City of Port St. Lucie

Memorandum

TO: MAYOR & CITY COUNCIL
JERRY A. BENTROTT, CITY MANAGER

FROM: GREGORY J. ORAVEC, ASSISTANT CITY MANAGER

DATE: FEBRUARY 17, 2012

SUBJECT: ENERGY AUDIT

As you are aware, the City has entered into an Energy Audit Agreement with Honeywell International in order to identify energy improvements and operational changes which could be made to reduce City expenditures for energy and other operational costs. After several months of work, Honeywell has completed the enclosed Audit Report, which recommends an $11,040,070 improvement project which would pay for itself with energy savings of approximately $900,000 per year and provide a net positive cash flow to the City of more than $1.9 million over a 15-year period. Representatives of Honeywell will present an overview of the Audit Report at the Retreat.

As you will note, the Audit Report is an extensive document that is the culmination of a comprehensive engineering effort. Please be advised that there is a large appendix which accompanies the report that I can make available to you upon request. Staff members are continuing to review the Audit Report and will incorporate any input that you provide into the formulation of formal recommendations which will be presented to you at a future City Council meeting. Depending upon your decisions at such time, the City may then enter into a performance contract with Honeywell for the implementation of specified energy conservation measures. Based upon my review of the Audit Report, I would anticipate staff recommending that some measures be carried out in-house rather than through a performance contract with Honeywell; that others be cash-funded in order to avoid any financing costs; and that others may not be desirable at this time.

It is important to note that the enclosed Audit Report is expected to be augmented by an additional Audit Report which focuses on utility plant processes and automated meter readers. The additional report will take approximately 4 more months to complete.

We look forward to receiving your input on this initiative. Though I expect the staff recommended improvement project to be a little different than the one currently proposed by Honeywell, there is clearly a lot of potential here.

Thank you.

c: Energy Evaluation Working Group

Honeywell

Honeywell Building Solutions

INVESTMENT GRADE AUDIT REPORT
ENERGY PERFORMANCE CONTRACT

PORT ST. LUCIE, FLORIDA

PRESENTED BY

HONEYWELL BUILDING SOLUTIONS

JANUARY 30, 2012

Honeywell

Honeywell Building Solutions
11214 Cedar Grove Ct.
Windermere, FL 34786
Ph: (407) 909-9344 Fax: (407) 641-9740

January 30, 2012

Mr. Greg Oravec
Assistant City Manager
121 S.W. Port St. Lucie Boulevard
Port St. Lucie, FL 34984

Dear Mr. Oravec:

Honeywell is pleased to present this Energy Audit report in accordance with our Energy Audit Agreement of November 1, 2011.

I want to thank you once again for the support which you and your staff have provided during our audit process. Your time, effort, dedication, patience, and insight are very much appreciated. I trust you found that Honeywell also worked hard on behalf of the City to bring you recommendations that will provide significant energy cost savings, make improvements to the City's facilities and infrastructure, and enhance the Quality of Life for City residents, visitors and employees.

We look forward to working with you to bring the benefits of this report's recommendations to the City of Port St. Lucie, and I also look forward to a long and successful business and community partnership with the City.

Sincerely,

Bueno Prades
Account Executive

Enclosure

DISCLAIMER

This Investment Grade Audit (IGA) Study (collectively the "Study") is intended to be used for feasibility decisions, planning, and budget development only. All cost and savings figures are preliminary and budgetary and not an offer to contract. A final Energy Performance Contract will be provided once final requirements are confirmed and internal approvals granted. Until such time, this IGA Study is considered Honeywell Confidential information.

The following document is copyrighted and is intended for the use by the City of Port St. Lucie, FL (hereinafter "Port St. Lucie" or "The City" or authorized Project Team personnel only. It is not to be duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of or in connection with the submission of this data, the owner or authorized representative shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the owner's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in all sheets.

ACKNOWLEDGEMENT

Honeywell sincerely appreciates the assistance provided by the City of Port St. Lucie Staff. Their assistance has been vital to the successful completion of the Investment Grade Audit Study. Honeywell would like to especially thank the Assistant City Manager, Facility Management and Building Maintenance Staff for devoting time, insight and resources throughout the project.

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1.0 EXECUTIVE SUMMARY

Introduction

Honeywell is pleased to present this Energy Audit Report for a Guaranteed Energy Saving Performance Contract for the City of Port St. Lucie. Honeywell's proposed improvements will:

- Provide $11 million in energy efficiency improvements in 78 City facilities
- Reduce energy, water and operational costs by more than $900,000 annually
- Generate $1.9 million net positive cash flow over 15 years
- Minimize the City's financial and operational risk by providing a program which includes:
  - Complete, turn-key, fixed cost implementation
  - Single-source responsibility for all improvements
  - Contractually guaranteed savings and performance
- Create or retain local jobs
- Reduce the City's environmental footprint by over 5,000 metric tons of CO2—Equivalent to removing 1,000 cars from the streets of Port St. Lucie
- Significantly enhance "Quality of Life" for City residents, visitors and staff through improved comfort of the building environment, lighting and indoor air quality

Background

In order to reduce energy consumption and address deficiencies in its facilities, the City of Port St. Lucie identified Energy Savings Performance Contracting as a vehicle to provide and fund necessary improvements. The philosophy behind this proposal is to provide Port St. Lucie with the most beneficial amount of improvements that can be paid for utilizing energy and operational savings with no financial risk. This proposal fulfills the City's needs by providing energy and operational cost reduction, as well as badly needed facility improvements, improved building comfort and staff productivity, use local labor to support the local economy and provide jobs, and helping to make the City more "sustainable" and "green".

The City of Port St. Lucie selected Honeywell Building Solutions (Honeywell) to provide energy performance contracting services, including a detailed energy audit, with the intent to negotiate an Energy Performance Contract under which Honeywell will design, procure, install, implement, maintain and monitor recommended improvements. Per agreement with the City, the energy audit will be performed in two phases: The first phase, addressed by this report, includes all buildings, street lighting and other City infrastructure. The second phase will include evaluation and recommendations for the City utility water metering systems (AMR), as well as water and wastewater treatment plant processes. All recommendations and work provided for Port St. Lucie will be in accordance with Florida Statute 489.145 governing Energy Performance Contracting.

Honeywell extends its sincere thanks to the Mayor, City Council, Evaluation Committee, and to all City of Port St. Lucie personnel who assisted with the development of this project. Honeywell would like to especially thank the Assistant City Manager, Facility Management and Building Maintenance Staff for devoting time, insight and resources throughout the project.

Program Overview

This report provides recommended improvements to reduce energy consumption and operational costs in seventy-eight (78) City facilities. The energy audit and recommendations were prepared with a focus toward achieving the following key objectives:

- Reduce energy consumption and costs
- Achieve guaranteed results / payback & economic feasibility
- Modernize, repair, and maintain facilities
- Improve quality of life and customer service
- Improve overall City efficiency and productivity
- Make the City more "Sustainable" and "Green"

A variety of distinct Energy Conservation Measures (ECMs) have been identified during our Energy Audit and recommended for implementation. A brief summary of recommended improvements and benefits is provided below:

A. **City Hall Campus Central Chiller System:** The City Hall campus is a major consumer of energy for the City. Honeywell evaluated numerous options, including an Ice Storage Thermal Energy system. Honeywell's recommended solution is to replace old, inefficient and failing chiller equipment and install a chilled water loop in a campus chiller plant configuration, using new high-efficiency chillers, and existing chillers for redundancy.

   ECM Benefit: This ECM provides significant energy and cost reduction, enhances HVAC system reliability, improves maintenance staff productivity, reduces future capital outlay, provides a more comfortable environment and enhances the City's sustainability.

B. **HVAC System Improvements:** Honeywell will make a variety of HVAC system improvements, including: Replacement of old and inefficient DX equipment, conversion of Air Handling Units to Variable Air Volume, Chilled water pumping optimization, and installation of new computer room A/C system.

   ECM Benefit: This work will improve building comfort, equipment efficiency and reliability, improve indoor air quality, reduce maintenance costs, reduce equipment down-time, and reduce future capital outlay needs.

C. **Building Automation Improvements:** Honeywell will make a variety of improvements to the City's building automation systems aimed at optimizing the facilities and integrating City buildings. Improvements include: new programmable thermostats with communication capability, replace pneumatic and antiquated electronic control system with new Direct Digital Controls, and optimize control sequences in existing automation systems to enhance equipment operation and better control temperature, ventilation, and occupancy schedules.

ECM Benefit: The new integrated system will allow authorized City personnel to monitor and control building operation and comfort via the City's network, or via remote access. Further, the new system will provide better data for facility management, making staff more productive. The improved system will reduce energy costs and improve the building environment.

D. **Building Lighting Improvements:** Honeywell will retrofit fluorescent, incandescent, metal-halide, high-pressure sodium, and exit sign fixtures with energy efficient state-of-the-art lighting technology. Honeywell will also replace selected fixtures with new high-efficiency fixtures or reflectors, and provide occupancy sensor based control for select areas.

ECM Benefit: The result of this retrofit will be a significant improvement in the efficiency and quality of lighting in the City buildings.

E. **Sports Field Lighting:** Honeywell will provide retrofit of ball-fields in 3 parks with lighting using new high efficiency technologies and a lighting control system.

ECM Benefit: This retrofit will reduce energy consumption, reduce operational costs and maintenance requirement, and improve the safety of children and other residents using the fields by bringing lighting levels to minimum Little League and industry standards.

F. **Street Lighting:** Honeywell will retrofit or replace City-owned street lighting fixtures with a combination of high-efficiency LED (for roadway fixtures) and Induction (for decorative fixtures) technology.

ECM Benefit: This retrofit will improve lighting quality and light levels, reduce energy consumption and cost, reduce operational costs, and reduce future capital outlay needs.

In addition to the major improvements listed above, numerous other measures are being recommended which further reduce the City's energy consumption, improve staff efficiency, enhance Quality of Life, and make the City more sustainable:

- **Green Print:** Reduces printing expenses and helps the environment by eliminating unwanted pages from print jobs and reducing use of expensive printer ink.
- **Water Conservation:** Retrofit or replace existing faucets, urinals, toilets, and showerheads with low-flow plumbing fixtures to reduce consumption and cost.
- **Generator Load Shedding:** Uses existing generators to temporarily power buildings to reduce electrical demand costs.

- **Vending Misers:** Honeywell will install control technology in vending machines throughout the City. This technology will reduce energy consumption by vending machines while maintaining product quality.
- **Building Envelope Improvements:** Retrofit of building door sweeps, window frames, insulation, and other penetrations in eight City facilities to reduce energy loss via the building envelope.
- **Variable Volume Kitchen Exhaust Systems:** Retrofit of existing kitchen hoods with variable air volume control to operate based on actual cooking and kitchen usage. The ECM will reduce kitchen hood energy usage as well as energy required to cool outside air being pulled into the kitchen.
- **Automated Computer Power Management:** Reduces overall electrical consumption by automatically shutting down PCs and computer monitors based on building occupancy schedules or other City-established criteria.
- **Energy Star Appliances:** Replace old, inefficient refrigerators in City facilities with new Energy Star rated units.

A table summarizing proposed Energy Conservation Measures by building is provided on the following page.

Measurement and Verification – Guaranteed Performance

Honeywell proposes a cost-effective plan for Measurement and Verification (M&V) to ensure that the guaranteed savings are realized over the proposed contract term. Our proposed approach strikes a balance between the cost of M&V and the level of information required to substantiate our savings guarantee and performance.

Prior to construction, Honeywell will establish baseline efficiencies and operational parameters. Parameters that are beyond Honeywell's control, such as operating hours, energy rates, and others, will be agreed upon between Honeywell and the City of Port St. Lucie and stipulated for the term of the contract. After construction is completed, Honeywell will conduct post-installation measurements in accordance with the M&V plan. Actual savings will then be determined from the baseline measurements, post-installation measurements, and agreed-upon stipulated parameters. In the event that actual savings are less than the guaranteed savings, Honeywell will take steps to identify and implement, at its cost, the necessary improvements to generate sufficient savings, or pay the City Port St. Lucie the difference between the actual and guaranteed savings. Finally, on an annual basis, Honeywell will conduct site surveys and measurements to confirm that the efficiency and operating conditions for each energy conservation measure are maintained.

		PROPOSED ECMs																
Honeywell Site Number	Location Name	Lighting			Vending Misers	Sports Lighting	Water Conservation	Building Envelope Improvements	Mechanical/HVAC					Building Automation and Controls			Energy Star Appliances
		Interior	Controls/ Occ Sensors	Exterior					DX Replacements	VAV AHU Conversions	VAV Kitchen Hoods	Chilled Water Pumping	Chiller Plant	Upgrade Existing DDC/Automation	Programmable T-Stats & City-wide BMS Integration	Sequence Modifications	
1	New City Hall (sprinklered) Building A	X	X	X	X		X	X				X	X	X	X	Setbacks, DCV, Chilled Water Reset	
1	City Hall Building B	X	X		X		X	X				X	X	X		DCV, chilled water pressure reset	
1	Police Department Building C	X	X	X	X		X			X		X	X	X	X	DCV, chilled water pressure reset	
1	Police Evidence Bldg.	X		X			X								X		
2	Sportman's Park West	X	X	X			X										
3	Parks & Recreation																
4	Sportman's Park	X	X	X			X										
5	Lyngate Park	X	X	X	X		X										
6a	Public Works (Admin Bldg)	X	X				X								X		
6b	Public Works (Maintenance Bldg)	X		X	X										X		
6c	Public Works (Traffic Safety)	X	X	X													
6d	Public Works (Warehouse)	X	X	X													
6e	Public Works (Office Trailer)	X		X											X		
7	Swan Park	X	X	X		X	X										
8	Veteran's Park at Rivergate	X		X	X		X										
9	Rotary Park		X	X			X										
10	Jaycee Park	X	X	X			X								X		
11	Kiwanis Park						X										
12	Pkg & Bldg Maint Yard	X	X	X			X								X		
13	Sandhill Crane Park	X	X			X	X										
14	Whispering Pines Park	X	X	X	X	X	X	X	X						X	Demand Cont. Vent.	
15	Girl Scout Park						X										
16	McChesney Park	X	X	X	X		X										
17	Turtle Run Park	X					X										
18	Community Center	X	X		X		X	X	X					X	X	Demand Cont. Vent.	
19	Prineville Treatment Plant	X	X	X	X		X		X	X					X		
20	South Port Waste Water Treat	X		X											X		
21	North Port Waste Wtr Treat Pnt	X													X		
22	West Port Waste Wtr Treat Plant	X	X	X	X		X		X						X		
23	Midport WWTP	X		X											X		
24	Neighborhood Services (Office Bldg)	X		X											X		
24	Neighborhood Services (Dog Kennel)	X			X		X								X		
24	Neighborhood Services (Code Enforcement)	X	X	X											X		
25	Engineering Traffic Ops (Storage #1)	X													X		
25	Engineering Traffic Ops (Storage #2)	X													X		
26	Saints Golf Course	X	X	X			X	X			X				X		
27	James F. Anderson R O Plant	X	X	X			X		X						X		
28	Charles F. Ray Park						X										
29	Police Station - Rosser Rd	X	X		X		X	X									
30	City Center	X															
31	Jessica Clinton Park	X	X	X	X		X										
32	Railroad Club at the Old Fire Station	X		X			X								X		
33	Pal Building	X	X	X			X	X	X						X	Demand Control Ventilation	
34	Parks & Recreation (2226 Belvedere)			X					X						X		
35	Storage Garage (182 Thanksgiving)																
36	BLDG DEPT used by Utilities (2258 Best)	X	X	X			X								X		
37	BLDG DEPT used as Clinic (2266 Best)	X	X	X			X								X		
38	Buiding Const Office (2258 Belvedere)	X		X			X								X		
39	Engineering (821 SW Dwyer)	X					X								X		
40	Boys & Girls Club	X	X	X			X								X		
41	Utilities (915 Ogden)	X		X			X		X						X		X
42	Utilities (943 Ogden)	X		X			X		X						X		X
43	Utilities (957 Ogden)																
44	Police (162 Thanksgiving)																
45	Glades Wastewater	X	X	X			X								X		
46	Utilities (301 SE Greenway)																
47	Utilities (998 SE Prineville)																
48	Utilities (325 SE Greenway)	X					X								X		
49	Utilities (856 Prineville)																
50	Engineering (1441 Becker)																
51	Utilities (341 SE Greenway)	X		X			X								X		X
52	PD Station East	X		X			X								X		
53a	CivicCenter (Warehouse)	X		X													
53b	Civic Center	X	X	X	X			X			X	X		X		Reset	
53c	CivicCenter (Parking Garage)	X		X													
53d	Civic Center (Stage/Pavillion)			X													
53e	Civic Center (Outdoor Restrooms)	X															
54	Greenway)	X		X			X								X		X
55	Prineville Expansion Proj (961 Ogden)	X	X				X								X		X
56	Prineville Expansion Proj (950 Prineville)														X		
57	Botanical Garden (Nature Center)	X													X		
57	Botanical Garden (Maintenance Bldg)			X													
58	Prineville Expansion Proj (902 Prineville)																
59	Prineville Expansion Proj (974 Prineville)																
60	Engineering Home (1409 Barker)																
61	Veteran's Memorial Park			X			X										
62	Tom Hooper Park																
63	Traffic Ops Shop (1485 SW Biltmore)	X															

Financial Summary

Honeywell is pleased to present this financial summary of recommendations provided in this report. All facility improvements will be paid for through energy and operational savings over a 15-year term, generating $1.9 million in net positive cash flow for the City.

Program Savings	
Energy & Water (Year 1)	$750,855
O&M (Year 1)	$156,042
Total Annual Savings (Yr 1)	$906,897
Total Savings (15-Yr Term)	**$17,014,711**
Program Costs	
Value of Improvements	**$11,040,070**
Support Services / M&V (Yr 1)	$62,571
Total Payments (Including M&V and Finance Costs)	$15,427,481
Program Performance	
Net Positive Cash Flow (15-Yr) (Including Rebates & Capital)	$1,920,230
Net Positive Cash Flow (20-yr) (Including Rebates & Capital)	$9,532,782

Note: All figures in this report are preliminary and budgetary in nature and not an offer to contract. A final Energy Performance Contract will be negotiated with the City following review of this report.

THE HONEYWELL COMMITMENT

Honeywell is committed to exceeding the City of Port St. Lucie's expectations in the delivery and performance of this project. We have assembled an outstanding team of engineering, project management, high quality subcontracting partners, and construction professionals with extensive performance contracting experience for this project. We are committed to utilizing local Port St. Lucie area contractors and labor resources to the extent possible.

In addition, Honeywell continuously seeks ways in which we can be a good corporate and community partner to serve the City of Port St. Lucie and its residents. We will work closely with the City to develop a well-rounded Partnership that includes community-oriented programs, Energy Assistance Programs, and other opportunities that may be suggested by the City.

We at Honeywell look forward to a successful business and community partnership with the City of Port St. Lucie.

Thank you,

Your Honeywell Project Team

2.0 OVERVIEW

2.1 Introduction

Honeywell is proposing to provide a comprehensive, turnkey project that includes design, engineering, installation and project management while improving the overall environment with annual savings guaranteed to offset the cost of the program. The scope of work for the Program is as follows:

- Lighting Retrofits that will reduce electrical energy consumption while maintaining or improving existing light levels
- Provide controls to utilize existing generators for load shedding to reduce demand charges.
- Retrofit sports fields lighting with energy efficient fixtures and controls and improve the overall light levels to minimum little league and IES standards.
- Installation of a central cooling plant for the City Hall Complex which will utilize high efficiency chillers and provide significant energy and operational savings.
- Domestic Water System Retrofits will reduce water consumption by use of more efficient items such as valves, toilets and faucet aerators, and tuning of existing fixtures.
- Improvements to building envelopes to better weatherize buildings decreasing energy consumption and increasing occupant comfort.
- Replacement of old and inefficient HVAC systems.
- An Integrated Energy Management System to improve control and maintainability of equipment. The automation control system computer will have capacity to incorporate other systems such as security, fire alarm, access control, CCTV, etc. and will integrate the majority of the City's buildings into one front end.
- Training services to assure proper Energy Management System Operation.
- Energy Management System Support Services with software updates.
- Annual Measuring and Verification Services with yearly energy audits.
- Retrofit a significant portion of the City's existing street lighting to provide energy savings and higher quality roadway and pedestrian lighting.

All costs associated with proper disposal of removed lighting materials are included as part of this proposal. Honeywell lighting retrofits are certified by a lighting professional, and all energy, conservation, heating, ventilating, and air conditioning work overseen by a licensed, professional engineer. Honeywell will meet ASHRAE guidelines for outside air changes.

Honeywell can offer **flexible** financing, if you elect not to capitalize this program.

Notes:

1. Honeywell's financial partners will provide more financial scenarios during the contract negotiations.
2. Honeywell guarantees 92% of the calculated energy savings.

2.2 Facilities Evaluated

Honeywell performed this comprehensive IGA within 90 days. Field surveys were completed in the months of November and December of 2011. Honeywell evaluated over 60 of the City's facilities and sites. Many of these sites consist of multiple buildings. Some of these sites are also Parks and Recreational facilities and outdoor fields. Honeywell not only completed a comprehensive audit of the majority of the City's buildings, but all of the City's Parks were also included. The audit also included the City's owned street and pedestrian lighting systems.

Provided on the following page is a list of facilities evaluated.

Honeywell Site Number	Location Name	Address No.	Street Name	No. stories	Total Area Sq. Ft.	Yr Blt	Occupancy	Hours of Occupancy	FPSL Rate Structure	Existing HVAC Setpoints		Baseline Methodology Model or ECM Isolation
										Occupied	Unoccupied	
1	New City Hall (geothermal) Building A	121	SW PSL BLVD (Corner Airoso & PSL Blvd.)	3	77882	1998	City Hall Offices	Mon - Fri 7 am to 5pm	GSD-1	72	runs 24/7 because of MIS computer	Model
1	City Hall Building B	121	SW PSL BLVD (Corner Airoso & PSL Blvd.)	2	37329	2005	City Hall Engineering	Mon - Fri 8 am to 5pm	GSD-1	74	80	Model
1	Police Department Building C	121	SW PSL BLVD (Corner Airoso & PSL Blvd.)	3	44,016	199	Police Station	24/7	HLFT-1	72	72	Model
1	Police Evidence Bldg	121	SW PSL BLVD (Corner Airoso & PSL Blvd.)	1	9540	2006	Evidence Storage Building	Mon - Fri 8 am to 5pm (HVAC runs 8am - 8pm 7 days/week)	GSD-1	74	78	Model
2	Sportsman's Park West	300	NW Jersey Street	1	4,440	1995 - 2003	Ball Fields/ Concessions/Clubhouse's		OS2 & GSD with SDTR			Per ECM
3	Parks & Recreation	466	SW Fairmeadows Lane	1	6,726	1980	Recreation Center & Office	abandoned	GS1 & OL1			
4	Sportsman's Park	787	Prima Vista Blvd	1	10,851	1978-2005	Ball Fields/ Concessions/Tennis/Courts/Pavilion		OS2			Per ECM
5	Lyngate Park	1301	SE Lyngate Drive	1	9380	1979-2005	Ball Fields/Racquetball/Pavilions/Concessions		OS2			Per ECM
6a	Public Works	450	Thornhill Drive	1	4,495	1987	Public Works Admin	Mon -Fri 8 am to 5pm	GSD with SDTR			Per ECM
6b	Public Works	450	Thornhill Drive	1	14,400	1990	Maintenance Bldg		GSD with SDTR			Per ECM
6c	Public Works	450	Thornhill Drive	1	2,400	1998	Traffic Safety Bldg		GSD with SDTR			Per ECM
6d	Public Works	450	Thornhill Drive	1	4,800	1998	Warehouse		GSD with SDTR			Per ECM
6e	Public Works	450	Thornhill Drive	1	3,403	2003	Paint Barn	Mon -Fri 8 am to 5pm	GSD with SDTR			No measures
6f	Public Works	450	Thornhill Drive	1	200	2003	Shed- Traffic Safety		GSD with SDTR			Per ECM
6g	Public Works	450	Thornhill Drive	1	1194	2004	Office Trailer	Mon -Fri 8 am to 5pm	GSD with SDTR			Per ECM
7	Swan Park	700	SW Carmelite St	1	2327	1987-2003	Soccer Fields/ Concessions/Shelter		GSD with SDTR & OL1 & GSD-1			Per ECM
8	Veteran's Park at Rivergate	2283	SE Midport Rd	1	1234	1988	Pavilions/Restrooms		OL1 & GS-1			Per ECM
9	Rotary Park	2161	SE Tiffany Avenue	1	1,618	1988	Pavilions/Restrooms		GSD-1			Per ECM
10	Oyster Park	1301	SW Bayshore Blvd. (Comer Bayshore &	1	3,672	1987-1989	Clubhouse/Pavilion/Concessions/Storage		GS-1			Per ECM
11	Kiwanis Park	1320	SE Floresta Drive	1	3,007	1996	Pavilions/Restrooms		GS-1			Per ECM
12	Fire & Utility Maint Yard	1501	SW Hampshire Lane	1	14,937	2000	Shop Building/Maintenance w/dormitory complex		GS-1			Per ECM
13	Sandhill Crane Park	2355	SE Scenic Park Dr	1	10,775	2006	Ball Fields/Pavilion/Concessions/Racquetball		GSD-1			Per ECM
14	Whispering Pines Park	302	SW Darwin Blvd	1	16,485	1993-2006	Gymnasium/Ball Fields/Tennis/Concessions/Pavilions	Mon - Fri 8 am to 8 pm, Sat & Sun 8 am to 5 pm	GSD-1	74 (9am - 10pm)	77	Model
15	Girl Scout Park	315	NW Heather St	1	400	1994-2001	Pavilion/Restrooms		GS-1			no measures
16	ABC Fairway Park	2565	SW Saddlewood Blvd	1	3481	1995-2005	Soccer Fields/ Concessions/Pavilion/Playgrounds		GSD with SDTR			Per ECM
17	Turtle Run Park	1945	SW Cameo Blvd	1	1134	1990-2004	Pavilions/Restrooms/Playground		GS-1			Per ECM
18	Community Center	2199	S. E. Airoso Blvd. At Dolcain Ave.	1	21,340	1990	Community Ctr. (sprinklered)	Mon - Fri 5:30 am to 9:30 pm, Sat & Sun 7 am to 5 pm	GSD-1	72 (M-Sat 6am - 11pm)	80	Model
19	Prineville Treatment Plant	1901	SE Prineville Street/ 900 Ogden Lane	1			Plant Ops and Support Bldgs (2)	Sun - Sat 8am to 5 pm	HLFT-2 & USDT-1			Model
20	South Port Waste Water Treat	1612	Sunshine Ave	1				24/7, unoccupied	GSD-1			Per ECM
21	North Port Waste Wtr Treat Fac	351	Royce Avenue	1				24/7, unoccupied	GSD-1			Per ECM
22	West Port Waste Wtr Treat Plant	86	35 W Darwin Blvd	1			Operations and support Bldgs (5)		GSD-1			Per ECM
23	Midport WWTP	2501	SE Midport Rd	1				24/7, unoccupied	GSLD-1			Per ECM
24	Neighborhood Services	1119	S. W. Biltmore St.	1	1107	1980	Office Building		GS-1			Per ECM
24	Neighborhood Services	1117	S.W. Macedo Blvd	1	2,445	2004	Dog Kennel		GSD-1			Per ECM
24	Neighborhood Services	1119	S. W. Biltmore St.	1	1,200	1977	Code Enforcement (portable)					Per ECM
25	Engineering Traffic Ops	1160	S. W Macedo	1	1,152	2001	Engineering Traffic Storage #1		GS-1			Per ECM
25	Engineering Traffic Ops	1165	S. W Macedo	1	1,357	2001	Engineering Traffic Storage #2		GS-1			Per ECM
26	Saints Golf Course	2601	Morningside Blvd. (Municipal Golf Course)	1	23,675	1980-2007	Clubhouse/Cart Barn/Restrooms/Maintenance/Storage	Sun - Sat 5:30 am to 5 pm	GSD-1 & OS0 with SDTR	74 (7am - 9pm)	77	Model
27	James F. Anderson R & Plant	2599	LTD Parkway	1		2001	Plant Ops and Support Bldgs (2)	Sun - Sat 8am to 5 pm	GSLD-1			Per ECM
28	Charles F. Ray Park	1626	NW Mamie Dine	1	6014	2004-2006	Restrooms/Basketball Pavilion		GS-1 & OL-1			Per ECM
29	Police Station - Prineville	2950	SW Prineville Street/ SW Roanoke Road	1	21,451	2000	Police Substation	24/7	GSD-1	73 (lockup open at 68)	73	Model
30	City Center	1604	SE Walton Rd	1	14,000	199	Multi Use Comm Bldg		GS-1			Per ECM
31	Jessica Clinton Park	3395	SE Eastmoreland Blvd	1	3075	2006	Ball Field/Tennis Courts/Basketball/Restrooms/Pavilion		GSD with SDTR			Per ECM
32	Railroad Club at the Old Fire Station	273	Becker Rd	1	2865	1995	Leased Model Railroad Club		GS-1			Per ECM
33	Pal Building	2181	SE Tiffany Avenue	1	5540	2000	Recreation Center		GS-1 & OL-1	Office- 72 (6am - 5pm), Gym - 76	80	Model
34	Parks & Recreation	2226	SE Belvedere Street	1	1,847	1982	Storage	unoccupied 24/7 storage	GS-1			Per ECM
35	Storage Garage	182	Thanksgiving Ave	1	720	1990	Storage Bldg	unoccupied	GS-1			
36	BLDG DEPT used by Utilities	2258	Bird St	1	1,680	1990	Utilities Call Center		GS-1,2			Per ECM
37	BLDG DEPT used as Clinic	2206	Bird St	1	1,920	2003	City Clinic	7am - 5:30 pm no 2 pm	GS-1			Per ECM
38	Building Const Office	2258	SE Belvidere Street	1	1,320	1979	Building Const. Using for Office Space		GS-1,2			Per ECM
39	Engineering	872	SW Dover Ave	1	1040	1977	Traffic Ops Office w/ Operation	4pm	GS-1			Per ECM
40	Boys & Girls Club	982	SE Port St. Lucie Blvd	1	2,380	1989	Boys & Girls Club		GS-1,2			Per ECM
41	Utilities	315	Ogden	1	1,260	1996	Utility Distribution and Collection	Sun - Sat 7am to 4pm	GS-1,2			Per ECM
42	Utilities	343	Ogden	1	1,100	1982	Utility Distribution and Collection	7am	GS-1,2			Per ECM
43	Utilities	347	Ogden	1	1,210	1980	Utility Storage	unoccupied	GS-1,2			
44	Police	162	Thanksgiving Ave	1	1,852	1990		unoccupied	GS-1,2			
45	Traffic Warehouse	10700	NW Stokes Cut Off Road	1	4780	2006	Operations and support Bldgs (5)		GSLD-1			Per ECM
46	Utilities	301	SE Greenway Terrace	1	1,656	2002	Utility Electricians & Instrumentation	unoccupied	GS-1,2			
47	Utilities	880	SE Prineville Street	1	1,785	1980	Utility Storage	unoccupied	GSD-1			
48	Utilities	325	Greenway Terrace	1	1,500	2005	Utilities	4pm	GS-1,2			Per ECM
49	Utilities	855	Prineville	1	1,500	2006	Utilities		GS-1,2			
50	Engineering	1441	Becker Road	1	2,073	2004	Used by American - construction office	scheduled to be demolished	GS-1,2			Per ECM
51	Utilities	347	SE Greenway Terrace	1	1,945	1994	Utility Mapping	4pm	GS-1			Per ECM
52	PD Station East	2000	SE Village Green Drive	1	4,872	1988	Police Department East		GS-1			Model
53a	CivicCenter	9221	SE Civic Center Place	1	7,500	2006	Clubhouse		GSD-1			Per ECM
53b	Civic Center	9221	SE Civic Center Place	1	106,000	2006	Civic Center	Sun - Sat 5 am to 1 am	OSLD-1	74 (9am - 11pm)	80	Model
53c	Civic Center	9221	SE Civic Center Place	1	266,645	2006	Parking Garage	(AC runs 5am - 9pm 7 days/week)	GSD-1	Exception: Banquet rooms 68 Wed - Sat 2pm -2am		Per ECM
53d	Civic Center	9221	SE Civic Center Place	1	3,630	2006	Stage/Pavilion		GSD-1			Per ECM
53e	Civic Center	9221	SE Civic Center Place	1	440	2006	Media Backroom		GSD-1			Per ECM
53f	Civic Center	9221	SE Civic Center Place	1	420	2006	Womens Restroom/Storage		GSD-1			Per ECM
53g	Civic Center	9221	SE Civic Center Place	1	58,551	2006	Inter-Active Fountain Controls					
53h	Civic Center	9221	SE Civic Center Place			2006	Generate with 5,400 Fuel AST					
53i	Civic Center	9221	SE Civic Center Place			2006	Generate with 5,600 Fuel AST					
54	Prineville Expansion Proj	305	SE Greenway Terrace	1	1500	200	Utility Information Systems	4pm	GS-1			Per ECM
55	Prineville Expansion Proj	963	SE Ogden Lane	1	1211	2003	Utility Meter Readers	7am	GS-1			Per ECM
56	Prineville Expansion Proj	350	SE Prineville Street	1	1,537	1988	Will be used by Utilities	unoccupied	GS-1			
57	Botanical Garden	2410	SE Westmoreland Blvd	1	7454	2010	Nature Visitor Center	Mon - Thurs 7am - 4pm, Wed - Sat 7am - 9pm, Sun 12 - 5	GSD-1	74	77	Model
57	Botanical Garden	2410	SE Westmoreland Blvd	1	2,430	2010	Maintenance Building	Mon -Thurs 7am - 4pm, Wed - Sat 7am - 9pm, Sun 12 - 5	GSD-1	74	77	Per ECM
58	Prineville Expansion Proj	902	SE Prineville Street	1	1,485	199	Utilities will use as office space	unoccupied	GS-1			
59	Prineville Expansion Proj	974	SE Prineville Street	1	1,040	1982	Utilities will use as office space	unoccupied	GS-1,2			
60	Engineering Home	1499	SE Dalton Lane	1	1,909	1993	Engineering will use as office space	unoccupied	GS-1,2			
61	Veteran's Memorial Park	2293	SE Midport Rd	1			Pavilion/Restrooms		GS-1,2			Per ECM
62	Tom Hooper Park						Pavilion/Playground		GS-1			Per ECM
63	Traffic Ops Shop	1486-1497	SW Fillmore	1			Traffic Ops Shop		GS-1			Per ECM

Honeywell Site Number	Location Name	Address No	Street Name	No. stories	Total Area Sq. Ft.	Yr Blt	Occupancy	Hours of Occupancy	FP&L Rate Structure	Existing HVAC Setpoints		Baseline Methodology Model or ECM Isolation
										Occupied	Unoccupied	
1	New City Hall (sprinklered) Building A	121	SW PSL BLVD (Corner Airoso & PSL Blvd)	3	73060	1999	City Hall Offices	Mon -Fri 7 am to 5pm	GSD-1	72	runs 24/7 because of MIS computer	Model
1	City Hall Building B	121	SW PSL BLVD (Corner Airoso & PSL Blvd)	2	37326	2005	City Hall Engineering	Mon -Fri 8 am to 5pm	GSD-1	74	80	Model
1	Police Department Building C	121	SW PSL BLVD (Corner Airoso & PSL Blvd)	3	44,018	1991	Police Station	24/7	HLFT-1	72	72	Model
1	Police Evidence Bldg	121	SW PSL BLVD (Corner Airoso & PSL Blvd)	1	9540	2005	Evidence Storage Building	Mon -Fri 8 am to 5pm (HVAC runs 5am - 8pm 7 days/week)	GSD-1	71	76	Model
2	Sportman's Park West	229	NW Irving Street	1	5,585	1985 - 2003	Ball Fields/ Concessions/Scorekeeper's		OS2 & GSD with SDTR			Per ECM
3	Parks & Recreation	400	SW Ravenswood Lane	1	5,726	1985	Recreation Center & Office	abandoned	GS1 & OL-1			Per ECM
4	Sportman's Park	201	Prima Vista Blvd	1	10,021	1975-2000	Ball Fields/ Concessions/Tennis/Cages/Pavillion		OS2			Per ECM
5	Lyngate Park	1301	SE Lyngate Drive	1	9380	1979-2005	Ball Fields/Raquetball/Pavillion/Concessions		OS2			Per ECM
6a	Public Works	450	Thornhill Drive	1	4,490	1987	Public Works Admin	Mon -Fri 8 am to 5pm	GSD with SDTR			Per ECM
6b	Public Works	450	Thornhill Drive	1	14,490	1998	Maintenance Bldg		GSD with SDTR			Per ECM
6c	Public Works	450	Thornhill Drive	1	2,400	1982	Traffic Safety Bldg		GSD with SDTR			Per ECM
6d	Public Works	450	Thornhill Drive	1	4,800	1990	Warehouse		GSD with SDTR			Per ECM
6	Public Works	450	Thornhill Drive	1	3,460	2003	Pole Barn	Mon -Fri 8 am to 5pm	GSD with SDTR			no measures
6	Public Works	450	Thornhill Drive	1	200	2003	Shed: Traffic Safety		GSD with SDTR			Per ECM
6e	Public Works	450	Thornhill Drive	1	1104	2006	Office Trailer	Mon -Fri 8 am to 5pm	GSD with SDTR			Per ECM
7	Swan Park	700	SW Carmelite St	1	2327	1987-2003	Soccer Fields/ Concessions/Shelter		GSD with SDTR & OL-1 & GSD-1			Per ECM
8	Veteran's Park at Rivergate	2203	SE Midport Rd	1	3234	1983	Pavillions/Restrooms		OL-1 & GS-1			Per ECM
9	Rotary Park	2101	SE Tiffany Avenue	1	1,619	1986	Pavilions/Restrooms		GSD-1			Per ECM
10	Jaycee Park	1301	SW Bayshore Blvd. (Corner Bayshore &	1	3,512	1987-1995	Clubhouse/Pavilion/Restrooms/Storage		GS-1			Per ECM
11	Kiwanis Park	1320	SE Floresta Drive	1	3,097	1990	Pavilions/Restrooms		GS-1			Per ECM
12	Prg & Bldg Maint Yard	1901	SW Hampshire Lane	1	14,937	2000	Shop Building/Maintainance w/aluminum canopies		GS-1			Per ECM
13	Sandhill Crane Park	2355	SE Scenic Park Dr	1	10,776	2005	Ball Fields/Pavilion/Concessions/Raquetball		GSD-1			Per ECM
14	Whispering Pines Park	900	SW Darwin Blvd	1	18,485	1993-2006	Gymnasium/Ball/Fields/Tennis/Concessions/Pavillions	Mon - Fri 8 am to 9 pm, Sat & Sun 8 am to 9 pm	GSD-1	74 (5am - 10pm)	77	Model
15	Girl Scout Park	315	NW Heather St	1	408	1994-2001	Pavilion/Restrooms		GS-1			no measures
16	McChesney Park	1589	SW Cashmere Blvd	1	3464	1995-2006	Soccer Fields/ Concessions/Pavilion/Playgrounds		GSD with SDTR			Per ECM
17	Turtle Run Park	1945	SW Cameo Blvd	1	1134	1996-2004	Pavilions/Restrooms/Playground		GS-1			Per ECM
18	Community Center	2195	S. E. Airoso Blvd. At Deacon Ave	1	31,345	1998	Community Ctr (sprinklered)	Mon - Fri 6:30 am to 9:30 pm; Sat & Sun 7 am to 1 am	GSD-1	72 (M-Sat 6am - 11pm)	80	Model
19	Prineville Treatment Plant	1001	SE Prineville Street; 900 Ogden Lane	1			Plant Ops and Support Bldgs (3)	Sun - Sat 8am to 5 pm	HLFT-2 & GSDT-1			Model
20	South Port Waste Water Treat	1613	Sunshine Ave	1				24/7, unoccupied	GSD-1			Per ECM
21	North Port Waste Wtr Treat Pnt	281	Royce Avenue	1				24/7, unoccupied	GSD-1			Per ECM
22	West Port Waste Wtr Treat Plant	851	S W Darwin Blvd	1			Operations and support Bldgs (6)		GSLD-1			Per ECM
23	Midport WWTP	? ?						24/7, unoccupied	GSLD-1			Per ECM
24	Neighborhood Services	1118	S. W. Biltmore St	1	1327	1980	Office Building		GS-1			Per ECM
24	Neighborhood Services	1133	SW. Macedo Blvd	1	2,516	2004	Dog Kennel		GSD-1			Per ECM
24	Neighborhood Services	1118	S. W. Biltmore St	1	1,200	1971	Code Enforcement (portable)					Per ECM
25	Engineering Traffic Ops	1165	S. W Macedo	1	1,350	2001	Engineering Traffic Storage #1		GS-1 ?			Per ECM
25	Engineering Traffic Ops	1165	S. W Macedo	1	1,350	2001	Engineering Traffic Storage #2		GS-1 ?			Per ECM
26	Saints Golf Course	2601	Morningside Blvd. (Municipal Golf Course)	1	23,679	1980-2007	Clubhouse/Cart Barn/Restrooms/Maintenance/Storage	Sun - Sat 5:30 am to 5 pm	GSD-1 & GSD with SDTR	74 (7am - 8pm)	77	Model
27	James F. Anderson R.O Plant	7599	LTC Parkway	1		2003	Plant Ops and Support Bldgs (2)	Sun - Sat 8am to 5 pm	GSLD-1			Per ECM
28	Charles F. Ray Park	5626	NW MamaFe Drive	1	6014	2004-2006	Restrooms/Basketball Pavillion		GS-1 & OL-1			Per ECM
29	Police Station - Rosser Rd	2950	SW Rosser Road SW Rosser Road	1	21,451	2005	Police Substation	24/7	GSD-1	73 (except gym at 68)	73	Model
30	City Center	1654	SE Walton Rd	1	14,000	1991	Multi Bay Comm Bldg		GS-1			Per ECM
31	Jessica Clinton Park	3200	SE Southbend Blvd	1	3870	2006	Ball Field/Tennis Courts/Basketball/Restrooms/Pavillion		GSD with SDTR			Per ECM
32	Railroad Club at the Old Fire Station	273	Becker Rd	1	2069	1995	Leased Model Railroad Club		GS-1			Per ECM
33	Pal Building	2101	SE Tiffany Avenue	1	5540	2002	Recreation Center		GS-1 & OL-1	Office: 72 (5am - 5pm), Gym: 76	80	Model
34	Parks & Recreation	2226	SE Belvedere Street	1	1,847	1982	Storage	unnoccupied 24/7 storage	GS-1			Per ECM
35	Storage Garage	182	Thanksgiving Ave	1	720	1996	Storage Bldg	unnoccupied	GS-1			
36	BLDG DEPT used by Utilities	2258	Best St	1	1,593	1990	Utilities Call Center		GS-1 ?			Per ECM
37	BLDG DEPT used as Clinic	2265	Best St	1	1,828	2003	City Clinic	7pm, 8 10 am to 2 pm	GS-1			Per ECM
38	Buiding Const Office	2258	SE Belvedere Street	1	1320	1979	Building Const. Using for Office Space		GS-1 ?			Per ECM
39	Engineering	621	SW Dwyer Ave	1	1548	1977	Traffic Ops Office of Operation	4pm	GS-1			Per ECM
40	Boys & Girls Club	692	SE Port St. Lucie Blvd	1	2,380	1990	Boys & Girls Club		GS-1 ?			Per ECM
41	Utilities	915	Ogden	1	1,268	1990	Utility Distribution and Collection	Sun - Sat 7am to 3pm	GS-1			Per ECM
42	Utilities	943	Ogden	1	1,100	1982	Utility Distribution and Collection	1am	GS-1 ?			Per ECM
43	Utilities	957	Ogden	1	1,211	1982	UtilityStorage	unnoccupied	GS-1 ?			
44	Police	162	Thanksgiving Ave	1	1,852	1995		unnoccupied	GS-1 ?			
45	Glades Wastewater	10700	NW Glades Cut-Off Road	1	4700	2006	Operations and support Bldgs (5)		GSLD-1			Per ECM
46	Utilities	301	SE Greenway Terrace	1	1,556	2002	Utility Electricians & Instrumentation	unoccupied	GS-1 ?			
47	Utilities	998	SE Prineville Street	1	1,789	1985	Utility Storage	unoccupied	GSD-1			
48	Utilities	325	Greenway Terrace	1	1,500	2005	Utilities	4pm	GS-1 ?			Per ECM
49	Utilities	855	Prineville	1	1,500	2000	Utilities		GS-1 ?			
50	Engineering	1441	Becker Road	1	2,074	2004	Used by American - construction office	scheduled to be demolished	GS-1 ?			Per ECM
51	Utilities	341	SE Greenway Terrace	1	1,545	1994	Utility Mapping	4pm	GS-1			Per ECM
52	PD Station East	2000	SE Village Green Drive	1	4,972	1985	Police Department East		GS-1			Model
53a	CivicCenter	9221	SE Civic Center Place	1	7,500	2030	Warehouse		GSD-1			Per ECM
53b	Civic Center	9221	SE Civic Center Place	1	100,000	2008	Civic Center	Sun - Sat 5 am to 3 am	GSLD-1	74 (5am - 11pm)	80	Model
53c	CivicCenter	9221	SE Civic Center Place	1	268,840	2008	Parking Garage	(AC runs 5am - 9pm 7 days/week)	GSD-1	Exception: Banquet rooms 68 Wed - Sat 2pm -2am		Per ECM
53d	Civic Center	9221	SE Civic Center Place		3,638	2008	Stage/Pavilion		GSD-1			Per ECM
53e	Civic Center	9221	SE Civic Center Place	1	448	2008	Mens Restroom		GSD-1			Per ECM
53e	Civic Center	9221	SE Civic Center Place	1	420	2008	Womens Restroom/Storage		GSD-1			Per ECM
53	Civic Center	9221	SE Civic Center Place	1	68,567	2008	Inter-Active Fountain Controls					
53	Civic Center	9221	SE Civic Center Place			2008	Generate with 5,400 Fuel AST					
53	Civic Center	9221	SE Civic Center Place			2008	Generate with 5,400 Fuel AST					
54	Prineville Expansion Proj	329	SE Greenway Terrace	1	1986	2005	Utility Information Systems	4pm	GS-1			Per ECM
55	Prineville Expansion Proj	961	SE Ogden Lane	1	1211	2003	Utility Meter Readers	1am	GS-1			Per ECM
56	Prineville Expansion Proj	950	SE Prineville Street	1	1,532	1988	Will be used by Utilities	unoccupied	GS-1			
57	Botanical Garden	2410	SE Westmoreland Blvd	1	7464	2010	Nature Visitor Center	Mon -Tues 7am - 4pm, Wed - Sat 7am - 9pm, Sun 12 - 4	GSD-1	74	77	Model
57	Botanical Garden	2410	SEWestmoreland Blvd	1	2,430	2010	Maintenance Building	Mon -Tues 7am - 4pm, Wed - Sat 7am - 9pm, Sun 12 - 4	GSD-1	74	77	Per ECM
58	Prineville Expansion Proj	902	SE Prineville Street	1	1,496	1992	Utilities will use as office space	unoccupied	GS-1 ?			Per ECM
59	Prineville Expansion Proj	974	SE Prineville Street	1	1,040	1983	Utilities will use as office space	unoccupied	GS-1 ?			
60	Engineering Home	1403	SE Barker Lane	1	1,900	1992	Engineering will use as office space	unoccupied	GS-1 ?			
61	Veteran's Memorial Park	2203	SE Midport Rd	1			Pavillion/Restrooms		GS-1 ?			Per ECM
62	Tom Hooper Park	? ?					Riverwalk/Playground		GS-1			Per ECM
63	Traffic Ops Shop	1485-1497	SW Biltmore	1			Traffic Ops Shop		GS-1			Per ECM

2.3 Analysis Methodology

Honeywell's methodology for design and implementation of an energy conservation project is detailed below. A technically sound solution is the cornerstone to a financially superior energy savings retrofit contract.

We conducted a thorough evaluation of the finalized list of improvements and energy conservation measures that have been mutually agreed upon between Honeywell and the City.

Field Surveys

1. Honeywell conducted a thorough inspection of building systems and equipment and became thoroughly familiar with them. Honeywell audited operations, performance, maintenance, malfunctions, comfort problems, etc.
2. Checked nameplate data on equipment.
3. Conducted interviews with building personnel. Reviewed maintenance, scheduling, performance, comfort and problems of the buildings, equipment and systems.
4. Became familiar with actual hours of operation of systems and equipment, and the hours of occupancy of the personnel.
5. Performed test and balance work and trend logging of mechanical equipment to determine an accurate baseline consumption.

Energy History

1. Studied and analyzed a three year history of the City's buildings' electrical and water consumption. Compared with buildings' consumption indexes of similar buildings.

Evaluation of Improvements

1. Listed all problems with building, systems and equipment.
2. Generated improvements and developed those with most potential.
3. Calculated the potential energy savings in terms of Btu's and kWh and in costs.
4. Developed in depth thorough energy consumption baseline through use of software modeling, field visits, and trend logging of equipment and test and balance flow measurements.

5. Modeling software was utilized to calculate savings and incorporate interactive effects for the larger buildings and buildings in which multiple ECMs are being implemented. The following is a list of buildings which were modeled:
    - City Hall Building A.
    - City Hall Building B
    - City Hall Building C (Police)
    - City Hall Police Evidence Building
    - Civic Center
    - Community Center
    - Saints Golf Course Clubhouse
    - Rosser Road Police Station
    - Police Athletic Building
    - Whispering Pines Gymnasium
    - Botanical Gardens
    - Police Station East
    - Prineville Plant Main Building

6. Finalized bid level costs of work.
7. Calculated paybacks and return on investments.
8. Incorporated FP&L potential rebate programs.

Review and Decisions

Honeywell will review with the City of Port St. Lucie:

1. Objectives, problems with the facility
2. Energy improvement options
3. Improvement costs
4. Payback
5. Return on Investment
6. Potential savings
7. Will select, with the City's input, improvements to proceed with and assigned priorities.

After all the technical and financial parameters of the program are identified and the responsibilities of Honeywell and the City are clearly delineated, the guaranteed energy savings performance contract will be offered to the City.

2.4 Facilities & Systems

Honeywell evaluated over 1 million total square feet of building area as well as city parks and street lighting. The following is a high level overview of the facilities and existing systems. Detailed analysis and descriptions are included per building in section 5 – Building Summaries.

The buildings with the highest percentage of energy consumption include the three buildings at City Hall, the Civic Center, the Community Center, and the Rosser Road Police Station.

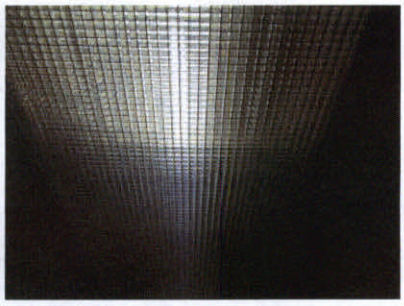
2.4.1 Lighting

Honeywell has conducted a room-by-room site survey for all buildings which has been included in Appendix 2. During the site walkthroughs it was found that a large portion of the lighting systems have been retrofitted to energy efficient 32 Watt T-8 fluorescent and compact fluorescent lamps. However, inefficient 40 Watt T-12s, metal halide, incandescents, and high pressure sodium fixtures still exist. The opportunity exists to replace these fixtures with 28w T-8s, induction lighting, high bay T-5 fixtures and compact fluorescents. Minimal lighting controls or occupancy sensors have been installed. The lighting for the exterior areas is a mixture of high pressure sodium technology, metal halide or compact fluorescent technologies used in poles and wall mounts fixtures.

