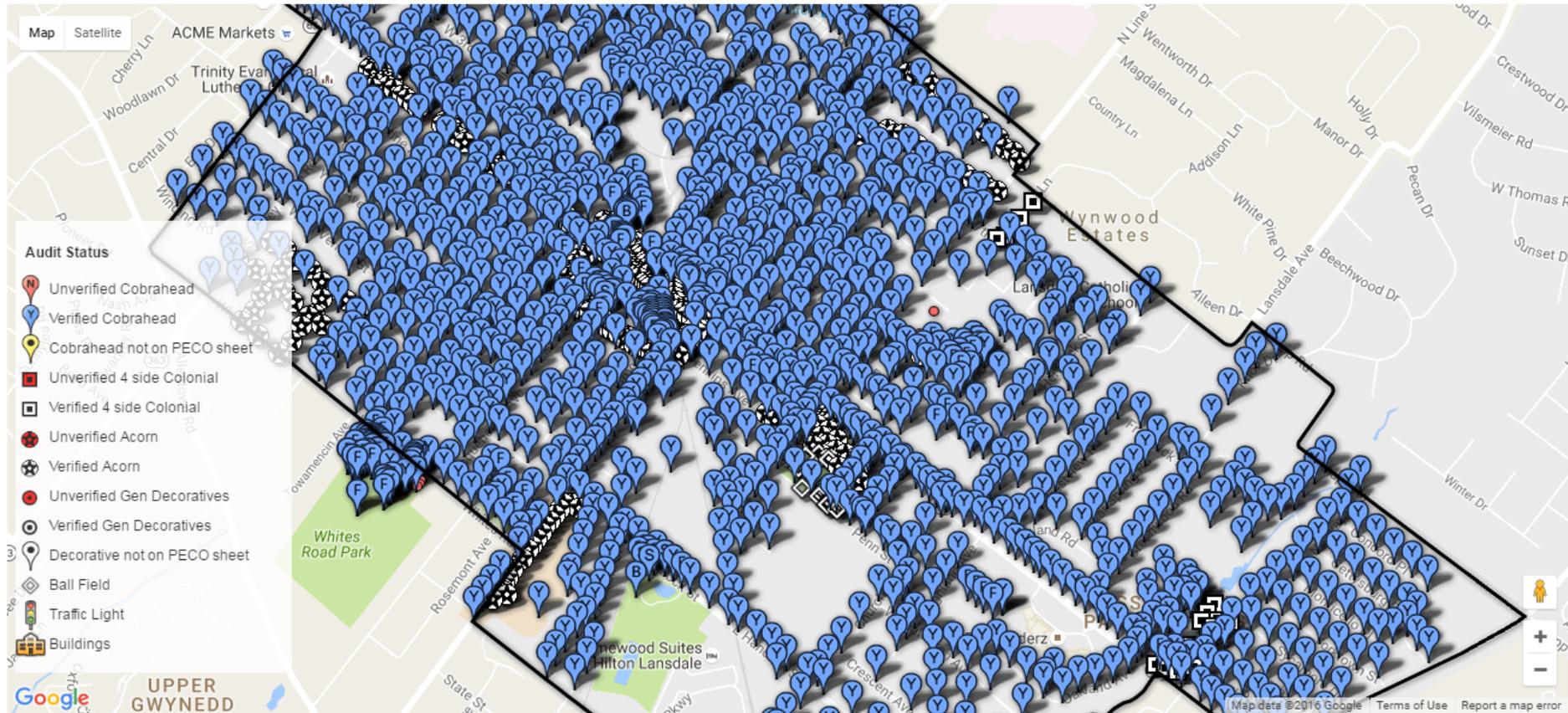
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# Field Audit Results (raw data reconciliation)

