

Solar Energy Demonstration Project – Woodbridge Township

OVERVIEW: In 2008, Woodbridge Township received \$2.4 million in rebate funding from the New Jersey Board of Public Utilities to install energy-producing solar panels at 6 municipal buildings. The \$7 million overall project is geared to save long-term energy costs by putting into place self-sustaining solar energy — energy that will provide a portion of the Township’s power needs for many years.

To date 4 of the buildings have had solar panels installed, including the Community Center (see photo below left). The final proposal adopted is shown below.

The Township is also installing solar-powered, LED pedestrian crosswalks at high-traffic intersections, including Main Street in downtown Woodbridge by the train station (see photo below right). This initiative was first funded by a 2005 grant from NJDOT’s Safe Streets to Schools Program.



EDUCATIONAL INITIATIVE: Woodbridge Township has installed **solar-powered information kiosks** at 4 locations (Town Hall, Community Center, Main Library, Health Center). The kiosks contain information about solar power, recycling and other sustainability topics that are part of the Greenable Woodbridge campaign. In addition to basic information about solar power, the kiosks provide detailed information about several solar power projects in Woodbridge Township.

NEWS

TOWNSHIP OF WOODBRIDGE



MAYOR JOHN E. McCORMAC

1 Main Street, Woodbridge, NJ 07095

Phone: (732) 634-4500 ♦ Fax: (732) 602-6016

Web: <http://www.twp.woodbridge.nj.us>

FOR IMMEDIATE RELEASE: *June 16, 2008*

FOR FURTHER INFORMATION CONTACT:

John R. Hagerty

732-602-6039

Mayor's Office of Communications

Woodbridge Mayor McCormac Announces \$2.4 Million BPU Clean Energy Grant to Kick-Start Installation of Solar Panels at Township Buildings

***Woodbridge Township Sets Pace with Sustainable, Eco-Friendly
Initiatives... Environmental Inventory Includes Bio-Diesel Fuel... Hybrid
Vehicles... Solar-Powered Cross Walks & Trash Containers... Energy-
Saving Fluorescent Lighting... Recycling & Convenience Center... Tree
Replacement Program***

WOODBIDGE – Mayor John E. McCormac today announced that Woodbridge Township continues to set the pace in environmental and energy-saving programs and initiatives with more than \$2.4 million in rebate funding from the New Jersey Board of Public Utilities' Clean Energy Program ~ the rebates will be used to off-set the installation of energy-producing solar panels at the Community Center, Main Library and other municipal facilities. The pilot project is geared to save Township taxpayers long-term energy costs by putting into place self-sustaining solar energy that will provide a portion of the Township's power needs for many years to come.

“The \$2.4 million in rebates and will go a long way toward helping Woodbridge install a state-of-the-art solar panel energy program,” said Mayor McCormac. “Woodbridge is planning for the future by implementing a long-term, cost-effective energy program that will provide low-cost energy to the Township for generations to come. Given the extraordinary costs of today's energy, the installation of solar panels at Township buildings makes economic sense, while at the same time, preserves and protects our environment.”

Joining Mayor McCormac to announce the solar panel initiative were Jeanne M. Fox, President, New Jersey Board of Public Utilities, Chris Adornato, Chairman, Mayor's Environmental Commission, Rick Dalina, President, Woodbridge Township Municipal Council, and Scott McFadden, Birdsall Engineering, Inc.

“Woodbridge Township has become an energy leader by installing solar panels on six municipal buildings. When communities like Woodbridge take such steps, they help us protect our environment and our future,” said Jeanne M. Fox, President of the New Jersey Board of Public Utilities. “I hope many towns in New Jersey follow the lead set by this community because that is how New Jersey will reduce its carbon footprint and maintain a supply of clean, reliable and affordable energy.”

