



ARLINGTON COUNTY, VIRGINIA

**County Board Agenda Item
Meeting of October 18, 2008**

DATE: October 7, 2008

SUBJECT: Approve an Award of a Contract for the Construction, Installation and Commissioning of Agreed-Upon Energy Conservation Measures at the Arlington County Justice Center located at 1425 and 1435 N. Courthouse Road, Arlington, VA, to Custom Energy Services, LLC.

C. M. RECOMMENDATION:

1. Approve the award of an energy- and water-saving performance contract for the construction, installation and commissioning of agreed-upon efficiency measures at the Arlington County Justice Center located at 1425 and 1435 N. Courthouse Road, Arlington, VA 22201, to Custom Energy Services, LLC (the “Contractor”) in the amount of \$5,308,601.
2. Authorize the Purchasing Agent to execute the contract documents subject to review by the County Attorney.

ISSUE: County Board approval is needed to award a contract for the defined energy efficiency and facility improvement measures utilizing a guaranteed energy cost savings contract. No issues have been identified.

SUMMARY: An investment-grade technical energy and water savings audit has been conducted for the Arlington County Justice Center and multiple cost-effective opportunities exist to reduce energy and water consumption. This is a request for approval of award for a performance-based contract to implement the identified conservation opportunities by constructing, installing and commissioning the improvements identified in the audit.

BACKGROUND: Using a competitive negotiation process established by the Commonwealth of Virginia’s Department of General Services in accordance with § 11-34.3 of the State Code, Arlington’s Department of Environmental Services requested proposals from 10 pre-qualified service providers for a preliminary audit of the Justice Center. Based on an evaluation of the submissions, a Memorandum of Understanding was established with the Contractor, Custom Energy Services LLC, to perform an investment-grade technical energy and water savings audit.

County Manager: _____

County Attorney: _____

Staff: John Morrill, Department of Environmental Services
John Murphy, Department of Environmental Services

The purpose of the audit was to develop a list of energy and water conservation measures and facility improvement measures that could be self-funding through energy and maintenance savings. The audit revealed significant conservation opportunities, including installing high efficiency lighting, establishing heat recovery from building exhaust, installing water conserving fixtures, and upgrading energy management systems (see attachment 1). Continuing with the process established by the Commonwealth, the Contractor and Arlington County have developed an Energy Performance Contract in the amount of \$5,308,601 based on guaranteed energy and water savings.

The estimated total project cost is \$5,308,601 (see Attachment 1), which is comprised of an investment at the Courthouse and Police Facility of \$912,493; an investment at the Detention Center of \$3,534,179; a Contractor's fee of \$741,931; and a Contingency of \$120,000. The total guaranteed savings averages \$483,660 annually over the 15 year term (see Attachment 2). For the purposes of calculating the utilities savings after year 2, the projections assume no increase in price for utilities consumed or change in demand. This is because the focus of the energy performance contract is on affecting energy consumption and not on affecting utility rates. The changes in utility rates are accounted for as part of the budget process. To finance the re-engineering of equipment and fixtures at the Courthouse and Police Facility as well as at the Detention Center, the County Manager is requesting the County Board, in a separate board report, to authorize an amendment to the current Master Lease Agreement and negotiate a 15-year loan under the Master Lease. Under current financial market conditions, a \$5.30 million loan for 15 years could generate an annual debt service cost of approximately \$0.47 million. The loan will be paid with the guaranteed \$0.48 million in annual energy savings. The savings is derived from \$0.39 million in utility cost savings from the Detention Center building and \$0.09 million from the Courthouse and Police Facility (see Attachment 3).

Savings projections were developed through a combination of engineering methods and field data collected from data-logging equipment. Input from facility personnel was used to define the operational run hours and the operating procedures used for the facilities and the major energy-consuming equipment. In addition to analyzing the current situation, the Contractor obtained installation costs for the energy and water conservation measures considered for implementation. After developing detailed scopes of work, fixed installation costs were established for each measure.

DISCUSSION: The proposed contract requires the Contractor, to construct, install and commission agreed-upon energy and water conservation measures at the Justice Center and guarantee annual utility and maintenance cost savings based on reduced energy and water consumption and changes in technology. Using calculation methods recognized by the Commonwealth's process, this performance contract commits the Contractor to implement measures yielding a total annual guaranteed saving of \$485,687 each year for 15 years. Using agreed upon performance measures and methodologies, the Contractor will provide the initial modifications, provide ongoing measurement and verification, and operational feedback on performance. During the construction period, which is projected to begin in November 2008 and last through July 2009, the utility costs of the respective buildings will be monitored and analyzed for comparison of guaranteed savings to actual savings. This data will be used to forecast utility cost savings for FY 2010. Per the contract, the contractor, Custom Energy, is

required to reimburse the County in cash for any savings shortfall in the guaranteed energy savings projected in attachment 2.

These cost savings are created by reducing electricity consumption by at least 1,594,401 kilowatt-hours per year (14% below baseline levels), reducing natural gas consumption by at least 101,333 therms per year (35% below baseline levels), and reducing water consumption by 14,812,000 gallons per year (32% below baseline levels).