Current on/off control is manual and automated control devices, such as occupancy sensors, are not used, except in very few areas, resulting in energy waste due to areas unoccupied with lights on.

Below are just a few sample pictures of some of the inefficient lighting which still exists.

Inefficient 40 Watt T-12 Lamps



Old Inefficient Parabolic Lens Fixture

Inefficient Parabolic Lens Fixture

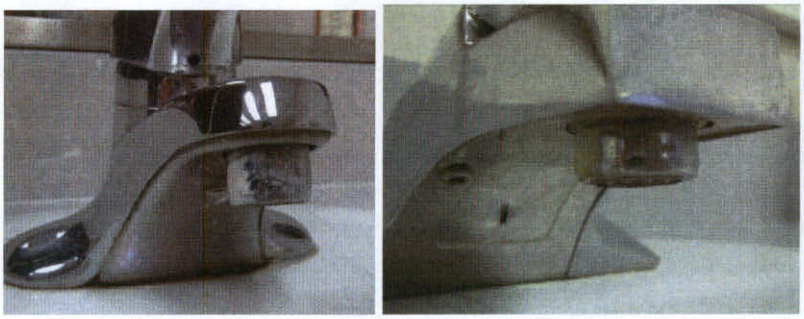
Inefficient Metal Halide Fixtures

Inefficient High Pressure Sodium

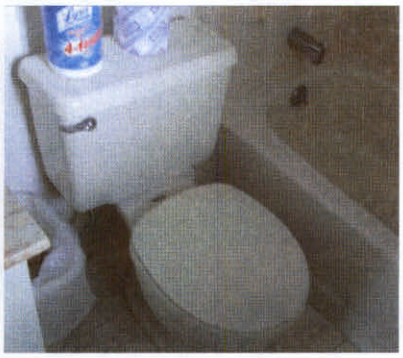
2.4.2 Domestic Water

Honeywell conducted an in depth survey of all of the bathrooms at all of the City facilities. The majority of the existing toilet fixtures have been retrofitted over the past 10 years to 1.6 gallons per flush (gpf) types. However, many of these 1.6 gpf fixtures are out of tune and flushing more than specified at. Also, some higher flow 3.6 gpf toilets still exist. The majority of the existing urinals have been retrofitted as well to 1.0 gpf. Existing sink faucets and showerheads are a mixture of high flow and low flow.

Below are just a few examples of some of the high flow fixtures which still exist.



High Flow Sink Aerators (2.2 gpm or higher)



High Flow Toilet (3.6 gpf)

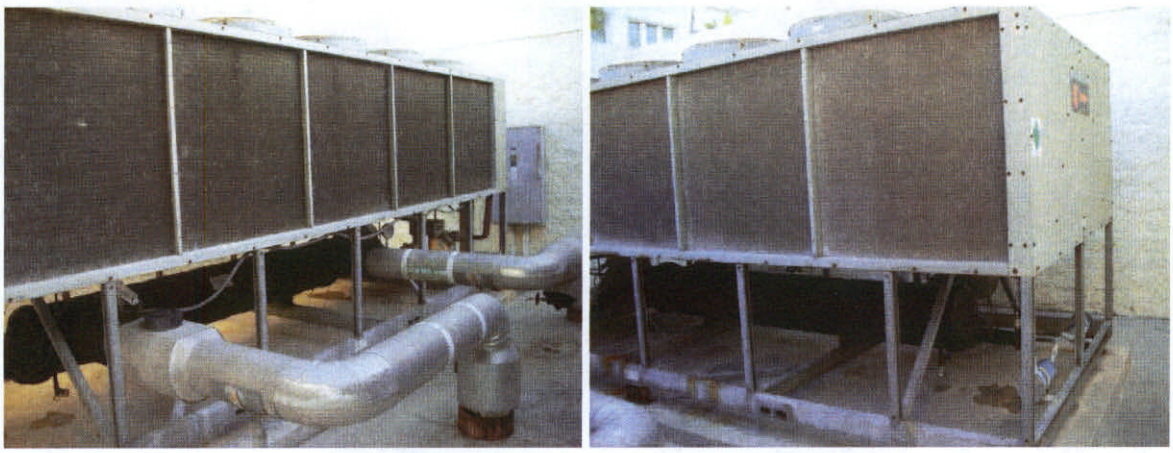
2.4.3 Mechanical

The majority of the City's buildings are air conditioned by packaged Direct Expansion (DX) units. However, the larger more complex buildings: City Hall A, B and C as well as the Civic Center are conditioned with individual chilled water plants and multiple chilled water air handling units.

Central Cooling Plants

Each of the three large buildings at the City Hall complex has its own dedicated chilled water central plant. Each plant consists of (2) air cooled chillers and chilled water pumps which distribute the chilled water to the buildings air handling unit cooling coils.

The City Hall Building (A) utilizes (2) Trane 125 ton chillers. The chillers were installed in 1999 and have about 3 to 5 years of remaining useful life. The chillers are inefficient and have degraded over time. A full efficiency test report, performed by Honeywell, is included in Appendix 4. The chilled water pumping is performed by (4) pumps, which are piped in a primary-secondary arrangement and pump water at a constant volume to 3-way bypass valves at each air handling unit.

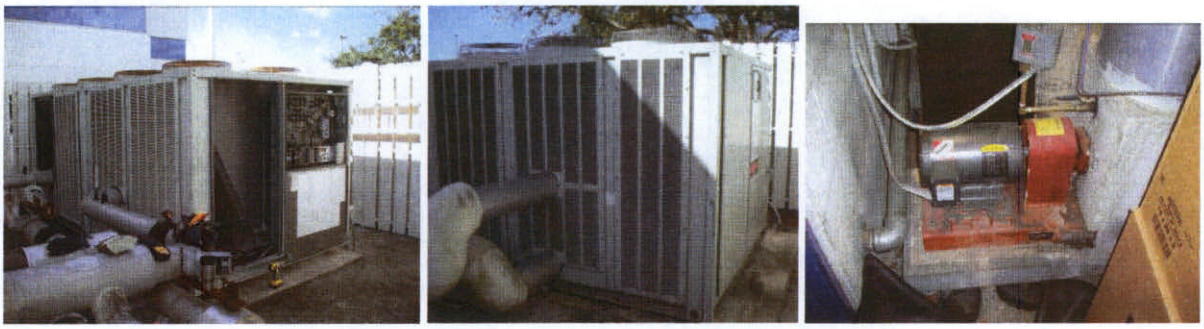


City Hall Building A Air Cooled Chillers

The City Hall Engineering Building (B) utilizes (2) Trane 70 ton chillers which were installed in 2005. The chilled water pumping is performed by (2) pumps, which pump water at a constant volume to 3-way bypass valves at each air handling unit.

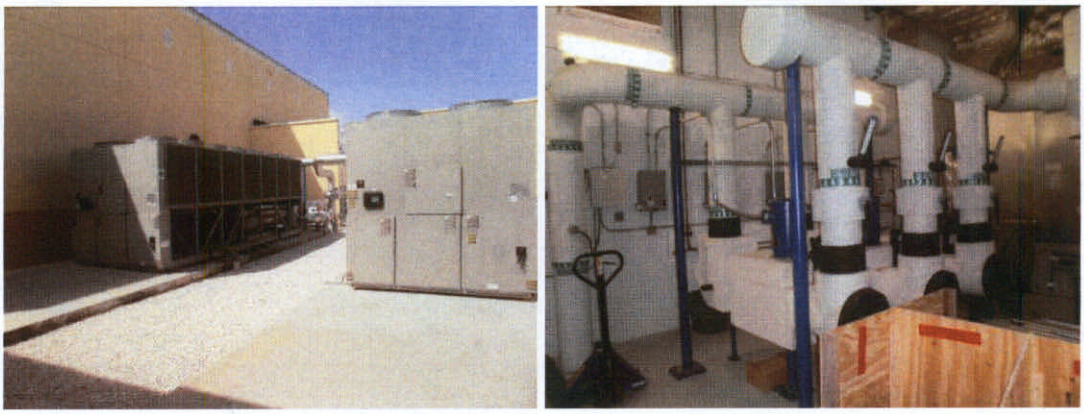
City Hall Building B Air Cooled Chillers and Pumps

The City Hall Police Building (C) utilizes (2) Trane chillers. One chiller is 80 tons and is in good condition. The second chiller is 60 tons and is at the end of its useful life and in need of major repair or replacement. The chilled water pumping is performed by (2) pumps, which pump water at a constant volume to 3-way bypass valves at each air handling unit.



City Hall Building C Air Cooled Chillers and Pumps

The Civic Center building utilizes (2) Trane 200 ton chillers which were installed in 2008. The chilled water pumping is performed by (2) pumps, which pump water at a constant volume to 3-way bypass valves at each air handling unit.



Civic Center Air Cooled Chillers and Pumps

The chilled water pumping schemes for the above buildings are all constant volume arrangements. All of the air handling units utilize 3-way cooling coil control valves. In this arrangement, as the cooling load required by each air handling unit decreases, the 3-way valves will normally bypass flow around the coil. Even though less water is required, the same amount of pumping energy is being consumed because of the constant volume with 3-way valve arrangement. Since the pumps are running continuously regardless of load, more energy is consumed than is needed.

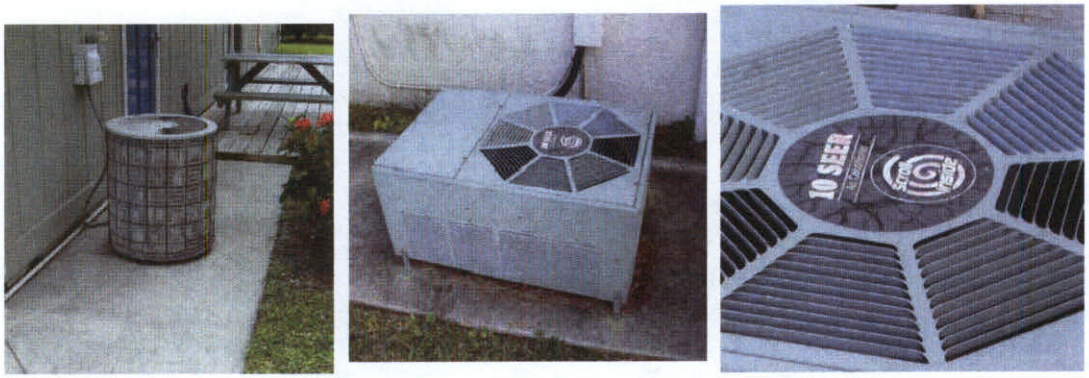
Typical 3-way control valve at Air Handling Units

Airside Systems

The majority of the City buildings which utilize packaged DX systems have constant volume split system air handling units or packaged constant volume rooftop units. The three buildings at the City Hall complex as well as the Civic Center all utilize multiple chilled water air handling units. All of the chilled water air handling units are energy efficient variable air volume systems with the exception of one unit at Building C. At the Prineville RO Plant administration building, there are several units which utilize bypass dampers to create variable supply air volume systems (VAV). These methods of VAV are extremely outdated and inefficient.

Packaged DX Systems

Currently there are over 80 packaged DX systems serving most of the City's buildings. A significant portion of these units are either old and at the end of their useful life and/or inefficient. Some of these units have been replaced within the past 5 years, still many are over 10 – 15 years old, are nearing the end of their useful life and have poor operating efficiencies. A total of over 300 tons of cooling provided by packaged DX equipment is being recommended for replacement. Currently, all of the packaged equipment is controlled locally by either programmable thermostats or non programmable thermostats.



Some examples of Old and Inefficient (10 SEER) Packaged DX Systems

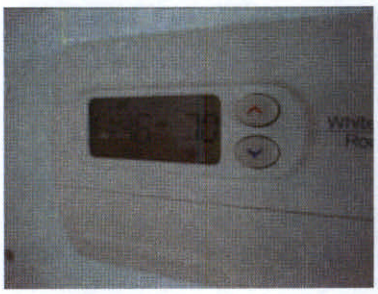
Domestic Water Heating

All of the City's water heating needs are met by electric storage type water heaters. Most of the water heaters are of acceptable efficiencies, however in many cases the installed storage capacity far exceeds the typical demand and/or usage. In many cases, an instantaneous heater or timer may provide some savings.

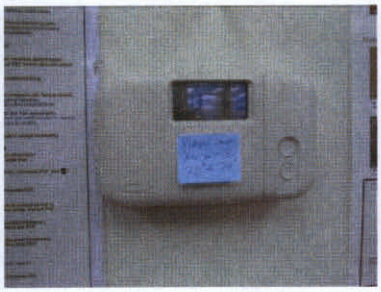
2.4.4 Building Automation Systems

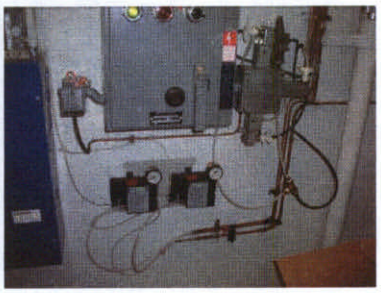
The majority of the City's buildings which utilize packaged DX systems are controlled by stand alone controllers. Many of these stand alone controllers are programmable type, but some are 24/7 manual control.

The City Hall buildings as well as the Civic Center each have full building automation systems all of which were installed at different time periods and have varying levels of sophistication. The Civic Center and City Hall Building B utilize a modern BAS, Trane Tracer Summit which is a full direct digital controls (DDC) system with graphics, programming and remote setpoint adjustment capabilities. The City Hall Building A utilizes an outdated Trane Tracer BAS which has remote setpoint adjustment capability but is not integrated with the other Trane systems. Finally City Hall Building C (Police Department) utilizes an outdated pnuematic system with a Seimens front end which is archaic and utilizes dos programming for setpoints.



Programmable Thermostats in the Manual Hold Position





Outdated Pneumatic Components at Building C

2.4.5 Street Lighting

The City's roadway and dedestrian street lighting consists of a mixture of inefficient High Pressure Sodium and Metal Halide fixtures. Based on an inventory of the City owned fixtures we received from the City, there are roughly 3000 fixtures. There are also numerous accounts which are neighborhood street lighting. These accounts are leased from FP&L and the City passes on the charges to the residents through assessments. There are also a mixture of metered and unmetered accounts, of which many of the accounts have not only street lighting but also ancillary loads such as sprinkler pumps being fed from the meter

3.0 UTILITY ANALYSIS AND BASELINE

To better understand the City's existing energy consumption and cost and create a baseline, Honeywell has performed a detailed utility analysis. The utility data used for this analysis was provided by the FP&L (electric) and the City (water and sewer) and covers a three year span from November of 2008 through October of 2011.

The charts on the following pages show the summary of electrical and water energy costs for all buildings included in the audit as well as the City's street lighting.

		November 2008 to October 2009						November 2008 to October 2009			November 2008 to October 2009		
		Electric						Water			Total $	Total	$
Site #	Building	Actual kW	Billed kW	kW Cost	Ann. kWh	$	$/kWh	Gallons	$	$/Gal	All Utilities	Square Feet	Per SF
1a	City Hall Building A	4,441	4,441	$ 22,886.08	2,436,000	$ 236,278	$ 0.097	297	$ 1,743	$ 5.8693	$ 237,021	73,860	$ 3.21
1b	Building B	2,048	2,048	$ 10,560.02	582,480	$ 64,623	$ 0.111	-	$ -	$ -	$ 64,623	37,328	$ 1.73
1c	Police Department	3,191	3,145	$ 22,367.24	1,867,500	$ 177,106	$ 0.095	-	$ -	$ -	$ 177,106	44,018	$ 4.02
2	Sportsman's Park West	2,265	1,521	$ 7,433.39	156,491	$ 23,367	$ 0.171	105	$ 490	$ 4.6211	$ 23,857	-	n/a
3	Parks & Recreation	-	-	$ -	6,038	$ 1,005	$ 0.166	-	$ -	$ -	$ 1,005	5,726	$ 0.18
4	Sportsman's Park	569	-	$ -	62,527	$ 8,218	$ 0.131	79	$ 374	$ 4.7289	$ 8,592	-	n/a
5	Lyngate Park	117	-	$ -	51,861	$ 6,635	$ 0.128	118	$ 777	$ 6.5854	$ 7,413	9,380	$ 0.79
6	Public Works	973	966	$ 4,723.68	278,706	$ 32,461	$ 0.117	663	$ 3,026	$ 4.5624	$ 35,476	4,400	$ 8.06
7	Swan Park	1,597	1,226	$ 6,054.14	102,768	$ 19,623	$ 0.191	51	$ 396	$ 7.7578	$ 20,019	-	n/a
8	Rivergate Park	-	-	$ -	16,960	$ 2,123	$ 0.125	224	$ 1,119	$ 4.9963	$ 3,242	-	n/a
9	Rotary Park	-	-	$ -	-	$ -	$ -	32	$ 667	$ 20.6191	$ 667	-	n/a
10	Jaycee Park	-	-	$ -	1,280	$ 264	$ 0.206	5	$ 105	$ 21.0460	$ 370	-	n/a
11	Kiwanis Park	-	-	$ -	1,131	$ 246	$ 0.217	190	$ 855	$ 4.4994	$ 1,101	-	n/a
12	Pkg & Bldg. Maint. Yard	126	-	$ -	53,573	$ 6,686	$ 0.125	124	$ 563	$ 4.4636	$ 7,239	14,937	$ 0.48
13	Sandhill Crane Park	3,686	3,517	$ 18,159.63	221,968	$ 49,324	$ 0.222	445	$ 2,000	$ 4.4945	$ 51,324	-	n/a
14a	Whispering Pines Parks Gym	588	588	$ 3,035.82	196,573	$ 21,217	$ 0.108	-	$ -	$ -	$ 21,217	18,486	$ 1.15
14b	Whispering Pines Parks Field	1,913	1,483	$ 7,301.16	107,580	$ 20,862	$ 0.194	-	$ -	$ -	$ 20,862	-	n/a
15	Girl Scout Park	-	-	$ -	641	$ 188	$ 0.293	20	$ 156	$ 7.7820	$ 344	-	n/a
16	McChesney Park	1,812	1,347	$ 6,697.03	102,840	$ 19,279	$ 0.187	142,000	$ 4,220	$ 0.0297	$ 23,499	-	n/a
17	Turtle Run Park	-	-	$ -	2,220	$ 375	$ 0.169	43	$ 227	$ 5.2760	$ 602	-	n/a
18	Community Center	2,585	2,585	$ 13,319.52	1,131,060	$ 113,544	$ 0.100	-	$ -	$ -	$ 113,544	31,346	$ 3.62
19a	Prineville Treatment Plant Main Building	13,873	13,299	$ 94,290.72	5,613,120	$ 539,853	$ 0.096	21	$ -	$ -	$ 539,853	-	n/a
19b	Prineville North Warehouse	-	-	$ -	-	$ -	$ -	-	$ -	$ -	$ -	-	n/a
19c	Prineville Cross Control Bldg. Maintenance	163	-	$ -	47,854	$ 5,779	$ 0.121	-	$ -	$ -	$ 5,779	-	n/a
19d	High Svc. Pump Bldg./South Warehouse	-	-	$ -	-	$ -	$ -	-	$ -	$ -	$ -	-	n/a
19e	Prineville Lime Plant	5,133	4,925	$ 29,353.65	2,083,560	$ 210,647	$ 0.101	-	$ -	$ -	$ 210,647	-	n/a
20a	South Port WWTP	702	702	$ 3,018.67	200,610	$ 22,531	$ 0.112	162	$ -	$ -	$ 22,531	-	n/a
20b	South Port WWTP	3,751	3,751	$ 19,294.79	1,676,400	$ 167,824	$ 0.100	-	$ -	$ -	$ 167,824	-	n/a
21a	North Port WWTP	984	984	$ 5,061.25	267,240	$ 30,259	$ 0.113	-	$ -	$ -	$ 30,259	-	n/a
21b	North Port WWTP	991	991	$ 5,100.58	307,200	$ 33,566	$ 0.109	-	$ -	$ -	$ 33,566	-	n/a
22 & 23	West Port WWTP	5,967	5,967	$ 35,683.79	3,176,160	$ 293,594	$ 0.092	-	$ -	$ -	$ 293,594	-	n/a
24	Neighborhood Services	346	346	$ 1,782.01	164,112	$ 17,659	$ 0.108	-	$ -	$ -	$ 17,659	5,366	$ 3.29
25	Engineering Traffic Ops	-	-	$ -	-	$ -	$ -	-	$ -	$ -	$ -	2,700	$ -
26a	Saints Golf Course Clubhouse	1,963	1,864	$ 9,549.96	533,679	$ 61,683	$ 0.116	571	$ 2,979	$ 5.2157	$ 64,661	23,679	$ 2.73
26b	Saints Golf Course Cart Barn	44	-	$ -	25,832	$ 3,109	$ 0.120				$ 3,109		
26c	Saints Golf Course all others	-	-	$ -	21,987	$ 2,939	$ 0.134				$ 2,939		
27a	James F. Anderson R O Plant	6,534	6,386	$ 37,905.18	3,565,360	$ 337,107	$ 0.095	17,606	$ -	$ -	$ 337,107	-	n/a
27b	James F. Anderson R O Plant	9,404	9,404	$ 55,943.12	2,669,600	$ 299,998	$ 0.112	-	$ -	$ -	$ 299,998	-	n/a
27c	James F. Anderson R O Plant	12,788	12,788	$ 76,166.89	3,864,800	$ 383,726	$ 0.101	-	$ -	$ -	$ 383,726	-	n/a
28	Charles F. Ray Park	-	-	$ -	10,006	$ 1,301	$ 0.130	37	$ 110	$ 2.9835	$ 1,411	-	n/a
29	Police Station	1,229	1,229	$ 6,310.44	745,320	$ 71,266	$ 0.096	-	$ -	$ -	$ 71,266	21,451	$ 3.32
30	City Center	-	-	$ -	-	$ -	$ -	-	$ -	$ -	$ -	14,000	$ -
31	Jessica Clinton Park	1,826	1,408	$ 6,872.66	102,752	$ 19,906	$ 0.194	63	$ 195	$ 3.0886	$ 20,100	-	n/a
32	Railroad Club (leased)	-	-	$ -	-	$ -	$ -	2	$ 88	$ 43.8950	$ 88	2,069	$ 0.04
33	PAL Building	-	-	$ -	8,426	$ 1,177	$ 0.140	-	$ -	$ -	$ 1,177	5,540	$ 0.21
34	Parks & Recreation (unoccupied)	-	-	$ -	4,971	$ 698	$ 0.140	-	$ -	$ -	$ 698	1,847	$ 0.38
35	Storage Garage (unoccupied)	-	-	$ -	1,706	$ 313	$ 0.183	-	$ -	$ -	$ 313	720	$ 0.43
36	Bldg. Dept used by Utilities	-	-	$ -	-	$ -	$ -	20	$ 148	$ 7.4135	$ 148	1,593	$ 0.09
37	Bldg. Dept used as Clinic	127	127	$ -	24,247	$ 2,985	$ 0.123	26	$ 328	$ 12.6073	$ 3,313	1,628	$ 2.03
38	Bldg. Construction Office	-	-	$ -	-	$ -	$ -	-	$ -	$ -	$ -	1,320	$ -
39	Engineering	-	-	$ -	17,792	$ 2,217	$ 0.125	7	$ 105	$ 14.9414	$ 2,322	1,548	$ 1.50
40	Boys & Girls Club	-	-	$ -	-	$ -	$ -	18	$ 134	$ 7.4544	$ 134	2,380	$ 0.06
41	Utilities 915 Ogden	34	-	$ -	34,434	$ 4,195	$ 0.122	20	$ -	$ -	$ 4,196	1,268	$ 3.31
42	Utilities 943 Ogden (unoccupied)	-	-	$ -	-	$ -	$ -	6	$ -	$ -	$ -	1,100	$ -
43	Utilities 957 Ogden (unoccupied)	-	-	$ -	-	$ -	$ -	27	$ -	$ -	$ -	1,211	$ -
44	Police Station (unoccupied)	-	-	$ -	-	$ -	$ -	92	$ 462	$ 5.0271	$ 462	1,862	$ 0.25
45	Glades Wastewater	8,635	8,635	$ 51,520.07	4,173,836	$ 383,624	$ 0.092	1,888	$ -	$ -	$ 383,624	4,700	$ 81.62
46	Utilities 301 SE Greenway (unoccupied)	-	-	$ -	-	$ -	$ -	115	$ -	$ -	$ -	1,556	$ -
47	Utilities 998 SE Prineville (unoccupied)	163	-	$ -	47,854	$ 5,779	$ 0.121	-	$ -	$ -	$ 5,779	1,789	$ 3.23
48	Utilities 325 Greenway	-	-	$ -	24,011	$ 2,941	$ 0.123	-	$ -	$ -	$ 2,941	1,500	$ 1.96
49	Utilities Prineville	-	-	$ -	-	$ -	$ -	-	$ -	$ -	$ -	1,500	$ -
50	Engineering (unoccupied)	-	-	$ -	-	$ -	$ -	-	$ -	$ -	$ -	2,074	$ -
51	Utilities 341 SE Greenway	-	-	$ -	17,349	$ 2,162	$ 0.125	13	$ -	$ -	$ 2,162	1,545	$ 1.40
52	PD Station East	129	129	$ 666.21	23,086	$ 3,347	$ 0.145	19	$ 451	$ 23.7158	$ 3,797	5,166	$ 0.74
53a	Civic Center	6,529	6,529	$ 37,541.89	2,435,280	$ 253,123	$ 0.104	901	$ 4,875	$ 5.4107	$ 257,998	100,000	$ 2.58
53b	Civic Center Parking Garage	672	672	$ 3,459.94	184,320	$ 20,958	$ 0.114	-	$ -	$ -	$ 20,958	268,848	$ 0.08
53c	Civic Center Stage	460	432	$ 2,227.12	156,565	$ 17,044	$ 0.109	-	$ -	$ -	$ 17,044	3,638	$ 4.69
53d	Civic Center Lights	-	-	$ -	53,988	$ 6,628	$ 0.123	-	$ -	$ -	$ 6,628	-	n/a
54	Prineville Expansion Project	-	-	$ -	24,447	$ 3,003	$ 0.123	7	$ -	$ -	$ 3,003	1,986	$ 1.51
55	Prineville Expansion Project			$ -	15,066	$ 1,892	$ 0.126	20	$ -	$ -	$ 1,892	1,211	$ 1.56
56	Prineville Expansion Project (unoccupied)			$ -	3,223	$ 478	$ 0.148		$ -	$ -	$ 478	1,532	$ 0.31
57	Botanical Garden	-	-	$ -	-	$ -	$ -	-	$ -	$ -	$ -	9,864	$ -
58	Prineville Expansion Project (unoccupied)	-	-	$ -	-	$ -	$ -	-	$ -	$ -	$ -	1,486	$ -
59	Prineville Expansion Project (unoccupied)	-	-	$ -		$ -	$ -	-	$ -	$ -	$ -	1,040	$ -
60	Engineering Home (unoccupied)	-	-	$ -		$ -	$ -	-	$ 88	$ -	$ 88	1,909	$ 0.05
61	Veteran's Memorial Park	-	-	$ -	-	$ -	$ -	-	$ -	$ -	$ -	-	n/a
62	Tom Hooper Park	-	-	$ -	16,162	$ 2,030	$ 0.126	1	$ 105	$ 105.0200	$ 2,135	-	n/a
63	Traffic Ops Shop	-	-	$ -	943	$ 336	$ 0.356	-	$ 8	$ -	$ 344	-	n/a
	Street Lights	-	-	$ -	-	$ -	$ -		$ -	$ -	$ -	-	n/a
		108,518	103,424	$ 604,735.74	39,632,833	$ 4,019,983	$ 0.482	165,939	$ 26,772	$ 0.1613	$ 4,046,756	742,125	$ 5.45

Annual Summary by Utility:	Utility		Baseline
	Electric		$ 4,019,983
	Water		$ 26,772
	Total		$ 4,046,756

		November 2009 to October 2010							November 2009 to October 2010				November 2009 to October 2010		
			Electric						Water				Total $	Total	$
Site #	Building	Actual kW	Billed kW	kW Cost	Ann. kWh	$	$/kWh		Gallons	$	$/Gal		All Utilities	Square Feet	Per SF
1a	City Hall Building A	4 647	4 547	$ 28 417 06	2 410 680	$ 200 350	$ 0 083		295	$ 1 807	$ 6 1265		$ 202 157	73 860	$ 2 74
1b	Building B	2 132	2 132	$ 13 260 16	606 000	$ 59 806	$ 0 099		-	$ -	$ -		$ 59 806	37 328	$ 1 60
1c	Police Department	3 362	3 319	$ 25 727 40	2 057 700	$ 162 713	$ 0 079		-	$ -	$ -		$ 162 713	44 018	$ 3 70
2	Sportsman's Park West	2 008	1 450	$ 7 971 34	126 154	$ 23 179	$ 0 184		-	$ 449	$ -		$ 23 628	-	n/a
3	Parks & Recreation	-	-	$ -	6 048	$ 983	$ 0 163		-	$ 445	$ -		$ 1 428	5 726	$ 0 25
4	Sportsman's Park	553	-	$ -	52 968	$ 7 080	$ 0 134		99	$ 466	$ 4 7039		$ 7 546	-	n/a
5	Lyngate Park	107	-	$ -	52 193	$ 6 805	$ 0 130		119	$ 817	$ 6 6630		$ 7 622	9 360	$ 0 81
6	Public Works	1 004	996	$ 6 044 80	278 650	$ 29 253	$ 0 105		584	$ 2 648	$ 4 5335		$ 31 900	4 400	$ 7 25
7	Swan Park	1 680	1 132	$ 6 585 46	97 581	$ 18 063	$ 0 185		94	$ 576	$ 6 1232		$ 18 658	-	n/a
8	Rivergate Park	-	-	$ -	16 464	$ 1 845	$ 0 112		299	$ 1 503	$ 5 0270		$ 3 348	-	n/a
9	Rotary Park	318	318	$ 1 994 92	54 597	$ 6 791	$ 0 124		29	$ 526	$ 18 2176		$ 7 319	-	n/a
10	Jaycee Park	-	-	$ -	911	$ 192	$ 0 211		6	$ 109	$ 18 1483		$ 301	-	n/a
11	Kiwanis Park	-	-	$ -	1 151	$ 219	$ 0 191		20	$ 156	$ 7 8025		$ 375	-	n/a
12	Pkg & Bldg. Maint. Yard	129	-	$ -	49 423	$ 5 625	$ 0 112		88	$ 403	$ 4 5845		$ 5 928	14 937	$ 0 40
13	Sandhill Crane Park	3 728	3 549	$ 22 459 00	213 469	$ 50 078	$ 0 235		142	$ 809	$ 5 6955		$ 50 887	-	n/a
14a	Whispering Pines Parks Gym	630	630	$ 3 957 20	217 088	$ 20 258	$ 0 093		-	$ -	$ -		$ 20 258	18 485	$ 1 10
14b	Whispering Pines Parks Field	2 416	1 709	$ 9 347 86	108 360	$ 21 845	$ 0 202		-	$ -	$ -		$ 21 845	-	n/a
15	Girl Scout Park	-	-	$ -	667	$ 168	$ 0 252		13	$ 125	$ 9 5992		$ 293	-	n/a
16	McChesney Park	1 527	1 144	$ 6 282 02	79 080	$ 15 206	$ 0 192		152 600	$ 4 450	$ 0 0292		$ 19 656	-	n/a
17	Turtle Run Park	-	-	$ -	2 318	$ 343	$ 0 148		46	$ 244	$ 5 3052		$ 587	-	n/a
18	Community Center	2 271	2 271	$ 14 219 84	878 640	$ 78 800	$ 0 090		-	$ -	$ -		$ 78 800	31 345	$ 2 51
19a	Prineville Treatment Plant Main Building	12 813	12 352	$ 99 721 66	4 931 807	$ 410 807	$ 0 083		30	$ -	$ -		$ 410 807	-	n/a
19b	Prineville North Warehouse	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	-	n/a
19c	Prineville Cross Control Bldg. Maintenance	188	176	$ 1 093 12	49 528	$ 5 202	$ 0 105		-	$ -	$ -		$ 5 202	-	n/a
19d	High Svc. Pump Bldg./South Warehouse	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	-	n/a
19e	Prineville Lime Plant	4 354	4 183	$ 27 760 70	1 726 850	$ 150 853	$ 0 087		-	$ -	$ -		$ 150 853	-	n/a
20a	South Port WWTP	661	661	$ 4 161 88	199 360	$ 19 250	$ 0 059		176	$ -	$ -		$ 19 250	-	n/a
20b	South Port WWTP	3 043	3 043	$ 18 938 92	1 089 401	$ 99 688	$ 0 092		-	$ -	$ -		$ 99 688	-	n/a
21a	North Port WWTP	903	903	$ 5 629 94	225 000	$ 23 401	$ 0 104		-	$ -	$ -		$ 23 401	-	n/a
21b	North Port WWTP	968	968	$ 6 974 72	282 240	$ 27 641	$ 0 098		-	$ -	$ -		$ 27 641	-	n/a
22 & 23	West Port WWTP	7 671	7 671	$ 56 893 30	4 211 280	$ 316 676	$ 0 075		-	$ -	$ -		$ 316 676	-	n/a
24	Neighborhood Services	329	329	$ 2 052 64	150 216	$ 14 249	$ 0 095		-	$ -	$ -		$ 14 249	5 366	$ 2 65
25	Engineering Traffic Ops	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	2 700	$ -
26a	Saints Golf Course Clubhouse	1 830	1 795	$ 11 026 05	477 480	$ 48 310	$ 0 101		504	$ 2 740	$ 5 4359		$ 51 050	23 679	$ 2 16
26b	Saints Golf Course Cart Barn	40	-	$ -	15 680	$ 1 784	$ 0 114						$ 1 784		
26c	Saints Golf Course all others	-	-	$ -	24 454	$ 2 882	$ 0 118						$ 2 882		
27a	James F. Anderson R O Plant	5 439	5 260	$ 38 431 77	2 631 600	$ 215 631	$ 0 082		18 323	$ -	$ -		$ 215 631	-	n/a
27b	James F. Anderson R O Plant	9 116	9 116	$ 66 896 40	2 575 600	$ 256 361	$ 0 100		-	$ -	$ -		$ 256 361	-	n/a
27c	James F. Anderson R O Plant	12 820	12 820	$ 93 181 00	3 804 000	$ 331 778	$ 0 087		-	$ -	$ -		$ 331 778	-	n/a
28	Charles F. Ray Park	-	-	$ -	7 940	$ 941	$ 0 118		59	$ 303	$ 5 1295		$ 1 243	-	n/a
29	Police Station	1 203	1 203	$ 7 493 02	705 600	$ 57 636	$ 0 082		74	$ 347	$ 4 6841		$ 57 982	21 451	$ 2 70
30	City Center	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	14 000	$ -
31	Jessica Clinton Park	1 760	1 382	$ 7 578 00	96 586	$ 18 401	$ 0 187		94	$ 481	$ 5 1182		$ 18 882	-	n/a
32	Railroad Club (leased)	-	-	$ -	-	$ -	$ -		8	$ 115	$ 14 4275		$ 115	2 069	$ 0 06
33	PAL Building	-	-	$ -	5 406	$ 757	$ 0 140		-	$ -	$ -		$ 757	5 540	$ 0 14
34	Parks & Recreation (unoccupied)	-	-	$ -	5 831	$ 711	$ 0 122		-	$ -	$ -		$ 711	1 847	$ 0 39
35	Storage Garage (unoccupied)	-	-	$ -	1 771	$ 284	$ 0 160		-	$ -	$ -		$ 284	720	$ 0 39
36	Bldg. Dept used by Utilities	-	-	$ -	-	$ -	$ -		20	$ 157	$ 7 8690		$ 157	1 593	$ 0 10
37	Bldg. Dept used as Clinic	145	145	$ -	25 539	$ 2 807	$ 0 110		41	$ 369	$ 8 9980		$ 3 176	1 628	$ 1 95
38	Bldg. Construction Office	-	-	$ -	-	$ -	$ -		12	$ 129	$ 10 7483		$ 129	1 320	$ 0 10
39	Engineering	-	-	$ -	18 619	$ 2 063	$ 0 111		12	$ 84	$ 7 0200		$ 2 148	1 548	$ 1 39
40	Boys & Girls Club	-	-	$ -	-	$ -	$ -		25	$ 128	$ 5 1100		$ 128	2 380	$ 0 05
41	Utilities 915 Ogden	107	-	$ -	41 813	$ 4 538	$ 0 109		28	$ -	$ -		$ 4 538	1 268	$ 3 58
42	Utilities 943 Ogden (unoccupied)	-	-	$ -	-	$ -	$ -		14	$ -	$ -		$ -	1 100	$ -
43	Utilities 957 Ogden (unoccupied)	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	1 211	$ -
44	Police Station (unoccupied)	-	-	$ -	-	$ -	$ -		8	$ 115	$ 14 4363		$ 115	1 852	$ 0 06
45	Glades Wastewater	9 262	9 262	$ 60 662 50	1 292 100	$ 331 111	$ 0 078		3 105	$ -	$ -		$ 331 111	1 700	$ 71 19
46	Utilities 301 SE Greenway (unoccupied)	-	-	$ -	-	$ -	$ -		17	$ -	$ -		$ -	1 556	$ -
47	Utilities 998 SE Prineville (unoccupied)	188	176	$ 1 093 12	49 528	$ 5 202	$ 0 105		-	$ -	$ -		$ 5 202	1 789	$ 2 91
48	Utilities 325 Greenway	-	-	$ -	26 145	$ 2 868	$ 0 110		1	$ -	$ -		$ 2 868	1 500	$ 1 91
49	Utilities Prineville	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	1 500	$ -
50	Engineering (unoccupied)	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	2 074	$ -
51	Utilities 341 SE Greenway	-	-	$ -	17 415	$ 1 938	$ 0 111		70	$ -	$ -		$ 1 938	1 545	$ 1 25
52	PD Station East	161	161	$ 999 86	49 133	$ 4 986	$ 0 102		11	$ 425	$ 38 6100		$ 5 413	5 166	$ 1 05
53a	Civic Center	6 560	6 560	$ 47 846 20	2 467 920	$ 221 508	$ 0 090		842	$ 4 953	$ 5 8819		$ 226 460	100 000	$ 2 26
53b	Civic Center Parking Garage	632	632	$ 3 923 56	172 800	$ 17 513	$ 0 101		-	$ -	$ -		$ 17 513	268 848	$ 0 07
53c	Civic Center Stage	400	400	$ 2 509 90	128 920	$ 12 461	$ 0 097			$ -	$ -		$ 12 461	3 638	$ 3 43
53d	Civic Center Lights	-	-	$ -	55 629	$ 6 101	$ 0 110			$ -	$ -		$ 6 101	-	n/a
54	Prineville Expansion Project	-	-	$ -	26 145	$ 2 868	$ 0 110		8	$ -	$ -		$ 2 868	1 986	$ 1 44
55	Prineville Expansion Project	-	-	$ -	16 569	$ 1 852	$ 0 112		12	$ -	$ -		$ 1 852	1 211	$ 1 53
56	Prineville Expansion Project (unoccupied)	-	-	$ -	2 310	$ 340	$ 0 147		-	$ -	$ -		$ 340	1 532	$ 0 22
57	Botanical Garden	366	322	$ 2 093 00	79 200	$ 8 429	$ 0 106		-	$ -	$ -		$ 8 429	9 894	$ 0 85
58	Prineville Expansion Project (unoccupied)	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	1 486	$ -
59	Prineville Expansion Project (unoccupied)	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	1 040	$ -
60	Engineering Home (unoccupied)	-	-	$ -	-	$ -	$ -		-	$ 89	$ -		$ 89	1 909	$ 0 05
61	Veteran's Memorial Park	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	-	n/a
62	Tom Hooper Park	-	-	$ -	12 598	$ 1 436	$ 0 114		-	$ 94	$ -		$ 1 530	-	n/a
63	Traffic Ops Shop	-	-	$ -	982	$ 299	$ 0 304		-	$ 10	$ -		$ 308	-	n/a
	Street Lights	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	-	n/a
		107,255	102,757.0	$ 713,619.39	38,009,473	$ 3,344,399	$ 0.088		178,729	$ 26,072	$ 0.1463		$ 3,370,471	742,125	$ 4.54

Annual Summary by Utility:	Utility	Baseline
[redacted]	Electric	$ 3,344,399
	Water	$ 26,072
	Total	$ 3,370,471

		November 2010 to October 2011							November 2010 to October 2011				November 2010 to October 2011		
		Electric							Water				Total $	Total	$
Site #	Building	Actual kW	Billed kW	kW Cost	Ann. kWh	$	$/kWh		Gallons	$	$/Gal		All Utilities	Square Feet	Per SF
1a	City Hall Building A	4,563	4,563	$ 29,659.50	2,538,000	$ 205,847	$ 0.081		255	$ 1,722	$ 6.7525		$ 207,569	73,860	$ 2.81
1b	Building B	2,065	2,055	$ 13,357.50	578,160	$ 57,384	$ 0.099		-	$ -	$ -		$ 57,384	37,328	$ 1.54
1c	Police Department	3,312	3,285	$ 25,721.55	2,019,960	$ 157,164	$ 0.078		-	$ -	$ -		$ 157,164	44,016	$ 3.57
2	Sportsman's Park West	1,784	1,365	$ 7,726.94	120,758	$ 21,401	$ 0.177		103	$ 498	$ 4.8385		$ 21,899	-	n/a
3	Parks & Recreation	-		$ -	6,048	$ 561	$ 0.159		-	$ 458	$ -		$ 1,419	5,726	$ 0.25
4	Sportsman's Park	544	-	$ -	30,562	$ 4,717	$ 0.154		60	$ 313	$ 5.2238		$ 5,030	-	n/a
5	Lyngate Park	101	-	$ -	47,351	$ 6,527	$ 0.138		92	$ 747	$ 8.1205		$ 7,274	9,380	$ 0.78
6	Public Works	969	956	$ 5,928.08	249,479	$ 26,453	$ 0.106		429	$ 1,997	$ 4.6551		$ 28,450	4,400	$ 6.47
7	Swan Park	1,294	922	$ 9,347.70	94,571	$ 12,079	$ 0.128		242	$ 1,265	$ 5.2288		$ 13,344	-	n/a
8	Rivergate Park	-	-	$ -	14,109	$ 1,587	$ 0.112		92	$ 583	$ 6.3375		$ 2,170	-	n/a
9	Rotary Park	295	295	$ 1,917.50	62,956	$ 7,186	$ 0.114		28	$ 540	$ 19.2921		$ 7,726	-	n/a
10	Jaycee Park	-	-	$ -	740	$ 168	$ 0.227		5	$ 109	$ 21.7060		$ 277	-	n/a
11	Kiwanis Park	-	-	$ -	1,066	$ 203	$ 0.190		18	$ 154	$ 8.5394		$ 356	-	n/a
12	Pkg & Bldg. Maint. Yard	141	-	$ -	50,398	$ 5,622	$ 0.112		126	$ 598	$ 4.6716		$ 6,220	14,937	$ 0.42
13	Sandhill Crane Park	3,661	3,520	$ 22,880.00	186,935	$ 49,948	$ 0.267		143	$ 837	$ 5.8513		$ 50,784	-	n/a
14a	Whispering Pines Parks Gym	628	628	$ 4,082.00	193,425	$ 18,753	$ 0.097		414	$ 1,794	$ 4.3331		$ 20,547	18,485	$ 1.11
14b	Whispering Pines Parks Field	2,292	1,585	$ 8,956.66	97,620	$ 20,846	$ 0.214		-	$ -	$ -		$ -	-	n/a
15	Girl Scout Park	-	-	$ -	535	$ 157	$ 0.247		96	$ 516	$ 5.3714		$ 673	-	n/a
16	McChesney Park	1,694	1,217	$ 6,930.78	92,040	$ 17,175	$ 0.187		140,300	$ 4,360	$ 0.0311		$ 21,534	-	n/a
17	Turtle Run Park	-	-	$ -	1,525	$ 252	$ 0.161		45	$ 249	$ 5.5358		$ 511	-	n/a
18	Community Center*	1,797	1,797	$ 11,680.50	780,440	$ 68,104	$ 0.088			$ -	$ -		$ 68,104	31,345	$ 2.17
19a	Prineville Treatment Plant Main Building	12,905	12,664	$ 99,080.82	5,057,520	$ 421,972	$ 0.083		30	$ -	$ -		$ 421,972	-	n/a
19b	Prineville North Warehouse	-	-	$ -	36,297	$ 3,944	$ 0.109		-	$ -	$ -		$ -	-	n/a
19c	Prineville Cross Control Bldg. Maintenance	182	182	$ 1,183.00	50,197	$ 5,206	$ 0.104		-	$ -	$ -		$ -	-	n/a
19d	High Svc. Pump Bldg./South Warehouse	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	-	n/a
19e	Prineville Lime Plant	3,867	3,498	$ 22,737.00	1,759,440	$ 146,993	$ 0.084		-	$ -	$ -		$ -	-	n/a
20a	South Port WWTP	1,400	1,400	$ 9,095.00	223,920	$ 22,702	$ 0.102		202	$ -	$ -		$ 22,702	-	n/a
20b	South Port WWTP	1,322	1,322	$ 8,593.00	442,200	$ 41,168	$ 0.093		-	$ -	$ -		$ -	-	n/a
21a	North Port WWTP	964	964	$ 6,266.00	234,120	$ 24,760	$ 0.106		-	$ -	$ -		$ 24,760	-	n/a
21b	North Port WWTP	1,071	1,071	$ 6,961.50	305,640	$ 30,283	$ 0.099		-	$ -	$ -		$ -	-	n/a
22 & 23	West Port WWTP	10,878	10,876	$ 82,672.60	5,250,000	$ 405,600	$ 0.077		-	$ -	$ -		$ 405,600	-	n/a
24	Neighborhood Services	341	341	$ 2,215.50	129,725	$ 12,921	$ 0.100		-	$ -	$ -		$ 12,921	5,366	$ 2.41
25	Engineering Traffic Ops	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	2,700	$ -
26a	Saints Golf Course Clubhouse	1,702	1,660	$ 10,243.78	409,200	$ 42,756	$ 0.104		362	$ 2,327	$ 6.4291		$ 45,083	23,679	$ 1.90
26b	Saints Golf Course Cart Barn	44	-	$ -	27,094	$ 2,935	$ 0.108								
26c	Saints Golf Course all others	-	-	$ -	24,751	$ 2,898	$ 0.117								
27a	James F. Anderson R O Plant	5,321	5,162	$ 32,170.52	2,636,160	$ 213,921	$ 0.081		18,206	$ -	$ -		$ 213,921	-	n/a
27b	James F. Anderson R O Plant	9,584	9,584	$ 72,838.40	2,843,200	$ 280,682	$ 0.099		-	$ -	$ -		$ -	-	n/a
27c	James F. Anderson R O Plant	13,094	13,094	$ 99,514.40	3,522,000	$ 327,824	$ 0.093		-	$ -	$ -		$ -	-	n/a
28	Charles F. Ray Park	-	-	$ -	7,981	$ 936	$ 0.117		51	$ 283	$ 5.5563		$ 1,219	-	n/a
29	Police Station	1,170	1,170	$ 7,605.00	672,240	$ 54,278	$ 0.081		55	$ 327	$ 5.9322		$ 54,605	21,451	$ 2.55
30	City Center	-	-	$ -	12,805	$ 1,420	$ 0.111		22	$ -	$ -		$ 1,420	14,000	$ 0.10
31	Jessica Clinton Park	1,709	1,332	$ 7,508.88	87,131	$ 17,949	$ 0.206		54	$ 351	$ 6.5091		$ 18,301	-	n/a
32	Railroad Club (leased)	-	-	$ -	-	$ -	$ -		3	$ 102	$ 33.8667		$ 102	2,069	$ 0.05
33	PAL Building	-	-	$ -	8,999	$ 1,118	$ 0.124		-	$ -	$ -		$ 1,118	5,540	$ 0.20
34	Parks & Recreation (unoccupied)	-	-	$ -	6,347	$ 765	$ 0.121		-	$ -	$ -		$ 765	1,847	$ 0.41
35	Storage Garage (unoccupied)	-	-	$ -	1,659	$ 266	$ 0.160		-	$ -	$ -		$ 266	720	$ 0.37
36	Bldg. Dept used by Utilities	-	-	$ -	18,996	$ 2,038	$ 0.107		13	$ 137	$ 10.5254		$ 2,175	1,593	$ 1.37
37	Bldg. Dept used as Clinic	147	107	$ -	28,075	$ 5,068	$ 0.109		26	$ 328	$ 12.6073		$ 3,396	1,628	$ 2.09
38	Bldg. Construction Office	-	-	$ -	11,382	$ 1,203	$ 0.106		9	$ 122	$ 13.6011		$ 1,325	1,320	$ 1.00
39	Engineering	-	-	$ -	22,339	$ 2,463	$ 0.110		11	$ 130	$ 11.8629		$ 2,593	1,543	$ 1.68
40	Boys & Girls Club (No longer a City account	-	-	$ -	-	$ -	$ -		22	$ 169	$ 7.6664		$ 169	2,380	$ 0.07
41	Utilities 915 Ogden	99	-	$ -	36,297	$ 3,944	$ 0.109		23	$ -	$ -		$ 3,944	1,268	$ 3.11
42	Utilities 943 Ogden	-	-	$ -	17,774	$ 1,897	$ 0.107		7	$ -	$ -		$ 1,897	1,100	$ 1.72
43	Utilities 957 Ogden (unoccupied)	-	-	$ -	7,551	$ 765	$ 0.101		-	$ -	$ -		$ 765	1,211	$ 0.63
44	Police Station (unoccupied)	-	-	$ -	22,675	$ 1,117	$ 0.049		92	$ 462	$ 5.0271		$ 1,579	1,852	$ 0.85
45	Glades Wastewater	9,077	9,077	$ 68,985.20	4,411,200	$ 337,767	$ 0.077		4,444	$ -	$ -		$ 337,767	4,700	$ 71.87
46	Utilities 301 SE Greenway (unoccupied)	-	-	$ -	22,039	$ 2,395	$ 0.109		8	$ -	$ -		$ 2,395	1,565	$ 1.54
47	Utilities 998 SE Prineville (unoccupied)	182	182	$ 1,183.00	50,197	$ 5,206	$ 0.104		17	$ -	$ -		$ 5,206	1,789	$ 2.91
48	Utilities 325 Greenway	-	-	$ -	28,729	$ 3,142	$ 0.109		1	$ -	$ -		$ 3,142	1,500	$ 2.09
49	Utilities Prineville	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	1,500	$ -
50	Engineering (unoccupied)	-	-	$ -	7,351	$ 787	$ 0.107		-	$ -	$ -		$ 787	2,074	$ 0.38
51	Utilities 341 SE Greenway	-	-	$ -	17,663	$ 1,965	$ 0.111		7	$ -	$ -		$ 1,965	1,545	$ 1.27
52	PD Station East*	127	18	$ 71.50	37,341	$ 4,050	$ 0.108		5	$ 420	$ 69.9983		$ 4,470	6,165	$ 0.87
53a	Civic Center	5,515	5,515	$ 41,914.00	2,211,360	$ 194,709	$ 0.088		1,075	$ 6,223	$ 5.7889		$ 200,932	100,000	$ 2.01
53b	Civic Center Parking Garage	1,306	1,306	$ 4,374.50	329,040	$ 34,368	$ 0.104		-	$ -	$ -		$ 34,368	268,848	$ 0.13
53c	Civic Center Stage	539	539	$ 3,503.50	179,887	$ 29,398	$ 0.163		-	$ -	$ -		$ 29,398	3,638	$ 8.08
53d	Civic Center Lights	-	-	$ -	57,486	$ 6,276	$ 0.109		-	$ -	$ -		$ 6,276	-	n/a
54	Prineville Expansion Project	-	-	$ -	28,729	$ 3,142	$ 0.109		7	$ -	$ -		$ 3,142	1,986	$ 1.58
55	Prineville Expansion Project	-	-	$ -	16,538	$ 1,857	$ 0.112		16	$ -	$ -		$ 1,857	1,211	$ 1.53
56	Prineville Expansion Project (unoccupied)	-	-	$ -	2,706	$ 378	$ 0.140		1	$ -	$ -		$ 378	1,532	$ 0.25
57	Botanical Garden	575	575	$ 3,737.50	183,720	$ 17,585	$ 0.096		4	$ 479	$ 119.7650		$ 18,064	9,894	$ 1.83
58	Prineville Expansion Project (unoccupied)	-	-	$ -	-	$ -	$ -		13	$ -	$ -		$ -	1,486	$ -
59	Prineville Expansion Project (unoccupied)	-	-	$ -	-	$ -	$ -		-	$ -	$ -		$ -	1,040	$ -
60	Engineering Home (unoccupied)	-	-	$ -	-	$ -	$ -		-	$ 92	$ -		$ 92	1,909	$ 0.05
61	Veteran's Memorial Park	-	-	$ -	826	$ 170	$ 0.206		-	$ -	$ -		$ 170	-	n/a
62	Tom Hooper Park	-	-	$ -	11,959	$ 1,358	$ 0.114		-	$ 98	$ -		$ 1,456	-	n/a
63	Traffic Ops Shop	-	-	$ -	598	$ 243	$ 0.406		-	$ -	$ -		$ 243	-	n/a
	Street Lights	-	-	$ -	2,788,100	$ 538,910	$ 0.193		-	$ -	$ -		$ 538,910	-	n/a
		108,276	103,824.0	$ 736,944.51	38,697,477	$ 3,407,210	$ 0.088		167,247	$ 28,792	$ 0.1722		$ 2,573,224	742,125	$ 3.47

