



MEMORANDUM

Diane Nichols Tradd  
*Assistant City Manager/DPD Director*

Kevin E. Coughlin  
*Deputy Director*

TO: Kevin J. Murphy, City Manager  
 FROM: Katherine Moses, Energy Manager  
 SUBJECT: Supplementary information on City Council Informational Communication 6.2 (A) of 1/9/18 in response to inquiries by Councilor Milinazzo and Councilor Elliott regarding buildings included in the Ameresco contract, as well as overall fiscal savings realized

**Facilities Included in the Ameresco Contract:**

In 2010, the City signed an agreement with Ameresco to complete over \$21 million in energy efficiency upgrades. The final project included 28 different Energy Conservation Measures (ECM's) across 29 different school buildings and 19 different municipal buildings including the following:

- |                                      |   |                                 |
|--------------------------------------|---|---------------------------------|
| Adult Basic School                   | Moody Elementary School                   | Lowell City Hall                |
| Bailey Elementary School             | Murkland Elementary School                | Pollard Memorial Library        |
| Bartlett Community Partnership       | Pawtucketville Memorial Elementary School | DPW Garage                      |
| Cardinal O'Connell School            | J.G. Pyne Arts Magnet School              | Shedd Park Building             |
| Butler Middle School                 | Reilly Elementary School                  | Cemetery Complex                |
| Daley Middle School                  | Riverside School                          | Cawley Stadium                  |
| Greenhalge Elementary School         | Robinson Middle School                    | Parks Department Headquarters   |
| Laura Lee Alternative School         | Rogers Middle School (now STEM Academy)   | Branch Street Fire Station      |
| LeBlanc Therapeutic Day School       | Shaughnessy Middle School                 | Lawrence Street Fire Station    |
| LHS Freshman Academy                 | Stoklosa Middle School                    | High Street Fire Station        |
| Lincoln Elementary School            | Sullivan Middle School                    | Rogers Street Fire Station      |
| Lowell High School – 1922 Building   | Wang Middle School                        | Stevens Street Fire Station     |
| Lowell High School – 1980's Building | Washington Elementary School              | W. Sixth Street Fire Station    |
| McAuliffe Elementary School          | Lowell Memorial Auditorium                | Gorham Street Fire Station      |
| Molloy Alternative School            | JFK Civic Center                          | Old Ferry Road Fire Station     |
|                                      |   | Hazmat Headquarters             |
|                                      |   | Health Department – Pine Street |

ECMs in the upgrade included, but were not limited to: lighting upgrades/controls; energy management system integration; HVAC upgrades and replacements; vending machine and computer controls; pumps, fans, and motors upgrades; roof replacements; window replacements; telecommunication upgrades; infiltration reduction; and insulation additions. Through the performance contract, Ameresco has contractually agreed that a minimum level of guaranteed savings will be realized each year for 20 years.

**Financial Impact:**

The full fiscal impact of the project can be assessed through different mechanisms. Savings would be realized in the following ways: before guaranteed savings period, during the guaranteed savings period, and through other project savings. Altogether, the City has saved **\$8,336,612** during these different periods as detailed below.

Savings Achieved to Date – Before Guaranteed Savings Period

Not all ECM's were implemented simultaneously since some projects necessarily took longer to implement than others. Once an ECM is complete, though, the City would begin getting immediate savings from it. Savings generated during this construction period can be estimated through a basic level analysis. The analysis completed below compared 2008 baseline year usage to the fiscal year under review on a building-by-building basis. The analysis assumed that all savings can be attributed to Ameresco-related projects. Historical electricity/natural gas costs were compared to historical usage. This is a general level analysis that does not factor in weather or ECM-specific savings. Using this methodology, the following savings were realized before the guaranteed savings period began:

Fiscal Year	Savings Realized
FY 2011	\$ 107,212
FY 2012	\$1,108,456
FY 2013	\$1,148,904
FY 2014(July-Feb)	\$ 599,862
<b>Total Savings Before Guaranteed Savings</b>	<b>\$2,964,434</b>

Savings Achieved to Date – Guaranteed Savings Period

The guaranteed savings period began once all ECM's were completed and the construction period was closed out. The official start date of this guaranteed savings period was March 2014. This report utilized a contractually agreed-upon International Performance Measurement and Verification Protocol (IPMVP). Utilizing this protocol, Ameresco exceeded its guaranteed savings for the first three years. Guaranteed Savings vs. Measured Savings are summarized below:

Contract Year	Guaranteed Savings	Measured Savings	Surplus Savings
1	\$1,522,678	\$1,708,413	\$185,734
2	\$1,568,359	\$1,759,115	\$190,756
3	\$1,615,410	\$1,811,888	\$196,479
<b>Total to Date</b>	<b>\$4,706,447</b>	<b>\$5,279,416</b>	<b>\$572,999</b>

Other Savings from the Project:

In addition to the guaranteed savings from specific ECM's within the project, solar panels were installed on Butler Middle School, Shaughnessy Elementary School, Pawtucketville Elementary School, Reilly Elementary School, and Lowell Memorial Auditorium through Ameresco Solar. Though there are no "guaranteed savings" with these projects within the performance contract, they have added to the value of the Ameresco project including:

- 2,056,869 kWh of energy saved at the Schools
- 484,980 kWh of renewable energy added to the grid at Lowell Memorial Auditorium
- **\$92,762** in utility bill savings

**Potential Opportunity**

The investment the City made through the ESCO process has shown significant savings. The advantage to this large investment is that it allowed multiple deficiencies to be addressed simultaneously. Implementing a similar ESCO process would allow for additional savings. If the City Council would like to pursue this course of action, it is recommended that a maintenance option be exercised as part of the project to protect infrastructure and ECMs.

DNT/ns  
01/09/18

cc: Diane Tradd, Assistant City Manager/DPD Director  
Philip Ferreira, Housing and Energy Programs Manager