AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT	1. Contract Number	Page of Pages 1 | 2

2. Amendment/Modification Number	3. Effective Date	4. Requisition/Purchase Request No.	5. Solicitation Caption: FY11 Citywide Streetlight Asset Management Services
No. 4	SEE BLOCK 16C		

6. Issued By: Code
Office of Contracting and Procurement
Road and Highway Structures
District Department of Transportation
55 M Street, S.E. – 7th Floor
Washington, D.C. 20003

7. Administered By (If other than line 6)

8. Name and Address of Contractor (No. Street, city, country, state and ZIP Code)

Code Facility

(X) 9A. Amendment of Solicitation No.
DCKA-2011-R-0150

9B. Dated (See Item 11)
8/9/2011

10A. Modification of Contract/Order No.

10B. Dated (See Item 13)

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[ ] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers [ ] is extended. [X] is not extended.
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning 2 copies of the amendment: (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or fax which includes a reference to the solicitation and amendment number. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or fax, provided each letter or telegram makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. Accounting and Appropriation Data (If Required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS,
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14

[ ] A. This change order is issued pursuant to: (Specify Authority)
The changes set forth in Item 14 are made in the contract/order no. in item 10A.

[ ] B. The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation date, etc.) set forth in item 14, pursuant to the authority of 27 DCMR, Chapter 36, Section 3601.2.

[ ] C. This supplemental agreement is entered into pursuant to authority of:

[ ] D. Other (Specify type of modification and authority)

E. IMPORTANT: Contractor [ ] is not, [X] is required to sign this document and return 1 copies to the issuing office.

14. Description of amendment/modification (Organized by UCF Section headings, including solicitation/contract subject matter where feasible.)
Addendum #4 is issued to 1. amend the Specifications; 2. revise Contract Terms and Conditions; and 3. respond to questions. The solicitation is amended as follows:

1. The new Contracting Officer for the RFP is Cora Boykin (cora.boykin@dc.gov).
2. Delete pages R11 through R20 of the RFP and substitute with the revised pages 11-R2 through 20-R2 to revise Ward 9 as "S. Capitol Bridge".
3. Delete page R41 of the RFP and substitute with the revised page 41-R2 to amend the location of Radio Tower Lights.
4. Delete page 42 and replace with the revised page R42 to update Light Type table.
5. See attached "Responses to Questions from the Prospective offerors".
6. Add "A04 Attachment DDOT_Metered Lights Location_FY09" to the attachments.
7. Add "A04 Attachment LED Final Evaluation Report-11-15-2010" to the attachments.

<CONTINUED>

Except as provided herein, all terms and conditions of the document referenced in Item (9A or 10A) remain unchanged and in full force and effect

15A. Name and Title of Signer (Type or print)		16A. Name of Contracting Officer Jerry M. Carter	
15B. Name of Contractor (Signature of person authorized to sign)	15C. Date Signed	16B. District of Columbia Jerry M. Carter (Signature of Contracting Officer)	16C. Date Signed 10/11/11

8. Add “A04 PEPCO Street Light Connection Fees for District of Columbia” to the attachments. See *Response to Question 49* in Addendum 4 and *Response to Question 47* in Addendum 2.

9. Delete "RA02 Appendix B: Performance Measures" and replace with the attached "RA04 Appendix B: Performance Measures" to revise Performance Measure (PM) 46: Timeliness of replacement of deficient wood poles.

10. Delete "Appendix D: Asset Inventory - 01 asset count summary 2011" and replace with the attached "RA04 Appendix D-01: Asset Count Summary 2011" to revise the location of Tower Lights, update Street Light Table, and add notes.

11. Change the file name of "Appendix H: PEPCO Requirements Poles" to "Appendix I: PEPCO Requirements Poles" under Appendix I: Pepco Requirements.

12. Delete file “RA02 Appendix N: S. Capitol Bridge Components” and replace with the attached “RA04 Appendix N: S. Capitol Bridge Components” to remove "Structural Elements" and “Gas Detection System” from the **Assets Included** list. Delete notes: "The contract covers the rehabilitation and maintenance of the covered assets. Full replacement of major components is beyond the scope of this contract."

13. Delete “A02 Appendix Y: Estimated Material Usage” and replace with the attached “RA04 Appendix Y: Estimated Material Usage”.

14. Delete “Appendix W: Selection Process Flowchart” and replace with the attached “RA04 Appendix W: Selection Process Flowchart” to amend the evaluation of energy bill for CLIN0010-Innovative Approach proposals, and to clarify that CLIN0010 cost proposals shall include CLINs0011 to 0013.

15. Correct notation references for *Table 3.1.4.a* in “Attachment: J.08 Cost/Price Guideline” in the original RFP. See Response to Question 29c in “Addendum 4: Response to Questions”.

16. Revise Response to Question 11 in Addendum No. 3. The question cutoff date is extended to Oct 7.

17. Revise Response to Question 15b in Addendum No. 3. WGES Contract is part of a larger energy purchase for city facilities, and not for DDOT Street Lighting only.

18. Revise Response to Questions 51 in Addendum 3. Slotting is the DDOT’s preferred method.

B.3 PRICE SCHEDULE

This section contains all of the forms that Offerors must return with their proposals. All tables and forms in this section must be attached, filled out, and returned with the Offerors' proposal. Failure to submit all required forms may result in a proposal being deemed unacceptable.

B.3.1 Price Schedule Award Group: Standard CLINs 0001-0009

B.3.1.1 BASE YEAR (Standard CLINs 0001-0009)

Contract Line Item No. (CLIN)	Item Description	Total Price
CLIN0001-Ward 1 (Base Year)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District of Columbia. See Section C.6.1 through 6.3 for the specific requirements.	
0001a-Electrical Assets		**$**
0001b-Structural Assets		**$**
CLIN0002-Ward 2 (Base Year)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
0002a-Electrical Assets		**$**
0002b-Structural Assets		**$**
CLIN0003-Ward 3 (Base Year)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
0003a-Electrical Assets		**$**
0003b-Structural Assets		**$**
CLIN0004-Ward 4 (Base Year)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
0004a-Electrical Assets		**$**
0004b-Structural Assets		**$**
CLIN0005-Ward 5 (Base Year)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
0005a-Electrical Assets		**$**
0005b-Structural Assets		**$**

Contract Line Item No. (CLIN)	Item Description	Total Price
CLIN0006-Ward 6 (Base Year)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
0006a-Electrical Assets		**$**
0006b-Structural Assets		**$**
CLIN0007-Ward 7 (Base Year)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
0007a-Electrical Assets		**$**
0007b-Structural Assets		**$**
CLIN0008-Ward 8 (Base Year)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
0008a-Electrical Assets		**$**
0008b-Structural Assets		**$**
CLIN0009-S. Capitol Bridge (Base Year)	Maintain navigation lights on the South Capitol Street (Douglass) Bridge and the electrical control system of the bridge. See Section C.6.4 for the specific requirements.	**$**
Grand Total for B.3.1.1		**$**

NOTE: THE ACCURACY OF THE BID AMOUNT IS SUBJECT TO PRICE VERIFICATION

B.3.1.2 OPTION YEAR ONE (Standard CLINs 1001-1009)

Contract Line Item No. (CLIN)	Item Description	Total Price
CLIN1001-Ward 1 (Option Year One)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
1001a-Electrical Assets		**$**
1001b-Structural Assets		**$**
CLIN1002-Ward 2 (Option Year One)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
1002a-Electrical Assets		**$**
1002b-Structural Assets		**$**
CLIN1003-Ward 3 (Option Year One)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
1003a-Electrical Assets		**$**
1003b-Structural Assets		**$**
CLIN1004-Ward 4 (Option Year One	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
1004a-Electrical Assets		**$**
1004b-Structural Assets		**$**
CLIN1005-Ward 5 (Option Year One)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
1005a-Electrical Assets		**$**
1005b-Structural Assets		**$**
CLIN1006-Ward 6 (Option Year One)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District of Columbia. See Section C.6.1 through 6.3 for the specific requirements.	
1006a-Electrical Assets		**$**
1006b-Structural Assets		**$**
CLIN1007-Ward 7 (Option Year One)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
1007a-Electrical Assets		**$**
1007b-Structural Assets		**$**

Contract Line Item No. (CLIN)	Item Description	Total Price
CLIN1008-Ward 8 (Option Year One)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
1008a-Electrical Assets		**$**
1008b-Structural Assets		**$**
CLIN1009- S. Capitol Bridge (Option Year One)	Maintain navigation lights on the South Capitol Street (Douglass) Bridge and the electrical control system of the bridge. (See Section C.6.4)	**$**
Grand Total for B.3.1.2		**$**

NOTE: THE ACCURACY OF THE BID AMOUNT IS

B.3.1.3 OPTION YEAR TWO (Standard CLINs 2001-2009)

Contract Line Item No. (CLIN)	Item Description	Total Price
CLIN2001-Ward 1 (Option Year Two)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
2001a-Electrical Assets		**$**
2001b-Structural Assets		**$**
CLIN2002-Ward 2 (Option Year Two)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
2002a-Electrical Assets		**$**
2002b-Structural Assets		**$**
CLIN2003-Ward 3 (Option Year Two)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
2003a-Electrical Assets		**$**
2003b-Structural Assets		**$**
CLIN2004-Ward 4 (Option Year Two)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
2004a-Electrical Assets		**$**
2004b-Structural Assets		**$**
CLIN2005-Ward 5 (Option Year Two)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
2005a-Electrical Assets		**$**
2005b-Structural Assets		**$**
CLIN2006-Ward 6 (Option Year Two)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
2006a-Electrical Assets		**$**
2006b-Structural Assets		**$**
CLIN2007-Ward 7 (Option Year Two)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
2007a-Electrical Assets		**$**
2007b-Structural Assets		**$**

Contract Line Item No. (CLIN)	Item Description	Total Price
CLIN2008-Ward 8 (Option Year Two)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3).	
2008a-Electrical Assets		**$**
2008b-Structural Assets		**$**
CLIN2009- S. Capitol Bridge (Option Year Two)	Maintain navigation lights on the South Capitol Street (Douglass) Bridge and the electrical control system of the bridge. (See Section C.6.4)	**$**
Grand Total for B.3.1.3		**$**

NOTE: THE ACCURACY OF THE BID AMOUNT IS SUBJECT TO PRICE VERIFICATION

B.3.1.4 OPTION YEAR THREE (Standard CLINs 3001-3009)

Contract Line Item No. (CLIN)	Item Description	Total Price
CLIN3001-Ward 1 (Option Year Three)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
3001a-Electrical Assets		**$**
3001b-Structural Assets		**$**
CLIN3002-Ward 2 (Option Year Three)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
3002a-Electrical Assets		**$**
3002b-Structural Assets		**$**
CLIN3003-Ward 3 (Option Year Three)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
3003a-Electrical Assets		**$**
3003b-Structural Assets		**$**
CLIN3004-Ward 4 (Option Year Three)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
3004a-Electrical Assets		**$**
3004b-Structural Assets		**$**
CLIN3005-Ward 5 (Option Year Three)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
3005a-Electrical Assets		**$**
3005b-Structural Assets		**$**
CLIN3006-Ward 6 (Option Year Three)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
3006a-Electrical Assets		**$**
3006b-Structural Assets		**$**
CLIN3007-Ward 7 (Option Year Three)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
3007a-Electrical Assets		**$**
3007b-Structural Assets		**$**

Contract Line Item No. (CLIN)	Item Description	Total Price
CLIN3008-Ward 8 (Option Year Three)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
3008a-Electrical Assets		**$**
3008b-Structural Assets		**$**
CLIN3009- S. Capitol Bridge (Option Year Three)	Maintain navigation lights on the South Capitol Street (Douglass) Bridge and the electrical control system of the bridge. (See Section C.6.4)	**$**
Grand Total for B.3.1.4		**$**

NOTE: THE ACCURACY OF THE BID AMOUNT IS SUBJECT TO PRICE VERIFICATION

B.3.1.5 OPTION YEAR FOUR (Standard CLINs 4001-4009)

Contract Line Item No. (CLIN)	Item Description	Total Price
CLIN4001-Ward 1 (Option Year Four)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
4001a-Electrical Assets		**$**
4001b-Structural Assets		**$**
CLIN4002-Ward 2 (Option Year Four)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
4002a-Electrical Assets		**$**
4002b-Structural Assets		**$**
CLIN4003-Ward 3 (Option Year Four)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
4003a-Electrical Assets		**$**
4003b-Structural Assets		**$**
CLIN4004-Ward 4 (Option Year Four)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
4004a-Electrical Assets		**$**
4004b-Structural Assets		**$**
CLIN4005-Ward 5 (Option Year Four)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
4005a-Electrical Assets		**$**
4005b-Structural Assets		**$**
CLIN4006-Ward 6 (Option Year Four)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
4006a-Electrical Assets		**$**
4006b-Structural Assets		**$**
CLIN4007-Ward 7 (Option Year Four)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
4007a-Electrical Assets		**$**
4007b-Structural Assets		**$**

Contract Line Item No. (CLIN)	Item Description	Total Price
CLIN4008-Ward 8 (Option Year Four)	Provide Ward-based asset management services to maintain and preserve lighting assets within the District. (See Section C.6.1 through 6.3)	
4008a-Electrical Assets		**$**
4008b-Structural Assets		**$**
CLIN4009- S. Capitol Bridge (Option Year Four)	Maintain navigation lights on the South Capitol Street (Douglass) Bridge and the electrical control system of the bridge. (See Section C.6.4)	**$**
Grand Total for B.3.1.5		**$**

NOTE: THE ACCURACY OF THE BID AMOUNT IS SUBJECT TO PRICE VERIFICATION

C.6.2 Electrical CLIN xxxx-a

The Electrical CLINs include all the electrical components and system from the PEPCO power source out. The scope includes lighting systems on alleys, streets (including streetlight portion of combination poles), highways, bike path, underpasses, hi-mast, tunnels (17 tunnels are excluded from the contract), signs (Overhead Guide Signs and Welcome to Washington), bridges (including pedestrian bridges, underdeck and navigation lights), and special lights, such as China Town Arches and radio tower lights. It also includes a number of miscellaneous street lighting assets for the Frederick Douglass Bridge (South Capitol St. Bridge over the Anacostia River). Contractor is also responsible for maintaining the Remote Monitoring Systems and LED systems already part of the DC street lighting system and exercised potion of batch CLINs. See Section C and Appendix D for the Specifications and Asset Inventory for more detailed information.

A. Asset Summary

Summary

	Ward 1	Ward 2	Ward 3	Ward 4	Ward 5	Ward 6	Ward 7	Ward 8	CLIN0009	Total
Street and Alley	4,405	9,760	10,083	10,679	9,672	8,141	9,356	5,853		67,949
Pedestrian Bridges								15		15
Bike Trail Lights*					89	65	185	20		359
Over Head Guide Signs		216			13	234	59	131		653
Gateway Signs**				4	5		12	1		22
Tunnel and Underpass***		947			127	197	128	91		1,490
Radio Tower Lights (# of lights)						8				8
China Town Lights		8				8				16
S. Capitol Bridge Operation Sys.****									1	1
Navigation Lights*****									351	351
Total Light Fixtures	4,405	10,931	10,083	10,683	9,906	8,653	9,740	6,111	352	70,864

*Bike Trail Lights for Ward 7 & 8 are planned number.
**There are a total of 37 Welcome to Washington Signs. 22 have completed the construction.
*** Appendix D includes the list of 17 tunnels excluded from the contract.
****Bridge system spans between Ward 6 and 8
*****Navigation Lights are in Ward 2 (330), Ward6 (6), and Ward8 (15).

Street Light Type

LIGHTTYPE	WATTAGE	NUMBEROFFIXTURES
HPS-High Pressure Sodium	100	8,849
HPS-High Pressure Sodium	150	8,048
HPS-High Pressure Sodium	250	18,248
HPS-High Pressure Sodium	400	18,543
HPS-High Pressure Sodium	70	6,510
INC-Incandescent	189	2,482
INC-Incandescent	295	3,715
INC-Incandescent	405	383
MH-Metal Halide	250	13
MH-Metal Halide	400	101
MV-Mercury Vapor	100	45
MV-Mercury Vapor	175	547
MV-Mercury Vapor	400	492
Total		67,976

Data as of Oct 6, 2011.

A. Asset Management Standards and Guidelines

Performance measures and standards are provided in Appendix B. The performance standard "Good" or "4" level represents the minimum acceptable standard for each asset/set of assets and time critical item in the contract.

1. The contractor shall be responsible for all lighting electrical assets for streetlights necessary to provide lighting. This includes the luminary, lamp, photoelectric control, wiring, feeder cable, grounding system, taps, and all other electrical components. To meet the performance standards set forth in Appendix B, the Contractor may perform any of several activities to meet the performance standards, including, but not limited to:

   a. Proactive identification of lighting assets requiring maintenance;

   b. Investigation and problem identification for light outages and customer complaints;

   c. Reinstallation, removal and relocation of cables and streetlight equipment, including the transfer of equipment located on poles owned by other utility companies;

   d. Reinstallation, relocation, abandonment, repair and removal if necessary of low-voltage cables (120/240 volt), both in conduit, direct buried and overhead. If the wire is direct buried then the Contractor shall install conduit from the pole to the power source;

   e. Reinstallation relocation and removal of streetlight fixtures, luminaries and conversion kits

DCKA-2011-R-0150

FY11 DC Department of Transportation Citywide Streetlight Asset Management Services

A04 Attachments

(Addendum No.4)

A04 Attachment
DCKA-2011-R-0150
DC Streetlight

Response to Questions

Addendum No 4: RESPONSE TO QUESTIONS AND REQUEST FOR CLARIFICATION

ASSET MANAGEMENT OF DC STREETLIGHT (DCKA-2011-R-0150)

Following are the District's response to the questions submitted as of COB October 7, 2011.

Question 1: We respectfully request a two (2) week extension for responding to the RFP. This requested extension will provide a reasonable period of time to thoroughly respond to this very important and technical RFP which now confirms that the offeror takes the risk on the electricity bill (*See*, Response to Question #4.a of Amendment #2).
Response: The proposal submission date is extended to October 21stth by Addendum 3.

Question 2: How will the District handle acts of vandalism that may occur on property under asset management via this proposed contract (i.e., does the District expect the Contractor's insurance to cover this type of event)?
Response: It is within Contractor's responsibility.

Question 3-a: Regarding the performance bond amount required under Section H.19.3 of the RFP for bidders on CLIN 0010, can the energy costs line item be *excluded* from the calculation of the first year contract price <u>for purposes of calculating the required performance bond amount</u> since energy costs will not be part of the bidder's turnover? (i.e., per the District's response to Question #92 of Amendment #2, the actual energy invoice will be deducted from the contractor's request for monthly payment.)
Response: No. Offerors must secure a performance bond for their total proposed price.

Question 3-b: Regarding the District's response to Question #92 of Amendment #2, where "DDOT will deduct the actual energy invoice from monthly payments", please clarify how this "deduction" from the contractor's invoice will be recorded (from an accounting entry standpoint) and treated (from a legal perspective)?

(For example, the contractor's monthly invoice will request payment to cover energy costs but the District, in turn, will not remit funds to the contractor for this account receivable entry (on the contractor's books). How will the District reflect this adjustment (e.g., credit note)? What documentation will the District provide to the contractor to support this adjustment (in accordance with Generally Accepted Accounting Principles and other related rules)?
Response: For the CLIN0010 Contractor, the District will provide Pepco energy bills prior to the contractor's invoicing. The contractor's invoice is then reduced by the amount of the Pepco's energy bill.

Question 4: Page 103, K.7, <u>Bonds</u>, refers to the bid, performance and payment bonds that must be submitted and that the "[f]ailure to submit these bonds may result in a proposal being deemed unresponsive." Please confirm which of these three bonds need to be submitted *at the time of bid submission.*
Response: All three. Description in K.7 is sufficient.

Question 5: (C.1.7) The District quantifies the volume of lighting assets and supporting systems covered by the RFP at "over 70,000" (refer Page 6, B.1.1) and requires bidders to conduct its own assessment of the assets (and condition of such assets) within the timeframe provided for

responses to the RFP. Will the District permit an adjustment to the contract price after contract award, if the bidder identifies a substantial deviation from the pre-bid assessment of the inventory (due to the limited timeframe provided prior to bid submission to assess such inventory)?
Response: No. The asset quantities and conditions were estimated and contain some margin of error, but DDOT does not expect the deviation to be substantial.

Question 6: Question and Response #84 under the Amendment #2 confirms that bidders are responsible for the additional energy consumption resulting from development projects. Will the District consider developing a formula that can be used to adjust the contract price in a manner that reflects additional energy consumption resulting from new development projects during the contract term?
Response: No. There is no adjustment. The district's real estate is limited and new developments are rare; new installations mostly involve replacement and upgrade of existing lights.

Question 7: The Pepco invoice for July 5, 2011 in Amendment 2 states on page 3, "Congratulations! You have chosen 50% WGES CleanSteps WindPower. What is CleanSteps WindPower? How much of the 9.639 cents per KWH cost is due to CleanSteps WindPower? What escalation clauses does it have? Does DDOT in future contracts procurements plan to increase or decrease the purchase of renewable energy?
Response: That contract is for generation and transmission of electricity; Contact WGES for questions related to power generation.

Question 8: What is DDOT's forecast of energy costs per KWH for both Pepco and the third party provider that will be used with the standard option bids when comparing them to the innovative option bids? The forecast would cover the 4 years after the expiration of the current energy contract.
Response: 4% escalation

Question 9: For bidders on CLIN0010, will the District consider yearly adjustments to the contract price based on escalation criteria such as inflation, or changes in prices of commodities such as copper, aluminum etc.?
Response: No.

Question 10: The PEPCO bills provided in Amendment #2 cover electricity consumption of 66,000 fixtures. Can the District provide bills for the remaining fixtures that are assumed in the District's inventory estimate?
Response: No. Energy consumption cost for the metered portion of the lighting assets (mainly Welcome to Washington Signs, Underpass lights, and other special lights) are not part of this contract. Previously provided PEPCO bills in Appendix P per Addendum 2 are for lighting assets not metered. See the list of the metered lights location ("A04 Attachment DDOT_Metered Lights Location _FY09") in the Attachments.

Question 11: On page R12 of 124 CLIN0009-Ward 9 (Base Year)
11a: Please explain the term Ward 9?
Response: It is a typo. There is no Ward 9. CLIN0009 is for maintaining lighting assets and bridge operation systems for S. Capitol Bridge. See revised RFP Pages 11-R2 thru 20-R2.

11b: Is this a typing mistake? Since the bridge is in Ward 6.
Response: Yes. But S. Capitol Bridge is under CLIN0009.

Question 12: On Page R41 of 124, under C.6.2 A. Asset Summary. What are the locations of Radio Towers covered under this contract? The table states in Ward 3 and 4, the only tower we know of is at Rear of 1338 G Street, SE, which is in ".
Response: There is one tower in Ward 6 with 8 lights. See revised Page 41-R2 and "RA04 Appendix D-01: Asset Count Summary".

Question 13: Question #50 [in Addendum 2]: section G, Point 1 Will the Contractor be responsible for replacing the foundation for a combination pole that has a shared conduit for the TS cable and the SL cable if wire is broken? Response: No

New Questions: Page 41[40] of 125, G. Exclusions/Exception
We have noticed many combination poles now that the street light is out and red/white striped tape is on the pole.

13a: Does this mean this pole fits the criteria of #1 section G on Page 41 [sic] of 125 [sic] and is currently waiting for the conduit to be replaced to re feed the street light?
Response: **Not necessarily. Red/white striped tapes on combination poles indicate that the lights are out due to no current at the base of the structure, and not necessarily for shared conduit problem.**

13b: If so, how many combination poles currently have no power to the street lighting fixture?
Response: See iSLIMS database.

13c: Is DC DDOT's estimate of 150 poles, the remaining shared conduits left city wide in all signalized intersections?
Response: See G.1 on page 40 of the RFP.

Question 14: Question #51 alternately, can the foundation be slotted with a 1-2" conduit?
Response: DDOT will approve cost effective measures that will meet the performance standards.

New Questions: If the pole must be removed to bring the new conduit in to the foundation, the following questions arise: Who places the traffic signal on a temporary pole?
Response: DDOT's Traffic Signals Branch. Removal of a pole to bring the new conduit into the foundation is not a required method. Slotting is the DDOT's preferred method. Note that *Response to Question # 51* in Addendum 3 is revised. See Addendum 4, cover page 2, Item 18.

Question 15: How long will it take DC DDOT to generate the Traffic Signal Q Numbers to place the signals on the temporary pole?

Response: **This method is not required. However, if Contractor chooses this method he/she shall coordinate with DDOT Signals Branch. The contractor must meet the performance measures.**

Question 16: Is there any cost passed or is the responsibility of the new Street Light Asset Management contractor in regards' to the traffic signal portion of the combination pole?
Response: **The responsibility lies with the contractor.**

Question 17: When will the performance measurement time start on combination poles that require a new power source?
Response: **The performance measurement time starts at the noted deficiency. There is no separate performance; it is contractor's responsibility to coordinate with the Traffic Signal (TS) contractor; if TS contractor is not cooperative then DDOT will interfere and performance measure will be adjusted for delays only if completion deadline is not met. Contractor will be required to provide documentation.**

Question 18: Please define DC DDOT response what is an approved cost effective measure that will meet the performance standards?

We can only think of 4 methods of bring a new feed source into the base of the pole:
a. Triplex used to bring in an overhead feed
b. Slot the foundation for a new feeder conduit
c. Replace the foundation and bring the new feeder conduit into the pole
d. Bring the conduit exposed up the side of the base, and place a LB condulet on the side to bring the new feed into the base

Are any of the above named solutions acceptable to DC DDOT? Which ones would be approved?
Response: **b, c, and d.**

Question19: Question 54 [in Addendum 2]: Section G Point 2 (C.6.1.G.2) Will the contractor be responsible for fixing/reinstalling Overhead Sign Structures if such is damaged by others?
Response: Overhead guide sign structures are not included in the asset items to be fixed or reinstall. See revised C.6.1.G2 (see Response to Question 38)

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In the case of a damaged overhead guide sign structure, the Contractor shall be responsible for de-energizing the structure, making the site safe, clearing material from the roadway and setting up traffic Control. If feasible the effort may require removal of the damaged structure. The Contractor shall return all damaged equipment to the D.C. warehouse located at 1735 15th Street, NE. the Contractor shall be responsible for the repairing the lights on the structure. Initial repairs may be temporary.

