

**RESOLUTION
(R-14-56)**

INTRODUCED BY COUNCILMEMBER RICH

WHEREAS, the City of Poughkeepsie has retained Wendell Energy to explore the feasibility of replacing the existing aged street lighting system with a high energy efficient LED lighting system; and

WHEREAS, the city's consultant has determined that replacing the current electrical street light system with LED fixtures would lead to a significant reduction in energy consumption, reduced operating and maintenance and thus lead to significant savings; and

WHEREAS, on March 3, 2014 Wendell Energy presented its findings to the Common Council detailing the economics and financing of the project; and

WHEREAS, the city has conducted a demonstration project with several vendors on Main Street to assess the functionality of the LED lights compared to the existing street light system; and

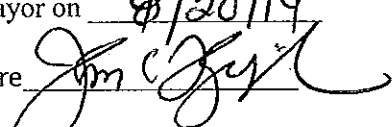
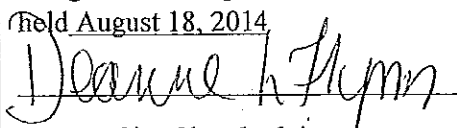
WHEREAS, the Common Council is desirous of seeking any and all funding opportunities including grants, low-interest loans, and traditional financing in order to implement the LED project; and

NOW, THEREFORE,

BE IT RESOLVED, that the Common Council of the City of Poughkeepsie, based on the current available information, adopts and supports the proposed plan to proceed with the conversion of the existing street light program with an energy efficient LED street light program; and

BE IT FURTHER RESOLVED, the Common Council supports and endorses the administration's efforts to pursue all funding opportunities including grants, low-interest loans and traditional funding opportunities, if necessary, subject to final approval of the terms.

SECONDED BY COUNCILMEMBER MCCLINTON

<p>Submitted to Council: August 18, 2014 Council Action: Approved Roll call vote taken: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Ayes 7 Nays 0 Abstain 0 Absent 1 Approved by Mayor on <u>8/20/14</u> Mayor's Signature </p>	<p>I hereby certify the foregoing to be a true and correct copy of a Resolution duly adopted at a regular meeting of the Common Council held August 18, 2014.  City Chamberlain</p>
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City of Poughkeepsie

LED Project Evolution

	Cost	Annual Savings	Total Financing Costs
Project (3/3/14)	\$5,572,239	\$419,763	\$8,081,728
<u>Project Cost (8/5/14)</u>	<u>\$4,900,263</u>	<u>\$475,455</u>	<u>\$6,394,985</u>
Difference in Project Cost and Savings (Reduction in Fees and Lower cost from newer product)	\$671,976	\$55,692	\$1,686,743
Savings from reduction in Wendel Fees		\$110,783	
Project Payment for Bond		\$198,092	
Cumulative Net Savings over 25 Years		\$9,756,915	
Savings from 5 Year BAN vs 1 Year Ban		\$723,751	
NYSERDA Rebate		\$269,144	
Simple Payback (including estimated incentives)		9.3 years	

Needed from Central Hudson

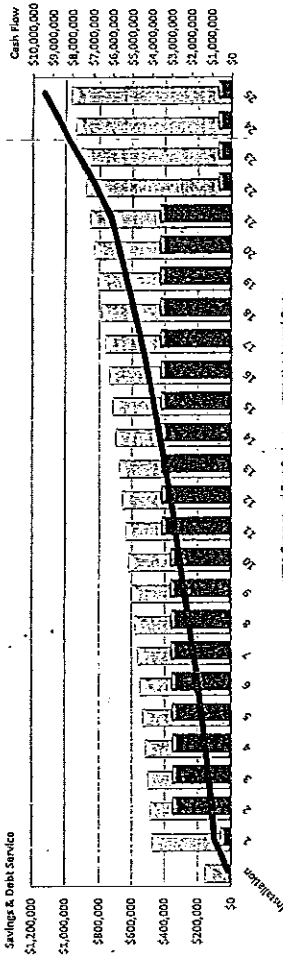
1. Approval of Installation Contractors from Central Hudson, or
2. Have Central Hudson Prepare Timeline for make ready costs of the poles and provide timeline.