## Street Light Audit Portal - Audit Lansdale Borough

Prescriptive Design    Audit Finding    Summary    Chat or Search    City Home

Fixture Style     Fixture watts



# Field Audit Results (raw data reconciliation)

## Street Light Audit Portal - Audit Lansdale Borough

Prescriptive Design    Audit Finding    Summary    Chat or Search    City Home

Fixture Style --Select--    Fixture watts --Select--

**Audit Status**

- Unverified Cobrahead
- Verified Cobrahead
- Cobrahead not on PECO sheet
- Unverified 4 side Colonial
- Verified 4 side Colonial
- Unverified Acorn
- Verified Acorn
- Unverified Gen Decoratives
- Verified Gen Decoratives
- Decorative not on PECO sheet
- Ball Field
- Traffic Light
- Buildings

**Pole Type & ID:** Wooden Pole - Unique ID:L100497 - (Lansdale)

**Photos**

**Fixture:** 

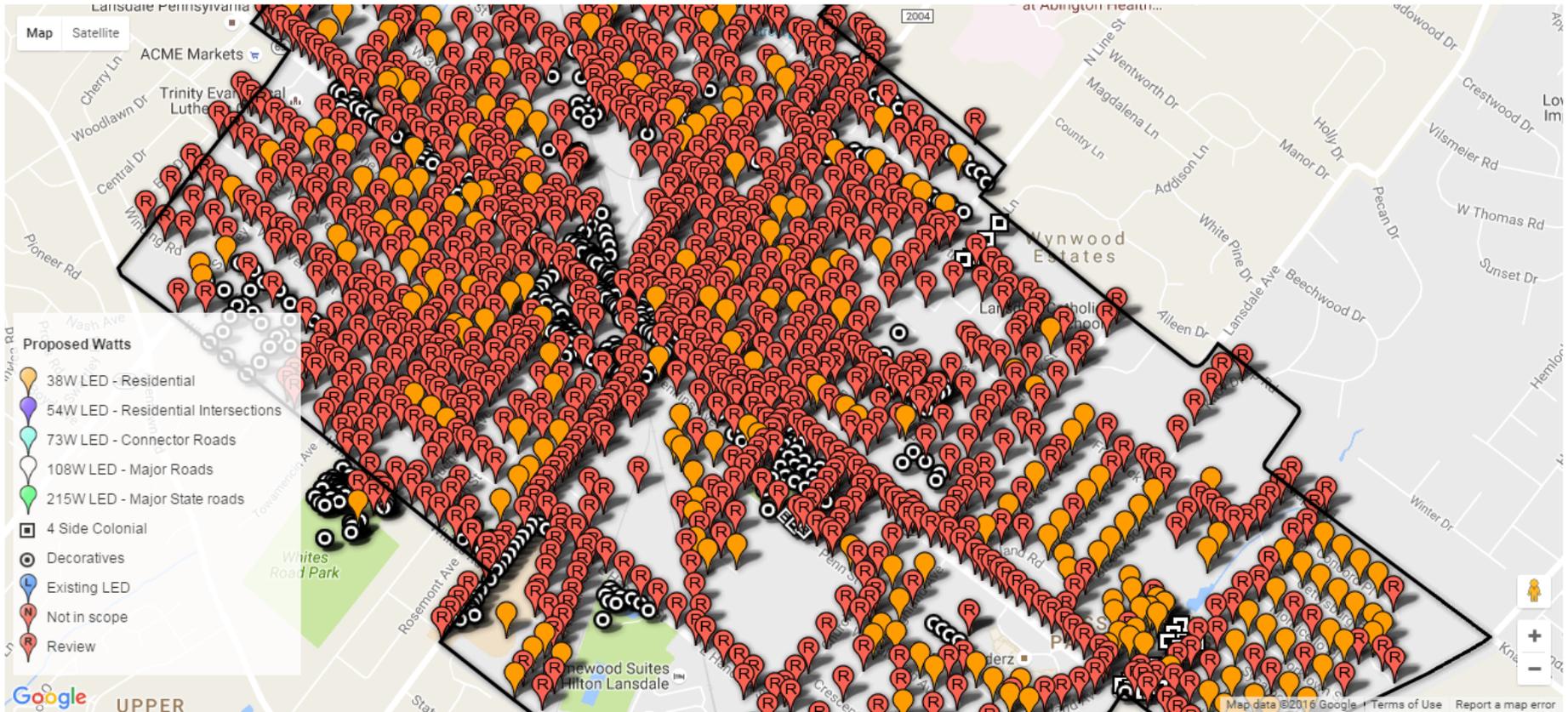
**Fixture:** Dusk to Dawn- Lamp: Mercury Vapor - Watts:175  
**Pole Type:** Wooden Pole  
Fixtures per pole: 1

