

June 2016

Cost Analysis

Array Size

60 kW

Estimated Annual Monetary Savings

\$13,000.00

Estimated Annual Electric Reduction

78,840 kWh



60 kW PV Array



Close up on the Solar Panel array configuration

Fourth Police Precinct

Summary

Suffolk County Fourth Police Precinct is located in Smithtown on Veterans Memorial Highway and was built to LEED Silver standards. The Precinct covers the surrounding areas, the Town of Smithtown and incorporated villages of the Branch, such as, Islandia and Lake Grove. The new Fourth Precinct building was built in 2009 and includes interview rooms, juvenile rooms and a line-up room. A 60-kW Photovoltaic (PV) system was put in place to reduce the electric consumption from the grid, during peak hours.

Result

Since the installation of the 60 kW Array in 2009, the Fourth Precinct has reduced utility electrical usage by 78,840 kW per year. The rate of electric is approximately 16.5 cents per kW, which means the Precinct saves \$13,000.00 per year. On the left is a close up of a single monocrystalline silicon solar cell. This type of solar cell is made out of the highest grade of silicon.



SUFFOLK COUNTY DEPARTMENT OF PUBLIC WORKS
335 Yaphank Ave.
Yaphank NY, 11980

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Cost Analysis

Array Size

24.192 kW

Estimated Annual Monetary Savings

\$5,245.00

Estimated Annual Electric Reduction

31,788 kWh



24 kW PV Array



Disconnect Box for the Solar Panels on the roof

Bergen Point Waste Water Treatment Plant

Summary

Suffolk County Sewer District no. 3 is located at Bergen Point in the Town of Babylon, on the South Shore of Long Island. It serves a 57-square-mile area and it treats 30.5 million gallon of wastewater per day (MGD). The plant was constructed in the 1970s and includes a pump and screen building, primary settling tanks, aeration tanks, a sludge processing building, belt filter press and two multiple hearth incinerators. A 24-kW Photovoltaic (PV) system was put in place to reduce the electric consumption from the grid, during peak hours.

Result

Since the installation of the 24 kW Array in 2011, the Bergen Point Plant has saved 31,788 kW per year. The rate of electric is approximately 16.5 cents per kW, which means the Plant saves \$5,245.00 per year. Depicted to the left, in case there's a problem with the array, there are three disconnect boxes to shut down the solar panels.



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Cost Analysis

Array Size

100 kW

Estimated Annual Monetary Savings

\$21,681.00

Estimated Annual Electric Reduction

131,400 kWh



Board of Elections

Overview

The Board of Elections building is located on Yaphank Ave which is part of the Yaphank County Complex. The Board of Elections building is in charge of the electoral process which includes voter registration and election results. A 100-kW Photovoltaic (PV) system was put on top of the Board of Elections facility to reduce the electric consumption from the grid, during peak hours.

Result

Since the installation of the 100 kW Array, the Board of Elections building has saved 131,400 kW per year. The rate of electric is approximately 16.5 cents per kW, which means the building saves \$21,681.00 per year. Depicted to the left are the solar panels that are mounted on top of the rooftop.



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Cost Analysis

Array Size

46.588 kW

Estimated Annual Monetary Savings

\$9,182.50

Estimated Annual Electric Reduction

61,217 kWh



46.6 kW array of Solar Panels



Two disconnect boxes that control the Solar Array

Police Head Quarters

Overview

Police Head Quarters is located on Yaphank Ave which is part of the Yaphank County Complex. The Suffolk County Police was established in 1960 and to this day provides support to the towns of Babylon, Huntington, Islip, Smithtown and Brookhaven. A 45.6-kW Photovoltaic (PV) system was put on top of the Police Head Quarters facility to reduce the electric consumption from the grid, during peak hours.

Result

Since the installation of the 46.6 kW Array, Police Head Quarters has saved 61,217 kWh per year. The rate of electric is approximately 16.5 cents per kWh, which means HQ saves \$9,182.50 per year. Depicted to the left, are the solar panels set on the roof and disconnect boxes.



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Cost Analysis

Array Size

18.72 kW

Estimated Annual Monetary Savings

\$3946.00

Estimated Annual Electric Reduction

23,915 kWh



Solar Inverters that change solar energy to electrical



Singular Solar Inverter

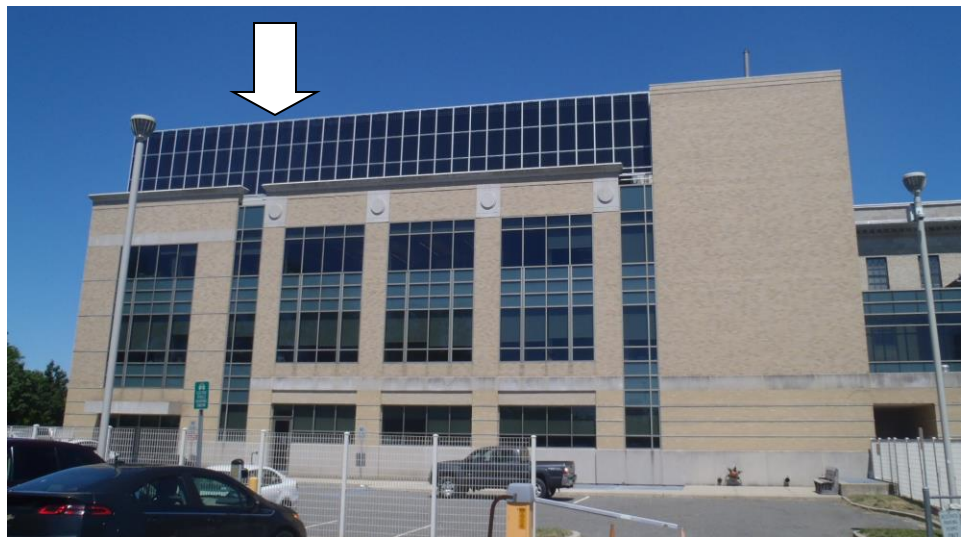
Supreme Court Building Downtown Riverhead

Overview

The Supreme Court building is located in Riverhead on the corner of Griffing Avenue and Court Street. The County Center is split up into five buildings; one of these buildings is the Supreme Court Building which is equipped with the 18.7 kW solar panel array. Within the Supreme Court building there are eight court rooms, many judge chambers and an energy system that powers the entire complex with heat, electric and air conditioning. A 18.7-kW Photovoltaic (PV) system was put in place to reduce the electric consumption from the grid, during peak hours.

Result

Since the installation of the 18.7 kW Array, the Supreme Court Building has reduced utility electrical usage by 23,915 kW per year. Because the rate of electric is approximately 16.5 cents per kW, which means the Court Building saves \$3,946 per year. Depicted below is the side of the Supreme Court Building where the solar panels are located. These panels are unique because they are mounted on a metal wall and aren't angled up towards the sun. Most Solar panel mounts are angled up towards the sun but here they're on the south side of the building to capture the maximum amount of solar energy. The arrow below is pointing at the vertical solar array.



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