New Questions:
Question 19a: Please define the term: "If feasible the effort may require removal of the damaged structure"?
Response: **Feasible efforts are; when it is more cost and time efficient for the Contractor to remove the structure than it is to maintain a lane closure until the structure is removed by**

others. However, the Contractor still remains responsible for de-energizing the structure, making the site safe, and setting up Traffic Control.

Question 19b: This could require a special lift crane, or does it means only when able to use a standard crane used in setting street lighting pole? See above
Response: See above

Question 20: Question 60 [in Addendum 2]: Page 38 of 125, C.6.1.B.2 – Re Historical work load – Appendix E shows problems only, but does not reflect solution or actual work performed in response (For instance in current work there were 1,915 problems, 456 were a no current with surface cut); thus, what was the quantities of work needed to make those repairs, for example:

" Lf of conuit installed
" Lf of cable installed?
" Size of cable installed?
" LF of triplex installed?
" Sizes of triplex installed?
" CY PCC Base installed?
" CY PCC Pavement installed?
" Tons of asphalt installed?
" SY of PCC Sidewalk installed
" SY of exposed aggregate PCC sidewalk installed?
" SY of brick sidewalk installed?
" SY of alley brick installed?
" SY of sod installed?
" LF roadway line stripping installed?
" SY of wheel chair/bicycle ramps installed?
" This information is critical for the Bidder to be able to come up with a appropriate bid.

Response: See Response to Question 48 and the attached material usage sheet (A02 Appendix Y Estimated Material Usage).

New Questions: Page 1 of 4, Lines 31, 32, 33, 34, please provide the correct names of these four Items?

20a: ?0w Hps Conversion Kit Ballast
Response: See the revised RA04 Appendix Y: Estimated Material Usage.

20b: ?0w Hps Lamp
Response: See the revised RA04 Appendix Y: Estimated Material Usage.

20c: ?0w Hps Medium Lamp
Response: See the revised RA04 Appendix Y: Estimated Material Usage.

20d: ?0w Hps Power Door
Response: See the revised RA04 Appendix Y: Estimated Material Usage.

Question 21: Page 3 of 4. Item line #31, Black Top 88

21a: Is this item roadway asphalt?
Response: Unknown

21b: Is the measurement in tons?
Response: Unknown
Question22: Page 3 of 4, Item line # 34, Concrete 414

22a: What is this measurement of square yards or cubic yards?
Response: Unknown

22b: Does this include concrete in foundations replaced?
Response: Unknown

22c: Does this include concrete in sidewalk?
Response: Unknown

22d: Does this include concrete in alleyways?
Response: Unknown

22e: Does this include concrete in roadways?
Response: Unknown

22f: Does this include concrete in base repair?
Response: Unknown

22g: Does this include concrete in conduit encasement?
Response: Unknown

Question23: Question #69 [in Addendum 2]: Page 13 of 19 What is the current and potential backlog of work orders to be issued to the new contractor?
Response: based on iSlims historical data the Distrrict has estimated the backlog at the end of the current contract as indicted below> The contractor should consider this backlog as an estimate. The District cannot guarantee that the actual backog will not differ from the estimate.

Convert light	25
No Current	300
Light Out	100
Pole repairs	25
Replace T-base	25
Trim Tree	25
Estimated Total	500

(See Response to Question 43, 67 and 68)

New Questions: On page R81 of 124 H.8.4. According to this revised section, the new Contractor shall inherit the backlog, new due dates specified by performance measures in Appendix B will be applied.

23a: this interpretation correct?
Response: Yes, but the estimated backlog is revised. See Addendum No. 3 cover page #2–Item 13.

23b: The new contractor will be inherit approximately 300 (+/-) no current work order to complete within the first 30 days, 45 days if there is a needed cut to make the repair.
Response: Quantities of the backlog are revised by addendum 3. *"No Current"* instances are estimated to be 50 +-. See Cover page #2 of Addendum No. 3 – Item 13: *Revised Response to Question 69 (in Addendum No. 2).*

23c: Will DC DDOT provide a longer completion time for inherited work based on the very large number of work order not completed by the current contractor?
Response: No. See above.

Question 24: Question 77-b [in Addendum 2]: SL9B Drawing does not show how to ground the arm Response: Review the drawing. Ground is specified.

New Questions: The arm is shown to be grounded with a wire going up the pole. The ground wire is not shown to be going to a ground rod but up the pole, DC DDOT has shown this method in past contract. If no pole ground is available, to ground the arm by connected the bare wire attached to the arm to the overhead supply neutral.

Is this method of grounding the arm acceptable under this contract?
Response: Arm must be grounded, and grounding must be done in accordance with Blue Book and National Electrical Code.

Question 25: Question 85 [in Addendum 2] , The RFP states that the structure of the Welcome to DC signs is part of this contract. While surveying these signs there seen to be a numerous types of signs. Please provide more information on the different sign types (i.e. submittals, manufacturer names and model numbers, etc). Also, can provide more detail on the contractor's responsibility for of maintaining/replacing the structure.
Response: The specification will be provided at a later date.

New Questions: Will this information be provided in time for the offeror to evaluate before the bids are due?
Response: The drawings for Welcome to Washington Sign Structure are available to view at the bid office.

Question 26: Amendment #2, Dated: 9.20.11
A02 Appendix N: S. Capitol Bridge Components
On page #1 of the section named: Attachment: Douglas Bridge Maintenance Items
Asset included in CLIN0009 Douglas Bridge (S. Capitol Street Bridge)
Line # 7 it States:
The main feeder transformers on the Anacostia & DC ends including conduit. Wiring and all related equipment.
On page #2
Asset Not included in Clin009 Douglass Bridge (S. Capitol Street Bridge)
Line # 2
Transformers located off of the bridge structure

New Question: Are the pad mounted main feeder transformers on both DC and Anacostia ends included in this contract or not?
Response: Pepco owns the transformers, and they are not included in the bridge assets to be managed under the contract. See revised RA04 Appendix N: S. Capitol Bridge Components.

Question 27: Amendment #2, Dated: 9.20.11
A02 Appendix N: S. Capitol Bridge Components
On page #2 of the section named: Attachment: Douglas Bridge Maintenance Items
Asset included in CLIN0009 Douglas Bridge (S. Capitol Street Bridge)
Line #1
Pumping systems

New Question: On the Tour and explanation of the bridge systems, we were told that the pumping systems on each of the 4 bridge fenders (raw river water wash-down water pumping systems) and the pumping system in the center pier, up river side of the entry level floor, this pump system (pumps water from the hollow center pier out to the river) were all included in the contract for maintenance.

Which of these five pumping systems are not included in this contract?
Response: See revised RA04 Appendix N: S. Capitol Bridge Components.

Question 28: Amendment #2, Dated: 9.20.11
A02 Appendix N: S. Capitol Bridge Components
On page #2 of the section named: Attachment: Douglas Bridge Maintenance Items
Asset included in CLIN0009 Douglas Bridge (S. Capitol Street Bridge)
Line #5

The contract covers the rehabilitation and maintenance of the covered assets. Full Replacement of major components is beyond the scope of this contract.

New Questions:
28a: Please define the term full replacement of major components is beyond the scope of this contract?
Response: The term is deleted. See revised RA04 Appendix N: S. Capitol Bridge Components.

28b: the list of the major components of the South Capitol Street Bridge that fall under this description?
Response: See revised RA04 Appendix N: S. Capitol Bridge Components.

28c: What standards / guidelines determines the full replacement of the major components?
Response: Failure

28d: Would this be better defined with a dollar amount as in the last contract?
Response: See Response to Question 28a and revised RA04 Appendix N: S. Capitol Bridge Components.

Question 29: Attachment J.8: Cost/Price Disclosure Certification and Guidelines
Tables (1.4), (3.1.1) and (3.3.2)

New Questions: In general we have many questions in reference to the forms in J.8, creating a lot of uncertainty. We feel these forms are inadequate pertaining to the scope of work for this contract. If DDOT identifies the categories in the columns all proposals will be the same for comparison purposes. At this time DDOT's intent is unknown based on the current tables.
29a: Explain what DC DDOT is looking for using the term Task #1, #2, #3, #4 should this apply to the CLINS or another variable?
Response: Based on the prospective offeror's understanding of the sow, the offeror should itemize his costs by the tasks that are listed in the scope of work. It is not expected that prospective offerors reference them by CLINs or by wards because of the nature of the task.

29b: What activities is DC DDOT looking for by using the term Task? We need to know this, to be able to fill in the table (1-4) to explain Hours, Rates, Dollars?
Response: See response to question 29a.

29c: Attachment J.8: Cost/Price Disclosure Certification and Guidelines
Table (3.1.4.a)

New Questions: Question a: Explain where Note #5 is in reference to?
" It appears that:
" Note #1 should be in the column for Labor Mix
" Note #2 should be in the column for Offeror's Labor Category
" Note #3 should be in the column for Percent of Time on Contract
" Note #4 should be in the column for Planned SOW Assignment
" Note 5 should be in the column for Status

Is this assumption correct?
Response: The notation references in the form are incorrect. Note 2 corresponds to Offeror's Internal Labor Category. Note 3 corresponds to Percent of Time on Contract. Note 4 corresponds to Planned SOW Assignment. Note 5 corresponds to Status. The Note 6 referenced in the column does not exists. See cover page #2, item 15.

Question 30: Attachment J.8: Cost/Price Disclosure Certification and Guidelines
Table (3.1.4.b)

New Questions:
Explain where Note #6 clarification is located?
" It appears that:
" Note #1 should be in the column for Labor Mix
" Note #2 should be in the column for Offeror's Labor Category
" Note #3 should be in the column for Percent of Time on Contract
" Note #4 should be in the column for Planned SOW Assignment
" Note 5 should be in the column for Status
Is this assumption correct?
Response: See response to question 29c.

Question 31: Attachment A02: R02 J.3 General (Wage) Decision Number: DC20080001

New Questions:
31a: What is the Wage Classification Discussion on this contract 3 are listed within the decision?
Response: This contract falls under heavy construction.

31b: Heavy Construction?
Response: See Response to Question 31a.

31c: Sewer and Water?
Response: See Response to Question 31a.

31d: Paving?
Response: See Response to Question 31a.

Question 32: Question 62a [in Addendum 2]; Page 50 of 125 Reference: Appendix D Wood Pole- What is the total number of wood poles that are District-owned and must be tested and/or replaced if failed under this Contact?
Response: Number of wood poles owned by DDOT is approx 3520.

New Questions: The following questions pertain to the wood pole testing

32a: Is there a specific type of pole inspection or test specified or required by DC DDOT?
Response: See "Appendix I: PEPCO Requirements – Poles" (The file name is revised as "Appendix I PEPCO Requirements Poles".) Otherwise, Contractor shall follow industry standard. Reference cover page, Item #11 of the Addendum 4.

32b: In what format would the inspection data be given to DDOT? Is there a preference?
Response: Contractor to propose.

32c: What is the specific pole rejection criteria?
Response: See Response to 32a. Industry standard or as deemed unsafe by COTR.

32d: What type of wood pole is typically used by DDOT, i.e., Southern Pine, Douglas-Fir, Western Red Cedar, etc.?
Response: Unknown.

Question 33: A02 Appendix Y: Estimated Material Usage

New Questions: The following pertain to the estimated material usage provided in amendment 2, please clarify the following:

33a: Is the information provided a complete list of material used for the 9 months?
Response: Unknown. The information is based on the best available data.

33b: There are no anchor bolts shown is this correct?
Response: Unknown.

Question 34: The district has specified that the contractor submitting through the innovation track will assume price risk associated with increasing energy costs. When DDOT compares the price of the innovative offer against the standard approach contractors, what escalation rate will the district use to set its anticipated energy costs over the 5 year period? The district said to use department of labor but that only provides historical statistics.
Response: The District estimates 4% escalation for the period of time not covered under the current contract to escalate the non-Innovative bids to ensure price parity. The District will not be responsible for increases in utility rates.

Question 35: Please provide a copy of the current energy contract DCAM-2009-C-7003
Response: See "A03 Appendix P: WGES Contract" included in Addendum 3.

Question 36: Question 22 in [Addendum 2] "Mention was made during the prebid that the District was in the testing phase of a new LED fixture with the objective of converting streetlights currently rated at 250-400W. Could you supply a list of the fixtures currently being tested so that the prospective bidders could contact the manufacturers to obtain pricing?"

Response to question 22 (p .6 of 19) indicates that a Beta fixture is under evaluation for conversion of the higher wattage (250-400W) fixtures. However, Beta fixtures are equipped with a two bolt mounting system and the RFP specifically states in appendix U that "Clamping with two bolts is not acceptable". The assumption is that the District will accept an alternative that is slightly outside of (non-performance related – mounting, dimensions, weight, etc.) spec .

36a: Is a fixture that falls under these parameters acceptable as an alternate proposed fixture, assuming it meets light distribution standards and cost savings measures? If not, why not, given the present testing sample?
Response: The District is open to good ideas and is willing to adopt new technology that can produce efficiency (IES LM-79) and lumen maintenance (IES LM-80) test results within industry standard. Evaluation will continue. See the attached "A04 Attachment LED Final Evaluation Report-11-15-2010" and RA02 Appendix U Currently Evaluated LED.

36b: In addition:
What fixtures were tested prior to acceptance of the current alley light fixture?
Response: See "A04 Attachment LED Final Evaluation Report-11-15-2010" in the attachments.

36c: What were the specific criteria for disallowing those that were not chosen?
Response: See "A04 Attachment LED Final Evaluation Report-11-15-2010" in the attachments.

36d: What was the deciding factor in the decision to choose the existing accepted fixture?
Response: See "A04 Attachment LED Final Evaluation Report-11-15-2010" in the attachments.

36e: When were these fixtures tested?
Response: See "A04 Attachment LED Final Evaluation Report-11-15-2010" in the attachments.

36f: Is the testing data from the third party evaluation team for the alley light fixtures available?
Response: See "A04 Attachment LED Final Evaluation Report-11-15-2010" in the attachments.

36g: Is the preliminary data from the third party evaluation team for the street light fixtures available?
Response: No.

Question 37: Question 23g "If not, how often do the rates fluctuate and by what percentage?" (referring to the current electric rate). The question was only partially answered. What will be the electric rate during year three of the current contract (supply and distribution)?
Response: See "A03 Appendix P WGES Contract" in Addendum No. 3 and Response to Question 34.

Question 38: Question 24 "Could you provide the formula whereby the monthly electric bill for the streetlights is calculated?" referred back to the copies of the electric bill. However, there are no calculations, only total usage. What is the formula used to calculate the total usage?
Response: All the necessary information is provided in "A02 Appendix P: PEPCO Energy Bill" (See page 4 of 52, for example), and Responses to Question 23a-g in Addendum No.2.

Question 39: Question 26-27 "Are services currently metered included in the total for Appendix P? If not, could you supply the data for those locations?" A26. No A27. See the attached Pepco Energy Bill. The Pepco energy bill does not break out by metered location. What is the current annual usage by meter location by month?
Response: See Response to Question 10.

Question 40: Question 4-a/b "Bidders on CLIN 0010, the Innovative Approach, must include the electricity bill in their costs (Section B.2.1.2.4). The bidders will take the risk that energy savings will be achieved in terms of fewer kWh. Do they also take the risk for energy costs in terms of price per Kwh?"
A. "Yes. The offeror takes the risk&."
B. "No&"

40a: Given that: What department is responsible for the negotiation of electricity rates for the streetlight system?
Response: The District of Columbia Public Service Commission is the entity responsible for regulating energy and gas rates (http://www.dcpsc.org/abt/mission.asp).

40b: How are proposals for electricity rate ocured [sic]?
Response: PEPCO initiates the request for rate adjustment and DDOT has the opportunity to challenge PEPCO's request. As for the energy contract with third party suppliers, the contract is competitively bided.

40c: As the current rate seems rather high, given that streetlights are an "off-peak" usage asset, are these negotiated rates a smaller part of a larger package?
Response: Yes. See above.

40d: Will the offeror have any input as to the negotiated rates after the current contract expires?
Response: Yes.

Question 41: As the original RFQ seems to indicate that only those entities that are willing to accept the unmitigated risk of absorbing an electric bill over which they have no control as to the rate structure may present cost saving measures (i.e. the "Innovative Approach"), is it the District's intent to have bidders bidding CLINs 0001-0009 submit no innovations?
Response: No. Bidders bidding CLINs 0001-0009 are encouraged to submit innovations. The extent to which Offeror's Innovation Plan provides a detailed, plausible, and creative approach to reducing the District's total cost of lighting system ownership will have a positive impact on the technical evaluation of the proposal. The outcomes will be evaluated during the annual PEB process.

Question 42: Pursuant to the original RFQ, section M.1.1, states in part "&. The panel will establish two pools of Offerors in the competitive range – One pool for Standard proposals; and one pool for Innovative Proposals."

Given the language of the original RFQ, may a single entity submit proposals for both?
Response: No. See B.1.2 on page 6 of the RFP.

Question 43: Regarding the South Capitol Street Bridge,

43a: When was the submarine cable installed?
Response: The information is not available.

43b: When was the previous cable installed (approximately)?
Response: The information is not available.

43c: Is there a warranty on the cable? If so, how long? If so, is the warranty transferable to the awardee?
Response: There is no warranty on the cable.

43d: Is there a warranty on the workmanship? If so, how long?
Response: The information is not available.

43e: Who installed the cable?
Response: The information is not available.

Question 44: Referring to Addendum 2, appendix N, "Assets included in CLIN0009 (sic) Douglas Bridge (South Capitol Street Bridge)":
"Structural Elements (for main elements COTR will determine)"
This is very broad. The verbiage could encompass anything from the mounting brackets to the entire bridge structure. What are the actual parameters, or lacking that, a dollar cap on structural repairs?
Response: "Structural Elements" were removed from the list. See revised RA04 Appendix N: S. Capitol Bridge Components.

Question 45: "The main level of the tower&"
Does this include the actual tower, or the electrical components within the tower?
Response: No. It does not include the structure of the tower.

Question 46: "Full replacement of major components is beyond the scope of this contract"

46a: What, specifically, defines a "major component"?
Response: **See Response to Question 28a and revised RA04 Appendix N: S. Capitol Bridge Components.**

46b: Is the turret motor a major component?
Response: **See above.**

46c: It has been determined that one half of the decorative LED fixtures on the bridge have been voided under warranty due to an electrical surge. What is the revised lifespan of these fixtures?
Response: **Unknown. For the revised lifespan, contract the manufacturer. Refer to A02 Appendix N Bridge LED (LED- 10 yrs, White LED 5.7 yrs). Warranty was expired. All the lights are working properly, and TOA is not aware the electric serge instances.**

46 d: How is it determined which fixtures are still under warranty as relating to factory interaction?
Response: **No warranty.**

Question 47: What is the budget for this overall 5 year contract?
Response: **No response.**

Question 48: There are multiple follow-up questions that require clarity in order to give the District a proposal that includes the best value on all fronts. Given that it will take some time to analyze the new data, will the bid date be extended?
Response: **The last day to submit proposals is extended to October 21st, 2011.**

Question 49: Regarding the RFP's request that the contractor produce an agreement with PEPCO, please provide the DDOT's contact at PEPCO.
Response: **Refer to "A04 PEPCO Street Light Connection Fees for District of Columbia" in the Attachments. The attachment is supplemental to *Response to Question 47* in Addendum 2. Reference cover page, Item #8 of the Addendum 4.**

Question 50: Section H.19.1 of the RFP states that the Proposal Guarantee "shall be in an amount equal to five percent of the offeror's proposed first year contract price set forth in the proposal." For purposes of calculating the required Proposal Guarantee bond amount, please confirm that this language of H.19.1 is the definition or meaning of "5% of Bid" as noted on Form No. DC 2640-5 (Bid Bond) and included as Attachment J.05 to the RFP.
Response: **For the purpose of calculating the bond amounts, the "bid amount" by definition means the same as the "proposed first year contract price"**

Question 51: Inventory: The Pepco billing documents (Addendum #2) indicate there are fewer devices than the inventory published by the District in the original RFP. Are there other street lighting bills for the remaining fixtures sent by Pepco to the District? If so, can we get copies? If not, which inventory is correct?
Response: **See Responses to Question 10 and 39.**

Question 52: Burning hours: The Pepco billing documents (Addendum #2) indicate a difference between the DC night time burning hours and the number of burning hours actually billed to the District. On the Pepco bill detail, the night time burning hours used to convert KW to KWH does not match the figure at the bottom of the page. What accounts for the difference? Which night time burning hours figure should be used by bidders? Can the District provide the contract between Pepco and the District to explain this deviation?
Response: See Response to Question 49.

Question 53: Electrical Costs: Some special assets referred as being under contractor responsibility in the initial RFP do not appear to be taken into account in Pepco billing documents (Addendum #2). Does this mean the energy consumption of these assets will not be under contractor responsibility? Do the bidders need to include the projected energy consumption of these assets in their offer? If so, what documents are available that show the energy usage over a year?
Response: See Response to Question 10.

Question 54: Reference: Appendix # 03: Question 23a: Will the distance between the group of 100 nodes and gateway be close enough to allow normal communication to occur between them using only one gateway per 100 nodes?

Response: Batch CLIN 13 ROAM installation will not include gateway purchase, service fee, or installation. Prospective Offeror's consider costing for purchase, 5-year service fee, installation, setup, and configuration of 100 photo control nodes.

Question to Above:
Shall the Offeror be responsible for the 5-year service fee for each batch of 100 Roam installations? Or, will the 5-year service fee be for all the installations of Roam in this contract?
Response: Contractor shall be responsible for the 5-yr service fee for each batch of 100 Roam installations.

Question 55: As stated in RA02 Appendix N: S. Capitol Bridge Components, can the District define what "Structual [sic] Elements" are when pertaining to CLIN 009?
Response: See Response to Question 28a, b, and c.

Question 56: It is stated the contractor covers the rehabilitation and maintenance of the covered assets. Full replacement of major components is beyond the scope of this contract. What is considered a "Major Component" by the COTR?
Response: See Response to Question 28a, b, and c.

Question 57: Is there a gas detection system in place and working on the bridge as Oct. 2011?
Response: There is no gas detection system, and thus it was removed from the list. See revised RA04 Appendix N: S. Capitol Bridge Components.