Mayor McCormac reported that Woodbridge is one of only a limited number of public agencies (not including public schools) eligible for a BPU rebate to help subsidize the installation of solar panels at municipal facilities and that the \$2.4 million dollar rebate will make the seven million dollar project economically feasible. In addition to the rebate, the Township will receive Solar Renewable Energy Certificates or S-RECS which could be worth up to \$400,000 per year. The 900,000 kilowatt hours the Township will not have to purchase from the utility has been estimated to save over \$100,000 per year, and those savings will increase as the cost of utility generated electricity continues to rise.

The solar panel initiative envisions the installation of solar panels at the Community Center, where current electric and energy costs are extremely expensive. The renewable solar energy will be used to heat and cool the building year ‘round, heat the swimming pool to a constant 81 degrees, freeze the ice on the skating rink, power the many exercise and physical fitness machines and equipment and generally provide power to the facility. Other municipal buildings slated for solar panels will be the Main Library, the Health Center, the Evergreen Senior Center in Colonia, the Iselin Library and the Municipal pump station. The Clean Energy Program rebates include:

- Woodbridge Community Center.....\$1,294,920
- Woodbridge Main Library.....\$465,000
- Evergreen Senior Center.....\$350,340
- Woodbridge Health Center.....\$176,620
- Iselin Branch Library.....\$96,440
- Woodbridge Township Pump Station.....\$67,460

Woodbridge Township’s solar electric or “photovoltaic” system will include approximately 4,800 Mono-crystalline panels or “modules” resulting in a design peak output of 840 kilowatts. The PV systems will connect to the building’s electrical system with little modification. The electricity generated is estimated at over 900,000 kilowatt hours annually and will work in parallel with the utility grid. If a system generates more electricity than the building requires, the surplus power will be distributed to the utility grid and “sold” to the local utility.

According to a calculator provided by the U.S. Environmental Protection Agency the clean “green” energy generated by Woodbridge Township each year will approximately equal:

- 130 passenger cars
- Electricity consumed by 100 homes
- 17,950 tree seedlings

The renewable solar panel energy initiative is not the first “environmentally-friendly” program underway at Town Hall. In fact, Woodbridge Township continues to lead the way in environmental and energy-saving programs with the introduction of energy efficient biodiesel fuels to power municipal vehicles.

Additional Woodbridge Township environmental initiatives include:

- Purchase of 12 energy-saving, fuel efficient hybrid vehicles to supplement the municipal fleet;
- Installation of solar-powered, decorative street lights and trash compactors along Main Street in downtown Woodbridge;
- Installation of solar-powered pedestrian crosswalks at high-traffic intersections, including Main Street in downtown Woodbridge;
- Opening a modern and efficient recycling and bulk waste “Convenience Center” at the Public Works facility in Keasbey;
- Expansion of the Public Works recycling program to include the disposal of compact fluorescent light bulbs, electronics and computers;
- Replacing standard light bulbs with energy-saving compact fluorescent lighting at municipal buildings and facilities;
- Implementation of municipal tree replacement program in parks and municipal properties

Woodbridge Municipal Council President Rick Dalina said, “The Council is delighted that Woodbridge is in the forefront of environmentally-friendly and energy-saving initiatives geared to save taxpayers dollars, increase energy efficiency in municipal government operations and protect the environment. The solar panel program is a win-win for the Township, our residents and the environment.”

The Township is working with the PMK Group, Inc., a Birdsall Services Group Company, as their Energy Consultant who will provide project management and consulting services for the design and construction of the systems.

###

New Jersey Real-Time News

Breaking Local News from New Jersey

Woodbridge goes green with solar panels

by Sue Epstein/The Star-Ledger

Sunday December 28, 2008 http://www.nj.com/news/index.ssf/2008/12/woodbridge_goes_green_with_sol.html

With funding now in place, Woodbridge is moving forward with plans to install solar panels on six municipal buildings next year.

