



Manhasset Public Schools

An Energy Conservation Plan

The power behind **your mission**



Project Overview

12

Energy Conservation
Measures (ECM)

17.9

years
SED Payback

\$3,496,717

Positive Cash Flow

\$7,595,359

Project Cost

\$378,609

Annual Energy Savings

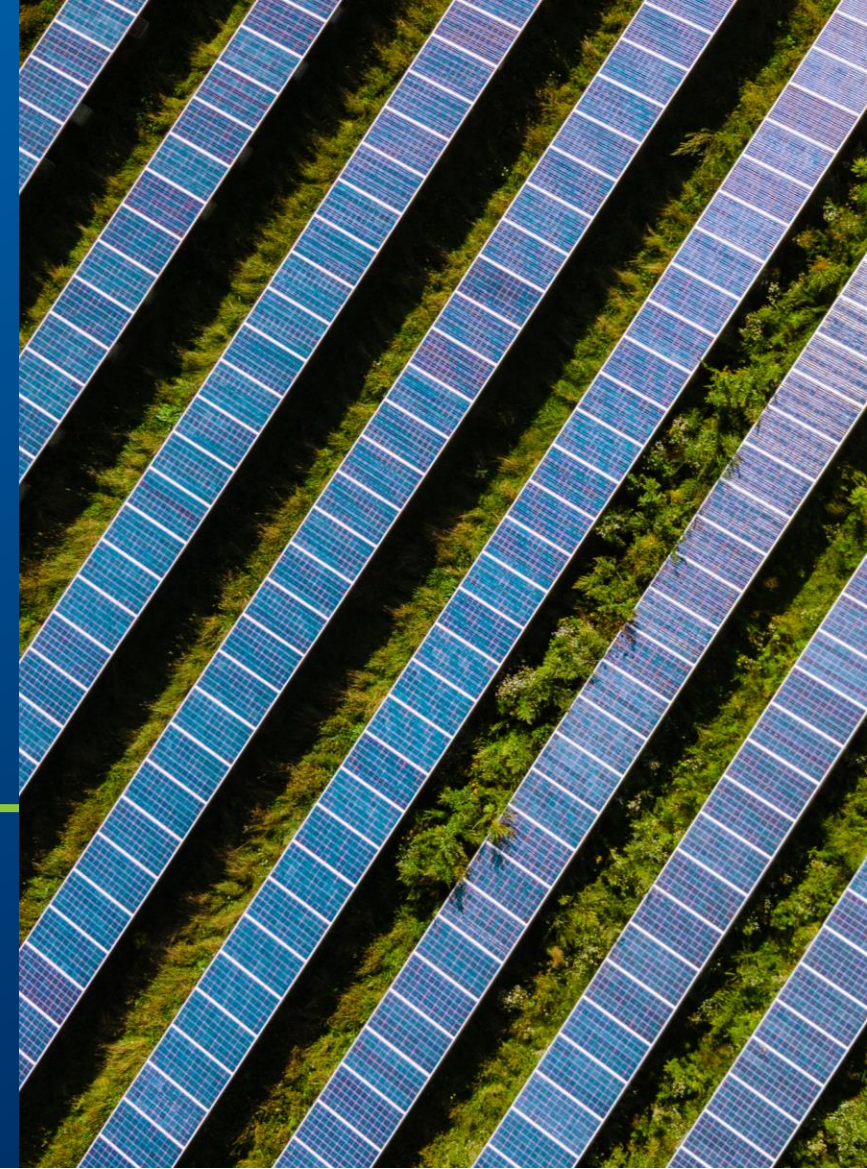
50%

kWh Reduction

\$61,000

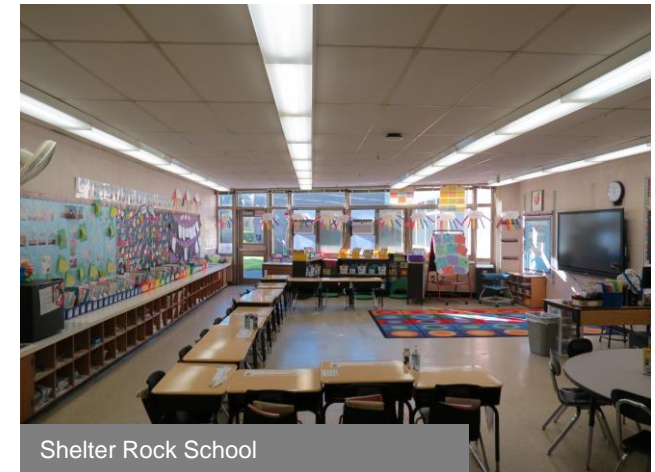
Rebates

Energy Conservation Measures



Lighting – Interior & Exterior Lighting

- LED Lighting throughout the District
- New LED Fixture/Retrofits in Classrooms, Hallways, Cafés and Offices
- New LED High Bay with Adaptable Controls and wire guards in Gyms



Lighting – Interior Lighting

Interior Lighting	New Fixtures w/Sensors	New Fixtures w/o Sensors	Retrofit Kits w/Sensors	Fixtures with Re-Lamp Non-Linear lamps	Fixtures to