Annual Summary by Utility:	Utility	Baseline
	Electric	$ 3,407,210
	Water	$ 28,792
	Total	$ 3,436,002

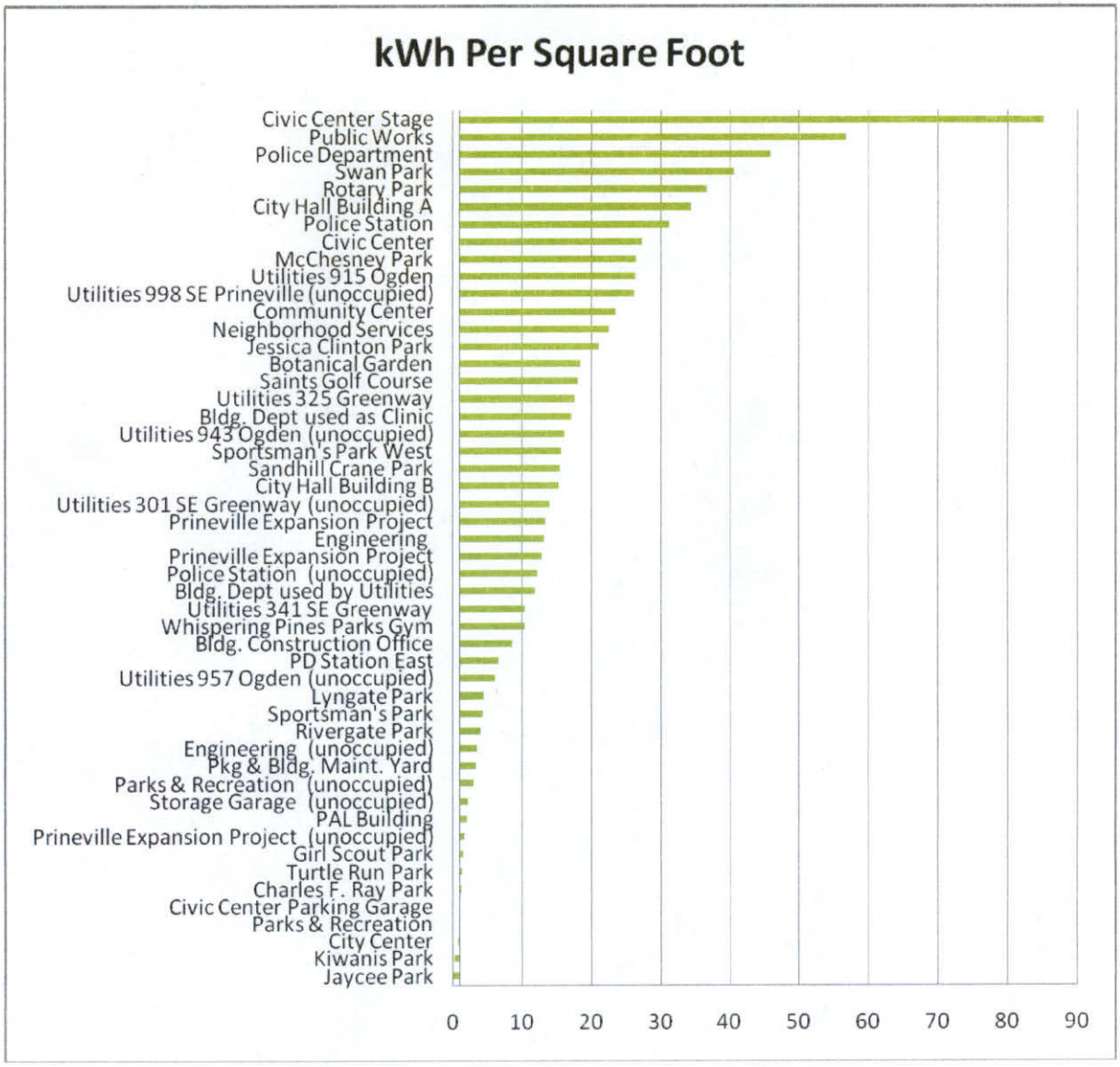
3.1 Electric

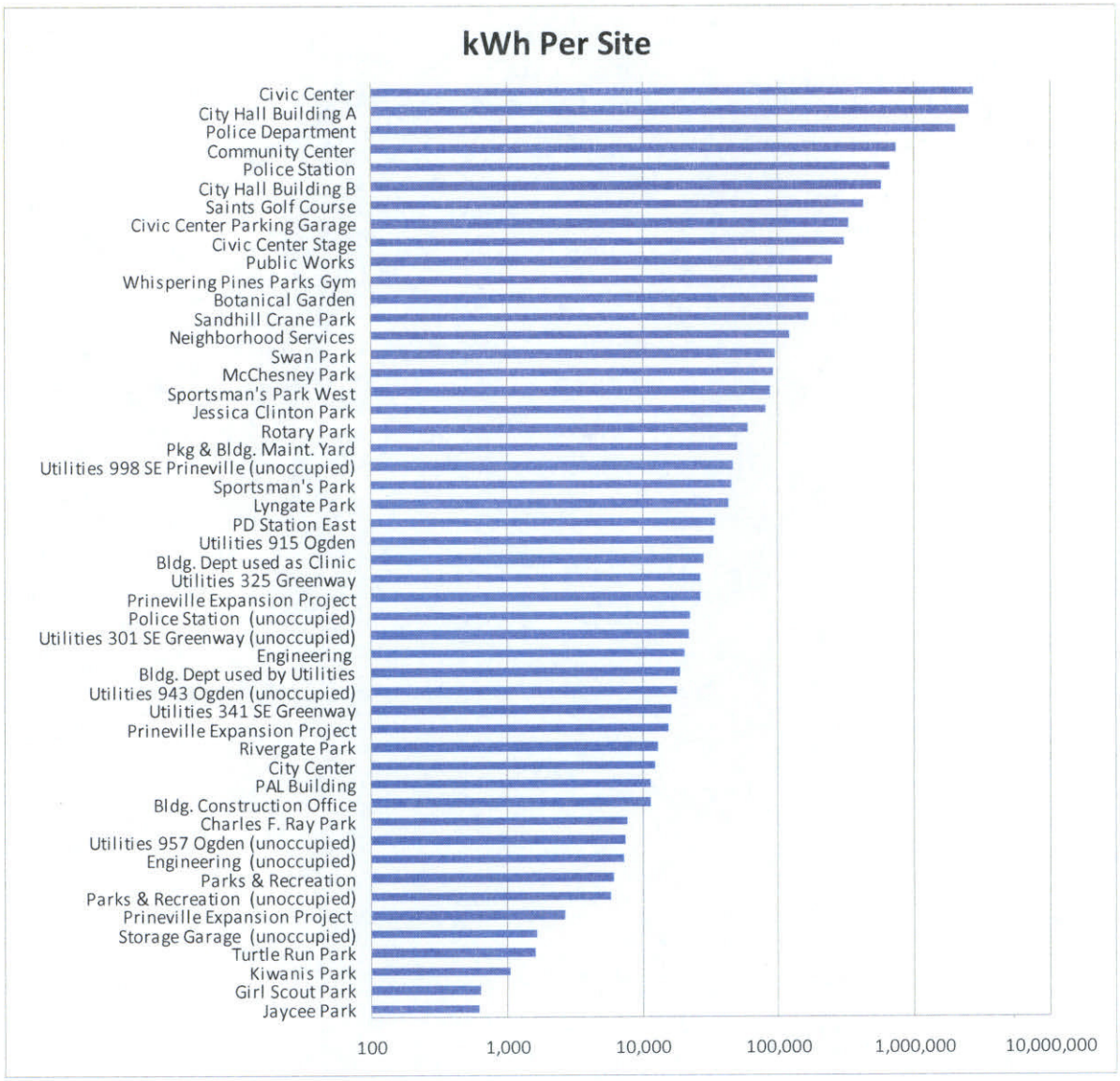
Rate Structures:

The City's rate structure varies from building to building. The majority of the buildings are on FP&L's general service 1 or general service demand 1 rates (GS-1 or GSD-1). Some exceptions to this are most parks which are on either seasonal time of use rates or outdoor lighting; Police Headquarters which is on a time of use rate; and street lighting which varies between City owned and leased rates. Rate structures per facility are noted on the facility list in section 2.2. Copies of the FP&L rate structures are included in Appendix 6.

Electric Consumption:

The charts on the following pages show the electric consumption on a total and per square foot basis per site. These charts help to put into perspective the overall largest total energy consumers and the highest consumers on a per square foot basis.

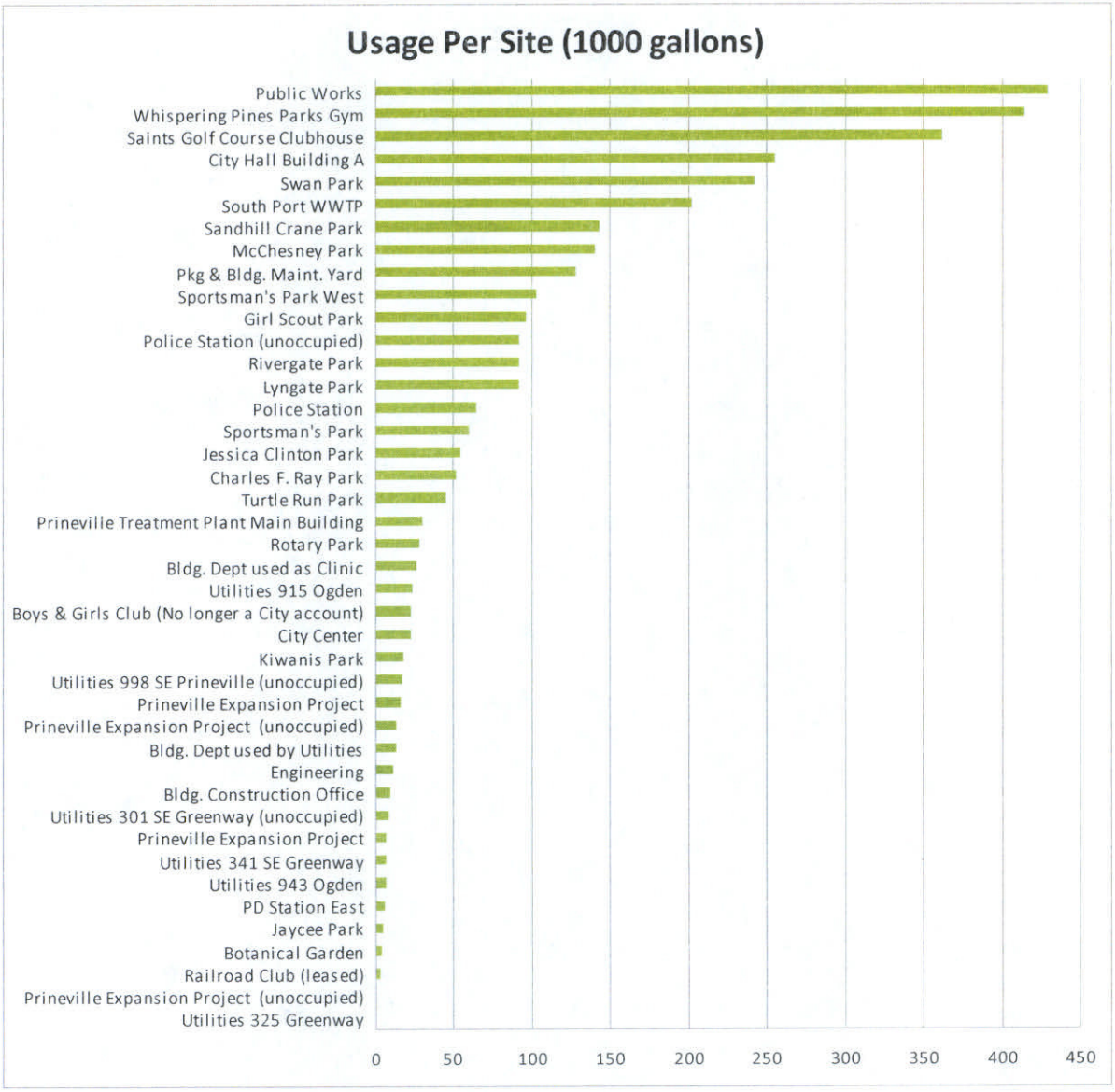

kWh Per Square Foot
Civic Center Stage
Public Works
Police Department
Swan Park
Rotary Park
City Hall Building A
Police Station
Civic Center
McChesney Park
Utilities 915 Ogden
Utilities 998 SE Prineville (unoccupied)
Community Center
Neighborhood Services
Jessica Clinton Park
Botanical Garden
Saints Golf Course
Utilities 325 Greenway
Bldg. Dept used as Clinic
Utilities 943 Ogden (unoccupied)
Sportsman's Park West
Sandhill Crane Park
City Hall Building B
Utilities 301 SE Greenway (unoccupied)
Prineville Expansion Project Engineering
Prineville Expansion Project
Police Station (unoccupied)
Bldg. Dept used by Utilities
Utilities 341 SE Greenway
Whispering Pines Parks Gym
Bldg. Construction Office
PD Station East
Utilities 957 Ogden (unoccupied)
Lyngate Park
Sportsman's Park
Rivergate Park
Engineering (unoccupied)
Pkg & Bldg. Maint. Yard
Parks & Recreation (unoccupied)
Storage Garage (unoccupied)
PAL Building
Prineville Expansion Project (unoccupied)
Girl Scout Park
Turtle Run Park
Charles F. Ray Park
Civic Center Parking Garage
Parks & Recreation
City Center
Kiwanis Park
Jaycee Park
0
10
20
30
40
50
60
70
80
90

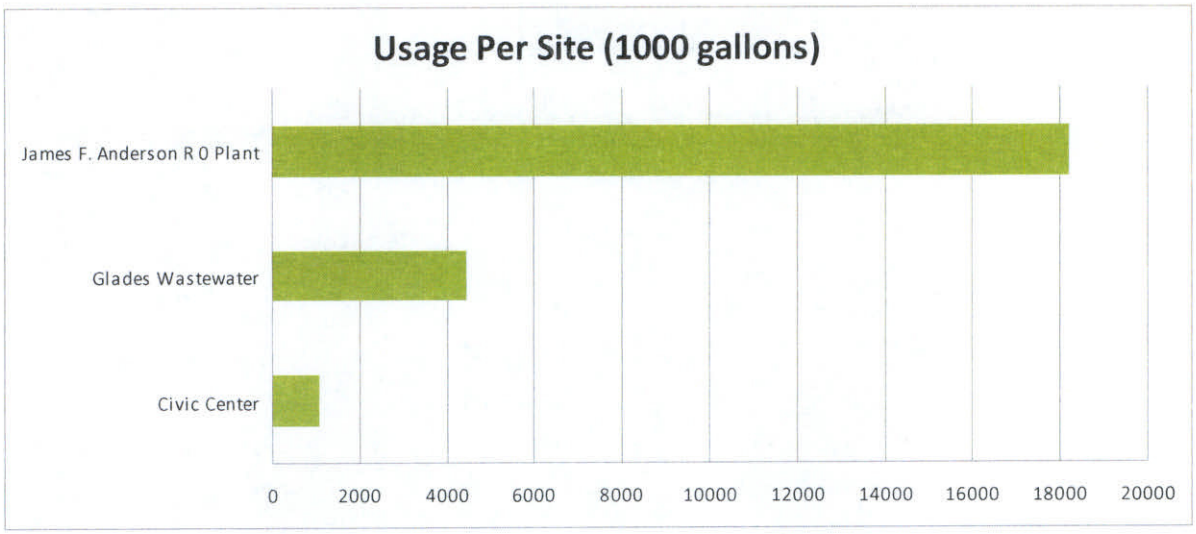


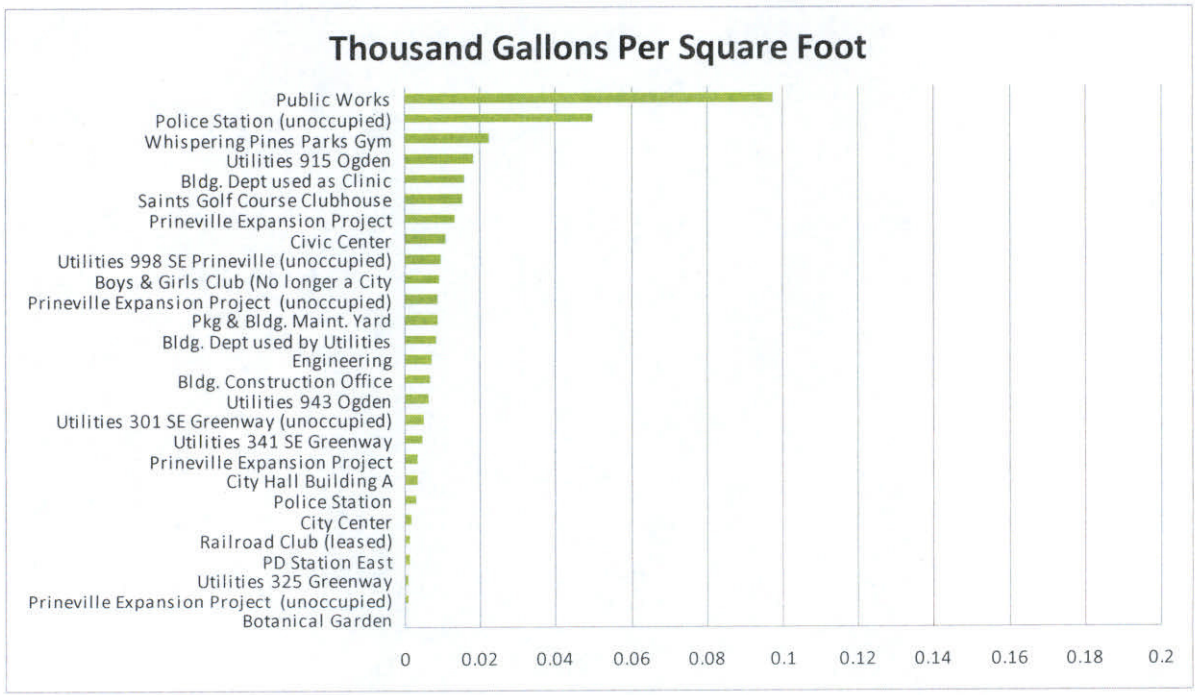
3.2 Water & Sewer

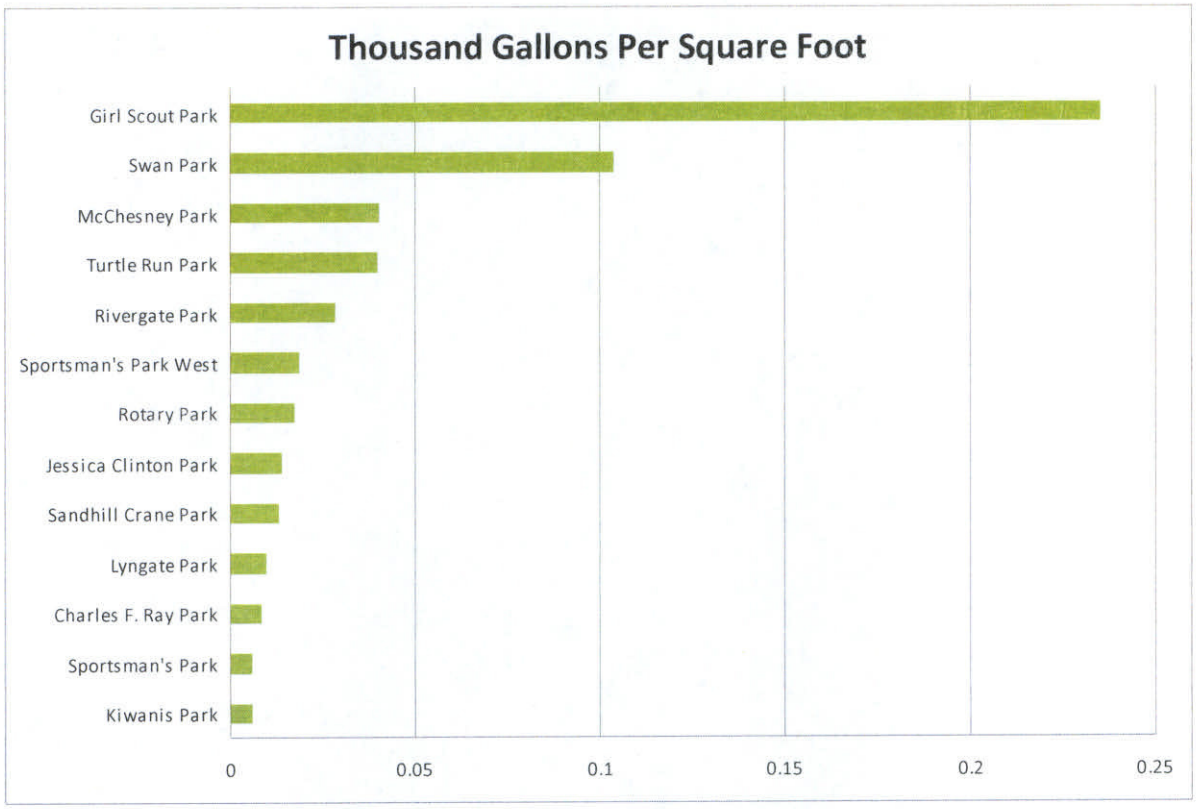
Water Usage:

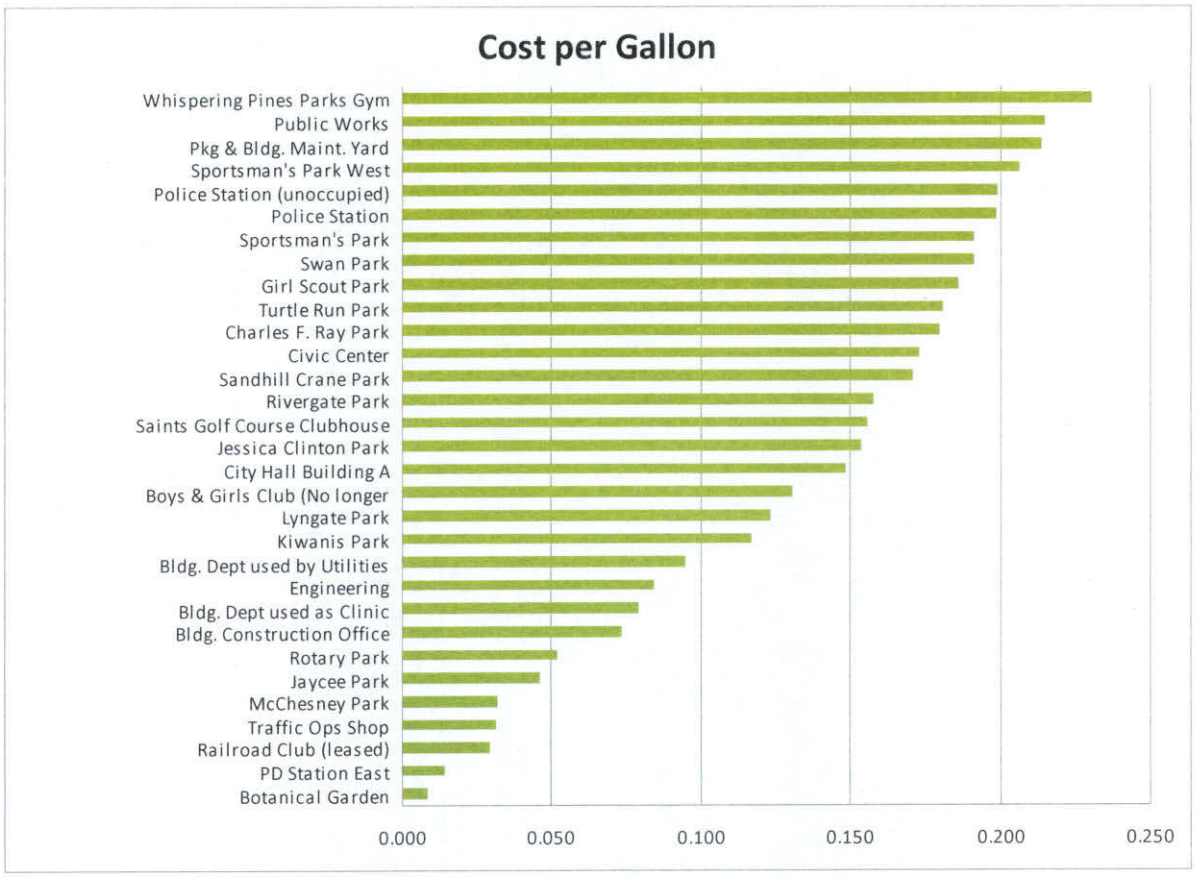
The following charts show the water consumption on a total and per square foot basis per site. Since water rates also vary per site, overall cost per gallon per site is also shown. These charts help to put into perspective the overall largest total consumers and the highest consumers on a per square foot basis.


Usage Per Site (1000 gallons)
Public Works
Whispering Pines Parks Gym
Saints Golf Course Clubhouse
City Hall Building A
Swan Park
South Port WWTP
Sandhill Crane Park
McChesney Park
Pkg & Bldg. Maint. Yard
Sportsman's Park West
Girl Scout Park
Police Station (unoccupied)
Rivergate Park
Lyngate Park
Police Station
Sportsman's Park
Jessica Clinton Park
Charles F. Ray Park
Turtle Run Park
Prineville Treatment Plant Main Building
Rotary Park
Bldg. Dept used as Clinic
Utilities 915 Ogden
Boys & Girls Club (No longer a City account)
City Center
Kiwanis Park
Utilities 998 SE Prineville (unoccupied)
Prineville Expansion Project
Prineville Expansion Project (unoccupied)
Bldg. Dept used by Utilities
Engineering
Bldg. Construction Office
Utilities 301 SE Greenway (unoccupied)
Prineville Expansion Project
Utilities 341 SE Greenway
Utilities 943 Ogden
PD Station East
Jaycee Park
Botanical Garden
Railroad Club (leased)
Prineville Expansion Project (unoccupied)
Utilities 325 Greenway
0
50
100
150
200
250
300
350
400
450


Usage Per Site (1000 gallons)
James F. Anderson R O Plant
Glades Wastewater
Civic Center
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000


Thousand Gallons Per Square Foot
Public Works
Police Station (unoccupied)
Whispering Pines Parks Gym
Utilities 915 Ogden
Bldg. Dept used as Clinic
Saints Golf Course Clubhouse
Prineville Expansion Project
Civic Center
Utilities 998 SE Prineville (unoccupied)
Boys & Girls Club (No longer a City
Prineville Expansion Project (unoccupied)
Pkg & Bldg. Maint. Yard
Bldg. Dept used by Utilities
Engineering
Bldg. Construction Office
Utilities 943 Ogden
Utilities 301 SE Greenway (unoccupied)
Utilities 341 SE Greenway
Prineville Expansion Project
City Hall Building A
Police Station
City Center
Railroad Club (leased)
PD Station East
Utilities 325 Greenway
Prineville Expansion Project (unoccupied)
Botanical Garden
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2


Thousand Gallons Per Square Foot
Girl Scout Park
Swan Park
McChesney Park
Turtle Run Park
Rivergate Park
Sportsman's Park West
Rotary Park
Jessica Clinton Park
Sandhill Crane Park
Lyngate Park
Charles F. Ray Park
Sportsman's Park
Kiwanis Park
0
0.05
0.1
0.15
0.2
0.25


Cost per Gallon
Whispering Pines Parks Gym
Public Works
Pkg & Bldg. Maint. Yard
Sportsman's Park West
Police Station (unoccupied)
Police Station
Sportsman's Park
Swan Park
Girl Scout Park
Turtle Run Park
Charles F. Ray Park
Civic Center
Sandhill Crane Park
Rivergate Park
Saints Golf Course Clubhouse
Jessica Clinton Park
City Hall Building A
Boys & Girls Club (No longer
Lyngate Park
Kiwanis Park
Bldg. Dept used by Utilities
Engineering
Bldg. Dept used as Clinic
Bldg. Construction Office
Rotary Park
Jaycee Park
McChesney Park
Traffic Ops Shop
Railroad Club (leased)
PD Station East
Botanical Garden
0.000
0.050
0.100
0.150
0.200
0.250

3.3 Benchmarking

When benchmarking facilities, it is important to determine the total energy use of each facility during a pre-defined reference year. The sum of all the energy used (electricity and water) for each facility is the total quantity that must be reduced. Facilities can be sorted according to the amount of energy used, highest to lowest, to assist in prioritizing for energy use reductions. One way to benchmark energy consumption would be to compare the energy indexes, in kWh per square foot, for similar buildings within the same building use classification.

Benchmarking can also allow the energy performance of similar buildings to be compared on a uniform basis. One way to establish uniform benchmarking would be to compare the total Btu per square foot consumption of each facility with an established energy target for each facility. An energy target represents an energy efficiency goal based on factors such as optimized scheduling and cost effective energy-efficient retrofits. The differential between the actual energy consumption and the energy target for each facility represents the opportunity for energy savings. Properties within a portfolio can then be easily and uniformly compared based on the magnitude of their energy-saving potential.

Energy benchmarking and tracking will provide assistance to the City in the following ways:

- Prioritizing efforts by identifying buildings with the greatest savings potential.
- Documenting savings of the Energy Management Program.

Oakridge Labs Benchmarking:

The calculation of EUI (Energy Use Intensity) for the City's buildings which are major consumers and were modeled are shown below. EUI, expressed in kBtu/sf, is normalized for floor area, the most dominant influence on energy use in most buildings. Its use usually provides a good approximation of how a building's energy performance compares to others. Site EUI indicates the rate at which energy is used at your building (the point of use). Source EUI indicates the rate at which energy is used at the generation sources serving your building (the point of source) and indicates the societal energy penalty due to your building. The lower the EUI, the higher the rating is, indicating that the building is more efficient than other buildings. The greater the EUI, the lower the rating is, indicating that there is an opportunity for higher potential benefits from operational improvements.

To compare the buildings shown below to each other, and to determine the ranking of the buildings from having the most to the least opportunity for demand-side improvements from a financial perspective, please see the Site EUI ranking below.

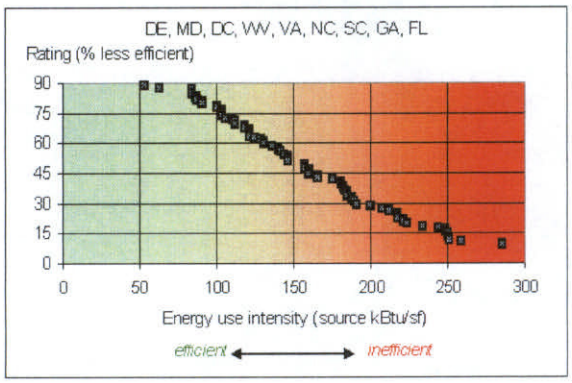
The Source EUI below has been applied to a Department of Energy statistical model from the Oak Ridge National Laboratory web site, http://eber.ed.ornl.gov/benchmark. The Department of Energy

has estimated energy use and cost reductions for building source EUI ratings (percentiles) in the table below. Please see the DOE Regional Source EUI Comparison graph below to rate your building in relation to the regional distribution of similar type buildings. (Note: The Source EUI includes the inefficiencies of electrical generation and transmission. A reduction in 'electrical' source EUI includes a benefit in terms of reduction of air pollution emissions and green house gases, and is thus an indicator of societal benefit.)

Office Buildings:

Based on 2010-2011 data

	Building	Annual Total Electrical Use (kWh)	Annual Total Non-Electrical Therms Use		Building Gross Floor Area (sq-ft)	Site EUI Rating	Source EUI: Annual Total Source Energy Use per Sq-Ft (kBtu/sf)	Rating (Regional Source EUI Comparison)
1a	City Hall	2,538,000			73,860	117	355	0.03
1b	City Hall - Building B	578,160			37,328	53	160	0.45
6	Public Works	249,479			4,400	193	586	0.01
12	Pkg & Bldg Maint Yard	50,398			14,937	12	35	0.90
24	Neighborhood Service	129,725			5,366	82	250	0.18
53a	Civic Center	2,211,360			100,000	75	229	0.13
57	Botanical Garden	183,720			9,894	63	192	0.30

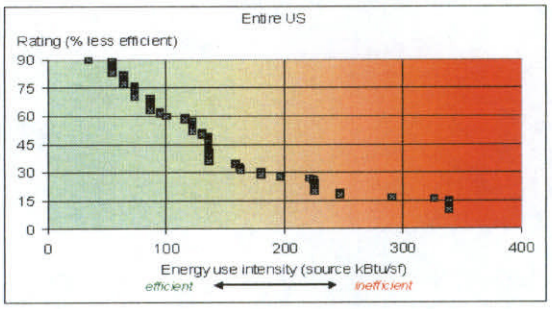


Source EUI	Est Regional Rating	Building
355	3%	City Hall
160	45%	City Hall - Building B
586	1%	Public Works
35	90%	Pkg & Bldg Maint Yard
235	18%	Neighborhood Service
284	13%	Civic Center
192	30%	Botanical Garden

Public Safety:

Based on 2010-2011 data

	Building	Annual Total Electrical Use (kWh)	Annual Total Non-Electrical Therms Use		Building Gross Floor Area (sq-ft)	Site EUI Rating	Source EUI: Annual Total Source Energy Use per Sq-Ft (kBtu/sf)	Rating (Regional Source EUI Comparison)
1c	Police Department	2,019,960			44,018	157	474	0.01
29	Police Station	672,240			21,451	107	324	0.14
52	PD Station East	34,760			5,166	23	70	0.68

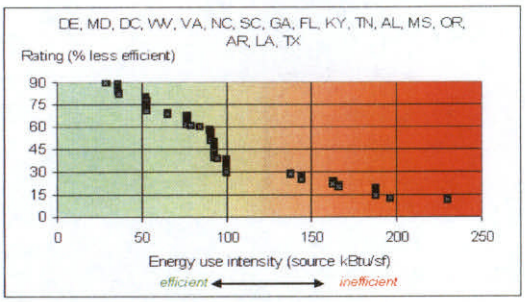


Source EUI	Est Regional Rating	Building
474	1%	Police Department
324	14%	Police Station
70	68%	PD Station East

Parks and Recreation:

Based on 2010-2011 data

	Building	Annual Total Electrical Use (kWh)	Annual Total Non-Electrical Therms Use		Building Gross Floor Area (sq-ft)	Site EUI Rating	Source EUI: Annual Total Source Energy Use per Sq-Ft (kBtu/sf)	Rating (Regional Source EUI Comparison)
18	Community Center	738180			31,345	80	243	0.07
33	PAL Building	8454			5,540	5	16	0.90



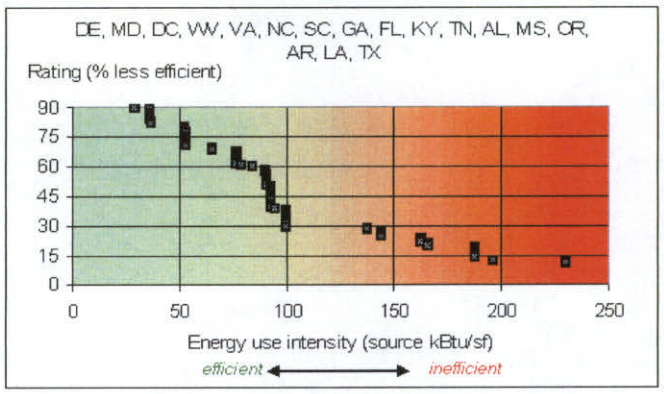
Source EUI	Est Regional Rating	Building
243	7%	Community Center
16	90%	PAL Building

3.4 Energy Baseline

In order to evaluate energy savings, an accurate baseline needs to be created. For the purposes of this audit, the electric and water baseline will be based on the utility analysis above. However, some exceptions will apply.

The summary of bills we received from FP&L for street lighting contains some inconsistencies. The billing data available covers metered and unmetered accounts, all of which are on separate rates. Furthermore, some of the accounts have ancillary systems, such as sprinkler pumps, tied to the same service. Therefore the street lighting total is inaccurate and needs to be further evaluated.

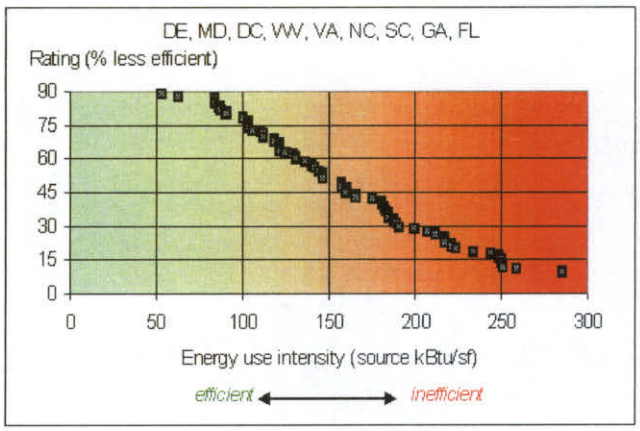
The Police Athletic Building (PAL) electric data we received from FP&L is unreliable as it indicates consumption well below achievable efficiencies and typical benchmarks. Therefore, Honeywell has developed an adjusted baseline for this building which was extrapolated from the Oakridge labs site benchmark EUIs for this type of building. Based on our field observations, we have assumed that this building is inefficient compared to average building type and have selected to use 180 kBtu/sqft in the Oakridge rating graph to estimate the Energy consumption for the building.



Annual Total Source Energy Use per Sq-Ft (kBtu/sf) for a average building : Source EUI	
http://eber.ed.ornl.gov/benchmark/	180
kBtu	997,200
kWh	96,447
kWh/sqft	17

The adjusted total baseline consumption of this building is estimated to be 96,447 kWh.

The Prineville RO Plant Main building consists of administrative offices and enclosed spaces which house treatment plant equipment. There is only one meter which measures building loads and plant loads and therefore no exact measurement of the Admin Building consumption. Therefore, Honeywell has developed an adjusted baseline for this building which was extrapolated from the Oakridge labs site benchmark EUIs for this type of building. Based on our field observations, we have assumed that this building is fairly inefficient compared to average building type and have selected to use 150 kBtu/sqft in the Oakridge rating graph to estimate the Energy consumption for the building.



Annual Total Source Energy Use per Sq-Ft (kBtu/sf) for a average building : Source EUI http://eber.ed.ornl.gov/benchmark/	150
kBtu	3,024,000
kWh	**292,474**
kWh/sqft	15

The adjusted total baseline consumption of this building is estimated to be 292,474 kWh.

The final baseline used will be based on the billing history, shown at the beginning of this section, for buildings which were not modeled with software for savings calculation. Buildings which were modeled were "calibrated" to the billing data with the exception of the PAL Building and Prineville Admin Building. Results of the calibration of the building models as compared to the utility bills are shown below. These models were used for the savings calculations and will be used going forward for any buildings in which M&V option D is utilized.

Modeling Baseline Summary			
Building	**Annual kWh (model)**	**Annual kWh (bills)**	**% differential**
City Hall Building A.	2,570,527	2,538,000	-1%
City Hall Building B	586,660	578,160	-1%
City Hall Building C (Police)	1,749,090	2,019,960	0%
City Hall Police Evidence Building	275,343		
Civic Center	2,826,778	2,825,169	0%
Community Center	742,542	738,180	-1%
Saints Golf Course Clubhouse	296,688	297,120	0%
Rosser Road Police Station	672,881	672,240	0%
Police Athletic Building	97,296	Data Unreliable, Oakridge Labs was used	N/A
Whispering Pines Gymnasium	191,015	193426	1%
Botanical Gardens	182,896	183,720	0%
Police Station East	34,882	37,877	8%
Prineville Plant Main Building.	293,257	Data Unreliable, Oakridge Labs was used	N/A

4.0 ENERGY CONSERVATION MEASURES (ECMS) EVALUATED

Honeywell evaluated numerous energy conservation measures (ECMs) for this project to provide the City with the best solutions that would save energy, operational cost and provide positive cash flow. Through this evaluation, Honeywell has developed a comprehensive plan for addressing the City's facility and operational needs. Honeywell engineers and project personnel worked closely with City personnel to evaluate and select which ECMs to recommend for implementation. Some ECMs, or portions of ECMs, were eliminated due to lack of cost effectiveness, and detailed information on the eliminated ECMs are not included in this report. The focus of this IGA report is on the group of ECMs recommended for implementation. It is our opinion that this grouping of ECMs will provide the City of Port St Lucie, Fl with the greatest return, while meeting the ROI expectations and addressing each facility and occupant needs.

The following ECMs are recommended to save energy and improve building performance.

ENERGY CONSERVATION MEASURES (ECMS) INVESTIGATED	Notes*
ECM 1: Generator Load Shedding	R
ECM 2: Building Lighting Retrofits and Controls	R
ECM 3: Sports Fields Lighting and Controls	CR
ECM 4: Vending Machine Misers	R
ECM 5: Water Conservation Measures	R
ECM 6: Building Envelope Improvements	R
ECM 7: City Hall Campus High Efficiency Chiller Plant	R
ECM 8: Chilled Water Pumping Systems Optimization	R
ECM 9: Packaged HVAC DX System Replacements	R
ECM 10: Leibert HVAC unit for City Hall MIS Server Room	CR
ECM 11: Air Handling Unit VAV Conversions (VFDs)	R
ECM 12: Variable Air Volume Kitchen Exhaust Systems	R
ECM 13: Building Automation and Controls	R
ECM 14: Automated Computer Power Management	R
ECM 15: Green Print Printing Cost Reduction	R
ECM 16: Street Lighting Retrofits	R
ECM 17: Energy Star Appliances	R

*** NOTES:**
R Recommended
CR Customer Requested Measure

Energy Conversation Measures Investigated

Proposed ECMs Matrix

Honeywell has developed the following ECM matrix which outlines which ECMs are recommended to be implemented per facility:

PROPOSED ECMs																		
Honeywell Site Number	Location Name	Lighting			Vending Misers	Sports Lighting	Water Conservation	Building Envelope Improvements	Mechanical/HVAC					Building Automation and Controls			Energy Star Appliances
		Interior	Controls/ Occ Sensors	Exterior					DX Replacements	VAV AHU Conversions	VAV Kitchen Hoods	Chilled Water Pumping	Chiller Plant	Upgrade Existing DDC/Automation	Programmable T-Stats & City-wide BMS Integration	Sequence Modifications	
1	New City Hall (sprinklered) Building A	X	X	X	X		X	X				X	X	X	X	Setbacks, DCV, Chilled Water Reset	
1	City Hall Building B	X	X		X		X	X				X	X	X		DCV, chilled water pressure reset	
1	Police Department Building C	X	X	X	X		X			X		X	X	X	X	DCV, chilled water pressure reset	
1	Police Evidence Bldg.	X		X			X								X		
2	Sportman's Park West	X	X	X			X										
3	Parks & Recreation																
4	Sportman's Park	X	X	X			X										
5	Lyngate Park	X	X	X	X		X										
6a	Public Works (Admin Bldg)	X	X				X								X		
6b	Public Works (Maintenance Bldg)	X		X	X										X		
6c	Public Works (Traffic Safety)	X	X	X													
6d	Public Works (Warehouse)	X	X	X													
6e	Public Works (Office Trailer)	X		X											X		
7	Swan Park	X	X	X		X	X										
8	Veterin's Park at Rivergate	X		X	X		X										
9	Rotary Park		X	X			X										
10	Jaycee Park	X	X	X			X								X		
11	Kiwanis Park						X										
12	Pkg & Bldg Maint Yard	X	X	X			X								X		
13	Sandhill Crane Park	X	X			X	X										
14	Whispering Pines Park	X	X	X	X	X	X	X	X						X	Demand Cont. Vent.	
15	Girl Scout Park						X										
16	McChesney Park	X	X	X	X		X										
17	Turtle Run Park	X					X										
18	Community Center	X	X		X		X	X	X					X	X	Demand Cont. Vent.	
19	Prineville Treatment Plant	X	X	X	X		X		X	X					X		
20	South Port Waste Water Treat	X		X											X		
21	North Port Waste Wtr Treat Pnt	X													X		
22	West Port Waste Wtr Treat Plant	X	X	X	X		X		X						X		
23	Midport WWTP	X		X											X		
24	Neighborhood Services (Office Bldg)	X		X											X		
24	Neighborhood Services (Dog Kennel)	X			X		X								X		
24	Neighborhood Services (Code Enforcement)	X	X	X											X		
25	Engineering Traffic Ops (Storage #1)	X													X		
26	Engineering Traffic Ops (Storage #2)	X													X		
26	Saints Golf Course	X	X	X			X	X			X				X		
27	James F. Anderson R O Plant	X	X	X			X		X						X		
28	Charles F. Ray Park						X										
29	Police Station - Rosser Rd	X	X		X		X	X									
30	City Center	X															
31	Jessica Clinton Park	X	X	X	X		X										
32	Railroad Club at the Old Fire Station	X		X			X								X		
33	Pal Building	X	X	X			X	X	X						X	Demand Control Ventilation	
34	Parks & Recreation (2226 Belvedere)			X					X						X		
35	Storage Garage (182 Thanksgiving)																
36	BLDG DEPT used by Utilities (2258 Best)	X	X	X			X								X		
37	BLDG DEPT used as Clinic (2266 Best)	X	X	X			X								X		
38	Buiding Const Office (2258 Belvedere)	X		X			X								X		
39	Engineering (821 SW Dwyer)	X					X								X		
40	Boys & Girls Club	X	X	X			X								X		
41	Utilities (915 Ogden)	X		X			X		X						X		X
42	Utilities (843 Ogden)	X		X			X		X						X		X
43	Utilities (957 Ogden)																
44	Police (162 Thanksgiving)																
45	Glades Wastewater	X	X	X			X								X		
46	Utilities (301 SE Greenway)																
47	Utilities (808 SE Prineville)																
48	Utilities (325 SE Greenway)	X					X								X		
49	Utilities (856 Prineville)																
50	Engineering (1441 Becker)																
51	Utilities (341 SE Greenway)	X		X			X								X		X
52	PD Station East	X		X			X								X		
53a	CivicCenter (Warehouse)	X		X													
53b	Civic Center	X	X	X	X			X			X	X		X		Reset	
53c	CivicCenter (Parking Garage)	X		X													
53d	Civic Center (Stage/Pavilion)			X													
53e	Civic Center (Outdoor Restrooms)	X															
54	Greenway)	X		X			X								X		X
55	Prineville Expansion Proj (961 Ogden)	X	X				X								X		X
56	Prineville Expansion Proj (950 Prineville)														X		
57	Botanical Garden (Nature Center)	X													X		
57	Botanical Garden (Maintenance Bldg)			X													
58	Prineville Expansion Proj (902 Prineville)																
59	Prineville Expansion Proj (974 Prineville)																
60	Engineering Home (1409 Barker)																
61	Veteran's Memorial Park			X			X										
62	Tom Hooper Park																
63	Traffic Ops Shop (1485 SW Biltmore)	X															

Proposed ECMs Matrix

Honeywell has developed the following ECM matrix which outlines which ECMs are recommended to be implemented per facility:

PROPOSED ECMs																		
Honeywell Site Number	Location Name	Lighting			Vending Misers	Sports Lighting	Water Conservation	Building Envelope Improvements	Mechanical/HVAC					Building Automation and Controls			Energy Star Appliances
		Interior	Controls/ Occ Sensors	Exterior					DX Replacements	VAV AHU Conversions	VAV Kitchen Hoods	Chilled Water Pumping	Chiller Plant	Upgrade Existing DDC/Automation	Programmable T-Stats & City-wide BMS Integration	Sequence Modifications	
1	New City Hall (sprinklered) Building A	X	X	X	X		X	X				X	X	X	X	Setbacks, DCV, Chilled Water Reset	
1	City Hall Building B	X	X		X		X	X				X	X	X		DCV, chilled water pressure reset	
1	Police Department Building C	X	X	X	X		X			X		X	X	X	X	DCV, chilled water pressure reset	
1	Police Evidence Bldg.	X		X			X								X		
2	Sportman's Park West	X	X	X			X										
3	Parks & Recreation																
4	Sportman's Park	X	X	X			X										
5	Lyngate Park	X	X	X	X		X								X		
6a	Public Works (Admin Bldg)	X	X				X								X		
6b	Public Works (Maintenance Bldg)	X		X	X												
6c	Public Works (Traffic Safety)	X	X	X													
6d	Public Works (Warehouse)	X	X	X											X		
6e	Public Works (Office Trailer)	X		X													
7	Swan Park	X	X	X		X	X										
8	Veteran's Park at Rivergate	X		X	X		X										
9	Rotary Park		X	X			X								X		
10	Jaycee Park	X	X	X			X										
11	Kiwanis Park						X								X		
12	Pkg & Bldg Maint Yard	X	X	X			X										
13	Sandhill Crane Park	X	X			X	X								X	Demand Cont. Vent.	
14	Whispering Pines Park	X	X	X	X	X	X	X	X								
15	Girl Scout Park						X										
16	McChesney Park	X	X	X	X		X										
17	Turtle Run Park	X					X							X	X	Demand Cont. Vent.	
18	Community Center	X	X		X		X	X	X						X		
19	Prineville Treatment Plant	X	X	X	X		X		X	X					X		
20	South Port Waste Water Treat	X		X											X		
21	North Port Waste Wtr Treat Pnt	X													X		
22	West Port Waste Wtr Treat Plant	X	X	X	X		X		X						X		
23	Midport WWTP	X		X											X		
24	Neighborhood Services (Office Bldg)	X		X											X		
24	Neighborhood Services (Dog Kennel)	X			X		X								X		
24	Neighborhood Services (Code Enforcement)	X	X	X											X		
25	Engineering Traffic Ops (Storage #1)	X													X		
25	Engineering Traffic Ops (Storage #2)	X									X				X		
26	Saints Golf Course	X	X	X			X	X							X		
27	James F. Anderson R 0 Plant	X	X	X			X		X								
28	Charles F. Ray Park						X										
29	Police Station - Rosser Rd	X	X		X		X	X									
30	City Center	X															
31	Jessica Clinton Park	X	X	X	X		X								X		
32	Railroad Club at the Old Fire Station	X		X			X								X		
33	Pal Building	X	X	X			X	X	X						X	Demand Control Ventilation	
34	Parks & Recreation (2226 Belvedere)			X					X								
35	Storage Garage (182 Thanksgiving)														X		
36	BLDG DEPT used by Utilities (2258 Best)	X	X	X			X								X		
37	BLDG DEPT used as Clinic (2266 Best)	X	X	X			X								X		
38	Buiding Const Office (2258 Belvedere)	X		X			X								X		
39	Engineering (821 SW Dwyer)	X					X								X		
40	Boys & Girls Club	X	X	X			X								X		X
41	Utilities (915 Ogden)	X		X			X		X						X		X
42	Utilities (943 Ogden)	X		X			X		X								
43	Utilities (957 Ogden)																
44	Police (162 Thanksgiving)														X		
45	Glades Wastewater	X	X	X			X										
46	Utilities (301 SE Greenway)																
47	Utilities (998 SE Prineville)						X								X		
48	Utilities (325 SE Greenway)	X															
49	Utilities (856 Prineville)																
50	Engineering (1441 Becker)														X		X
51	Utilities (341 SE Greenway)	X		X			X								X		
52	PD Station East	X		X			X										
53a	CivicCenter (Warehouse)	X		X										X		Reset	
53b	Civic Center	X	X	X	X			X			X	X					
53c	CivicCenter (Parking Garage)	X		X													
53d	Civic Center (Stage/Pavillion)			X													
53e	Civic Center (Outdoor Restrooms)	X													X		X
54	Greenway)	X		X			X								X		X
55	PrinnevIHe Expansion Proj (961 Ogden)	X	X				X								X		
56	Prineville Expansion Proj (950 Prineville)														X		
57	Botanical Garden (Nature Center)	X															
57	Botanical Garden (Maintenance Bldg)			X													
58	Prineville Expansion Proj (902 Prineville)																
59	Prineville Expansion Proj (974 Prineville)																
60	Engineering Home (1409 Barker)																
61	Veteran's Memorial Park			X			X										
62	Tom Hooper Park																
63	Traffic Ops Shop (1485 SW Biltmore)	X															

4.1 ECM 1: Generator Load Shedding

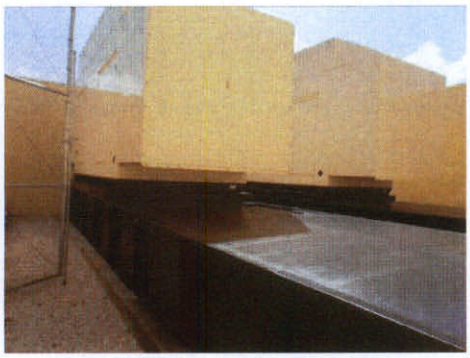
Objective

The objective of this measure is to reduce demand charges by utilizing existing diesel emergency generators to load shed on event calls from Florida Power and Light. The following will be addressed with this measure:

1. Generate demand charge savings by utilizing existing generators to fully power the building on a call from FP&L.
2. Installing electrical wiring from new FP&L controller to generator.
3. Renegotiate a demand load shedding rate/incentive structure with FP&L.

