

# Base Project

## Town of Amherst

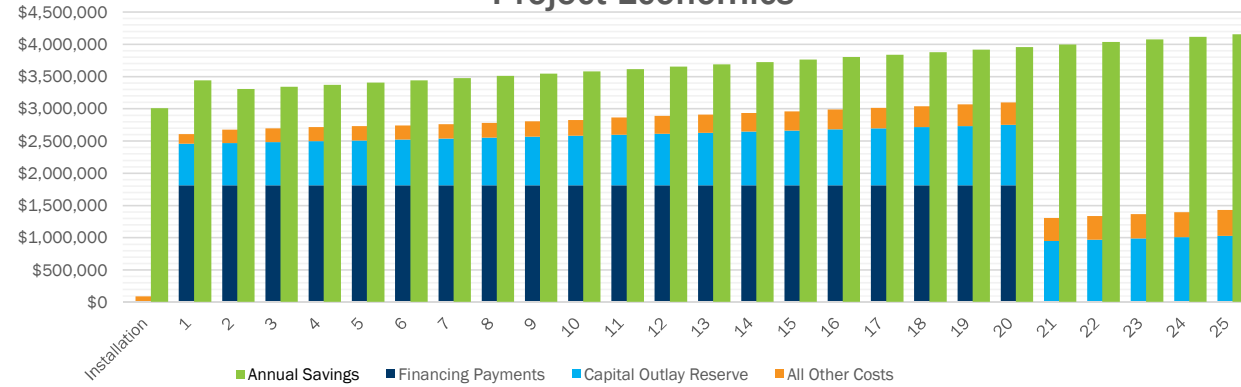
### Preliminary Financial Projections

2/24/2020

**Project Financing Details**

Total Construction Cost <sup>1</sup>	\$10,218,216
Utility Purchase Cost <sup>2</sup>	\$15,618,234
Total Project Cost	\$25,836,450
Interest Rate	3.50%
Term of Financing	20
Payment Frequency	Annual

