



SIEMENS



Charlotte County

**Performance Contract Project
Close Out &
Construction Period Savings Review**

May 26, 2015

Agenda

- Project History & Overview
- Review of Project Scope
- Adjustments to Scope
- Construction Period Savings
- Performance Assurance Program
- Projected 1st Year Annual Savings
- Conclusions



Project Overview & History



Overview

- Provide Needed Facility Improvements
- Reduce Ongoing Energy & Operational Costs
- Funded Via Energy & Operational Savings
- Performance Guaranteed By Siemens

History

- | | |
|----------------|------------------------|
| ▪ Dec. 2011 | Board Approves RFP |
| ▪ Dec. 2012 | Energy Audit Agreement |
| ▪ Oct. 2013 | Construction Agreement |
| ▪ Jan. 2015 | Final Completion |
| ▪ Feb. 1, 2015 | Begin Guarantee |

Project Scope

Facilities

- Lighting Upgrades at 16 County Facilities
- Lighting Controls Upgrades at 16 County Facilities
- HVAC Replacements at 9 County Facilities
- Building Controls Upgrades at 4 County Facilities
- Building Envelope Enhancements at 6 County Facilities
- Water Conservation Measures at 13 County Facilities



Project Scope



Parks & Rec

- Sports Lighting at the Charlotte Sports Complex
- Salt Generators at Oyster Creek & South County Pools
- VFDs at Oyster Creek & South County Pools
- Geothermal Heat Pump at South County Park Pool

Occupancy Sensor Scope Adjustments



Adjustment

Reduction of 247 Sensors From Scope

- Post Audit Renovations
- Safety & Application Concerns
- Areas Already Under Control
- Areas Controlled with Fewer Sensors

Impact

- \$8,156 Reduction of Annual Energy Savings
- \$57,665 Credit Back to County

Kitchen Area Scope Adjustments

Adjustments

8 PV Sinks & 4 ICE800's Removed From Scope

Impact

- \$11,913 Reduction in Energy Savings
- \$2,847 Reduction in Water Savings
- \$11,258 Credit Back to County



Domestic Water Scope Adjustments



Adjustments

Minimal Changes in Various Low Flow Devices

- Variations in counts During Audit Process
- No Overall Material Changes

Impact

- \$282 Increase in Energy Savings
- \$227 Increase in Water Savings

Construction Period Savings Results

<u>Improvement Measure</u>	<u>Construction Period</u>				
	<u>Utility Savings</u>				<u>Dollar Savings</u>
	<u>kWH</u>	<u>Kw</u>	<u>Therms</u>	<u>K-Gals</u>	
Facility Lighting	493,856	2,903	-	-	\$ 61,315
Lighting Controls	72,070	-	-	-	\$ 4,139
Sports Lighting	89,422	-	-	-	\$ 16,773
HVAC	73,481	654	-	-	\$ 11,264
Building Envelope	436,000	-	-	-	\$ 36,882
Water Conservation	145,812	-	8,457	2,913	\$ 44,182
Salt Generators	13,880	-	-	-	\$ 996
Geothermal Heat Pumps	(75,992)	-	10,620	-	\$ 8,614
Utility Savings Totals	1,248,530	3,557	19,077	2,913	\$ 184,165
Annual Operational Savings	<i>Material Savings Associated with New Equipment</i>				\$ 15,628
FP&L Utility Rebates	<i>Issued for Lighting and HVAC Scope</i>				\$ 42,954
					\$ 242,747

M&V Process

- Pre-Measurements
- Establish Baseline
- Establish Energy Savings Formulas
- Post-Measurements
- Implementation Period Savings Report
- Ongoing Monitoring (as required)
- Annual Savings Reports



M&V Options



Protocols

- IPMVP – International Performance Measurement & Verification Protocol

Options

Option A - Retrofit Isolation

- Lighting
- Lighting Controls
- Water Conservation
- Pool VFD's
- HVAC Upgrades

Option E - Stipulated Savings

- Pool Geothermal
- Building Envelope
- Ball Field Lighting

Projected 1st Year Savings Results

<u>Improvement Measure</u>	<u>1st Year Projections</u>					<u>Guaranteed Annual Savings</u>
	<u>Utility Savings</u>				<u>Dollar Savings</u>	
	<u>kWH</u>	<u>Kw</u>	<u>Therms</u>	<u>K-Gals</u>		
Facility Lighting	553,545	3,167	-	-	\$ 67,798	\$ 64,648
Lighting Controls	76,625	-	-	-	\$ 4,401	\$ 4,400
Sports Lighting	76,798	939	-	-	\$ 14,405	\$ 11,172
HVAC	110,462	1,003	-	-	\$ 17,146	\$ 12,598
Building Envelope	486,667	-	-	-	\$ 41,168	\$ 36,013
Water Conservation	132,063	-	7,660	2,603	\$ 40,016	\$ 39,462
Salt Generators	18,695	-	-	-	\$ 33,636	\$ 31,128
Geothermal Heat Pumps	(67,751)	-	9,454	-	\$ 7,669	\$ 6,902
Utility Savings Totals	1,387,103	5,110	17,114	2,603	\$ 226,239	\$ 206,323
Annual Operational Savings	<i>Material Savings Associated with New Equipment</i>				\$ 46,884	\$ 46,884
FP&L Utility Rebates						
					\$ 273,123	\$ 253,207

Environmental Savings

<u>Greenhouse Gases</u>	<u>Pounds of Reduction</u>		
	<u>Construction</u>	<u>Annually</u>	<u>Project Term</u>
CO ₂	1,853,746	2,011,850	32,031,492
NO _x	1,630	1,750	27,880
SO ₂	2,170	2,411	38,332



Summary



- \$3.7 Million of needed capital improvements to County buildings and parks facilities that did not need to be funded for out of capital budgets
- Over \$250k per year of guaranteed energy and operation savings
- County will save an additional \$500,000 above project construction and financing costs over the term of the program
- Opportunities exist to implement additional projects generating additional financial and environmental benefits for the County and its citizens