

CITY OF CHARLOTTESVILLE, VIRGINIA
CITY COUNCIL AGENDA



Agenda Date: June 6, 2011

Action Required: Approve Appropriation

Staff Contacts: Leslie Beauregard, Director, Budget and Performance Management
Lance Stewart, Public Works Facilities Maintenance

Presenter: Lance Stewart, Public Works Facilities Maintenance

Title: Charlottesville High School Solar Power System – Appropriation of Grant Funds and Local Cash Match - \$386,000

Background:

In the spring of 2010, Charlottesville Public Works submitted a grant application to install a solar photovoltaic array on the roof of Charlottesville High School, to generate electricity for use by the school. The grant was to be funded using State Energy Program (SEP) funds dedicated to the implementation of renewable energy projects, made available as part of the American Recovery and Reinvestment Act (ARRA). This program is being administered by the Virginia Department of Mines, Minerals and Energy (DMME).

The proposed project was to be a minimum 64 kilowatt solar power generation system, including a series of digital and static educational displays for use by students of Charlottesville City Schools (CCS), Piedmont Virginia Community College (PVCC) and UVA Engineering School. The estimated cost of the system was \$400,000, with a required local match of 25%. The City was not among the original recipients of the grant, but on March 11th of this year, Public Works staff was notified that additional funding had become available.

All grant recipients were asked to reduce their request by 4%. This change results in a current grant/match total of:

SEP/ARRA	\$ 288,000
<u>Local Match 25%</u>	<u>\$ 105,120</u>
Project Budget	\$ 393,120

The Charlottesville City Schools have provided \$98,000 toward the required local match. The remaining local match will be provided by in-kind contributions of City staff personnel costs. In the amount of \$7,120 which has been previously appropriated.

Once complete, this project will be a unique tool for local educators and students. Installed on the roof of the school's A-Wing, there will be easy and safe access for those students from elementary school through graduate school who will make use of the site. PVCC Workforce

Development Program students will utilize this system in its training of area residents to become employed in “green jobs”. Similarly, UVA Engineering students will make use of the system as a real-world example of this green technology.

The system will also serve as an embodied business case for the expanded use of renewable energy. Over the expected 25-year life of the system, the City and schools can expect to avoid in excess of \$316,000 in utility costs, and may also realize estimated additional revenue in excess of \$650,000 from the sale of renewable energy certificates. Without any contribution of federal ARRA funds, this project is expected to have a minimum 13-year return on investment. With those funds, the ROI is just under 4 years.

Recent investigations have revealed a downward trend in the cost of solar panels. The formal design process will explore the possibility of increasing the power generation capacity of the system, to improve the return on investment and make optimal use of available funds.

Discussion:

A contract between the City and the Virginia DMME was fully executed April 8, 2011. Funds must be expended by March 31, 2012.

System design will begin immediately following the appropriation of funds. The system will be constructed during the fall of 2011.

Budgetary Impact: Funds will be appropriated into a capital improvement fund account.

Recommendation: Approve the requested appropriation.

Alternatives: N/A

Attachments: CHS Solar Power Design Concept
Contract – Virginia DMME & City of Charlottesville

APPROPRIATION
Charlottesville High School Solar Power System
Appropriation of Grant Funds and Local Match
\$386,000

WHEREAS, the Virginia Department of Mines, Minerals and Energy has awarded the City of Charlottesville \$288,000 as part of the State Energy Program (SEP).

WHEREAS, the Charlottesville City Schools has provided \$98,000 toward the required local grant match.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Charlottesville, Virginia that the sum of \$386,000 is hereby appropriated in the following manner:

Revenues


\$288,000	Fund: 426	Project: P-00648	G/L Account: 430125
\$ 98,000	Fund 426	Project: P-00648	G/L Account: 432085


Expenditures


\$386,000	Fund: 426	Project: P-00648	G/L Account: 599999
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Charlottesville High School Solar PV System Preliminary Design Concept