**Address:** 37-99 Highland Ave, Lansdale, PA 19446, USA  
[Google Map Link](#)

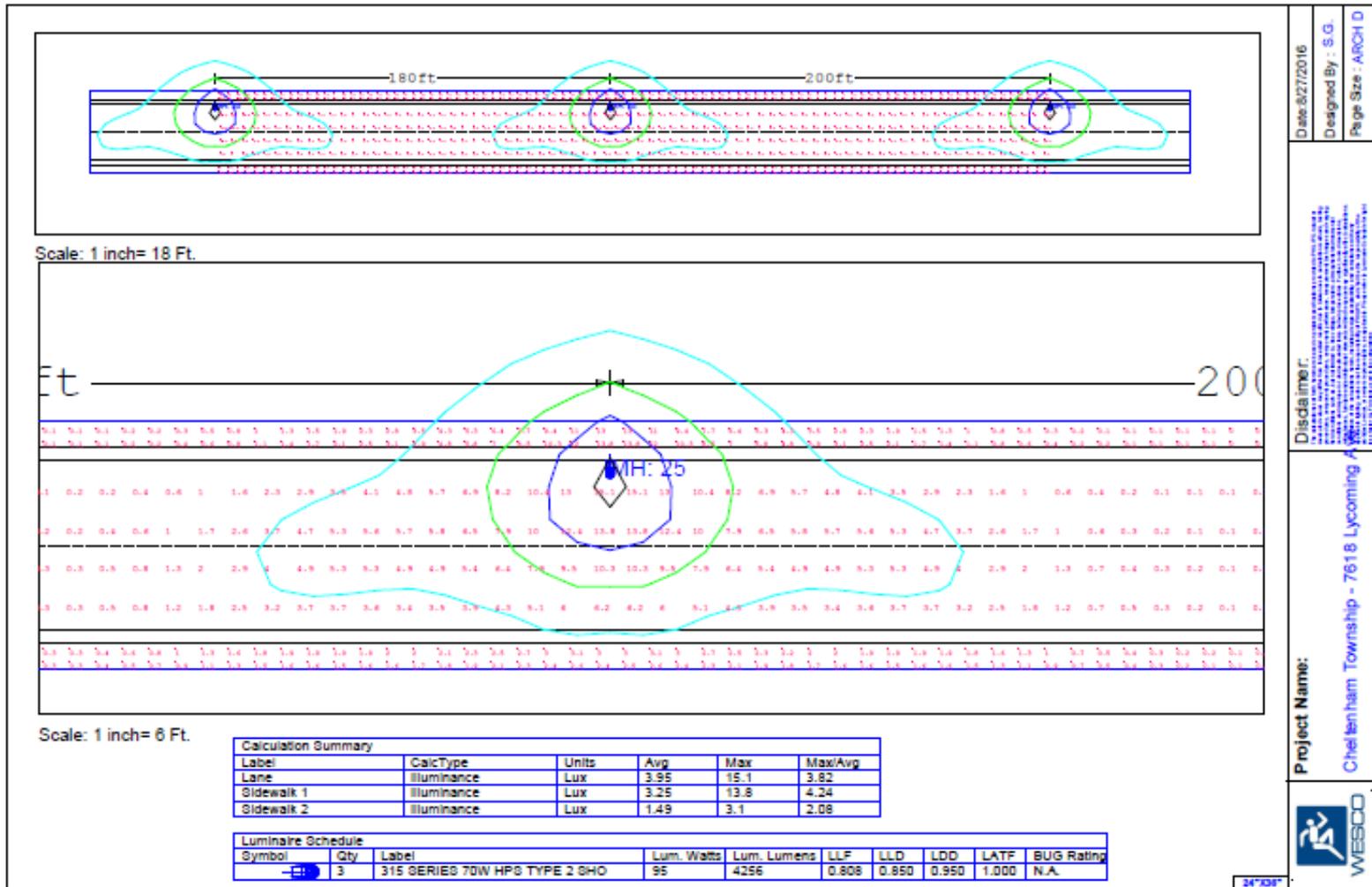
# Prescriptive Design

## Street Light Audit Portal - Prescriptive Design Lansdale Borough

Final Design	Line by Line	Summary	Chat or Search	Audit
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# Photometrics 70W HPS Cobraheads