Existing Conditions

There are currently five buildings which have existing emergency generators which are of sufficient size to fully carry the building load without power from the electrical grid. FP&L offers an automatic load curtailment demand credit rider which can save $4.68/kW each billing cycle. FP&L restricts this rate to sites that have a minimum monthly demand of 200 kW. Honeywell has surveyed these buildings and determined that three buildings are good candidates for shifting to the load curtailment rider. These buildings are the Police Department Headquarters, the Civic Center and the Prineville Lime Plant. Honeywell has received history of curtailment events and durations from FP&L over the last ten years. The typical average number of events is two per year at 4 hours each event.



Civic Center Generators

Recommendations/Scope of Work

Honeywell is recommending that the three buildings noted above be shifted to FP&L's load curtailment rate rider. In order to achieve this, FP&L will provide an automatic controller which must have electrical power and controls wiring ran from the transformer to the FP&L controller and the generator.

Interactions with Other Measures

Interactions with other measures are not anticipated with this measure.

Conclusions and Recommendations

Honeywell is recommending that the existing generators for the Police Headquarters Building, Civic Center and Prineville Lime Plant be utilized to shift onto FP&Ls load curtailment rider rate credit.

4.2 ECM 2: Building Lighting and Controls

Objective

The objective of this measure is to reduce the lighting electrical consumption and demand by retrofitting or replacing existing lighting with more efficient lighting, adding lighting controls and occupancy sensor controls. The following will be addressed on this measure:

1. Generate energy savings by installing high-efficiency ballasts and energy saving lamps
2. Generate energy savings in HVAC equipment consumption due to reduction in internal thermal load.
3. Generate additional energy savings by decreasing light levels in areas that are over-lit.
4. Install occupancy control systems, where possible and practical, to generate energy savings
5. Optimize the scheduling of the lighting system by installing a lighting control system that will allow City staff to appropriately schedule lighting usage based on area type.
6. Install daylight harvesting controls.

Existing Conditions

Honeywell has conducted a thorough room-by-room, building-by-building site survey of all the lighting systems which has been included in Appendix 2. During the site walkthroughs it was found that a large portion of the City's building lighting systems are composed of efficient 32 Watt T-8 fluorescent lighting fixtures and compact fluorescent fixtures. However, inefficient 40 Watt T-12s, metal halide, incandescents, and high pressure sodium fixtures still exist. The lighting for exterior areas is mostly composed of High Pressure Sodium, Metal Halide and Compact Flourescent technologies used in poles and wall mounts fixtures.

Lighting typically represents around 11% of total consumption. Currently, on/off control is manual and automated control devices, such as occupancy sensors, are not used, except in very few areas, resulting in energy waste due to areas unoccupied with lights on.

Honeywell met with City personnel to establish baseline operating information, building overviews, and general walkthrough access support. The information provided by the facility personnel, as well as the observations made during the walkthrough, spot amperage measurements to lighting fixtures, zones light levels (foot candles) and data logging of on/off vs. occupied hours, are the basis for the following ECM.

Recommendations/Scope of Work

Older, inefficient light fixtures will be replaced with new 28 Watt, T8 lamps and high efficiency ballasts. Existing 32 Watt T8 fixtures will also be retrofitted with 28 Watt T8s. In some instances, the existing lamps and ballasts inside the fixture will be replaced with new T8 lamps, Digital Multiple Control Input ballasts, and a high-reflectivity reflector. The reflector kit will use new raceways and sockets to re-position the T8 lamps below each reflector cavity to improve fixture efficiency. With this reflector kit, the fixtures will be de-lamped and standardized to two T8 lamps to capture additional energy savings and maintaining the required light levels. The existing fixture housing will remain in place and will not be relocated or replaced. The existing lens (i.e. on recessed troffers) will not be replaced.

For exterior lighting, all the High Pressure Sodium and Metal Halide fixtures will be replace with induction fixtures. This will include cobra head fixtures, flood fixtures, shoe box, etc. Also, all wall mounts fixtures with High Pressure Sodium or Metal Halide lamps will be replace with a new wall mount fixture using T8 fluorescents lamps.

Several existing incandescent lamps will be replaced with compact fluorescent fixtures.

Three types of lighting controls have proven useful for energy conservation: building scheduling, room occupancy and day-lighting. Lighting controls can provide lighting energy savings for both upgraded and existing lighting fixtures that are not upgraded.

Building scheduling controls automatically adjust lighting levels based on the pre-determined building use, but over-rides are allowed for early/late workers. Room occupancy controls use various sensor technologies or a combination of sensors to turn on room lights when the room is occupied, and to turn off lights when the room becomes unoccupied. Day-lighting sensors are applied to room and hallways that have large window areas. When the ambient daylight entering the windows increases the space illumination sufficiently, the room lights are reduced or turned off. Occupancy sensors will be configured to operate as automatic-on / automatic-off occupancy sensors. In some areas the time delay of the occupancy sensors will be variable during the day.

There is adequate outside natural light entering the perimeter windows to justify light harvesting. Lamps located at the building perimeters will be considered for dimming opportunities. High efficiency dimming ballasts will be used where dimming is necessary or to be used in conjunction with daylight harvesting technology. This proposed design will maintain light levels in these areas and it will also create additional energy savings, while maintaining dimming capability. Honeywell is recommending that photocell controls be installed in certain perimeter building spaces with windows and adequate ambient light. When the photocell detects that the ambient light levels have reached a pre-determined level, the unnecessary light fixtures in the area will be dimmed or turned off to create additional energy savings in these areas. Operational savings will also be realized through the use of this technology.

Life Expectancy

Luminaries housings have an unlimited lifespan; however the lamps and ballasts have a limited lifespan in accordance to the burning hours of the lighting fixture. In the case of the City of Port St Lucie, and in accordance to their normal use the expectancy life for the fluorescent lamps should be six (6) years and 30 years for the ballast and the sensors. For the induction lamps of the exterior poles the life expectancy should be 22 years and 11 years for the induction generator.

Interactions with Other Measures

As a result of implementing this measure, the lighting load on the HVAC system will decrease; therefore affecting the energy savings on the mechanical systems measures. This interaction is accounted for in the savings calculations for this measure.

Operation and Maintenance Savings

Operational and maintenance savings are related to the reduction in cost due to performing a relamping in a longer period than for the existing lamps. The life expectancy of the proposed bulbs is longer than for the existing lamps. With the new fluorescent lamps the relamping period extends to six (6) years instead of three (3) years, and for the induction lamps versus HID lamps the relamping period extends from 4 years to 22 years. These savings take into consideration the cost of the lamp. The lamp burning hours for the new fluorescent lamps are 30,000 burning hours while the existing lamps have a useful service life of 20,000 service hours. For the induction lamps the burning hours are 100,000 hours versus 15,000 burning hours of the High Intensity Discharge lamps.

Conclusions and Recommendations

In conclusion, by performing a lighting retrofit and installing lighting controls systems, the City will not only benefit from significant energy savings, but will also benefit from a much more efficient system that provides comfort to both staff and visitors.

4.3 ECM 3: Sports Lighting and Controls

Objective

The objective of this ECM is to reduce energy consumption of athletic fields' lighting by retrofitting existing lights with new high efficiency technologies as well as installing a lighting controls system. Operational savings will also be achieved due to longer lamp life of the new technologies. It is also the intent of this measure to increase light levels on athletic fields to meet minimum Little League and IES standards. The following will be addressed with this measure:

1. Generate energy savings by installing high-efficiency ballasts and energy saving lamps.
2. Generate additional energy savings through the use of lighting controls.
3. Extend lamp life through use of lighting control technology and newer lamps.
4. Address fields which do not have adequate light levels.

Existing Conditions

As part of the audit Honeywell evaluated all of the City Parks' athletic field lighting systems. These parks sports lighting systems range from new MUSCO technology with controls, to outdated inefficient fixtures with manual control. A disparity also exists between existing light levels at some parks and minimum IES, little league and other outdoor sports lighting standards. Existing light level measurements were taken as part of the audit and can be found in Appendix 2.

Recommendations/Scope of Work

Honeywell is recommending upgrades to the following parks with MUSCO sports lighting systems:

- Whispering Pines Park
- Sandhill Crane Park
- Swan Park

These three parks provide the best overall value and payback based on energy savings (less than 20 years). Not only does this payback meet the City's goals but these parks are also in need of retrofits in order to meet minimum sports lighting standards.

Jessica Clinton and McChesney would be secondary recommended projects as the energy payback for these parks is 33 and 23 years respectively.

A retrofit base on energy savings only is not recommended for Sportsmans Park due to the fact that this park has been grandfathered into a the Outdoor Lighting OL-1 rate from FP&L which is based on consumption only, excluding demand, which greatly reduces the energy cost savings potential.

The MUSCO sports lighting retrofits will be provided with a 25 year guarantee on maintaining minimum light levels. The guarantee also includes lamp changeouts over the 25 year period. This will provide a large amount of operational savings for the City.

Life Expectancy

The life expectancy of the new lamps is anticipated to be 10 years while the life of the controls and luminaires will be 25 years. However, as part of the scope of work and MUSCO guarantee, lamp changeouts over the 25 year contract period will be included in the contract price.

Interactions with Other Measures

Interactions with other measures are not anticipated with this measure.

Conclusions and Recommendations

Honeywell is recommending that the existing inefficient lighting fixtures and systems for the Parks noted above be replaced with new MUSCO systems.

4.4 ECM 4: Vending Misers

The objective of this ECM is to reduce electrical energy consumption by vending machines which are operating 24 hours a day, seven days a week while the buildings are not operating.

Typically, vending machines including cooled beverage dispensers and non-cooled, but lighted snack machines operate 24 hours a day, seven days a week even though a building is not occupied. The vending miser hardware which consists of an integrated plug/controller and occupancy sensor has the capability to turn lights off when no occupants are present as well as reduce cooling consumption during off hours without spoiling perishable items. This simple and easy to install ECM can save thousands per year with a rapid payback.

Vending Machines at City Hall

Vending Misers

4.5 ECM 5: Water Conservation

Objective

The objective of this measure is to reduce water consumption by replacing or tuning the existing water fixtures on staff, public and visitor bathrooms. High flow water fixtures will be replaced with low flow fixtures to achieve savings. Existing low flow fixtures will be tuned for optimal water conservation. The following will be addressed on this measure:

1. Existing 3.5 gallons per flush toilets will be replaced with 1.6 gallons per flush fixtures.
2. Existing 1.6 gallons per flush toilets will be tuned for optimal flush volume.
3. Existing 1 gallon per flush urinals will be tuned for optimal flush volume.
4. Existing standard-flow sink faucets in staff and public bathrooms will be retrofit to 0.5 gallons.
5. Existing standard-flow showerheads will be retrofit to 1.5 gallons per minute fixture.

Existing Conditions

Honeywell conducted a survey of the public, staff and visitor bathrooms and found that many of the existing toilets have been retrofitted to 1.6 gallon per flush over the past 5 years. However some high-flow toilet fixtures still exist. The majority of the existing urinals are already low flow at 1.0 gallons per flush. Existing sink faucets and showerheads are a mixture of high and low flow. Since these low flow toilets have been installed over the past five years, an opportunity exists to "tune" the fixtures and valves to assure optimal low flow and water savings.

Recommendations/Scope of Work

Honeywell is proposing to replace all high flow water fixtures with new low flow fixtures.

Any remaining existing 3.5 gallons per flush toilets will be replaced with new 1.6 gallons per flush toilets. Toilets will be replaced in kind, that is flushometer type toilets will be replaced with flushometer type toilets and tank type toilets will be replaced with tank toilets. Existing 1 gallon per flush urinals will be tuned for optimal flush performance.

High flow sink faucets in staff, public, and visitor bathrooms will be retrofit with new, tamper resistant, 0.5 gallons per minute and 1.0 gallons per minute laminar faucet flow restrictors. High flow showerheads in staff and visitor bathrooms will be retrofit with new, 1.5 gallons per minute massage-type showerheads. Those showers that have an ADA hand-held showerhead will be replaced with 1.5 gallons per minute massage-type, hand-held ADA showerhead.

Any and all ADA bathroom partitions, grab bars, extensions, sink faucet actuators, piping insulation, or other ADA requirements are hereby excluded from this proposal. Honeywell does not take responsibility for any existing or future ADA compliance issues. Honeywell anticipates a "like-for-like" retrofit. If an existing toilet is of ADA height, it will be replaced with a low-flow, ADA-height toilet; standard toilets will be replaced with low-flow, standard-height toilets.

Honeywell will calibrate the fixture water flows to match the water system pressures and drain piping designs. These low-flow fixtures will operate more effectively, and the vast majority of existing standard and high flow fixtures are viable candidates for efficiency improvement.

When Honeywell conducted the detailed site audit, we will encountered a variety of flow rates and performance characteristics. This variety is due in large part to material degradation. The materials that are most affected are those manufactured from natural rubbers. American Water Works Association has concluded that chloramines in water, recently introduced as part of water treatment processes, have greatly increased the deterioration of natural rubber plumbing components. Not only does material deterioration contribute to flow and performance variance, but it also creates leaks. Our past experience has shown numerous leaks associated with sinks and flushometers. Ultimately, the degradation of plumbing parts will compromise the performance of plumbing fixtures, induce unnecessary water use, and increase the burden of maintenance for staff.

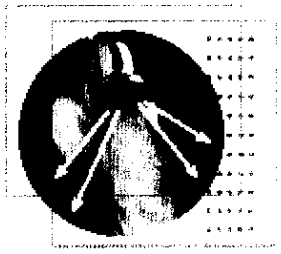
Fixture Specifics

Toilets and Urinals

Occupants of the buildings make use of many toilets, urinals and sinks. Through application of engineering and experience, we usually determine that these fixtures flush (on average) more flow than is necessary.

Sink Faucets

At the buildings, there are many lavatory sink faucets, along with faucets used for "general use" purposes. The use of standard flow plumbing fixtures wastes water and energy required to heat domestic hot water.



The sink faucets use flow control devices called "aerators."

These aerators are pressure dependent devices, meaning flow rate varies directly with incoming pressure. Moreover, the construction of these devices often contributes to poor performance over time. Poorly constructed aerators attract contaminants (e.g. sediments) in water. As sediments accumulate, flow through area is restricted and water flow decreases. Decreased flow translates into decreased performance, thus negatively influencing occupant satisfaction.

Flushometers (Toilets and Urinals)

Flushometer valves are common devices that meter the amount of water that flows through toilets and urinals. Honeywell proposes a scope of work that creates the proper balance of financial performance and operational need. We describe our proposed scope of work below.

Honeywell proposes to change the existing diaphragm-style flushometers to state-of-the-art piston technology. A change to piston-style flushometers not only represents a true domestic plumbing system upgrade, but also represents a marked improvement in performance when compared with traditional diaphragm style flushometers. Under a wide range of supply water pressure, piston valves assure a consistently strong flushing action, creating the higher flow rates needed for consistent solids evacuation. As we change valves, we will "tune" each flushometer, variably adjusting water flow to meet the requirements of the individual fixture (each fixture receives individual attention).

In the process of applying new valves, we provide a new "baseline" of maintenance. Piston technology does not use rubber diaphragms which are a significant maintenance issue for replacement. In addition, the installation will replace all internal rubber gaskets. Moreover, we only use components that are designed and tested to resist the rigors of substantial use, as well as the effects of chloramines and sediments in water. This approach translates into long life and significantly reduced maintenance for years to come.

Finally, we will modify the fixture itself to optimize the flush sequence and eliminate unnecessary consumption, thus creating savings. Because each fixture will perform per design intent, this improvement is essentially invisible to the end user.

Replacement of the flushometer assemblies provides many benefits, including flush-to-flush consistency, long term sustainability, sediment resistance, long life handles, and new valves.

Replacement of Porcelain Fixtures

In addition to replacing the flushometer valves, Honeywell recommends replacement of the existing porcelain fixtures with new, high efficiency toilets and urinals. The toilets and urinals we propose to install are engineered for optimal performance and hygiene in the most demanding application environments, at water consumption levels below the baseline established by the Energy Policy Act of 1992. Specifically, we propose a flushometer toilet that will deliver the necessary line carry and hygiene with only 1.6 gallons per flush (GPF). Additionally, we propose a hands-free (i.e. automatic flush) flushometer urinal that will provide necessary water change and hygiene at 0.125 gallons per flush (i.e. one pint per flush).

Sinks Aerators

Through application of new technology, we believe we can significantly reduce flow in sinks without compromising operational performance.

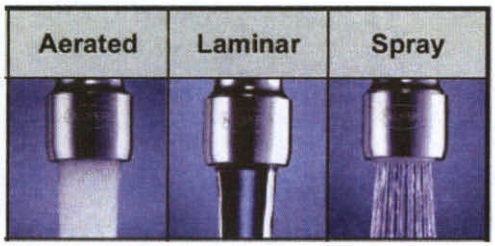
As mentioned above, the sink faucets currently employ the use of flow control devices called "aerators." These aerators are pressure dependent devices, meaning flow rate varies directly with incoming pressure. Moreover, the construction of these devices often contributes to poor performance over time. Poorly constructed aerators attract contaminants (e.g. sediments) in water. As sediments accumulate, flow through area is restricted and water flow decreases. Decreased flow translates into decreased performance, thus negatively influencing customer satisfaction.

In contrast, we propose to install components that are of robust construction. Moreover, these devices are pressure independent; they provide end-users with the same level performance at all pressures between 20 and 80 psi. Pressure variations within the facility would be transparent to the end-users. Finally, as we apply our flow control technology, we will modify all faucets (using various adapters) to use one size device (55/64" female); no longer do you need to stock different aerators to fit your different faucets - one size will now fit all. Then, to protect your investment, we will apply tamper-resistant technology; only you can remove the devices. Benefits of our proposed approach include:

- Pressure Independent Performance. End-users will enjoy the same level of performance regardless of incoming pressure (flow rate is constant at pressures between 40 and 120 psi).
- Invisible to End-Users. Because we carefully apply the appropriate flow rate and pattern to each sink (based upon sink application), end-users will not realize a decline in performance.
- Long-Life. Because our flow components are robust in their construction, these devices will serve you well for years to come. Furthermore, we protect the longevity of these products by applying tamper-resistant technology.
- One Size Fits All. No longer will you need to stock different aerators for the various faucets within your facility. Rather, because we adapt all faucets to accommodate the same-size flow control device, you need only one size.

Sink Aerator Post-Retrofit Sink Flows and Patterns

Proposed Post-Retrofit Sink Flows and Patterns			
		Flow and Pattern	
Sink Application	Application Example	Flow Rate (gpm)	Flow Pattern
Lavatory Sink	Public Restroom	0.5	Spray
General Use Sink	Break Rooms / Kitchens	1.5	Aerated



Recommendations

We recommend a turn-key upgrade of existing buildings infrastructure. Our recommended approach would eliminate only unnecessary water consumption by "tuning" (with Variable Flow Technology) each domestic water fixture to the "right" amount of water, thereby creating savings. Because each fixture would receive individual (engineering) attention, we provide assurances that all infrastructure will perform at (or better than) design levels. The result of these efforts would be a reduction in domestic water and sewer use, without a corresponding reduction in operational performance.

Life Expectancy

Water closets, water faucets, urinals and showers have an unlimited lifespan, but the components inside each fixture do require some maintenance. The seat and internal working parts usually work about ten (10) to fifteen (15) years.

Interaction with Other Measures

No interactions between measures are anticipated as a result of implementing the domestic water retrofit.

Conclusions and Recommendations

In conclusion, by replacing high flow water fixtures with low flow fixtures and tuning existing low flow fixtures, the City will benefit from a significant amount of water savings.

4.6 ECM 6: Building Envelope Improvements

Objective

The objective of this ECM is to reduce energy consumption required to cool the building due to solar gain through the roof and windows, as well as through building envelope infiltration. A building's door sweeps, window frames and other penetrations allow the infiltration of humid unconditioned air into the building as the sealing becomes degraded over time. This not only causes comfort issues, but increases energy consumption as the air is eventually circulated back to the HVAC equipment.

Existing Conditions

The existing exterior envelopes of many of the City's larger buildings were observed to have numerous instances of unsealed penetrations and damaged window frames and door sweeps. These conditions allow the infiltration of humid unconditioned air into the building. This not only causes comfort issues, but increases energy consumption as the air is eventually circulated back to the HVAC equipment.

The existing roofs for the majority of the major buildings appeared to be in fair condition. No areas were noted to be severely worn and significant leaks were not observed. The existing windows at the majority of the buildings are also double paned tinted windows.

Recommendations/Scope of Work

Honeywell is proposing to caulk and seal all building penetrations, building envelope, windows, roof wall joints, and replace door sweeps and weather stripping to tighten the buildings and reduce energy loss through the building envelopes. We are recommending this measure for the following buildings:

- Civic Center
- City Hall A
- City Hall B
- Minski Gymnasium
- Community Center
- Saints Golf Clubhouse
- Rosser PD
- PAL Building

A complete assessment and detailed scope of work is included in Appendix 1.

Life Expectancy

The life expectancy for materials used in this measure range from 5 to 7 years.

Interactions with Other Measures

Interactions between the building envelope and HVAC improvements will take place. Buildings where this measure is implemented were modeled using software to take into account the interactions between measures.

Conclusions and Recommendations

Historically, building envelope weatherization can save on average 10% to 12% of annual energy consumption. Paybacks for this measure are shown to be less than five years and are recommended to be implemented.

4.7 ECM 7: City Hall Campus Chiller Plant

Objective

The objective of this ECM is to reduce energy consumption and cost required to cool the three buildings at the City Hall complex.

Existing Conditions

Each of the three large buildings at the City Hall complex has its own dedicated chilled water central plant. Each plant consists of (2) air cooled chillers and chilled water pumps which distribute the chilled water to the buildings air handling unit cooling coils.

The City Hall Building (A) utilizes (2) Trane 125 ton chillers. The chillers were installed in 1999 and have about 3 to 5 years of remaining useful life. The chillers are inefficient and have degraded over time. A full efficiency test report, performed by Honeywell, is included in Appendix 4.

The City Hall Engineering Building (B) utilizes (2) Trane 70 ton chillers which were installed in 2005.

The City Hall Police Building (C) utilizes (2) Trane chillers. One chiller is 80 tons and is in fair condition. The second chiller is 60 tons and is at the end of its useful life and in need of major repair or replacement.

Recommendations/Scope of Work

Honeywell has studied three options for improvements/retrofits to the three buildings' central plants:

Option ECM 7A: Provide a campus ice storage system for all three buildings

Option ECM 7B: Provide a campus high efficiency water cooled chiller plant.

Option ECM 7C: Provide an ice plant for only Buildings A and B and replace Building C chillers with newer more efficient air cooled chillers.

A summary of costs and savings for each option is located in section 9.1.

Option 7A:

This option would consist of a campus ice storage plant utilizing (2) 250 ton water cooled chillers and cooling towers and an ice tank farm centrally located at the current Building B air cooled chiller pad. New underground chilled water piping would be routed from the central campus to Buildings A and C. The existing building pumps would be utilized as secondary pumps. The older, and inefficient chillers at Buildings A and C would be removed. The newer chiller at building C would remain as backup. The two existing air cooled chillers for Building B would be removed and be able to be stored and rigged back in the event of an emergency. Emergency taps would be provided at each building.

Honeywell studied this option of a centralized plant in order to provide the benefits of economies of scale, and utilizing a central plant. With a larger plant, water cooled chillers become more economically feasible. They are also more efficient than the air cooled machines which would be proposed in option C. The other benefits of this centralized plant are that it allows for redundancy between buildings and the remaining chillers, and that it will save the City's required expense to replace (3) of the existing chillers which need to be replaced over the next couple years. This solution also has a 20 to 30 year life expectancy.

The downside to this option is that it did not provide the cost savings that were anticipated to make it as economically attractive as options 7B and 7C. This is largely due to the fact that the Police Building C operates 24 hours a day, 7 days a week. Due to this, one of the chillers would need to run 24/7 in order to meet the load. Since the chillers are less efficient at making ice than water, there is an energy penalty during these hours.

Option 7B:

This option would consist of a campus chilled water plant utilizing (2) 250 ton high efficiency water cooled chillers and cooling towers centrally located at the current Building B air cooled chiller pad. New underground chilled water piping would be routed from the central campus to Buildings A and C. The existing building pumps would be utilized as secondary pumps. The older, and inefficient chillers at Buildings A and C would be removed. The newer chiller at building C would remain as backup. The two existing air cooled chillers for Building B would be removed and be able to be stored and rigged back in the event of an emergency. Emergency taps would be provided at each building.

Honeywell studied this option, similarly to option 7A, in order to provide the benefits of economies of scale, and utilizing a central plant. With a larger plant, water cooled chillers become more economically feasible. They are also more efficient than the air cooled machines which would be proposed in option C. This centralized plant option also provides the benefit of redundancy between buildings and the remaining chillers, and that it will save the City's required expense to replace (3) of the existing chillers which need to be replaced over the next couple years. This solution also has a 20 to 30 year life expectancy.

Option 7B is the option which Honeywell is recommending to be included in the potential project. The superior energy efficiency rating for the centralized high efficiency chillers provides a substantial energy reduction and cost savings. It provides the best savings and value as compared to the other three options as it has a long expected service life and reasonable payback.

Option 7C:

This option would consist of an ice plant for Building A only. The ice plant would utilize (2) new air cooled chillers capable of producing ice. The chillers at Building C would also be replaced with newer and more efficient like sized air cooled chillers.

Honeywell studied this option in order to try to provide the City with a viable ice plant option. The payback of this ECM is slightly less than Option 7A, however it still does not produce enough savings to make it economically viable. It also does not provide as much cost and energy savings over a 30 year life cycle as option 7B.

Life Expectancy

The life expectancy for the equipment used in this measure is 20 to 30 years for options ECM 7A and 7B and 15 years for option ECM 7C .

Interaction with Other Measures

Interactions between the Campus Plant and Ice storage measures and the Building Automation Controls Measures will take place.

Conclusions and Recommendations

Honeywell is recommending that the City move forward with the Campus High Efficiency Chiller Plant (Option ECM 7B) measure. We believe that this option provides the best value and the most energy savings. Also, as compared to an ice plant, this is the only option which saves energy rather than just shift the energy production to a less expensive time of use rate.

4.8 ECM 8: Chilled Water Pumping Optimization

Objective

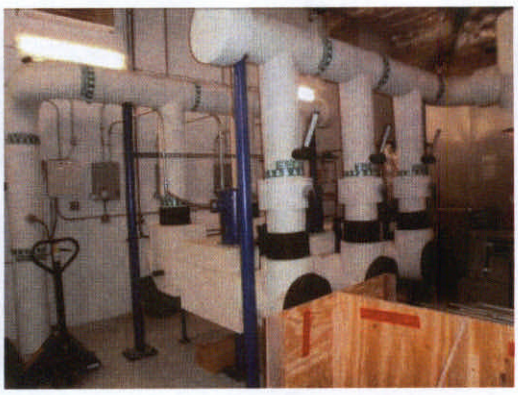
The objective of this measure is to reduce energy consumption by existing chilled water pumping systems. Piping, pumps and control strategies that inhibit optimal chilled water pumping operation and efficiency will be improved. To achieve the goal of optimal efficiency, the following is addressed in this measure:

1. Convert existing chilled water pumping from Constant Volume Primary/Constant Volume Secondary to Variable Volume Primary/Variable Volume Secondary.
2. Increase the operating delta temperature between the chilled water supply and chilled water return temperatures.
3. Convert all 3-way pressure dependent controls valves at air handling units and fan-coil unit cooling coils to 2-way control valves.
4. Replace all pump motors which are standard efficiency with high efficiency motors and install variable frequency drives.

Existing Conditions

Currently the three City Hall Building's A, B and C as well as the Civic Center cooling coils utilize a 3-way control valves. The central cooling plants operate with constant volume primary and constant volume secondary pumping of chilled water throughout the buildings. In this arrangement, as the cooling load required by each air handling unit or fan-coil unit decreases, the 3-way valves will normally bypass flow around the coil. Even though less water is required, the same amount of pumping energy is being consumed because of the constant volume with 3-way valve arrangement. Since the pumps are running continuously regardless of load a low delta T issue exists at the majority of the chilled water loops.

Typical 3-way valve at AHU



Constant Volume Pumps without VFDs

Recommendations/Scope of Work

Honeywell is proposing to convert all existing 3-way chilled water valves to 2-way chilled water valves. The 2-way valves will close as the call for cooling at each air handling unit decreases. This allows for less pumping energy to be used by the pumps as only the amount of water required is pumped throughout the building loops. In order to adjust to this variable flow, variable frequency drives will be installed on all of the pumps. A chilled water bypass at the plant will also be added to ensure to maintain minimum flow requirements at the chiller.

All of the existing pumps utilize standard efficiency motors. All motors will be replaced with high efficiency motors compatible to operate with variable frequency drives. This will contribute further savings due to increased motor efficiencies.

Life Expectancy

The expected useful life of all the equipment installed as part of this measure is approximately twenty (20) years.

Interactions with Other Measures

The chilled water pumping optimization measure will have some interactions with other measures proposed. Interactions with lighting retrofits and building automation system, are expected due to the reduced cooling load and pumping requirements projected in those measures.

Conclusions and Recommendations

In conclusion, the chilled water pumping optimization measure will optimize the operation of the chilled water pumping systems. This measure will provide significant savings and is a significant portion of the overall recommended mechanical project.

4.9 ECM 9: Packaged DX System Replacements

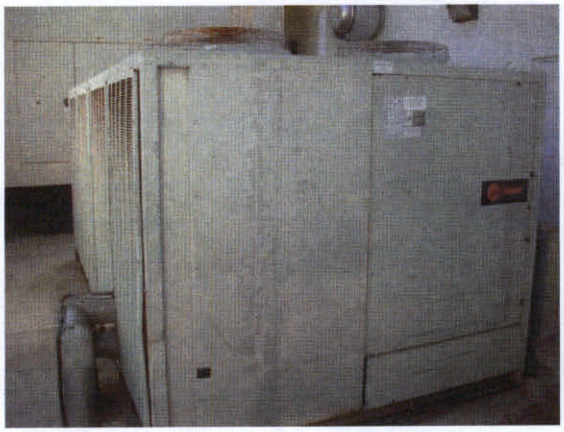
Objective

The objective of this measure is to improve operating efficiencies of existing packaged Direct Expansion (DX) rooftop units and split systems. To achieve the goal of optimal efficiency and minimize energy consumption all existing systems with SEER ratings of 10 or less will be replaced with minimum 15 SEER units.

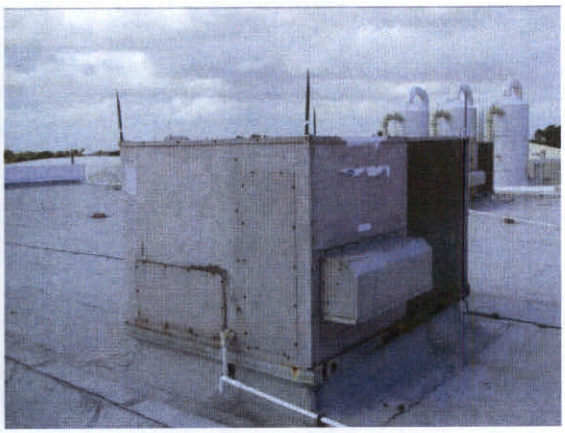
Existing Conditions

Currently there are over 80 packaged DX systems serving most of the City's buildings. A significant portion of these units are either old and at the end of their useful life and/or inefficient. Some of these units have been replaced within the past 5 years, still many are over 10 – 15 years old, are nearing the end of their useful life and have poor operating efficiencies.

Currently, all of the packaged equipment is controlled locally by either programmable thermostats or non programmable thermostats.



Old Inefficient Split System Condenser



Old Inefficient Rooftop Unit

Recommendations/Scope of Work

Honeywell is proposing to replace all packaged DX systems which have a SEER rating of 10 or less with minimum 15 SEER units. A total of over 300 tons of cooling provided by packaged DX equipment is being recommended for replacement. Improvement in operating efficiencies will provide a good payback and units which are nearing the end of their useful life will be replaced.

Life Expectancy

The expected useful life of all the equipment installed as part of this measure is approximately fifteen (15) years.

Interactions with Other Measures

The packaged DX systems replacement measures will not have significant interactions with other measures proposed.

Conclusions and Recommendations

In conclusion, the packaged DX systems improvement project will reduce energy consumption by replacing remaining older inefficient systems as well as by utilizing programmable thermostats to set back units during unoccupied hours. .

4.10 ECM 10: Dedicated AC for City Hall MIS Server Room

Objective

The objective of this ECM is to reduce energy consumption in the City Hall building by installing a dedicated computer unit for the MIS server room which will allow the rest of the building to be set back during unoccupied hours. The following will be addressed with this measure:

1. A new dedicated Leibert computer room unit of adequate capacity will be installed for the MIS server room.

Existing Conditions

The MIS server room in City Hall has grown to a point where the original dedicated computer room HVAC unit cannot meet the cooling requirements alone. Therefore, the existing building HVAC systems must run 24 hours a day, 7 days a week to maintain a small fraction of the building. This is an extensive amount of cooling energy being consumed.

Recommendations/Scope of Work

Honeywell is recommending to install a new dedicated Leibert unit in the MIS room in addition to the existing unit which will provide adequate cooling so that the building HVAC is not needed. With this capacity in place, the rest of the building can be setback at night and weekends which will result in significant savings.

Interactions with Other Measures

Interactions with other measures are not anticipated with this measure.

Conclusions and Recommendations

Honeywell is recommending that a dedicated Leibert unit be added for the City Hall A MIS server room so that the rest of the building's cooling can be set back on night and weekends.

4.11 ECM 11: VAV Air Handling Systems Retrofits/Optimization

Objective

The objective of this measure is to correct or improve the current variable air volume air systems equipment, and control deficiencies that inhibit optimal system operation and efficiency. To achieve the goal of optimal efficiency, the following is addressed in this measure:

1. Addition of Variable Frequency Drives to air handling systems which utilize supply air bypass ducts/dampers to simulate VAV operation.
2. Addition of Variable Frequency Drives to air handling systems which utilize inlet guide vanes to simulate VAV operation.

Existing Conditions

Currently, there are several air handling units which utilize inlet guide vanes or bypass dampers to create variable supply air volume systems (VAV). These methods of VAV are extremely outdated and inefficient. These systems are currently operating at a constant volume where a more efficient VAV strategy could be in place.

Recommendations/Scope of Work

Honeywell is proposing to remove all bypass damper systems and install variable frequency drives to create true VAV systems. Standard efficiency motors will also be replaced with high efficiency type. Existing systems which have had zone dampers disabled will be re-commissioned and connected to the new controls system to be fully functional VAV. This measure specifically applies to all of the air handling systems serving the Prineville RO Plant Administrative building.

Furthermore, the Police Department Headquarters has one air handling unit which serves the third floor which utilizes inlet guide vanes. Honeywell is recommending to remove the guide vanes and install a VFD on the fan.

Life Expectancy

The expected useful life of all the equipment installed as part of this measure is approximately twenty (20) years.

Interactions with Other Measures

The VAV air handling unit measures do not have significant interactions with other measures proposed.

Conclusions and Recommendations

In conclusion, a VAV air handling unit optimization/improvement project will optimize the operation of some of the existing air handling units. The recommissioning of the systems will also provide better occupant comfort and control.

4.12 ECM 12: Variable Air Volume Kitchen Exhaust/Makeup Systems

Objective

The objective of this measure is to reduce energy consumption by kitchen hood exhaust and make-up air systems.

Existing Conditions

Currently there are two commercial grade kitchens within the City buildings. The Civic Center and the Saints Golf Clubhouse each have kitchens with two hoods. Each of these hoods utilizes an exhaust fan and an outside air make-up fan. In both kitchens, the hoods and make-up fans are controlled manually by the occupants.

Regardless of how many cooking appliances are being used, or how many cooking appliances are located under the hoods, the full flow of exhaust and make-up is being provided by the fans because they are constant volume. Also, since kitchens are designed to be negative pressure to adjacent spaces, as this constant flow is operating, additional outside air must be brought into the kitchen from either the air handling unit.

Civic Center Kitchen Hoods

Saints Clubhouse Kitchen Hoods

Honeywell installed some data loggers on the existing hoods to trend exhaust temperature and fan run times. One hood from each of the two buildings was trend logged. Based on feedback from kitchen staff, we logged the hoods which were indicated to be used most often. Unfortunately, good data was not obtained for the Civic Center as either no cooking occurred that week or an error occurred with the logger installation. Therefore, results for the Golf Clubhouse kitchen only are

shown below. Do to similar operations, this data can be reasonably used to indicate operations for all four hoods. Results are shown below.

As you can see, the hoods run at a constant amperage and thus constant volume during the entire course of an occupied day. During the unoccupied hours both trend lines drop down to 0 amps. The exhaust air temperature off of the griddles was logged and charted in parallel with fan amps. As you can see, there are great fluctuations in temperature as cooking is occurring. There are several hours throughout the day when cooking is not occurring but fans are run full speed. This represents a significant opportunity for savings.

Recommendations/Scope of Work

Honeywell is proposing to install variable volume kitchen exhaust and make-up controls for each of the four kitchen hood systems described above. Along with the controls systems, VFDs will be installed on the fans and new high efficiency motors will be retrofitted.

The VAV kitchen hood systems will be able to sense heat from the individual appliances and determine the exact amount of exhaust required based on actual cooking usage. This will greatly reduce the amount of energy consumed by the fan motors as well as the amount of energy required to condition the outside air being pulled into the kitchen.

Life Expectancy

The expected useful life of all the equipment installed as part of this measure is approximately twenty (20) years.

Interactions with Other Measures

The VAV kitchen exhaust measure will have some minor interactions with the HVAC controls and pumping measures.

Conclusions and Recommendations

In conclusion, VAV kitchen exhaust measure will reduce energy consumption by varying the exhaust and supply flow for the kitchen hoods. Honeywell is recommending implementation of this measure as it will provide a significant savings and good payback.

4.13 ECM 13: Building Automation Systems

Objective

The objective of this ECM is to create a single point of control for the majority of the City's buildings which will also be expandable for future addition of buildings. This single point of control will allow for much better control and optimization of all buildings' systems as well as reduced maintenance cost as all of the buildings can be monitored from one point, either at a central station or remotely. The following items are included in the scope of this measure:

1. Integrate all city buildings into one front end. This excludes City Hall B and the Civic Center since they already have modern controls systems and remote access capability.
2. Install programmable thermostats on all buildings without DDC controls which can communicate with the new buildings integrator. All packaged DX systems will have programmable thermostats installed to automatically set back cooling during unoccupied hours.
3. Modernize the existing pneumatic controls at City Hall C (Police Department) and install DDC controls.
4. Controls sequences will optimize comfort and energy use by utilizing information between terminal equipment, air handling units, control valves, metering, space conditions and the central plants.
5. Reduce HVAC equipment operating hours to be more in line with the occupancy requirements. Controls system will add a level of automation.
6. Optimize your maintenance staff effectiveness by utilizing system features such as alarming, trending, scheduling, energy management features and training.
7. Provide an Energy Management System that can monitor and trend energy usage on various equipment and buildings.

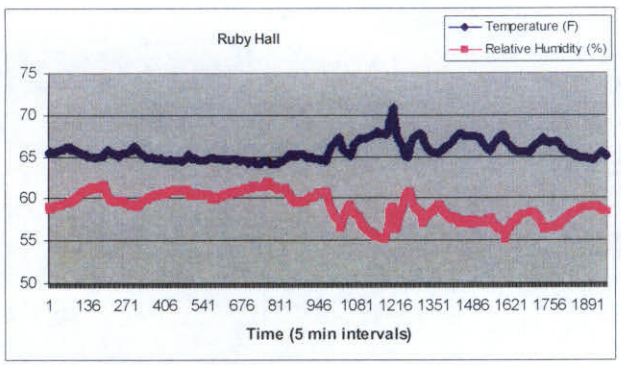
Existing Conditions

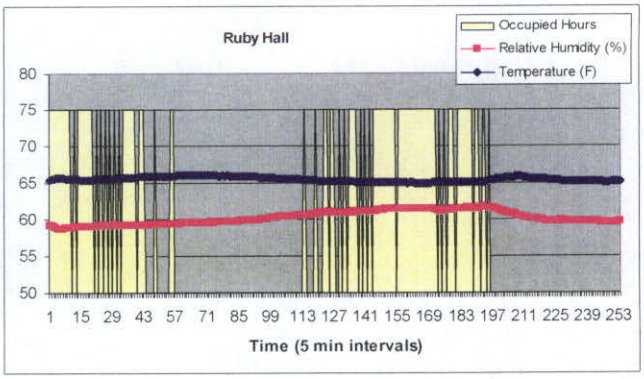
The majority of the City's buildings which utilize packaged DX systems are controlled by stand alone controllers. Many of these stand alone controllers are programmable type, but some are 24/7 manual control. Furthermore, many of the programmable thermostats were observed to be kept in the permanent hold position by the building occupants. Therefore, the City Building Maintenance staff is unable to control setpoints or unoccupied setbacks. This is resulting in the inability to conserve HVAC cooling energy.

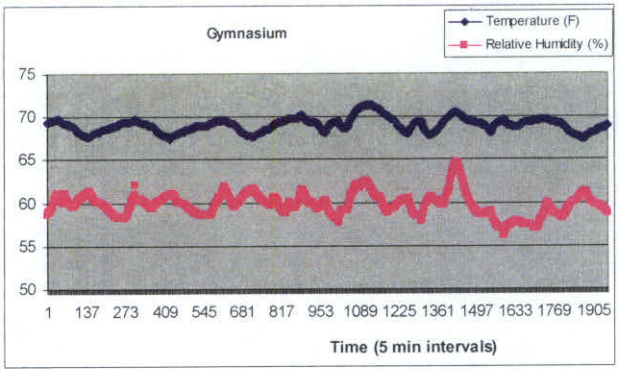
The City Hall buildings as well as the Civic Center each have full building automation systems all of which were installed at different time periods and have varying levels of sophistication. The Civic Center and City Hall Building B utilize a modern BAS, Trane Tracer Summit, which is a full direct digital controls (DDC) system with graphics, programming and remote setpoint adjustment capabilities. The City Hall Building A utilizes an outdated Trane Tracer BAS which has remote setpoint adjustment capability but is not integrated with the other Trane systems. Finally, City Hall Building C (Police Department) utilizes an outdated pnuematic system with a Seimens front end which is archaic and utilizes dos programming for setpoints.

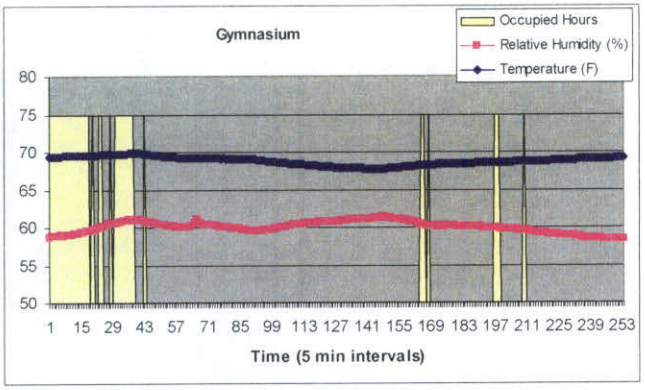
Honeywell took a random sampling of spaces within the Civic Center and trend logged temperatures and relative humidities. The results of this two week study are below. Five spaces were sampled: Ruby hall, the Gymnasium, Fitness Center, Emerald Room, and the Game Room. As you can see, these spaces were maintained between 65 to 68 degrees 24/7 (Fitness Center was maintained at 70 degrees). Typically, indoor thermal comfort for these spaces, other than the gym and fitness center would be 70 to 72 degrees for cooling.

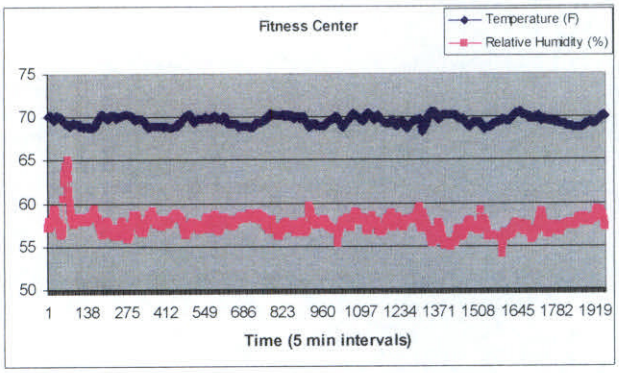
Furthermore, the occupancy data obtained from the lighting study was overlapped with these temperatures for a 24 hour period for Ruby Hall, the Gymnasium and Fitness Center. As you can see by the shaded area representing occupied hours, there is a large opportunity for setting back setpoint temperatures based on long periods of non-occupancy.

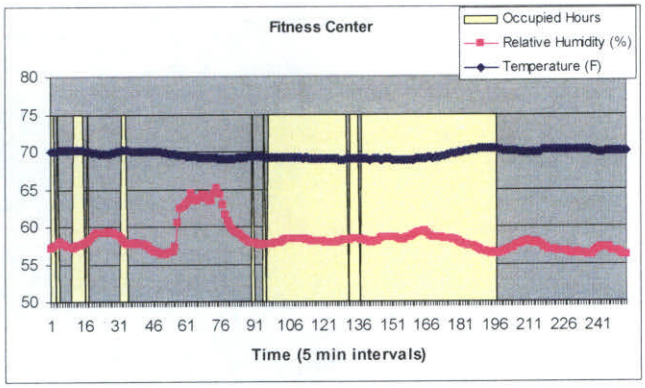


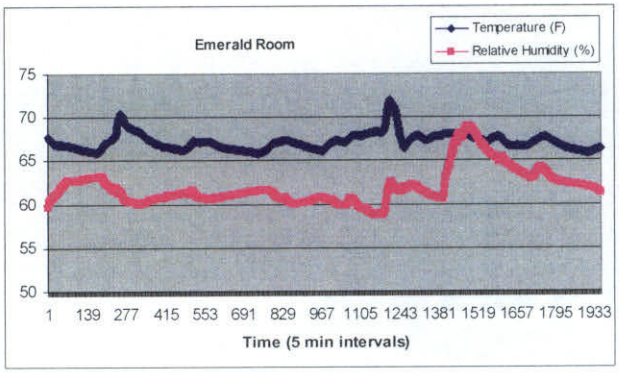


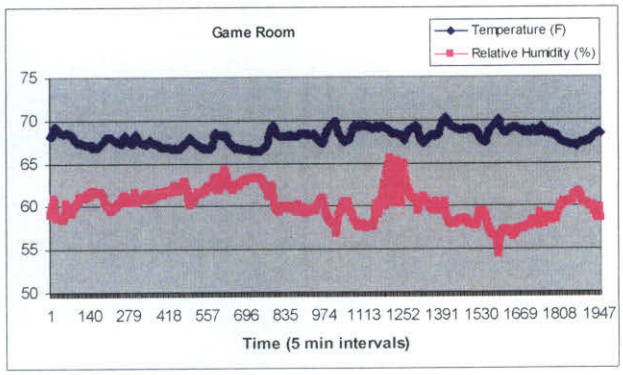












Recommendations/Scope of Work

Since it is desirable to monitor and control all building systems operations from one, or several, selected locations the recommend controls upgrades for all sites would be an internet (TCP/IP) based system that would reside on the customer's LAN and would be accessible from any PC, anywhere. This will allow quick and easy access to the control system, is easily expandable, and provides the necessary intrusion security. Honeywell systems use "Standards," meaning that we have pre-written and engineered software for over 100 control strategies, which lowers cost and makes replacement fast and easy. However, our controllers are fully programmable so we can do just about any control strategy that our customers would like to have.

In order to have a fully integrated portfolio of buildings, Honeywell recommends installing all new programmable thermostats for stand alone DX equipment which can be integrated onto the new network building integrator. Honeywell also recommends upgrading the outdated controls at City Hall A and City Hall C so that these buildings can also be integrated to the new global EBI.

