



## *City Council Memorandum*

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**MEMORANDUM:** April 8, 2015

**AGENDA DATE:** April 14, 2015

**TO:** Mayor and City Council

**FROM:** Susan A. Stanton, ICMA-CM  
City Manager

**SUBJECT: APPROVAL OF PROGRAM DEVELOPMENT AGREEMENT  
WITH OPTERRA ENERGY SERVICES**

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### **BACKGROUND**

Also most two years ago, the City began discussing the installation of a solar project in the City of Greenfield with Chevron Energy Solutions (which was subsequently sold to and is now known as OpTerra Energy Services). OpTerra Energy Services workforce is comprised of technical experts spanning a range of disciplines from engineering and design to project finance and workforce development. They bring a diverse group of specialists to each engagement so they can develop a deep understanding of each customer's situation and needs from multiple perspectives.

In a project similar to the one proposed for Greenfield, OpTerra Energy Services designed and delivered a comprehensive energy savings program to meet the City of Livermore's solar power needs in 2013. Solar facilities were built at the Municipal Airport, Civic Center, and Maintenance Service Center, offsetting almost 90 percent of energy costs at these facilities. Additionally, over 6,000 streetlights were retrofitted with LED lights to increase efficiency and improve street safety and visibility. After installing 1.44 MW of solar PV capacity across multiple city sites, Livermore was able to reduce its utility costs by nearly 90 percent – saving the city \$10 million over the life cycle of the solar installation.

The development agreement that has been tentatively negotiated with OpTerra Energy Services is to perform an Assessment for the following sites and prepare Recommendations that will identify potential energy improvements and operational changes that could be implemented at each of these sites to realize future energy cost savings.

<b>SITE</b>	<b>ADDRESS</b>
City Hall	599 El Camino Real
WWTP – Main Site	41901 Walnut Avenue
WWTP – Percolation Ponds Pump	E/End of Walnut Avenue at Sewer Ponds
Wells #1 & 6	SW Side of 14 <sup>th</sup> Between Pine & Walnut Avenue
Well #5 / Patriot Park	13 <sup>th</sup> & Oak Avenue
Well #7	502 10 <sup>th</sup> Street
Streetlights	N/A

The primary purpose of the Assessment and the Recommendations is to provide an engineering and economic basis for the implementation of the Energy Conservation Measures (ECMs) identified in the Recommendations, in furtherance of which the City and OpTerra Energy Service intend to negotiate and execute an Energy Service Contract providing for, among other things, engineering, procurement, installation, construction and training service.

As outlined in the attached Agreement, OpTerra Energy Services agrees to complete the Assessment and to present Recommendations to the City within ninety (90) calendar days after the date on which OpTerra Energy Services receives required information from the City concerning current and historical energy usage. The proposed scope of service for the Assessment is as follows:

1. Review of City energy related documents;
2. Survey sites to identify potential ECMs and distributed/renewable generation technologies, including potential locations therefor;
3. Conduct a utility analysis and solar photovoltaic production analysis that will include identifying the current rate schedule, analyzing electrical usage and modelling a load profile for each proposed site;
4. Determine the expected solar photovoltaic production curve for proposed sites;
5. Overlay the electrical load profile with the expected solar photovoltaic production curve to “right size” the solar photovoltaic system(s) and identify potential rate restructuring opportunities;
6. Evaluate solar photovoltaic systems, EV charging stations, lighting controls, exterior lighting, HVAC equipment, and other items for potential savings or renewable generation opportunities;

7. Prepare a post-inspection status update to present preliminary findings, including:
  - Demand Side Measures: List of energy retrofit opportunities that appear likely to be cost effective and warrant further analysis and
  - Supply Side Measures: List of potential sites for distributed generation, proposed solar array aerial layouts, estimated capacity and production;
8. Calculate energy savings for all proposed ECMs and energy production for any proposed renewable energy technologies;
9. Perform preliminary engineering and prepare the Recommendations that will include general, preliminary scope of construction work, project proforma, and a proposed preliminary project schedule;
10. Prepare a proposed “Project Cost” and a list of “Services to Be Provided” in anticipation of entering into an Energy Services Contract to engineer, procure, and construct the project proposed in the Recommendations; and
11. Consult with the City regarding how the proposed ECMs, renewable energy opportunities, operational efficiency measures, and other program elements could be utilized to promote City goals, calculate the utility incentives and other grants, assist the City in the application process by helping to prepare required technical documents, review the ECMs and renewable energy opportunities proposed in the Recommendations and assemble options that are compatible with the City's investment and infrastructure improvement goals.

As part of this partnership, the City of Greenfield will agree to the following:

1. Deliver the required information to OpTerra Energy Services no later than thirty (30) calendar days after the date hereof and
2. Assist OpTerra Energy Services in performing the Assessment by providing OpTerra Energy Service with:
  - Access to key decision makers of the City of Greenfield;
  - Access to the sites and other relevant facilities of the City of Greenfield as OpTerra Energy Services deems necessary, and
  - Complete and accurate data concerning energy usage and costs related to the sites and other relevant facilities.