Three bond ordinances totaling \$7,712,000 were approved earlier this month by the township council, and state Board of Public Utilities has provided the town with a \$2.4 million grant to help fund the project, according to Mayor John McCormac.

The solar panels will be built on the roofs of the Woodbridge Community Center, the Evergreen center in Colonia, the Woodbridge Library, the Iselin branch of the library, the township health center and the township pump station.

"It's the right thing to do for the environment and for our taxpayers," McCormac said.

The mayor said the township will generate enough energy to reduce or offset its utility costs by between \$100,000 and \$120,000 and sell enough excess energy to receive "Solar Renewable Energy Certificates" from the BPU that could be worth up to \$400,000 a year.

"We'll use the money from the energy credits to pay off the bonds," McCormac said. "We expect that in less than 10 years, we'll be ahead of the game."

The township's solar electricity system will include approximately 4,800 mono-crystalline panels or "modules" resulting in a design peak output of 840 kilowatts. The "photovoltaic" systems will connect to the building's electrical system. The system is expected to generate more than 900,000 kilowatt hours annually and will work in parallel with the utility grid.

If a system on any of the buildings generates more electricity than the building requires, the surplus power will be distributed to the utility grid and "sold" to the local utility, according to McCormac.

The solar energy program won't expand to other municipal buildings because "we checked every building we own" and the ones chosen are the only ones that have enough space on their roofs to install the panels.

"We can't even put them on town hall," the mayor said. "We had no where to put them."

He said the community center is ideal for the solar panels because "the roof is flat."

"We're happy we can install the panels there because its a very high user of electricity with its skating rink and pool in constant use," McCormac said.

The township and its consultants are currently preparing bid documents for the project and hope to have the request for bids out in the spring and begin work in the fall, with the first panels in place by the end of the year.

"Woodbridge is planning for the future by implementing a long-term, cost-effective energy program that will provide low-cost energy to the township for generations to come," the mayor said. "It's a great plan."

###

NEWS

TOWNSHIP OF WOODBRIDGE



MAYOR FRANK G. PELZMAN ♦ 1 Main Street, Woodbridge, NJ 07095

Phone: (732) 634-4500 ♦ Fax: (732) 602-6016 ♦ Web: <http://www.twp.woodbridge.nj.us>

Sept. 30, 2005

Contact: Larry McCullough

(732) 634-4500 ext. 6497

► Woodbridge Receives \$100K State Grant for Crosswalk Upgrade

► Safe Streets to Schools Program will fund innovative in-pavement lighting system

WOODBRIDGE – Woodbridge Township will receive a \$100,000 grant from the New Jersey Department of Transportation to install innovative crosswalk lighting systems at three busy intersections in downtown Woodbridge, **Mayor Frank G. Pelzman** has announced.

The grant comes from the **Safe Streets to Schools Program** that provides funds to help local governments improve safety conditions for school children and other pedestrians.

"This upgrade will significantly enhance the safety of several hundred students on their way to and from school," says Mayor Pelzman, "along with the more than 2,500 downtown shoppers and bus/train commuters who traverse this area on foot each day."

The project will install state-of-the-art, in-pavement LED lighting systems at three heavily-trafficked crosswalks in downtown Woodbridge: Main and School Streets, the NJ Transit Main Street underpass, the NJ Transit Green Street underpass.

In-pavement LED lighting systems utilize a series of signal heads with light emitting diodes in a durable housing embedded in the roadway. A pedestrian can activate the system by pushing a button, or the system can be automatically activated when the pedestrian passes through an activation zone breaking an optical beam.

The technology has been approved by Federal Highway Administration and is used by municipalities across the country. Studies show that the systems are effective in both increasing the number of drivers that yield to pedestrians and the distance from the crosswalk where drivers apply their brakes.

The project was suggested by **1st Ward Councilman Charles Kenny** in response to resident concerns. “The administration and I are always looking for ways to improve pedestrian crossings in the downtown business district,” says Councilman Kenny. “We are very pleased the state is able to help us in this task.”