Furthermore, Honeywell recommends making sequence modifications to the existing controls at City Hall B and the Civic Center.

The following is a list of example optimizations which can be performed once the Honeywell BAS and EMCS are installed. This is not an all inclusive list as numerous additional sequences will be explored during solution development. In order to maximize the customer's existing facility infrastructure, Honeywell proposes to evaluate and implement strategy changes and expansion while utilizing as many of the existing hardware points as possible.

- Demand Control Ventilation – by utilizing CO2 sensors to determine the appropriate amount of fresh air intake, substantial savings could be realized.
- Variable Speed controls for both Variable Air Volume and constant volume air handling units.
- Supply air temperature and fan static reset sequences for new and existing air handling units.
- Energy Manager installation with Advanced Metering and Sub-metering – by connecting the EMCS system to utility data using advanced meters, several tasks for energy conservation would be available.
- Nighttime set-back and space Initiated Override – by installing override switches in the occupied spaces, energy savings can be achieved while maintaining occupant comfort.
- Zone Occupancy Sensors– With the wide range of activities and occupant density during the daytime hours, equipment can be reset when the system is in the daytime occupied mode, but occupants are not present in the various rooms or zones.

Honeywell will incorporate control algorithms in order to maintain a precise and reliable control of all the operation parameters related to air flow control, enthalpy control, ventilation control, temperature, humidity and indoor air quality. In order to achieve this ECM some of the strategies that will be considered will be: Fan Set point, Ventilation reset, and Temperature Reset. The Fan set point optimization method is a method to reduce operating pressure within an air handling system. With this method the set point of the fan pressure is modified to ensure that the critical zone damper. Ventilation reset is related to the proper monitoring of the ventilation requirements in accordance to the exiting occupancy patterns. A recommended strategy for the buildings is to use a nighttime reset since the base occupancy of the building is predictable and therefore the ventilation can be lowered after a certain time during the week. In order to determine properly the savings and cost associated with this ECM it is necessary to analyze the existing parameters of the HVAC systems. A complete

analysis of the HVAC control system will be evaluated thoroughly in order to determine properly the costs and savings associated with this measure.

Honeywell recommends installing one (1) Enterprise Building Integrator (EBI) server to control and monitor all the points that are part of the building automation systems for all of the City's buildings which will be integrated. This is recommended for all buildings except for City Hall B and the Civic Center which have remote capabilities and energy management software. The EBI system will provide control to the all the HVAC systems and the Ice Storage Plant. Honeywell will also furnish, install, program and configure one (1) new Energy Manager to set up and maintain the energy information and control system. Honeywell Energy Manager provides interval-based meter data management functions, software and tools to support the energy analysis, energy reporting, and energy management functions of this project. Important tools, which are included with Energy Manager, include the Rate Engine, Load Forecasting, Bill Validation, Enterprise Load Management, Benchmarking, and Reporting. Energy Manager leverages the robust data gathering, alarming, trending and graphing capabilities of EBI.

Life Expectancy

Typically, a building automation system has a 15 to 20 year lifespan.

Interactions with Other Measures

Since the energy management and building automation system, controls and interfaces with the HVAC equipment, interaction of measures is expected. The controls system will interact with the mechanical system measures. The building automation system will be used to optimize the HVAC equipment operation.

Conclusions and Recommendations

In conclusion, the installation of the building automation system is the key component to enable the optimization of HVAC equipment and maintenance staff. Honeywell considers the implementation of the building automation system measures essential to the success in optimizing comfort and energy efficiency at the facilities.

4.14 ECM 14: Automated Computer Power Management

Objective

The objective of this ECM is to reduce overall electrical consumption for all buildings by automatically shutting down all PCs on a set schedule during off hours or by time delay.

Computers require between 100 and 200 watts to remain in operation. 110 watts is required for the computer and 90 watts for the monitor; less if the monitor is a LCD. If left on 24 hours a day, 7 days

a week for one year, a computer will consume 1752 kilowatt hours of electricity, or approximately $330 per computer. By installing computer optimization software, each computer will operate only when necessary reducing energy consumption.

Computer optimization software provides computer energy management that does not interfere with user or IT needs. The software keeps computers running when users need them, accurately determines when computers are inactive so they can be powered down, and can provide thorough network-wide power consumption and savings. The software is installed from the network and is pushed out to all users at one time, thus minimizing IT labor and improving management of computers.

Software Screen Shots:

4.15 ECM 15: Green Print Printing Cost Reduction

Objective

The objective of this ECM is to reduce overall printing expenses by eliminating unwanted pages from print jobs and reducing the quantity of expensive printer ink used.

Printing Statistics:

- An average worker prints 10,000 pages a year, 1,700 of which are unwanted.
- 1 tree is cut down for every 17 reams of paper manufactured.
- Printer ink is one of the most expensive liquids on the planet – roughly $10,000 per gallon.
- The average worker creates $600-$1300 in printing costs annually.
- 56% of people over 45 print as a way or archiving.
- Production of 1 ton of copy paper uses 11,134 kWh, what a household uses in a year.
- Making one single sheet of copy paper creates over 13oz. of waste water.

GreenPrint Enterprise
Honeywell will engage GreenPrint Enterprise to install their software onto all the building occupants' computers. This software is interactive and makes it easier to only print what's needed.

The software identifies and eliminates unwanted pages before they are sent to the printer, reducing paper, ink, toner, and energy consumption. Historically, organizations save 17-25% of total enterprise printing expense which equates to over $100 per user per year. GreenPrint is easy to deploy and requires little active IT management. It also will allow your organization to have a meaningful and quantifiable impact on the environment.

Reports
In a typical work environment it is hard to quantify the waste in printing operations. Why is this waste occurring? Is accounting printing emails to the expensive color laser printer? Is someone in marketing printing the equivalent of a PhD thesis daily? What is the real cost in terms of money, resources, time and environmental impact? These are all questions that GreenPrint Enterprise Reports provide answers to, as well as a powerful suite of tools to eliminate them.

4.16 ECM 16: Street Lighting

Objective

The objective of this measure is to reduce energy consumption by the existing street lighting which is owned by the City. Operational savings will also be achieved by replacing existing lighting with new lighting which will have over 10 times the burning hours.

Existing Conditions

Honeywell has completed a paper audit of the street lights using the information supplied by the City as well as additional information we obtained from our discussions with Florida Power & Light.

We have developed and estimate which assumes the following are all metered lights. There remains some confusion as to how many City lights are metered and how many are unmetered. We are waiting on information to be supplied by FP&L. We also know that the metered accounts have loads other than street lighting on them as well, such as sprinkler pumps. Consequently, we have used the FP&L wattage and usage assumptions taken from their unmetered tariff rates for our estimates so as to not include any usage other than the street lights in our calculations. Below is a summary of the City owned street lighting fixtures:

Description	Ped Decos	Deco Structures	Shoe Box	Luminaire

HPS				
150w	802	80		28
250w		190	10	
400w				612
MH				
175w	109			
250w	107	832		110
Totals	1018	1102	10	750

Recommendations/Scope of Work

Honeywell is recommending to replace all the existing City owned fixtures. We have studied three options which are summarized in the table below. Option 1 would be to replace all fixtures with induction fixtures. Option 2 would be to replace all fixtures with LED technology. Option 3 would be to utilize both induction and LED technology.

Honeywell is recommending option 3, which would be to use an induction style retrofit kit/luminaire for the existing High Pressure Sodium (HPS) and Metal Halide (MH) Ped Deco identified luminaires and to utilize an LED type light source for the roadway lighting. We also are proposing to reduce all existing 400w HPS fixtures to a 250w induction equivalent. This is due to the fact that the induction fixtures are more efficient and render a higher quality of light at the surface. Honeywell believes that this is the best alternative for the following reasons:

- It provides the largest amount of savings and best value for the cost
- LED fixtures provide a better overall quality of light and light levels at the roadway surface.
- The leading manufacturers of roadway lighting are shifting their research and production of new technologies towards LED. Market trends show that induction roadway lighting will be phased out as LED technology is on the rise. This leads to a dropping price of LED fixtures with respect to induction. This will be critical to track as the project is implemented. This also provide the best value in that when the fixtures need to be relamped, replacement technology will be more available.

Based upon our recommendations stated above, the estimated savings calculations will greatly depend on City approval of a pilot test (mock-up demonstration) of our proposal. Below is a summary of savings for the options studied. Note: "Future" Lights have not been included and we have assumed all voltage to be 120v – 277v.

These savings are estimated and are contingent upon receipt of the City's current billing information from FP&L and quarterly report, verification of the counts, and negotiations with FP&L with regards to method of billing for any installed lights, as well as a formal audit/verification in the field.

Options for Existing Lighting Levels

Description	Existing	Opt 1 Induction	Opt 2 LED	Opt 3 Ped Deco Induction & LED Balance
Annual Metered Acct Usage	3,728,316	1,927,483	1,489,384	1,589,383
KWH Savings		150,069	186,578	178,244
Annual Energy Costs	$362,653.30	$187,486.30	$144,872.40	$154,599.35
Energy Cost Savings		$175,167.00	$217,780.90	$208,053.95
Annual Maintenance Savings		$13,955.26	$13,955.26	$13,955.26
Project Cost Est. (120v-277v)		$1,698,999	$4,573,465	$3,648,773
Payback Years w/o Annual Maintenance Savings Included		**8.5**	**18.9**	**15.7**

The analysis of the annual energy costs of each of the options assumes the current posted energy cost of $0.09727 reflected on the sample bill copies supplied by the City. The project costs provided do not account for extra work such as the need to replace feeder wires, bracket replacements, underground fault repairs, pole replacements and other general system infrastructure repairs. It assumes the brackets and wiring are in a serviceable condition and the contractor responsibility is limited to the removal of the existing lighting fixture and the installation of a new one of the designated wattage and type. The costs associated with this work are also not included as the condition of this equipment is unknown.

We have also identified that there may be a significant savings opportunity associated with unmetered lights thorough a transfer of ownership. However, we do not have adequate information to provide an estimate of these savings and they will be dependent on the cooperation of the utility. We would recommend some preliminary discussions with FP&L to identify their willingness to sell the assets, the basis of the sale price, and how they would bill unmetered alternative technologies not currently included in their tariffs.

Life Expectancy

The life expectancy of the new lamps and fixtures is anticipated to be approximately 20 years.

Interactions with Other Measures

Interactions with other measures are not anticipated with this measure.

Conclusions and Recommendations

Honeywell is recommending that the existing inefficient street and pedestrian lighting fixtures be replaced with new Induction and LED type systems. These new systems will not only provide excellent energy and operational savings but also a much improved light quality. Further auditing is required prior to developing a contract however, in order to more accurately determine the exact scope and savings and missing power company data. Negotiations are also recommended with FP&L to investigate transfer of ownership of additional currently leased lighting.

4.17 ECM 17: Energy Star Appliances

Objective

The objective of this measure is to minimize the energy consumption by residential appliances within the City's buildings.

Existing Conditions

Currently, there are several City buildings which are basically acquired residential properties which were converted to offices. The majority of the kitchen appliances are from the original construction and are still in use. These appliances are over 10 years old and are inefficient.

Recommendations/Scope of Work

Honeywell is recommending that the City replace all existing refrigerators which are not Energy Star Certified with Energy Star Certified refrigerators.

Life Expectancy

The expected useful life of all the equipment installed as part of this measure is approximately fifteen (15) years.

4.18 Florida Power and Light Rebates

Honeywell has identified potential rebates and incentives available as a result of the above recommended measures. Florida Power and Light has a number of beneficial financial incentives available.

The following measures will qualify for rebates:

- Building Lighting Retrofits
- HVAC DX Equipment Replacements
- Demand Controlled Ventilation Systems
- High Efficiency Chiller Replacement Plant
- Ice Storage Plant

Honeywell will assist the City in applying for any applicable rebates, including providing necessary documentation and coordination with FPL. However, responsibility for securing the rebates shall lie with the City, and Honeywell is not responsible for providing rebates or any funds associated with rebates.

Below is a summary of anticipated rebates available for these measures. These dollar amounts have not been included in the ECM payback calculations or the overall project summary. Therefore, the actual project paybacks may be faster than shown.

	FP&L Criteria		Measure Installed		FP&L Rebate
Building Lighting					$6,990
DX Replacements	$1.24/Mbtuh	5 tons and under	Rest of Project	184 tons	$2,738
	$3.14/Mbtuh	20 tons and over	Community Center	120 tons	$4,522
Demand Controlled Ventilation	$348/1000 square foot		Civic Center	35,000 sq.ft.	$12,180
VAV Kitchen Hoods	see appendix 3		Civic Center	5600 cfm	$1,864
	see appendix 4		Saints Clubhouse	4390 cfm	$1,461
High Efficiency Chiller Replacements	$16.53/ton		(2) at 270 tons each		$8,926
Ice Storage Plant	$480/ton		450 tons		$216,000

4.19 ECMs Evaluated and Recommended for Future Consideration

Energy Efficient Transformers

Objective

The objective of this ECM is to reduce energy losses of existing dry type transformers by replacing them with new energy efficient type. The following will be addressed with this measure:

1. Existing standard efficiency dry type electrical transformers will be replaced with new high efficiency type transformers.

Existing Conditions

Throughout the City's existing buildings there are at numerous dry-type, standard efficiency transformers. These transformers convert the incoming 480 volts to 208/120 volts for use in most of the circuits in the buildings. Transformers operate at varying loads throughout a typical day and do not operate at peak efficiency the majority of the time.

Recommendations/Scope of Work

Honeywell is recommending to replace the existing transformers with high efficiency transformers. These transformers will provide a much higher efficiency at varying loads. These transformers will operate at lower temperatures and at reduced noise levels resulting in energy savings. These transformers will also have a 25 year manufacturer's warranty.

Interactions with Other Measures

Interactions with other measures are not anticipated with this measure.

Conclusions and Recommendations

The simple payback for this ECM was estimated to be about 16 years with an approximate cost of $111,000. Based on feedback during meetings with City staff, this ECM has not been included in the recommended project. However, Honeywell is recommending that this measure be considered for future projects.

Energy Awareness System

Windows on the World (WOW)

One important factor of a sustainable program is to create educational awareness to all occupants and visitors in a building. One way to perform this awareness is to

install an educational interface system that provides updated information to all occupants. For this purpose Honeywell is recommending an educational kiosk known as Windows of the World. Powersmiths Windows on the World™ (WOW) is a sustainability management system that provides energy management and interactive sustainability education.

WOW accesses data gathered by the building's meters and consolidates it onto one convenient platform. Data can be acquired from virtually all meters including Powersmiths Cyberhawk electricity meters, third party electrical meters and pulse measured meters such as gas and water meters. By consolidating energy and other resource input data onto one platform, WOW streamlines energy management programs. WOW can also provide a wealth of real-time and historic resource consumption data in support of sustainability education.

Incorporated decision support tools in WOW allow users to track the performance of multiple building systems against user defined benchmarks providing effective oversight and on-going accountability of installed building systems.

WOW delivers sustainability education through colorful intuitive Web pages that can be customized to showcase and explain a building's high performance features. Displayed on kiosk style touch screen displays and over the Web, WOW invites building occupants and visitors to learn how the building has been designed to conserve resources, preserve the natural environment and capture renewable energy. Interactive features and colorful graphs and gauges present daily weekly and monthly resource consumption data and compare and translate energy savings into tangible environmental benefits. WOW supports efforts to use buildings as a learning laboratory.

Because buildings consume more than one third of the nation's energy and water resources, reducing their environmental footprint can play a significant role in reaching sustainability and climate goals. Leadership in Energy and Environmental Design (LEED) is a voluntary, building rating system that provides a framework and guidance on sustainable design, construction and maintenance practices for built structures. This system may contribute to earning LEED points under the following credit areas:

Energy and Atmosphere

- Optimizing Energy Efficiency
- Fundamental Building Commissioning
- Measurement and Verification

Innovation in Design

- Building as a teaching tool

4.20 ECMs Evaluated but Not Recommended

In addition to the projects identified above, Honeywell evaluated various ECMs that did not prove to be either economically justifiable or practical in terms of the available use of space or facilities. These measures include:

- Water Heating Systems Modifications
- Irrigation Pump Replacements
- Wind Power Generation
- Solar Photovoltaics and Solar Thermal

Although these measures are either not currently economically attractive or were not included due to budget reasons, the changing costs of utilities may make any, or all of them, economically viable in the future.

5.0 BUILDING SUMMARIES

5.1a City Hall

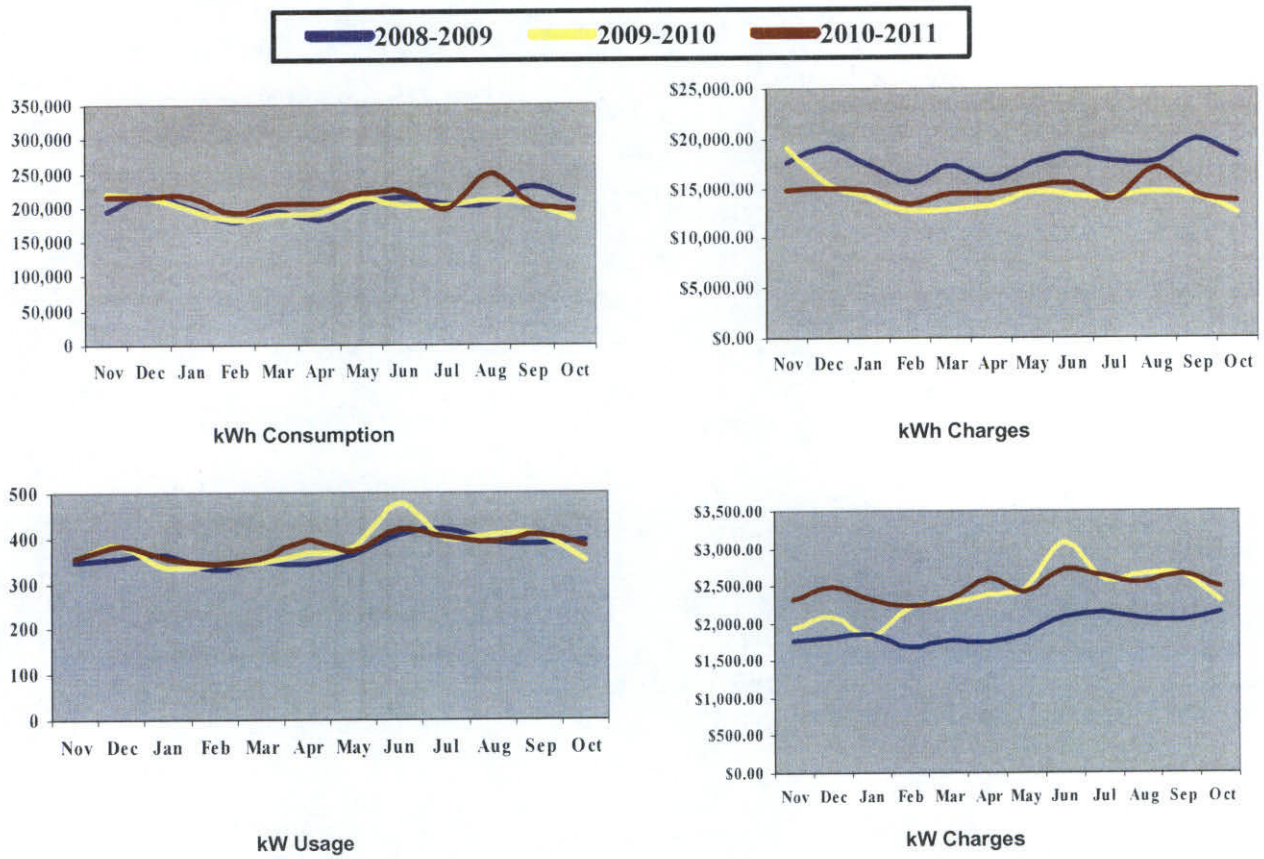
Overview

Address: 121 SW PSL Blvd, Port St. Lucie, FL
Sq Ft.: 73,860
Hours of Operation: Mon -Fri 7 am to 5pm
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Model

This facility was built in 2005 and is the City Hall Building.

Utility Analysis

The following charts show a summary of the monthly electrical data for the facility for the last three years.



kWh Consumption

kWh Charges

kW Usage

kW Charges

Existing Conditions

- The building's existing lighting consists of T8 linear fluorescent interior fixtures as well as compact flourescent lamps. Existing exit signs are LED. Occupancy sensors in back of house areas only.
- The majority of the building's plumbing fixtures are low flow 1.6 gpf toilets, 1gpf urinals and low flow aerators on sinks however a few high flow tank type toilets exist.
- Several air gaps were observed in the building envelope joints, windows and door sweeps which is causing excess air infiltration and wasted energy.
- Building HVAC is provided by two 120 ton air cooled chillers, and chilled water air handling units, see HVAC summary in facilities overview section.
- HVAC controls are an antiquated Trane Tracer DDC system.

- The existing IT server room has outgrown the installed dedicated AC unit and therefore the house AC unit provides the required load. This is resulting in the entire building's AC running 24/7 to maintain the server room temperature.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8s, reflectors/delamping, occupancy sensor controls)
- Vending Misers
- Water Conservation Retrofits (tuning and maintenance parts replacement of existing fixtures)
- Building Envelope Weatherization
- Chilled Water Pumping Optimization
- Install dedicated AC unit for server room to allow building HVAC to be setback during off hours.
- Connect to Campus High Efficiency Chiller Plant.
- HVAC Controls Upgrade and Sequences Modifications

The total cost of recommended ECMs for this building is **$372,850**.

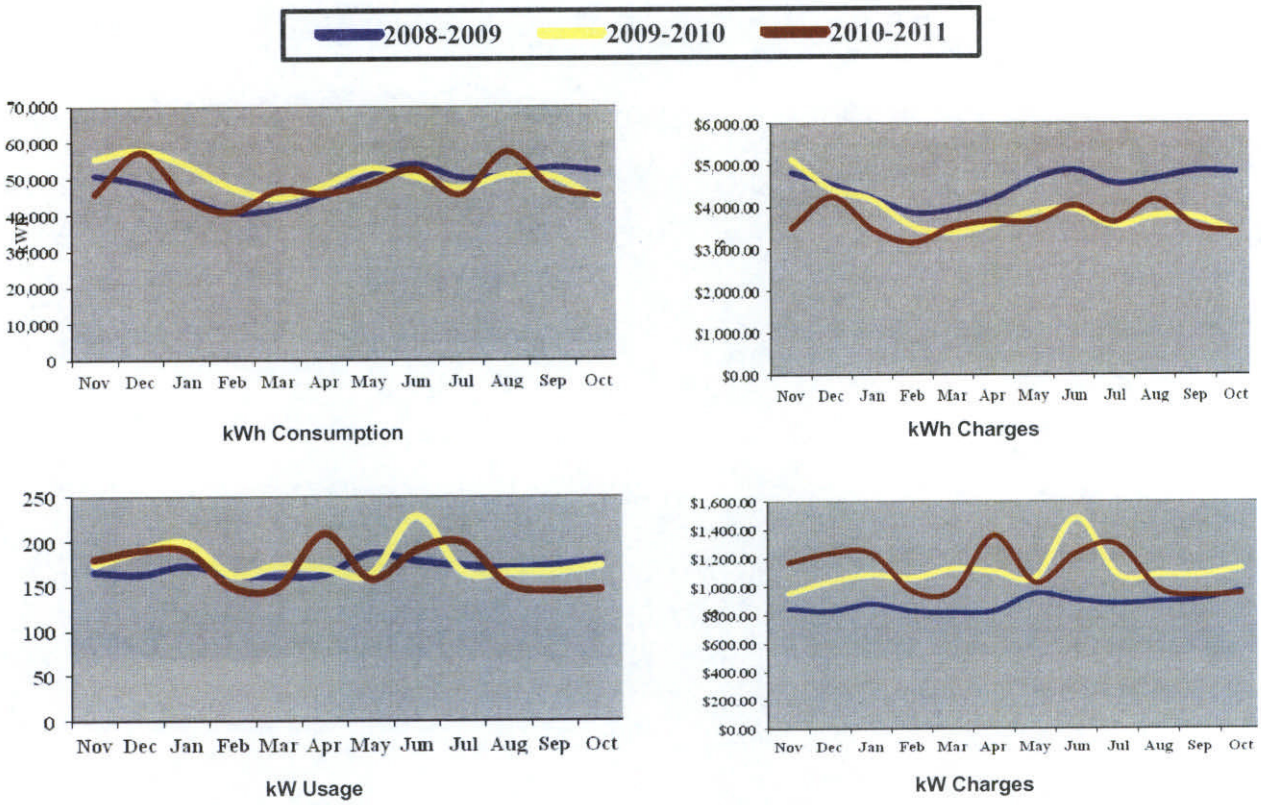
5.1b City Hall Engineering Building

Overview

Address: 121 SW PSL Blvd, Port St. Lucie, FL
Sq Ft.: 37,328
Hours of Operation: Mon -Fri 8 am to 5pm
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Model

This facility was built in 2005 and serves as the main City Hall Engineering building.

Utility Analysis



Existing Conditions

- The building's existing lighting consists of T8 linear fluorescent interior fixtures as well as compact flourescent lamps. Existing exit signs are LED. Occupancy sensors in back of house areas only.
- The building's plumbing fixtures are low flow 1.6 gpf toilets, 1gpf urinals and low flow aerators on sinks.
- Several air gaps were observed in the building envelope joints, windows and door sweeps which is causing excess air infiltration and wasted energy.
- Building HVAC is provided by two 70 ton air cooled chillers, and chilled water air handling units, see HVAC summary in facilities overview section.
- HVAC controls are a modern Trane Tracer Summit DDC system.

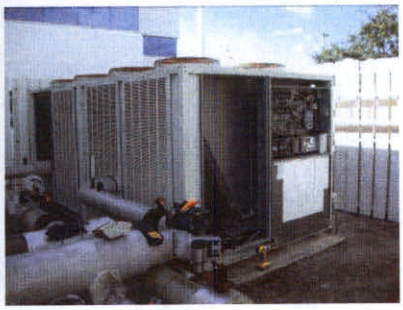
Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8s, reflectors/delamping, occupancy sensor controls)
- Vending Misers
- Water Conservation Retrofits (tuning and maintenance parts replacement of existing fixtures)
- Building Envelope Weatherization
- Chilled Water Pumping Optimization
- Connect to Campus High Efficiency Chiller Plant
- HVAC Controls Sequences Modifications

The total cost of recommended ECMs for this building is **$192,150**.

5.1c City Hall C (Police Department)



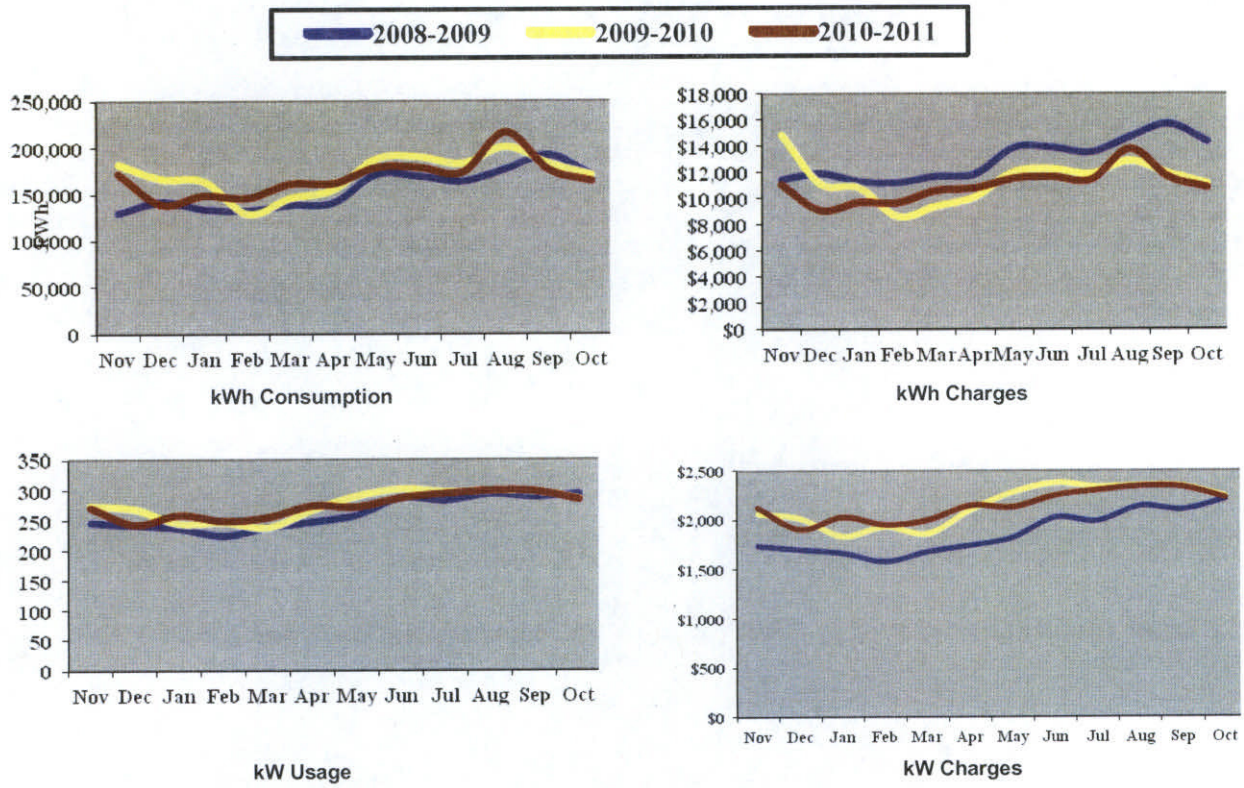


Overview

Address: 121 SW PSL Blvd Port St. Lucie, FL
Sq Ft.: 44,018
Hours of Operation: Continuous
FP&L Rate Structure: HLFT-1
Savings Calculation Methodology: Model

This facility was built in 1991 and is the police department headquarters.

Utility Analysis



Existing Conditions

- The building's existing lighting consists primarily of 32w T-8 linear fluorescent interior fixtures as well as some inefficient T-12 and incandescent fixtures. Existing exit signs are inefficient incandescent type. Occupancy sensors do not exist.
- The majority of the building's plumbing fixtures are low flow 1.6 gpf toilets, 1gpf urinals and high flow aerators on sinks.
- Building HVAC is provided by one 80 ton and one 60 ton air cooled chiller, and chilled water air handling units. The 60 ton chiller is at the end of its useful life and in need of replacement. Some of the air handling units have VFDs, but the third floor unit does not. See HVAC summary in facilities overview section.
- HVAC controls are pneumatics with an archaic Seimens DOS based front end.
- The building has an existing 750 kW emergency generator capable of carrying the entire peak building electrical load.

Recommendations

Honeywell is recommending the following ECMs:

- Building Lighting Upgrades
  (28w T8s, reflectors/delamping, CFLs, LED exit signs, occupancy sensor controls)
- Vending Misers

- Water Conservation Retrofits
  (tuning and maintenance parts replacement of existing fixtures and new low flow aerators)
- Chilled Water Pumping Optimization
- 3rd floor AHU VFD installation
- Connect to Campus High Efficiency Chiller Plant
- HVAC Controls Upgrade, Integration and Sequences Modifications
- Utilize existing generator for load shedding

The total cost of recommended ECMs for this building is **$362,500**.

5.1d City Hall D (Police Evidence Building)


Overview

Address: 121 SW PSL Blvd Port St. Lucie, FL
Sq Ft.: 9,540
Hours of Operation: Mon -Fri 8 am to 5pm
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Model

This facility was built in 2009 and is the police department's evidence storage building.

Existing Conditions

- The building's existing lighting consists of a mixture of 32w T-8 flourescent fixtures and compact fluorescents. Existing exit signs are LED.
- The building's plumbing fixtures are low flow 1.6 gpf toilets, 1gpf urinals and a mixture of high and low flow aerators on sinks.
- Building HVAC is provided by multiple small packaged split system DX units which are all relatively new and in good condition.
- The HVAC equipment is controlled by stand alone programmable thermostats.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8s, reflectors/delamping, occupancy sensor controls)

- Water Conservation Retrofits
  (tuning and maintenance parts replacement of existing fixtures, aerator replacements)
- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$30,375**.

5.2 Sportsman's Park West

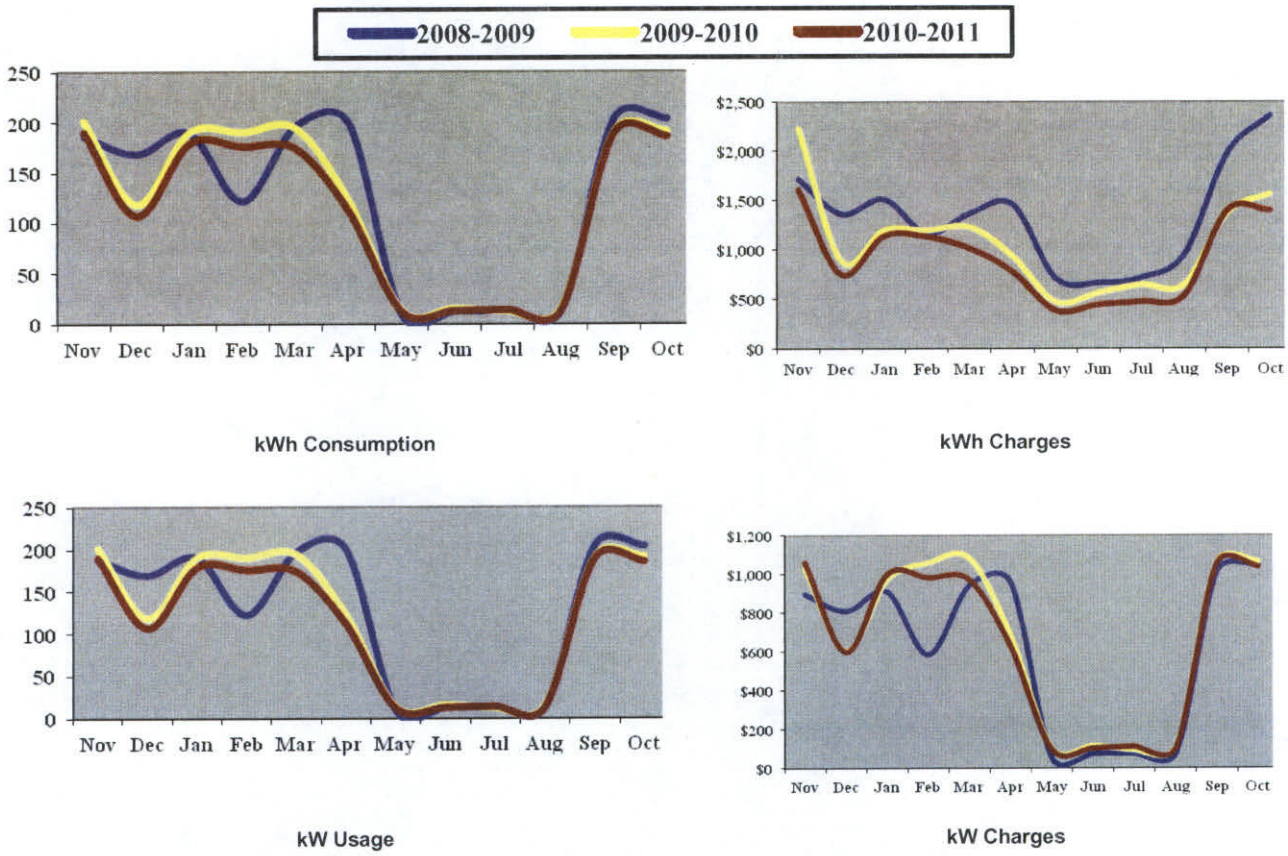


Overview

Address 220 North West Irving Street, Port St. Lucie, FL
Sq Ft.: 5,505
FP&L Rate Structure: OS2 & GSD with SDTR
Savings Calculation Methodology: Per ECM

Sportsman's Park West is a city owned public park which was established in 1985. The park consists of outdoor football fields, a track, concessions, and a pavilion.

Utility Analysis



Existing Conditions

- The existing outdoor athletic fields' lighting consists of inefficient 1500w Metal Halide fixtures controlled by time clocks.
- The indoor facilities' building lighting consists primarily of inefficient T-12 linear fluorescent fixtures. Exterior lighting is mainly compact fluorescent fixtures.
- The building's plumbing fixtures are a mixture of high and low flow toilets, low flow urinals and high flow aerators on sinks.
- The concessions area HVAC systems consist of multiple small DX split units which are in fair condition and controlled by stand alone thermostats.

Recommendations

Honeywell is recommending the following ECMs:

- Athletic Fields lighting upgrades are NOT recommended based on energy payback alone.
- Building Lighting Upgrades
  (28w T8s, reflectors/de-lamping, compact fluorescents, occupancy sensor controls)
- Vending Misers

- Water Conservation Retrofits
  (tuning of existing fixtures and some toilet replacements and aerator replacements)

The total cost of recommended ECMs for this facility is **$12,400**.

5.3 Parks & Rec. - 400 SW Ravenswood

Overview

This building is unoccupied and abondoned therefore no ECMs are recommended.

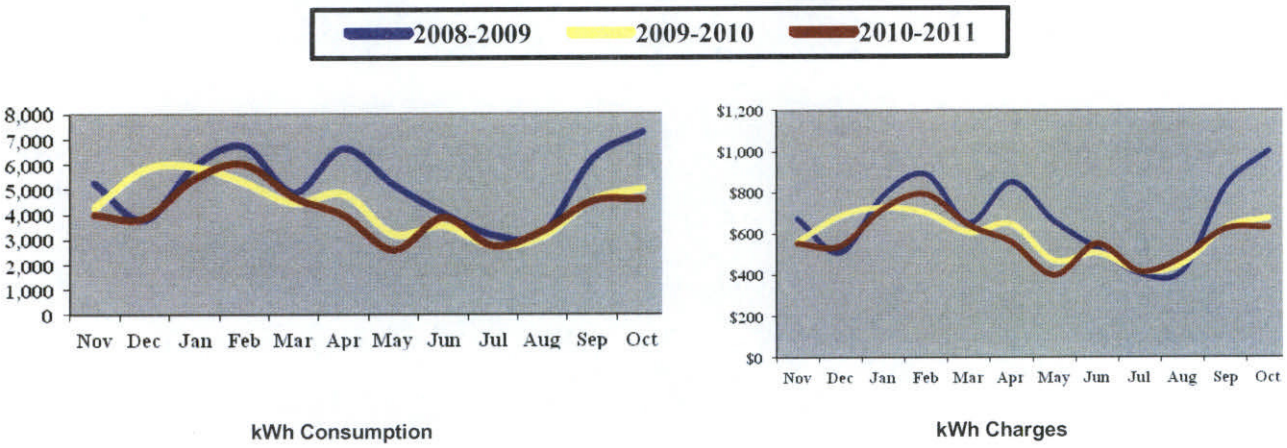
5.4 Sportsman's Park

Overview

Address 201 Prima Vista Boulevard, Port St. Lucie, FL
Sq Ft 10,021
Hours of Operation: 8am – 10pm
FP&L Rate Structure: OS2
Savings Calculation Methodology: Per ECM

Sportsman's Park is a city owned public park which was established in 1975. The park consists of outdoor football fields, baseball fields, basketball courts, tennis courts, concessions, and a pavilion.

Utility Analysis



kWh Consumption

kWh Charges

Existing Conditions

- The existing outdoor athletic fields' lighting consists of inefficient 1500w Metal Halide fixtures controlled by time clocks.
- The indoor facilities' building lighting consists primarily of inefficient T-12 linear fluorescent fixtures. Exterior lighting is mainly compact fluorescent fixtures.
- The building's plumbing fixtures are a mixture of high and low flow toilets, low flow urinals and high flow aerators on sinks.
- The concessions area HVAC systems consist of multiple small DX split units which are in fair condition and controlled by stand alone thermostats.

Recommendations

Honeywell is recommending the following ECMs:
- Athletic Fields lighting retrofits are NOT recommended based on energy payback alone.
- Building Lighting Upgrades
  (28w T8s, reflectors/de-lamping, compact fluorescents, occupancy sensor controls)
- Vending Misers
- Water Conservation Retrofits

(tuning of existing fixtures and some toilet replacements and aerator replacements)

The total cost of recommended ECMs for this facility is **$14,300**.

5.5 Lyngate Park

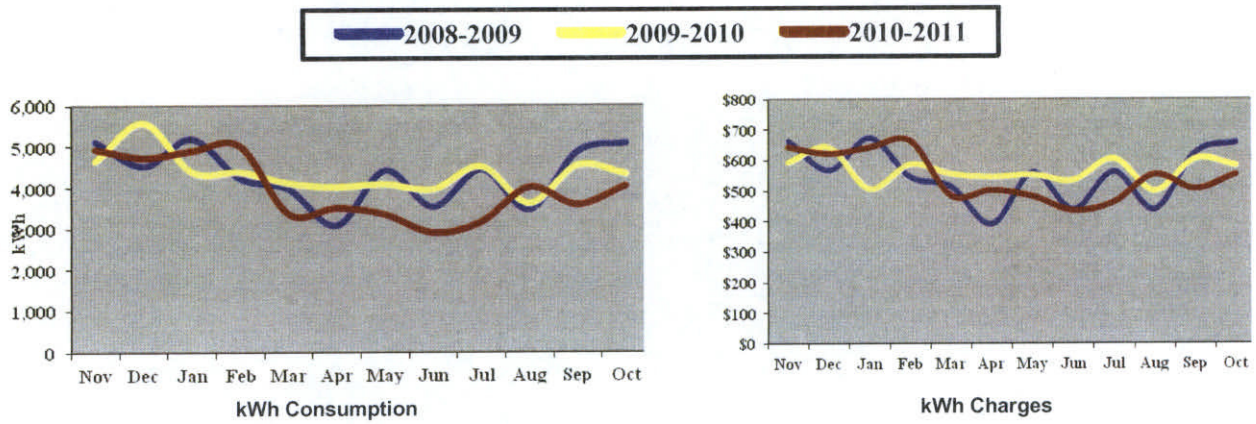


Overview

Address: 1301 SE Lyngate Drive Port St. Lucie, FL
Sq Ft.: 9,380
FP&L Rate Structure: OS2
Savings Calculation Methodology: Per ECM

Lyngate Park is a city owned public park which was established in 1979. The park consists of outdoor baseball fields, racquetball courts, basketball courts, tennis courts a little league clubhouse and a pavilion.

Utility Analysis



kWh Consumption

kWh Charges

Existing Conditions

- The existing outdoor athletic fields' lighting is a MUSCO controls system with energy efficient Metal Halide fixtures.
- The indoor facilities utilize a mixture of 32w T-8 and inefficient T-12 fixtures and compact fluorescent lamps. Some incandescent lamps still exist as well. All exit signs are high efficiency LED.
- The building's plumbing fixtures are a mixture of low flow toilets, low flow urinals and high and low flow aerators on sinks.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8s, reflectors/de-lamping compact fluorescents, occupancy sensor controls)
- Vending Misers
- Water Conservation Retrofits (tuning of existing fixtures and some aerator replacements)

The total cost of recommended ECMs for this facility is **$6,350**.

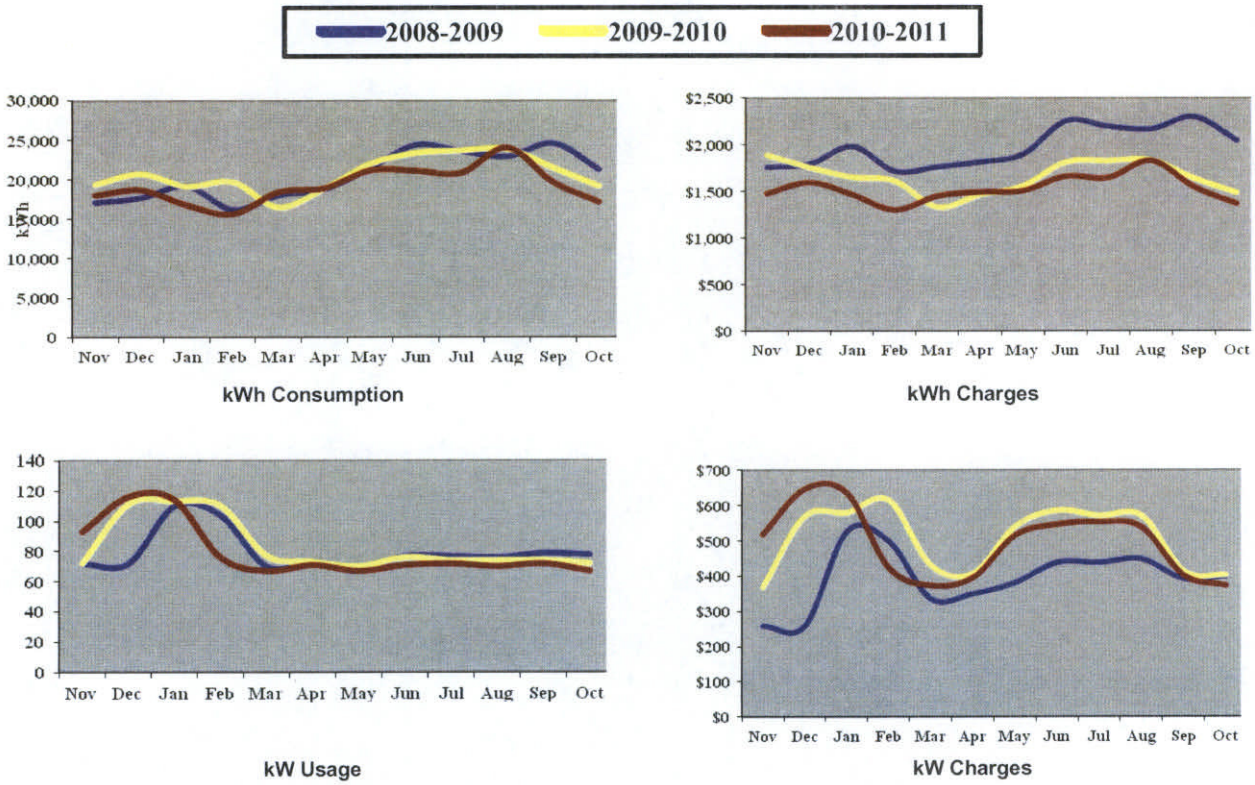
5.6a Public Works – 450 Thornhill Drive (Admin Bldg.)

Overview

Address 450 Thornhill Drive, Port St. Lucie, FL
Sq Ft.: 4,400
Hours of Operation: Mon-Fri 8am to 5pm
Savings Calculation Methodology: Per ECM

The Publics Works Administration building was constructed in 1987 and is part of the Public Works facility. The Public Works administration building consists of office areas.

Utility Analysis



Existing Conditions

- This building currently contains a mixture of inefficient T-12, T-8, and incandescent technology. The majority of the existing interior fixtures though are 32w T-8 linear fluorescent fixtures. A significant number of interior fixtures are incandescent fixtures with 60w lamps. The exterior areas of this facility are currently illuminated by metal halide and compact fluorescent fixtures.
- The building's plumbing fixtures are high flow toilets, urinals and aerators on sinks.
- The building HVAC is provided by multiple two small split DX air conditioners which are in fair condition.
- The HVAC units are controlled by stand alone programmable thermostats.

Recommendations

Honeywell is recommending the following ECMs:

- Building Lighting Upgrades
  (28w T-8 fixtures, delamping/reflectors, CFLs, occupancy sensor controls)
- Water Conservation (fixture retrofits)
- HVAC Controls Integration.

The total cost of recommended ECMs for this facility is **$8,350**.

5.6b Public Works – 450 Thornhill Drive (Maintenance)

Overview

Address 450 Thornhill Drive, Port St. Lucie, FL
Sq Ft.: 14,400
Hours of Operation: Mon-Fri 8am to 5pm
FP&L Rate Structure: GSD with SDTR
Savings Calculation Methodology: Per ECM

The Publics Works Maintenance building was constructed in 1988 and is part of the Public Works facility. The Public Works Maintenance building consists of office and shop areas.

Existing Conditions

- This building currently contains a mixture of inefficient T-12, 32w T-8, and incandescent technology lighting. The majority of the existing interior fixtures though are T-8 linear fluorescent fixtures. The exterior areas of this facility are currently illuminated by 250w metal halide pole light2, 250w metal halide recessed canopy fixtures and 150w wall pack fixtures.
- The building HVAC is provided by multiple two small split DX air conditioners which are in fair condition.
- The HVAC units are controlled by stand alone programmable thermostats.

Recommendations

Honeywell is recommending the following ECMs:

- Building Lighting Upgrades
  - Existing T8 and T12 fixtures will be retrofit with energy efficient electronic ballasts with 28w reduced wattage T8 lamps
  - In areas where light levels were thought to be high the fixtures will be de-lamped. The proposed design will include reduced wattage T8 lamps, white reflector, and energy efficient ballasts. Fewer lamps per fixture will bring the light levels down to more appropriate levels.
  - Existing T8 U-lamp systems in areas that are currently being used will be converted to 2' linear systems with energy efficient ballasts, white reflector kits, and 17w T8 lamps providing energy savings, standardizing maintenance stock and providing easier, less cumbersome storage.
  - Existing interior metal halide fixtures in shop areas will be replaced with 8' linear fluorescent industrial strip fixtures with (6) energy savings T8 28w lamps and high efficiency ballasts
  - Existing interior incandescent fixtures will be retrofit with energy efficient compact fluorescent lamps
  - Exterior HID pole light fixtures will be replaced with induction fixtures
- Vending Misers
- HVAC Controls Integration.

The total cost of recommended ECMs for this facility is **$34,600**.

5.6c Public Works – 450 Thornhill Drive (Traffic Safety)

Overview

Address 450 Thornhill Drive, Port St. Lucie, FL
Sq Ft.: 2,400
Hours of Operation: Mon-Fri 8am to 5pm
FP&L Rate Structure: GSD with SDTR
Savings Calculation Methodology: Per ECM

The Publics Works Traffic Safety building was built in 1982 and is part of the Public Works facility. The Public Works Traffic Safety building consists of warehouse areas.

Existing Conditions

- The building lighting consists of 32w T-8 and incandescent technology. The majority of the existing interior fixtures in this facility are 32w T8 linear fluorescent fixtures. The exterior areas of this facility are currently illuminated by metal halide and incandescent fixtures
- The building HVAC is provided by one small DX split system which is in fair condition and controlled by a stand alone programmable thermostat.

Recommendations

Honeywell is recommending the following ECMs:

- Building Lighting Upgrades
  (28w T-8 fixtures, replace HID with induction fixtures, CFLs, occupancy sensor controls)

The total cost of recommended ECMs for this facility is **$2,950**.

5.6d Public Works – 450 Thornhill Drive (Warehouse)

Overview

Address 450 Thornhill Drive, Port St. Lucie, FL
Sq Ft.: 4,800
Hours of Operation: Mon-Fri 8am to 5pm
FP&L Rate Structure: GSD with SDTR
Savings Calculation Methodology: Per ECM

The Publics Works warehouse building was built in 1998 and is part of the Public Works facility.

Existing Conditions

- The building lighting consists of a mixture of T-12 and 32w T-8 technology. The majority of the existing interior fixtures however are T-8 linear fluorescent fixtures. The exterior areas of this facility are currently illuminated by metal halide fixtures.