be Direct Wired Type-B Tubes	Fixtures to be Re-lamp w/Type-A Lamp and Re-Ballast	Room Occupancy Sensors	Disconnect and Remove Fixtures	No Retrofits	Totals
Manhasset Secondary School	149	37	553	91	8	1521	37	10	734	3140
Shelter Rock ES	2	0	402	82	0	823	27	3	521	1860
Munsey Park ES	36	6	335	130	2	315	44	0	647	1515
District Office	0	0	0	2	0	9	0	0	187	198
Total	187	43	1290	305	10	2668	108	13	2089	6713

Lighting – Exterior Lighting

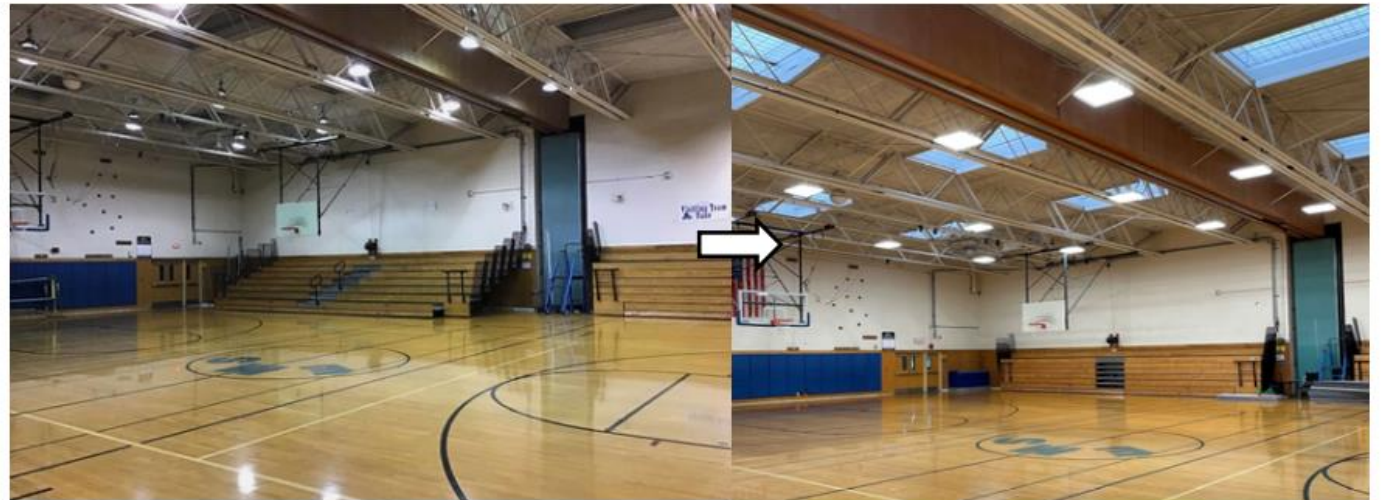
Exterior Lighting	New Fixtures w/o Sensors	Fixtures with Re-Lamp Non-Linear lamps	Fixtures to be Re-lamp w/Type-A Lamp and Re-Ballast	Disconnect and Remove Fixtures	No Retrofits	Totals
Manhasset Secondary School	57	18	3	1	14	93
Shelter Rock ES	6	26	0	0	68	100
Munsey Park ES	31	29	0	0	7	67
District Office	0	0	0	0	21	21
Totals	94	73	3	1	110	281