A04 Attachment
DCKA-2011-R-0150
DC Streetlight

A04 DDOT_Metered Lights Location_FY09

Metered Lights Location

Agency Code	Building Name	Building Address (Actual Address)
KA	Headquarter Area 2 & 5 (DPW)	3001 K St NW
KA	Headquarter Area 2 & 5 (DPW)	3001 K St NW
KA	"Welcome to Washington" sign	7804 Alaska Ave NW
KA	Multi Service Center	555 L St SE
KA	Outdoor Lights	225 7th St SE
KA	Outdoor Lights	7th & H Sts NW
KA	Lights Storage Area	14th St Bridge at Main Ave
KA	Outdoor Lights	S Cap & Southern Ave
KA	Weather Station	Chain Bridge Rd NW
KA	Weather Station	Chain Bridge Rd NW
KA	Warehouse/Office	2700 Firth Sterl Ave SE
KA	Outdoor Lights	S Cap 7 M St SW
KA	Salt Storage Facility	Potomac Ave SW
KA	Underpass	400-B Florida Ave NE
KA	Underpass Lights	Whitehurst Freeway
KA	Warehouse & ROP - Maintenance Facility #3	1725 15th St NE
KA	Outdoor Lights	3392-T Garfield St NW
KA		100 I295 Chesapeake St SW
KA	Outdoor Lights	460-A New York Ave NW
KA	Outdoor Lights	402-A New York Ave NW
KA	Outdoor Lights	281-A New York Ave NW
KA	Outdoor Lights	217-A New York Ave NW
KA	Outdoor Lights	321-A New York Ave NW
KA	Outdoor Lights	735-A 3rd St NW
KA	S Capitol St Bridge	S Cap St Bridge SW
KA	South Side of Bridge	200 S Cap St Brdg SE
KA	Underpass	898-A Ohio Dr SW
KA	African American War (Vault)	1922 Vermont Ave NW
KA	Underpass	6100-S E Capitol St NE
KA	14th Street Bridge Light	14th St Bridge
KA		1922 Vermont Ave NW
KA	Bridge, Street Maintenance & In Town Impound	1403 W St NE
KA		3800-T Fort Dr NW
KA	Salt Storage Facility	401 Farragut St NE
KA	Traffic Light	1827-T W Virginia Ave NE
KA		N Cap & R.I. Av NW
KA		4th & VA Av SE UNDERPASS
KA		1105 O St SE
KA		100 Rhode Is @ Otis St NE
KA		2200 Q St NW Bridge Lights
KA	Fort Totten Maint Garage	4901-T Bates Rd NE

Agency Code	Building Name	Building Address (Actual Address)
KA	Underpass	100 H St NE
KA	Street Lighting	200 Laboratory Dr SW
KA	Street Lighting	I-295 Anacostia Fwy SW
KA	Welcome to DC Sign	2201-T South Capitol St SE
KA	South Capitol St Bridge	2202-T South Capitol St SE
KA		2500-T2 Benning Rd NE
KA	Outdoor Lights	SW Freeway 2nd St SW
KA	Outdoor Lights	16th & N Portal Dr NW
KA	Underpass	E Cap St Railroad
KA		100 Benning Rd Kenilw Ave NE
KA	Underpass	Kenilworth & Hayes St NE
KA	Underpass	Kenilworth & Douglas St NE
KA	Underpass	Kenilworth & Nash St NE
KA	Overpass Lights	Under 14th St Overpass
KA	Underpass	Minnes Ave & E Cap St NE
KA	Underpass	Under E St Bridge
KA	Outdoor Lights	400 McMillan Dr NW Annx 9
KA	Material Testing Laboratory	280 McMillan Dr NW
KA	Annex 8	200 McMillan Dr NW
KA	Underpass	N Cap St & NY Ave
KA	Parking Lot	100 Michigan Ave NE
KA	Underpass	Rhode Island Ave NE
KA	Bridge Sign and Lights	North Side of Bridge
KA	Bridge Sign and Lights	North Side of Bridge
KA	Overpass Lights	Under 14th St Overpass
KA	Parkway Lights	14th St SW at Potomac
KA	Underpass	14th & Mass Ave NW
KA	Outdoor Lights	4th & F Sts Frwy
KA	Outdoor Lights	SW Freeway 2nd St SW
KA	Outdoor Lights	9th St Expway
KA	Outdoor Lights	Lower 10th St SW
KA	Outdoor Lights	12th St Expway
KA	Outdoor Lights	10th St Overlooks SW
KA	Impound Lot Admin	1100 Brentwood Rd NE
KA	Outdoor Lights	10th St Overlooks SW
KA	Outdoor Lights	1234 16th St NW
KA	Underpass	23rd & VA Ave NW
KA	Underpass	22nd & E Sts NW
KA	Outdoor Lights	2500 Va Ave NW #CI
KA	Outdoor Lights	Rockcr Pkwy NW
KA	Underpass	K St Expway S S PA Ave
KA	RPA Leased Property	1920 P St NW #TUNNEL

Agency Code	Building Name	Building Address (Actual Address)
KA	Underpass	Dupont Cir & Conn Ave NW
KA	Storage Space	1400 G St SE
KA	Outdoor Lights	G St Bet 13 & 14 Sts SE
KA	Underpass	8th & K St SE
KA	Tunnel Lights	11th & O St Bridge
KA	Outdoor Lights	17th & Penn Ave SE
KA	Tunnel Lights	7th & VA Ave SE Frwy
KA	Tunnel Lights	5th & VA Ave SE
KA	Tunnel Lights	3rd St SE Frwy
KA	Tunnel Lights	2nd St SE Frwy
KA	Outdoor Lights	N J Ave & K St SE
KA	Outdoor Lights	Ramp G SW Frwy
KA	Underpass	Anacos Frwy & Howard Rd SE
KA	Underpass	Anacos Frwy & Suitl Pkwy
KA	Outdoor Lights	Anacostia Frwy Firth Sterl
KA	Comm Driver Test Lot	Comm Driver Test Lot
KA	Outdoor Lights	Anacostia Frwy & 11th St Brd
KA		100 Anacostia Freeway
KA	Outdoor Lights	Anacostia Frwy West
KA	Tunnel Lights	100 Penn & Southern Ave
KA	Tunnel Lights	12th St Tunnel
KA	Park Walkway Lights	301 Const Ave NW
KA	Tunnel Lights	220 2nd St NW
KA	Tunnel Lights	9th & Madison Dr NW
KA	Tunnel Lights	201 C St SW
KA	Outdoor Lights	Benn Rd at Anacos NE
KA	Outdoor Lights	SE Cor 11th & O Sts SE FL1
KA		2311 M L King Ave SE
KA	Bridge Lighting	23 P St NW
KA	Street Lighting	200 Chesapeake St SW

Agency Code	Account #	Service Address (Meter Address)	
KA	0099574402	100 Canal Foxhall Rd NW	
KA	0100905702	3001 K St NW	
KA		7804 Alaska Ave NW	a/c # to be issued
KA	0100996206	555 L St SE	
KA	0105638704	225 7th St SE LOC EXTLT	
KA	0105724900	100 7th and H St NW	
KA	0106092000	100 14th St Maine Ave SW	
KA	0106216716	100 S Capitol Southern Ave SE	
KA	0106883705	100 Michigan Bridge Ave NE	
KA	0106886203	100 Chain Bridge Rd NW	
KA	0107440703	2700 Firth Sterling Ave SE	
KA	0107668303	100 S Capitol and M St SW	
KA	0109690206	100 PotomacAv Half St SW	
KA	0109902502	400-B Florida Ave NE	
KA	0109913707	3200 K St NW WHITHUR	
KA	0109955419	1737 15th St NE	
KA	0110146008	3392-T Garfield St NW	
KA	0110146206	100 I295 Chesapeake St SW	
KA	0110250404	460-A New York Ave NW	
KA	0110250503	402-A New York Ave NW	
KA	0110250602	281-A New York Ave NW	
KA	0110250701	217-A New York Ave NW	
KA	0110250800	321-A New York Ave NW	
KA	0110251006	735-A 3rd St NW	
KA	0110690807	100 S Capitol St Bridge St SW	
KA	0110692506	200 S Cap St Bridge SE	
KA	0111387064	898-A Ohio Dr SW	
KA	0111558227	1922 Vermont Ave NW	
KA	0111782918	6100-S E Capitol St NE	
KA	0112638713	100 14th St SW	
KA	0112737903	1922 Vermont Ave NW	
KA	0112744214	1403 W St NE	
KA	0112751201	3800-T Fort Dr NW	
KA	0113509103	401 Farragut St NE	
KA	0113630727	1827-T W Virginia Ave NE	
KA	0115319311	N Cap & R.I. Av NW	
KA	0115321010	4th & VA Av SE UNDERPASS	
KA	0115335101	1105 O St SE	
KA	0115385007	100 Rhode Is @ Otis St NE	
KA	0116221904	2200 Q St NW Bridge Lights	
KA	0125026716	4900 Bates Rd NE	

Agency Code	Account #	Service Address (Meter Address)	
KA	0128044104	100 H St NE	
KA	0129298717	200 Laboratory Dr SW	
KA	0129300216	I-295 Anacostia Fwy SW	
KA	0131213613	2201-T South Capitol St SE	
KA	0131299109	2202-T South Capitol St SE	
KA	0131679003	2500-T2 Benning Rd NE	
KA	0151189016	100 SW Freeway 2nd St SW	
KA	0251207015	100 16th St N Portal Dr NW	
KA	0251293007	100 E Capt St Kenilw Ave NE	
KA	0251295002	100 Benning Rd Kenilw Ave NE	
KA	0251301008	100 Kenilw Ave Hayes St NE	
KA	0251309001	100 Kenilw Ave Douglas St NE	
KA	0251310009	100 Kenilw Ave Nash St NE	
KA	0251311007	100 Kenilw Ave Lane Pl NE	
KA	0251315008	100 Minn Ave E Cap St NE	
KA	0252207006	100 E St *Loc Bridge	
KA	0252284005	400 McMillan Dr NW	
KA	0252285002	280 McMillan Dr NW	
KA	0252286000	200 McMillan Dr NW	
KA	0252303003	100 N Capt New York Ave NE	
KA	0252324009	100 Michigan Ave NE	
KA	0252329008	100 Rhode Is Ave 4th 8th Pl NE	
KA	0252359005	100 14th St Bridge NS Rd	
KA	0252360003	100 Center Hwy Bridge St	
KA	0252361001	100 14th ST LOC OVPS	
KA	0252363007	100 14th St Pot River Rd SW	
KA	0253341002	100 14th and Mass Ave NW	
KA	0253392005	100 4th St F St SW	
KA	0253393003	100 SW Freeway 2nd St SW	
KA	0253415004	100 Frontage St 9th St SW	
KA	0253416002	100 10th St SW	
KA	0253418008	12th St Expressway	
KA	0253419006	100 9th and D St SW LOC	
KA	0253422018	100 12th & D St SW	
KA	0253426001	100 10th Overlook Ave SW	
KA	0253471007	1234 16th St NW	
KA	0253478002	100 23rd and Va Ave NW	
KA	0253479000	100 22nd and E St NW	
KA	0253481006	2500 Virginia Ave NW	
KA	0253482004	100 Rock Crk Pkwy NW	
KA	0253483002	100 K St Exwy Penn Ave NW	
KA	0253500029	1920 P St NW LOC TUN	

Agency Code	Account #	Service Address (Meter Address)	
KA	0254001001	100 Dupont Cir Conn Av NW	
KA	0254044001	1400 G St SE	
KA	0254045008	100 G St 13th 14th St SE	
KA	0254059009	100 8th and K St SE LOC	
KA	0254062003	100 Otis 11th St LOC(100 O St, 11th St-Loc Brg)	
KA	0254063027	100 17th and Penn Ave SE	
KA	0254067002	100 7th St Virginia Ave SE	
KA	0254070006	100 5th and Virginia Ave SE	
KA	0254073000	100 3rd St SE Freeway St	
KA	0254074008	100 Wnd St SE Freeway St	
KA	0254077001	100 New Jersey Ave K St SE	
KA	0254078009	100 F St SW Freeway St	
KA	0254084015	100 Anacostia Howard Rd	
KA	0254089022	100 Anacostia Suitland Pkwy	
KA	0254095011	100 Anacos Firth Ster Av SE	
KA	0254099021	2390 S Capitol St SE	
KA	0254129026	100 AnacostiaFw 11th St SE	
KA	0254179013	100 Anacostia Freeway	
KA	0254182017	100 Anacostia Freeway Pa Ave	
KA	0254192008	100 Penn Ave Southern Ave	
KA	0254227002	100 12th St LOC TUNN	
KA	0254247000	301 Const Ave NW	
KA	0254248016	220 2nd St NW	
KA	0254290000	100 9th Madison Dr NW	
KA	0254291016	201 C St SW	
KA	0254296015	100 Benning Rd Anacostia St NE	
KA	1770117511	100 11th O St SE 1FL	
KA	1901199057	2311 M L King Ave SE	
KA		23 P St NW	a/c # to be issued
KA		200 Chesapeake St SW	a/c # to be issued

Extra copies

GIS - ELECTRICAL METERS FOR DDOT INSPECTION ON AUGUST 10, 11 AND 12, 2009

BUILDING ADDRESS	METER NUMBER	CLOSEST POLE #'S INVOLVED	FOOTAGE FROM METER TO POLE #	QUANITY OF LIGHTS	STYLE OF LIGHTS / WATTAGE	NEW LOCK Y/N
100 H St. NE	?-Can't find					
I295/Chesapeake St. SW	AH130035 26166509	85751	90'	10	Underpass	N
South Capitol St./Southern Ave. SE	X-AT27426 77320585	84899	69'	1	Welcome to DC sign	N
Kenilworth Ave/Nash St. NE-A	E9SENT277 104969183	71158	60'	?	Breaker is broken-Footbridge	Y
Kenilworth Ave/Nash St. NE-B	No meter	70167	327'	1	Breaker #8	Y
Kenilworth Ave/Douglass St. NE-B	X-9JY3 1050 84031630	71150	69'	1	Breaker #4 - Footbridge	Y
6100 East Capitol St. NE	?-No Underpass (can't find)					
Rhode Island Ave./th 8th Pl NE	K-18KVYSL00T 21220876	56378	219'	20	Underpass	Y
South Capitol St./M St. SE	X-AY13548 78 442 821	66854	50'	6	Underpass	Y
3200 K St NW	?-Could not cut lock					
4900 Bates Rd. NE	?-Gate blocking access to road					
7th S./Va. Ave. SE	20784517	67628	25'	5	Underpass	Y
118 N St. SE	No meter-20 A fuse	68038	75'	38	11th St. Bridge-Cutoffs	N
Anacostia Frwy/Howard Rd. SE	?-doors damaged	81274DC	50'	4	Underpass	N
Anacostia Frwy/First Sterling Ave. SE	75739521	81541DC	5'	?	?-meter is broken	N
Anacostia Frwy/Suitland Pkwy SE	104977898	82070	100'	10	Underpass	N
2201 South Capitol St. SE	16524079 K-20QRY544IT	68438	20' down	?	?-Unable to open door	N
2202 South Capitol St. SE	104977389	68438	5' down	60	Blue lights on bridge	N
555 L St. SE	?-Can't find					

GIS - ELECTRICAL METERS FOR DDOT INSPECTION ON AUGUST 10, 11 AND 12, 2009

BUILDING ADDRESS	METER NUMBER	CLOSEST POLE #'S INVOLVED	FOOTAGE FROM METER TO POLE #	QUANITY OF LIGHTS	STYLE OF LIGHTS / WATTAGE	NEW LOCK Y/N
200 South Capitol St. Bridge SE	104956067	68420	30'	Not Sure	Could not cut lock	N
1105 O St. SE	44076-160	67728	50'	6	Underpass	N
8th St./K St. SE	1824275	65930	15'	14	Underpass	Y
17th St./Penn. Ave. SE	46689758	81090	50'	20	Underpass	N
Potomac Ave/Half St. SW	K-20JY3 75 82243862	67134	48'	5	Cobra HPS	N
South Capitol St/ M St. SE	?-MOT is needed				Underpass	
14th St./Maine Ave. SW	?-Can't find					
East Capitol St/ Kenilworth Ave. SE	KRV-583 17886 709	79510	132'	108	Underpass	N
2500 Benning Rd. NE	?-Can't find (Construction)					
Benning Rd./Kenilworth Ave. NE	?-MOT is needed				Underpass	
Minnesota Ave/East Cap. St. NE	X-AP29946 29483 946	79515	90'	8	Underpass	Y
Kenilworth Ave/Douglass St. NE	No meter-breaker #7	70301	20'	1	Cutoff-Footbridge	Y
Kenilworth Ave/Hayes St. NE	104 977 999	72424	60'	6	Cutoff-Footbridge	Y
100 Michigan Ave. NE	?-Can't find					

GIS - ELECTRICAL METERS FOR DDOT INSPECTION ON AUGUST 10, 11 AND 12, 2009

BUILDING ADDRESS	METER NUMBER	CLOSEST POLE #'S INVOLVED	FOOTAGE FROM METER TO POLE #	QUANITY OF LIGHTS	STYLE OF LIGHTS / WATTAGE	NEW LOCK Y/N
225 7th St. SE	?	64356	50'	Not Sure	Could not cut lock	N
2700 Firth Sterling Ave SE	104 977896	82045	50'	4	Underpass	Y
4th St./Va Ave. SE	9610 PS PEP 76 750 333	67640	50'	4	Underpass	N
N. Cap. St/New York Ave NE	X-9FY3966 60288019	60050	20'	17/10	Underpass/ Streetlights	Y
400 Florida Ave. NE	A-AV22555 84711243	54441	40'	12	Underpass	N

A04 Attachment
DCKA-2011-R-0150
DC Streetlight

A04 LED Final Evaluation Report
11-15-2010

FINAL EVALUATION REPORT

LED ENERGY EFFICIENT STREETLIGHT PILOT STUDY

Submitted to:

Mr. Jama Abdi, Streetlight Asset Manager
Mr. William P. Carr, Director of Research & Technology Development
District of Columbia Department of Transportation
2000 14th Street, N.W. 7th Floor
Washington, D.C. 20009

Prepared by:

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Dr. Errol C. Noel, P.E.
Howard University Transportation Research Center
2366 Sixth Street, NW
Washington, DC 20059

November 08, 2010

HOWARD UNIVERSITY

Transportation Research Center
2366 Sixth Street NW, Suite 130
Washington, DC 20059
Phone: 202-806-4798
Fax: 202-462-9498

November 8, 2010

Mr. Jama Abdi, Streetlight Asset Manager, DDOT
Mr. William P. Carr, Director of Research & Technology Development

RE: **LED Energy Efficient Streetlight Evaluation Study**

Dear Mr. Jama Abdi/Mr. Carr:

The Howard University Transportation Research Center (HUTRC) hereby submits the Final Evaluation Report of the light-emitting diode (LED) Energy Efficient Streetlight Evaluation study. The project team conducted a literature review, obtained samples and specifications of LED lights from vendors, suppliers and/or manufacturers.

The LED lights from the suppliers/vendors were evaluated based on DDOT's (and industries) minimum mechanical, electrical and lighting specifications, appearance and field reviews. From the preliminary review of samples and specifications selected, the following 3 suppliers/vendors' products were selected for further review:

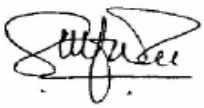
Lighting Science: LSR2-CW-R2-2B-GR-PCR
Hadco: WL66, LED Cobra head
Leotek: SLN-084-MV-CW-3M

The three products were further reviewed based on photometric field data collection and review of their specifications. From the results, the research team recommends the installation/use of the products either of the following products:

- Leotek
- Lighting Science (LSG)

An opinion survey on LED lights was also conducted as part of the evaluation. Overall, approximately 94% of the 143 residents surveyed indicated that they preferred the LED light to the high pressure sodium street lights. The majority (90.9%) of those interviewed also felt that the LED streetlights will improve visibility in alleys and on streets. This Final Report presents the detailed evaluation and analysis of the LED products submitted by these vendors as well as the results of the opinion survey. An economic analysis was also conducted which indicated that approximately $300,000 per year will be saved by installing LED streetlights after an initial investment.

Sincerely,



Stephen Arhin, Ph.D., P.E., PTOE

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BACKGROUND

A light-emitting diode (LED) is a semiconductor light source. LEDs are used as indicator lamps in many devices, and are increasingly used for lighting. Introduced as a practical electronic component in 1962, early LEDs emitted low-intensity red light, but modern versions are available across the visible, ultraviolet and infrared wavelengths, with very high brightness. The LED is based on the semiconductor diode. When a diode is forward biased (switched on), electrons are able to recombine with holes within the device, releasing energy in the form of photons. This effect is called electroluminescence and the color of the light (corresponding to the energy of the photon) is determined by the energy gap of the semiconductor. An LED is usually small in area (less than 1 mm^2), and integrated optical components are used to shape its radiation pattern and assist in reflection. LEDs consist of clusters of tiny, high-intensity bulbs and are extolled for their power efficiency and clear luminosity. LEDs present many advantages over incandescent light sources including lower energy consumption, longer lifetime, improved robustness, smaller size, faster switching, and greater durability and reliability. However, they are relatively expensive and require more precise current and heat management than traditional light sources.

Various jurisdictions across the United States are taking steps to reduce energy consumption by introducing and testing the use of LED street lights. It is envisaged that the use of LED street lights will reduce the cost of energy of various municipalities. The District Department of Transportation (DDOT) is exploring new advances in lighting technology to reduce energy and operating costs. DDOT is initiating this pilot project to install and test various new lighting technologies including LED street lighting fixtures.

Researchers at University of Pittsburgh recently (2010) conducted an assessment of LED streetlights and determined that the increasingly popular lamps strike the best balance between brightness, affordability, and energy and environmental conservation when their life span. The researchers compared LED streetlights to the country's two most common lamps—the high-pressure sodium (HPS) lamps found in most cities (and metal halide lamps akin to those in stadiums),

and the gas-based induction bulb, another emerging technology billed as bright and energy efficient. The research team reported that LEDs although may carry a formidable price tag, in comparison to HPS and metal halide lamps, they consume half the electricity, last up to five times longer, and produce more light. Induction lights proved slightly more affordable and energy efficient than LEDs, but may also have a greater environmental impact when in use. The authors also noted that LED technology exhibits more potential for improvement and may surpass induction lamps in the future.

The City of Raleigh is currently testing nine (9) energy-efficient streetlights downtown to determine how well they withstand extreme heat, cold and rain. It is envisaged that, if the LED street lights live up to their promise, they could take a significant bite out of Raleigh's $5.3 million annual streetlight bill. The LED lights being tested are said to last at least twice as long as conventional bulbs while using about 40 percent less energy. The technology was developed by LED maker Cree, a Durham company that makes the tiny chips for cell phones and computers, and sees a big payoff in revolutionizing the lighting market.

Cree and the City of Ann Arbor, Michigan have announced that Ann Arbor will join Raleigh, North Carolina and Toronto, Canada in the growing LED City initiative. In an effort to reduce greenhouse gas emissions and energy consumption, Ann Arbor plans to become the first U.S. city to convert 100 percent of its downtown streetlights to LED technology. Ann Arbor expects to install more than 1,000 LED streetlights within the next months, after successfully testing 25 fixtures for its efficiency. The City anticipates a 3.8-year payback on its initial investment. Each LED fixture draws 56 watts and is projected to last 10 years, replacing fixtures with bulbs that use more than 120 watts and last only two years. The city successfully conducted a pilot study of 25 LED lights over a 3-year period on the energy and maintenance savings associated with LED lighting, as well as a citizen survey on the acceptance of the LED lights. The LED test site spanned an entire city block.

The City of Fairbanks, Alaska operates 2,670 high pressure sodium (HPS) street lights, which cost the City over $550,000 per year to power, as electric power costs in interior Alaska are in the range of $0.24 per kilowatt hour or greater, and $75,000 per year in maintenance and replacement bulb costs. The City is

conducting a pilot-scale study to evaluate the replacement of HPS street lights with LED street lights. The LED street lights are estimated to provide an estimated 70% reduction in power usage and a lifespan estimated from 50,000 to 100,000 hours, which would result in a bulb life span of approximately 15 years based on their current usage rate.

Other cities, including San Francisco (CA), Los Angeles (CA), and Ankorage (AK) are embarking (or have embarked) upon various studies to assess the benefits and impact of installing or retrofitting the existing street light infrastructure with LED lights.

The purpose of this DDOT pilot project was to determine a suitable replacement for a typical 150W HPS fixture on local residential streets and alleys in the District of Columbia. The replacement fixture must provide for at least a 40% energy savings. In this case, that means the entire lighting fixture must consume no more than 85 Watts.

The fixtures were evaluated based on BSL mechanical, electrical and lighting standards, as well as newly introduced and accepted LED standards from the SSL industry. The evaluation also considered field tests as well as initial appearance preferences of local residents and DDOT technicians. The results of these evaluations were a major factor in determining which LED product will be considered for further evaluation in the pilot program.

EVALUATION METHODOLOGY

1. **Literature Review/Best Practices:** The evaluation team at HUTRC conducted a literature review on similar LED street lighting pilot programs across the United States and contacted other jurisdictions regarding the effectiveness of the new LED streetlights in reducing energy costs and promoting efficiency. The research team, in collaboration with DDOT Technicians and Engineers, also developed the LED specifications for the District of Columbia.

2. **Suppliers/Vendors/Manufacturers Contact for LED Applications:** The research team identified potential LED manufacturers, vendors and suppliers who participated in the initial review program by submitting their lighting systems applications together with their IES LM-79 and LM-80 test results. Some of the vendors submitted samples of their LED street lights for testing in alleys. Telephone and e-mail correspondence were used to contact the companies and gather information. Sixteen vendors/suppliers/manufacturers were contacted to participate in the pilot program out of which 11 of them participated. The specifications submitted were compared with those developed in collaboration with DDOT Technicians and Engineers.

3. **Field Lighting Tests:** In collaboration with DDOT Electricians, the research team conducted field tests on the sample of LED lights installed in alleys from September 2009 through April 2010. The tests involved measuring the lumens/foot-candles units within noted locations below the installed LED lights. Measurements were taken at 5-foot intervals to the left and right along the baseline of the pole with the LED light, and at the same intervals at an offset from the pole. The EXTECH Light Meter (shown in Figure 1) was used in obtaining the light measurements. Figure 2 shows a schematic of the locations where the measurements were taken for each LED fixture.

Figure 1: Light Meter used in Field Measurements

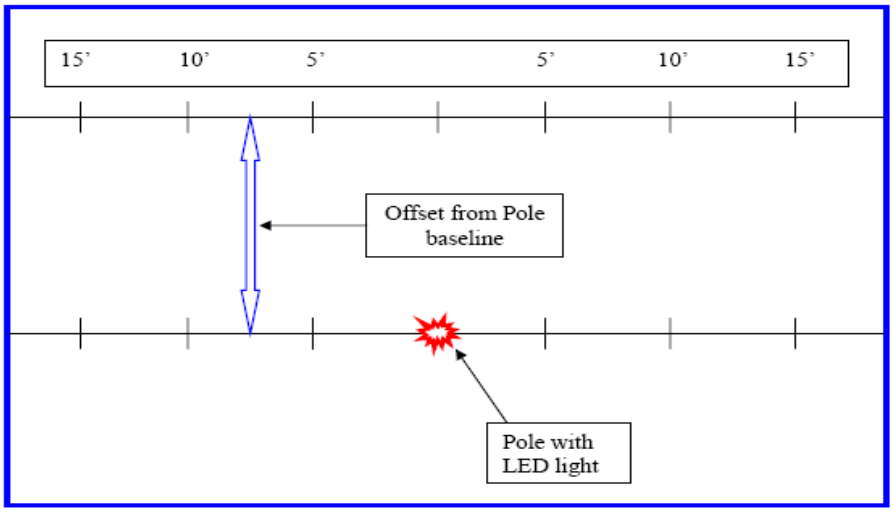


Figure 2: Schematic of Field Measurements of LED Fixtures

In addition to taking the lighting intensities of the LED fixtures, the appearance of each product was also noted.

RESULTS

Table 1 presents the results of the review of the submitted products for consideration in the LED Streetlight Pilot Program:

Table 1: Results of LED Streetlight Evaluation

VENDOR/SUPPLIER	Meets ALL DC LED Requirements? *(Specifications, application submission, sample submission)*	Appearance of Lighting Acceptable?	Field Test Result Acceptable?	Ease to Retrofit?
Beta LED	No	No	No	Yes
Hadco	Yes	Yes	Yes	Yes
Leotek	Yes	Yes	Yes	Yes
Lighting Science (LSG)	Yes	Yes	Yes	Yes
EvoLucia/Sunovia Energy Technologies	No	No	No	Yes
Trastar Inc	No	N/A	N/A	N/A
LEDTronics/Eastern Electronics	No	Yes	No	Yes
Solar Lighting	No	No	No	Yes
GE	No	No	No	Yes
Lighting Technologies	No	No	Yes	No
LED Roadway Lighting	No	No	No	Yes

The following vendor/supplier or manufacturers did not submit any samples for evaluation:

- Trastar Inc.