Date: 8/27/2016  
 Designed By: S.G.  
 Page Size: ARCH D

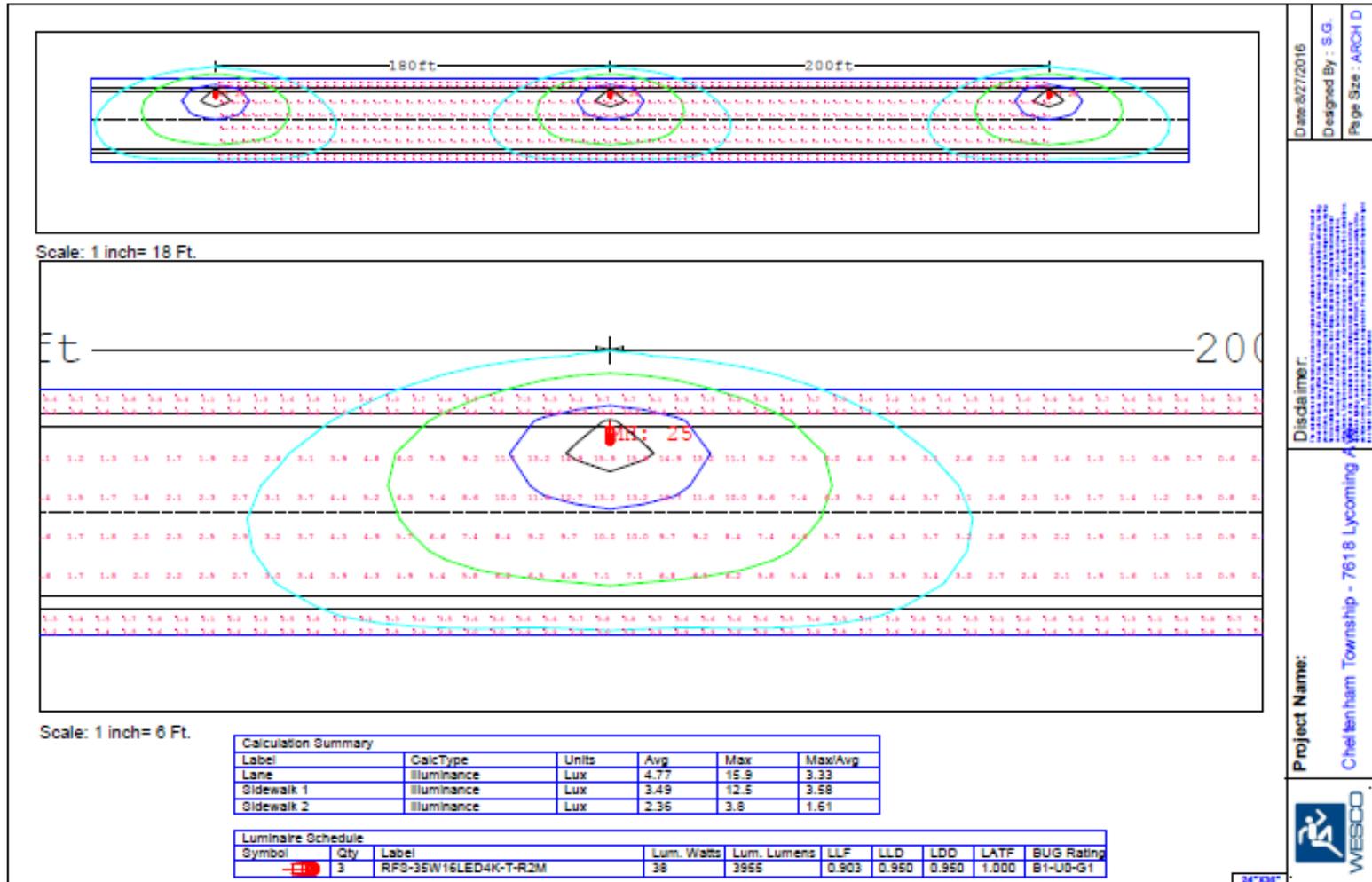
Disclaimer:  
 The information contained herein is for informational purposes only and does not constitute an offer of any financial product or service. The information is not intended to be used as a basis for investment decisions. The information is not intended to be used as a basis for investment decisions. The information is not intended to be used as a basis for investment decisions.