#



Township of Woodbridge
1 Main Street
Woodbridge, NJ 07095

March 4, 2008
Proposal No. BEI080303RWW1

Attn: John E. McCormac, Mayor

**Re: Proposal for Professional Engineering Services
Development of RFP and Monitoring
For Installation of Photovoltaic System
Woodbridge Township, New Jersey**

Dear Mayor McCormac:

Birdsall Engineering, Inc. (BEI) is pleased to submit this proposal for the development of a Request for Proposal/Request for Qualifications (RFP/RFQ) to solicit information from eligible firms interested in the financing, design, installation, ownership, operation and maintenance of selected photovoltaic (PV) systems at various buildings located in Woodbridge, New Jersey. This proposal also addresses the monitoring of the installation process and the installed system.

Project Background

We understand that Woodbridge Township (Township) desires to take advantage of the economic and environmental benefits of on-site electricity generation from multiple roof mounted solar PV systems installed on six of the Township's buildings (collectively referred to in this proposal as the Township Systems). The six buildings and the estimated size of the system on each building are:

| Building | Size (kW) |
|--|------------------|
| Woodbridge Township Community Center | 476.7 |
| Woodbridge Township Main Library | 157.5 |
| Woodbridge Township Pump Station | 16.8 |
| Woodbridge Township Health Center | 50.4 |
| Woodbridge Township Evergreen Senior Center | 113.4 |
| Woodbridge Township Iselin Branch Library | 25.2 |
| Total Estimated Solar PV System Size (kW) | 840.0 |

611 Industrial Way West
Eatontown, NJ 07724-2213
P 732.380.1700

529 Route 9
Barnegat, NJ 08005-2160
P 609.698.1144

560 Hudson Street, 3rd Floor
Hackensack, NJ 07601
P 201.562.1500

Mr. John E. McCormac, Mayor
Page 2 of 7

March 4, 2008
Proposal No. BEI080303RWW1

Applications for each of the systems listed above have been submitted to the New Jersey Board of Public Utilities (NJBPU) Customer Onsite Renewable Energy (CORE) Program, and have been placed in a project queue awaiting rebate approval subject to funding availability.

We understand that the Township has researched various financing options for the design and installation of the Township Systems, and has decided that the most attractive financing option is to utilize a firm that will finance, design, install, own, operate and maintain the Systems, with the Township receiving the benefits through a long term Power Purchase Agreement (PPA).

We also understand that the Township has interest in acting as the lead agency in a shared services agreement with the Woodbridge Township Public Schools (Board) in order to assist the Board in their desire to also take advantage of the economic and environmental benefits of on-site electricity generation from multiple roof mounted solar PV systems. The Board has identified five of their buildings where a solar PV system could be installed (the Board Systems):

| Building | Size (kW) |
|--|------------------|
| Indiana Avenue School #18 | 50.13 |
| Menlo Park Terrace #19 | 50.13 |
| Colonia High School | 50.13 |
| Iselin Middle School | 50.13 |
| Woodbine Avenue #23 | 50.13 |
| Total Estimated Solar PV System Size (kW) | 250.65 |

Applications for each of the systems listed above have been submitted to the New Jersey Board of Public Utilities (NJBPU) Customer Onsite Renewable Energy (CORE) Program. All but the application for the Woodbine Avenue School have been placed in a project queue awaiting rebate approval subject to funding availability.

We understand the nature of the shared services agreement between the Township and the Board to be one where the Township would award a contract to a firm that would finance, design, install, own, operate and maintain the Township Systems and the Board's Systems. The firm and the Township would enter into a long term Power Purchase Agreement (PPA) for the electricity generated by all of the systems; the Township would pay for all of the power generated; and then the Township and the Board would have an agreement for the Board to reimburse the Township.