Based on **all** the minimum specifications and field observations, the LED lighting products from the following vendors/suppliers/manufacturers' were recommended for further participation and evaluation in the LED Streetlight retrofit program:

- Lighting Science
- Hadco
- Leotek

The applications submitted by the vendors/suppliers/manufacturers are presented in the Appendix.

DETAILED EVALUATION OF SELECTED PRODUCTS

This section of the report presents the outcome of the evaluation of the three (3) selected LED streetlights which were evaluated. The evaluation was based on:

- Detailed comparison of the specifications
- Field evaluation

The following LED products were evaluated:

- Vendor **A**: WL66, LED Cobra head
- Vendor **B**: LSR2-CW-R2-2B-GR-PCR
- Vendor **C**: SLN-084-MV-CW-3M

Two vendors also submitted newer (or improved) versions of their products for evaluation. These are:

- Vendor **B**: RWY10065
- Vendor **C**: GC1-6OC-MV-NW-3M-GY

1. COMPARISON OF THE SPECIFICATIONS

DDOT's minimum specifications for the LED products are presented in Table 1. The LED products submitted were compared based on the following criteria:

- Operating Volts
- CRI
- Warranty
- LED Life
- Lumens

These were gathered from the literature provided by the vendors.

Table 1: Minimum eligibility Requirements for testing and evaluation of LED products

Luminaire Requirements:	
Correlated Color Temperature (CCT)	Luminaire Nominal CCT(°K) shall be a minimum 4000°K
Color Rendering Index (CRI)	Luminaire shall have a minimum CRI of 70.
Off State Power Consumption	The power draw of the luminaire including PE devices must be zero watts when in the off state.
On State Power Consumption	The luminaire must use at least 40% less energy compared to its commercially available High Pressure Sodium counterpart.
Warranty	Luminaire must have a minimum five (5) Year warranty due to any failure. The Warranty shall provide for the repair or replacement of defective electrical parts including but not limited to the light source and power supplies/driver for a minimum of eight (8) years. Shipping shall be included.
Weight	Luminaire shall not weigh more than 35 pounds
Operating Environment	Luminaire shall be able to operate normally in temperatures from -40°F to 120°F
Cooling System	Shall not consist of any fan, pump or liquids
Dimensions (Approx.)	Luminaire shall not be larger than 30” long x 16” wide x 6” tall.
Housing	Shall be primarily constructed of metal. Finish shall be grey/black in color, powder coated and resist~~s~~ rust. Driver must be internally mounted and replaceable. Captive screws are needed on any components that require maintenance after installation. No parts shall be constructed of polycarbonate material unless it is UV stabilized (Lens Discoloration shall be considered a failure under warranty). The Luminaire must have a self leveling mechanism. The Luminaire shall be designed to prevent entry of insects, rain, dust, and other foreign matter. The luminaire shall be marked, using standard EE-1 NEMA marking, showing the lamp type and wattage. The marking shall be affixed to the underside of the luminaire housing and to the rear of the reflector.
IESNA Luminaire Classification	Cutoff (Dark sky compliant)
Mounting arm connection	Luminaire shall mount on 1-1/4 to 2 inch diameter arm and shall have no~~t~~ more than an 8 inch long nor less than a 5 inch horizontal insertion length on the 2 inch bracket arms and shall be adequately equipped with clamping and leveling devices or a similar mechanism to allow proper clamping and positioning of the luminaire on the bracket arms. The clamping mechanism shall contain 4 bolts that do not pass through the housing. Clamping with only two bolts is not acceptable. The clamp must be able to accept a 1 1/4 to 2 inch pipe bracket without having to rearrange the clamp.
PE Cell Receptacle	Shall have a 3-prong twist locking ANSI C136.10 photocell receptacle. Photocell adapter must be built into the housing and be directionally adjusted without the use of tools.
House Shield	Shall provide option for house side light control

Table 1 (Contd.)

LED Module /Array Requirements:		
Lumen Depreciation of LED Light Source	Must comply with IESNA LM-80 LED module shall deliver at least 70% of initial lumens, when installed for a minimum of 50,000 hours.	
Light Distribution	Shall be:	
	DC Street Classification	Lighting Distribution Pattern
	Interstate Roadway	Type III or Type IV
	Freeway/Expressway	Type III or Type IV
	Principal Arterial	Type III or Type IV
	Minor Arterial	Type III
	Collector	Type III
	Local Street	Type II or Type III
	Alleys	Type II
Power Supply/Driver Requirements:		
Power Factor	Shall have a power factor not less than 90%	
Operating Voltage	120-240 volts	
Operating Temperature	Shall operate between -40°F and 120°F	
Frequency	Output operating frequency must be ≥ 120 Hz and input operating frequency of 60 Hz	
Interference	Shall meet FCC 47 CFR Part 15/18	
Noise	Shall have a class A sound rating	
Startup	Must be instant restart	
Roadway Application Requirements:		
Minimum Light Output	Shall have a minimum of 3500 lumens	
Minimum Luminaire Efficacy	70 lm/W	
Delivery Requirements:		
Must be able to deliver more than 1500 units per month		

Table 1 (Contd.)

File\Test Requirements:	
IES File	Absolute photometric testing data in IES LM-63 electronic file format.
LM-79 Test	Provide Independent Testing according to IES LM-79 that provides efficacy, output, color, and photometric distribution of your product. An Integrating Sphere Test will be required to provide color information. A Goniophotometer test by itself is not adequate.
Lifetime	Provide written explanation of how L70 Lifetime of Product is determined using the LM-80 and In-situ temperature tests referenced below.
LM-80 Test	Provide LED Package Manufacturer IES LM-80 Test Report with results showing relative (%) light output over time at 55°C, 85°C and X°C (a third temperature at the manufacturer's choice).
In-Situ Temperature Test	Provide test report indicating the Temperature of the hottest LED In-Situ in ANSI/UL 1598-04 (hardwired) or ANSI/UL 153-05 (corded) environments. This temperature measurement will be used with LM-80 data to validate lumen maintenance and useful life of product. Note that this temperature measurement should be specially requested by the manufacturer as they are getting their UL testing.
UL	Provide copy of UL certification
Other Requirements:	
Scotopic Light contributions will not be considered at this time	
A Full Specification Sheet must be submitted. Warranty information must be included.	
The Luminaire must be commercially available. Prototypes will be permitted.	
The fixture must not contain any moving parts or fans.	
The driver must be located inside the housing, but should be easily accessible.	

Note:
All these requirements must be met before the District will accept the product for testing and evaluation.

A summary comparison of the specifications of the 3 products is presented in Table 2.

Table 2: Comparison of Specifications of Selected Manufactures/Vendors

Product	Wattage	Lumen	LED Efficacy LM/W	Operating Volts	Temperature	CRI	LED Life (Hr)	Warranty
A	66	4900	74	85-300	5000K	>80	100,000	5 Yr
B	74	5890	79	120-277	5000K	70	60,000	5 Yr
C	77	8400	>100	120/208/240	5500K	72	50,000	8 Yr

Figure 2 shows the minimum and maximum operating volts for each product submitted. Product **A** had the widest range of operating volts; followed by **B**. Vendor **C**'s product had the smallest range of operating volts.

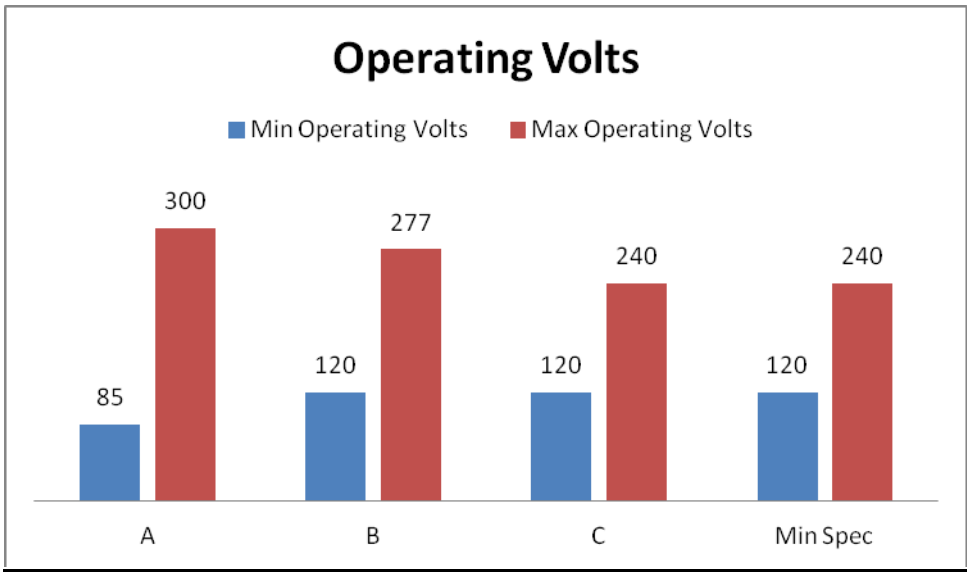


Figure 2: Operating Volts of LED Products

Figure 3 shows the Warranty for each of the LED products submitted. Leotek's product had the highest warranty for 8 years. Both LSG and Hadco met the minimum warranty specifications of 5 years.

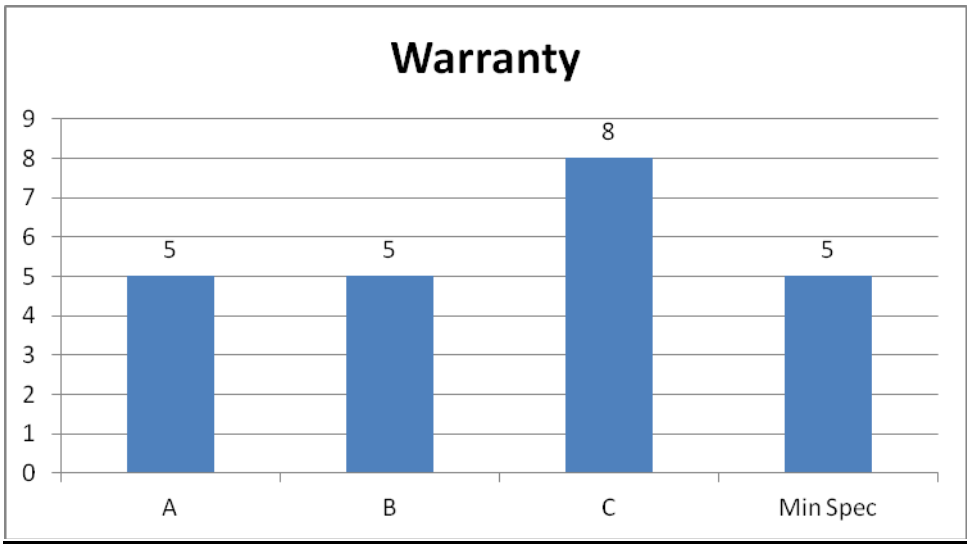


Figure 3: Warranty of LED Products

Figure 4 illustrates the LED life of the samples provided by the vendors. The minimum specification is 50,000 hours. Hadco's product LED life was the highest, followed by LSG. Leotek's product met the minimum specifications.

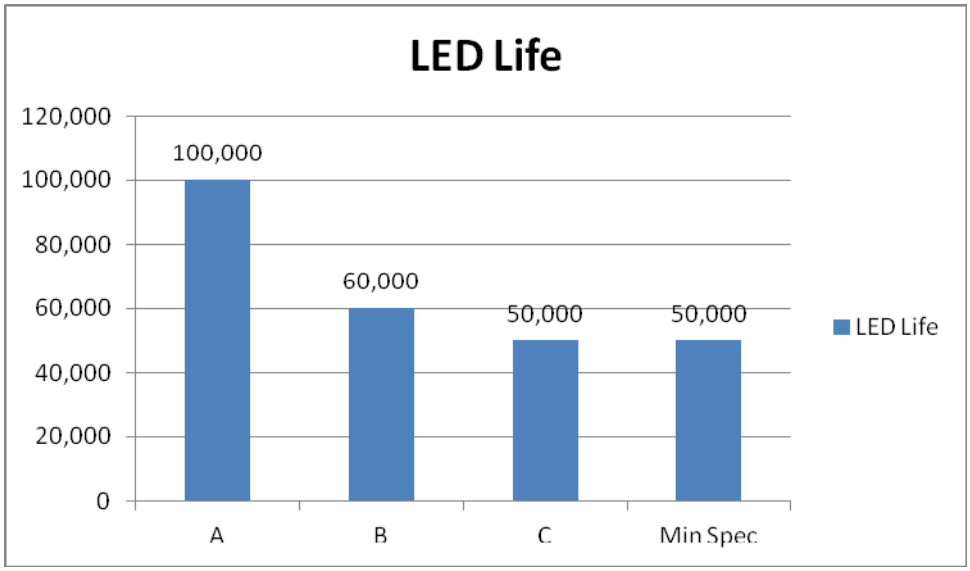


Figure 4: LED Life of Products

Figure 5 shows the CRI values for the LED products submitted, with DDOT's minimum specification being 70. All the products submitted met the minimum CRI specification.

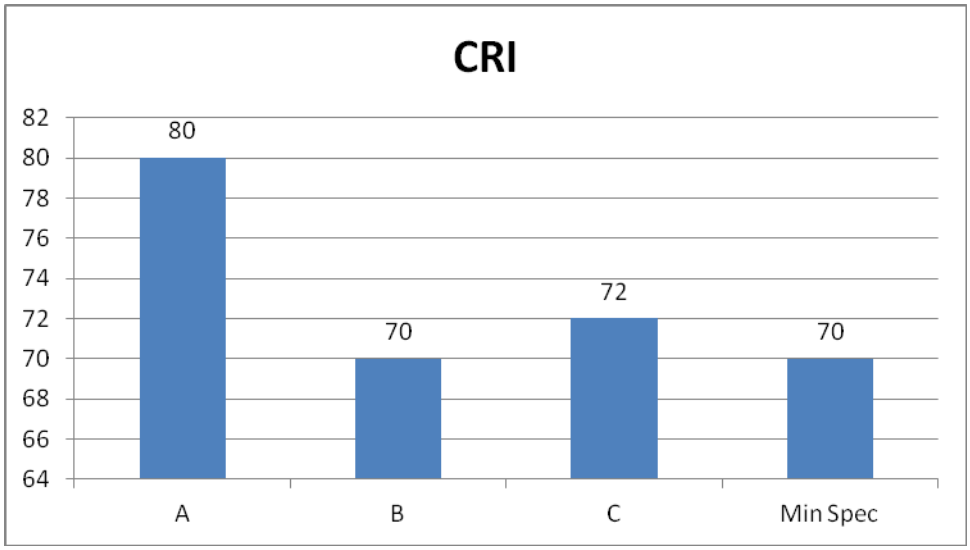


Figure 5: CRI of LED Products

Figure 6 shows the minimum light output in lumens of the LED products evaluated. Product C had the highest lumen value of 8400 lumens, followed by B (5,890 lumens). Product A had the minimum light output.

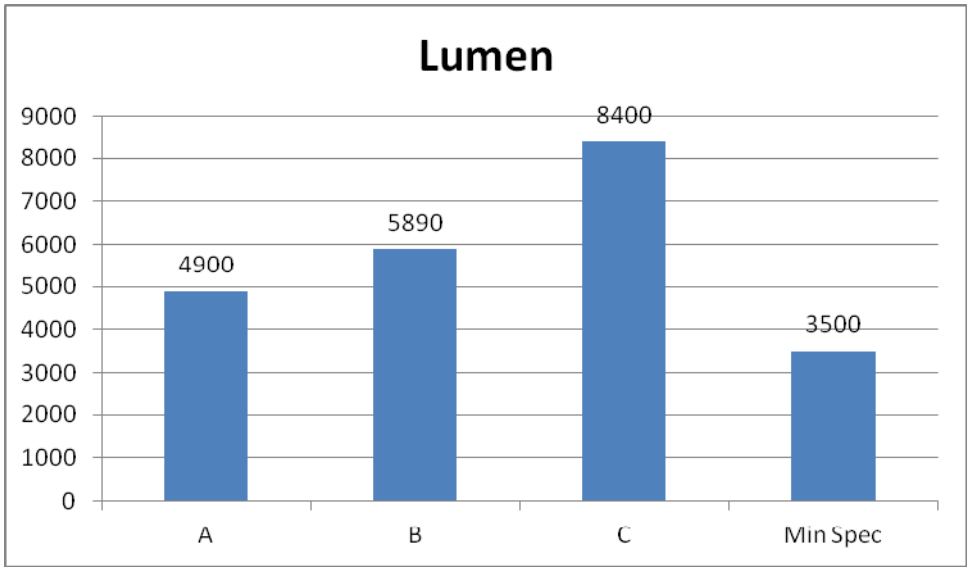


Figure 6: Lumen of LED Products

2. COMPARISON OF FIELD OBSERVATIONS

The three products were each installed on a particular pole in an alley where lighting interference was minimal. Each LED product was mounted at the same height. Lighting intensity measurements were then taken for each product along the pole's baseline and 5-feet and 10-feet offsets from the pole baseline. Measurements were obtained from a distance of 30 feet to the left of the pole and from 70 feet to the right of the pole, both at 10-foot intervals. Due to lighting obstructions and interference, measurements to only 30 feet left of the pole could to be taken. Figures 7 through 9 present a comparison of the four products based on the measurements obtained. The raw data from the field data collection are presented in the Appendix.

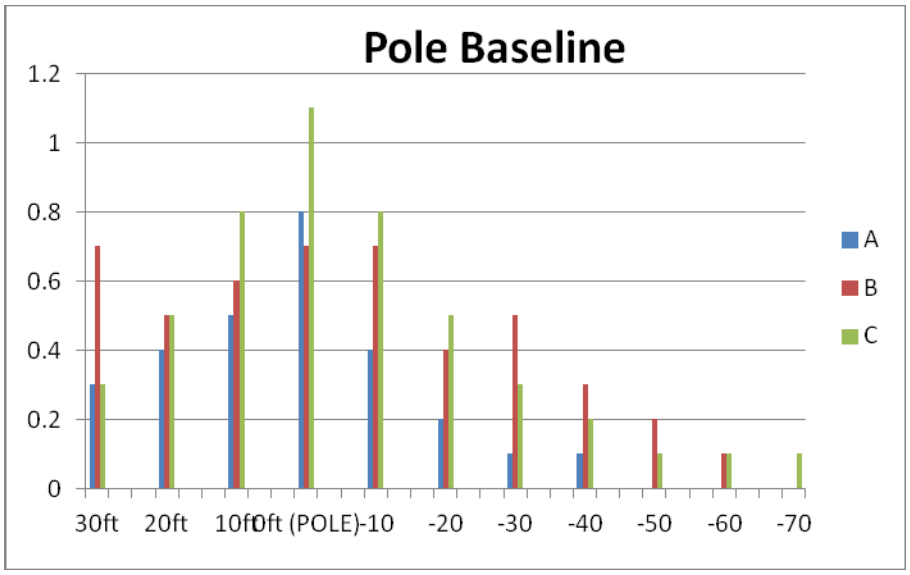


Figure 7: Lighting Intensity along Pole Baseline

From Figure 7, products **B** and **C** appeared to provide the most lighting intensity along the pole's baseline. Product **C** appeared to provide lighting intensity as far as 70 feet to the right of the pole.

Figure 8 provides the lighting intensity measured 5 feet from the pole's baseline. Measurements were taken at 30 and 70 feet to the left and right of the pole, respectively.

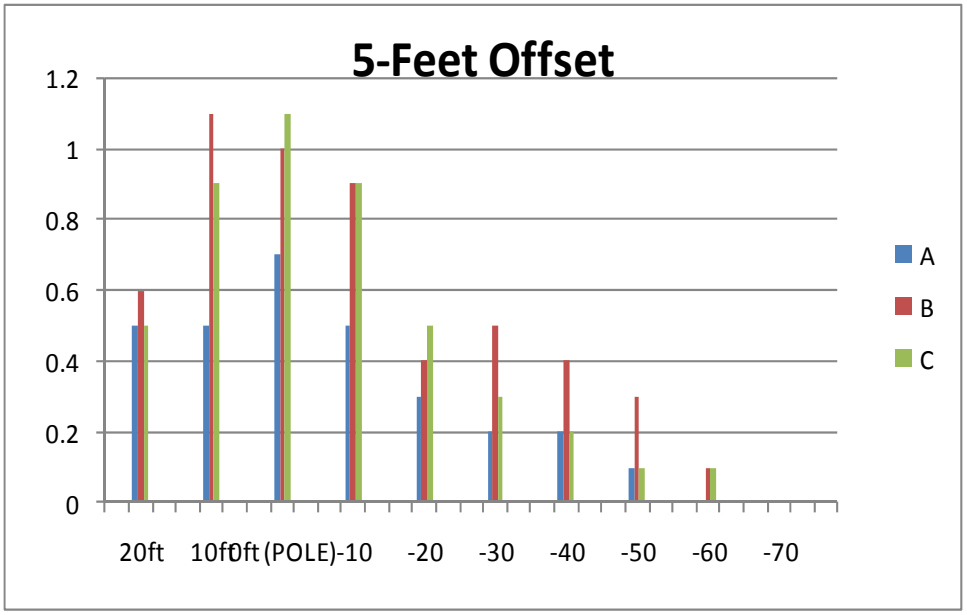


Figure 8: Lighting Intensity 5-Feet Offset from Pole Baseline

In Figure 10, the lighting intensity of the three products was measured at a 10-feet offset from the pole baseline. Measurements were obtained 30 and 70 feet to the left and right of the pole, respectively, at 10-feet intervals.

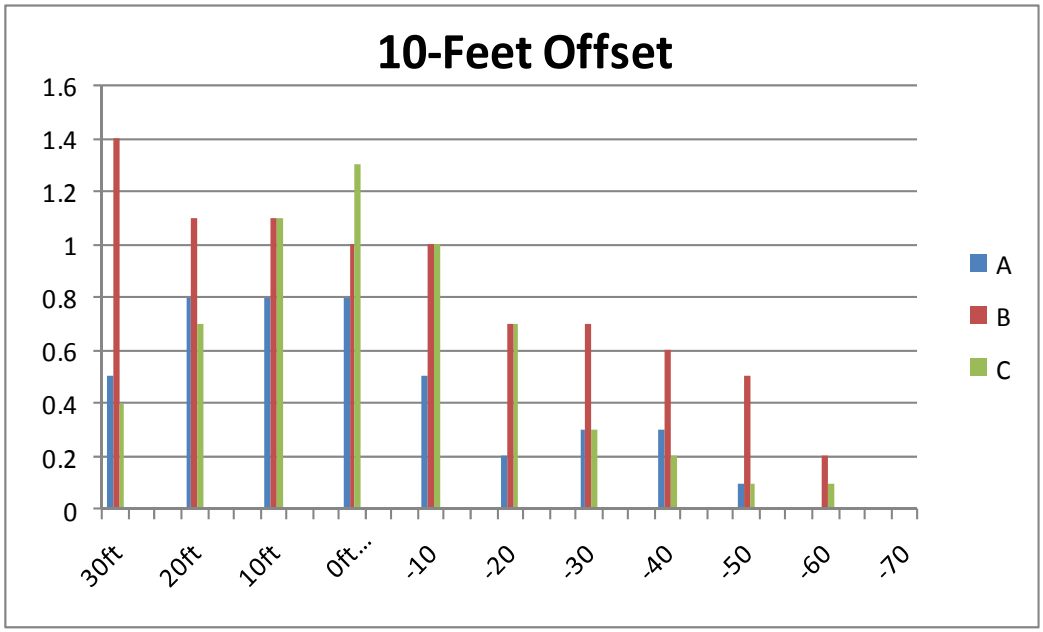


Figure 9: Lighting Intensity 5-Feet Offset from Pole Baseline

The field test of the light intensity of a new LED fixture submitted by Vendor B is presented in Figure 10.

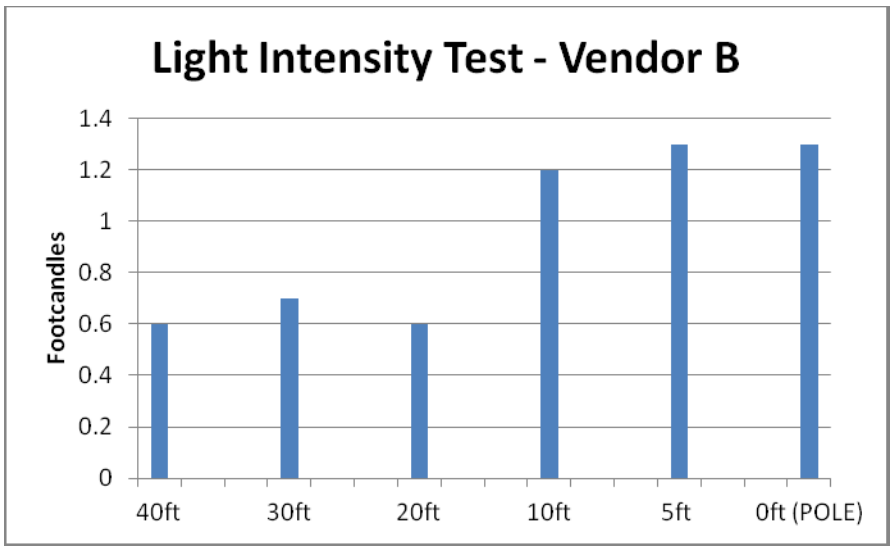


Figure 10: Lighting Intensity of Improved LED fixture from Vendor B

Similarly, the field results of the light intensity test of a new/improved LED fixture submitted for evaluation by Vendor C is presented in Figure 11.