Project Name:  
 Cheltenham Township - 7618 Lycoming Ave



34'x48'

# Photometrics 36W LED Cobraheads



Date: 8/27/2016  
 Designed By: S.G.  
 Page Size: ARCH D

Disclaimer:  
 The information contained herein is for informational purposes only and does not constitute a contract. The user of this information is advised to consult with a professional engineer or architect for a complete design and specification of the lighting system.

Project Name:  
 Cheltenham Township - 7618 Lycoming Ave



34" x 44"

# Final Design

## Street Light Audit Portal - Final Design Lansdale Borough

Prescriptive Design

Line by Line

Summary

Chat or Search

Audit

Search



# LED Product Selections

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## LED Warranty

10 year complete fixture  
100,000+ rated hours  
life expectancy 20+ years



# Energy Savings Summary

Conservation Measure	Calculated Annual kWh Savings	Guaranteed Annual kWh Savings	Calculated Monthly kW Savings	Guaranteed Monthly kW Savings	Calculated Annual Energy Savings (\$)	Guaranteed Energy Savings (\$)
Street lighting - Upgrade to LED (Cobra)	585,880	556,586	143.2	136.0	\$46,870	\$44,527
FAWS (Cobra)	0	0	0.0	0.0	\$0	\$0
Street lighting - Upgrade to LED (King Luminaire)	170,968	162,419	40.7	38.6	\$13,677	\$12,994
Wireless Street Lighting Controls (Cobra)	0	0	0.0	0.0	\$0	\$0
Wireless Street Lighting Controls (Decorative)	0	0	0.0	0.0	\$0	\$0
Traffic Lighting - Upgrade to LED	328,677	312,244	117.2	111.4	\$26,294	\$24,979
Exterior Lighting - Upgrade to LED	270,835	257,293	132.3	125.7	\$21,667	\$20,583
Electric Rate Savings (\$/kWh)	0	0	0.0	0.0	\$0	\$0
<b>Total - Base Project (King Luminaire)</b>	<b>1,356,361</b>	<b>1,288,543</b>	<b>433</b>	<b>412</b>	<b>\$108,509</b>	<b>\$103,083</b>

# Project Cost & Savings Summary

Conservation Measure	Construction Cost (\$)	Annual Energy Savings (\$)	Annual O&M Savings (\$)	Rebate(\$)	Simple Payback
Street lighting - Upgrade to LED (Cobra)	\$228,105	\$44,527	\$4,691	\$0	4.6
FAWS (Cobraheads)	\$0	\$0	\$0	\$0	-
Street lighting - Upgrade to LED (Decorative-King Luminaire)	\$253,710	\$12,994	\$3,086	\$0	15.8
Wireless Street Lighting Controls (Cobra)	\$0	\$0	\$0	\$0	-
Wireless Street Lighting Controls (Decorative)	\$0	\$0	\$0	\$0	-
Traffic Lighting - Upgrade to LED	\$51,406	\$24,979	\$2,558	\$0	1.9
Exterior Lighting - Upgrade to LED	\$274,437	\$20,583	\$2,158	\$0	12.1
Electric Rate Procurement	\$0	\$0	\$0	\$0	-
<b>Base Project (King Luminaire): Construction Cost</b>	<b>\$807,658</b>	<b>\$103,083</b>	<b>\$12,493</b>	<b>\$0</b>	<b>7.0</b>

# Preliminary Project Cash Flow

The financing summary for the project is shown in the table below. The interest rate shown may vary once final financing is secured through PennSEF. This project cash flow does not include wireless controls.

