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COMMITTEE MEMORANDUM

TO: Finance and Citywide Projects Committee

FROM: Jorge M. Gonzalez, City Manager

DATE: September 26, 2011

SUBJECT: Discussion Authorizing the City to Enter into an Energy Audit and Permitting Agreement with Ameresco to Provide a Detailed Engineering Study and Energy Savings Calculations with Guaranteed Payback Related to the Feasibility of Construction and Operation of a Water Reclamation Plant for the Irrigation of the Miami Beach Golf Course.

BACKGROUND

In May 2010, the City Commission approved an Energy Services Agreement with Ameresco. Under the terms of the Agreement, Ameresco will complete projects in the following six (6) energy conservation measures:

- ECM 1 – Facility Lighting and Lighting Controls Upgrade. This ECM generally provides most of the City's facilities with lighting upgrades and lighting control upgrades to increase the energy efficiency.
- ECM 3 – Domestic Water Conservation. This ECM provides throughout the various City facilities, water conserving fixtures such as toilets, sinks, shower heads, ice machines and laundry facilities where they exist to reduce their water consumption.
- ECM 5 – HVAC Controls. This ECM generally provides that all of the City's different facilities will be linked into one (1) energy management system and upgraded so that building monitoring and controls are more easily undertaken and energy conservation achieved as a result.
- ECM 6 – Geothermal District Cooling Plant. This ECM provides through three (3) different elements, the optimization of the chiller plant facility in the Convention Center, providing a geothermal source to enhance the efficiency of the cooling plant and also to expand the cooling system to incorporate the distribution of chilled water to City Hall, the new multi-purpose City garage and eventually the 777 Building.
- ECM 7 – Geothermal Cooling Police Station. This ECM provides a geothermal cooling source to increase the efficiency of the Police Department chilling mechanism, thereby reducing energy consumption.
- ECM 10 – Power Transformer Replacement. This ECM provides for the replacement of most of the power transformers currently in use within City facilities to increase their energy efficiency.

During the development of the energy audit, another project to build a Water Reclamation Plant (WRP) was identified. The City Commission decided not to proceed with this project; however, it directed the Administration to do additional research and community outreach to find out if there were any concerns about the construction of a WRP in the Green Waste facility located at Meridian Avenue and 28th Street.

The community outreach has involved trips to a similar WRP in Islamorada that were attended by a Commissioner, members of the Administration, and interested residents from the Central Bayshore neighborhood. In addition, a public information and community outreach meeting was held on May 25, 2011 at the Miami Beach Golf Course. At this meeting, there was a general positive response from the Bayshore Neighborhood, the community in which it is proposed to build the WRP.

ANALYSIS

Following the direction of the City Commission, Ameresco completed a preliminary feasibility study (at no cost to the City) for the operational costs and projected guaranteed savings related to the design, construction and operation of a WRP to serve the irrigation needs of the Miami Beach Golf Course and potentially the irrigation needs of the Par 3 Golf Course.

The preliminary evaluation performed by Ameresco (Attachment A) supports the proposition that a WRP would generate a gross annual savings of approximately \$1,410,000 per year, offset by approximately \$706,000 in annual operating expenses. The savings include the decrease in potable water use plus the decrease in sewage sent to Miami-Dade less additional energy costs. The operating expenses include approximately \$22,000 per year in monitoring and verification and \$684,000 in labor and material costs. The estimated payback, in the amount of \$625,000 per year, would be approximately twelve (12) years. Each of these savings and costs has an escalation rate that has been previously negotiated. The escalation rate for the savings is 3.75%, and the escalation rate for the costs is 3.0%.

The construction of a WRP requires a significant amount of regulatory permit analysis and a comprehensive technical analysis prior to determining the feasibility of entering into a guaranteed energy performance savings contract, similar to the contract entered in May 2010 for the six (6) ECM's.

Ameresco is proposing to enter into an Energy Audit and Permitting Agreement. Under the Agreement, Ameresco would perform the technical audit analysis and the permit submittal. Ameresco will perform both tasks at their own cost and at the end of the process will present a complete technical feasibility report, at which time the City will decide whether or not it wants to enter into an Energy Performance Agreement for the construction and operation of the WRP.

To fully substantiate the validity of operating a WRP, it is recommended that the City Commission approve entering into an Energy Audit and Permitting Agreement between the City and Ameresco. The audit will provide detailed engineering analysis and confirm energy savings calculations with guaranteed annual payback, estimate design and construction costs, and confirm the annual operating costs. Furthermore, the study will provide recommendations on potential locations for the plant and full layout design for piping feed water from point of supply to the WRP.

All costs related to the Energy Audit and Permitting Agreement is \$250,000. This includes \$75,000 for the audit and \$175,000 for permitting and preliminary design. The permitting and preliminary design is broken down into two phases. Phase 1, in the amount of \$65,000, includes site investigations, meetings with DERM and the public, and the preparation of a report requesting a Letter of Intent. Task 2, in the amount of \$175,000, consists of the preparation of a preliminary engineering report, selection of equipment, and application for permits.

If it is determined that the project is not permissible or does not result in savings within the specified payback period, the City will not owe any money to Ameresco. If it is feasible and the City agrees to execute an Energy Performance Agreement within ninety (90) calendar days of the City's acceptance of the project proposal, Ameresco will include into the project cost the audit and permitting fees in the amount of \$250,000. If it is feasible and the City does not enter into an Energy performance Contract within ninety (90) calendar days, the City will compensate Ameresco for its services under the Agreement in the amount of \$250,000.

CONCLUSION

The City Administration recommends the approval to enter into a contractual agreement with Ameresco for the aforementioned Energy Audit and Permitting Agreement. The City will not be responsible for any incurred cost if the project is not permissible or does not result in savings within the specified payback period.

The above information is provided for discussion by members of the Committee.

Attachment:

- A. Preliminary Cash Flow Analysis


DRB/FHB/RWS