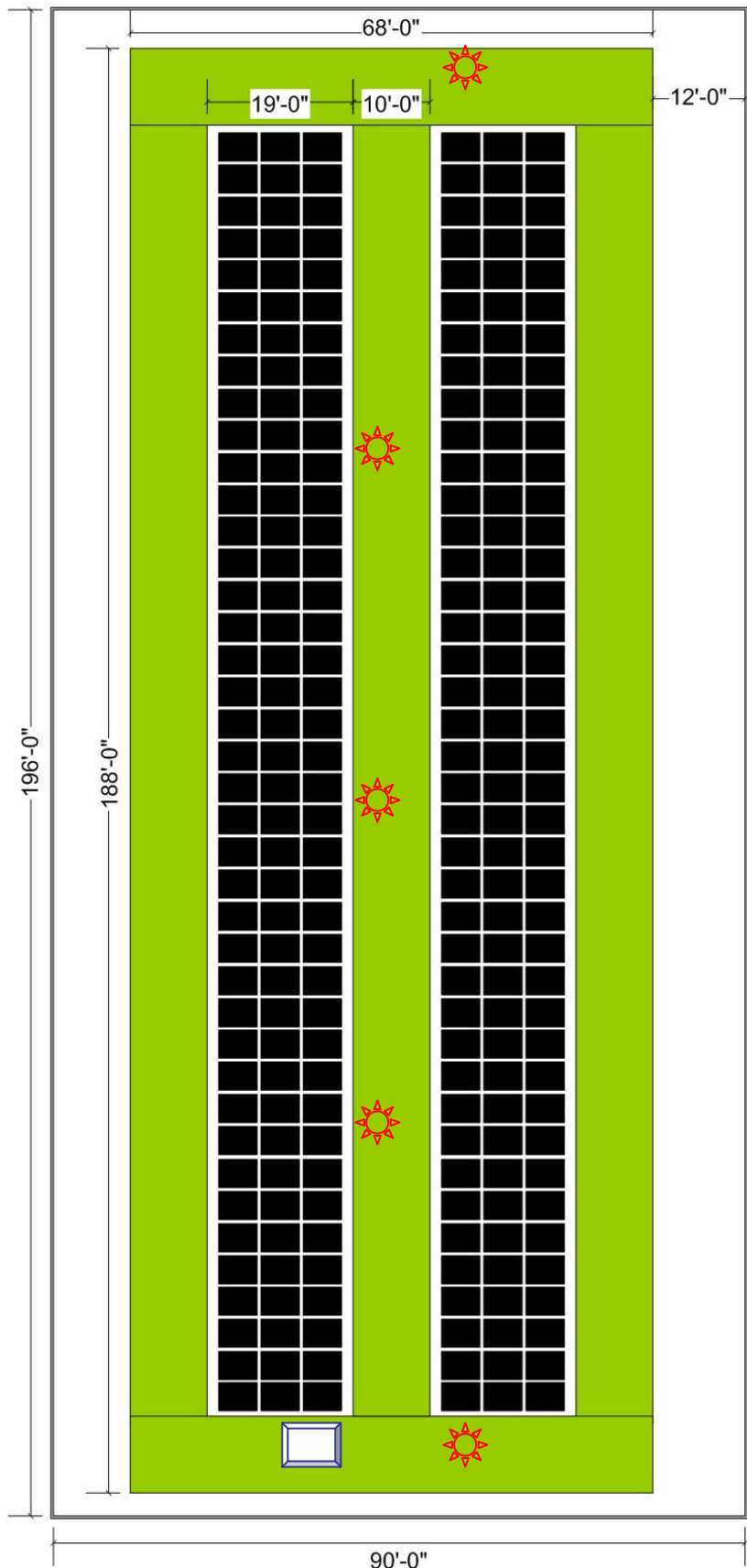
- Minimum 64 kW solar photovoltaic power generation system
- Minimum quantity of 220 solar panels, at 75 watts each