City of Poughkeeps.
Cashflow Analysis with Leotek Cobraheads
8/11/2014

Preliminary - Installation and Equipment Pricing not Finalized

Project Financing	
Project Cost ¹	\$4,900,283
Costs After ANSERDA Rebate	\$4,631,120
Financed Amount	\$4,900,283
Upfront Funding Percent	
BANK Interest Rate	1.50%
Long Term Interest Rate	3.75%
Term of Financing	20
Payment Frequency	Annually
Net Present Value (NPV)	\$3,873,518
Return on Investment (ROI)	74.97%

Simple Pay Back Including Rebates and Maintenance Costs	A
	9.28



Year	Installation	Energy Cost Savings	CHCE Fee Savings	Annual Revenue Increase	Guaranteed Cost Savings	Utility Incentives	Anticipated M&M Cost	Financing Costs	Net Annual Costs	Annual Cash Flow	Cumulative Cash Flow
1	\$83,606	\$284,639	\$284,639	\$0	\$475,495	\$209,144	\$19,018	\$73,504	\$67,942	\$158,486	\$158,486
2	\$190,816	\$284,639	\$284,639	\$0	\$475,495	\$209,144	\$19,018	\$73,504	\$67,942	\$352,007	\$510,493
3	\$190,816	\$284,639	\$284,639	\$0	\$475,495	\$209,144	\$19,018	\$73,504	\$67,942	\$545,511	\$666,004
4	\$208,510	\$311,033	\$311,033	\$0	\$519,543	\$21,443	\$21,405	\$352,633	\$395,172	\$152,339	\$818,343
5	\$234,765	\$320,364	\$320,364	\$0	\$535,120	\$19,487	\$22,047	\$352,633	\$384,094	\$167,257	\$985,600
6	\$221,208	\$328,975	\$328,975	\$0	\$551,383	\$4,786	\$0	\$352,633	\$351,419	\$160,138	\$1,145,738
7	\$227,844	\$333,874	\$333,874	\$0	\$587,719	\$7,842	\$0	\$352,633	\$390,475	\$207,244	\$1,352,982
8	\$234,680	\$350,071	\$350,071	\$0	\$584,750	\$7,931	\$0	\$352,633	\$390,564	\$224,198	\$1,577,180
9	\$241,720	\$360,573	\$360,573	\$0	\$602,283	\$13,217	\$0	\$352,633	\$365,850	\$236,443	\$1,813,623
10	\$248,972	\$374,390	\$374,390	\$0	\$620,362	\$13,360	\$0	\$352,633	\$366,013	\$254,349	\$2,067,972
11	\$286,441	\$382,632	\$382,632	\$0	\$638,672	\$67,450	\$0	\$352,633	\$420,084	\$218,899	\$2,286,871
12	\$284,134	\$384,008	\$384,008	\$0	\$658,142	\$85,630	\$0	\$352,633	\$421,289	\$230,878	\$2,517,750
13	\$272,058	\$405,828	\$405,828	\$0	\$677,688	\$91,894	\$0	\$352,633	\$422,467	\$235,419	\$2,753,169
14	\$280,220	\$418,003	\$418,003	\$0	\$698,222	\$71,061	\$0	\$352,633	\$423,694	\$274,828	\$3,028,000
15	\$288,628	\$430,543	\$430,543	\$0	\$719,168	\$72,313	\$0	\$352,633	\$424,847	\$294,223	\$3,322,223
16	\$297,268	\$443,459	\$443,459	\$0	\$740,744	\$73,560	\$0	\$352,633	\$426,224	\$314,920	\$3,637,143
17	\$308,204	\$455,783	\$455,783	\$0	\$762,988	\$74,883	\$0	\$352,633	\$427,526	\$335,440	\$3,972,583
18	\$315,390	\$470,468	\$470,468	\$0	\$785,895	\$76,222	\$0	\$352,633	\$428,865	\$357,000	\$4,329,583
19	\$324,851	\$484,580	\$484,580	\$0	\$809,431	\$77,577	\$0	\$352,633	\$430,210	\$378,221	\$4,707,804
20	\$334,597	\$499,117	\$499,117	\$0	\$833,714	\$78,959	\$0	\$352,633	\$431,589	\$402,321	\$5,110,125
21	\$344,635	\$514,081	\$514,081	\$0	\$858,725	\$80,370	\$0	\$352,633	\$433,003	\$425,723	\$5,535,848
22	\$354,974	\$529,513	\$529,513	\$0	\$884,467	\$81,808	\$0	\$0	\$0	\$81,808	\$6,357,656
23	\$365,623	\$545,309	\$545,309	\$0	\$911,022	\$83,275	\$0	\$0	\$0	\$83,275	\$6,800,931
24	\$376,592	\$561,761	\$561,761	\$0	\$938,352	\$84,771	\$0	\$0	\$0	\$84,771	\$7,285,702
25	\$387,860	\$578,653	\$578,653	\$0	\$966,503	\$86,297	\$0	\$0	\$0	\$86,297	\$7,814,359
Totals	\$7,020,636	\$10,772,026	\$10,772,026	\$0	\$17,493,242	\$293,141	\$103,429	\$7,120,169	\$8,664,941	\$9,446,588	\$9,446,588

