



May 17, 2010

The City of Key West
City Hall
525 Angela Street
Key West, Florida 33040
Attn: Jim Scholl, City Manager - sent via email to jscholl@keywestcity.com

**Re: The City of Key West Administration Building Complex
Project Design Summary – Mechanical, Plumbing, Electrical, and Technology Systems**

Dear Mr. Scholl,

We have prepared the following summary of the mechanical, plumbing, electrical, and technology systems for the City of Key West Administration Building Complex project. The purpose of this summary is to provide a brief explanation of the systems designed for the Administration Building and the efficiency of this design.

Overall, the building systems have been designed specifically for this facility to optimize energy efficiency and performance. Some of the key features are:

- The main building mechanical system is a high efficiency air cooled, direct exchange, variable air volume HVAC system. This main system, in conjunction with the other auxiliary building systems as explained below, shall exceed ASHRAE 90.1-2004 standards by at least 21%.
- The building integrated photovoltaic electric system will generate 2.5% of the building's needs. This could result in significant energy and cost savings for the city. That savings combined with the efficiencies of the HVAC systems could be approximately \$40,000 per year (at .15 /kwh) when compared to the current facilities. In addition, the photovoltaic system can lessen the demand on the generators and their related fuel supplies during power outages.
- Integrated gutter system to divert rain water to a 40,000+ gallon storage tank for reuse as landscape irrigation, clothes washing, and flushing toilets. This should provide 100% of those needs with no need for supplementary potable water.
- Solar water heating system to provide 82.9% of the facility's yearly domestic hot water needs.
- Energy use in lighting will be minimized by providing 75% of the occupied spaces with natural day lighting.
- Daylight sensors will be connected to automated dimmers for occupant comfort in maintaining consistent lighting levels and contributing to significant energy use reduction.
- All computers, servers and office outlets shall be connected to a central UPS system to provide uninterrupted power during outages. This UPS will also condition the power to eliminate the need for individual surge suppressors at each workstation.
- Two backup generators will provide 100% power for a duration of 5 days, based on the current fuel tank design.

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- IP based digital video surveillance system.
- Smart Card security access system.
- Multi-media audio/visual systems are provided in the main conference areas. These systems are designed so that they can be upgraded to full scale video teleconferencing in the future.
- Digital way finding/informational displays.

This new facility is designed with state of the art integrated systems that have the advantage of superior performance and efficiency when compared to existing or remodeled facilities.

Sincerely,



Michael W. McClafferty, LEED® AP
Associate / Mechanical Project Manager

