

Operational Impacts of Capital Improvement Projects

Capital improvement projects generally have one of two impacts. New or expanded facilities usually result in staffing requirements along with new operating costs such as utilities, supplies, and maintenance requirements. Replacement of older facilities has the opposite effect; efficiencies gained from more efficient equipment, lower maintenance costs, and on occasion, lower staffing requirements reduce operating and personnel costs.

In the water, wastewater, and stormwater departments, the city has embarked on a multimillion dollar, multi-year program to accelerate the replacement of aging infrastructure. Over the last few years, the city has been experiencing more frequent and more costly failures. Often, these failures “detour” employees from their planned preventative maintenance schedules and incur significant overtime costs.

Commercial paper, as an interim financing tool, is playing a more prominent roll in accelerating a number of programs pending the issuance of bonds, state funds and increased revenues to be received in later years. Upwards of \$100 million may be used in FY09 to get such projects underway.

Improvements to parks and recreation centers throughout the city are budgeted for \$1 million. This project provides for fencing, bollards, gates, athletic courts and field repair or installation, ancillary and playground equipment, fall prevention surfacing, park and restroom renovations, trails and shelters. The parks and recreation department targets several facilities per year for these upgrades and improvements. Each improved facility will have lower maintenance, repair and utility expenses.

Annual funding of \$175,000 is also provided for courts, sidewalks and trail improvements. These improvements include lighting upgrades that improve visibility and reduce energy consumption, maintenance and repair costs.

For both new and replacement facilities, opportunities are sought to incorporate “green” sustainable features into the design. These commonly include highly reflective roof surfacing, “cool roofs”, day lighting, energy efficient lighting, hands free faucets, and other water savings measures. Additionally, HVAC systems are designed to both minimize energy and maintain good air quality.

Specific projects include:

- **Irrigation and Lighting-Radio Controlled** – This project provides for upgrade, installation and repair of the city-wide radio controlled irrigation system. This system is controlled by a central computer, which communicates with field units necessary to operate the various irrigation zones throughout the city. The system has the ability to manage the amount of water dispensed for any zone and will shut down any zone that malfunctions. It also controls the on / off function of lights in various parks. The parks and recreation department is establishing security lighting throughout the city. This system can be placed on the existing radio controlled system, which will turn the lights on and off.
- **New and Replacement Fire Stations** – This project started in FY07, for constructing two new fire stations (FS) and replacing two stations over the next five years. In FY07, funds provided for the design and construction for FS #19 in Port Tampa. Due to the larger building size, the cost to operate the new facility when replaced will increase by approximately \$9,000. Construction of FS #22 in New Tampa is planned to begin in FY09. Upon completion operating and one-time capital costs for FS #22 will include: \$1.8 million for payroll and benefits for 30 firefighters; \$33,000 for bunker gear and clothing; \$913,000 for a ladder truck; \$313,000 for a fire engine; and \$42,000 for utilities. Similar expenses are projected for two stations, one replacement and one new, programmed in FY10 and FY11.
- **Traffic Signal Upgrade to Light Emitting Diodes (LEDs)** - This project, which started in FY07, provides for the upgrade of traffic signal displays to LED signal heads for emergency operation of signals on backup power systems. Current signals require too much power to operate on backup power systems. LED traffic signals reduce power demand by 70 to 80 percent, enabling the use of batteries or generators as backup power sources. This project is directed at the top 100 emergency priority intersections and will free up Tampa police officers from traffic duty during emergency situations. The cost of this project will be recovered quickly, with an average annual cost of \$887 per signal, and savings of approximately \$67,000 each year per 100 signals.
- **Climate Control / HVAC Systems** - Funding is provided, in the amount of \$152,180 annually, for the replacement of deteriorated HVAC (heating, ventilating, air conditioning) systems at various locations throughout the city. Many of these systems have exceeded their useful lives and repair parts are becoming more difficult and costly to obtain. Energy savings will accrue with their replacement. In FY09, several HVAC air handlers need to be replaced at locations throughout the city including Seminole Garden Center, fire station #1, Taylor Craft Studio, and the Wayne Papy Gym. Energy savings will also accrue from replacement of these air handlers.