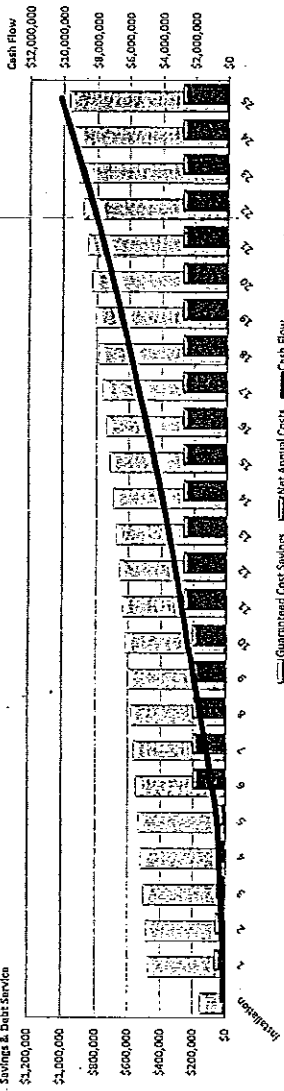
Note:
1. Include all costs for Development Phase services and all costs for design and construction of GCs. Does not include O&M or monitoring and validation (M&V) costs.
2. [(Net Present Value of Annual Savings - Financing Cost) over average equipment useful life] / (Total project cost)

CHCE Fee Escalation: 3.0%
Energy Escalation: 3.0%
M&M Escalation: 3.0%
Discount Rate: 4.0%

City of Poughkeepsie
Cashflow Analysis with Leotek Cobraheads
8/11/2014

Preliminary - Installation and Equipment Pricing not Finalized

Project Financing	
Project Cost	\$4,900,263
Costs After NYSD&A Rebate	\$4,631,120
Financed Amount	\$4,900,263
Upfront Funding Percent	1.50%
BAI Interest Rate	3.75%
Long Term Interest Rate	20
Term of Financing	Annually
Payment Frequency	
Net Present Value (NPV)	\$5,040,396
Return on Investment (ROI)	1281.27%