JCI Construction Cost		\$796,838		
Paydown of Debt	Capital Contribution	\$0		
	Grants	\$0		
Fees	Customer-Controlled Contingency	\$0	<b>Project ECM List</b>	<b>Include?</b>
	PennSEF	\$0	ECM-1: Cobrahead Street Lighting	Yes
	KLS - Program	\$340	ECM-2: Decorative Street Lighting	Yes
	KLS - Consultant	\$0	ECM-5: Traffic Lighting	Yes
Loan Structure		Lease	ECM-6: Exterior Lighting	Yes
Contract Term - Years		20	ECM-7: Electricity Rate Procurement	No
Construction Term - Months		18	<b>*Costs only include applicable ECMs</b>	
Loan Payment Frequency		Annual		
Interest Rate		2.75%		
Total Financed Amount		\$797,178		

**Scope**

- Cobra heads
- Deco Fixtures
- Traffic Lighting
- Exterior Lighting

**20 year  
Status quo cost  
\$3,097,395**

	Measured Savings	Non-measured Savings			Total Savings	Loan Payment	M&V	Balance
	Utility Savings	Operational Savings	Rebates	Capital Avoidance				
Year 0	\$47,833	\$0	\$0	\$0	\$47,833	\$0	\$0	\$47,833
Year 1	\$97,578	\$21,336	\$0	\$0	\$118,915	\$100,362	\$18,553	\$0
Year 2	\$99,628	\$21,977	\$0	\$0	\$121,604	\$102,494	\$19,110	\$0
Year 3	\$101,819	\$22,636	\$0	\$0	\$124,455	\$104,772	\$19,683	\$0
Year 4	\$104,059	\$23,315	\$0	\$0	\$127,374	\$127,374	\$0	\$0
Year 5	\$106,453	\$24,014	\$0	\$0	\$130,467	\$130,467	\$0	\$0
Year 6	\$108,901	\$24,735	\$0	\$0	\$133,636	\$133,636	\$0	\$0
Year 7	\$111,515	\$25,477	\$0	\$0	\$136,992	\$136,992	\$0	\$0
Year 8	\$114,191	\$26,241	\$0	\$0	\$140,432	\$63,094	\$0	\$77,338
Year 9	\$117,046	\$27,028	\$0	\$0	\$144,074	\$0	\$0	\$144,074
Year 10	\$119,972	\$27,839	\$0	\$0	\$147,811	\$0	\$0	\$147,811
Year 11	\$123,091	\$28,674	\$0	\$0	\$151,766	\$0	\$0	\$151,766
Year 12	\$126,292	\$29,535	\$0	\$0	\$155,826	\$0	\$0	\$155,826
Year 13	\$129,702	\$30,421	\$0	\$0	\$160,122	\$0	\$0	\$160,122
Year 14	\$133,204	\$31,333	\$0	\$0	\$164,537	\$0	\$0	\$164,537
Year 15	\$136,933	\$32,273	\$0	\$0	\$169,207	\$0	\$0	\$169,207
Year 16	\$140,767	\$33,241	\$0	\$0	\$174,009	\$0	\$0	\$174,009
Year 17	\$144,850	\$34,239	\$0	\$0	\$179,088	\$0	\$0	\$179,088
Year 18	\$149,050	\$35,266	\$0	\$0	\$184,316	\$0	\$0	\$184,316
Year 19	\$153,373	\$36,324	\$0	\$0	\$189,697	\$0	\$0	\$189,697
Year 20	\$157,820	\$37,414	\$0	\$0	\$195,234	\$0	\$0	\$195,234
<b>Total</b>	<b>\$2,524,076</b>	<b>\$573,318</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,097,395</b>	<b>\$99,191</b>	<b>\$57,346</b>	<b>\$2,140,858</b>