Lighting –
Interior & Exterior
Retrofit

Sample JCI Lighting Installation at Gym

BEFORE

AFTER



Heating System – Boiler Replacement

- Two (2) New Industrial Steam Boilers at Manhasset Secondary School
- New Fabtek Duplex Vacuum Condensate Return



Boiler #1 and #2 (1986)

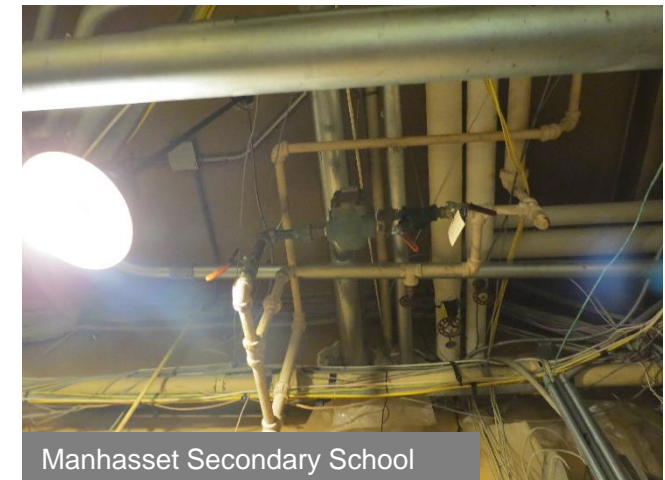


Condensate Return System

Steam Traps Replacement

- New Steam Traps – **Total 592**
- New Thermostatic Radiator Valves (TRV) – **Total 104**
- Comprehensive Steam Traps Replacement with Full Attic Stock

Building	Thermostatic (QTY)	F&T or Bucket (QTY)	Steam Thermostatic Radiator Valves (TRV) (QTY)
Manhasset Secondary School	304	94	70
Munsey Park Elementary School	158	36	34
Totals	462	130	104



Renewable Energy – Photovoltaic Electric Generation

- Total Photovoltaics at the District : **777.60 kW DC**

Locations	Roof Mounted PV (kW-DC)
Manhasset Secondary School	410.40
Munsey Park Elementary School	74.90
Shelter Rock Elementary School	292.30
Total	777.60