Recommendations

Honeywell is recommending the following ECMs:

- Building Lighting Upgrades
  - Existing T8 fixtures will be retrofit with energy efficient electronic ballasts with 28w reduced wattage T8 lamps
  - In areas where light levels were thought to be high the fixtures will be de-lamped. The proposed design will include reduced wattage T8 lamps, white reflector, and energy efficient ballasts. Fewer lamps per fixture will bring the light levels down to more appropriate levels.
  - Existing interior metal halide fixtures and 8' linear fluorescent T12 fixtures will be replaced with 8' linear fluorescent industrial strip fixtures with energy efficient 28w T8 lamps and high efficiency ballasts
  - Exterior HID fixtures will be replaced with induction fixtures
  - Passive infrared ceiling mounted sensors have been proposed in applicable areas

The total cost of recommended ECMs for this facility is **$7,300**.

5.6e Public Works – 450 Thornhill Drive (Office Trailer)

Overview

Address 450 Thornhill Drive, Port St. Lucie, FL
Sq Ft.: 1,100
Hours of Operation: Mon-Fri 8am to 5pm
FP&L Rate Structure: GSD with SDTR
Savings Calculation Methodology: Per ECM

The Publics Works office trailer was constructed in 2006 and is part of the Public Works facility. The Public Works mobile trailer is an office space.

Existing Conditions

- The majority of the existing interior fixtures though are T-8 linear fluorescent fixtures.
- The building HVAC is provided two small packaged DX air conditioners which are in good condition.
- The HVAC units are controlled by stand alone programmable thermostats.

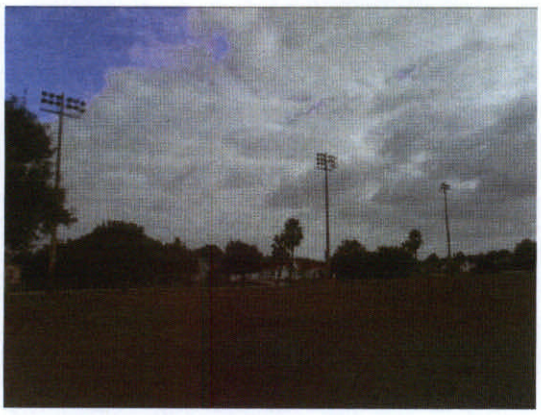
Recommendations

Honeywell is recommending the following ECMs:

- Building Lighting Upgrades (28w T-8s, delamping/reflectors)
- HVAC Controls Integration

The total cost of recommended ECMs for this facility is **$5,200**.

5.7 Swan Park

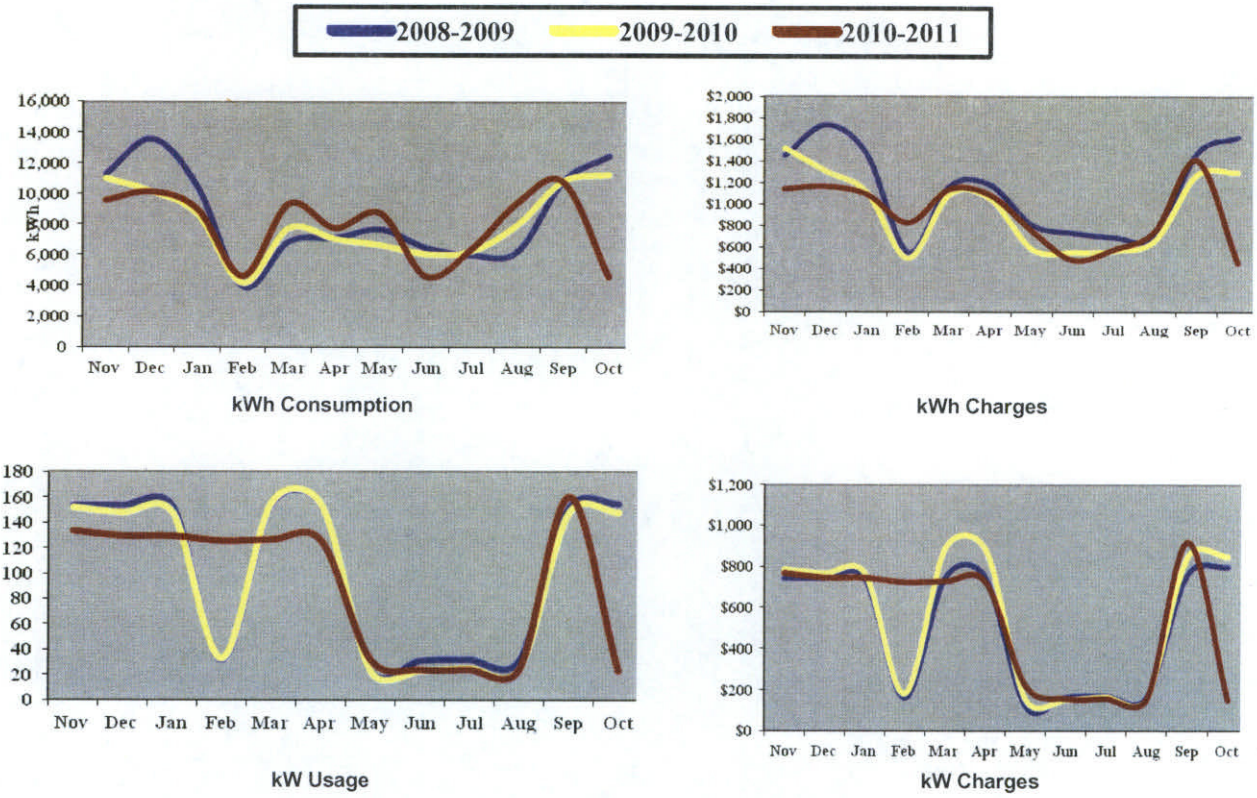


Overview

Address: 700 SW Carmelite St. Port St. Lucie, FL
Sq Ft.: 2,327
Hours of Operation:
FP&L Rate Structure: GSD with SDTR
Savings Calculation Methodology: Per ECM

Swan Park is a city owned public park which was established in 1987. The park is home to the soccer club and consists of outdoor soccer fields, playgrounds, concessions and a pavilion.

Utility Analysis



Existing Conditions

- The existing outdoor athletic fields' lighting is an outdated MUSCO controls system with inefficient Metal Halide fixtures.
- The indoor facilities building lighting utilize a mixture of inefficient T-12 fixtures and 32w T-8 fixtures. Incandescent fixtures are also present. All exit signs are LED technology.
- The building's plumbing fixtures are primarily high flow toilets, and high flow aerators on sinks.

Recommendations

Honeywell is recommending the following ECMs:
- Athletic Fields lighting and lighting controls retrofits
- Building Lighting Upgrades
  (28w T8s, reflectors/de-lamping, compact fluorescents, occupancy sensor controls)
- Vending Misers
- Water Conservation Retrofits (fixture and aerator replacements)

The total cost of recommended ECMs for this facility is **$258,900**.

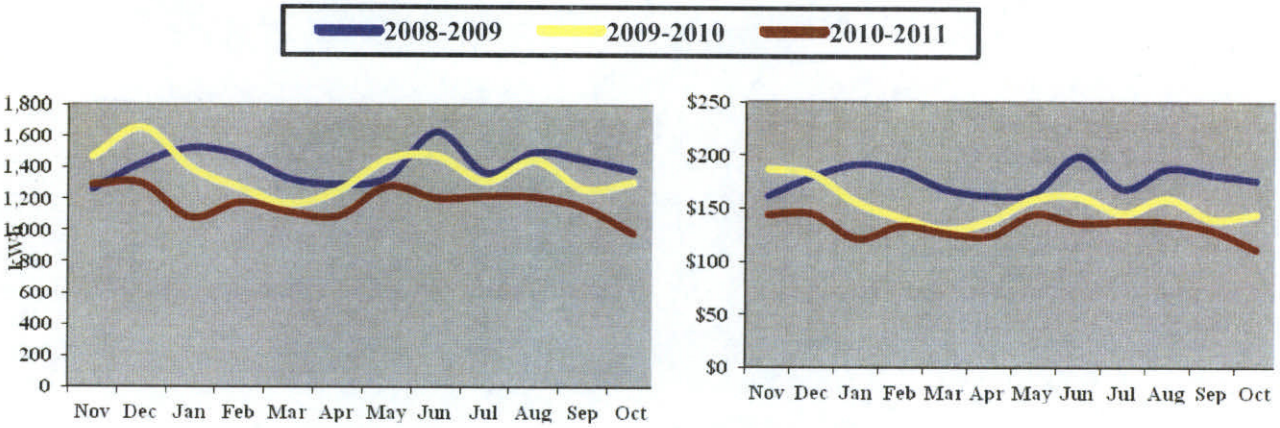
5.8 Veteran's Park at Rivergate

Overview

Address: 2203 SE Midport St. Port St. Lucie, FL
Sq Ft.: 3,234
Hours of Operation:
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

Veteran's Park at Rivergate is a city owned public park which was established in 1983. The park consists of a riverwalk, small pavilion, boat dock and parking lot.

Utility Analysis



kWh Consumption

kWh Charges

Existing Conditions

- The majority of lighting is exterior lighting consisting of one 1500w metal halide fixture for the boat dock, one 70w HPS fixture for the pavilion and (1) 70w metal halide for the pavilion. Parking lot lights are leased from FP&L.
- The building's plumbing fixtures are primarily low flow toilets, and high flow aerators on sinks.

Recommendations

Honeywell is recommending the following ECMs:
- Outdoor Lighting Upgrades
  (induction lighting retrofits)
- Vending Misers
- Water Conservation Retrofits (fixture tuning and aerator replacements)

The total cost of recommended ECMs for this facility is **$15,100**.

5.9 Rotary Park


Overview

Address 2101 South East Tiffany Avenue, Port St. Lucie, FL
Sq Ft.: 1,619
Hours of Operation:
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Per ECM

Rotary Park is a city owned public park which was established in 1986. Rotary Park consists of a pavilion, restroom areas and an unlit baseball field.

Existing Conditions

- The majority of the existing interior lighting fixtures are 32w T-8 linear fluorescents. Exterior lighting consists of metal halide and CFL fixtures.
- The building's plumbing fixtures are a mixture of low flow toilets, low flow urinals and high flow aerators on sinks.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8s, induction fixtures, occupancy sensor controls)
- Water Conservation Retrofits (tuning of existing fixtures and aerator replacements)

The total cost of recommended ECMs for this facility is **$2,000**.

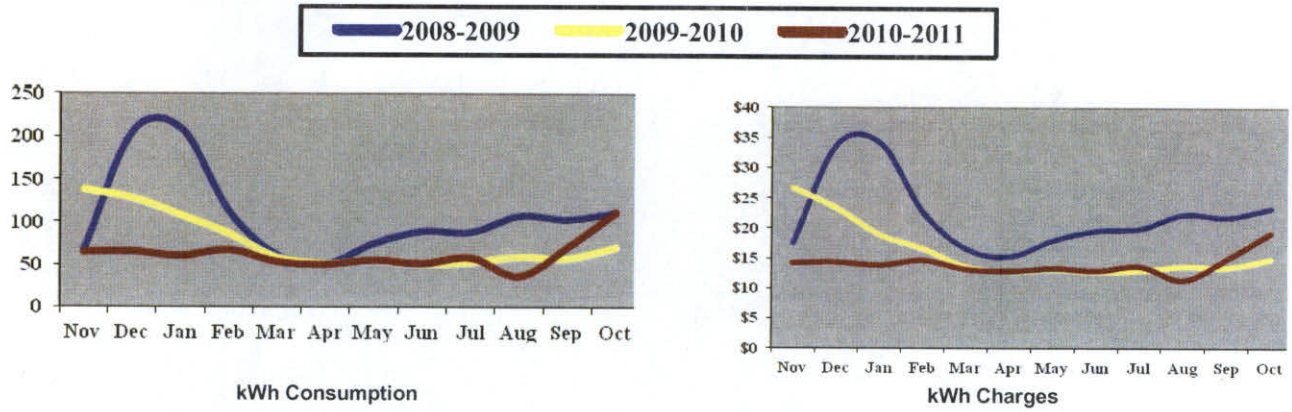
5.10 Jaycee Park

Overview

Address: 1301 SW Bayshore Blvd Port St. Lucie, FL
Sq Ft.: 3,512
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

Jaycee Park is a city owned public park which was established in 1983. The park consists of outdoor fields which are unlit, a pavilion and a 3,500 sq.ft. recreation building.

Utility Analysis



kWh Consumption

kWh Charges

Existing Conditions

- The exterior site lighting utilizes solar powered pole lights.
- The recreation building utilizes 32w T-8 fixtures and compact fluorescent lamps. Exterior 400W metal halide pole fixtures are also utilized.
- The building's plumbing fixtures are a mixture of low flow toilets, low flow urinals and high and low flow aerators on sinks.
- Building HVAC is provided by two 2.5 ton split DX air conditioners which are in good condition.
- The HVAC units are controlled by stand alone programmable thermostats.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8s, compact fluorescents, induction, occupancy sensor controls)
- Water Conservation Retrofits (tuning of existing fixtures and some aerator replacements)
- HVAC Controls Integration.

The total cost of recommended ECMs for this facility is **$9,960**.

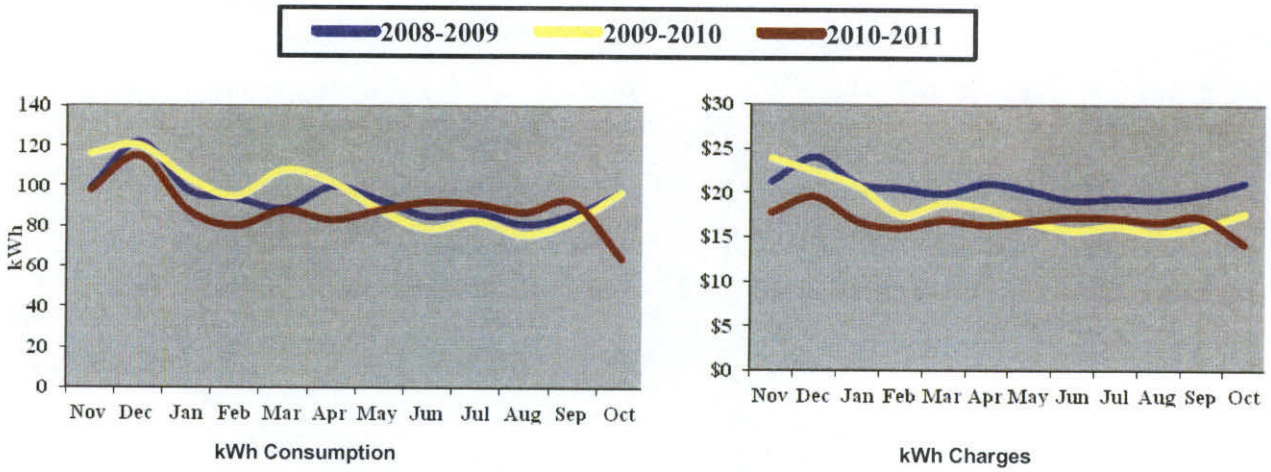
5.11 Kiwanis Park

Overview

Address: 1320 SE Floresta Drive Port St. Lucie, FL
Sq Ft.: 3,097
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

Jaycee Park is a city owned public park which was established in 1990. The park consists of playgrounds, small pavilion and restrooms.

Utility Analysis



kWh Consumption

kWh Charges

Existing Conditions

- The exterior site lighting utilizes solar powered pole lights.
- The park's plumbing fixtures consist of one low flow toilet and one sink with a high flow aerator.

Recommendations

Honeywell is recommending the following ECMs:
- Water Conservation Retrofits (tuning of existing fixtures and aerator replacement)

The total cost of recommended ECMs for this facility is **$390.**

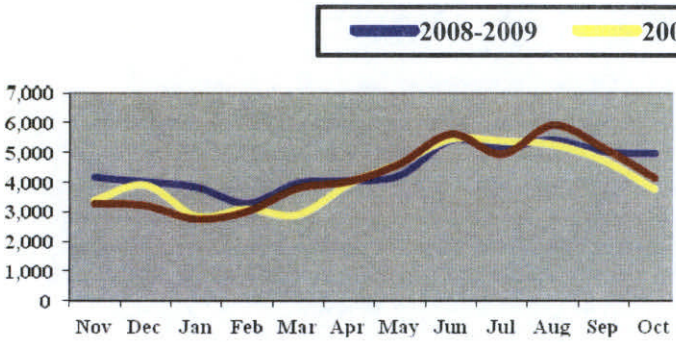
5.12 Pkg. & Bldg Maint. Yard – 1901 SW Hampsire Lane

Overview

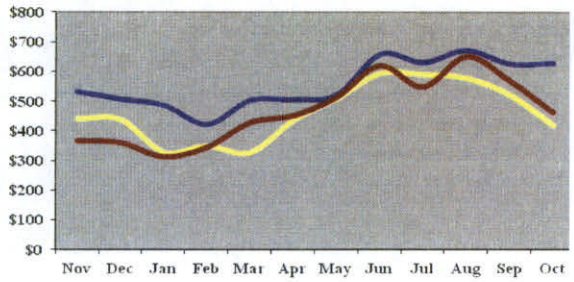
Address: 1901 SW Hampshire Lane Port St. Lucie, FL
Sq Ft.: 14,937
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility was built in 2000 and serves as a maintenance operations and storage facility.

Utility Analysis



kWh Consumption



kWh Charges

Existing Conditions

- The majority of the existing interior fixtures in this facility are 32w 2-lamp T8 linear fluorescent fixtures however some T-12 flourescents and incandescent lamps still exist. All existing exit signs are high efficiency LED.
- The existing plumbing fixtures consist of high flow tank type toilets and high flow sink aerators.
- Building HVAC is provided by multiple small split DX air conditioners which are in fair condition.
- The HVAC units are controlled by programmable thermostats which were found to be in the permanent hold position.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8s, compact fluorescents, occupancy sensor controls)
- Water Conservation Retrofits (toilets and aerators replacements with low flow type)
- HVAC Controls Integration.

The total cost of recommended ECMs for this facility is **$9,100**.

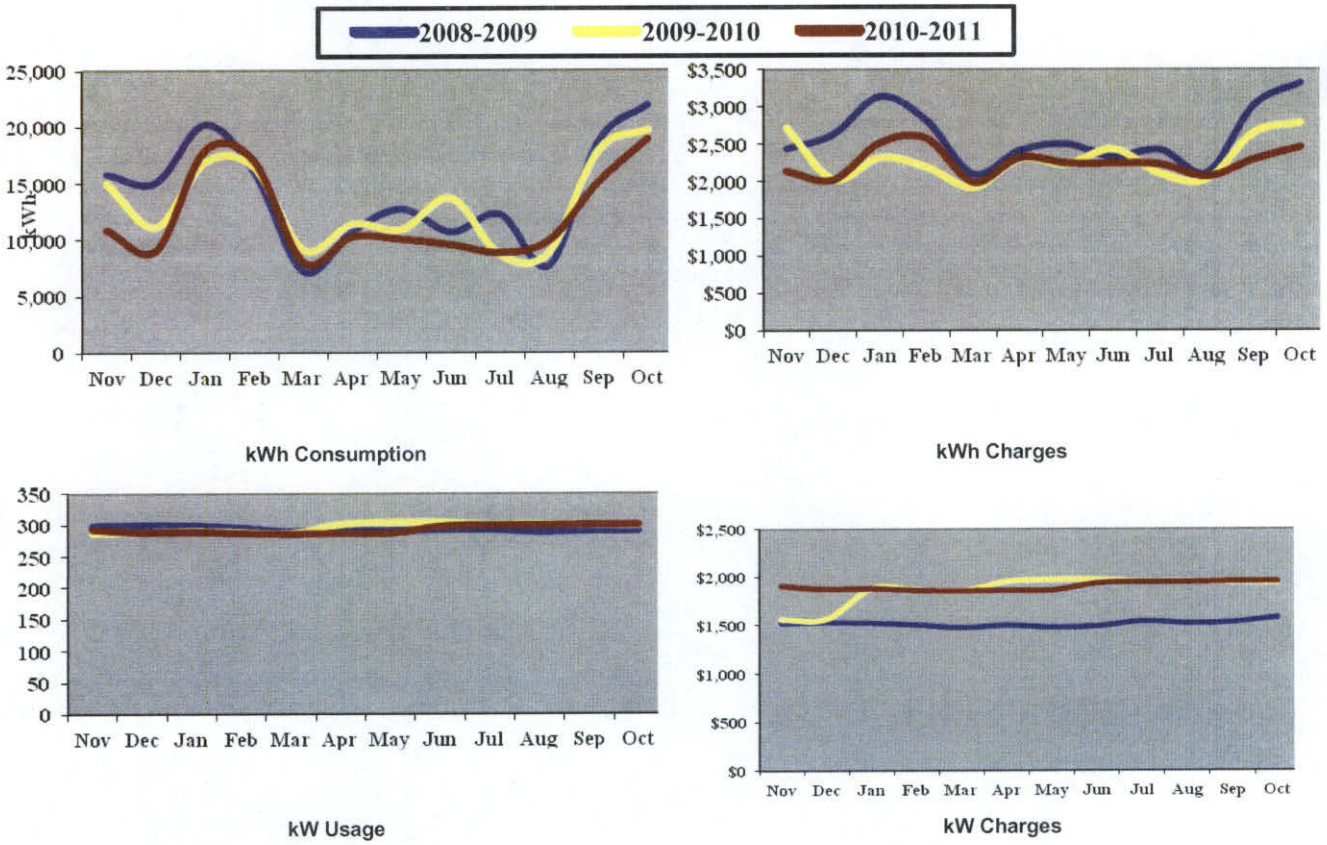
5.13 Sandhill Crane Park

Overview

Address 2355 South East Scenic Park Drive, Port St. Lucie, FL
Sq Ft.: 10,776
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Per ECM

Sandhill Crane Park is a city owned public park which was established in the early 90s. The park consists of outdoor baseball fields, volleyball courts, racquetball courts, concessions and a pavilion.

Utility Analysis



Existing Conditions

- The existing outdoor athletic fields' lighting consists of inefficient 1500w Metal Halide fixtures controlled by time clocks.
- The indoor facilities building lighting utilize 32w T-8 linear flourescents, incandescent and compact fluorescent technology. However the majority of the existing interior fixtures in this facility are 1x4 2-lamp T-8 linear fluorescent fixtures.
- The building's plumbing fixtures are a mixture of low flow toilets, low flow urinals and high flow aerators on sinks.
- The concessions area HVAC systems consist of multiple small DX split units which are in good condition and controlled by programmable thermostats.

Recommendations

Honeywell is recommending the following ECMs:
- Athletic Fields lighting and lighting controls retrofits
- Building Lighting Upgrades
  (28w T8s, reflectors/de-lamping, compact fluorescents, occupancy sensor controls)
- Vending Misers

- Water Conservation Retrofits (tuning of existing fixtures and aerator replacements)

The total cost of recommended ECMs for this facility is **$520,460**.

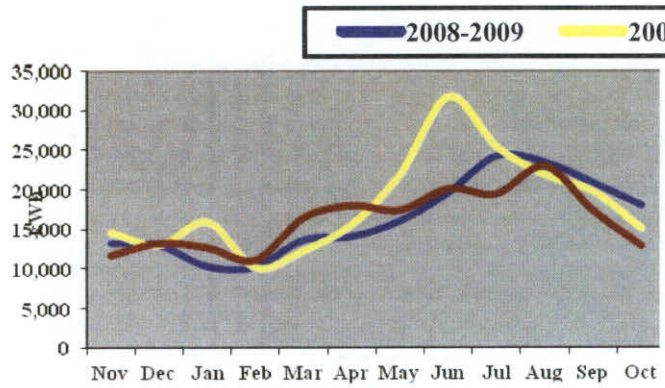
5.14 Whispering Pines Park

Overview

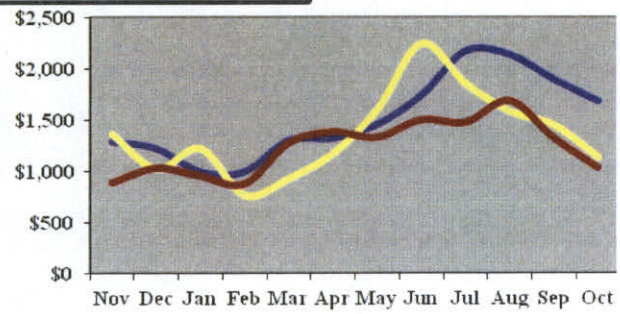
Address: 900 SW Darwin Blvd St. Port St. Lucie, FL
Sq Ft.: 18,485
Hours of Operation: Mon - Fri 8 am to 9 pm, Sat & Sun 8 am to 9 pm
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Per ECM (Model for Minski Gymnasium)

Whispering Pines Park is a city owned public park which was established in the early 1993. The park consists of outdoor baseball fields, tennis courts, concessions and a pavilion. The park also has a gymnasium.

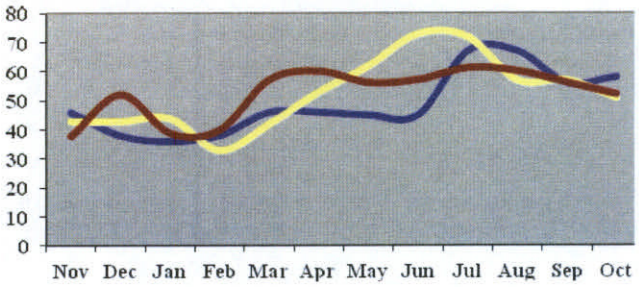
Utility Analysis



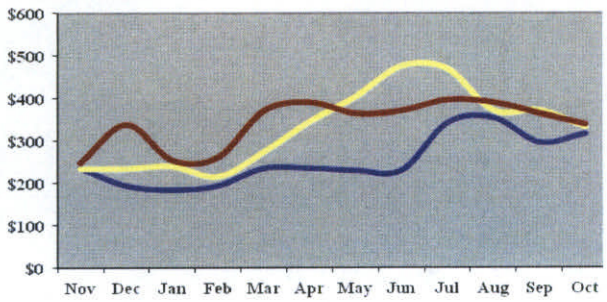
kWh Consumption



kWh Charges



kW Usage



kW Charges

Existing Conditions

- The existing outdoor athletic fields' lighting consists of inefficient 1500w Metal Halide fixtures controlled by time clocks.
- The indoor facilities building lighting utilize 32w T-8 linear flourescents, incandescent and compact fluorescent technology. However the majority of the existing interior fixtures in this facility are 1x4 2-lamp T-8 linear fluorescent fixtures. The Minski gym utilizes metal halide fixtures.
- The building's plumbing fixtures are a mixture of low flow toilets, low flow urinals and high flow aerators on sinks.
- The Minslki Gym's HVAC consists of (4) 12.5 ton packaged DX split systems which were installed in 1998 and are old and inefficient.
- HVAC controls for the Minski Gym consist of stand alone thermostats.

Recommendations

Honeywell is recommending the following ECMs:
- Athletic Fields lighting and lighting controls retrofits
- Building Lighting Upgrades
  (28w T8s, reflectors/de-lamping, compact fluorescents, T-5 high bay fluorescents for gymnasium, occupancy sensor controls)
- Vending Misers
- Water Conservation Retrofits (tuning of existing fixtures and aerator replacements)
- HVAC replacements for Minski Gym.
- Controls integration and programmable thermostats for Minski Gym.

The total cost of recommended ECMs for this facility is **$887,970**.

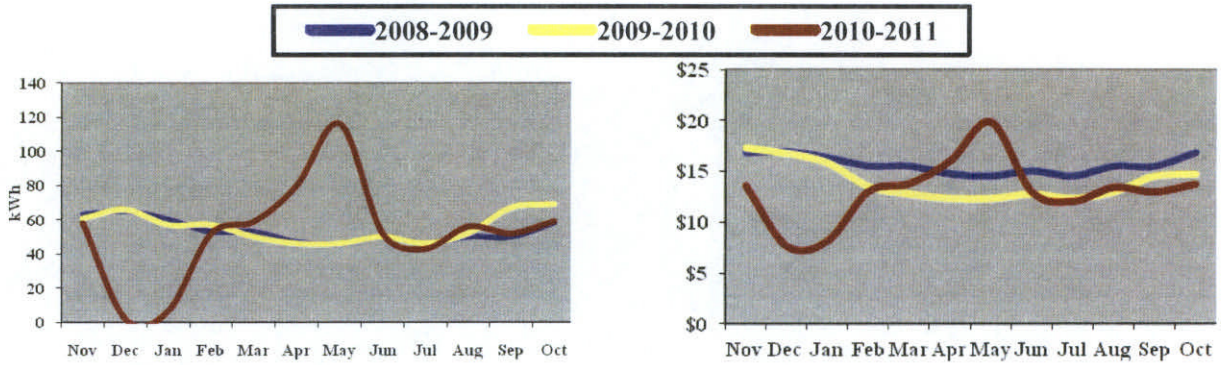
5.15 Girl Scout Park

Overview

Address: 315 NW Heather Street Port St. Lucie, FL
Sq Ft.: 408
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

Jaycee Park is a city owned public park which was established in the early 90s. The park consists of playgrounds, small pavilion and restrooms.

Utility Analysis



kWh Consumption

kWh Charges

Existing Conditions

- The exterior site lighting utilizes solar powered pole lights.
- The park's plumbing fixtures consist of one low flow toilet and one sink with a high flow aerator.

Recommendations

Honeywell is recommending the following ECMs:
- Water Conservation Retrofits (tuning of existing fixtures and aerator replacement)

The total cost of recommended ECMs for this facility is **$390.**

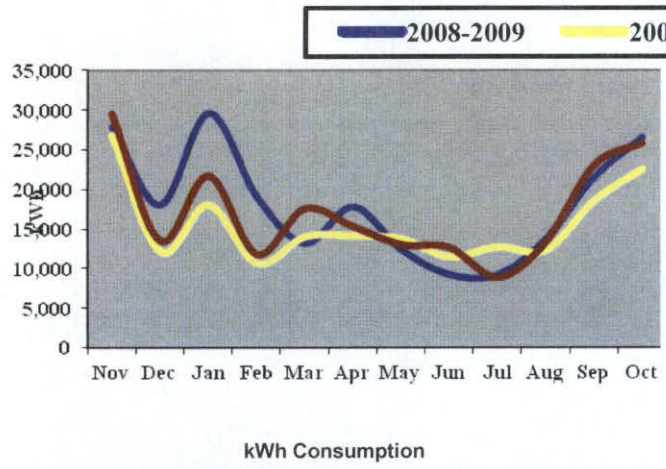
5.16 McChesney Park

Overview

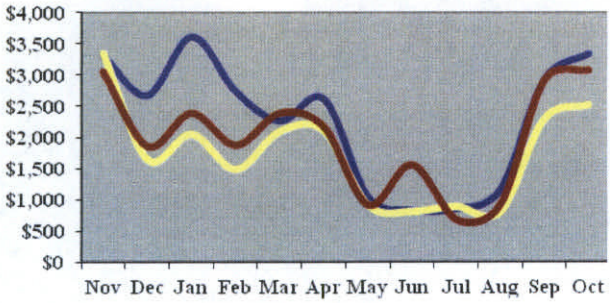
Address: 1585 SW Cashmere Blvd Port St. Lucie, FL
Sq Ft.: 3,464
FP&L Rate Structure: GSD with SDTR
Savings Calculation Methodology: Per ECM

McChesney Park is a city owned public park which was established in 1995. The park is home to the soccer club and consists of outdoor soccer fields, playgrounds, concessions and a pavilion.

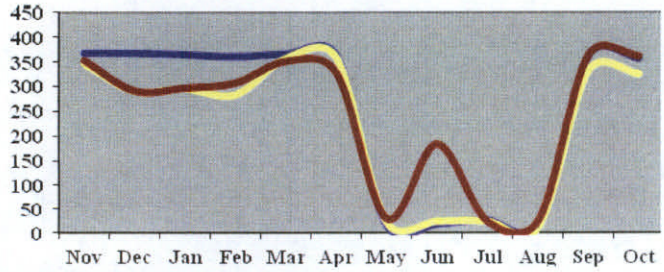
Utility Analysis



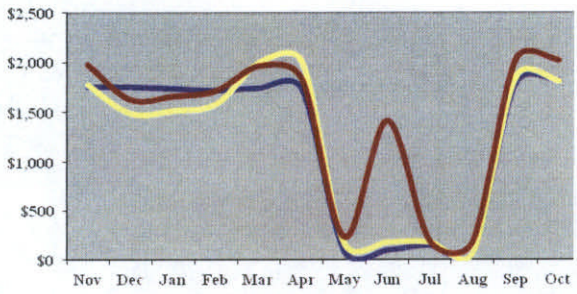
kWh Consumption



kWh Charges



kW Usage



kW Charges

Existing Conditions

- The existing outdoor athletic fields' lighting is an outdated MUSCO controls system with inefficient Metal Halide fixtures.
- The indoor facilities building lighting utilize primarily inefficient T-12 fixtures.
- The building's plumbing fixtures are a mixture of low flow toilets, low flow urinals and high and low flow aerators on sinks.

Recommendations

Honeywell is recommending the following ECMs:
- Athletic Fields lighting and lighting controls retrofits are NOT recommended based on energy saving alone.
- Building Lighting Upgrades (28w T8s, reflectors/de-lamping, compact fluorescents, occupancy sensor controls)
- Vending Misers
- Water Conservation Retrofits (tuning of existing fixtures and some aerator replacements)

The total cost of recommended ECMs for this facility is **$6,900**.

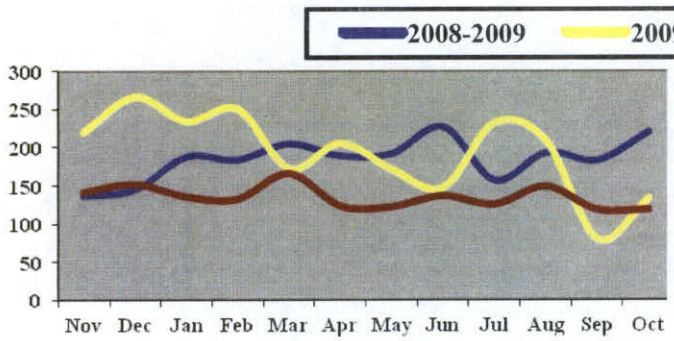
5.17 Turtle Run Park

Overview

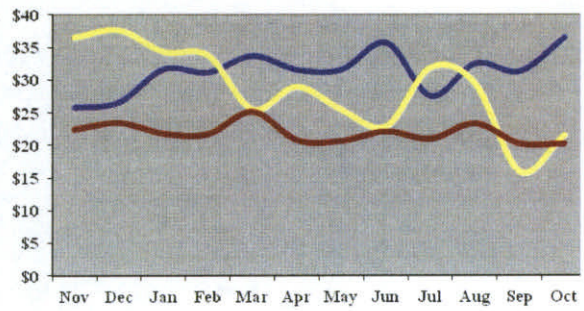
Address: 1945 SW Cameo Blvd Port St. Lucie, FL
Sq Ft.: 1,134
Hours of Operation: 8am to dusk
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

Turtle Run Park is a city owned public park which was established in 1996 and consists of a playground, unlit fields, and a pavilion.

Utility Analysis



kWh Consumption



kWh Charges

Existing Conditions

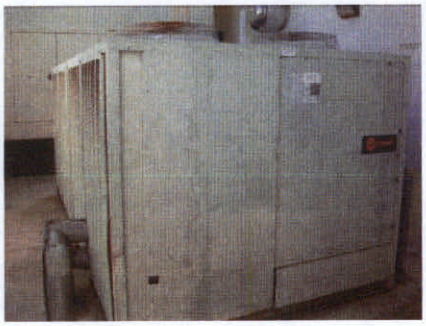
- There are very few lighting fixtures at this Park. There is an existing 32w T-8 flourescent in the restroom.
- There are two low flow toilets and two high flow sink aerators.
- There are no HVAC systems.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8s)
- Water Conservation Retrofits (tuning of existing toilets and aerator replacements)

The total cost of recommended ECMs for this facility is **$300**.

5.18 Community Center – Airoso Blvd.

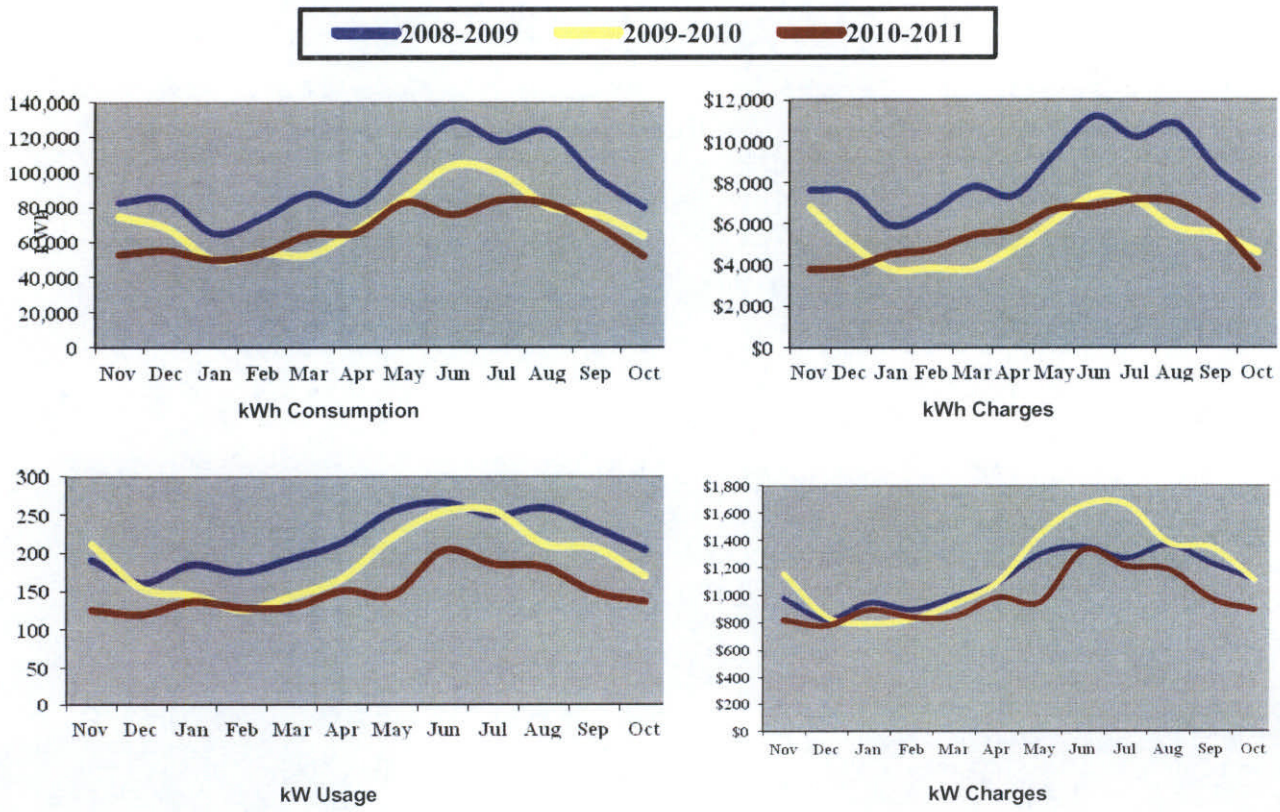


Overview

Address: 2195 SE Airoso Blvd, Port St. Lucie, FL
Sq Ft.: 31,345
Hours of Operation: Mon - Fri 5:30 am to 9:30 pm, Sat & Sun 7 am to 1 am
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Model

This facility was originally built in 1998 and was expanded in the mid 2000s. It is the community center which consists of multipurpose spaces and children play areas.

Utility Analysis



Existing Conditions

- The building's existing lighting consists of T8 linear fluorescent interior fixtures as well as compact flourescent lamps. Incandescent fixtures are still utilized in the kitchen. Existing exit signs are LED. Occupancy sensors in back of house areas only.
- The building's plumbing fixtures are low flow 1.6 gpf toilets, 1gpf urinals and low flow aerators on sinks.
- The building envelope was found to have numerous instances of air gap leakage at roof joints, windows and door sweeps.

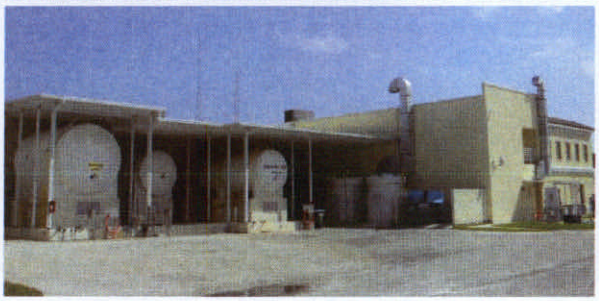
- Building HVAC is provided by two 60 ton DX air handling units with air cooled condensers, which were installed in 1998. These units are old, inefficient and at the end of their useful life. The newer wing is conditioned by multiple small DX split systems which are in good condition.
- HVAC controls are stand alone thermostats.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades
  (compact fluorescents, 28w T8s, reflectors/delamping, occupancy sensor controls)
- Vending Misers
- Water Conservation Retrofits (tuning and maintenance parts replacement of existing fixtures)
- Building Envelope Weatherization
- HVAC Equipment Replacements
- HVAC Controls and Integration

The total cost of recommended ECMs for this building is **$328,750**.

5.19 Prineville Treatment Plant

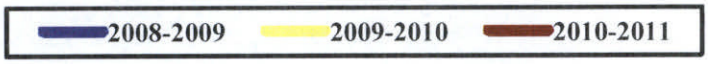


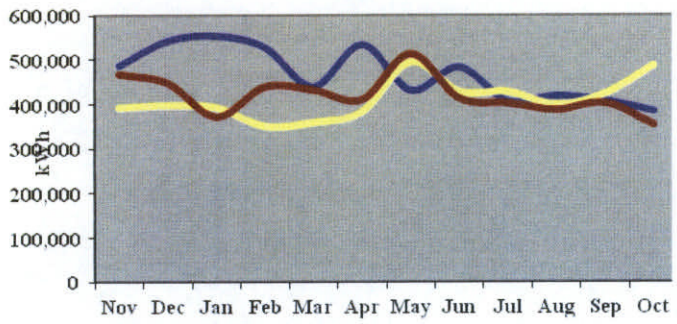
Overview

Address 1001 SF Prineville Street/ 900 Ogden Lane, Port St. Lucie, FL
Hours of Operation: Sun-Sat 8am to 5pm
FP&L Rate Structure: HLFT-2 & GSDT-1
Savings Calculation Methodology: Model

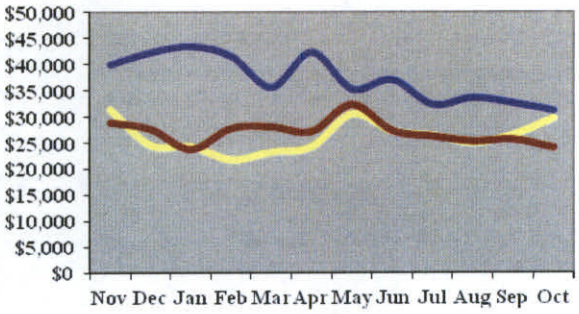
The Prineville Treatment Plant consists of three plant operations and support buildings. It houses office areas as well as areas such as process rooms, pump rooms, and lab areas.

Utility Analysis - Main

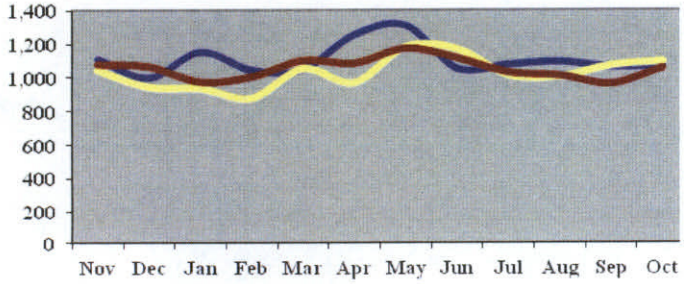




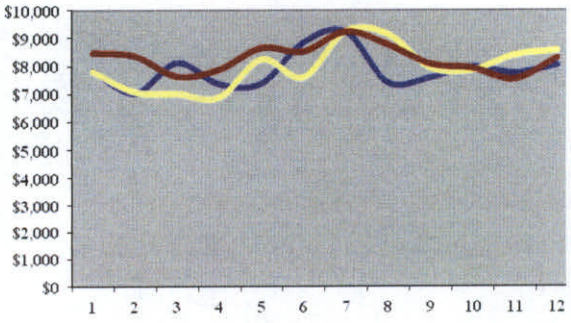
kWh Consumption



kWh Charges

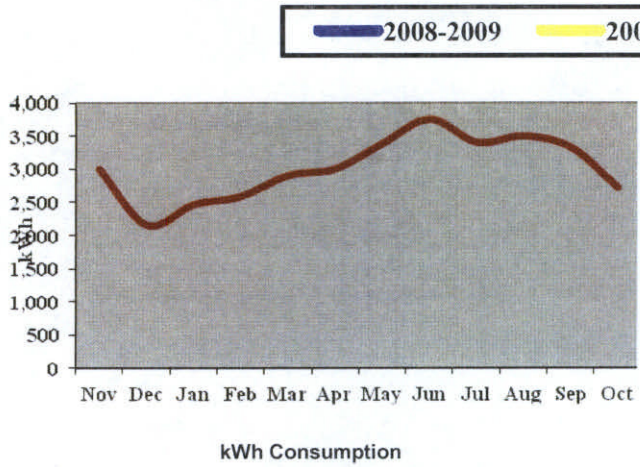


kW Usage

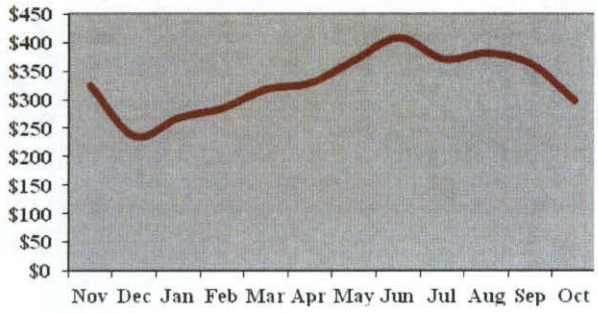


kW Charges

Utility Analysis – North Warehouse

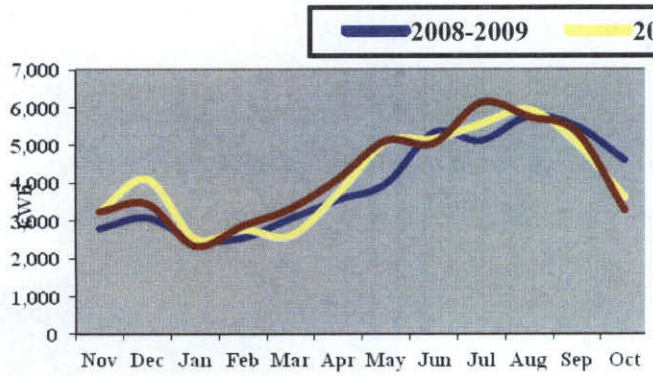


kWh Consumption

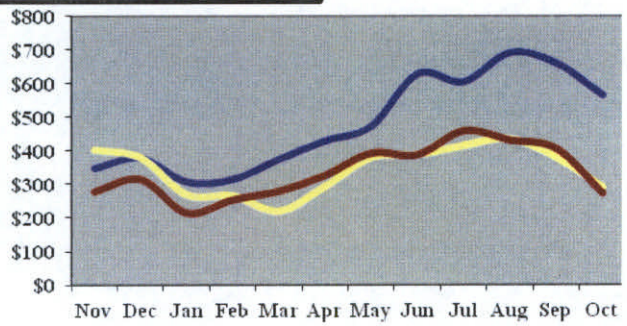


kWh Charges

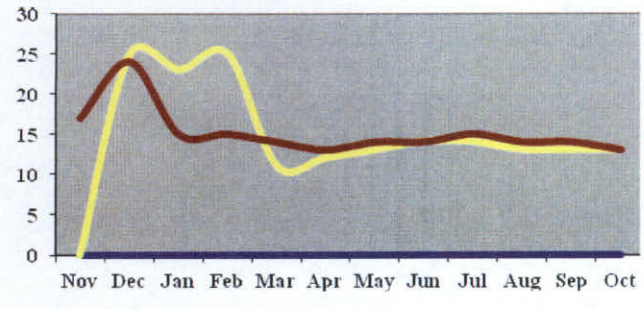
Utility Analysis – Warehouse



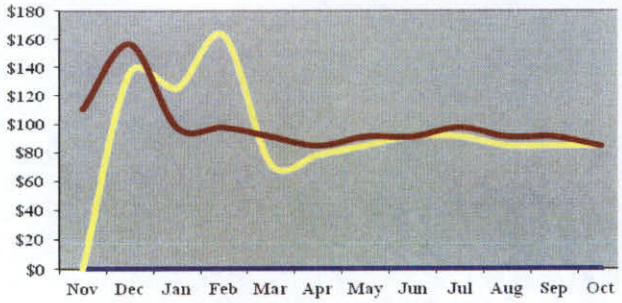
kWh Consumption



kWh Charges

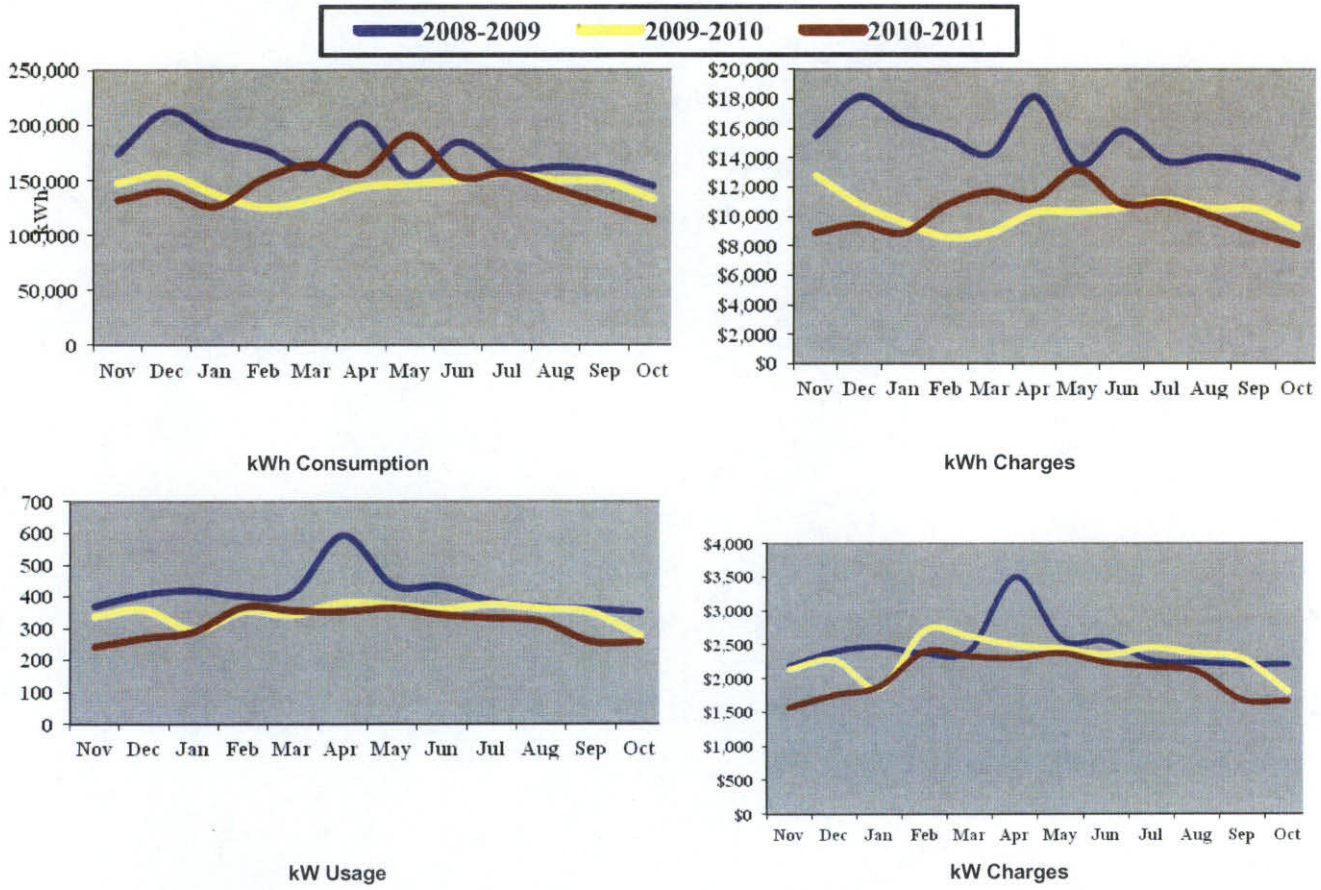


kW Usage



kW Charges

Utility Analysis – Lime Plant



Existing Conditions

- The building's existing lighting consists of a mixture of T-12, T-8, and incandescent technology. The majority of the existing interior fixtures in this facility are 2x4 32w T-8 linear fluorescent fixtures. The exterior areas of this facility are currently illuminated by metal halide, high pressure sodium, T8 linear fluorescent fixtures, and compact fluorescent fixtures.
- The buildings' plumbing fixtures are a mixture of high and low flow toilets, urinals and aerators on sinks.
- Buildings' HVAC is provided by packaged DX rooftop units and split system DX units. The main building is served by the rooftop units which are constant volume bypass and old and inefficient. The remaining buildings are served by packaged DX systems.
- HVAC controls are stand alone thermostats for DX units and an antiquated Carrier VVT system for the main building.
- The building has an existing 350 kW emergency generator capable of carrying the entire peak building electrical load.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades
  (28w T8s, reflectors/delamping, CFLs, replace HID with induction fixtures, occupancy sensor controls)
- Vending Misers
- Water Conservation Retrofits (retrofits of existing fixtures as well as tuning)
- HVAC Equipment Replacements
  (two RTUs at Main Building and six split DX systems at support buildings)
- Convert Main Building RTUs to VAV units with VFDs.
- HVAC Controls Upgrade, Integration and Sequences Modifications
- Utilize existing generator for load shedding

The total cost of recommended ECMs for this building is **$310,000.**

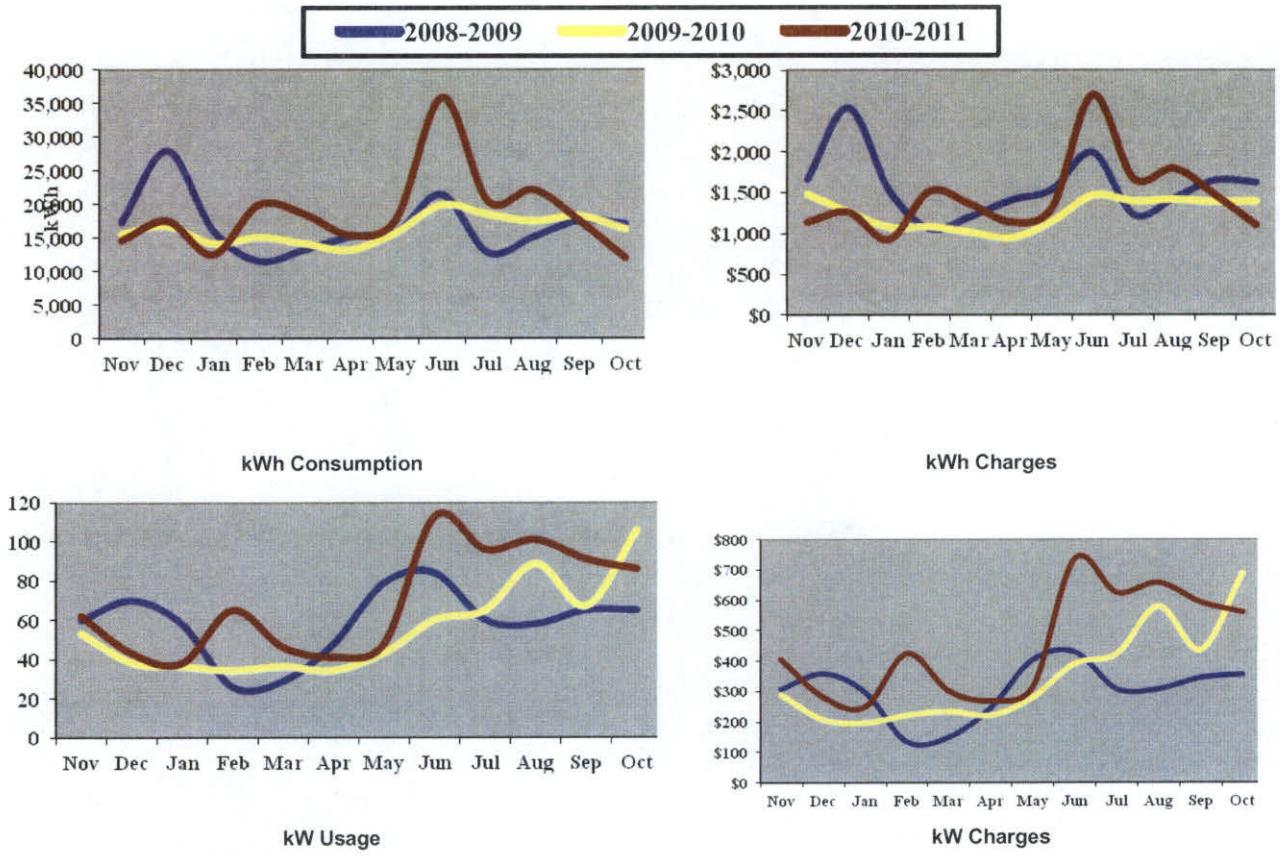
5.20 South Port Waste Water Treatment Plant

Overview

Address 1615 Sunshine Avenue, Port St. Lucie, FL
Hours of Operation: 24/7
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Per ECM

The South Port Waste Water Treatment building consists of generator and pump rooms.