 Observation Path around and between solar panels

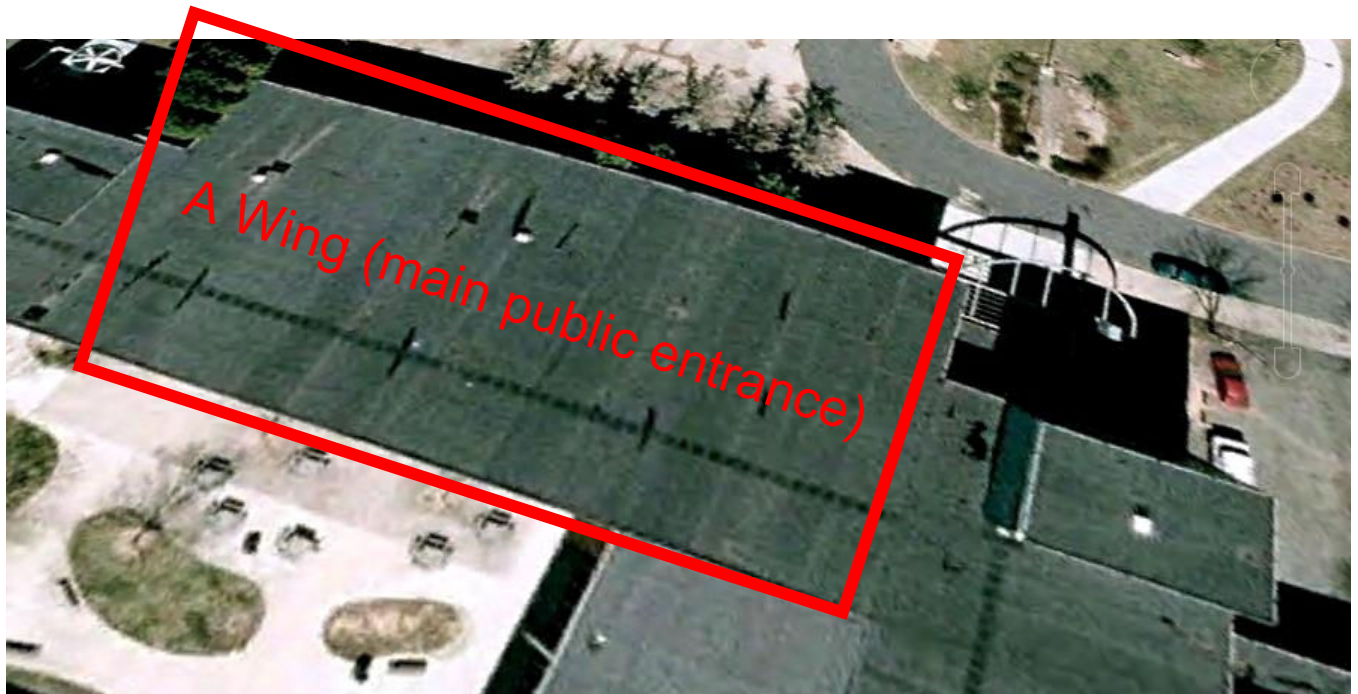
 Multiple educational signage points regarding solar power

 Live computer-based power generation stats

- Minimum annual kWh generated 87,262
- Minimum first year energy cost savings \$8,290



Charlottesville High School Solar PV System Location of Work





DIVISIONS
ENERGY
GAS AND OIL
MINED LAND RECLAMATION
MINERAL MINING
GEOLOGY AND MINERAL RESOURCES
MINES
ADMINISTRATION

COMMONWEALTH OF VIRGINIA

Department of Mines, Minerals and Energy

1100 Bank Street / 8th Floor
Washington Building
Richmond, Virginia 23219-3402
(804) 692-3200 FAX (804) 692-3237
www.dmme.virginia.gov

CONTRACT

**Department of Mines, Minerals and Energy
And
City of Charlottesville**

Contract Number: C11-6077

This Contract, entered into this 28th day of March, 2011, by City of Charlottesville, hereinafter called the "Grantee," and the Department of Mines, Minerals and Energy (DMME).

SCOPE OF WORK: DMME will support and Grantee will manage and complete the project generally outlined and described in *Attachment 1 – Scope of Work*, to be provided by Grantee. This attachment shall consist of a brief finalized scope of work, budget and no more than five milestones of progress. Grantee must comply with all terms and conditions of this contract, including attachments.

PERIOD OF PERFORMANCE: August 1, 2010, through March 31, 2012. Eligible pre-award costs incurred on or after August 1, 2010 are allowable with DMME's prior written approval.

PROJECT BUDGET: The Grantee shall request payments for reimbursement of eligible costs described in *Attachment 1*. The total federal grant amount available from this contract for this project shall not exceed \$288,000. The total budget for this project is \$393,120 including \$105,120 from sources other than this grant (subject to change pending approval of finalized Scope of Work above.)