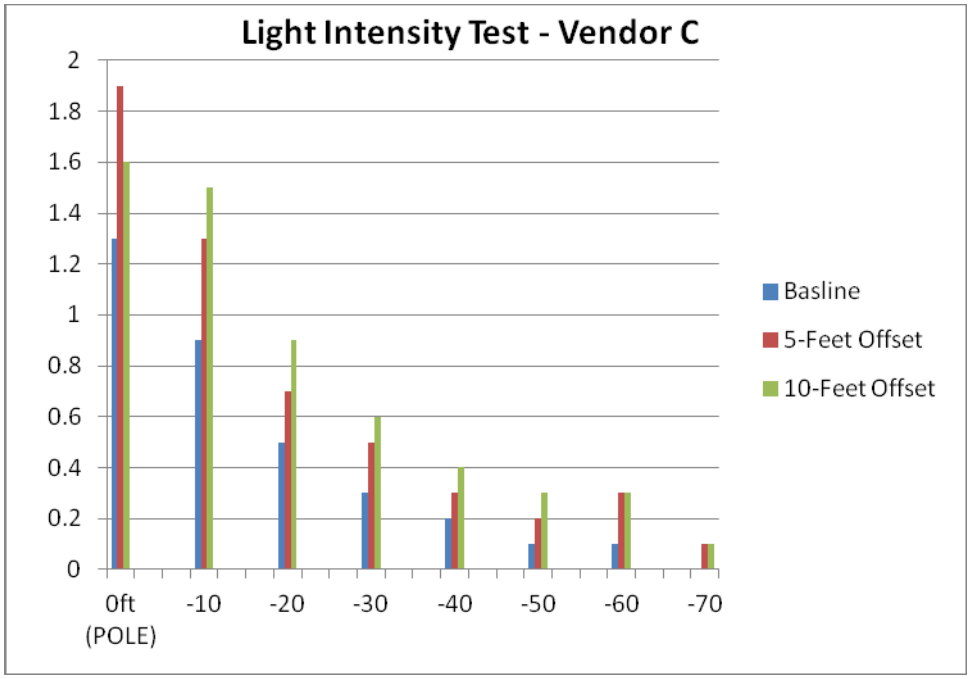


Figure 10: Lighting Intensity of LED from Vendor C

RESIDENTS' SURVEY

As part of the evaluation of the LED products, a survey was conducted to gauge the perception of residents on their properties. The survey was conducted by posing questions to residents who have seen the pilot LED light installations or those who live or work in close proximity to the location of the lights. A total of 143 residents were surveyed. Below are the questions posed and the responses obtained.

1. ***Do you feel that the new LED lights installed have improved visibility in the alleys?***

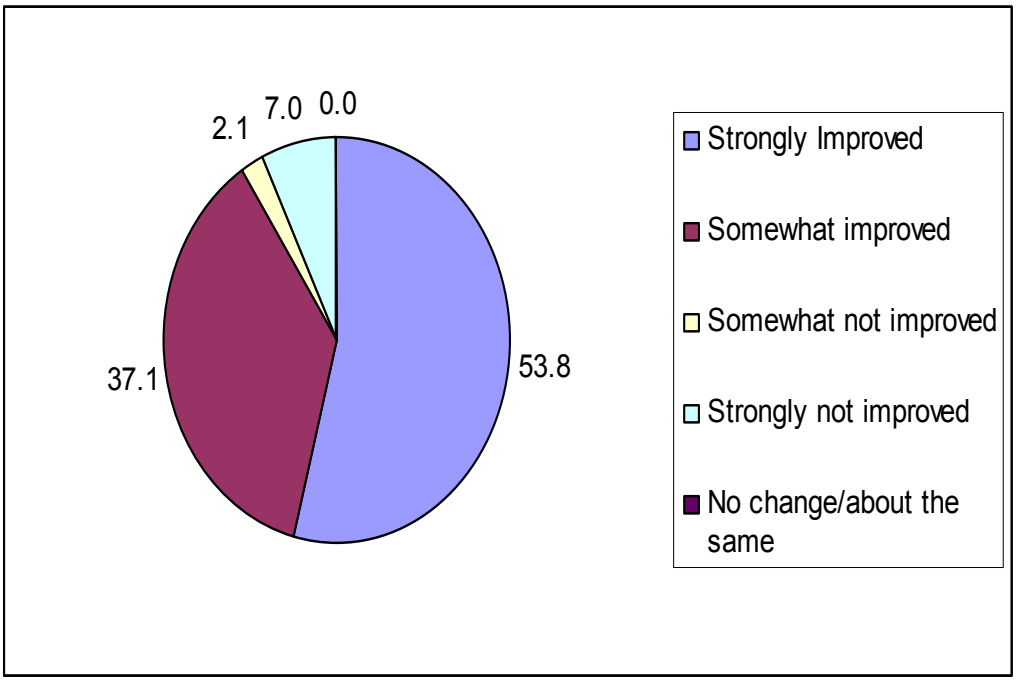


Figure 10: Percentage of Responses to Question 1: *Do you feel that the new LED lights installed have improved visibility in the alleys?*

The results as displayed in Figure 10 indicate that a majority (90.9%) of those interviewed felt that the LED streetlights improved visibility in the alleys. Only 9.1% of those interviewed felt the LED lights did not improve visibility. This indicates that the LED lights, by majority opinion, would improve visibility.

2. ***Do you feel that the new LED lights installed are better than the previous lights?***

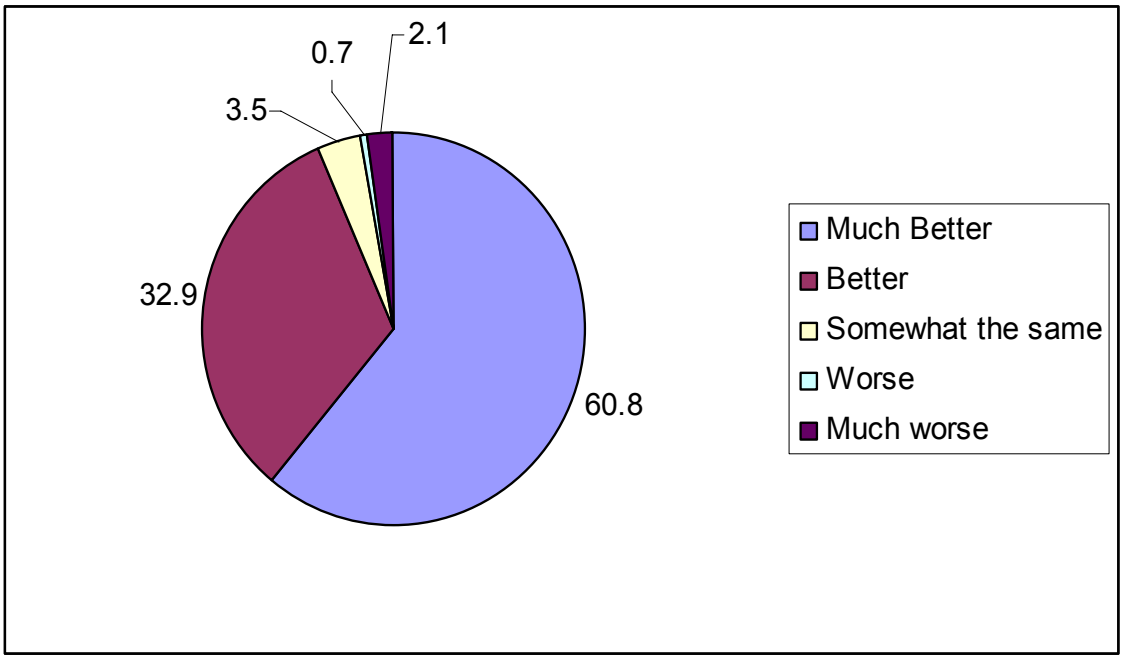


Figure 11: Percentage of Responses to Question 2: *Do you feel that the new LED lights installed are better than the HPS lights?*

From Figure 11, the majority (93.7%) of those interviewed felt that the LED streetlights are better than the HPS streetlights. Only 2.8% of those interviewed felt the LED lights are worse, and 3.5% of them felt they are somewhat the same. This indicates that the LED lights, by majority opinion, are better than the HPS lights.

3. ***Do you feel that the new LED lights installed will improve safety in the area at night?***

The results displayed in Figure 12, indicate that a majority (95.2%) of those interviewed felt that the LED streetlights will improve safety in the area at night. Only 1.4% of those interviewed felt the LED lights will not improve safety and 3.5% of them felt the LED lights will not cause any change in safety. This indicates that the LED lights, by majority opinion, would improve safety.

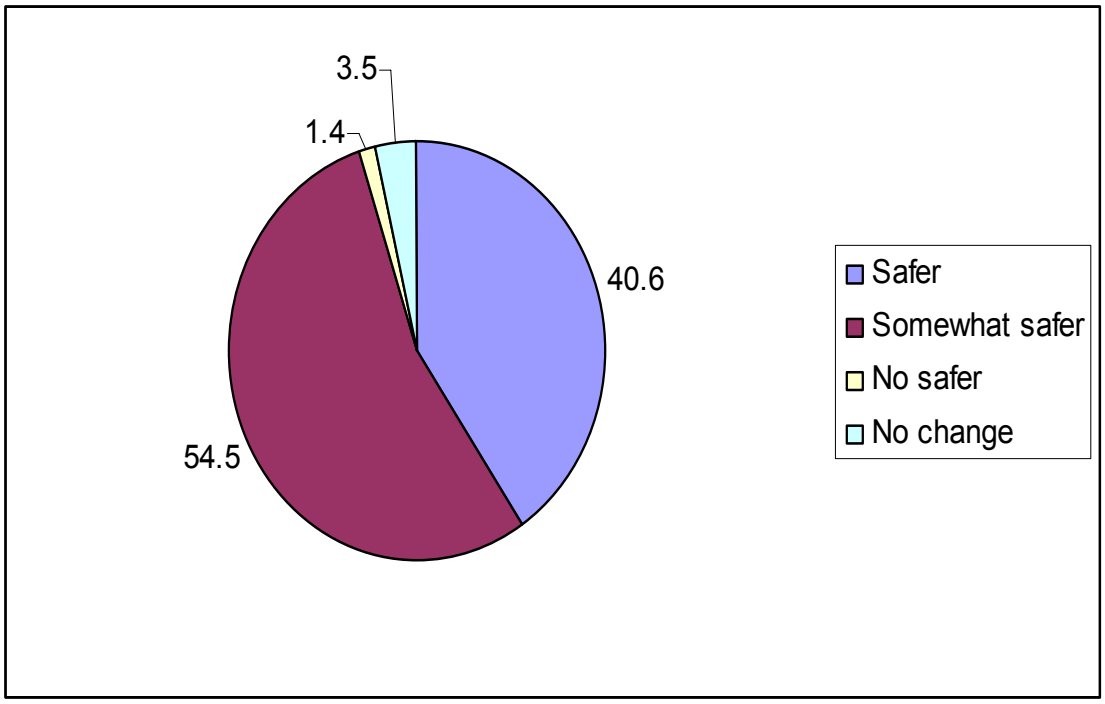


Figure 11: Percentage of Responses to Question 3 ***Do you feel that the new LED lights installed will improve safety in the area at night?***

4. Do you feel that the new LED lights installed create less glare or more glare?

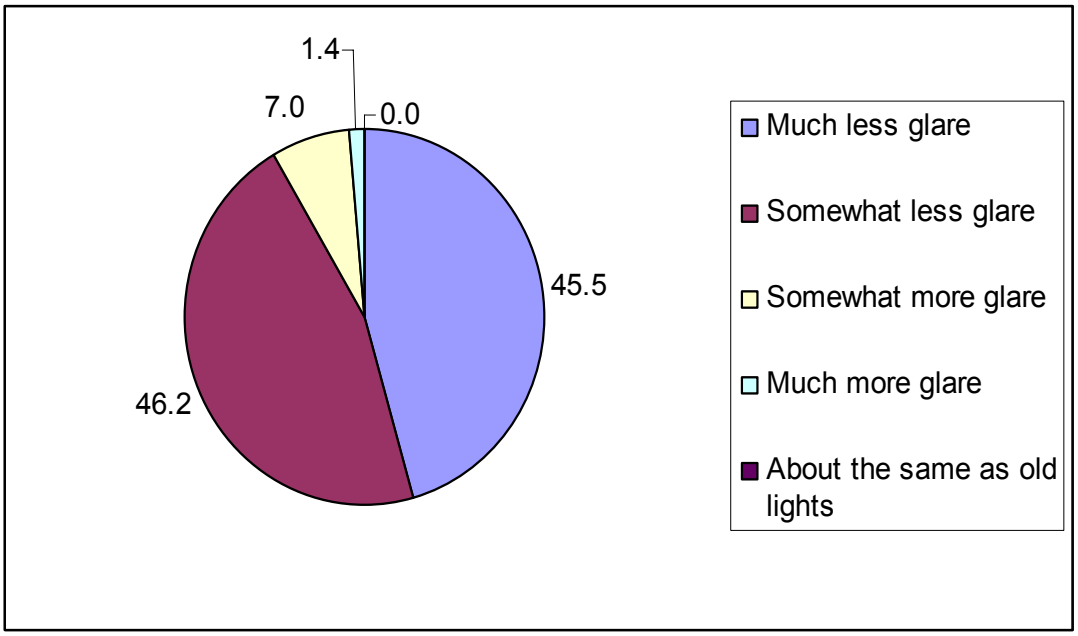


Figure 12: Percentage of Responses to Question 4: ***Do you feel that the new LED lights installed create less glare or more glare?***

From Figure 12, the majority (91.6%) of those interviewed felt that the LED streetlights produced less glare. Only 8.4% of those interviewed felt the LED lights produced more glare. This indicates that the LED lights, by majority opinion, produced much less glare.

5. ***Do you feel that the color of the new LED lights installed is adequate for night visibility?***

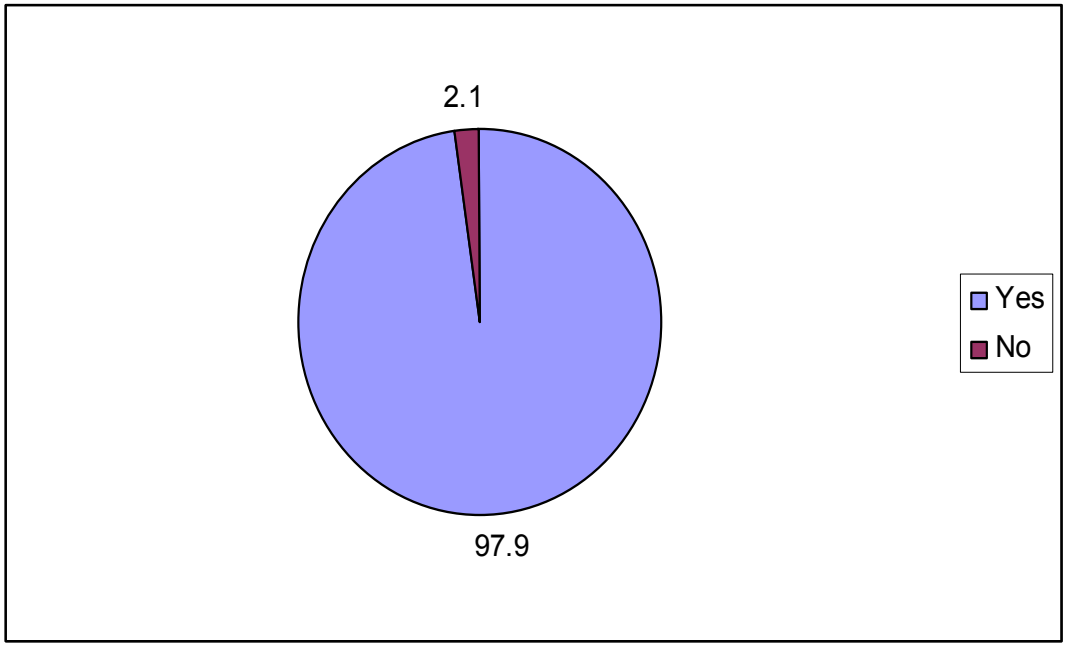


Figure 13: Percentage of Responses to Question 5: *Do you feel that the color of the new LED lights installed is adequate for night visibility?*

As shown in Figure 13, approximately 98% of the respondents said the LED lights were good enough for night visibility. Only 2% of the respondents thought otherwise.

6. ***Does the appearance of the new LED lights improve the aesthetics of the neighborhood?***

From Figure 14, approximately 84% of the respondents said the LED lights would likely improve the appearance or aesthetics of the neighborhood while 16% of the respondents thought otherwise.

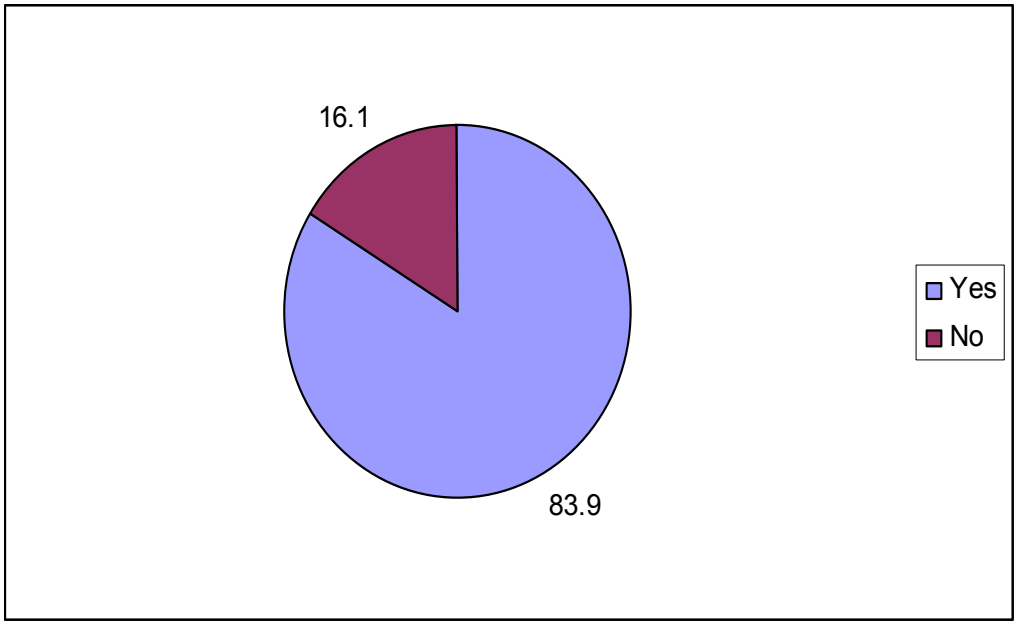


Figure 13: Percentage of Responses to Question 6: ***Does the appearance of the new LED lights improve the aesthetics of the neighborhood?***

LED PRODUCT RECOMMENDATIONS

From the specifications and comparative field observations, combined with general appearance of each product observed in the field, the evaluation team recommends that either of the products from the following vendors would be beneficial to the District of Columbia:

- Leotek
- LSG

The evaluation also considered the ease of retrofitting the LED product on existing infrastructure as well as potential maintenance issues.

ECONOMIC ANALYSIS

DDOT furnished the research team with current billing charges (August 2010) as well as energy charges of existing HPS Streetlights and the installed LED Streetlights. A number of assumptions were also made in the analysis of the benefits and costs of the fixtures and their installations. The following is the summary of the assumptions used:

1. The life of the HPS lamps is 24,000 hours while that of the LED is 60,000 hours.
2. An opportunity cost (percentage per time) of 4% was used in calculating the payback years.
3. The comparison was conducted based on existing 7,996 units of HPS lamps.

The economic comparison analysis was conducted based on 150-Watt HPS lamp and that of 75-Watt LED light. The following are the table of results and figures.

Energy Costs

Based on the assumptions presented in Table 3, the 75-Watt LED lamp consumes less energy compared with the 150 Watt HPS lamp. This is also shown in Figure 14.

Table 3: Energy Operational Costs

	150 Watt HPS	**75 Watt LED**
Number of Units (Assumed)	7,996	7,996
Kilowatts Per Lamp	0.175	0.075
Total KW per Month	1,399.3	599.7
Hours of Operation	24,000	24,000
Kilowatt Hours	33,583,200.00	14,392,800.00
Cost of Operation for 24,000 hrs	$74,890.62	$32,095.98

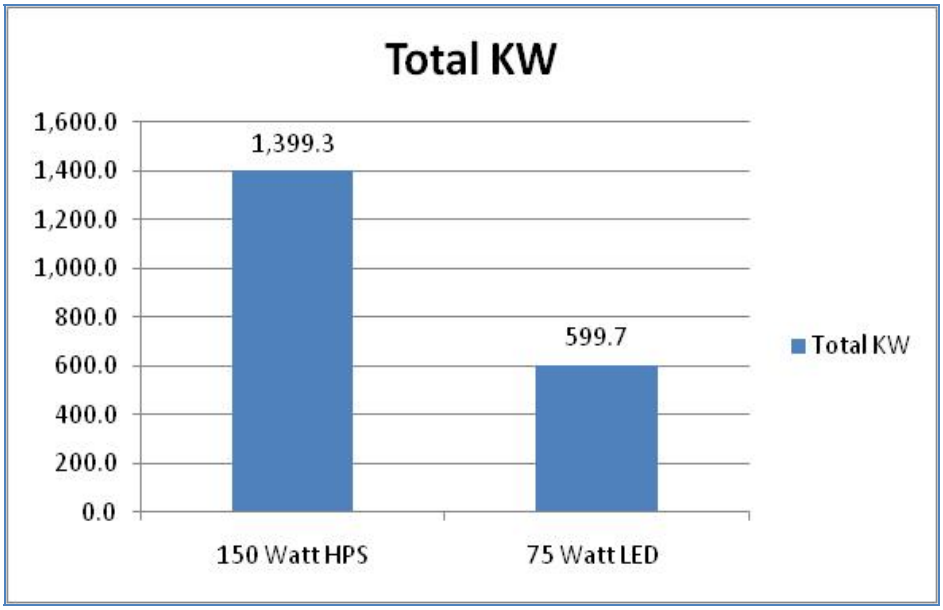


Figure 14: Energy Consumption Comparison in August 2010

From Table 3, it can also be seen that the 75 W LED light would cost less to operate for a period of 24,000 hours. This is equivalent to the expected lamp life of the HPS lights.

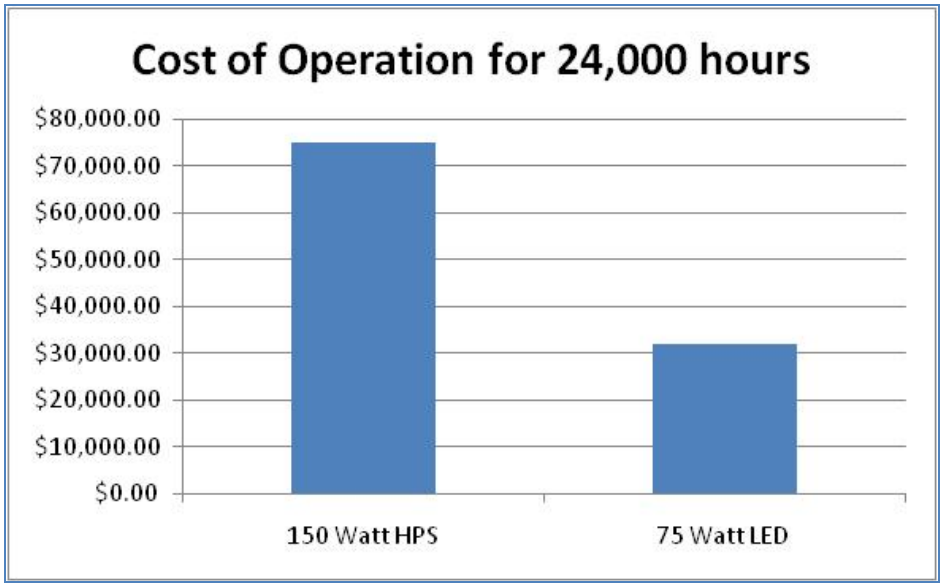


Figure 15: Cost of Operating Lamps for 24,000 hours

An average of 338.34 hours of night time burning was noted in the usage of 150 Watt HPS lamps (from the September 2010 energy bill provided by DDOT). Assuming the same hours for the LED fixtures, the following (Table 4) monthly consumption expenditures will be expected.

Table 4: Monthly Energy Operational Costs

	150 Watt HPS	75 Watt LED
Number of Units (Assumed)	7,996	7,996
Kilowatts Per Lamp	0.175	0.075
Total KW per Month	338	338
Monthly KW Hours of Operation	473,439	202,902
Cost of Operation for life of Lamp	$1,055.77	$452.47

The Table shows that, on the average, the LED fixture is expected to cost approximately 43% less than operating the HPS lamp on a monthly basis. This is also shown in Figure 16.

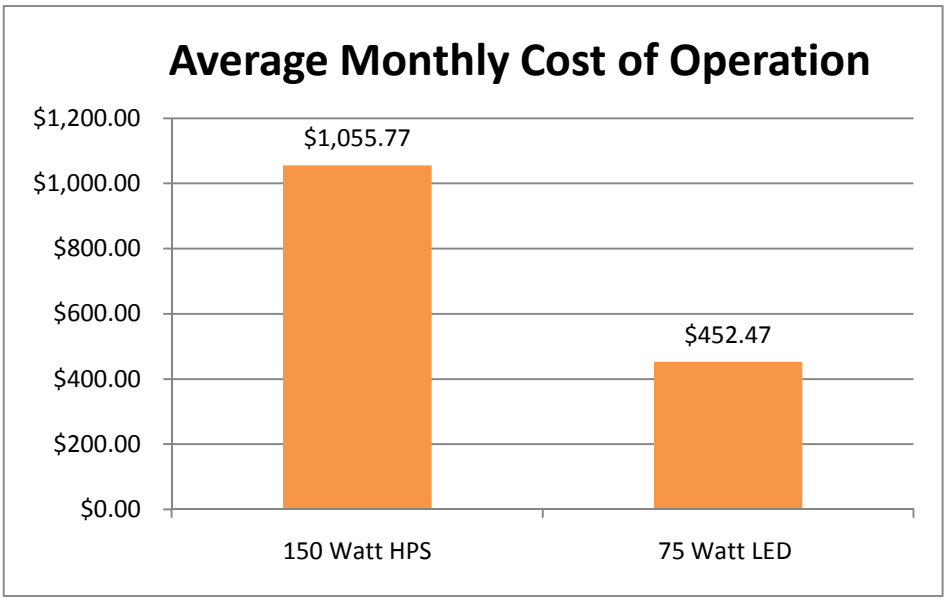


Figure 16: Average Monthly Cost of Operations

Cost of Materials

Table 5 presents a summary of the costs of fixtures and lamps based on the assumed number of units. The 75 Watt LED lamp and fixture costs more than the 150 Watt HPS. This is presented in Figure 17.