Simple Pay Back Including Rebates and Maintenance Costs	9.26
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Year	Principal Balance	Energy Cost Savings	CH&E Fee Savings	Guaranteed Cost Savings	Maintenance Costs	Utility Incentives	Anticipated M&W Cost	Financing Costs	Net Annual Costs	Annual Cash Flow	Principal Payment	Cumulative Cash Flow
0	\$0											
1	\$4,900,263	\$130,818	\$294,639	\$478,458	\$24,581	\$269,144	\$19,048	\$73,504	\$87,942	\$795,143	\$0	\$100,000
2	\$4,165,121	\$108,540	\$283,179	\$489,715	\$20,803	\$261,974	\$20,176	\$62,477	\$84,850	\$427,889	\$327,889	\$200,000
3	\$3,837,202	\$202,437	\$301,974	\$504,411	\$21,243	\$271,243	\$21,782	\$57,559	\$57,097	\$447,314	\$347,314	\$300,000
4	\$3,488,938	\$208,510	\$311,033	\$519,543	\$21,863	\$281,405	\$22,405	\$52,349	\$52,062	\$487,481	\$367,481	\$400,000
5	\$3,122,457	\$214,765	\$320,354	\$535,129	\$19,887	\$291,047	\$23,047	\$46,837	\$49,197	\$485,932	\$385,932	\$500,000
6	\$2,736,525	\$221,208	\$328,975	\$551,183	\$17,668	\$300,928	\$23,712	\$40,928	\$201,712	\$546,474	\$0	\$600,000
7	\$2,336,525	\$227,844	\$335,874	\$567,719	\$15,842	\$309,874	\$24,378	\$35,928	\$204,768	\$622,951	\$0	\$1,212,422
8	\$2,736,525	\$234,680	\$343,071	\$584,750	\$14,380	\$318,800	\$25,036	\$30,928	\$204,857	\$722,893	\$0	\$1,935,315
9	\$2,736,525	\$241,720	\$350,573	\$602,255	\$13,217	\$327,830	\$25,782	\$25,928	\$204,857	\$822,828	\$0	\$2,758,143
10	\$2,736,525	\$248,441	\$357,390	\$620,282	\$12,450	\$336,872	\$26,558	\$20,928	\$204,857	\$922,828	\$0	\$3,680,971
11	\$2,736,525	\$254,934	\$364,008	\$638,442	\$11,803	\$345,928	\$27,348	\$15,928	\$204,857	\$1,022,828	\$0	\$4,703,800
12	\$2,736,525	\$261,038	\$370,528	\$656,522	\$11,217	\$354,974	\$28,144	\$10,928	\$204,857	\$1,122,828	\$0	\$5,826,628
13	\$2,736,525	\$266,851	\$376,974	\$674,603	\$10,687	\$363,928	\$28,940	\$5,928	\$204,857	\$1,222,828	\$0	\$6,949,456
14	\$2,736,525	\$272,480	\$383,354	\$692,222	\$10,217	\$372,874	\$29,736	\$0,928	\$204,857	\$1,322,828	\$0	\$8,072,284
15	\$2,736,525	\$277,928	\$389,687	\$709,899	\$9,768	\$381,828	\$30,532	\$0,928	\$204,857	\$1,422,828	\$0	\$9,195,112
16	\$2,736,525	\$283,285	\$395,974	\$727,633	\$9,317	\$390,782	\$31,328	\$0,928	\$204,857	\$1,522,828	\$0	\$10,317,940
17	\$2,736,525	\$288,559	\$402,217	\$745,424	\$8,874	\$399,736	\$32,124	\$0,928	\$204,857	\$1,622,828	\$0	\$11,440,768
18	\$2,736,525	\$293,750	\$408,414	\$763,170	\$8,439	\$408,690	\$32,920	\$0,928	\$204,857	\$1,722,828	\$0	\$12,563,596
19	\$2,736,525	\$298,861	\$414,559	\$780,969	\$8,013	\$417,644	\$33,716	\$0,928	\$204,857	\$1,822,828	\$0	\$13,686,424
20	\$2,736,525	\$303,894	\$420,663	\$798,722	\$7,603	\$426,598	\$34,512	\$0,928	\$204,857	\$1,922,828	\$0	\$14,809,252
21	\$2,736,525	\$308,849	\$426,728	\$816,529	\$7,203	\$435,552	\$35,308	\$0,928	\$204,857	\$2,022,828	\$0	\$15,932,080
22	\$2,736,525	\$313,724	\$432,752	\$834,390	\$6,817	\$444,506	\$36,104	\$0,928	\$204,857	\$2,122,828	\$0	\$17,054,908
23	\$2,736,525	\$318,519	\$438,726	\$852,303	\$6,434	\$453,460	\$36,900	\$0,928	\$204,857	\$2,222,828	\$0	\$18,177,736
24	\$2,736,525	\$323,234	\$444,650	\$870,268	\$6,068	\$462,414	\$37,696	\$0,928	\$204,857	\$2,322,828	\$0	\$19,300,564
25	\$2,736,525	\$327,869	\$450,524	\$888,282	\$5,717	\$471,368	\$38,492	\$0,928	\$204,857	\$2,422,828	\$0	\$20,423,392
Table	\$74,448,522	\$7,020,616	\$30,472,650	\$17,493,242	\$1,086,200	\$269,144	\$108,429	\$4,291,240	\$5,090,019	\$12,311,510	\$2,163,789	\$10,177,771

Note:
1. Include all costs for Development, Phase services and all costs for design and construction of EQMA. Does not include O&M or monitoring and validation (M&V) costs.
2. [(Net Present Value of Annual savings - Financing cost) / (Total project cost)]

CH&E Fee Escalation: 3.0%
Energy Escalation: 3.0%
MS&V Escalation: 3.0%
Discount Rate: 4.0%