Renewable Energy – Photovoltaic Electric Generation

Manhasset Secondary School:
410.4 kW



Equivalent to **48.8**
homes' electricity use
for one year

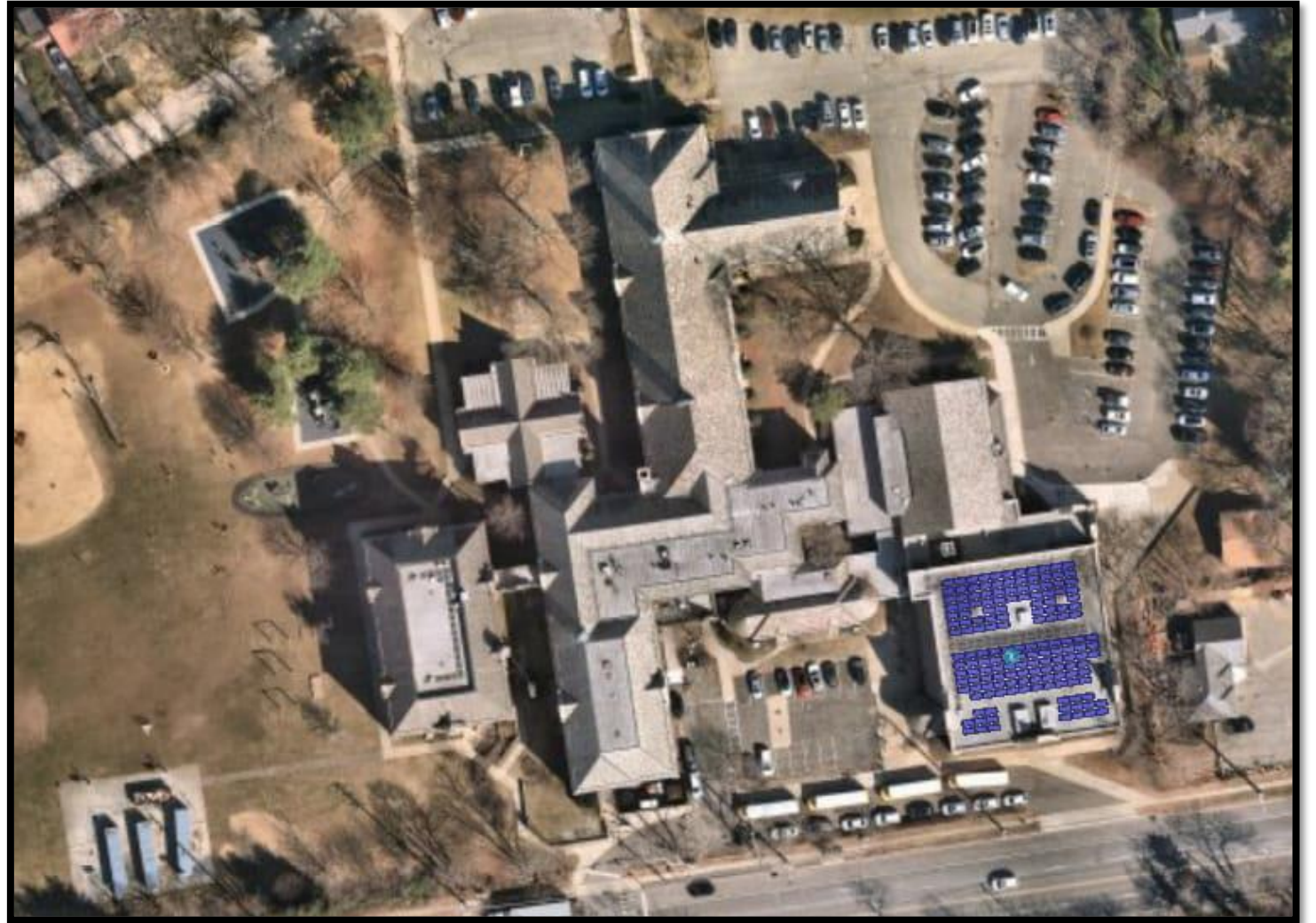


Renewable Energy – Photovoltaic Electric Generation

Munsey Park Elementary
School: 74.9 kW



Equivalent to **9.0**
homes' electricity
use for one year



Renewable Energy – Photovoltaic Electric Generation

Shelter Rock Elementary
School: 292.3 kW



Equivalent to **34.8**
homes' electricity use
for one year



Renewable Energy – Photovoltaic Electric Generation

Sample Johnson Controls
Installation of Roof Mount PV



Energy Conservation Measures: Other Measures

Building Envelope
– Weatherization

DHW/Furnace
Controllers

Heating System –
Pipe & Valve
Insulation

AC Compressor
Controllers

Refrigeration
Compressor
Controllers

Energy Efficient
Transformers

Plug Load
Controllers

Positive Cash Flow!

Proposed Project at 3.25% interest rate and 10% NYSED aid

	Year 1	Total
Tax exempt lease payment	(\$557,910)	(\$10,042,379)
Annual Energy Savings	\$378,609	\$10,820,525
Annual O&M Savings	\$42,141	\$1,191,734
NYSED aid	\$54,722	\$820,837
Estimated IRA Refund	\$645,000	\$645,000
Estimated Rebates	\$61,000	\$61,000
Net cash flow to District	\$623,562	\$3,496,717

M&V Services at No Additional Cost to the District: For three (3) years.

Questions

Thank you!