Table 5: Material Cost

	150 Watt HPS	75 Watt LED
Number of Units (Assumed)	7,996	7,996
Cost to replace fixture	$187.00	$350.00
TOTAL Cost of Materials	$1,495,252.00	$2,798,600.00

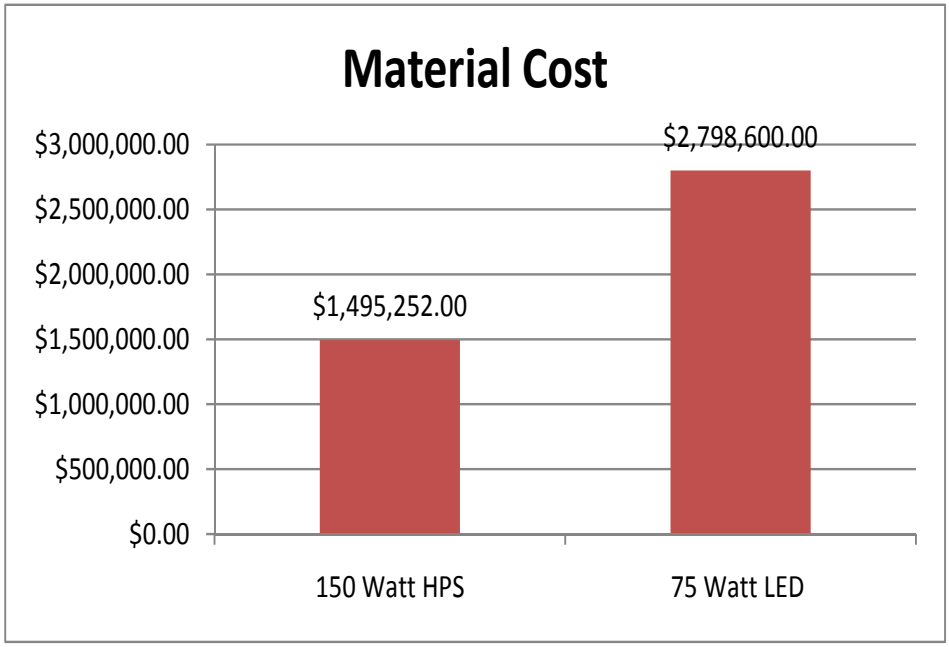


Figure 17: Cost of Materials

Maintenance Costs

Based on historical data obtained from DDOT, the cost of maintaining an existing 150 Watt HPS streetlight is approximately $100 per year (Table 6). Information obtained from various jurisdictions indicates that the average cost of maintaining each LED streetlight is about $60 per year. This indicates approximately 40% in savings per streetlight.

Table 6: MAINTENANCE COST

	150 Watt HPS	75 Watt LED
Number of Units (Assumed)	7,996	7,996
Cost to maintenance per Fixture per Yr	$100.00	$60.00
Cost to maintenance for All Fixtures per Yr	$799,600.00	$479,760.00

The comparison of the maintenance costs is also shown in Figure 18.

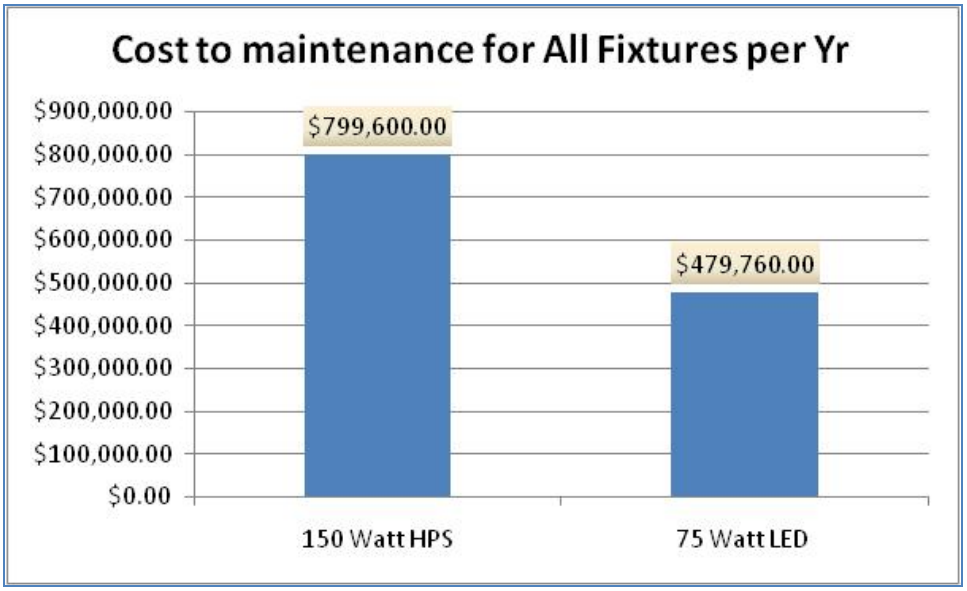


Figure 17: Maintenance Cost of Fixtures

In summary, with an initial investment of $4,797,600.00 for the LED fixtures and lamps (from Table 4) and an annual savings of $362,631.64 (energy and maintenance) savings will be realized. Based on this, the approximate payback period would be approximately 3 years as shown in Figure 18.

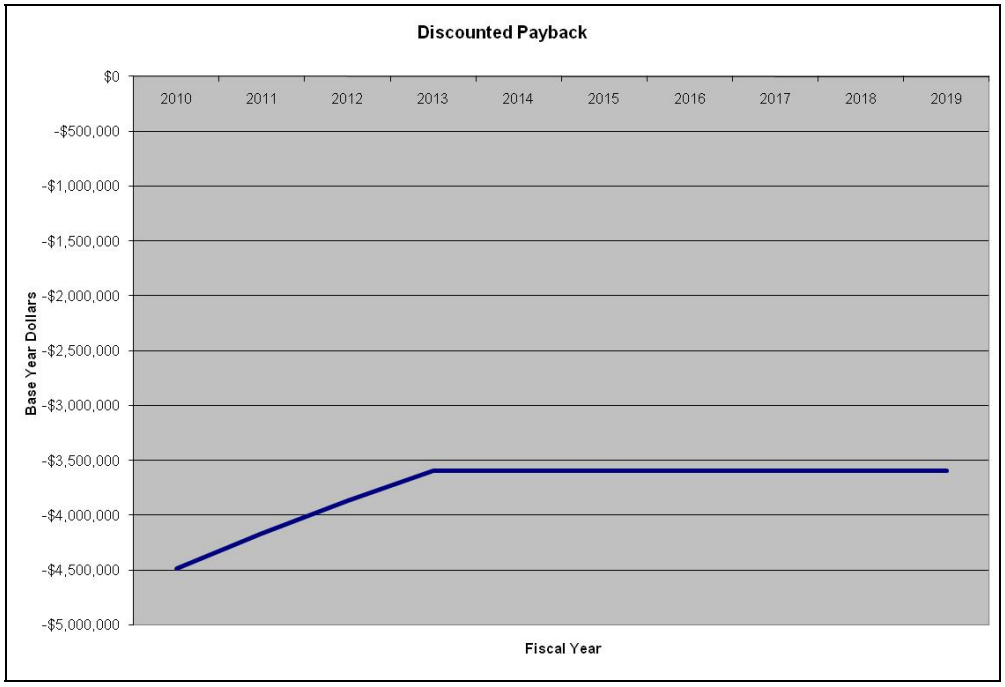


Figure 18: Payback Period

APPENDIX

FIELD MEASUREMENTS FOR LED PRODUCTS

FIELD MEASUREMENTS FOR LEOTEK

	LEOTEK					
	30ft	0.3		0.4		0.4
	20ft	0.5		0.5		0.7
	10ft	0.8		0.9		1.1
	0ft (POLE)	1.1		1.1		1.3
	-10	0.8		0.9		1
POLE(distance)	-20	0.5	<---------5ft--------->	0.5	<---------5ft--------->	0.7
	-30	0.3		0.3		0.3
	-40	0.2		0.2		0.2
	-50	0.1		0.1		0.1
	-60	0.1		0.1		0.1
	-70	0.1		0		0

FIELD MEASUREMENTS FOR HADCO

	HADCO					
	30ft	0.3		0.4		0.5
	20ft	0.4		0.5		0.8
	10ft	0.5		0.5		0.8
	0ft (POLE)	0.8		0.7		0.8
	-10	0.4		0.5		0.5
POLE(distance)	-20	0.2	<---------5ft--------->	0.3	<---------5ft--------->	0.2
	-30	0.1		0.2		0.3
	-40	0.1		0.2		0.3
	-50	0		0.1		0.1
	-60	0		0		0
	-70	0		0		0

FIELD MEASUREMENTS FOR LSG

LSG					
30ft	0.7		1.1		1.4
20ft	0.5		0.6		1.1
10ft	0.6		1.1		1.1
0ft (POLE)			1		1
-10	0.7		0.9		1
-20	0.4	<---------5ft-------->	0.4	<---------5ft--------->	0.7
-30	0.5		0.5		0.7
-40	0.3		0.4		0.6
-50	0.2		0.3		0.5
-60	0.1		0.1		0.2
-70	0		0		0

A04 Attachment
DCKA-2011-R-0150
DC Streetlight

A04 PEPCO Street Light Connection Fees for District of Columbia

Street Light Connection Fees for District of Columbia's Street Lights

For the Street lights owned by the District of Columbia, Pepco is required to make a final connection in either a manhole (for underground systems) or a pole (for overhead systems). Pepco also inspects and certifies the conduit that penetrates into Pepco's manhole.

Pepco uses the following to charge for these connections.

Underground street-light connection cost is approximately $2500 per location, while overhead street-light connection cost is approximately $1600 per location. These charges are updated daily based on an average running material and labor costs.

Please note that these are estimated charges covering inspection and certification of conduit that penetrates into Pepco's manhole and connections of street light/ or street light system to Pepco's conductors with assumption that low voltage conductors are available in the manholes or the poles where the connections are made. Any additional work may result in additional charges. **Please also note that Pepco does not provide preferential treatment or discounts to any external vendors.**

DCKA-2011-R-0150

FY11 DC Department of Transportation Citywide Streetlight Asset Management Services Contract

A04 Appendices

(Addendum No.4)

RA04 Appendix B:
Performance Measures

New #	CLIN	PM Type	Performance Measure	Sample	5 - Excellent	4 - Good	3 - Fair	2 - Poor	1 - Very Poor
1	000X - Electrical	Condition	Lights functioning correctly generating the required illumination, not dim, and not on during the day.	Sample area	98% of lights within the sample are functioning properly.	95% of lights within the sample are functioning properly.	90% of lights within the sample are functioning properly.	80% of lights within the sample are functioning properly.	Less than 80% of lights within the sample are functioning properly.
2	000X - Electrical	Time Critical	Timeliness of repair of non-functioning lights.	Evaluation Period	98% of non-functioning lights (excluding "no-currents) repaired within 4 days.	95% of non-functioning lights (excluding "no-currents) repaired within 4 days.	90% of non-functioning lights (excluding "no-currents") repaired within 4 days.	80% of non-functioning lights (excluding "no-currents) repaired within 4 days.	Less than 80% of non-functioning lights (excluding "no-currents) repaired within 4 days.
3	000X - Electrical	Time Critical	Timeliness of repair of non-functioning lights in a CEFA	Evaluation Period	98% of non-functioning lights (except “no-currents”) repaired within 48 hours of noted deficiency.	95% of non-functioning lights (except “no-currents”) repaired within 48 hours of noted deficiency.	90% of non-functioning lights (except “no-currents”) repaired within 48 hours of noted deficiency.	80% of non-functioning lights (except “no-currents”) repaired within 48 hours of noted deficiency.	Less than 80% of non-functioning lights (except “no-currents”) repaired within 48 hours of noted deficiency.
4	000X - Electrical	Time Critical	Timeliness of repair of no-current lights in a CEFA that do not require a cut	Evaluation Period	98% of “no-current” light outages not requiring a cut repaired within 4 days of the noted deficiency.	95% of “no-current” light outages not requiring a cut repaired within 4 days of the noted deficiency.	90% of “no-current” light outages not requiring a cut repaired within 4 days of the noted deficiency.	80% of “no-current” light outages not requiring a cut repaired within 4 days of the noted deficiency.	Less than 80% of “no-current” light outages not requiring a cut repaired within 4 days of the noted deficiency.
5	000X - Electrical	Time Critical	Timeliness of repair of no-current lights in an CEFA requiring a cut	Evaluation Period	98% of “no-current” light outages requiring a cut repaired within 30 days of the noted deficiency.	95% of “no-current” light outages requiring a cut repaired within 30 days of the noted deficiency.	90% of “no-current” light outages requiring a cut repaired within 30 days of the noted deficiency.	80% of “no-current” light outages requiring a cut repaired within 30 days of the noted deficiency.	Less than 80% of “no-current” light outages requiring a cut repaired within 30 days of the noted deficiency.
6	000X - Electrical	Time Critical	Timeliness of repair of no-current lights that do not require a cut	Evaluation Period	98% of “no-current” light outages not requiring a cut repaired within 15 days of the noted deficiency.	95% of “no-current” light outages not requiring a cut repaired within 15 days of the noted deficiency.	90% of “no-current” light outages not requiring a cut repaired within 15 days of the noted deficiency.	80% of “no-current” light outages not requiring a cut repaired within 15 days of the noted deficiency.	Less than 80% of “no-current” light outages not requiring a cut repaired within 15 days of the noted deficiency.
7	000X - Electrical	Time Critical	Timeliness of repair of no-current lights requiring a cut	Evaluation Period	98% of “no-current” light outages requiring a cut repaired within 60 days of the noted deficiency.	95% of “no-current” light outages requiring a cut repaired within 60 days of the noted deficiency.	90% of “no-current” light outages requiring a cut repaired within 60 days of the noted deficiency.	80% of “no-current” light outages requiring a cut repaired within 60 days of the noted deficiency.	Less than 80% of “no-current” light outages requiring a cut repaired within 60 days of the noted deficiency.
8	000X - Electrical	Time Critical	Timeliness of repairs of multiple circuit no-current problems where an entire block is without lights.	Evaluation Period	98% of “no-current” problem on high-voltage series and multiple circuits repaired within 7 days of the noted deficiency.	95% of “no-current” problem on high-voltage series and multiple circuits repaired within 7 days of the noted deficiency.	90% of “no-current” problem on high-voltage series and multiple circuits repaired within 7 days of the noted deficiency.	80% of “no-current” problem on high-voltage series and multiple circuits repaired within 7 days of the noted deficiency.	Less than 80% of “no-current” problem on high-voltage series and multiple circuits repaired within 7 days of the noted deficiency.

New #	CLIN	PM Type	Performance Measure	Sample	5 - Excellent	4 - Good	3 - Fair	2 - Poor	1 - Very Poor
9	000X - Electrical	Time Critical	Timeliness of repair of "day burner" lights	Evaluation Period	98% of "day burner" street and alley lights repaired within 4 days of the noted deficiency.	95% of "day burner" street and alley lights repaired within 4 days of the noted deficiency.	90% of "day burner" street and alley lights repaired within 4 days of the noted deficiency.	80% of "day burner" street and alley lights repaired within 4 days of the noted deficiency.	Less than 80% of "day burner" street and alley lights repaired within 4 days of the noted deficiency.
10	000X - Electrical	Time Critical	Timeliness of repair of dim lights	Evaluation Period	98% of dim lights due to ballast assembly repaired within 4 days of the noted deficiency.	95% of dim lights due to ballast assembly repaired within 4 days of the noted deficiency.	90% of dim lights due to ballast assembly repaired within 4 days of the noted deficiency.	80% of dim lights due to ballast assembly repaired within 4 days of the noted deficiency.	Less than 80% of dim lights due to ballast assembly repaired within 4 days of the noted deficiency.
11	000X - Electrical	Time Critical	Timeliness of replacement of defective fixtures by conversion	Evaluation Period	98% of defective fixtures replaced by conversion within 30 days of the noted deficiency.	95% of defective fixtures replaced by conversion within 30 days of the noted deficiency.	90% of defective fixtures replaced by conversion within 30 days of the noted deficiency.	80% of defective fixtures replaced by conversion within 30 days of the noted deficiency.	Less than 80% of defective fixtures replaced by conversion within 30 days of the noted deficiency.
12	000X - Electrical	Time Critical	Timeliness of replacement of 2,500 MV, INC, MH and HPS lights in non-white light areas with LEDs over 4 yrs	Evaluation Period	More than 625 ally and streetlight fixtures replaced with LEDs within a year.	625 ally and streetlight fixtures replaced with LEDs within a year.	More than 594 ally and streetlight fixtures replaced with LEDs within a year.	More than 563 ally and streetlight fixtures replaced with LEDs within a year	Less than 563 ally and streetlight fixtures replaced with LEDs within a year
13	000X - Electrical	Condition	Radio tower lights functioning	Entire Population	All lights are functioning properly.	2 lights on the tower are not functioning properly.	3 lights on the tower are not functioning properly.	4 lights on the tower are not functioning properly.	More than 4 lights on the tower are not functioning properly.
14	000X - Electrical	Time Critical	Non-functioning radio tower lights repaired in a timely manner. Note – action is not required if 2 or Less lights are out.	Evaluation Period	98% of noted deficiencies repaired within 3 days.	95% of noted deficiencies repaired within 3 days.	90% of noted deficiencies repaired within 3 days.	80% of noted deficiencies repaired within 3 days.	Less than 80% of noted deficiencies repaired within 3 days.
15	000X - Electrical	Condition	Chinatown Archway lights functioning	Entire Population	All lights are functioning properly.	1 light is not functioning properly.	2 lights are not functioning properly.	3 lights are not functioning properly.	more than 3 lights are not functioning properly.
16	000X - Electrical	Time Critical	Non-functioning China Town archway lights are repaired in a timely manner	Evaluation Period	98% of non-functioning lights repaired within 15 days of the noted deficiency.	95% of non-functioning lights repaired within 15 days of the noted deficiency.	90% of non-functioning lights repaired within 15 days of the noted deficiency.	80% of non-functioning lights repaired within 15 days of the noted deficiency.	Less than 80% of non-functioning lights repaired within 15 days of the noted deficiency.

New #	CLIN	PM Type	Performance Measure	Sample	5 - Excellent	4 - Good	3 - Fair	2 - Poor	1 - Very Poor
17	000X - Electrical	Condition	Bridge street lights functioning	Sample area	98% of bridge street lights are functioning properly.	95% of bridge street lights are functioning properly.	90% of bridge street lights are functioning properly.	80% of bridge street lights are functioning properly.	Less than 80% of bridge street lights are functioning properly.
18	000X - Electrical	Condition	Pedestrian bridge lighting functioning	Entire Population	98% of pedestrian bridge lights are functioning properly.	95% of pedestrian bridge lights are functioning properly.	90% of pedestrian bridge lights are functioning properly.	80% of pedestrian bridge lights are functioning properly.	Less than 80% of pedestrian bridge lights are functioning properly.
19	0009 - Bridge System and Navigation Lights	Condition	Bridge underdeck lighting functioning	Entire Population	98% of bridge underdeck lights are functioning properly.	95% of bridge underdeck lights are functioning properly.	90% of bridge underdeck lights are functioning properly.	80% of bridge underdeck lights are functioning properly.	Less than 80% of bridge underdeck lights are functioning properly.
20	000X - Electrical	Time Critical	Timeliness of bridge lighting repair	Evaluation Period	98% of non-functioning light (excluding “no-currents”) repaired within 4 days of noted deficiency.	95% of non-functioning light (excluding “no-currents”) repaired within 4 days of noted deficiency.	90% of non-functioning light (excluding “no-currents”) repaired within 4 days of noted deficiency.	80% of non-functioning light (excluding “no-currents”) repaired within 4 days of noted deficiency.	Less than 80% of non-functioning light (excluding “no-currents”) repaired within 4 days of noted deficiency.
21	000X - Electrical	Time Critical	Timeliness of bridge lighting repair – No current	Evaluation Period	98% of “no-current” light outages repaired within 15 days of the noted deficiency.	95% of “no-current” light outages repaired within 15 days of the noted deficiency.	90% of “no-current” light outages repaired within 15 days of the noted deficiency.	80% of “no-current” light outages repaired within 15 days of the noted deficiency.	Less than 80% of “no-current” light outages repaired within 15 days of the noted deficiency.
22	000X - Electrical	Condition	Tunnel and underpass lighting functioning	Entire Population	98% of tunnel or underpass lights are functioning properly.	95% of tunnel or underpass lights are functioning properly.	90% of tunnel or underpass lights are functioning properly.	80% of tunnel or underpass lights are functioning properly.	Less than 80% of tunnel or underpass lights are functioning properly.
23	000X - Electrical	Time Critical	Timeliness of repair - tunnel and underpass lighting	Evaluation Period	98% of non-functioning lights (excluding “no-currents”) repaired within 5 days of noted deficiency.	95% of non-functioning lights (excluding “no-currents”) repaired within 5 days of noted deficiency.	90% of non-functioning lights (excluding “no-currents”) repaired within 5 days of noted deficiency.	80% of non-functioning lights (excluding “no-currents”) repaired within 5 days of noted deficiency.	Less than 80% of non-functioning lights (excluding “no-currents”) repaired within 5 days of noted deficiency.
24	000X - Electrical	Time Critical	Timeliness of repair – tunnel and underpass lights with no current	Evaluation Period	98% of “no-current” light outages repaired within 90 days of the noted deficiency.	95% of “no-current” light outages repaired within 90 days of the noted deficiency.	90% of “no-current” light outages repaired within 90 days of the noted deficiency.	80% of “no-current” light outages repaired within 90 days of the noted deficiency.	Less than 80% of “no-current” light outages repaired within 90 days of the noted deficiency.

New #	CLIN	PM Type	Performance Measure	Sample	5 - Excellent	4 - Good	3 - Fair	2 - Poor	1 - Very Poor
25	000X - Electrical	Time Critical	Timeliness of repair – tunnel and underpass lights with collision damage	Evaluation Period	98% of light outages due to collision damage repaired within 30 days of the noted deficiency.	95% of light outages due to collision damage repaired within 30 days of the noted deficiency.	90% of light outages due to collision damage repaired within 30 days of the noted deficiency.	80% of light outages due to collision damage repaired within 30 days of the noted deficiency.	Less than 80% of light outages due to collision damage repaired within 30 days of the noted deficiency.
26	000X - Electrical	Time Critical	Respond and make safe Tunnel and underpass lights with collision damage	Evaluation Period	98% of tunnel light collision damage incidents responded to and made safe within 2 hours of the noted deficiency.	95% of tunnel light collision damage incidents responded to and made safe within 2 hours of the noted deficiency.	90% of tunnel light collision damage incidents responded to and made safe within 2 hours of the noted deficiency.	80% of tunnel light collision damage incidents responded to and made safe within 2 hours of the noted deficiency.	Less than 80% of tunnel light collision damage incidents responded to and made safe within 2 hours of the noted deficiency.
27	000X - Electrical	Condition	Overhead guide sign lighting functioning	Entire Population	98% of overhead guide sign lights are functioning properly.	95% of overhead guide sign lights are functioning properly.	90% of overhead guide sign lights are functioning properly.	80% of overhead guide sign lights are functioning properly.	Less than 80% of overhead guide sign lights are functioning properly.
28	000X - Electrical	Time Critical	Timeliness of overhead guide sign repair	Evaluation Period	98% of non-functioning lights (excluding "no-currents") repaired within 5 days of noted deficiency.	95% of non-functioning lights (excluding "no-currents") repaired within 5 days of noted deficiency.	90% of non-functioning lights (excluding "no-currents") repaired within 5 days of noted deficiency.	80% of non-functioning lights (excluding "no-currents") repaired within 5 days of noted deficiency.	Less than 80% of non-functioning lights (excluding "no-currents") repaired within 5 days of noted deficiency.
29	000X - Electrical	Time Critical	Timeliness of repair – overhead guide sign no current	Evaluation Period	98% of "no-current" light outages repaired within 45 days of the noted deficiency.	95% of "no-current" light outages repaired within 45 days of the noted deficiency.	90% of "no-current" light outages repaired within 45 days of the noted deficiency.	80% of "no-current" light outages repaired within 45 days of the noted deficiency.	Less than 80% of "no-current" light outages repaired within 45 days of the noted deficiency.
30	000X - Electrical	Condition	Welcome to Washington signs' lights functioning	Entire Population	98% of the lights on the sign are functioning properly.	95% of the lights on the sign are functioning properly.	90% of the lights on the sign are functioning properly.	80% of the lights on the sign are functioning properly.	Less than 80% of the lights on the sign are functioning properly.
31	000X - Electrical	Time Critical	Timeliness of repair - Welcome to Washington Signs	Evaluation Period	98% of non-functioning lights (excluding "no-currents") repaired within 4 days of noted deficiency.	95% of non-functioning lights (excluding "no-currents") repaired within 4 days of noted deficiency.	90% of non-functioning lights (excluding "no-currents") repaired within 4 days of noted deficiency.	80% of non-functioning lights (excluding "no-currents") repaired within 4 days of noted deficiency.	Less than 80% of non-functioning lights (excluding "no-currents") repaired within 4 days of noted deficiency.
32	000X - Electrical	Time Critical	Timeliness of repair - Welcome to Washington Signs - no current	Evaluation Period	98% of Each "no-current" light outage repaired within 45 days of the noted deficiency.	95% of Each "no-current" light outage repaired within 45 days of the noted deficiency.	90% of Each "no-current" light outage repaired within 45 days of the noted deficiency.	80% of Each "no-current" light outage repaired within 45 days of the noted deficiency.	Less than 80% of Each "no-current" light outage repaired within 45 days of the noted deficiency.

