

**Town of Westford**  
**2018 Green Community Competitive Grant**  
**Final Report**



# Executive Summary

The town of Westford received an award of \$250,000 from the 2018 Green Community Competitive Grant program to continue our efforts to reduce energy consumption by 20%. Since the town of Westford was designated as a Green Community by the Massachusetts Department of Energy Resources (DOER) in December of 2013, we have received a total of \$1,137,013 to pursue and accomplish many projects aimed at reducing the town’s overall energy consumption. These projects will help us achieve the energy efficiency and sustainability goals identified in our Energy Reduction Plan (ERP). Our ERP is available online: <http://www.mass.gov/eea/docs/doer/green-communities/grant-program/energy-reduction-plan-westford.pdf>



## LED Streetlight Retrofit Project

### Summary

This project consisted multiple moving parts in order to retrofit our street lights in Westford to LED technology. In March 2018 at our Annual Town Meeting, Westford residents approved \$500,000 to move forward with the implementation of the LED streetlight project. Shortly thereafter, the town submitted two grant applications related to this project, including one with the Green Communities Program and the other through the Metropolitan Area Planning Council's (MAPC) LED Streetlight Rapid Retrofit Program. Surprisingly, we were awarded both grants to be used towards this project.

Until October 2018, the town owned only 200 street lights in Westford, most of which were located in subdivisions that were constructed between the 1980s and 1990s. The remaining approximately 975 street lights in Westford were owned and maintained by National Grid. The town purchased these street lights and assumed maintenance responsibilities in October 2018. The cost to purchase the street light assets from National Grid totaled \$37,129.20.

The town participated in 2 procurement processes managed by the MAPC to select a streetlight design firm and an installer for our new LED fixtures. The town selected Lightsmart for design services and quickly started working on reviewing the internal audit of our street lights that was conducted by the Westford GIS and Highway Departments. The town selected Arden Engineering Constructors for the installation portion of the project.

***Projected Annual Savings: \$46,370***  
***Annual Electric Reduction: 275,747 KWH***

**Total Project Cost: \$432,241.91 (estimated, not final)**

**Green Communities Funding: \$250,000**

**MAPC Grant Funding: \$56,000 (estimated, not final)**

**National Grid Incentives: \$90,000 (estimated, not final)**

**Town funds: \$500,000 available, will be used to cover any expenses beyond the Green Communities, MAPC, and incentive funding**

**Project Team**

Project Lead – Town	Eric Heideman, Assistant Town Manager
Project Oversight – Town	Chris Coutu, GIS Coordinator
Streetlight Design Services	Lightsmart
Project Installation Services	Arden Constructing Corporation

**Project Timeline**

Application to DOER	February 2018
Town Approval	March 2018
DOER Grant Approval	July 2018
Kick-off Meeting	July 2018
Installation Start	December 2018
Installation End	May 2019 (TBD)
Final Invoice Paid	TBD – Rewiring work in process

**Procurement Process**

The town procured all supplies and services related to this project through the release of multiple request for proposals, which were prepared and managed by the MAPC. The town participated in the proposal review processes.



<b>Street Light Project Financial Summary (Estimated-Not Final)</b>		
<b>Expenses</b>	<b>Vendor</b>	<b>Total</b>
Purchase of Street Lights from NGRID	National Grid	\$ (37,129.20)
Design Services	Lightsmart	\$ (10,842.00)
Purchase Cobra Heads	Standard Electric	\$ (114,994.70)
Purchase of Post Top Fixtures	Graybar	\$ (63,835.20)
Fuse Assemblies	Graybar	\$ (20,561.31)
Wireless Control Nodes	CIMCON	\$ (77,155.00)
Wireless Control Gateways	CIMCON	\$ (3,750.00)
Wireless Control Misc. Fees	CIMCON	\$ (6,437.00)
Installation of Street Lights	Arden Engineering	\$ (78,897.50)
Police Details	Westford Police Department	\$ (18,640.00)
		\$ (432,241.91)



## **Public Involvement**

Our LED street light retrofit project was presented/approved at Town Meeting and discussed at public meetings with the Board of Selectmen and open for public comments and/or concerns. The town's Energy Committee is currently planning future initiatives working collaboratively with the town staff.

## **Lessons Learned**

We learned a lot about streetlight retrofit projects, especially how much of a time commitment they can be for town resources. Fortunately for Westford, we had a very talented GIS Coordinator, Chris Coutu, who took the lead of managing most of the day-to-day issues that came up. These included issues with vendors, resident complaints, and coordination with impacted town department. We discovered that it was critical to double check all supply orders, as many of ours were invoiced at incorrect quantities and/or pricing. We discovered late into our project that a significant portion of the street light wiring in place (purchased from NGRID) was extremely deteriorated and in need of replacement. This was an unexpected expense that the town had to fund. We are very happy that we chose to install the wireless controls for our streets, especially because National Grid is in the process of approving a street light tariff to reduce expenses for communities who dim their fixtures.

We are excited to have our project nearly completed and look forward to providing input to municipalities who are considering purchasing/converting their streetlights to LED.

## **Other Energy Related Initiatives**

The town is currently in the process of designing a new administrative building to house our IT, Facilities, and Veteran's Department. This building will also be the new meeting location for our Board of Selectmen, which will have a 100-person capacity, given the large attendance at our public meetings. Our Permanent Town Building Committee and Energy Committee plan to ensure this building is designed and constructed in a manner to ensure energy efficiency measures are incorporated. The construction funding request is being brought before our Town Meeting in March 2020.



**Street Light Project Photographs**



**Pallets of New Street Lights**



**Leotek Cobra Head Style LED Lights**



**GE Town and Country Post Top LED Fixtures**



**CIMCON Wireless Control Gateway**





**Old Streetlights Taken Down**



**Flood Lights with Wireless Node Attached**





**Condition of Wiring to Many of the Existing Fixtures**



**New Equipment Organized in Trailer for Installation**