**20 year  
LED Upgrade Savings  
\$2,140,858**

# Final Cash Flow

JCI Construction Cost	\$807,658
Measurement and Verification	\$27,871
Recoverable IGA Costs	\$0
<b>Total JCI Construction Cost</b>	<b>\$835,529</b>
Capital Contribution	\$0
Customer-Controlled Contingency	\$0
Closing Costs	\$25,853
KLS-Consultant	\$0
KLS - Program Fee	\$375
Loan Structure	Lease
Contract Term - Years	8
Construction Term - Months	12
Loan Payment Frequency	Annual
Interest Rate	2.25%
<b>Total Financed Amount</b>	<b>\$861,756</b>

Project ECM List	Include?
ECM-1: Cobrahead Street Lighting	Yes
ECM-2: Decorative Street Lighting	Yes
ECM-3: Cobrahead Wireless Controls	No
ECM-4: Decorative Wireless Controls	No
ECM-5: Traffic Lighting	Yes
ECM-6: Exterior Lighting	Yes
ECM-7: Electricity Rate Procurement	No
ECM-8: FAWS	No

- Scope**
- Cobra heads
  - Deco Fixtures
  - Traffic lighting
  - Exterior lighting

**20 year  
Status quo cost  
\$3,066,530**



**20 year  
LED Upgrade Savings  
\$2,119,216**

	Measured Savings	Non-measured Savings			Total Savings	Loan Payment	M&V*	Balance
	Utility Savings	Operational Savings	Rebates	Capital Avoidance				
Year 0	\$52,418	\$0	\$0	\$0	\$52,418	\$0	\$0	\$52,418
Year 1	\$106,723	\$12,868	\$0	\$0	\$119,591	\$119,591	\$0	\$0
Year 2	\$108,857	\$13,254	\$0	\$0	\$122,111	\$122,111	\$0	\$0
Year 3	\$111,143	\$13,651	\$0	\$0	\$124,795	\$124,795	\$0	\$0
Year 4	\$113,588	\$14,061	\$0	\$0	\$127,650	\$127,650	\$0	\$0
Year 5	\$116,087	\$14,483	\$0	\$0	\$130,570	\$130,570	\$0	\$0
Year 6	\$118,757	\$14,917	\$0	\$0	\$133,675	\$133,675	\$0	\$0
Year 7	\$121,489	\$15,365	\$0	\$0	\$136,854	\$136,854	\$0	\$0
Year 8	\$124,405	\$15,826	\$0	\$0	\$140,230	\$52,069	\$0	\$88,161
Year 9	\$127,390	\$16,301	\$0	\$0	\$143,691	\$0	\$0	\$143,691
Year 10	\$130,575	\$16,790	\$0	\$0	\$147,365	\$0	\$0	\$147,365
Year 11	\$133,839	\$15,132	\$0	\$0	\$148,971	\$0	\$0	\$148,971
Year 12	\$137,319	\$15,586	\$0	\$0	\$152,905	\$0	\$0	\$152,905
Year 13	\$140,890	\$16,053	\$0	\$0	\$156,943	\$0	\$0	\$156,943
Year 14	\$144,694	\$16,535	\$0	\$0	\$161,228	\$0	\$0	\$161,228
Year 15	\$148,600	\$17,031	\$0	\$0	\$165,631	\$0	\$0	\$165,631
Year 16	\$152,761	\$17,542	\$0	\$0	\$170,303	\$0	\$0	\$170,303
Year 17	\$157,038	\$18,068	\$0	\$0	\$175,106	\$0	\$0	\$175,106
Year 18	\$161,593	\$18,610	\$0	\$0	\$180,203	\$0	\$0	\$180,203
Year 19	\$166,279	\$19,168	\$0	\$0	\$185,447	\$0	\$0	\$185,447
Year 20	\$171,101	\$19,743	\$0	\$0	\$190,844	\$0	\$0	\$190,844
<b>Total</b>	<b>\$2,745,547</b>	<b>\$320,982</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,066,530</b>	<b>\$947,314</b>	<b>\$0</b>	<b>\$2,119,216</b>

# Questions?

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