- **Water Minimum Flows and Levels** – This program is comprised of four projects that will increase the amount of fresh water in the lower Hillsborough River. After the four projects are completed in FY12, the program will result in an increase in the department’s operating budget between \$150,000 to \$200,000 annually. The majority of the cost increases are for electricity to operate the new pumps associated with each project.
- **Reclaimed Water Expansion** - The expansion plan targets large, non-residential water users with the highest potential to conserve potable water by using reclaimed water. Expansion of the residential system will also be re-evaluated in FY09. When the expansion program is completed, the department estimates an impact to its operating budget of approximately \$500,000 per year, which will fund increases in chemicals and electrical services. This increase will be offset by revenues that will cover both increases to the operating and debt service costs.

Progress in Sustainability

The City of Tampa continues to develop projects with sustainability aspects that conserve resources and provide energy savings.

Specific projects include:

- **High Efficiency Lighting:** High efficiency lighting will be installed in three parking garages and at the fleet maintenance facility in FY09. The high efficiency lighting will increase lamp life from 20,000 hours to 100,000 and reduce lighting energy consumption by 55%. An annual electrical savings of \$130,000 is anticipated for the three parking garages and an annual savings of \$50,000 for the fleet maintenance facility. The high-efficiency lighting will reduce greenhouse gases and the city’s carbon footprint by eliminating wasteful energy consumption.
- **Energy Management Systems:** In FY09, the city will initiate a new program for the installation of occupancy sensors and energy management systems in various city facilities modernizing the way the city consumes energy. The occupancy sensors will reduce lighting consumption by 30 to 50% by detecting the presence of people in offices and by then turning the lights on or off accordingly. Over one third of the city’s facility energy usage is associated with lighting, so the impact on electrical usage will be significant which will have a corresponding impact on greenhouse gas production and reduction of the city’s carbon footprint. The energy management systems will improve comfort, save energy, provide centralized monitoring and control adjustment capabilities improving building performance.
- **Tampa Police Department Chiller and Cooling Tower Improvements** - Final tie-ins and completion of on site activities were accomplished in December 2007 for this project that replaced a 30-year old cooling tower with an energy efficient air-cooled chiller. Cost of the project was \$670,000 and was funded by community investment tax and utility tax dollars.

This is the fourth major municipal facility to receive an upgraded HVAC system. Previously, the Tampa Municipal Office Building, Old City Hall, and fire station #1 have all received air-cooled chillers that replaced aging cooling towers. These units provide not only energy savings, but also increased fresh air to the facilities, improved control of humidity and air quality. Additionally, the elimination of cooling towers saves annually on the cost of maintenance chemicals and saves over one million gallons of water per year at each location, a total savings of four million plus gallons per year.

- **Tampa Police Department Roof Replacement** - In March 2008, work was completed on the replacement of the existing headquarters building roof with an Energy Star rated cool roof that also meets the Cool Roof Rating Council requirements. Selection basis for the material used was that it could meet the criteria and maintain its cool roof properties without supplemental coatings or maintenance. The project cost \$390,000 and was funded by community investment tax. This is the third major municipal structure to be re-roofed with cool roof material.
- **Fire Station #1 Roof Replacement** - A contract has been awarded and construction is set to begin in August 2008 for the replacement of the existing roof with a cool roof similar to that installed at the police department headquarters building with expected completion in late 2008. Cost of the project is \$160,000 and is being funded by community investment tax.
- **Renovations for Technology and Information Department** - The technology and innovation department has been consolidated into renovated space in the Tampa Police Department Headquarters. Consolidation of personnel will provide more efficient and timely service to the various city departments. Cost of the renovation totaled \$2.2 million from utility tax funds and included sustainability related improvements such as upgrades to the existing HVAC equipment, energy efficient lighting, and carpet incorporating recycled material.