FISCAL IMPACT: The investment-grade technical energy and water savings audit and the contractual provision of an annual guaranteed savings allows for funding using master lease funds. Avoided energy and maintenance costs – appropriated through existing budgets – will fund regular lease payments. The contract cost of \$5,308,601 will be funded through the County’s master lease agreement with a payback period of 15 years. In Fiscal Year 2008, the Courthouse and Police Facility and Detention Center spent approximately \$1.40 million in utilities costs. The Contractor estimates that approximately \$0.48 million could be saved should the County decide to implement the investments included in Attachment 1. This level of savings could pay for the projected annual debt service of \$0.47 million provided the interest rates are consistent with the current market when the financing is finalized in October 2008. The annual debt service payments will begin in FY 2010 and will be paid from the savings in the utility budgets of the Detention Center (\$0.39 million) and Courthouse and Police Facility (\$0.09 million) (see Attachment 3). If there is a shortfall in the projected energy and water savings, the County would still be required, subject to appropriation of funds, to make master lease payments, but the contractor, Custom Energy, is required to reimburse the County for any savings shortfall.

ENVIRONMENTAL IMPACT: Implementing the identified conservation opportunities in these large buildings would significantly contribute to the County’s overall efforts to reduce energy consumption and contribute to the County’s Fresh AIRE goal of a 10% reduction in greenhouse gas emissions.

Arlington County government’s 2000 baseline greenhouse gas emissions totaled 67,250 metric tons of CO₂. Reducing annual electricity consumption at the Justice Center by 1,594,401 kWh and natural gas consumption by 101,333 therms reduces our emissions by 1,422 metric tons, which is 21 percent of the 6,725 ton reduction necessary to achieve the 2012 goal.

**Arlington County Justice Center
Guaranteed Energy Savings Project
Project Price Summary
June 30, 2008**

	Energy Conservation Measure Description	Construction Price	Total
	Courthouse and Police Facility		
	Air Handling Unit Retrocommissioning & Optimization	\$45,494	
	Chemical Free Cooling Tower Water Treatment	\$83,678	
	CO2 Monitoring to Reduce Ventilation Rates	\$30,003	
	Energy Management System Upgrade & Optimization	\$247,439	
	High Efficiency Lighting	\$417,548	
	Water Conservation	\$88,331	\$912,493
	Detention Center		
	Air Handling Unit Retro-commissioning and Optimization	\$45,746	
	Chemical Free Cooling Tower Water Treatment	\$83,678	
	Energy Management System Upgrade & Optimization	\$356,491	
	Heat Recovery From Building Exhaust	\$1,637,797	
	High Efficiency Lighting	\$544,679	
	Water Conservation	\$865,786	\$3,534,177
	Project Contingency	\$120,000	\$120,000
	Custom Energy Fees		
	Bond and Insurance	\$132,186	
	Comprehensive Energy Audit Agreement (see note)	\$0	
	Measurement & Verification	\$16,054	
	Warranty	\$10,789	
	Project/Construction Management & Administration	\$582,902	\$741,931
	Total	\$5,308,601	\$5,308,601

Note: A \$81,600 audit fee has already been paid separately.

**Arlington County Justice Center
Project Savings Summary
30-Jun-08**

Project Price \$ 5,308,601

Project Savings Summary				
	Time Period	Total Savings (Projected)	Total Savings (Guaranteed)	Real Savings Available
Construction	11/15/08 - 6/30/09	\$221,305	\$214,000	\$214,000
Year 1	fiscal year 2010	\$471,210	\$455,279	\$455,279
Year 2	fiscal year 2011	\$502,798	\$485,687	\$485,687
Year 3	fiscal year 2012	\$502,798	\$485,687	\$485,687
Year 4	fiscal year 2013	\$502,798	\$485,687	\$485,687
Year 5	fiscal year 2014	\$502,798	\$485,687	\$485,687
Year 6	fiscal year 2015	\$502,798	\$485,687	\$485,687
Year 7	fiscal year 2016	\$502,798	\$485,687	\$485,687
Year 8	fiscal year 2017	\$502,798	\$485,687	\$485,687
Year 9	fiscal year 2018	\$502,798	\$485,687	\$485,687
Year 10	fiscal year 2019	\$502,798	\$485,687	\$485,687
Year 11	fiscal year 2020	\$502,798	\$485,687	\$485,687
Year 12	fiscal year 2021	\$502,798	\$485,687	\$485,687
Year 13	fiscal year 2022	\$502,798	\$485,687	\$485,687
Year 14	fiscal year 2023	\$502,798	\$485,687	\$485,687
Year 15	fiscal year 2024	\$502,798	\$485,687	\$485,687

Note: During Construction, assumes 50% of annual guaranteed savings is achieved.

Utility payments & savings by building

				Total	Total	Total
Courts/Police	<u>Electricity</u>	<u>Gas</u>	<u>Water</u>	<u>Actual</u>	<u>Projected Savings</u>	<u>Guaranteed Savings</u>
FY08 Actual	365,079	76,291	42,735	484,105		
Projected Savings	59,520	11,684	22,756		93,960	
Guaranteed Savings	57,390	11,667	21,980			91,037
Detention Center	<u>Electricity</u>	<u>Gas</u>	<u>Water</u>	<u>Actual</u>	<u>Projected Savings</u>	<u>Guaranteed Savings</u>
FY08 Actual	346,362	287,426	283,509	917,297		
Projected Savings	70,227	129,322	209,285		408,834	
Guaranteed Savings	66,680	128,780	199,191			394,651
Total				1,401,402	502,794	485,688