Utility Analysis – A - South Port WWTP



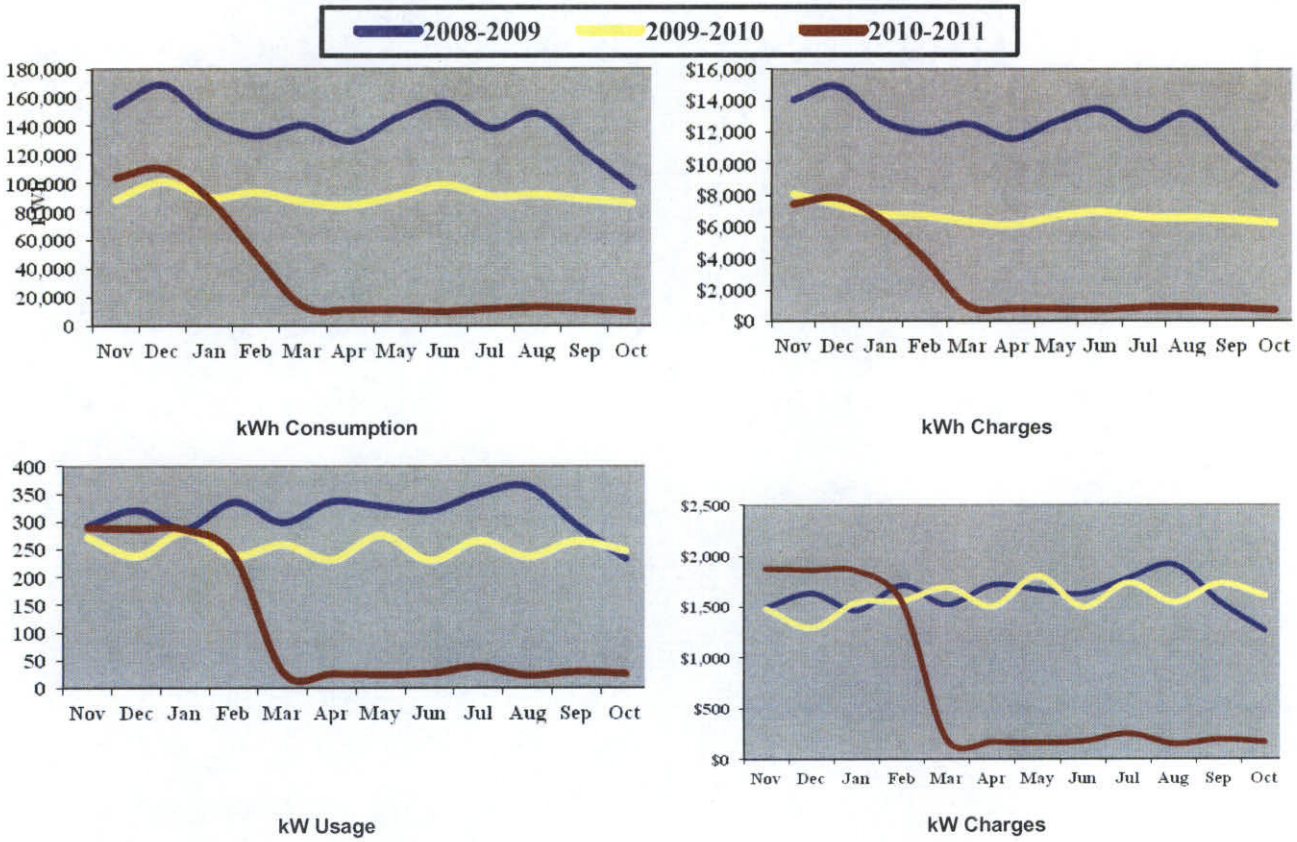
kWh Consumption

kWh Charges

kW Usage

kW Charges

Utility Analysis – B - South Port



Existing Conditions

- This buildings lighting currently consists of inefficient T-12 linear flourescents, high intensity discharge, and compact fluorescent technology. The majority of the existing interior fixtures in this facility are 1x4 2-lamp T12 linear fluorescent fixtures.
- The exterior areas of this facility are currently illuminated by metal halide, high pressure sodium, and compact fluorescent fixtures.
- The Building's HVAC is provided by two 5 ton DX split systems which were are in good condition.
- HVAC controls consist of programmable stand alone thermostats.

Recommendations

Honeywell is recommending the following ECMs:

- Building Lighting Upgrades

  (28w T8s, delamping/reflectors, 4 lamp T-8 low bay fixtures for pump room, induction exterior fixtures)

- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$62,575**.

5.21 North Port Waste Water Treatment Plant

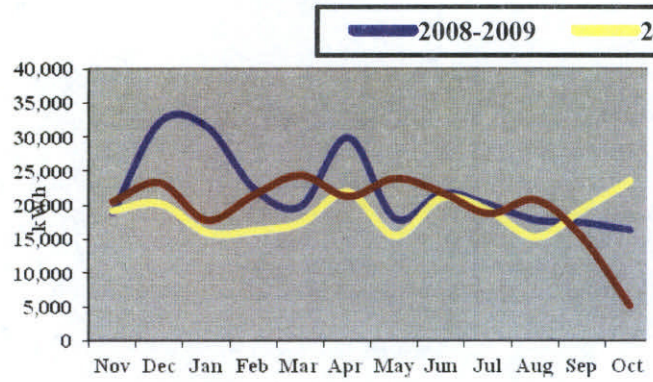


Overview

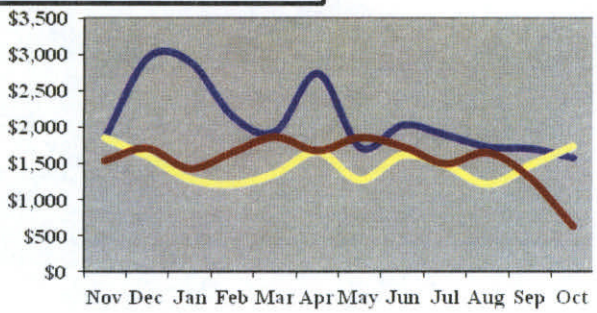
Address: 281 Royce Ave. Port St. Lucie, FL
Hours of Operation: 24/7 unoccupied
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Per ECM

This facility serves as a pumping station for a waste water treatment plant.

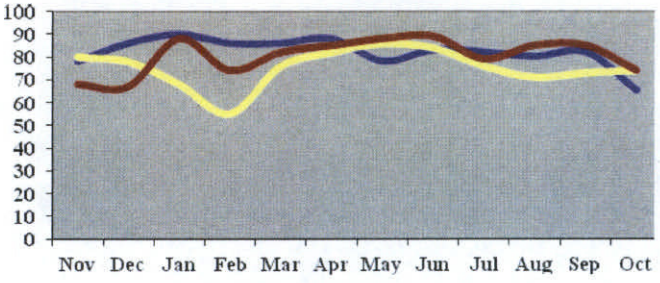
Utility Analysis – A – North Port WWTP



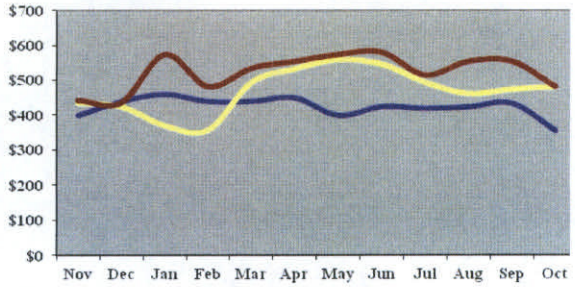
kWh Consumption



kWh Charges

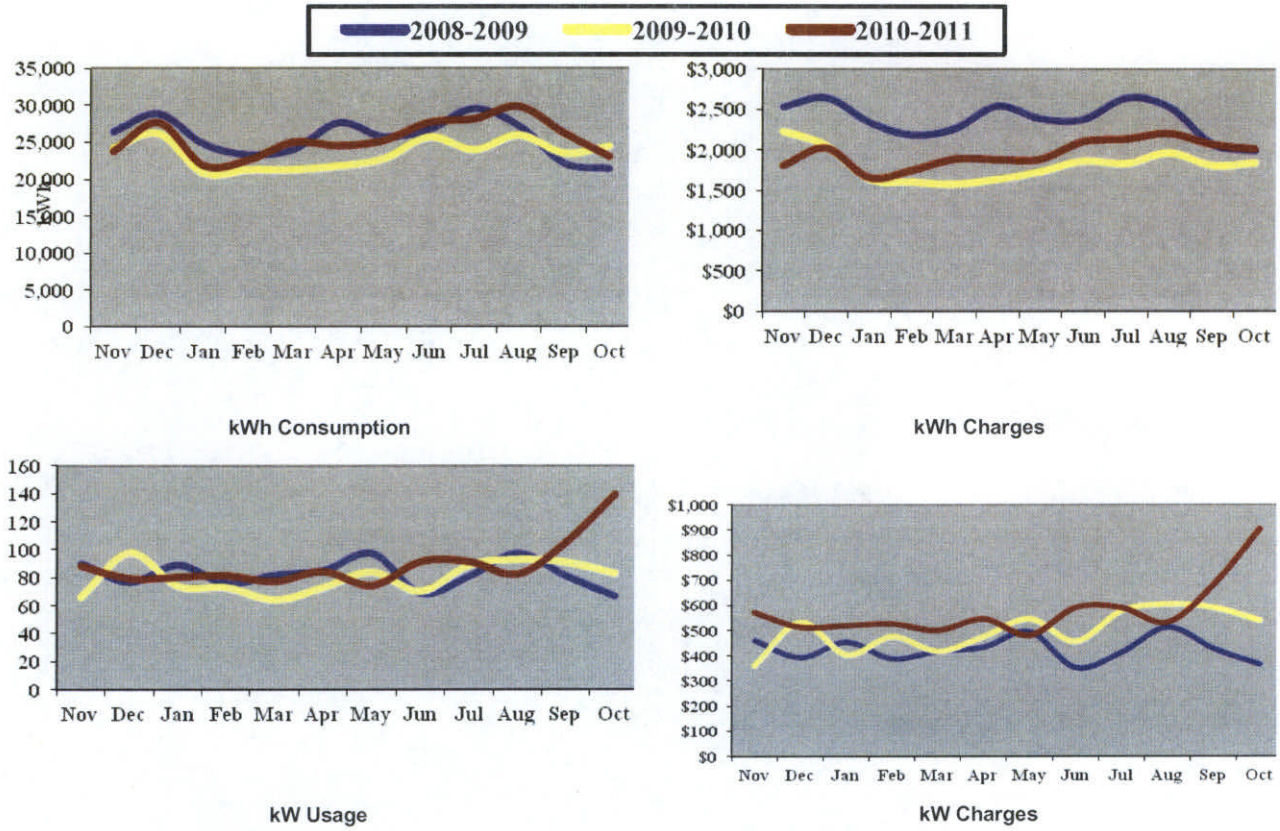


kW Usage



kW Charges

Utility Analysis – B – North Port WWTP



Existing Conditions

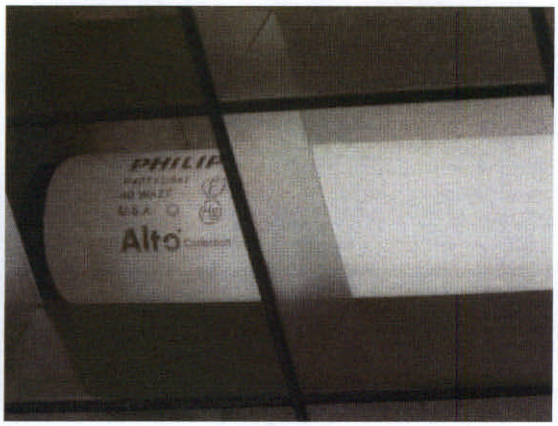
- The building's existing lighting consists of a mixture of 32w T8 and some inefficient T12 linear fluorescent interior fixtures. The main pumping room is illuminated with 400w metal halide fixtures. All exit signs are high efficiency LEDs.
- Building's HVAC is provided by two 5 ton DX split systems which were are in good condition.
- HVAC controls consist of programmable stand alone thermostats.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades
  (28w T8s, 4 lamp T-5 high bay fixtures for pump room)
- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$12,130**.

5.22 West Port Waste Water Treatment Plant

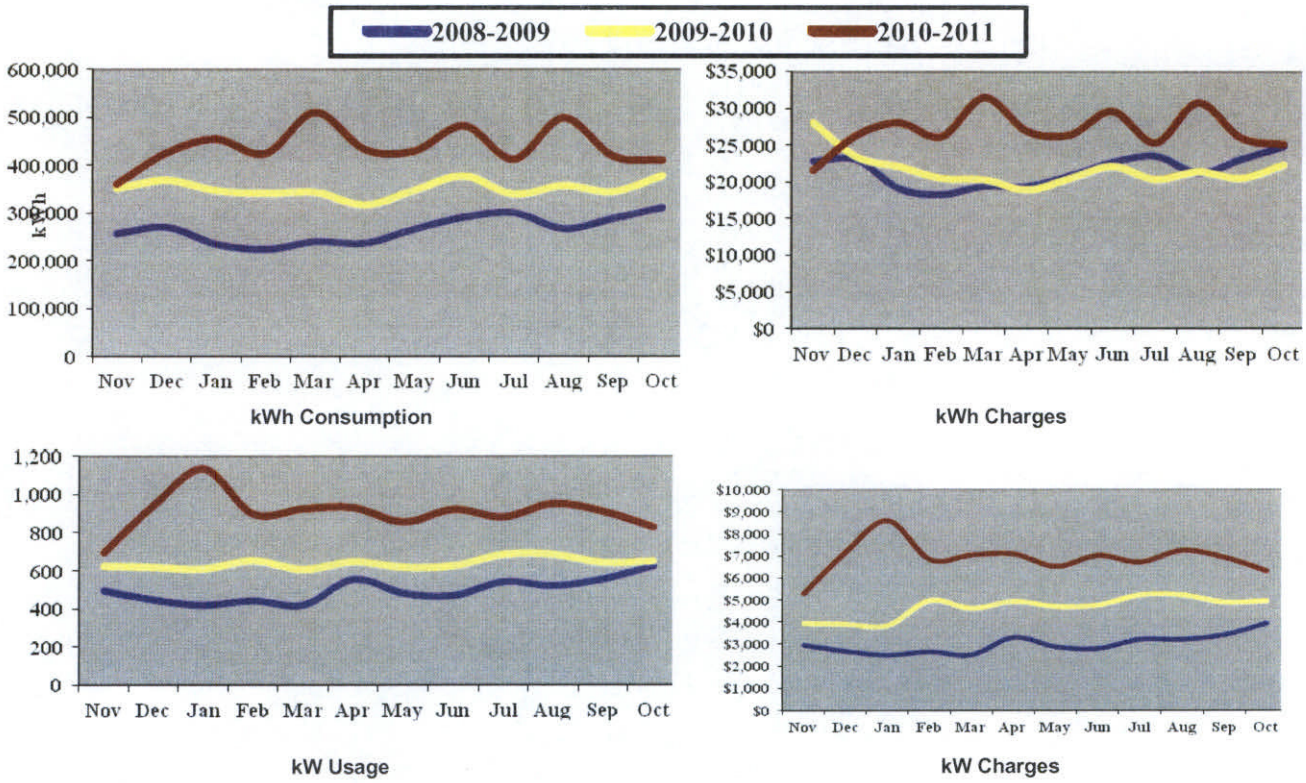


Overview

Address: 851 SW Darwin Blvd St. Port St. Lucie, FL
Hours of Operation: 24/7
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Per ECM

This facility is a waste water treatment plant and consists of multiple buildings.

Utility Analysis



Existing Conditions

- The buildings' existing lighting consists of a mixture of 32w T8 and some inefficient incandescent fixtures. Some inefficient 40w T-12s also exist.
- The buildings' plumbing fixtures consist of high flow tank type toilets and high flow sink aerators
- Buildings' HVAC is provided by multiple 5 ton or less DX split systems which were are in good condition and one 7.5 ton packaged DX rooftop unit which is old and inefficient.
- HVAC controls consist of programmable and non-programmable stand alone thermostats.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8s, CFLs)
- Vending Misers
- Water Conservation (fixture replacements)
- HVAC rooftop DX system replacement
- HVAC Controls Integration and programmable thermostats

The total cost of recommended ECMs for this building is **$126,800**.

5.23 Mid Port Waste Water Treatment Plant

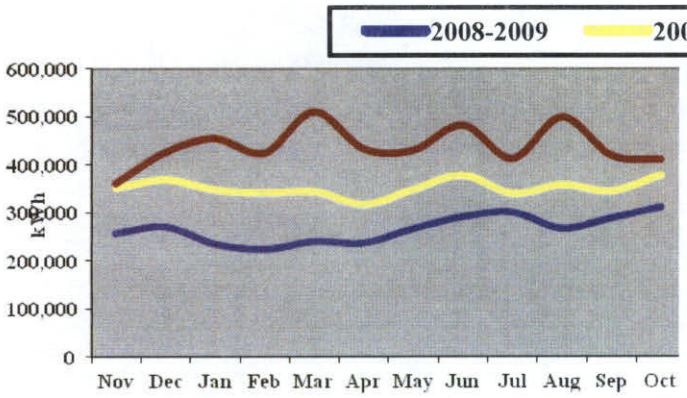


Overview

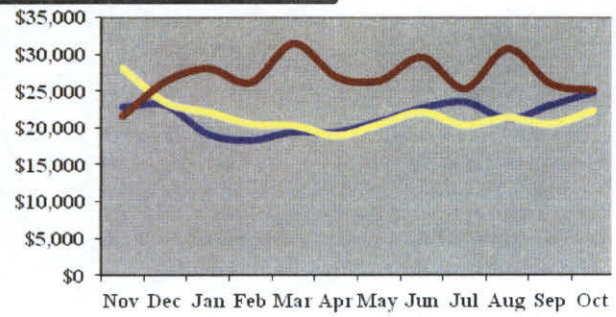
Hours of Operation: 24/7 unoccupied
FP&L Rate Structure: GSLD-1
Savings Calculation Methodology: Per ECM

This building houses re-pumping for water utilities.

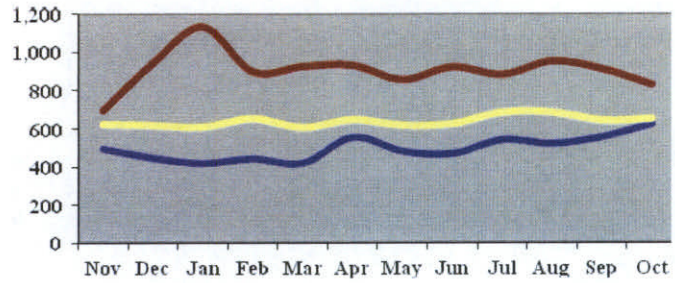
Utility Analysis



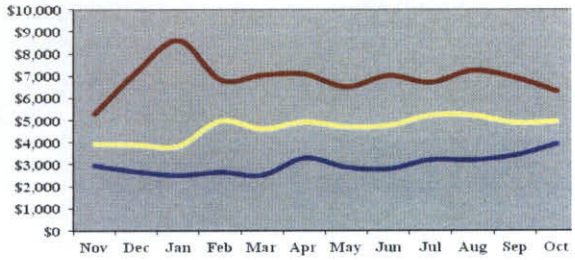
kWh Consumption



kWh Charges



kW Usage



kW Charges

Existing Conditions

- The building's existing lighting consists of a mixture of 32w T8 and some inefficient T12 linear fluorescent interior fixtures.
- Building's HVAC is provided by two 5 ton DX split systems which were installed in 2008 and are in good condition.
- HVAC controls consist of programmable stand alone thermostats.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades
  (28w T8s, reflectors/delamping)
- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$8,200**.

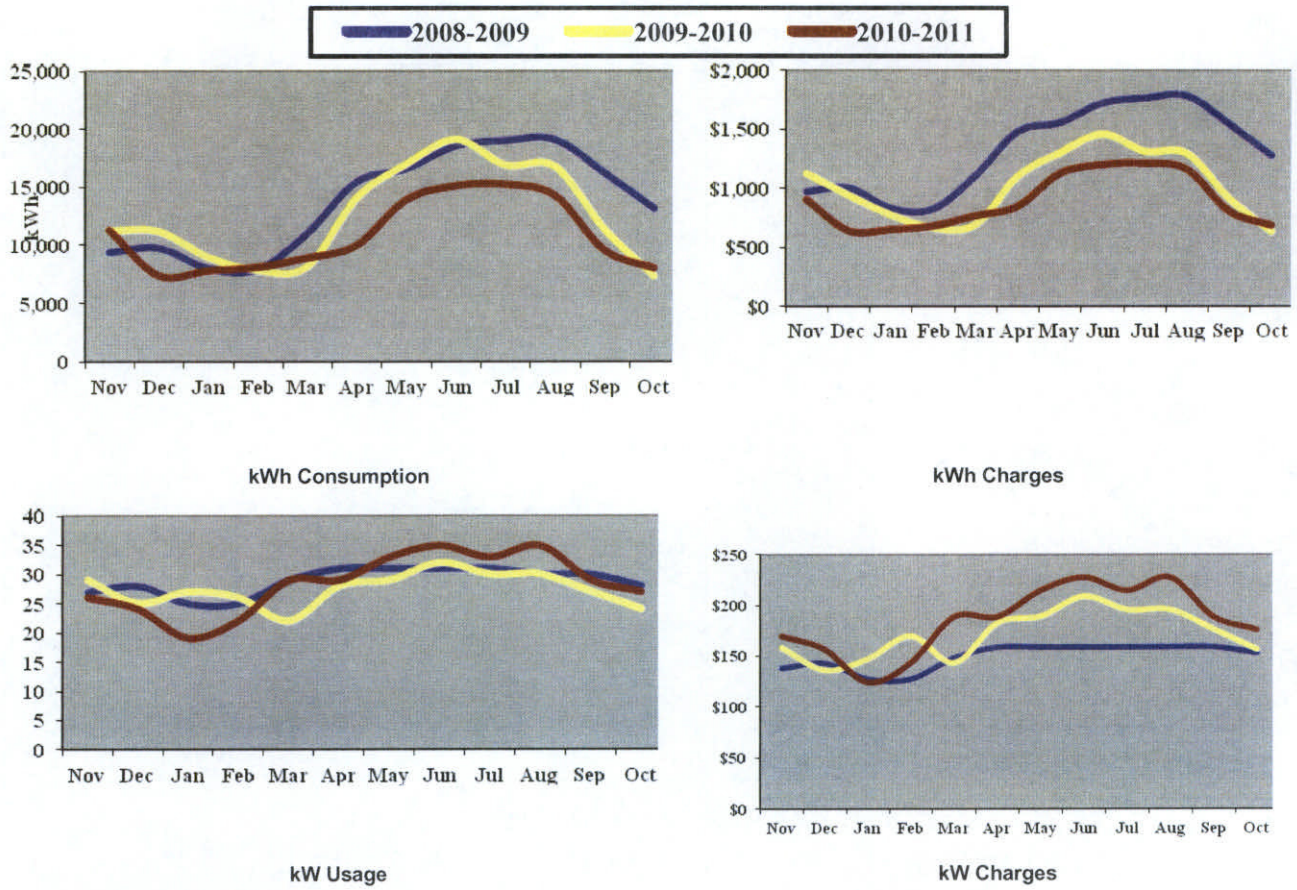
5.24a Neighborhood Services Office Bldg – 1118 SW Biltmore

Overview

Address: 1118 SW Biltmore St Port St. Lucie, FL
Sq Ft.: 1,330
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility is an office building for Neighborhood Services.

Utility Analysis



Existing Conditions

- The building's existing lighting consists of 32w T8 linear fluorescent interior fixtures as well as 60w incandescent lamps.
- Building HVAC is provided by two packaged DX systems which are in fair condition.
- The HVAC system is controlled by programmable thermostats.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8 fixtures, CFLs, occupancy sensor controls)
- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$6,900**.

5.24b Neighborhood Services Dog Kennel – 1133 SW Macedo

Overview

Address: 1133 SW Macedo Blvd Port St. Lucie, FL
Sq Ft.: 2,515
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Per ECM

This facility serves as a city dog kennel for neighborhood services.

Existing Conditions

- The building's existing lighting consists of 32w T8 linear fluorescent interior fixtures as well as 60w incandescent lamps.
- The building's plumbing fixtures are high flow tank type toilets and sinks.
- Building HVAC is provided by three packaged DX split systems which are in fair condition.
- The HVAC system is controlled by a mixture of programmable and non-programmable stand alone thermostats.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8 fixtures, CFLs, occupancy sensor controls)
- Water Conservation Retrofits
- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$8,400**.

5.24c Neighborhood Serv. Portable Bldg – 1118 SW Biltmore

Overview

Address: 1118 SW Biltmore St Port St. Lucie, FL
Sq Ft.: 1,200
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility is a portable support facility for Neighborhood Services.

Existing Conditions

- The building's existing lighting consists of 2x4 3-lamp 32w T8 linear fluorescent interior fixtures as well as 60w incandescent lamps.
- Building HVAC is provided by two packaged DX systems which are in good condition.
- The HVAC system is controlled by programmable thermostats.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8 fixtures, CFLs, occupancy sensor controls)
- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$8,460**.

5.25 Engineering Traffic Ops – 1165 SW Macedo



Overview

Address: 821 SW Dwyer Ave Port St. Lucie, FL
Sq Ft.: 1,548
Hours of Operation: Mon -Fri 7am to 4pm
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility was built in 2001 and serves as an office space for the engineering Traffic Operations. It consists of a converted residential structure and (2) wharehouses.

Existing Conditions

- The residential office building's and wharehouse #2 existing lighting consists of 32w T8 linear fluorescent interior fixtures as well as incandescent lamps.
- Wharehouse #1 lighting is one 250w HPS fixture.
- Building HVAC is provided by multiple small split DX air conditioners which are in fair condition.
- The HVAC units are controlled by programmable thermostats which were found to be in the permanent hold position.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8s, compact fluorescents, induction)
- HVAC Controls Integration.

The total cost of recommended ECMs for this facility is **$12,100**.

5.26 Saints Golf Course

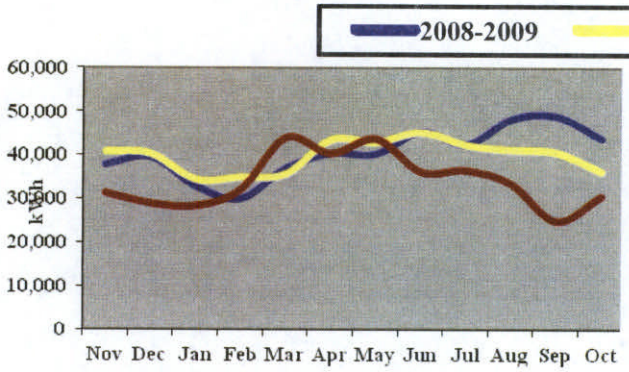


Overview

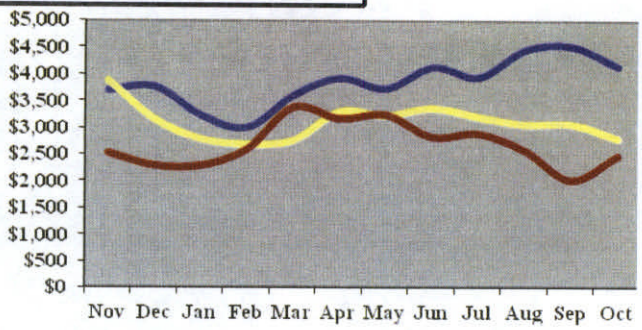
Address 2601 Morningside Boulevard, Port St. Lucie, FL
Sq Ft.: 23,679
Hours of Operation: Sun-Sat 5:30am to 5pm
FP&L Rate Structure: GSD-1 &GSD with SDTR
Savings Calculation Methodology: Model

The Saint's Golf Course consists of the golf course, club house, cart shed, and maintenance areas. The focus of the audit is the Clubhouse Building which houses the lounge, restaurant and shop areas. This building was built in 2006.

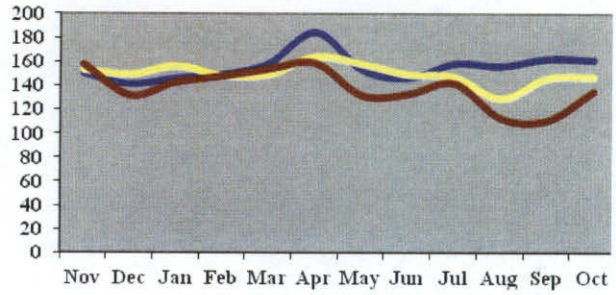
Utility Analysis – Saints Golf Course Clubhouse



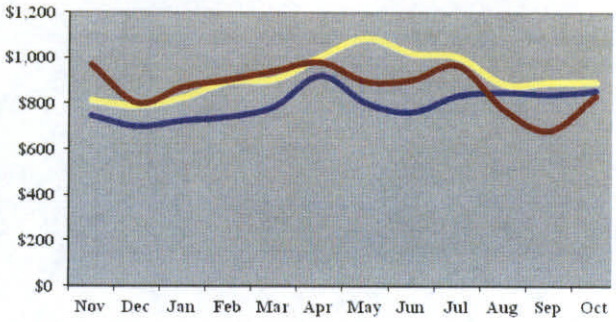
kWh Consumption



kWh Charges

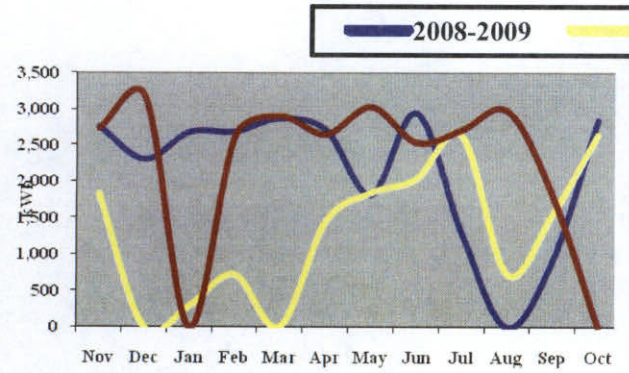


kW Usage

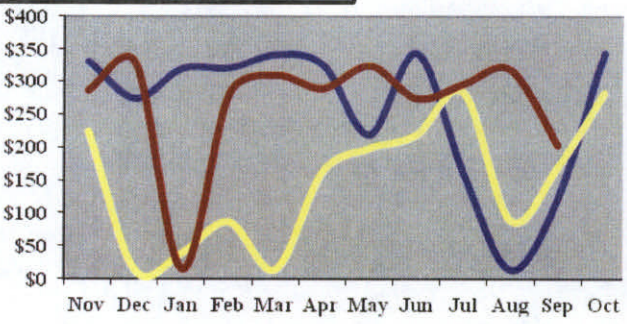


kW Charges

Utility Analysis – Cart Barn



kWh Consumption



kWh Charges

Existing Conditions

- The building's existing lighting consists of a mixture of 32w T-8 and T-12 linear fluorescent interior fixtures as well as compact flourescent lamps. The majority however, are 32w T-8s. Existing exit signs are LED. Occupancy sensors in back of house areas only. The exterior lighting consists of metal halide and CFL fixtures.
- The building's plumbing fixtures are low flow 1.6 gpf toilets, 1gpf urinals and high flow aerators on sinks.
- The building envelope was found to have instances of air gap leakage at roof joints, windows and door sweeps.
- Building HVAC is provided by multiple split system DX units which are all fairly new (2006) and efficient.
- The kitchen utilizes (2) kitchen supply and exhaust hood systems which operate at a constant volume at full flow regardless of which appliances are being used. The fans are controlled manually by a switch.
- HVAC controls consist of multiple stand alone programmable thermostats.
- The building has two existing 1250 kW emergency generators which are capable of carrying the entire building peak electrical load.

Recommendations

Honeywell is recommending the following ECMs:

- Building Lighting Upgrades
  - Existing T8 and T12 fixtures will be retrofit with energy efficient electronic ballasts with 28w reduced wattage T8 lamps.
  - In areas where light levels were thought to be high the fixtures will be de-lamped. The proposed design will include reduced wattage T8 lamps, white reflector, and energy efficient ballasts. Fewer lamps per fixture will bring the light levels down to more appropriate levels.
  - Existing T8 U-lamp systems will be converted to 2' linear systems with energy efficient ballasts, white reflector kits, and 17w T8 lamps providing energy savings, standardizing maintenance stock and providing easier, less cumbersome storage.
  - Exterior HID fixtures will be replaced with induction fixtures
  - Passive infrared ceiling mounted and wall switch sensors have been proposed in applicable areas.
- Building Envelope Weatherization
- Variable Air Volume Kitchen Hoods Retrofit
- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$114,650**.

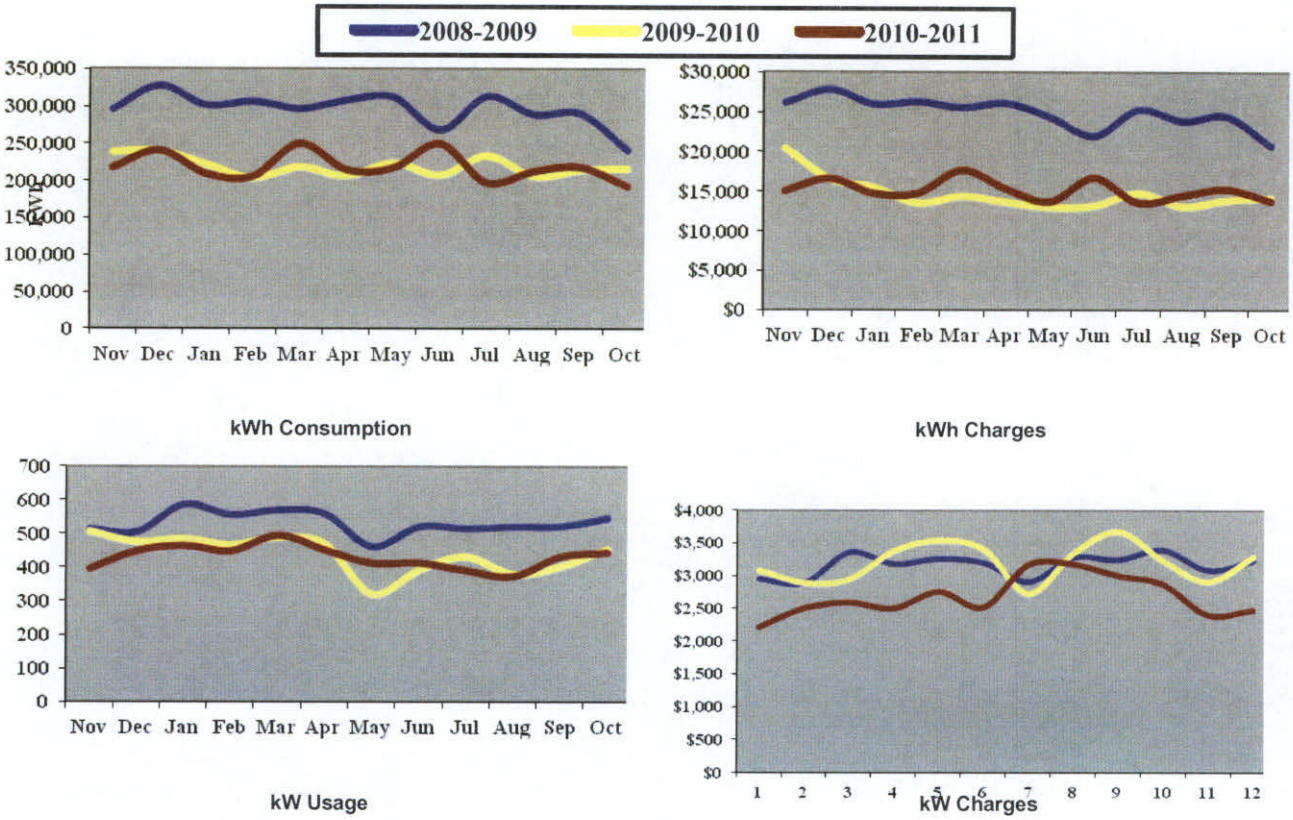
5.27 James F. Anderson RO Plant


Overview

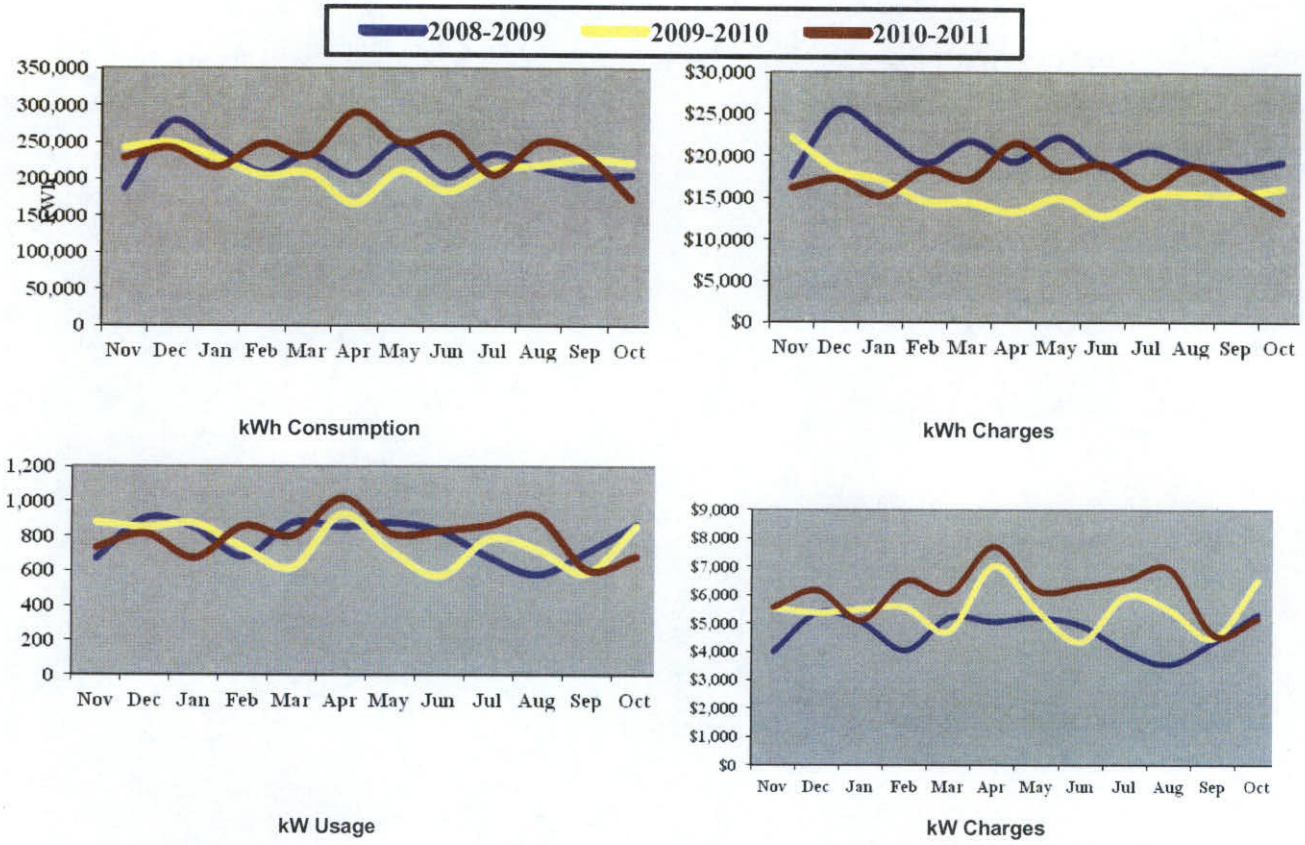
Address: 7599 LTC Parkway Port St. Lucie, FL
Hours of Operation: Sun - Sat 8am to 5 pm
FP&L Rate Structure: GSLD-1
Savings Calculation Methodology: Per ECM

This facility was built in 2003 and is an operations and support plant.

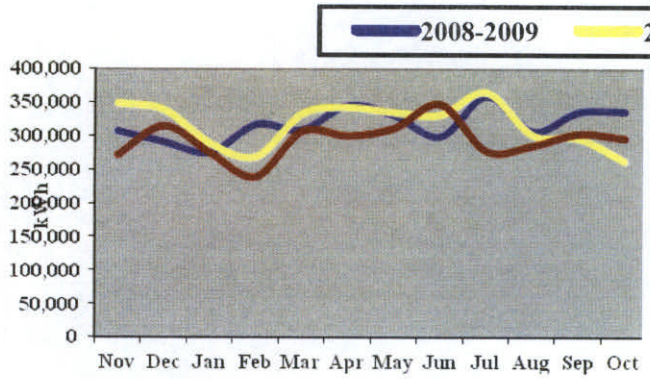
Utility Analysis – A - Anderson R O Plant



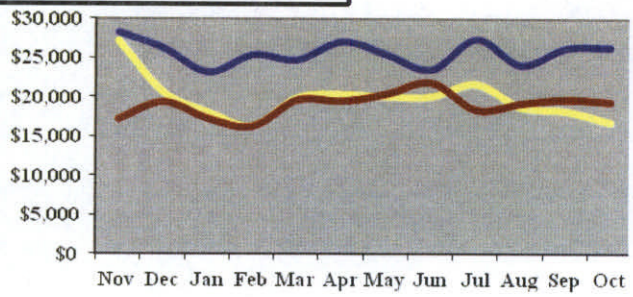
Utility Analysis – B - Anderson R O Plant



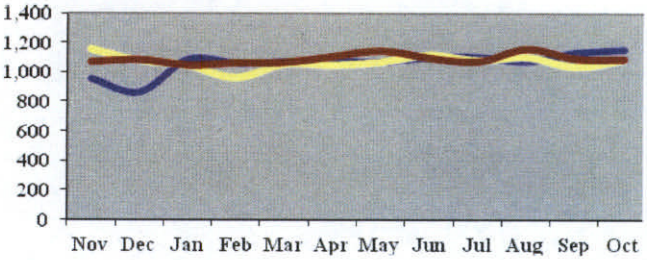
Utility Analysis – C - Anderson R O Plant



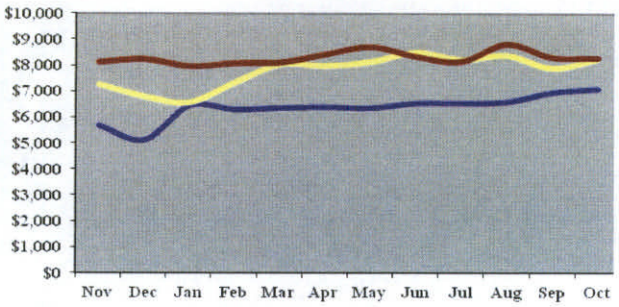
kWh Consumption



kWh Charges



kW Usage



kW Charges

Existing Conditions

- The buildings' existing lighting consists of a mixture of 32w T8 and inefficient T12 linear fluorescent interior fixtures. Several interior areas are currently illuminated with 400w HPS high bays. Existing exit signs are LED. Occupancy sensors in back of house areas only.
- The buildings' plumbing fixtures are a mixture of low flow toilets, low flow urinals and high and low flow aerators on sinks.
- Buildings' HVAC is provided by multiple small DX split systems all of which range in size from 3 to 10 tons. Total cooling capacity is roughly 80 tons. The units conditions vary from poor to good condition.
- HVAC controls consist of a Trane DDC system for the main building. The wharehouse building utilizes non-programmable stand alone thermostats.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades
  (28w T8s, reflectors/delamping, T5 high bay fixtures, occupancy sensor controls)
- Water Conservation Retrofits (tuning of existing fixtures and some aerator replacements)
- HVAC Equipment Replacements (two 10 ton units and one 3 ton unit at wharehouse)
- HVAC Controls Integration (wharehouse)

The total cost of recommended ECMs for this building is **$103,450**.

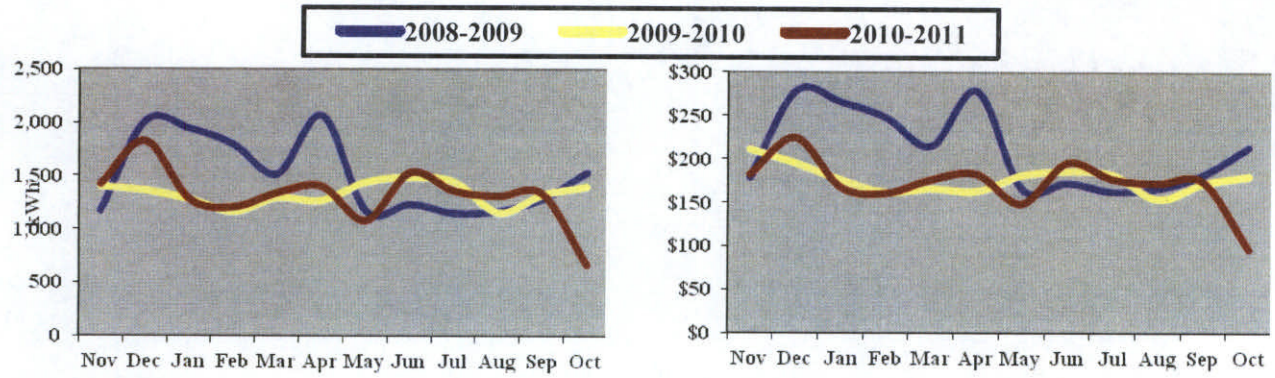
5.28 Charles F. Ray Park

Overview

Address: 5626 NW Manville Drive Port St. Lucie, FL
Sq Ft.: 6,000
Hours of Operation: 8am to dusk
FP&L Rate Structure: GS-1 & OL-1
Savings Calculation Methodology: Per ECM

Charles Ray Park is a city owned public park which was established in 2004 and consists of a covered basketball court, unlit fields and restrooms.