COMPENSATION AND METHOD OF PAYMENT: Upon receipt and approval of invoices with proper documentation submitted no more frequently than once monthly the Grantee shall be reimbursed by DMME in accordance with the Commonwealth's payment policies. Documentation of expenditures during the invoice period must be submitted with each invoice. Grant funds and matching funds – if any – must be spent in reasonable proximity, according to the judgment of DMME. Acceptable documentation includes, but is not limited to invoices, cancelled checks, time sheets, comptroller's reports, general ledger reports or other documentation subject to approval by DMME. All costs must be clearly associated with tasks and deliverables described in *Attachment 1*. DMME will approve invoices and other requests for

payment only when DMME agrees that grantee is up to date on required reporting and has complied with all requirements and terms and conditions of this contract.

REPORTING: The Grantee shall, at a minimum, complete, sign, and submit to DMME the following reports:

1. **Quarterly Federal Financial Report** (Form SF-425) - due within 5 days after the end of the reporting quarter. Quarters are defined as January thru March, April thru June, July thru September, and October thru December. The financial information on the report should accurately reflect the expenditures, by funding source, incurred during the quarter for the project including both the federal and the non-federal expenditures.
2. **Final Financial Status Report** (SF-425) - due within 30 days after completion of the project. A **Special Status Report**, which reports on developments that may have a favorable or adverse impact on the project, is due within 5 days after a favorable or adverse event.
3. **Quarterly ARRA Program Status Report** - due within 5 days after the end of each calendar quarter, which will detail project expenditures, performance metrics activity, and short-term outcomes (e.g., energy saved, jobs created/retained).
4. **Annual Report** - due one year after the effective date of the award, and annually thereafter to DMME.
5. **Additional reporting and other compliance requirements** are described in Contract attachments or located on DMME maintained web pages for grantees, recipients and subrecipients. The Grantee also agrees to assist DMME to comply with any additional reporting requirements that the U.S. Department of Energy or other federal agency with jurisdiction might impose during the life of the American Recovery and Reinvestment Act funding that supports this grant.

Failure to comply with the reporting requirements of this contract will be considered a material noncompliance with terms of the contract and may result in termination of the contract.

COMPLIANCE WITH FEDERAL RULES AND REGULATIONS: Funding for this Contract is authorized through the Catalog of Federal Domestic Assistance (CFDA) #81.041 and by authority of PL 95-91, DOE Organization Act; PL 111-5, American Recovery and Reinvestment Act of 2009 (ARRA); and PL 109-58, Energy Policy Act of 2005. This funding originated under DOE Grant DE-EE0000208 to DMME's State Energy Program, under the Grant Programs for Renewable Energy Projects (Solar, Wind, Biomass) at State/Local Government Facilities and Public Buildings market title. Expenditures made and services provided pursuant to this Contract shall be in accordance with 2 CFR Part 225, "Cost Principles for State, Local, and Indian Tribal Governments" (OMB Circular A-87), and OMB Circular A-133, "Audits of States, Local Governments and Non-Profit Organizations." However, if the Grantee is a non-profit organization, it is governed by the provisions of 2 CFR Part 230, Cost Principles for Non-Profit Organizations (OMB Circular A-122). Or, if the Grantee is a for-profit organization, it is governed by 48 CFR Part 31, Contract Cost Principles and Procedures. The Grantee also is governed by the administrative requirements of 10 CFR 600, Federal Financial Assistance Regulations. Any apparent inconsistency between Federal statutes and regulations and the terms and conditions contained in this award must be referred to the DOE Award

Administrator for guidance. It is the responsibility of the Grantee to identify such an inconsistency and bring it to the attention of DMME. The Grantee shall adhere, and require adherence by all recipients, subrecipients, vendors and subcontractors performing work required by this agreement, to the federal rules as noted.

TIME FRAME: Funds in all cases must be expended on eligible activities by March 31, 2012. However, Grantee also agrees to follow the project plan and timetables described in the contract and attachments in order to ensure that project milestones of progress are achieved on a schedule that will permit timely completion of the project and permit adequate time for adjustments for unanticipated contingencies. DMME reserves the right to withhold the total amount of grant funds awarded under this contract or to reduce the amount of the award if in the judgment of DMME the project does not achieve reasonable milestones of progress such that in the judgment of DMME timely completion of the project is threatened or doubtful.

