

CIP Energy Efficiency Opportunities

Parks and Recreation

- FY20-FY23 lighting at Fee Ave Tennis Courts and 5+ ballfields
 - Solar Energy
- FY21 Fee Ave and Jimmy Moore Pro Shops & Restrooms
 - Solar energy AND no flush toilets
- FY20 new deck lighting at Fee Ave Pool
 - Solar Energy
- FY19 Carver Park lighting
 - Solar Energy
- FY21 Front Street Park Restroom Replacement
 - Solar energy for lighting, No flush toilets

Facilities Management

- FY19 AC Unit for Data Center at City Hall
 - Energy Efficient model
- FY22-FY23 roof replacements at Fleet Management Building and Melbourne Auditorium
 - Solar energy
- FY19 Harper Road Complex Parking
 - Solar Energy for any lighting

Water Production/Water Reclamation

Solar energy, or waste-to-energy option for the multimillion dollar upgrades for sewer and drinking water projects spanning FY19-FY22 and beyond.

- FY19 Replacement RO Booster Pump and Motor Assemblies
- FY19-FY20 Surface Water Treatment Plant Replacement Generator
- FY20 Variable Frequency Drive Updates for Canova Station
- FY20 Upgrade Auto Transfer Switches at the RO Water Treatment Plant
- FY22 Grant Street Reuse expansion
- FY19 Roof Replacement DB Lee

Police Department

- FY19 Police Department Headquarters Building
 - Solar energy and no flush toilets

Redevelopment CRA

- FY19 Phase I Eau Gallie District Lighting
 - Solar Energy
- FY22 Bus stop shelters

- Solar Energy for lighting

Further Discussion

- Log of energy savings efforts completed by Melbourne/staff
- Involvement in design and/or building review process

Energy Efficiency Opportunities in the 5-Year Capital Improvement Project List – Dr. Dan Woltering

Based on recent City Department presentations to the Beautification and Energy Efficiency Advisory Board, it appears these departments are actively pursuing opportunities to upgrade and improve energy efficiency as equipment and materials are replaced; for example, lighting, pumps, motors, AC units, RO equipment, vehicles, etc. There are a number of these types of opportunities in the 5-year CIP Project List, and it is assumed the departments and their contractors will continue to make the most energy-efficient, cost-effective choices in these replacements / updates.

Some specific examples include:

- FY20-FY23 lighting at Fee Ave Tennis Courts and 5+ ballfields
- FY20 new deck lighting at Fee Ave Pool
- FY19 AC Unit for Data Center at City Hall
- FY19 Carver Park lighting
- FY19 Replacement RO Booster Pump and Motor Assemblies
- FY19-FY20 Surface Water Treatment Plant Replacement Generator
- FY20 Variable Frequency Drive Updates for Canova Station
- FY20 Upgrade Auto Transfer Switches at the RO Water Treatment Plant
- And others

There are also numerous energy efficiency opportunities in the 5-Year CIP Project List that offer even more significant opportunities to help achieve the City's operations-wide goal to achieve 100% clean energy by 2035. Pursuing both energy efficiency and energy self-reliance projects (meaning the waste is used to generate sufficient energy to run the facility and often provide excess energy) should be part of achieving the City's stated goal. (Note: the City's electric power currently comes from FPL facilities powered by natural gas, which is considered "clean energy" relative to some sources in the past. Solar energy is not only clean energy but provides opportunity for energy self-reliance. Waste-to-energy sources of heat and electric power can also provide energy self-reliance in an environmentally clean manner.

Some specific examples that should be considered include:

- Solar energy for the lighting identified in the FY20-23 lighting at Fee Ave Tennis Courts and 5+ ballfields
- Solar energy for the FY20 new deck lighting at Fee Ave Pool
- Solar energy AND no flush toilets for the FY21 Fee Ave and Jimmy Moore Pro Shops & Restrooms
- No flush toilets for the FY21 Front Street Park Restroom Replacement (perhaps solar for the restroom lighting)
- Solar energy and no flush toilets for the FY19 Police Department Headquarters Building
- Solar energy as part of FY22-FY23 roof replacements at Fleet Mgmt Bldg and Melbourne Auditorium

- Solar energy as part of FY19 Phase I Eau Gallie District Lighting
- Solar energy, or more boldly a waste-to-energy option for the multimillion dollar upgrades for sewer and drinking water projects spanning FY19-FY22 and beyond.

While solar may not be timely or cost effective for all of the above examples, it should be considered on a case-by-case basis wherever the opportunity exists. These types of opportunities could be evaluated as part of a city-wide ESCO, and/or through a comprehensive evaluation by a commercial solar provider / consultant, and/or by knowledgeable City staff.

Waste-to-energy (including both sewage sludge and municipal solid waste, -- and in some cases adding agricultural and other food waste to boost the digestible content of the mixture --) is becoming a viable option for municipalities and/or multiple relatively closely located municipalities that are treating 5 MGD or more. Energy self-sufficiency is being attained by many municipalities who are opting to implement waste-to-energy as their wastewater and municipal waste facilities face necessary replacement and upgrades. In addition to energy cost savings, the issues with biosolids land application and citing and operating new solid waste landfills have been a catalyst for the waste-to-energy revolution. Non-profit organizations, like the Water Research Foundation, are publishing timely case studies, decision trees, pros and cons, etc for municipalities considering waste-to-energy projects. There are waste-to-energy facilities in central Florida (e.g. Disney) that could serve as first-hand practical examples.

John Windsor Summary of CIP Projects

Parks and Recreation

Light poles and fixtures: I know that these projects are in the current year budget. Could we emphasize the importance of energy efficiency? Maybe we could start a list of energy savings efforts done by staff? I wonder if solar panels or energy efficient lighting are included in this project? Energy efficient lighting? Solar panels where appropriate?

Construction of: Crane Park Dugout, Crane, Lipscomb, Southwest, Sherwood, Fee and Carver ball fields, Deck lighting at Fee Pool, Fee Ave Pro Shop and Restroom, Jimmy Moore Pro Shop, Front St Restroom replacement, All might include renovation of lighting or possible use of solar panels to minimized electricity consumption.

Police Department

Since the bond issue passed this new building should provide us with an excellent opportunity to assist in energy efficient design. Can we get involved in design and building review process?

Facilities Management

Item 1 - Energy efficient AC? For Data Center @ City Hall

Items 2-3 - New roof? Energy efficient design? Any thoughts about making roof able to support solar panels?

Community Development Block Grant

Carver Park Lighting and Lipscomb park improvement Energy efficient lighting? Solar panels?

Babcock Redevelopment CRA

Bus stop Item 3 - Solar panels on shelters?

Olde Eau Gallie Riverfront Redevelopment CRA : Are there any innovations being incorporated into Eau Gallie District lighting for energy efficiency?

All items under Water Production Improvements might have an element of solar, energy efficient lighting or other energy saving efforts. Since many of these projects are for this fiscal year, we should be collecting data on energy savings incorporated into the projects.

For those projects being designed this year, perhaps we could offer assistance in the design review? Item 22 - big ticket item. How can we help promote Energy Efficiency? Reviewing the process of design and building?

Item 26 - Could we get more detail on this? Is this an energy savings project?

Items 1-2 - More big ticket items where energy efficiency will certainly be considered by the design engineers. Is there a role that we can or should be playing? Can we start keeping a log of energy saving measures undertaken by Melbourne?

Energy efficiency in building design and construction?

Additional Parking area for the Harper Road Complex

Item 3 - If the new parking area has additional lighting, can we consider use of energy efficient lighting and/or solar panels?