New #	CLIN	PM Type	Performance Measure	Sample	5 - Excellent	4 - Good	3 - Fair	2 - Poor	1 - Very Poor
33	000X - Electrical	Data	Changes of wattage and light types reported to DDOT	Evaluation Period	Contractor reports 98% of changes to DDOT within 30 days of the repair/ replacement	Contractor reports 95% of changes to DDOT within 30 days of the repair/ replacement	Contractor reports 90% of changes to DDOT within 30 days of the repair/ replacement	Contractor reports 80% of changes to DDOT within 30 days of the repair/ replacement	Contractor reports Less than 80% of changes to DDOT within 30 days of the repair/ replacement
34	000X - Electrical	Time Critical	Response to Miss Utility Requests	Evaluation Period	Contractor responds to 98% of Miss Utility Requests within 2 days.	Contractor responds to 95% of Miss Utility Requests within 2 days.	Contractor responds to 90% of Miss Utility Requests within 2 days.	Contractor responds to 80% of Miss Utility Requests within 2 days.	Contractor responds to Less than 80% of Miss Utility Requests within 2 days.
35	000X - Structural	Time Critical	Timeliness of repair of Washington Globes	Evaluation Period	98% of broken or missing globes replaced within 4 days of the noted deficiency.	95% of broken or missing globes replaced within 4 days of the noted deficiency.	90% of broken or missing globes replaced within 4 days of the noted deficiency.	80% of broken or missing globes replaced within 4 days of the noted deficiency.	Less than 80% of broken or missing globes replaced within 4 days of the noted deficiency.
36	000X - Structural	Condition	Pole and Base access holes are properly covered.	Sample area	95% of access holes are properly covered with covers of the correct size and fit.	90% of access holes are properly covered with covers of the correct size and fit.	85% of access holes are properly covered with covers of the correct size and fit.	80% of access holes are properly covered with covers of the correct size and fit.	Less than 80% of access holes are properly covered with covers of the correct size and fit.
37	000X - Structural	Time Critical	Pole and Base access holes are properly covered in a timely manner	Evaluation Period	98% of missing or improperly covered access holes properly covered within 30 days of the noted deficiency.	95% of missing or improperly covered access holes properly covered within 30 days of the noted deficiency.	90% of missing or improperly covered access holes properly covered within 30 days of the noted deficiency.	80% of missing or improperly covered access holes properly covered within 30 days of the noted deficiency.	Less than 98% of missing or improperly covered access holes properly covered within 30 days of the noted deficiency.
38	000X - Structural	Condition	Light poles are vertical.	Sample area	98% of light poles are within 10 degrees of vertical.	95% of light poles are within 10 degrees of vertical.	90% of light poles are within 10 degrees of vertical.	80% of light poles are within 10 degrees of vertical.	Less than 80% of light poles are within 10 degrees of vertical.
39	000X - Structural	Time Critical	Leaning poles are repaired in a timely manner	Evaluation Period	98% of leaning poles repaired within 7 days of the noted deficiency.	95% of leaning poles repaired within 7 days of the noted deficiency.	90% of leaning poles repaired within 7 days of the noted deficiency.	80% of leaning poles repaired within 7 days of the noted deficiency.	Less than 80% of leaning poles repaired within 7 days of the noted deficiency.
40	000X - Structural	Time Critical	Trees are trimmed from around lights	Evaluation Period	98% of trees blocking a light properly trimmed within 15 days of the noted deficiency.	95% of trees blocking a light properly trimmed within 15 days of the noted deficiency.	90% of trees blocking a light properly trimmed within 15 days of the noted deficiency.	80% of trees blocking a light properly trimmed within 15 days of the noted deficiency.	Less than 80% of trees blocking a light properly trimmed within 15 days of the noted deficiency.

New #	CLIN	PM Type	Performance Measure	Sample	5 - Excellent	4 - Good	3 - Fair	2 - Poor	1 - Very Poor
41	000X - Structural	Condition	Elephant ears in place and secured.	Sample area	95% of elephant ears are in place and properly secured.	90% of elephant ears are in place and properly secured.	85% of elephant ears are in place and properly secured.	80% of elephant ears are in place and properly secured.	Less than 80% of elephant ears are in place and properly secured.
42	000X - Structural	Time Critical	Missing elephant ears are replaced in a timely manner	Evaluation Period	98% of missing elephant ears replaced within 10 days of the noted deficiency.	95% of missing elephant ears replaced within 10 days of the noted deficiency.	90% of missing elephant ears replaced within 10 days of the noted deficiency.	80% of missing elephant ears replaced within 10 days of the noted deficiency.	Less than 80% of missing elephant ears replaced within 10 days of the noted deficiency.
43	000X - Structural	Condition	T-bases structurally sound and free of defects.	Sample area	98% of T-bases are structurally sound and free of defects.	95% of T-bases are structurally sound and free of defects.	90% of T-bases are structurally sound and free of defects.	80% of T-bases are structurally sound and free of defects.	Less than 80% of T-bases are structurally sound and free of defects.
44	000X - Structural	Time Critical	Timeliness of replacement of deficient T-Bases	Evaluation Period	98% of T-bases meeting one or more specified criteria for replacement replaced within 30 days of the noted deficiency.	95% of T-bases meeting one or more specified criteria for replacement replaced within 30 days of the noted deficiency.	90% of T-bases meeting one or more specified criteria for replacement replaced within 30 days of the noted deficiency.	80% of T-bases meeting one or more specified criteria for replacement replaced within 30 days of the noted deficiency.	Less than 80% of T-bases meeting one or more specified criteria for replacement replaced within 30 days of the noted deficiency.
45	000X - Structural	Condition	Wood poles structurally sound	Sample area	98% of wood poles are structurally sound and pass the specified test.	95% of wood poles are structurally sound and pass the specified test.	90% of wood poles are structurally sound and pass the specified test.	80% of wood poles are structurally sound and pass the specified test.	Less than 80% of wood poles are structurally sound and pass the specified test.
46	000X - Structural	Time Critical	Timeliness of replacement of deficient Wood Poles	Evaluation Period	98% of wood poles failing the specified test replaced within 30 days of the test failure.	95% of wood poles failing the specified test replaced within 30 days of the test failure.	90% of wood poles failing the specified test replaced within 30 days of the test failure.	80% of wood poles failing the specified test replaced within 30 days of the test failure.	Less than 80% of wood poles failing the specified test replaced within 30 days of the test failure.
47	000X - Structural	Time Critical	Manhole and handhold inspection/repair	Evaluation Period	98% of deficient manholes and handholds repaired within 30 days of identification of the deficiency.	95% of deficient manholes and handholds repaired within 30 days of identification of the deficiency.	90% of deficient manholes and handholds repaired within 30 days of identification of the deficiency.	80% of deficient manholes and handholds repaired within 30 days of identification of the deficiency.	Less than 80% of deficient manholes and handholds repaired within 30 days of identification of the deficiency.
48	000X - Structural	Condition	Manhole and handhole rim near pavement grade	Sample area	98% of manhole and handholes rims are <= 1/2" above or below roadway grade.	95% of manholes and handholes and handholes rims are <= 1/2" above or below roadway grade.	90% of manhole and handholes and handholes rims are <= 1/2" above or below roadway grade.	85% of manhole and handholes rims are <= 1/2" above or below roadway grade.	Less than 85% of manhole and handholes rims are <= 1/2" above or below roadway grade.

New #	CLIN	PM Type	Performance Measure	Sample	5 - Excellent	4 - Good	3 - Fair	2 - Poor	1 - Very Poor
49	000X - Structural	Condition	Manholes and handholes structurally sound	Sample area	98% of manhole and handhole rims are structurally sound with a structurally sound, undamaged cover <= 1/8" above or below the manhole rim.	95% of manhole and handholes rims are structurally sound with a structurally sound, undamaged cover <= 1/8" above or below the manhole rim.	90% of manhole and handholes rims are structurally sound with a structurally sound, undamaged cover <= 1/8" above or below the manhole rim.	80% of manhole and handholes rims are structurally sound with a structurally sound, undamaged cover <= 1/8" above or below the manhole rim.	Less than 80% of manhole and handholes rims are structurally sound with a structurally sound, undamaged cover <= 1/8" above or below the manhole rim.
50	000X - Structural	Condition	Manholes and handholes free of dirt water and debris.	Sample area	98% of manholes and handholes are free of dirt, water, and debris.	95% of manholes are handholes are free of dirt, water, and debris.	90% of manholes and handholes are free of dirt, water, and debris.	80% of manholes and handholes are free of dirt, water, and debris.	Less than 80% of manholes and handholes are free of dirt, water, and debris.
51	000X - Structural	Time Critical	Timeliness of repair of out of grade manholes/handholes or manholes/handholes with structural problems	Evaluation Period	98% of inspected manholes/handholes not within ½ inch of pavement grade or with structural problems repaired within 20 days of the inspection.	95% of inspected manholes/handholes not within ½ inch of pavement grade or with structural problems repaired within 20 days of the inspection.	90% of inspected manholes/handholes not within ½ inch of pavement grade or with structural problems repaired within 20 days of the inspection.	80% of inspected manhole/handholes not within ½ inch of pavement grade or with structural problems repaired within 20 days of the inspection.	Less than 80% of inspected manhole/handholes not within ½ inch of pavement grade or with structural problems repaired within 20 days of the inspection.
52	000X - Structural	Time Critical	Timeliness of cleaning of inspected manholes and handholes	Evaluation Period	98% of inspected manholes and handholes not free of dirt, water and debris cleaned within 20 days of the inspection.	95% of inspected manholes and handholds not free of dirt, water and debris cleaned within 20 days of the inspection.	90% of inspected manholes and handholds not free of dirt, water and debris cleaned within 20 days of the inspection.	80% of inspected manholes and handholes not free of dirt, water and debris cleaned within 20 days of the inspection.	Less than 80% of inspected manholes and handholes not free of dirt, water and debris cleaned within 20 days of the inspection.
53	000X - Structural	Time Critical	Timeliness of knock-downs being “made safe”	Evaluation Period	98% of pole knock-downs “made safe” within 2 hours of the noted deficiency.	95% of pole knock-downs “made safe” within 2 hours of the noted deficiency.	90% of pole knock-downs “made safe” within 2 hours of the noted deficiency.	80% of pole knock-downs “made safe” within 2 hours of the noted deficiency.	Less than 80% of pole knock-downs “made safe” within 2 hours of the noted deficiency.
54	000X - Structural	Time Critical	Timeliness of knock-down replacement	Evaluation Period	98% of pole knockdowns replaced within 45 days of knockdown.	95% of pole knockdowns replaced within 45 days of knockdown.	90% of pole knockdowns replaced within 45 days of knockdown.	80% of pole knockdowns replaced within 45 days of knockdown.	Less than 80% of pole knockdowns replaced within 45 days of knockdown.
55	000X - Structural	Time Critical	Timeliness of missing pole replacement	Evaluation Period	98% of missing poles (including backlogged knockdowns) replaced within 90 days of noted deficiency.	95% of missing poles (including backlogged knockdowns) replaced within 90 days of noted deficiency.	90% of missing poles (including backlogged knockdowns) replaced within 90 days of noted deficiency.	80% of missing poles (including backlogged knockdowns) replaced within 90 days of noted deficiency.	Less than 80% of missing poles (including backlogged knockdowns) replaced within 90 days of noted deficiency.
56	000X - Structural	Time Critical	Respond and make safe - Damaged overhead signs/ structures	Evaluation Period	98% of damaged overhead sign structures responded to and made safe within 2 hours of the noted deficiency.	95% of damaged overhead sign structures responded to and made safe within 2 hours of the noted deficiency.	90% of damaged overhead sign structures responded to and made safe within 2 hours of the noted deficiency.	80% of damaged overhead sign structures responded to and made safe within 2 hours of the noted deficiency.	Less than 80% of damaged overhead sign structures responded to and made safe within 2 hours of the noted deficiency.
57	000X - Structural	Data	Asset inventory is updated based on changes to field assets including new assets, incorrect assets, new/updated pole number, or changes to assets	Evaluation Period	Contractor reports 98% of changes to DDOT within 30 days of the repair/ replacement	Contractor reports 95% of changes to DDOT within 30 days of the repair/ replacement	Contractor reports 90% of changes to DDOT within 30 days of the repair/ replacement	Contractor reports 80% of changes to DDOT within 30 days of the repair/ replacement	Contractor reports Less than 80% of changes to DDOT within 30 days of the repair/ replacement

New #	CLIN	PM Type	Performance Measure	Sample	5 - Excellent	4 - Good	3 - Fair	2 - Poor	1 - Very Poor
58	000X - Ward	Management	Report delivery	Evaluation Period	98% of plans and reports required under the contract are delivered on time.	95% of plans and reports required under the contract are delivered on time.	90% of plans and reports required under the contract are delivered on time.	80% of plans and reports required under the contract are delivered on time.	Less than 80% of plans and reports required under the contract are delivered on time.
59	000X - Ward	Time Critical	Maintenance Management System Updated Daily	Evaluation Period	98% of open work orders are updated within 24 hours of the last activity performed due to inspection and maintenance.	95% of open work orders are updated within 24 hours of the last activity performed due to inspection and maintenance.	90% of open work orders are updated within 24 hours of the last activity performed due to inspection and maintenance.	80% of open work orders are updated within 24 hours of the last activity performed due to inspection and maintenance.	Less than 80% of open work orders are updated within 24 hours of the last activity performed due to inspection and maintenance.
60	000X - Ward	Management	Frequency of Complaints	Evaluation Period	5% Less call center lighting complaints than the previous year	0.1-4.9% Less call center lighting complaints than the previous year	The same number of call center lighting complaints than the previous year	Less than 5% more call center lighting complaints than the previous year	Over 5% call center lighting complaints than the previous year
61	0009 - Bridge System and Navigation Lights	Condition	Bridge navigation lights functioning	Entire Population	98% of bridge navigation lights are functioning properly.	95% of bridge navigation lights are functioning properly.	90% of bridge navigation lights are functioning properly.	80% of bridge navigation lights are functioning properly.	Less than 80% of bridge navigation lights are functioning properly.
62	0009 - Bridge System and Navigation Lights	Time Critical	Timeliness of repair – Navigation Lights	Evaluation Period	98% of navigation light outages repaired within 24 hours of the noted deficiency.	95% of navigation light outages repaired within 24 hours of the noted deficiency.	90% of navigation light outages repaired within 24 hours of the noted deficiency.	80% of navigation light outages repaired within 24 hours of the noted deficiency.	Less than 80% of navigation light outages repaired within 24 hours of the noted deficiency.
63	0009 - Bridge System and Navigation Lights	Time Critical	Bridge control system maintenance	Once a year	Inspections and maintenance are performed in accordance with Chapter 2 of the Operation and Maintenance Manual	Inspections and maintenance are almost always performed in accordance with Chapter 2 of the Operation and Maintenance Manual. 1 or item is missed per year.	Inspections and maintenance are mostly always performed in accordance with Chapter 2 of the Operation and Maintenance Manual. 2 or Less items are missed per year.	Inspections and maintenance are usually performed in accordance with Chapter 2 of the Operation and Maintenance Manual. 4 or Less items are missed per year.	Inspections called for in the Operations and Maintenance Manual are not performed in accordance with Chapter 2 of the Operation and Maintenance Manual. More than 4 items are
64	0009 - Bridge System and Navigation Lights	Condition	Bridge electrical control systems are functional	Entire Population	All components of the bridge electrical control system are maintained in excellent working order and are clean (free of dirt, allowing freedom of moving parts) .	All components of the bridge electrical control system are maintained in proper working order.	90% of components of the bridge electrical control system are maintained in proper working order.	80% of components of the bridge electrical control system are maintained in proper working order.	Less than 80% of components of the bridge electrical control system are maintained in proper working order.
65	0009 - Bridge System and Navigation Lights	Condition	Bridge opening mechanism functional	Once a month	Bridge is exercised (opened) within 1 week after the end of a month during which there were no ships.	Bridge is exercised (opened) within 2 weeks after the end of a month during which there were no ships.	Bridge is exercised (opened) within 3 weeks after the end of a month during which there were no ships.	Bridge is exercised (opened) during the month after the end of a month during which there were no ships.	Bridge is not exercised (opened) during the month after the end of a month during which there were no ships; or the report documenting the bridge exercise is not delivered.

New #	CLIN	PM Type	Performance Measure	Sample	5 - Excellent	4 - Good	3 - Fair	2 - Poor	1 - Very Poor
66	0009 - Bridge System and Navigation Lights	Condition	Bridge opening mechanism functional	Once a month	Bridge opened immediately (no delays due to mechanical malfunction) for all ships and report delivered on time.	Bridge opened with minor (no more than 5 minutes) delay due to mechanical malfunction for all ships and report delivered on time.	Bridge opened with significant delays (no more than 1 hour) for no more than 1 ship and report delivered on time.	Bridge opened with significant delays (no more than 2 hours) for no more than 2 ships and report delivered on time.	Bridge failed to open or opened with major delays (more than 1 hour) for 1 or more ships; or the report documenting bridge openings is not delivered on time.
67	0011 - Pole Painting	Time Critical	Poles without adequate paint coverage that generate complaints are painted in a timely manner	Evaluation Period	98% of poles not having adequate paint coverage to prevent corrosion painted within 30 days of the direction of DDOT. (Maximum 1,000 poles per year)	95% of poles not having adequate paint coverage to prevent corrosion painted within 30 days of the direction of DDOT. (Maximum 1,000 poles per year)	90% of poles not having adequate paint coverage to prevent corrosion painted within 30 days of the direction of DDOT. (Maximum 1,000 poles per year)	80% of poles not having adequate paint coverage to prevent corrosion painted within 30 days of the direction of DDOT. (Maximum 1,000 poles per year)	Less than 80% of poles not having adequate paint coverage to prevent corrosion painted within 30 days of the direction of DDOT. (Maximum 1,000 poles per year)
68	0012 - Lighting Fixture Conversion/ Upgrade per 100	Time Critical	Timeliness of replacement of lighting fixtures by conversion	Evaluation Period	98% of specified batched amount of fixtures replaced by conversion/upgrade within a year.	95% of specified batched amount of fixtures replaced by conversion/upgrade within a year.	90% of specified batched amount of fixtures replaced by conversion/upgrade within a year.	80% of specified batched amount of fixtures replaced by conversion/upgrade within a year.	Less than 80% of specified batched amount of fixtures replaced by conversion/upgrade within a year.
69	0013-Remote Monitoring System Installation and Maintenance	Time Critical	The contractor shall be responsible for installing all the components of ROAM according to the plan and specifications provided by DDOT or his designee (or	Evaluation Period	Completed installation ahead of schedule and accepted by DDOT/TOA	Completed installation on schedule and accepted by DDOT/TOA	10% of installation behind of schedule	10% - 50% of installation behind of schedule	More than 50% of installation behind of schedule
70	0013-Remote Monitoring System Installation and Maintenance	Time Critical	Gateways and nodes repaired within 24 hours of notification.	Evaluation Period	98% of malfunctioning gateways and nodes repaired within 24 hours	95% of malfunctioning gateways and nodes repaired within 24 hours	90% of malfunctioning gateways and nodes repaired within 24 hours	80% of malfunctioning gateways and nodes repaired within 24 hours	Fewer than 80% of malfunctioning gateways and nodes repaired within 24 hours.
71	0013-Remote Monitoring System Installation and Maintenance	Condition	Once ROAM is installed, the contractor is responsible for maintaining system operability.	Entire Population	Minimum ROAM system operability of 99%.	Minimum ROAM system operability of 95%.	Minimum ROAM system operability of 90%.	Minimum ROAM system operability of 85%.	Minimum ROAM system operability below 85%.

New #	Capture Mechanism	Sampling	Weight
1	Visual inspection of lights	All inspected lights.	**8**
2	Maintenance Management System	All relevant Work Orders.	**6**
3	Maintenance Management System	All relevant Work Orders.	**6**
4	Maintenance Management System	All relevant Work Orders.	**6**
5	Maintenance Management System	All relevant Work Orders.	**6**
6	Maintenance Management System	All relevant Work Orders.	**6**
7	Maintenance Management System	All relevant Work Orders.	**6**
8	Maintenance Management System	All relevant Work Orders.	**7**

New #	Capture Mechanism	Sampling	Weight
9	Maintenance Management System	All relevant Work Orders.	**5**
10	Maintenance Management System	All relevant Work Orders.	**5.5**
11	Maintenance Management System	All relevant Work Orders.	**6**
12	Inspection	All relevant Work Orders.	**6**
13	Visual inspection of lights	Entire population	**7.5**
14	Maintenance Management System	All relevant Work Orders.	**7.5**
15	Visual inspection of lights	Entire population	**5.5**
16	Maintenance Management System	All relevant Work Orders.	**5.5**

New #	Capture Mechanism	Sampling	Weight
17	Visual inspection of lights	All inspected lights.	**6.5**
18	Visual inspection of lights	All inspected lights.	**6.5**
19	Visual inspection of lights	All inspected lights.	**6.5**
20	Maintenance Management System	All relevant Work Orders.	**6**
21	Maintenance Management System	All relevant Work Orders.	**6**
22	Visual inspection of lights	Entire population	**7**
23	Maintenance Management System	All relevant Work Orders.	**6**
24	Maintenance Management System	All relevant Work Orders.	**6**

New #	Capture Mechanism	Sampling	Weight
25	Maintenance Management System	All relevant Work Orders.	**7**
26	Maintenance Management System	All relevant Work Orders.	**8**
27	Visual inspection of lights	All inspected lights.	**5.5**
28	Maintenance Management System	All relevant Work Orders.	**5.5**
29	Maintenance Management System	All relevant Work Orders.	**5.5**
30	Visual inspection of lights	All inspected Welcome to Washington signs.	**5.5**
31	Maintenance Management System	All relevant Work Orders.	**5.5**
32	Maintenance Management System	All relevant Work Orders.	**5.5**

New #	Capture Mechanism	Sampling	Weight
33	Maintenance Management System	All relevant Work Orders.	**7**
34	Maintenance Management System	All relevant Work Orders.	**7.5**
35	Maintenance Management System	All relevant Work Orders.	**6.5**
36	Visual inspection of pole access holes and covers.	All inspected poles.	**9**
37	Maintenance Management System	All relevant Work Orders.	**7.5**
38	Visual inspection supplemented by plumb bob	All inspected poles.	**5**
39	Maintenance Management System	All relevant Work Orders.	**4.5**
40	Maintenance Management System	All relevant Work Orders.	**6.5**

New #	Capture Mechanism	Sampling	Weight
41	Visual inspection of elephant ears	All inspected poles.	**3**
42	Maintenance Management System	All relevant Work Orders.	**3**
43	Visual inspection of T-bases	All inspected poles.	**8.5**
44	Maintenance Management System	All relevant Work Orders.	**8.5**
45	Visual inspection of wood poles	All inspected poles.	**7**
46	Maintenance Management System	All relevant Work Orders.	**7**
47	Maintenance Management System	All relevant Work Orders.	**7.5**
48	Visual inspection of manhole and handhole rim supplemented by manual measurement	All inspected manholes.	**7**

New #	Capture Mechanism	Sampling	Weight
49	Visual inspection of manhole and handholes and cover supplemented by manual measurement	All inspected manholes.	**7.5**
50	Visual inspection of manhole and handholes	All inspected manholes.	**5.5**
51	Maintenance Management System	All relevant Work Orders.	**5.5**
52	Maintenance Management System	All relevant Work Orders.	**5.5**
53	Maintenance Management System	All relevant Work Orders.	**8**
54	Maintenance Management System	All relevant Work Orders.	**7.5**
55	Maintenance Management System	All relevant Work Orders.	**6.5**
56	Maintenance Management System	All relevant Work Orders.	**6.5**
57	Maintenance Management System		**8**

New #	Capture Mechanism	Sampling	Weight
58	DDOT Lighting Team		**6.5**
59	Maintenance Management System	All relevant Work Orders.	**7.5**
60	Maintenance Management System	All calls.	**8**
61	Visual inspection of lights	All inspected lights.	**7**
62	Maintenance Management System	All relevant Work Orders.	**7.5**
63	Timely report delivery	1 bridge per year.	**6**
64	Maintenance report	Every month	**6**
65	Maintenance report	Per bridge opening exercise	**5**

New #	Capture Mechanism	Sampling	Weight
66	Maintenance report	Per bridge opening event	**6**
67	Maintenance Management System	All relevant Work Orders.	**6**
68	Inspection and Maintenance Management System	All relevant Work Orders.	**7**
69	Inspection	All relevant Work Orders.	**6.5**
70	Maintenance Management System	All relevant Work Orders.	**8**
71	Maintenance Management System	All relevant Work Orders.	**7.5**

RA04 Appendix D-01:
Asset Count Summary 2011

Asset Count Summary

Summary

	Ward 1	Ward 2	Ward 3	Ward 4	Ward 5	Ward 6	Ward 7	Ward 8	CLIN0009	Total
Street and Alley	4,405	9,760	10,083	10,679	9,672	8,141	9,356	5,853		67,949
Pedestrian Bridges								15		15
Bike Trail Lights*					89	65	185	20		359
Over Head Guide Signs		216			13	234	59	131		653
Gateway Signs**				4	5		12	1		22
Tunnel and Underpass***		947			127	197	128	91		1,490
Radio Tower Lights (# of lights)						8				8
China Town Lights		8				8				16
S. Capitol Bridge Operation Sys.****									1	1
Navigation Lights*****									351	351
Total Light Fixtures	4,405	10,931	10,083	10,683	9,906	8,653	9,740	6,111	352	70,864

*Bike Trail Lights for Ward 7 & 8 are planned number.