Mr. John E. McCormac, Mayor
Page 3 of 7

March 4, 2008
Proposal No. BEI080303RWW1

Proposed Scope of Services

In order to assist the Township with this project, BEI proposes to develop a Request for Qualifications/Request for Proposals (RFQ/RFP) package suitable to solicit information from firms interested in the financing, design, installation, ownership, operation and maintenance of the Systems; review and analyze the responses received; and make a recommendation to the Township for the selection of the most qualified firm with the most attractive financial proposal. In addition, BEI proposes to act as the Township's representative in contract and PPA negotiations; and to monitor the installation of the Systems. Once the Systems are in operation, BEI proposes to provide an independent oversight and unbiased monitoring of both System output and bottom-line electric power cost savings to the Township.

Specifically, our services will be:

Task 1 – RFQ/RFP Process

1. Meet with representatives of the Township and the Board if the Board Systems are to be included, to establish the technical, legal, qualifications and economic parameters upon which the RFQ/RFP will be generated and the responses evaluated.
2. Prepare the RFQ/RFP. The RFQ/RFP will be prepared as a performance specification, providing basic technical and operational parameters and requiring the responding firms to provide their proposed preliminary system design and PPA. The RFQ/RFP will identify specific criteria that will be used to select qualified firms.
3. Aid in the distribution of the RFQ/RFP by advising the Township of potentially qualified firms that could receive the RFQ/RFP and publications where the RFQ/RFP should be advertised.
4. Review and analyze the responses received; interview responding firms; and arrange for the responding firms that meet the qualifications specifications to make a formal presentation to the Township. BEI will establish the presentation criteria and attend each presentation.
5. Make a written recommendation to the Township for the selection of one of the responding firms, based on the review and analysis of the responses and the presentations.
6. Provide input and guidance to the Township during contract and PPA negotiations. This input and guidance will address technical matters only. BEI will not provide services related to legal, contractual, or any matter other than technical matters.

Mr. John E. McCormac, Mayor
Page 4 of 7

March 4, 2008
Proposal No. BEI080303RWW1

Task 2 – Installation and Operations Monitoring

1. Review documentation provided by the successful firm, and conduct periodic observations of the installation of the Systems to monitor compliance with the contract documents. One site visit per week and one project related meeting per week are included in our scope of work. We expect a sixteen week construction/installation schedule for the Township Systems, and an additional 4 weeks for the Board Systems.
2. Operation and maintenance of the system will be the responsibility of the successful firm. BEI will provide independent oversight of the system output and cost savings during the first twenty-four months of the System's operation. Specifically, BEI will:
 - a. Provide weekly monitoring and monthly trending of System output data for comparison to design output parameters and previous system performance;
 - b. Review monthly electric bills and log information;
 - c. Review operation and maintenance activity;
 - d. Conduct a monthly inspection of the System to observe the condition of the modules and the installation; and
 - e. Provide a quarterly report detailing the PV system's performance and annual savings to the Township.

Responsibilities of Client

1. The Township and the Board if the Board is to be included in this scope of work, shall provide all information in their possession, custody, or control, which may relate to the services to be performed by BEI at the Sites, including but not limited to:
 - a. The results of any studies or reports related to the Systems or any other solar PV system
 - b. Copies of utility bills for the most recent 12 month period
2. The Township and the Board if the Board is to be included in this scope of services shall provide BEI the right of access to allow to visually inspect each building where a solar PV system is proposed to be installed.
3. The Township and the Board if the board is to be included in this scope of services shall provide authorization for the Township and Board's staff and any other consultants to be available to BEI for consultation regarding proper coordination of the project.