### Project Economics



Year	A	B	C	D = A + B + C	E	F	G	H	I	J	K = E + F + G + H + I + J	L = D - K	M = L + M <sup>n-1</sup>
	Annual Energy Savings <sup>3</sup>	New Energy Incentives <sup>4</sup>	Annual Facility Charge Savings <sup>5</sup>	Total Annual Savings	Financing Payments	Annual Utility Charge Cost <sup>6</sup>	Real Property Tax & Insurance Costs <sup>7</sup>	Annual M&V Costs <sup>8</sup>	Operation & Maintenance Costs <sup>9</sup>	Capital Outlay Reserve <sup>10</sup>	Net Annual Costs	Annual Cash Flow	Cumulative Cash Flow
Installation	\$237,453		\$2,767,582	\$3,005,034		-\$20,506	-\$75,000				-\$95,506	\$2,909,529	\$2,909,529
1	\$474,906	\$167,695	\$2,795,257	\$3,437,858	-\$1,817,880	-\$20,711	-\$76,500	-\$10,000	-\$40,470	-\$642,026	-\$2,607,587	\$830,271	\$3,739,800
2	\$479,655	\$0	\$2,823,210	\$3,302,865	-\$1,817,880	-\$20,918	-\$78,030	-\$10,300	-\$96,888	-\$654,866	-\$2,678,882	\$623,983	\$4,363,783
3	\$484,451	\$0	\$2,851,442	\$3,335,893	-\$1,817,880	-\$21,127	-\$79,591	-\$10,609	-\$100,399	-\$667,964	-\$2,697,569	\$638,324	\$5,002,107
4	\$489,296	\$0	\$2,879,957	\$3,369,252	-\$1,817,880	-\$21,338	-\$81,182	-\$10,927	-\$104,044	-\$681,323	-\$2,716,695	\$652,558	\$5,654,664
5	\$494,189	\$0	\$2,908,756	\$3,402,945	-\$1,817,880	-\$21,552	-\$82,806	-\$11,255	-\$107,827	-\$694,949	-\$2,736,270	\$666,675	\$6,321,339
6	\$499,131	\$0	\$2,937,844	\$3,436,974	-\$1,817,880	-\$21,767	-\$84,462	\$0	-\$111,756	-\$708,848	-\$2,744,714	\$692,261	\$7,013,600
7	\$504,122	\$0	\$2,967,222	\$3,471,344	-\$1,817,880	-\$21,985	-\$86,151	\$0	-\$115,834	-\$723,025	-\$2,764,876	\$706,468	\$7,720,068
8	\$509,163	\$0	\$2,996,894	\$3,506,057	-\$1,817,880	-\$22,205	-\$87,874	\$0	-\$120,069	-\$737,486	-\$2,785,514	\$720,543	\$8,440,611
9	\$514,255	\$0	\$3,026,863	\$3,541,118	-\$1,817,880	-\$22,427	-\$89,632	\$0	-\$124,465	-\$752,235	-\$2,806,640	\$734,478	\$9,175,089
10	\$519,397	\$0	\$3,057,132	\$3,576,529	-\$1,817,880	-\$22,651	-\$91,425	\$0	-\$129,031	-\$767,280	-\$2,828,267	\$748,262	\$9,923,352
11	\$524,591	\$0	\$3,087,703	\$3,612,295	-\$1,817,880	-\$22,877	-\$93,253	\$0	-\$151,177	-\$782,626	-\$2,867,814	\$744,480	\$10,667,832
12	\$529,837	\$0	\$3,118,580	\$3,648,417	-\$1,817,880	-\$23,106	-\$95,118	\$0	-\$156,722	-\$798,278	-\$2,891,105	\$757,312	\$11,425,144
13	\$535,136	\$0	\$3,149,766	\$3,684,902	-\$1,817,880	-\$23,337	-\$97,020	\$0	-\$162,469	-\$814,244	-\$2,914,951	\$769,951	\$12,195,095
14	\$540,487	\$0	\$3,181,264	\$3,721,751	-\$1,817,880	-\$23,571	-\$98,961	\$0	-\$168,424	-\$830,529	-\$2,939,365	\$782,386	\$12,977,481
15	\$545,892	\$0	\$3,213,076	\$3,758,968	-\$1,817,880	-\$23,806	-\$100,940	\$0	-\$174,598	-\$847,139	-\$2,964,364	\$794,604	\$13,772,085
16	\$551,351	\$0	\$3,245,207	\$3,796,558	-\$1,817,880	-\$24,044	-\$102,959	\$0	-\$180,996	-\$864,082	-\$2,989,962	\$806,596	\$14,578,681
17	\$556,864	\$0	\$3,277,659	\$3,834,523	-\$1,817,880	-\$24,285	-\$105,018	\$0	-\$187,630	-\$881,364	-\$3,016,177	\$818,347	\$15,397,027
18	\$562,433	\$0	\$3,310,436	\$3,872,869	-\$1,817,880	-\$24,528	-\$107,118	\$0	-\$194,506	-\$898,991	-\$3,043,024	\$829,845	\$16,226,872
19	\$568,057	\$0	\$3,343,540	\$3,911,597	-\$1,817,880	-\$24,773	-\$109,261	\$0	-\$201,635	-\$916,971	-\$3,070,521	\$841,077	\$17,067,949
20	\$573,738	\$0	\$3,376,976	\$3,950,713	-\$1,817,880	-\$25,021	-\$111,446	\$0	-\$209,027	-\$935,310	-\$3,098,684	\$852,029	\$17,919,978
21	\$579,475	\$0	\$3,410,745	\$3,990,220	\$0	-\$25,271	-\$113,675	\$0	-\$216,691	-\$954,016	-\$1,309,653	\$2,680,567	\$20,600,545
22	\$585,270	\$0	\$3,444,853	\$4,030,123	\$0	-\$25,524	-\$115,948	\$0	-\$224,638	-\$973,097	-\$1,339,207	\$2,690,916	\$23,291,460
23	\$591,123	\$0	\$3,479,301	\$4,070,424	\$0	-\$25,779	-\$118,267	\$0	-\$232,879	-\$992,559	-\$1,369,484	\$2,700,940	\$25,992,401
24	\$597,034	\$0	\$3,514,094	\$4,111,128	\$0	-\$26,037	-\$120,633	\$0	-\$241,425	-\$1,012,410	-\$1,400,504	\$2,710,624	\$28,703,025
25	\$603,004	\$0	\$3,549,235	\$4,152,239	\$0	-\$26,297	-\$123,045	\$0	-\$250,288	-\$1,032,658	-\$1,432,288	\$2,719,951	\$31,422,976
Totals	\$13,650,308	\$167,695	\$81,714,597	\$95,532,599	-\$36,357,609	-\$605,441	-\$2,525,318	-\$53,091	-\$4,003,888	-\$20,564,277	-\$64,109,623	\$31,422,976	

**Assumptions:**

- O&M Escalation: 1.0%
- Energy Escalation: 1.0%
- M&V Escalation: 3.0%
- Discount Rate: 4.0%
- Real Property Tax & Insurance Escalation: 2.0%

**Notes**

1. Project Cost include all professional and construction services for a turn-key, guaranteed energy savings project.
2. Purchase Costs represent cost of purchasing street lighting system from National Grid (NG).
3. Energy Savings represent savings from converting existing HID lamps to LED lamps as well as the transfer from Service Classification 2 to Service Classification 3 and the corresponding decrease in delivery rate.
4. Net Energy Incentives are based on current NG incentive programs.
5. Facility Charge Savings represents savings from the purchase of street lighting system from NG and assuming the maintenance responsibility for the street lighting district, removing facility charges.
6. Utility Charge represents an annual charge of \$7.20 for each roadway (cobrahead) fixture attached to a wooden utility pole.
7. This cost represents the anticipated loss in revenue from the real property tax & insurance costs collected from NG which will no longer be collected once the street lighting system is owned by the Town.
8. M&V period is assumed to include 5 years of active M&V followed by a stipulated guarantee for the balance of the contract
9. Operation & Maintenance is estimated at replacing 0.5% of fixtures due to accidents, power surges, etc. plus 1% of the total fixtures due to fixture and photocell failure, this does not include any facilities such as poles, arms, wiring etc.
10. Capital Outlay is estimated at replacing all of the facilities, not including the lights, over the next 25 years. Equipment life is projected at 50 years new. Note that 7.8% of equipment has been budgeted to be replaced during construction and the rest will be replaced over 25 years with 4% replaced / year at a 2% cost escalation rate.