SPECIAL TERMS AND CONDITIONS: The Grantee must comply with other specific ARRA terms and conditions, including ARRA Requirements for Transparency and Accountability, and Other Terms and Conditions, such as NEPA requirements, Davis-Bacon Act assurances, National Historic Preservation Act, and Buy American Act, which are included in the attachments in Contract Documents or contained in portions of attachments. The Grantee must regularly monitor information sources provided by DMME and follow guidance that is provided by DMME in written or digital form, such as emails, electronic documents and resources available on web pages provided by DMME for use by grantees, recipients and subrecipients. For example, DMME may provide on the DMME website approved local wage tables for compliance with provisions of the Davis-Bacon Act. Additionally, the Grantee must comply with the following conditions:

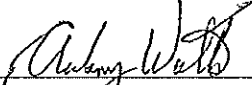
PERFORMANCE REQUIREMENTS AND PENALTY: The Grantee agrees to return up to the full amount of the Grant if in the reasonable judgment of DMME the Grantee does not complete the Scope of Work described in this contract. The amount of repayment may be reduced by the amount of pro rata accomplishment of the Scope of Work.

CONTRACT DOCUMENTS: The agreement shall consist of the following, all of which documents are incorporated herein:

- 1) **This signed Contract**
- 2) **Attachment 1- Scope of Work**
- 3) **Attachment 2 - Virginia ARRA Terms and Conditions**
- 4) **Attachment 3 – Federal Flow Down Terms and Conditions**

IN WITNESS WHEREOF, the parties have caused this Contract to be duly executed, intending to be bound thereby.

DEPT. OF MINES, MINERALS AND ENERGY

By: 
Aubrey Watts

By: 
Conrad Spangler

Title: COO/CFO

Title: Director

Date: March 29, 2011

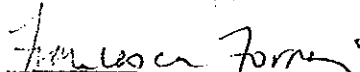
Date: 4/8/2011

FEIN: 54-600-1202

DUNS: 074745829

ADDRESS: City of Charlottesville
P.O. Box 911
Charlottesville, Virginia 22902

Approved as to form:


Asst. City Attorney

Approved By:


Director, Budget and Performance Management

ATTACHMENT 1 – SCOPE OF WORK

1. **Project Scope of Work.** The overall goals and objectives of the project.

Project site located to 1400 Melbourne Road, on the roof of Charlottesville High School.

Purchase and install a 60-kW solar photovoltaic energy array, to consist of ~220 Sharp brand 275-watt solar panels, utilizing a Unirac brand mounting system and SMA brand inverter, or acceptable brand equivalents.

Generation and mounting of educational signage and displays for students of Charlottesville City Schools, Piedmont Virginia Community College and the University of Virginia, consistent with the tailored educational programs of these entities.

2. **Project Plan and Milestones of Completion.**

SYSTEM DESIGN: Design intent of the solar PV system has been finalized. Final design documents can be prepared within 60 days of contract execution.

SYSTEM PROCUREMENT: Upon completion of design documents, there will be a necessary period of procurement of approximately 60 days, or approximately 120 days after contract execution.

CONSTRUCTION COMMENCEMENT: The lead time for necessary materials (primarily solar panels and inverters) is unknown at this time. Procurement documents will require that construction commence within a reasonable time, no later than 60 days after award, or 180 days after contract execution.

CONSTRUCTION COMPLETION: The Grantee anticipates a minimal period of construction, not to exceed 60 days from commencement, or 240 days after contract execution.

EDUCATIONAL PROGRAMS AND MATERIALS. The solar PV system will be designed and situated to facility educational and training opportunities for Charlottesville City Schools, Piedmont Virginia Community College, and the University of Virginia. The system is intended to serve as a live, real-time educational model for UVA engineering students and PVCC's Workforce Services students. These agencies have committed to include this system in their on-going curriculum, and to participate in the development of curriculum-based, live, interactive educational displays to be located on site. Charlottesville City Schools leadership has committed to participating the development of curriculum and appropriate educational materials for students at multiple grade levels. Collaboration with these agencies will begin upon contract execution. Program design and installation of any and all educational materials is to be finalized no later than the end of the Period of Performance.

3. **Project Budget.** The overall goals and objectives of the project.

Engineering Services	\$ 4,000
Construction Administration – Engineer	\$ 1,200
Signage and Displays	\$ 4,800
Construction Cost	\$ 375,000
<u>Construction Contingency</u>	<u>\$ 8,120</u>
Total Budget	\$ 393,120