Mr. John E. McCormac, Mayor
Page 5 of 7

March 4, 2008
Proposal No. BEI080303RWW1

Compensation

We will provide the scope of services described above for the **Fixed Fee Costs** detailed in the table below:

| TASK | FEE |
|--|------------|
| Task 1 – RFQ/RFP Process | |
| Township Systems Only | \$16,000 |
| Township and Board Systems | \$18,500 |
| Task 2 – Installation and Operations Monitoring | |
| Township Systems Only ¹ | \$57,000 |
| Township and Board Systems ² | \$67,000 |
| Project Total | |
| Township Systems Only | \$73,000 |
| Township and Board Systems | \$85,500 |

¹Based on periodic site visits as defined above over a 16 week schedule for installation of multiple solar PV systems totaling approximately 840kW of capacity; and operations monitoring is for the 24 months of the Systems Operation.

²Based on periodic site visits as defined above over a 20 week schedule for installation of multiple solar PV systems totaling approximately 1090MW of capacity; and operations monitoring is for the first 24 months of the Systems operation.

Invoices for our services will be submitted to you monthly and will show the percentage of our fee being billed for the month, based on the percentage of our work completed. Our invoices will also show a summary of the contract value, completion percentage, amount previously billed, and contract value remaining.

Mr. John E. McCormac, Mayor
Page 6 of 7

March 4, 2008
Proposal No. BEI080303RWW1

Alternate Compensation Method

Alternatively, and with the concurrence of the successful firm, the majority of our fee can be paid over time as part of the rate paid by the Township to the successful firm for the purchase of power.

If a PPA is signed and the project moves forward, we would expect a payment of \$13,000 at the time the PPA is signed if only Township Systems are to be installed; and \$16,000 if Township and Board Systems are installed. The remainder of our fee would be paid by adding \$.0354/kW to the Township's PPA for the first 2 years of the Township Systems' operations, or \$.0316/kW to the Township's PPA for the first 2 years of the Township and Board Systems' operations. Under this arrangement, the successful firm would pay this additional amount to BEI. This rate and payment terms assume that the Township Systems' produce approximately 1,000,000 kWh of electricity per year; and the Township and Board Systems' produce approximately 1,300,000 kWh of electricity per year. The actual rate and term would be based on the estimated Systems' output at the time that the PPA is negotiated.

Under this alternate compensation method, should the Township decide not to move forward with the installation of the Systems after the RFQ/RFP process is complete, the Township would pay BEI a fixed fee of \$16,000 if the RFQ/RFP was prepared for the Township Systems only, and \$18,500 if the RFQ/RFP was prepared for the Township and Board Systems.

Schedule

We can begin the RFQ/RFP process within 10 days from your authorization to proceed. The RFQ/RFP would be ready for issue and advertisement in 45 days.

Limitations

1. BEI will rely on the accuracy of any information submitted to us by the Township and/or the Board in the performance of our services, and will not be held responsible for errors or inaccuracies contained in information provided to us.
2. BEI shall be responsible only for its activities and that of its employees on any site. Neither the professional activities nor the presence of BEI or its employees or subcontractors on a site shall imply that BEI controls the operations of others.
3. BEI does not guarantee that the Township will receive an acceptable response to the RFQ/RFP.
4. Our fee for our services is based on the schedules presented in this proposal. Should the actual schedule vary, amendment to our scope and fee may be necessary.

BIRDSALL ENGINEERING, INC.

CONSULTING & ENVIRONMENTAL ENGINEERS

A
BIRDSALL SERVICES GROUP
COMPANY

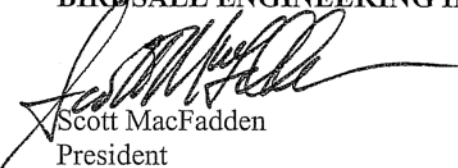
Mr. John E. McCormac, Mayor
Page 7 of 7

March 4, 2008
Proposal No. BEI080303RWW1

We thank you for the opportunity to submit this proposal, and we look forward to working with you on this project. Should you have any questions or require any additional information, please contact me.

Sincerely,

BIRDSALL ENGINEERING INC.



Scott MacFadden
President

SRM:RWW:ms