Greenfield and OpTerra Energy Services each reserves the right to terminate this Agreement at any time during the course of the Assessment, by delivery of written notice to the other. If OpTerra Energy Services determines that the projected savings from implementation of the

ECMs identified during the Assessment cannot result in a paid-from-savings project that complies with California Government Code sections 4217.10 through 4217.18, the Assessment and this Agreement can be terminated by OpTerra Energy Services.

## **BUDGET AND FINANCIAL IMPACT**

In determining the financial viability of the proposed solar project, OpTerra Energy Services developed a preliminary energy saving matrix that projects the City's total electric consumption at 1,700 kWh per year. Based on an initial assessment, OpTerra Energy Services projected that the City's total solar electric production, if constructed and installed as proposed, would be 1,282,500 kWh per year. Based on a 22-cents per kWh projected savings compared to PG&E electric rates, total net savings to the City for the project can be calculated based on three factors:

1. **Projected Utility Annual Energy Escalation Factor:** OpTerra Energy Services has indicated that over a 25 year period, electric user rates will increase by 4.5% per year. The greater the annual projected increase in electric rates, the larger the annual savings the solar project will produce. There is obviously no guarantee on the projected increase in electric rates. City staff is basing the projected cost savings of the solar project on a 3.75% per year annual escalation factor.
2. **Solar Operation and Maintenance Cost:** Many cities do not believe their staff has the technical competence to maintain the solar installation and base the cost effectiveness of the project on the assumption that the city will pay OpTerra Energy Services (or some other third party) an annual maintenance fee (\$15,000) for this service. If the City does decide to go forward on this solar installation project, City employees will be provided with the adequate training and resources to perform this function. The City will, however, include annual funds for quarterly inspections to ensure City staff are making the optimum repairs and servicing the solar units as needed.
3. **Purchase of Guarantee Savings:** OpTerra Energy Services offers the City the option to purchase a guarantee for the projected savings estimated at \$15,000 per year. The guarantee can be purchased for one or more years based on the level of risk the City is comfortable assuming or the projected increases in electric rates.

A solar installation project, based on a 4.5% annual energy escalation factor, with a five year savings guarantee and OpTerra Energy Services providing annual maintenance service, generates annual net savings of \$52,000 or \$5,850,000 for the 25 year life cycle of the solar panels. If electric rates increase by 6.5% per year over the next 25 years, total annual savings double to \$101,000 or \$8,480,000 over 25 years.

In deciding to move forward on this project and/or not to purchase a guarantee for an annual savings, it is prudent to develop a worse-case scenario to ensure that the assumed savings of the project is never less than the annual lease payment on the equipment. Assuming electric rates only increase by 2.7% per year, the City's annual savings (including the lease payment for the first 17 years of the project) is \$1,700 or \$3,400,000 for the 25 year life cycle of the solar panels.

Additional savings to the City can be generated if the City provides its own maintenance instead of contracting for this service or purchasing a supplemental savings guarantee. For example, based on a 4.5% annual energy escalation factor, total 25 year savings of \$6,200,000 would be realized. If the annual energy escalation factor is 6.0%, 25 year total savings increase to \$9,100,000, and if the annual energy escalation factor is 2.7%, total savings are lowered \$4,100,000.

As additional information concerning the energy usage of City equipment is assessed by OpTerra Energy Services during the next 90 days, the City will be in a better position to decide on the ultimate financial terms that should be used in financing the proposed solar project. The OpTerra Energy Services fee for developing the initial Assessment Report is \$30,000 but only payable in accordance with the following provisions:

1. If on the thirtieth (30th) calendar day after commencing work on the initial Assessment Report study, OpTerra Energy Services and the City of Greenfield are negotiating an Energy Services Contract in good faith, the Report Fee will be due ninety (90) calendar days after OpTerra Energy Services' submission of the Recommendations; and
2. If OpTerra Energy Services and Greenfield execute an Energy Services Contract within ninety (90) calendar days after OpTerra Energy Services' submission of the Recommendations, the Report Fee will be incorporated into the total contract amount payable under the Energy Services Contract.

### **REVIEWED AND RECOMMENDED**

Based on current events in California, including the statewide drought, it is safe to assume that electric rates will increase 3.75% annually over the next 25 years. The proposed solar project is economically viable and identified savings could increase if electric rates exceed the assumed projection. OpTerra Energy Services has a successful track record installing solar projects around the nation. In 2014, they installed a successful project for the City of Gonzales and was recently selected by the City of Salinas to construct similar installations that are contemplated for Greenfield. If the City Council authorizes the City Manager to execute a Program Development Agreement with OpTerra Energy Services, OpTerra Energy Services will begin a comprehensive energy infrastructure analysis, saving quantification and preliminary system design in April; a financing strategy will be developed in August; an Energy Service Contract presented to the City for approval in September; and construction of the solar project would begin by October.

### **POTENTIAL MOTION**

**I MOVE TO AUTHORIZE THE CITY MANAGER TO NEGOTIATE AND EXECUTE A PROGRAM DEVELOPMENT AGREEMENT WITH OPTERRA ENERGY SERVICES TO RECOMMEND ENERGY CONSERVATION MEASURES AT A NUMBER OF CITY FACILITY LOCATIONS AND TO DETERMINE THE FEASIBILITY OF DEVELOPING A SOLAR ENERGY PROJECT FOR THE CITY OF GREENFIELD.**