** There are a total of 37 Gateway Signs (Welcome to Washington Signs). 22 have completed the construction.

***Douglass Bridge Lights are included in CLIN 0009. Bridge system spans between Wards 6 and 8.

****Navigation Lights maintenance are included in CLIN0009. Navigation Lights belong to Ward 2 (330), Ward6 (6), and Ward8 (15).

Note: There is a difference in the total number of street and alley lights between **Summary Table** and **Street and Alley Light Type Table** (below) due to the difference in the source data and the time frame these two tables were generated.

Street and Alley Light Type

LIGHTTYPE	WATTAGE	NUMBEROFFIXTURES
HPS-High Pressure Sodium	100	8,849
HPS-High Pressure Sodium	150	8,048
HPS-High Pressure Sodium	250	18,248
HPS-High Pressure Sodium	400	18,543
HPS-High Pressure Sodium	70	6,510
INC-Incandescent	189	2,482
INC-Incandescent	295	3,715
INC-Incandescent	405	383
MH-Metal Halide	250	13
MH-Metal Halide	400	101
MV-Mercury Vapor	100	45
MV-Mercury Vapor	175	547
MV-Mercury Vapor	400	492
Total		67,976

Number of Fixtures

# of Fixtures	Ward 1	Ward 2	Ward 3	Ward 4	Ward 5	Ward 6	Ward 7	Ward 8	Total
1	4,268	7,431	9,923	10,585	9,491	7,514	9,206	5,805	**64,223**
2	72	2,092	75	45	89	310	69	11	**2,763**
5	-	38	-	-	-	-	-	-	**38**
Total	**4,340**	**8,515**	**9,998**	**10,630**	**9,580**	**7,824**	**9,275**	**5,816**	**65,978**
Total Light Fixtures	**4,412**	**9,713**	**10,073**	**10,675**	**9,669**	**8,134**	**9,344**	**5,827**	**67847***

*There are 110 fixtures not included in the table. See the Light Type Table.

Fixture Type

Fixture	Ward 1	Ward 2	Ward 3	Ward 4	Ward 5	Ward 6	Ward 7	Ward 8	Total
Unknown	3	79	10	5	-	52	4	16	**169**
Cutoff	1,709	2,274	3,163	4,341	4,202	2,591	3,621	2,411	**24,312**
Conversion kit	1,300	1,527	3,812	3,291	4,322	2,955	5,030	2,985	**25,222**
Teardrop	1,029	4,096	401	625	677	1,657	199	214	**8,898**
Standard	90	82	23	153	39	97	190	71	**745**
Incandescent	209	457	2,589	2,215	340	472	231	119	**6,632**
Total	**4,340**	**8,515**	**9,998**	**10,630**	**9,580**	**7,824**	**9,275**	**5,816**	**65,978**

Owner*

Owner	Ward 1	Ward 2	Ward 3	Ward 4	Ward 5	Ward 6	Ward 7	Ward 8	Total
Unknown	-	1	4	3	-	17	3	4	**32**
DDOT	4,128	8,282	2,483	3,387	4,393	7,514	2,000	1,905	**34,092**
Private	-	-	2	1	1	-	2	-	**6**
Other DC Agencies	2	12	8	9	53	-	14	13	**111**
PEPCO	13	36	5,984	5,808	3,661	145	6,397	3,386	**25,430**
Verizon	197	184	1,517	1,422	1,472	148	859	508	**6,307**
Total	**4,340**	**8,515**	**9,998**	**10,630**	**9,580**	**7,824**	**9,275**	**5,815**	**65,978**

*Other owners are listed for reference.

Pole Type*

Pole Type	Ward 1	Ward 2	Ward 3	Ward 4	Ward 5	Ward 6	Ward 7	Ward 8	Total
Metal	4,087	7,875	1,816	2,913	3,658	7,344	1,205	1,061	**29,959**
Wood	216	264	8,175	7,711	5,914	340	8,070	4,695	**35,385**
Composite	37	376	7	6	8	140	_	60	**634**
Total	**4,340**	**8,515**	**9,998**	**10,630**	**9,580**	**7,824**	**9,275**	**5,816**	**65,978**

*Special Lights are not included.

Gateway Signs (Welcome to Washington Signs)

	Ward	Locations
1	4	16th Street (Route 29)
2	4	Kansas Avenue
3	4	New Hampshire Avenue
4	5	Riggs Road
5	5	Sargent Road
6	5	Rhode Island Avenue
7	5	Bladensburg Road/Eastern Avenue
8	5	New York Avenue/South Dakota
9	8	Interstate Route 295 NE
10	7	Sheriff Road
11	7	Nannie Helen Burroughs Avenue
12	7	East Capitol Street (route 214)
13	7	Benning Road
14	7	Suiteland Road
15	7	Pennsylvania Avenue (Route 4)
16	7	Branch Avenue (Route 5)
17	7	Naylor Road
18	7	Suiteland Parkway
19	7	Wheeler Road
20	7	63rd Street at Eastern Avenue
21	7	South Capitol Street/Southern Avenue (Rte 210)
22	4	Georgia Ave. NW

There are additional (approx.) 15 Gateway Signs planned.

List of 17 Tunnels Excluded from the Contract

The 17 Tunnels excluded from the lighting contract are:

1. Tunnel 1142 – Mall
2. Tunnel 1143 – Air Rights
3. Tunnel 172N – 12th Street (North)
4. Tunnel 172S – 12th Street (South)
5. Tunnel 173 – 9th Street
6. Tunnel 101 – DuPont Circle
7. Tunnel 102 – Washington Circle
8. Tunnel 1101 – Southwest Freeway over I-395 Ramp
9. Tunnel 1113 – Southwest Freeway over 12th St, Southwest
10. Tunnel 1208 – 23rd St, Northwest over E Street Expressway
11. Tunnel 1209 – Virginia Ave, NW over E Street Expressway
12. Tunnel 1302 – Virginia Ave, Northwest over I-66
13. Tunnel 1409 – Barney Circle Ramp
14. Tunnel 1410 – Barney Circle
15. Tunnel 10 - 23rd Street, NW over Virginia Ave
16. Tunnel 99 - Thomas Circle
17. Tunnel 100 - Scott Circle

RA04 Appendix N:
S. Capitol Bridge Components

RA04 Appendix N: S. Capitol Bridge Components

Assets Included in CLIN0009 Douglass Bridge (S. Capitol Street Bridge)

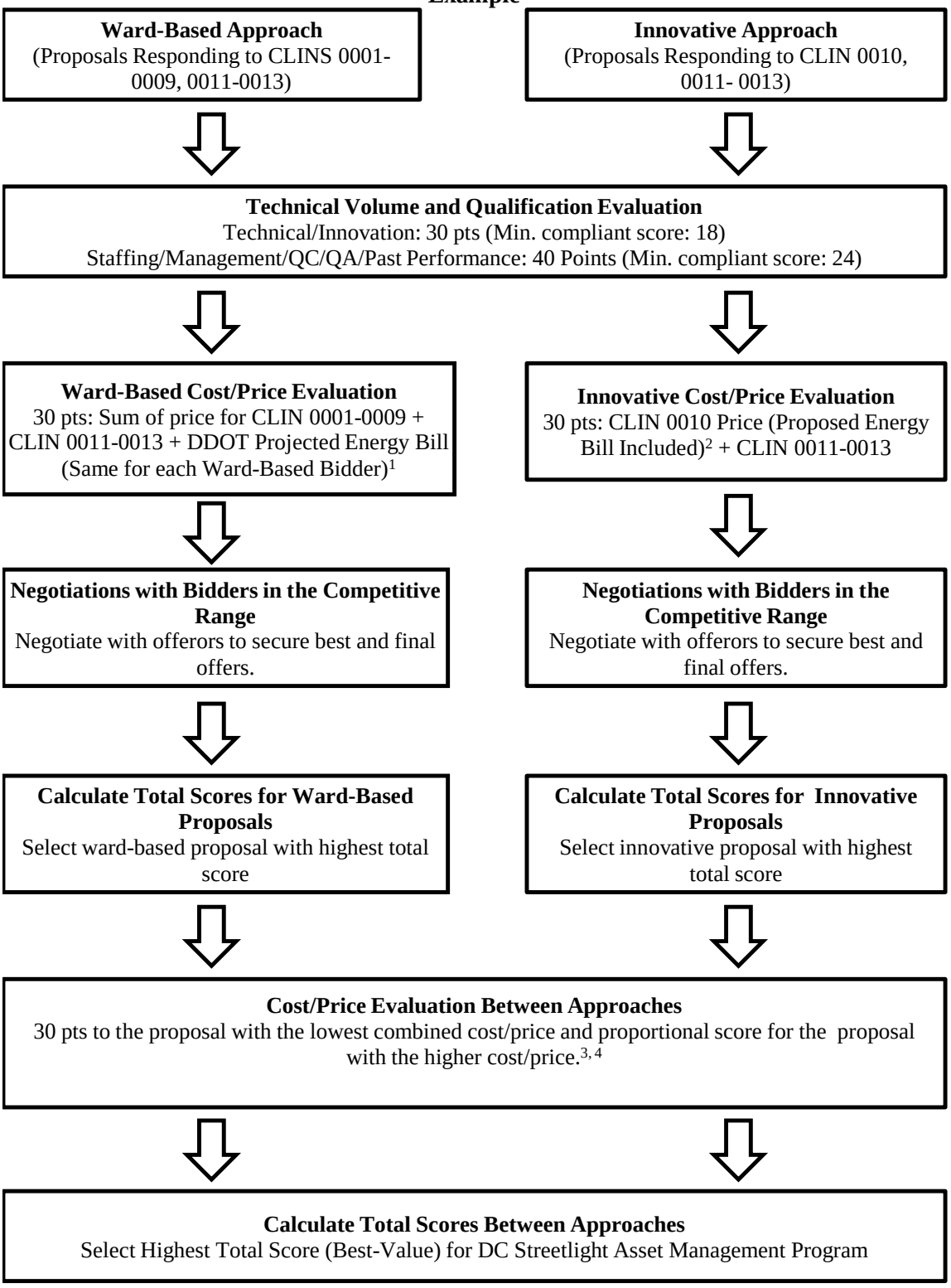
All interior and all catwalk lighting, control wiring and related devices including fixtures, bulbs, boxes, breakers, wiring, wiring to a/c unit, outlets, switches, conduits, push switches, window shade control switches and bulbs for the Main control board and al related equipment in the control booth
(4) Semaphore gates and all related operation equipment such as motors, warning lights, conduits, wiring, relays, contactors, limit switches, disc connect switches, motor controllers, brake motor assemblies and all related equipment
The end toggles and center wedges including motors, limit switches, wiring, conduits, relays contactors, overloads, disconnect switches and all related equipment.
Navigation lights including fixtures, bulbs, wiring, conduits, contactors, timing devices, breakers and all related equipment
Traffic signals on the roadway including poles, fixtures, bulbs, wiring, conduits, relays, contactors, disconnect switches and related equipment
Light poles and fixtures mounted on the swing span, fed form bridge circuit
The main feeder from PEPCO's underground transformers on the Anacostia & DC ends including conduits, wiring, cabinets, switchgear, and all related equipment
The submarine cables from both the DC & Anacostia ends including cable, conduit, switchgear and all related equipment
The main level of the tower including switchgear, main disconnect switches, transfer switch, lighting, fixtures, bulbs, wiring, conduits, panel boards, outlets, switches and related equipment
The main machine decks including motors, motor controllers, brake motors and assemblies, motor bearings, switch gear, disconnect switches, relays, limit switches, contactors, overload devices, transfer switches, timing devices, lighting, fixtures, bulbs, wiring, conduits, breakers and all related equipment.
Mechanical systems and their components
Switchboards
Adjustable frequency drives
Moto control centers
Control cabinets
Barrier gates
Fire alarm system
Heating and AC Units
Radio Systems
Fan Systems
Transformer located on the bridge structure
Pumping systems
Telephone Systems

Assets Not Included in CLIN0009 Douglass Bridge (S. Capitol Street Bridge)

Transformers located off of the bridge structure (Owned by Pepco)

RA04 Appendix W:
Selection Process Flowchart

APPENDIX W - DDOT Street Light Asset Management Program Scoring Process and Example



1, 2, 3 - All Cost/Price scores will be calculated proportionally. The lowest cost/price proposal will receive 30 pts, higher priced proposals will be scored based on the following formula:

$$SCORE = (1 - \frac{bid\$ - lowbid\$}{lowbid\$}) * 30$$

4 - Scores for the 2nd tier Cost/Price Evaluation will be added to the Technical/Innovative and Staffing/Management total scores

Technical Volume Evaluation	A	B	C	D	E	
Category	Ward-Based Proposals			Innovative Proposals		
Technical / Innovation	16	22	20	27	24	Minimum Passing Score = 18
Staffing / Mgt / QA / QC / Past Perf	22	30	27	36	32	Minimum Passing Score = 24

Cost / Price Evaluation WITHIN Approaches	A	B	C	D	E
CLIN	Ward-Based Proposals			Systemwide Proposals	
0001	Proposal Did Not Pass Technical Evaluation	$ 1,105,000	$ 1,235,000		
0002		$ 1,147,500	$ 1,282,500		
0003		$ 1,020,000	$ 1,140,000		
0004		$ 1,275,000	$ 1,425,000		
0005		$ 977,500	$ 1,092,500		
0006		$ 935,000	$ 1,045,000		
0007		$ 722,500	$ 807,500		
0008		$ 1,062,500	$ 1,187,500		
0009		$ 552,500	$ 617,500		
0010				$ 27,180,000	$ 24,160,000
0011		$ 297,500	$ 332,500	$ 315,000	$ 280,000
0012		$ 297,500	$ 332,500	$ 315,000	$ 280,000
0013		$ 34,000	$ 38,000	$ 36,000	$ 32,000
Energy Bill		$ 7,200,000	$ 7,200,000	Included in the total cost	Included in the total cost
Total Cost		$ 16,626,500	$ 17,735,500	$ 27,846,000	$ 24,752,000
Cost/Price Scores WITHIN Approaches		30	28	26	30

Calculate Total Scores WITHIN Approaches	A	B	C	D	E
	Ward-Based Proposals			Innovative Proposals	
	N/A	**82**	**75**	**89**	**86**

Calculate Total Score BETWEEN Approaches	Proposal	B	D
	Combined Technical Score	52	63
	Total Cost (Including Energy)	$ 16,626,500	$ 27,846,000
	Cost/Price Score BETWEEN Approaches	30	17
	Total Score	**82**	**80**

Proposal B received the highest total score for the Ward-Based proposals. Proposal D received the highest total score for Innovative Proposals. When compared between approaches, Proposal B received a higher total score and is the best-value.

Technical Volume Evaluation	A	B	C	D	E	
Category	Ward-Based Proposals			Innovative Proposals		
Technical / Innovation	16	22	20	28	24	Minimum Passing Score = 18
Staffing / Mgt / QA / QC / Past Perf	22	28	27	36	32	Minimum Passing Score = 24

Cost / Price Evaluation WITHIN Approaches	A	B	C	D	E
CLIN	Ward-Based Proposals			Systemwide Proposals	
0001	Proposal Did Not Pass Technical Evaluation	$ 1,105,000	$ 1,235,000		
0002		$ 1,147,500	$ 1,282,500		
0003		$ 1,020,000	$ 1,140,000		
0004		$ 1,275,000	$ 1,425,000		
0005		$ 977,500	$ 1,092,500		
0006		$ 935,000	$ 1,045,000		
0007		$ 722,500	$ 807,500		
0008		$ 1,062,500	$ 1,187,500		
0009		$ 552,500	$ 617,500		
0010				$ 24,910,000	$ 24,160,000
0011		$ 297,500	$ 332,500	$ 315,000	$ 280,000
0012		$ 297,500	$ 332,500	$ 315,000	$ 280,000
0013		$ 34,000	$ 38,000	$ 36,000	$ 32,000
Energy Bill		$ 7,200,000	$ 7,200,000	Included in the total cost	Included in the total cost
Total Cost		$ 16,626,500	$ 17,735,500	$ 25,576,000	$ 24,752,000
Cost/Price Scores WITHIN Approaches		30	28	29	30

Calculate Total Scores WITHIN Approaches	A	B	C	D	E
	Ward-Based Proposals			Innovative Proposals	
	N/A	**80**	**75**	**93**	**86**

Calculate Total Score BETWEEN Approaches	Proposal	B	D
	Combined Technical Score	50	64
	Total Cost (Including Energy)	$ 16,626,500	$ 25,576,000
	Cost/Price Score BETWEEN Approaches	30	19
	Total Score	**80**	**83**

Proposal B received the highest total score for the Ward-Based proposals. Proposal D received the highest total score for Innovative Proposals. When compared between approaches, Proposal D received a higher total score and is the best-value.

RA04 Appendix Y:
Estimated Material Usage

Estimated Material Usage

Item Description	9 Months Consumption	Estimated Monthly consumption	Estimated Annual Consumption
# 1 Butt Conn.	210	23.3	280
# 1/0 Butt Splice	40	4.4	53
# 1/0 Split Bolts	201	22.3	268
# 18 Butt Conn. Per Pack 100	100	11.1	133
# 2 Butt Conn.	298	33.1	397
# 2 Stranded Copper Wire	3430	381.1	4573
# 2/0 Butt Splice	40	4.4	53
# 2/0 Split Bolts	194	21.6	259
# 3/0 Butt Splice	50	5.6	67
# 4/0 Stranded Copper Wire	350	38.9	467
# 6 Stranded Copper Wire	290	32.2	387
# 8 Stranded Copper Wire	500	55.6	667
#10 Butt Splices	4	0.4	5
#10 Stranded Wire	69000	7666.7	92000
#14 Butt Splices	500	55.6	667
#14 Cast Iron Pole	4	0.4	5
#16 Cast Iron Pole	17	1.9	23
#18 Butt Splices	300	33.3	400
#18 Cast Iron Pole	1	0.1	1
#2 Split Bolt	23	2.6	31
#4 Stranded Wire	9080	1008.9	12107
#6 Tri-Plex Wire	22000	2444.4	29333
#716 Pole	2	0.2	3
#8 Stranded Bare Ground	1500	166.7	2000
1" PVC 10 Ft Long	245	27.2	327
1" U-Guard Shield PVC	10	1.1	13
1000W HPS Lamp	23	2.6	31
100W HPS Conversion Kit Ballast	16	1.8	21
100W HPS Core & Coil Ballast Kit	4	0.4	5
100W HPS Cutoff Fixture	132	14.7	176
100W HPS Lamp	2172	241.3	2896
100W HPS Medium Lamp	54	6	72
100W HPS Power Door	183	20.3	244
100W Medium Mercury Vapor Lamp	8	0.9	11
100W Mercury Vapor Lamp	24	2.7	32
10-10 Copper To Copper Barrel Splices	450	50	600
105-130V O.H. Guide Sign Photo Cell	4	0.4	5
118 Plastic Globes	334	37.1	445
120v Ballast For Florescent Tube	3	0.3	4
15" T-Base Door	211	23.4	281
150W HPS Conversion Kit Ballast	78	8.7	104
150W HPS Core & Coil Ballast Kit	1	0.1	1
150W HPS Cutoff Fixture	57	6.3	76
150W HPS Lamp	1157	128.6	1543
150W HPS Power Door	130	14.4	173
150W Inc 200 Series Fixture	3	0.3	4
150W Medium HPS Lamp_	6	0.7	8
175W HPS Conversion Kit Ballast	3	0.3	4

Item Description	9 Months Consumption	Estimated Monthly consumption	Estimated Annual Consumption
175W Mercury Vapor Lamp	147	16.3	196
175W mh Teardrop Fixture	1	0.1	1
189W Incandescent Lamp	1977	219.7	2636
192 Globes (For #14 Poles)	26	2.9	35
2" PVC - 90* Elbows	388	43.1	517
2" PVC 22 Deg. Elbow	67	7.4	89
2" PVC 3" Sleeve	87	9.7	116
2" PVC 45 Deg. Elbow	13	1.4	17
2" PVC Conduit Schd 40- Total Feet	2300	255.6	3067
2" PVC Couplings	443	49.2	591
2" Reducing Bushing 2" To 3" PVC	4	0.4	5
2" U-Guard Shield PVC	730	81.1	973
200W Metal Halide Lamp	9	1	12
2" PVC Conduit Schd 40- Total Feet	180	20	240
250 HPS Wall Pack Fixtr Holophane- MW250HPMTZ	1	0.1	1
250W HPS Conversion Kit Ballast	76	8.4	101
250W HPS Core & Coil Ballast Kit	6	0.7	8
250W HPS Cutoff Fixture	127	14.1	169
250W HPS Gray Tear Drop Fixture	3	0.3	4
250W HPS Lamp	2213	245.9	2951
250W HPS Power Door	257	28.6	343
250W Mercury Vapor Lamp	92	10.2	123
250W Metal Halide Lamp	167	18.6	223
250W mh Conv Kit	4	0.4	5
277v Ballast For Flor.Tube	9	1	12
28' 6" Octaflute Pole	28	3.1	37
3 Ft Arm For Metal Pole	16	1.8	21
3 Ft Arm For Wood Pole	31	3.4	41
3" PVC Couplings	2	0.2	3
327W Incandescent Lamp	5337	593	7116
3M Rubber Tape - 3/4"	34	3.8	45
4" PVC Sleeve	2	0.2	3
4" U-Guard Shield PVC	20	2.2	27
4/0 X Barrel/Butt Splices	30	3.3	40
400 mh Conv. Kit	34	3.8	45
400W HPS Conversion Kit Ballast	89	9.9	119
400W HPS Core & Coil Ballast Kit	10	1.1	13
400W HPS Cutoff Fixture	367	40.8	489
400W HPS Lamp	3882	431.3	5176
400W HPS Power Door	458	50.9	611
400W HPS Tear Drop Fixtures	2	0.2	3
400W Mercury Vapor Lamp	120	13.3	160
400W Metal Halide Lamp	90	10	120
400W Mh Core & Coil Ballast Kit	19	2.1	25
405 Incandescent Lamp	179	19.9	239
4-4 Copper To Copper Barrel Splices	550	61.1	733
5A Alley Light - Globe	84	9.3	112
5A Alley Pole	28	3.1	37
6 Ft Arm For Wood Pole	33	3.7	44

Item Description	9 Months Consumption	Estimated Monthly consumption	Estimated Annual Consumption
6-6 Copper To Copper Barrel Splices	1150	127.8	1533
67 W Incandescent Lamp	27	3	36
70W HPS Cutoff Fixture	85	9.4	113
70W HPS Lamp	112	12.4	149
8 Ft Arm For Metal Pole	10	1.1	13
8 Ft Arm For Tear Drop Fixture	1	0.1	1
85W - 6' Fluorescent Lamp	521	57.9	695
8-8 Copper To Copper Barrel Splices	2746	305.1	3661
Black Tape - 1-1/2"	307	34.1	409
Black Tape - 3/4"	55	6.1	73
Black Top	88	9.8	117
Blue Tape	11	1.2	15
Cable Ties Per Pack 100	500	55.6	667
Concrete	414	46	552
C-Tap #2-4	6	0.7	8
C-Tap #4-6	4	0.4	5
Elephant Ear	122	13.6	163
Female Ends Florecent.	59	6.6	79
Glass Lens For Small Fixtures	7	0.8	9
GLR-5 Fuse	15	1.7	20
Green Tape- 3/4"	12	1.3	16
Ground rods 15 Ft.	31	3.4	41
Ground Terminals for T-Base	155	17.2	207
Halothane Glass Door Assembly.	12	1.3	16
Hand Box - Small	4	0.4	5
Igniter Round	20	2.2	27
Isolators For Wood Pole Large	7	0.8	9
Joint Cork 1/2" X 6" X 10ft.	140	15.6	187
Large Pad Lock/Keyed	30	3.3	40
Led Lamps/Green	12	1.3	16
Led Lamps/Red	27	3	36
Led Lamps/White	11	1.2	15
Male Ends Flo Recent. (Tube Lamp)	68	7.6	91
Mule Tape	1	0.1	1
Navigational Lights 12 Volt - 55 Amp	10	1.1	13
Night Watchman Photocell	792	88	1056
OH Guide Sign Fixture 100 Watt HPS	6	0.7	8
OH Guide Sign Fixture 150 Watt HPS	3	0.3	4
Plug In Starter Board 150- 400W HPS	70	7.8	93
Plug In Starter Board 35- 150W HPS	58	6.4	77
Propane	4	0.4	5
PVC Cement	12	1.3	16
Red Tape - 3/4"	39	4.3	52
Rubber Tape - 1-1/2"	211	23.4	281
Sand	1	0.1	1
Sauna Tube 24" X 12 Ft.	102	11.3	136
Scothkote	25	2.8	33
Short Caps	141	15.7	188
Small Pad Lock/Keyed	30	3.3	40

Item Description	9 Months Consumption	Estimated Monthly consumption	Estimated Annual Consumption
Spray Paint White Marking	8	0.9	11
Starter Board 150- 400W HPS	4	0.4	5
Starter Board 50- 150W HPS	4	0.4	5
Straw	7	0.8	9
T - #20 Base Door	2	0.2	3
T- Base 15"	197	21.9	263
T- Base 17"	1	0.1	1
T -Base Doors #14	6	0.7	8
T -Base Doors #16	3	0.3	4
Twin 20 Cross Arm'S	3	0.3	4
Twin 20 Pole	3	0.3	4
Twist Lock Assembly.Metal Pole	8	0.9	11
Twist Lock Assembly.Wood Pole	5	0.6	7
Twist Lock Photocell	3996	444	5328
Universal Twist Lock Kit	7	0.8	9
Wasp Spray	50	5.6	67
White Tape- 3/4"	67	7.4	89
Wire Holder For Wood Pole	7	0.8	9
Wooden Alley Pole	4	0.4	5
Yellow & Black (Safety Marking Tape 2")	6	0.7	8
Yellow & Black No Current Tape	56	6.2	75
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