

Syosset Central School District
November 13, 2017

An Energy Conservation Plan



Project Overview

Energy Performance Contracting is:

An agreement that allows school districts to take budgeted utility and operational costs and reallocate them into energy saving capital Improvements without the need for Increased Taxes.

Project Cost:
\$19,989,248

Annual District
Energy Savings:
\$1,199,260– 64%

Payback Period:
Approx. 15 years

Total Cash Flow:
\$7,691,206

Savings Guarantee:
100%

Energy Conservation Measures – LED Lighting Retrofits & Controls -

- Total Fixtures to be Upgraded: Over 13,000
- Total Exterior Fixtures to be Upgraded: Over 500
- Approximately 68,000 sq.ft. of ceilings to be replaced
- **Annual Savings: \$388,228**

Existing Lighting



Energy Conservation Measures – Energy Management System

- State of the Art DDC Control – Internet based system
- **Annual Savings: \$175,930**

District Wide Energy Management System



Energy Conservation Measures – Boiler / Burner Replacement

- New dual fuel boilers at Baylis, Village, Willits and South Grove Annex
- New dual fuel burners at Robbins Lane Elementary
- **Annual Savings: \$44,377**



Baylis ES

**Robbins
Lane ES**



Village ES



**South
Grove
Annex**



Energy Conservation Measures – Photovoltaic Installation

- Total PV Installation District-wide: **1,310.7 kW**
- **Annual Savings: \$231,153**

Building	PV Size (kW)
Baylis	282.4
Berry Hill	199.7
Syosset HS	361.8
Willits ES	216.4
H. B. Thompson	250.4
Total	1310.7



Baylis Elementary School – 282.4 kW Design

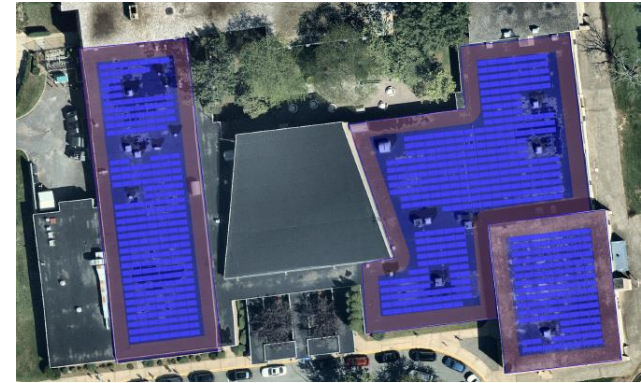
Energy Conservation Measures – Photovoltaic Installation



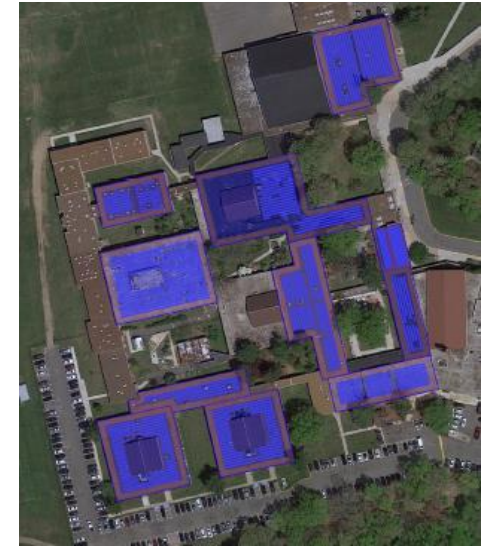
Willits Elementary School – 216.4 kW



**Berry Hill Elementary School –
199.7 kW**



H. B. Thompson Middle School – 250.4 kW



Syosset High School – 361.8 kW

Energy Conservation Measures – Cogeneration

- Generate Electricity and Provide Heat to Heating and Domestic Hot Water Systems
- Emergency Back Up Generator at South Woods Middle Schools
- **Annual Savings: \$111,600**

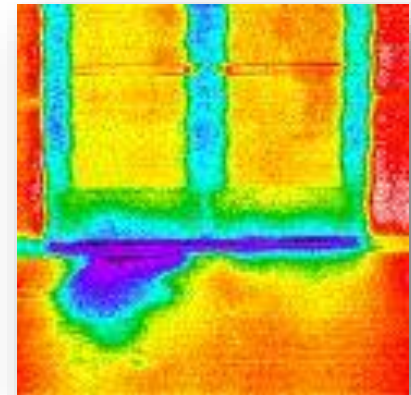
Building	No. of Units	Size (kW)
Syosset High School	2	75
South Woods Middle School	1	100



Johnson Controls Installation of 100 kW Cogeneration Unit at Eastport School District

Energy Conservation Measures - Other Measures

- Building Envelope – Weatherization
- Plug Load Controllers
- Air Handling Unit - VFD on Fans
- Computers Power Management
- Pipe and Valve Insulation
- Transformers Replacements
- Burner Controllers
- Water Conservation
- Motors Replacement
- VFD on Hot Water Pumps
- Vending Machine Controls
- Refrigeration Compressor Controllers



Cost and Savings Summary



How does the Cash Flow work?

Total 18 Year Cash Flow

Estimated State Aid	21.8%
Estimated Loan Interest Rate	3.50%
Estimated Financing	\$(25,142,880)
Estimated Savings	\$27,670,265
Estimated NYSSSED aid	\$4,713,821
Estimated Utility Rebates	\$450,000
Estimated Net cash flow to District	\$7,691,206

Questions?