Utility Analysis



kWh Consumption

kWh Charges

Existing Conditions

- There are very few lighting fixtures at this Park.
- The restrooms consist of low flow toilets, high flow urinals and high flow aerators.
- There are no HVAC systems.

Recommendations

Honeywell is recommending the following ECMs:
- Water Conservation Retrofits (tuning of existing toilets and aerator replacements)

The total cost of recommended ECMs for this facility is **$1,565**.

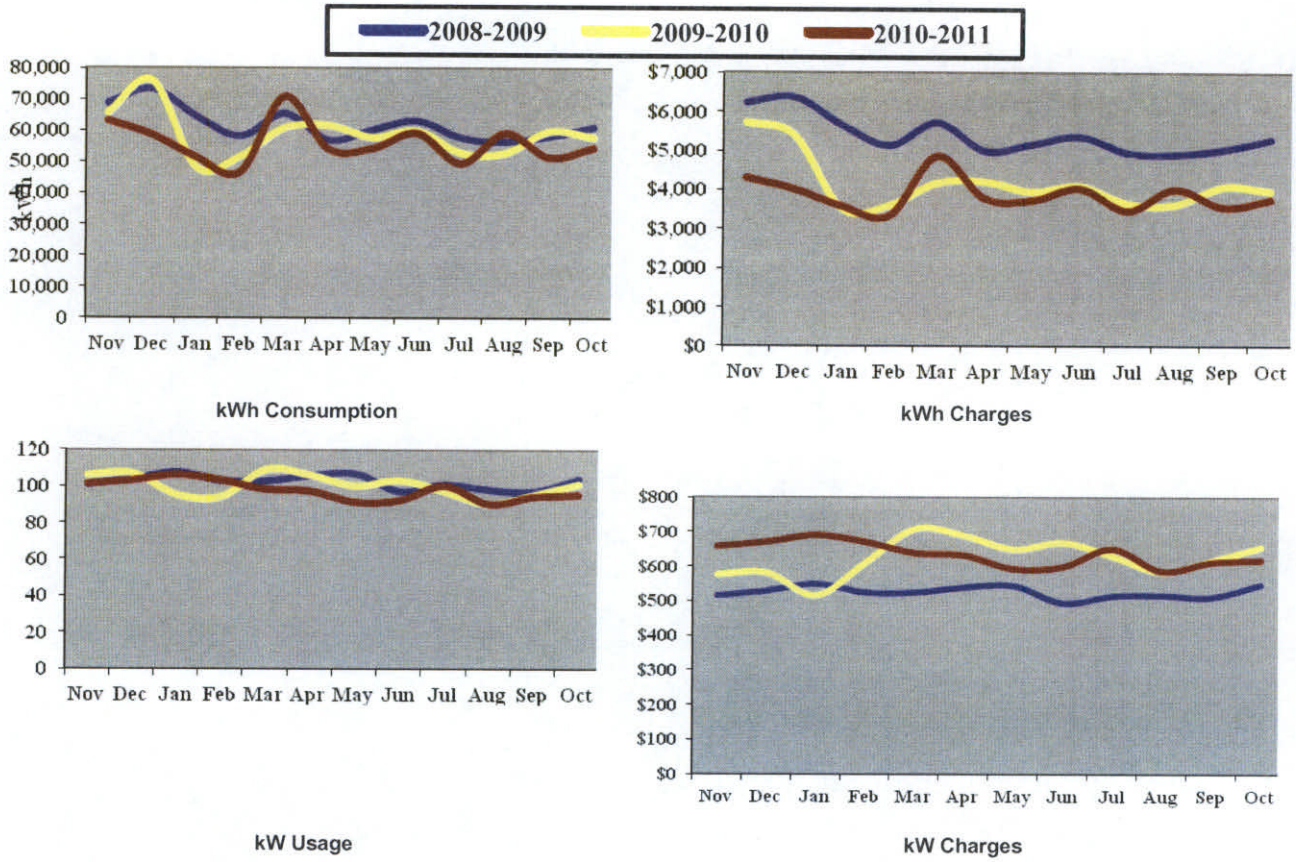
5.29 Police Station – Rosser Road

Overview

Address: 2950 SW Rosser Road Port St. Lucie, FL
Sq Ft.: 21,451
Hours of Operation: 24/7
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Model

This facility was built in 2005 and is a police department.

Utility Analysis



kWh Consumption

kWh Charges

kW Usage

kW Charges

Existing Conditions

- The building's existing lighting consists of a mixture of 32w T-8 flourescent fixtures and compact fluorescents. Existing exit signs are LED.
- The building's plumbing fixtures are low flow 1.6 gpf toilets, 1gpf urinals and a mixture of high and low flow aerators on sinks.
- Several air gaps were observed in the building envelope joints at the roof, windows and door sweeps. These conditions are causing excess air infiltration.
- Building HVAC is provided by multiple packaged rooftop DX units which are all less than five years old and in good condition.
- The HVAC equipment is controlled by a Trane Tracer Summit DDC system.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8s, reflectors/delamping, occupancy sensor controls)
- Vending Misers

- Water Conservation Retrofits
  (tuning and maintenance parts replacement of existing fixtures, aerator replacements)
- Building Envelope Weatherization

The total cost of recommended ECMs for this building is **$47,400**.

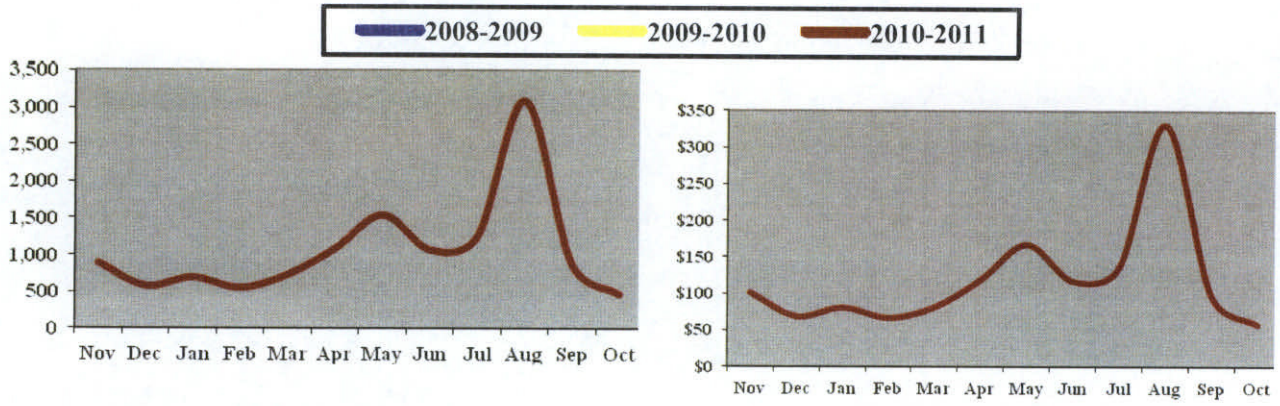
5.30 City Center – 1654 SE Walton Road

Overview

Address: 1654 SE Walton Rd Port St. Lucie, FL
Sq Ft.: 14,000
Hours of Operation: 24/7 storage
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility is a multi bay community building built in 1991. It is used mainly for emergency generator storage.

Utility Analysis



kWh Consumption

kWh Charges

Existing Conditions

- The building's existing lighting consists of inefficient T12 linear fluorescent interior fixtures as well as incandescent lamps. Existing exit signs are LED.
- Building HVAC is provided by DX split systems which appear to be rarely used.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades

The total cost of recommended ECMs for this building is **$6,990**.

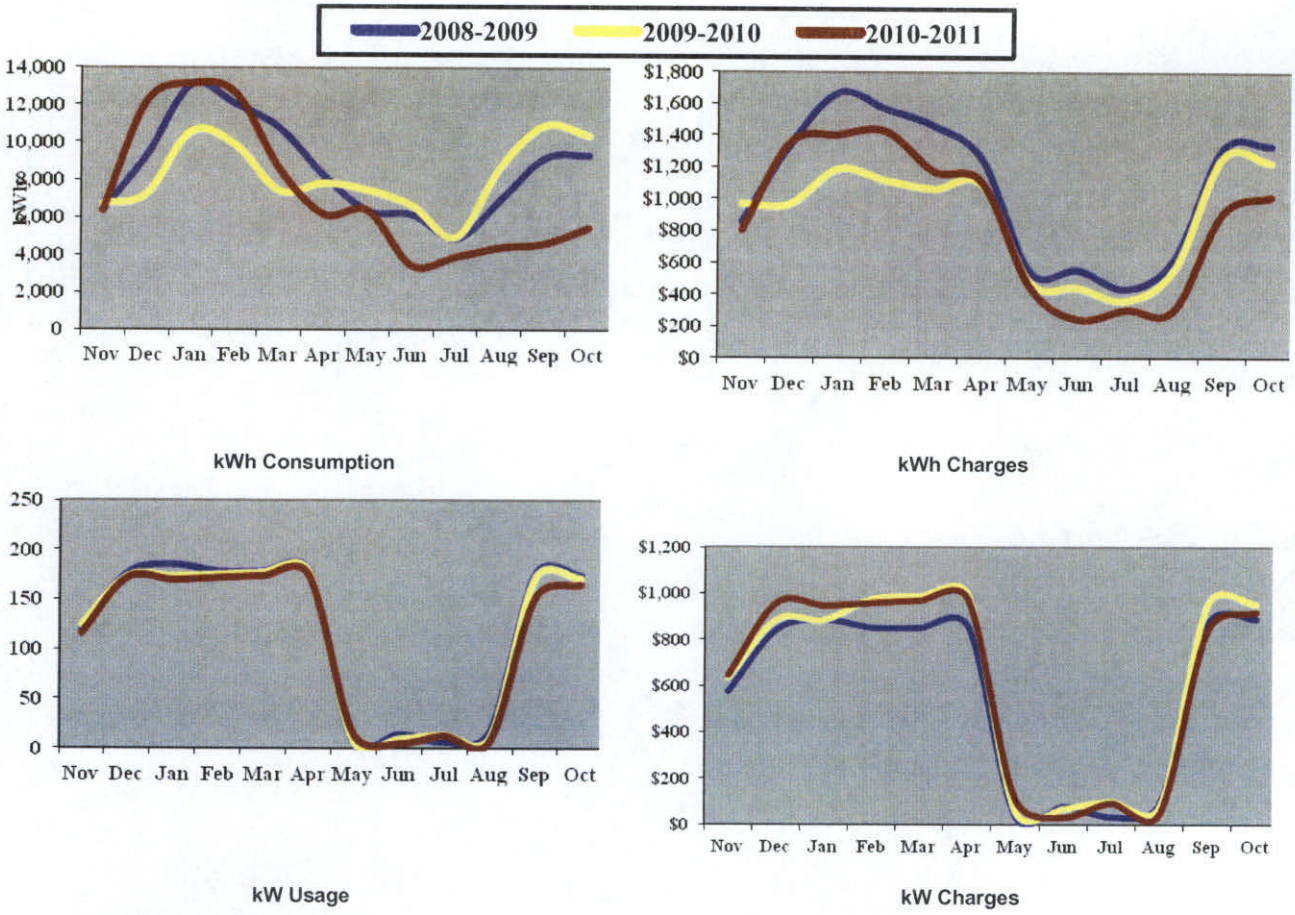
5.31 Jessica Clinton Park

Overview

Address: 3200 SE Southbend Blvd Port St. Lucie, FL
Sq Ft.: 3,870
Hours of Operation: 11am – 10pm
FP&L Rate Structure: GSD with SDTR
Savings Calculation Methodology: Per ECM

Jessica Clinton Park is a city owned public park which was established in 2005. The park consists of outdoor baseball fields, tennis and basketball courts, and a 3,900 sq.ft. pavilion.

Utility Analysis



Existing Conditions

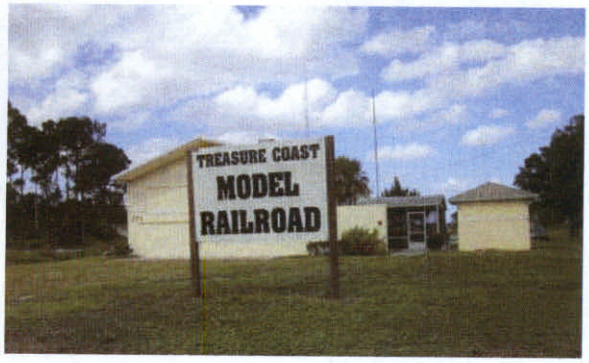
- The park's buildings utilizes 32w T-8 fixtures as well as compact fluorescents.
- The park's plumbing fixtures are a mixture of low flow toilets, low flow urinals and high and low flow aerators on sinks.

Recommendations

Honeywell is recommending the following ECMs:
- Athletic Fields lighting retrofits are NOT recommended based on energy payback alone.
- Building Lighting Upgrades (28w T8s, reflectors, occupancy sensor controls)
- Vending Misers
- Water Conservation Retrofits (tuning of existing fixtures and some aerator replacements)

The total cost of recommended ECMs for this facility is **$5,635**.

5.32 Railroad Club – 273 Becker Road



Overview

Address 273 Becker Road, Port St. Lucie, FL
Sq Ft.: 2,069
Hours of Operation: Tuesday 7pm – 10pm, Saturday 10am – 1pm
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

The Railroad Club at the Old Fire Station building, built in 1995, is used by a model railroad club. The Railroad Club consists of open room areas.

Existing Conditions

- The building's existing lighting consists of a mixture of inefficient T-12 and 32w T8 technology. The majority of the existing interior fixtures in this facility are inefficient T12 linear fluorescent fixtures. The exterior areas of this facility are currently illuminated by high pressure sodium fixtures and incandescent fixtures.
- The existing plumbing fixtures are one high flow toilet and one high flow sink aerator.
- Building HVAC is provided by one 5 ton DX split system heat pump which is in fair condition.
- The HVAC system is controlled by one stand alone thermostat.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T-8s, reflectors/de-lamping, replace HID with induction, CFLs)
- Water Conservation Retrofits (fixture retrofits)
- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$11,800**.

5.33 PAL Building – 2101 SE Tiffany Ave.

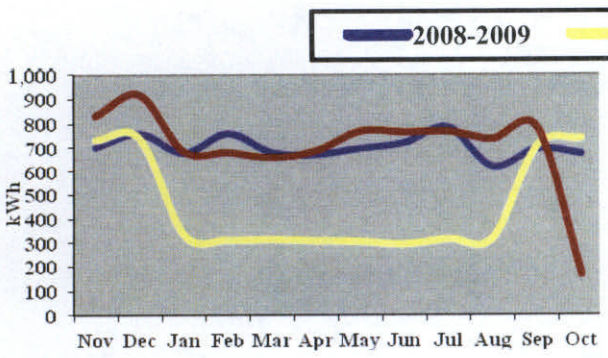


Overview

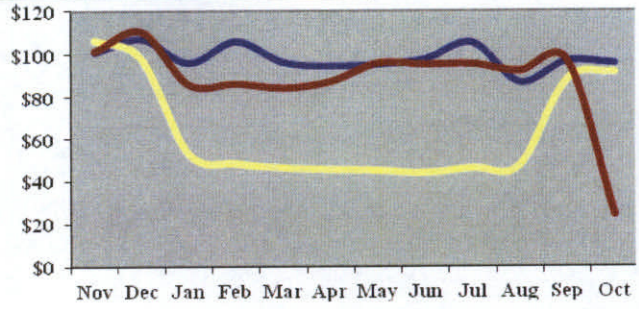
Address: 2101 SE Tiffany Avenue Port St. Lucie, FL
Sq Ft.: 5,540
Hours of Operation:
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Model

The PAL building is a recreation center which was built in 2002 that houses a gymnasium and boxing ring.

Utility Analysis



kWh Consumption



kWh Charges

Existing Conditions

- The building's existing lighting consists of a mixture of 32w T-8 and inefficient T-12 linear fluorescent interior fixtures. The main gymnasium is lit by 400w metal halide fixtures. Existing exit signs are LED.
- The building's plumbing fixtures are low flow 1.6 gpf toilets, 1gpf urinals and a mixture of high and low flow aerators on sinks.
- Several air gaps were observed in the building envelope joints and door sweeps. The existing metal seem exterior wall partition is also not sealed. These conditions are causing excess air infiltration.
- Building HVAC is provided by two (5) five ton split system DX units which are all over 10 years old. The existing outside air intakes are blocked off for all units not allowing adequate outside air for indoor air quality codes.
- The HVAC equipment is controlled by stand alone programmable thermostats.

Recommendations

Honeywell is recommending the following ECMs:

- Building Lighting Upgrades
  (28w T8s, reflectors/delamping, 4 lamp T-5 high bay fixtures for gym, occupancy sensor controls)
- Vending Misers
- Water Conservation Retrofits
  (tuning and maintenance parts replacement of existing fixtures, aerator replacements)
- Building Envelope Weatherization
- HVAC Replacements
- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$96,270**.

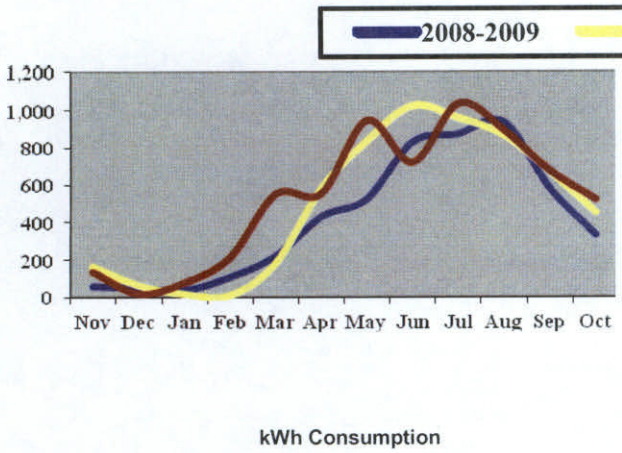
5.34 Parks & Rec. – 2226 SE Belvedere Street

Overview

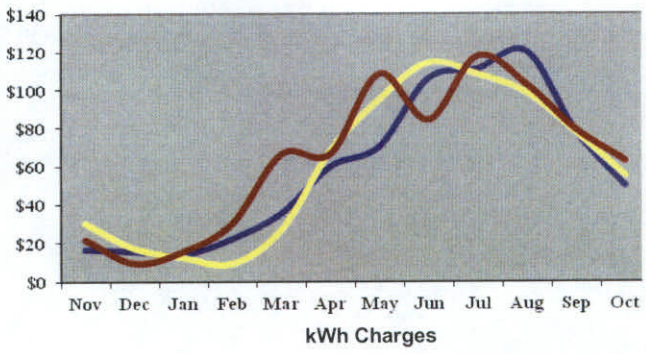
Address: 2226 SE Belvedere Street Port St. Lucie, FL
Sq Ft.: 1,847
Hours of Operation:
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility is a residential building which was built in 1982. It serves as a storage space for the Parks and Recreation Department.

Utility Analysis



kWh Consumption



kWh Charges

Existing Conditions

- The building's existing exterior lighting utilizes incandescent fixtures.
- Building HVAC is provided by one 3 ton DX split system heat pump which is inefficient (less than 10 SEER) and is in poor condition.
- The HVAC system is controlled by one stand alone thermostat which is manually controlled 24/7.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (Compact Flourescents)
- HVAC Replacements
- HVAC Controls Integration

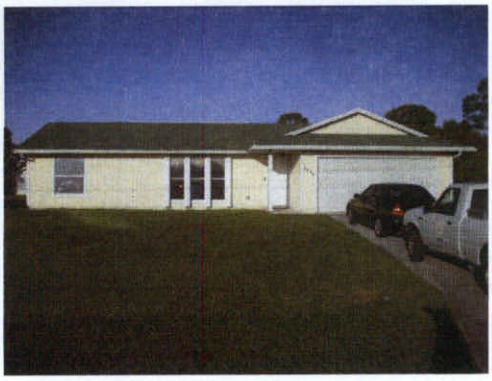
The total cost of recommended ECMs for this building is **$12,360**.

5.35 Storage Garage – 182 Thanksgiving Ave.

Overview

This building is unoccupied and therefore no ECMs are recommended.

5.36 Bldg Dept (Utilities) – 2258 Best Street

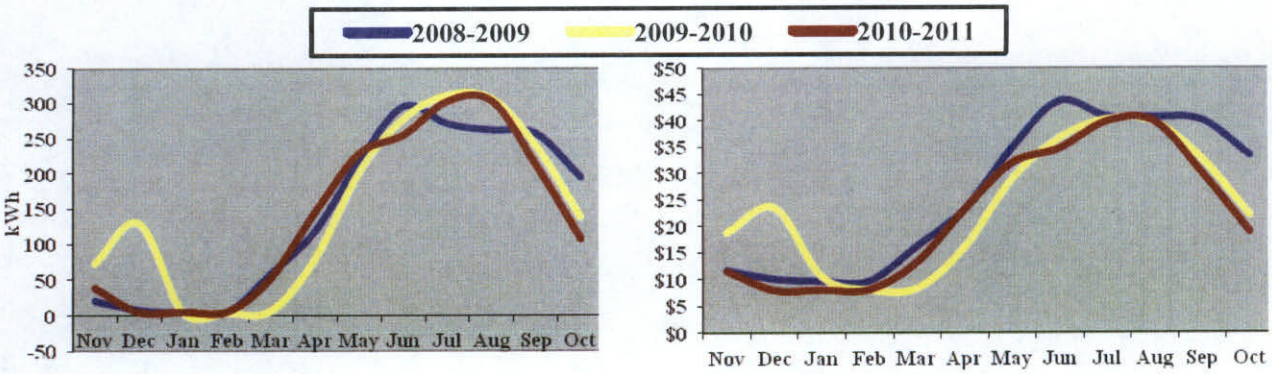


Overview

Address: 2258 Best St, Port St. Lucie, FL
Sq Ft.: 1,593
Hours of Operation:
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility is a converted residential building which was built in 1990. It serves as a call center for the city utilities department.

Utility Analysis



kWh Consumption **kWh Charges**

Existing Conditions

- The building's existing lighting consists of 1x4 2-lamp T8 linear fluorescent interior fixtures as well as 60w incandescent lamps. Existing exit signs are LED.
- The building's plumbing fixtures are high flow tank type toilets and sinks.
- Building HVAC is provided by one 3.5 ton DX split system heat pump which was installed in 2003 and is in good condition.
- The HVAC system is controlled by one programmable thermostat.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades
- Water Conservation Retrofits
- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$6,500**.

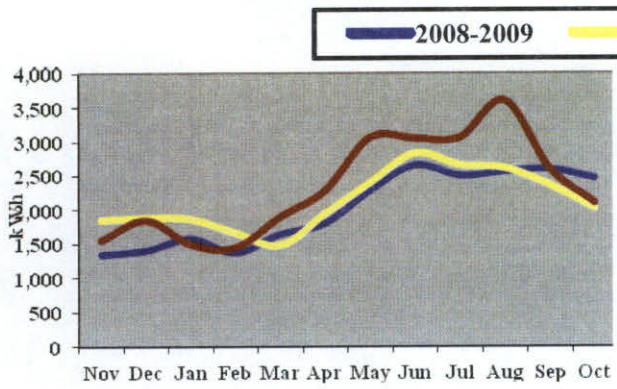
5.37 Bldg Dept (Clinic) – 2266 Best Street

Overview:

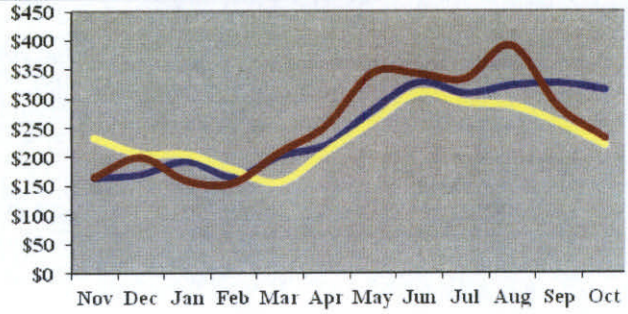
Address: 2266 Best St, Port St. Lucie, FL
Sq Ft.: 1,628
Hours of Operation: Mon - Fri 8 am to 7pm, Sat 10 am to 2 pm
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This converted residential building serves as a city health clinic and was constructed in 2003., this facility currently contains a majority T8 technology with minimal T12 technology present.

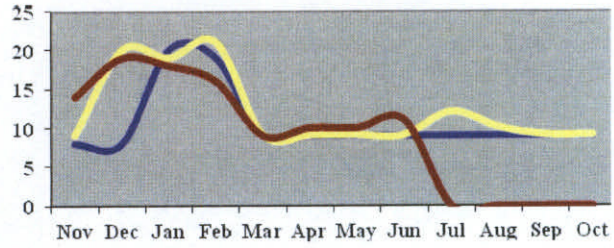
Utility Analysis



kWh Consumption



kWh Charges



kW Usage

Existing Conditions

- The building's existing lighting consists of 1x4 2-lamp T8 linear fluorescent interior fixtures and 120w incandescent lamps exterior wallpacks.
- The building's plumbing fixtures are high flow tank type toilets and sinks.
- Building HVAC is provided by one 5 ton DX split system heat pump which was installed in 2007 and is in good condition.
- The HVAC system is controlled by one programmable thermostat.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades
- Exterior Lighting Upgrades
- Water Conservation Retrofits
- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$8,200**.

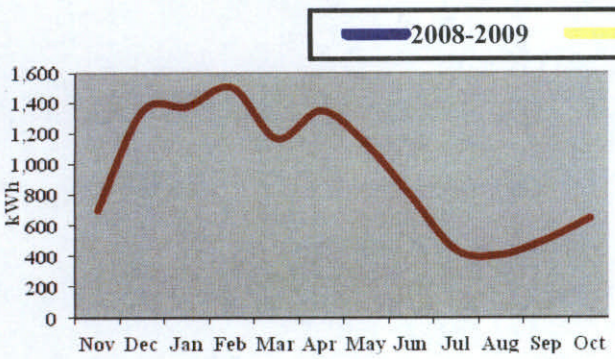
5.38 Building Construction Office – 2258 SE Belvedere St.

Overview

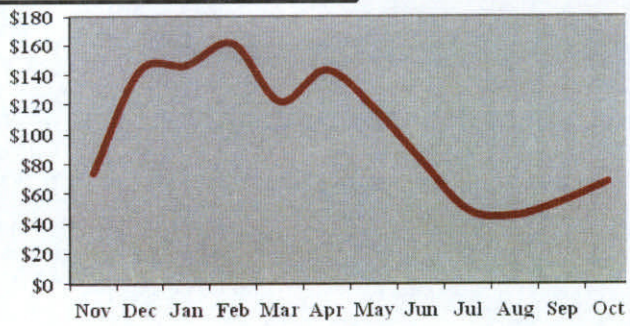
Address: 2258 SE Bevedere Street Port St. Lucie, FL
Sq Ft.: 1,320
Hours of Operation:
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility is a converted residential building which was originally built in 1979. It serves as an office space for the Building construction department.

Utility Analysis



kWh Consumption



kWh Charges

Existing Conditions

- The building's existing lighting consists of inefficient T12 linear fluorescent interior fixtures as well as incandescent lamps.
- The building's plumbing fixtures are high flow tank type toilets and sinks.
- Building HVAC is provided by one 3 ton split DX air conditioner which is in fair condition.
- The HVAC unit is controlled by a manual 24/7 thermostat.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades
- Water Conservation Retrofits
- HVAC Controls Integration and Programmable Thermostat.

The total cost of recommended ECMs for this building is **$6,590**.

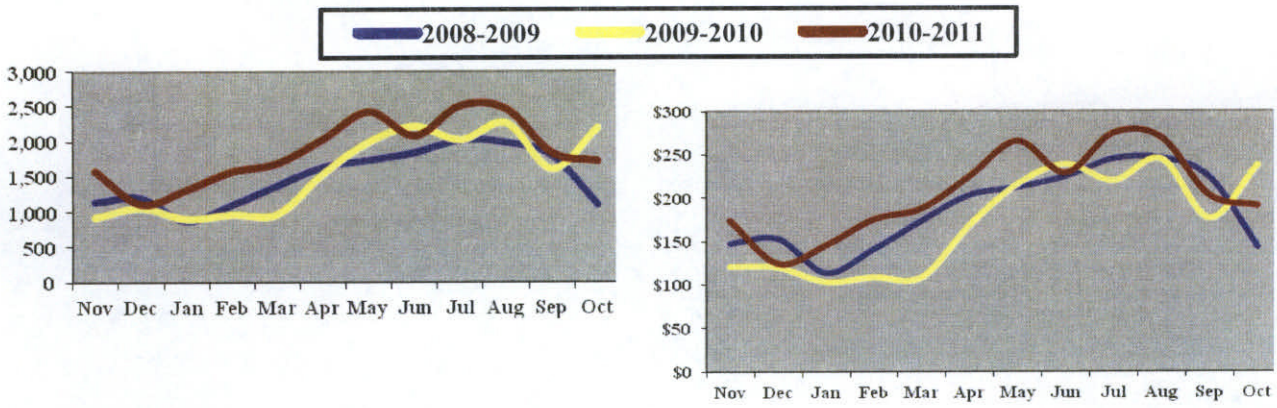
5.39 Engineering – 821 SW Dwyer Ave.

Overview

Address: 821 SW Dwyer Ave. Port St. Lucie, FL
Sq Ft.: 1,548
Hours of Operation: Mon-Fri 7am – 4pm
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility is a converted residential building which was originally built in 1977. It serves as an office space for the Traffic Operations department.

Utility Analysis



kWh Consumption

kWh Charges

Existing Conditions

- The building's existing lighting consists of inefficient incandescent fixtures.
- The building's plumbing fixtures are high flow tank type toilets and sinks.
- Building HVAC is provided by one 3.5 ton split DX air conditioner which was installed in 2007 and is in good condition.
- The HVAC unit is controlled by a manual 24/7 thermostat.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades
- Water Conservation Retrofits
- HVAC Controls Integration and Programmable Thermostat.

The total cost of recommended ECMs for this building is **$4,800**.

5.40 Boys & Girls Club – 296 SE Port St. Lucie Blvd.

Overview

Address: 692 SE Port St. Lucie Blvd Port St. Lucie, FL
Sq Ft.: 2,380
Hours of Operation:
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility was built in 1980 and serves as a city Boys and Girls Club.

Existing Conditions

- The building's existing lighting consists of inefficient T12 linear fluorescent interior fixtures as well as incandescent lamps.
- The building's plumbing fixtures are high flow tank type toilets and sinks.
- Building HVAC is provided by two 3 ton split DX air conditioners which are in fair condition.
- The HVAC units are controlled by manual 24/7 thermostats

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades
- Water Conservation Retrofits
- HVAC Controls Integration and Programmable Thermostats.

The total cost of recommended ECMs for this building is **$8,370**.

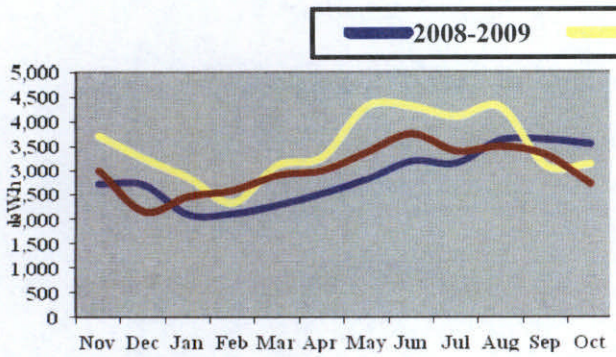
5.41 Utilities – 915 Ogden

Overview

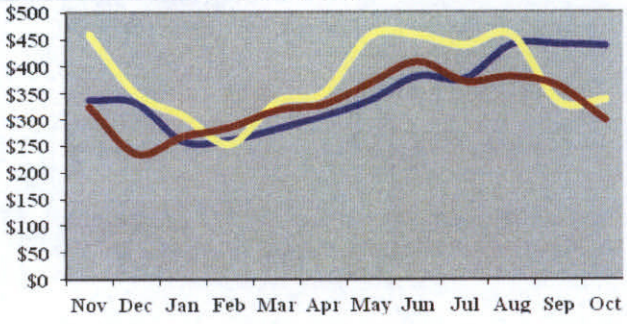
Address: 915 Ogden Port St. Lucie, FL
Sq Ft.: 1,268
Hours of Operation: Sun - Sat 7am to 4pm
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility was built in 1990 and is a converted residential facility used by the utilities department for office space.

Utility Analysis



kWh Consumption



kWh Charges

Existing Conditions

- The building's existing lighting consists of incandescent and compact fluorescent fixtures.
- The building's plumbing fixtures are low flow toilets, and high flow aerators on sinks.
- Building HVAC is provided by two DX split systems which were installed in the 90s and are inefficient and in fair condition.
- HVAC controls are stand alone non-programmable thermostats.

Recommendations

Honeywell is recommending the following ECMs:

- Building Lighting Upgrades (replace incandescent with CFL)
- Water Conservation Retrofits (fixture tuning and aerator replacements)
- HVAC DX equipment replacements
- HVAC Controls Programmable Thermostats and Integration
- Energy Star Appliances

The total cost of recommended ECMs for this building is **$21,700**.

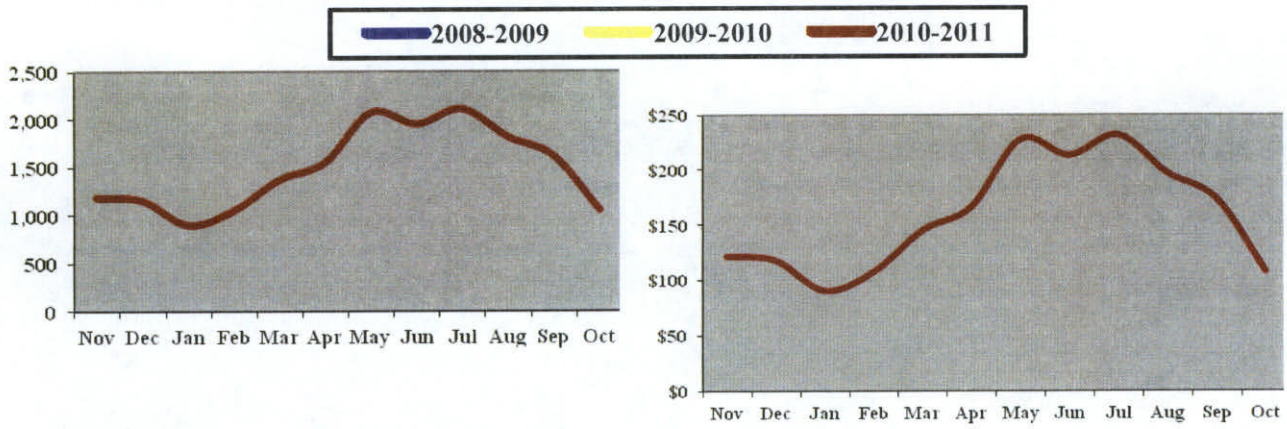
5.42 Utilities – 943 Ogden

Overview

Address: 943 Ogden Port St. Lucie, FL
Sq Ft.: 1,100
Hours of Operation: Sun - Sat 7am to 4pm
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility was built in 1992 and is a converted residential facility used by the utilities department for office space.

Utility Analysis



kWh Consumption

kWh Charges

Existing Conditions

- The building's existing lighting consists of 32w T-8 flourescents and incandescent fixtures.
- The building's plumbing fixtures are low flow toilets, and high flow aerators on sinks.
- Building HVAC is provided by one 3 ton DX split system which wasinstalled in the 90s and is inefficient and in poor condition.
- HVAC controls are stand alone programmable thermostats.

Recommendations

Honeywell is recommending the following ECMs:

- Building Lighting Upgrades (28w T-8s, delamping/reflectors, replace incandescent with CFL)
- Water Conservation Retrofits (fixture tuning and aerator replacements)
- HVAC DX equipment replacements
- HVAC Controls Programmable Thermostats and Integration
- Energy Star Appliances

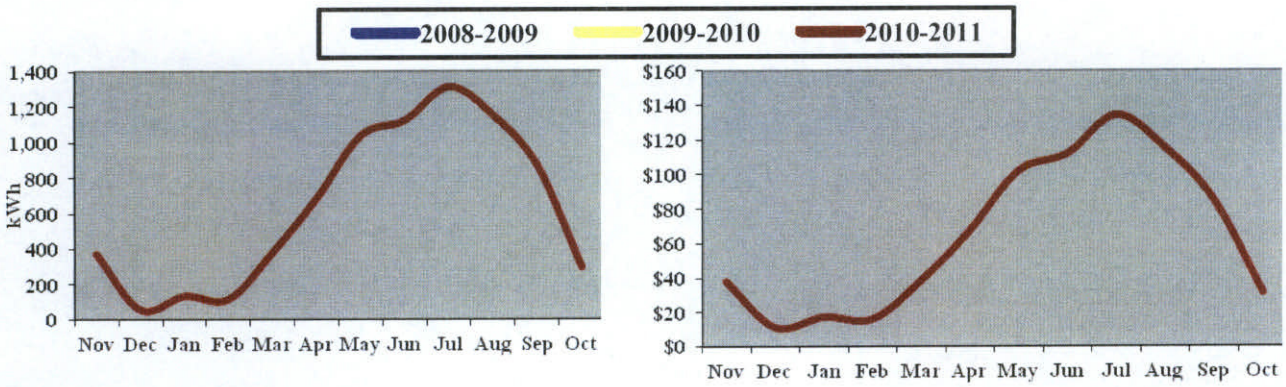
The total cost of recommended ECMs for this building is **$12,700**.

5.43 Utilities – 957 Ogden

Overview

This building is unoccupied and therefore no ECMs are recommended.

Utility Analysis



kWh Consumption

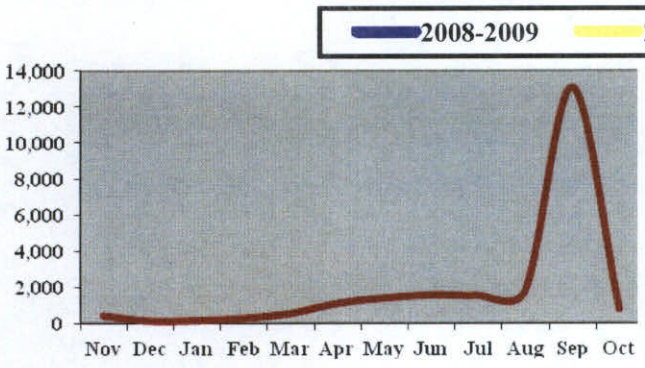
kWh Charges

5.44 Police – 162 Thanksgiving Ave.

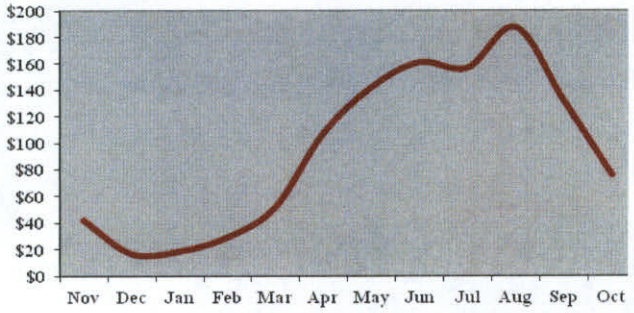
Overview

This building is unoccupied and therefore no ECMs are recommended.

Utility Analysis



kWh Consumption



kWh Charges

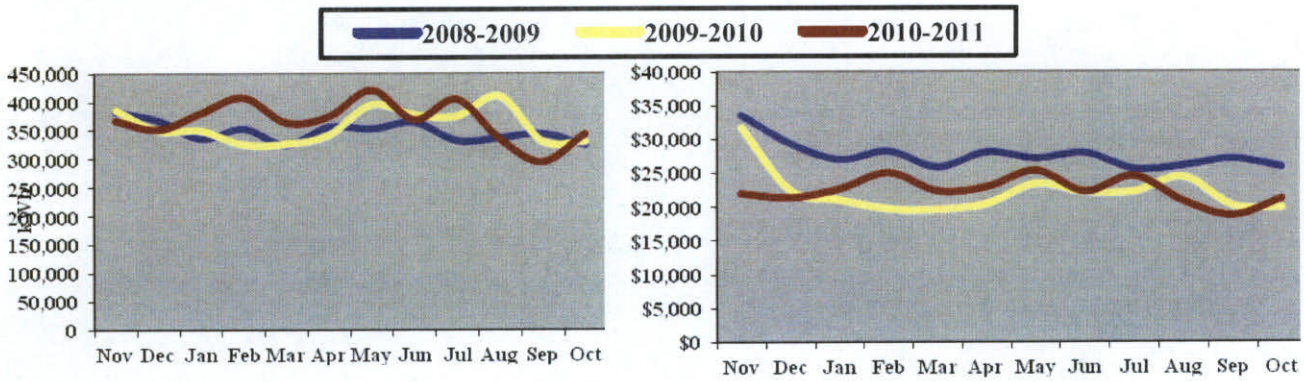
5.45 Glades Waste Water Treatment Plant

Overview

Address: 10700 NW Glades Cut-Off Road Port St. Lucie, FL
Sq Ft.: 4,700
FP&L Rate Structure: GSLD-1
Savings Calculation Methodology: Per ECM

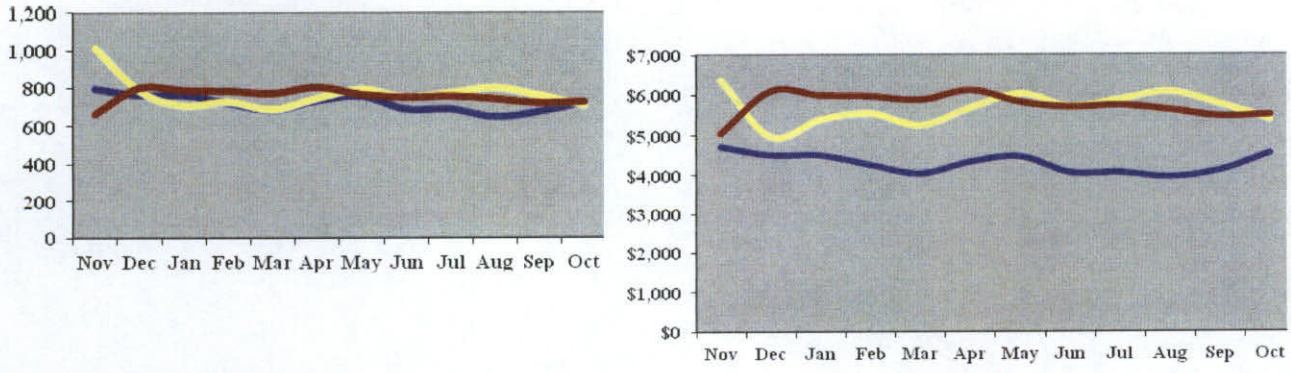
This facility was constructed in 2006 and is a wastewater operation and support building.

Utility Analysis



kWh Consumption

kWh Charges



kW Usage

kW Charges

Existing Conditions

- The buildings' existing lighting consists of a mixture of 32w T8 and inefficient T12 linear fluorescent interior fixtures. The truck bays are currently illuminated with 250w HPS high bays. Existing exit signs are LED. Occupancy sensors in back of house areas only.
- The buildings' plumbing fixtures are a mixture of high and low flow toilets, urinals and aerators on sinks.
- Buildings' HVAC is provided by multiple small DX split systems all of which are in fair to good condition.
- HVAC controls are a mixture of programmable and non-programmable stand alone thermostats.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades
  (28w T8s, reflectors/delamping, T5 high bay fixtures, occupancy sensor controls)
- Water Conservation Retrofits (tuning of existing fixtures and some replacements)
- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$57,900**.

5.46 Utilities – 301 SE Greenway Terrace

Overview

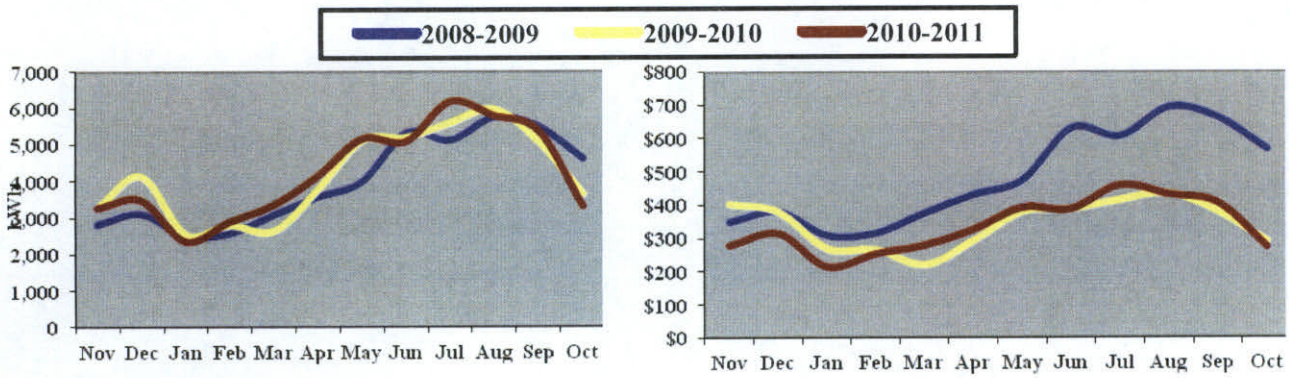
This building is unoccupied and therefore no ECMs are recommended.

5.47 Utilities – 998 SE Prineville Street

Overview

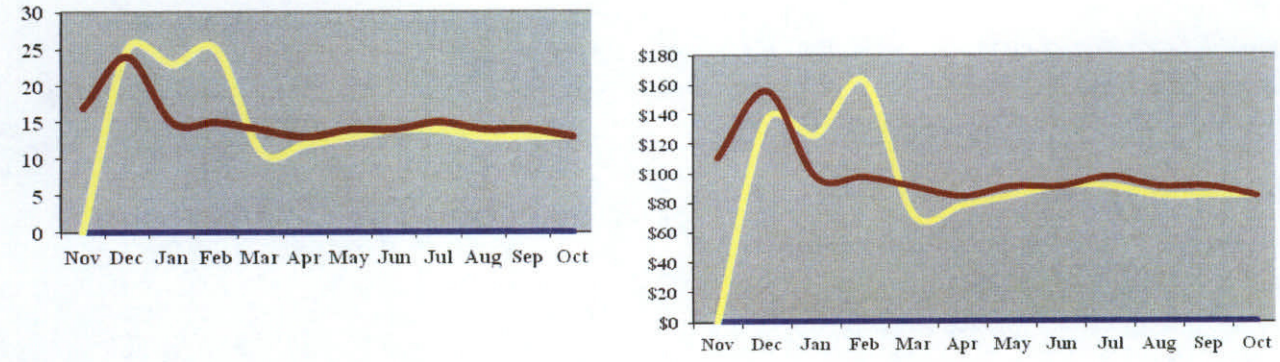
This building is unoccupied and therefore no ECMs are recommended.

Utility Analysis



kWh Consumption

kWh Charges



kW Usage

kW Charges

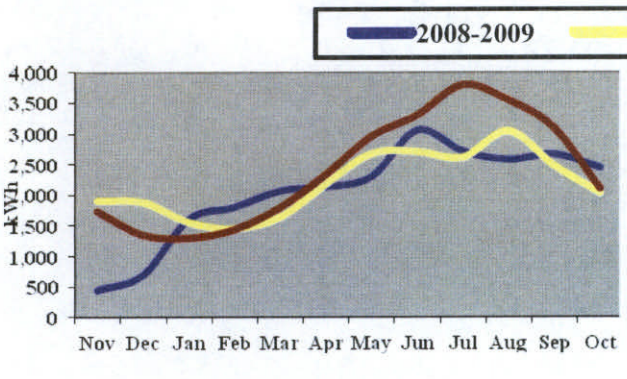
5.48 Utilities – 325 SE Greenway Terrace

Overview

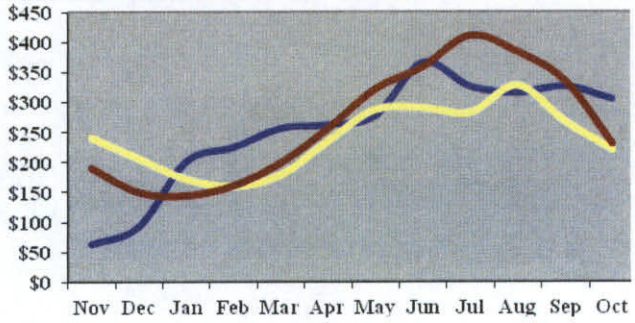
Address: 325 Greenway Terrace Port St. Lucie, FL
Sq Ft.: 1,500
Hours of Operation: Mon -Fri 7am to 4pm
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility was built in 1995 and is a garage that is used by the utilities department.

Utility Analysis



kWh Consumption



kWh Charges

Existing Conditions

- The building's existing lighting consists of T8 linear fluorescent interior fixtures as well an incandescent fixture in the garage
- The building's plumbing fixtures are high flow toilets, and high flow aerators on sinks.
- Building HVAC is provided by two 3 ton DX split systems which were installed in 2005 and are in good condition.
- HVAC controls are stand alone non-programmable thermostats.

Recommendations

Honeywell is recommending the following ECMs:

- Building Lighting Upgrades (replace incandescent with CFL)
- Water Conservation Retrofits (fixture replacements)
- HVAC Controls Programmable Thermostats and Integration

The total cost of recommended ECMs for this building is **$4,600**.

5.49 Utilities – 856 SE Prineville Street

Overview

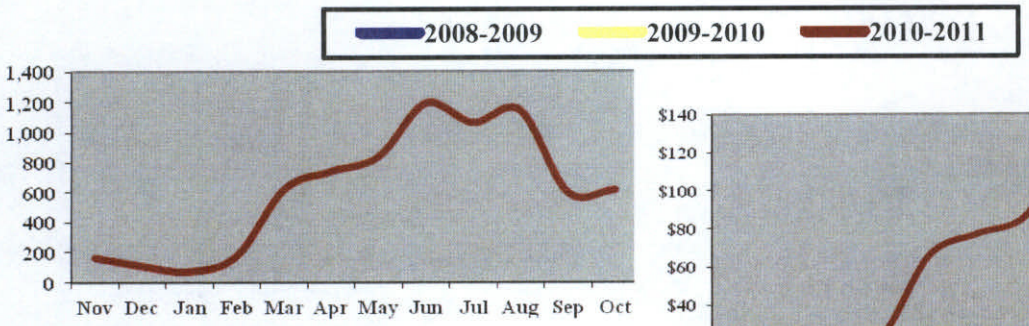
This building is unoccupied and therefore no ECMs are recommended.

5.50 Engineering – 1441 Becker Road

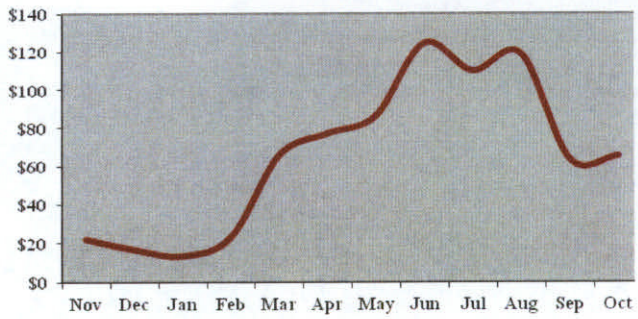
Overview

This building is unoccupied and scheduled to be demolished therefore no ECMs are recommended.

Utility Analysis



kWh Consumption



kWh Charges

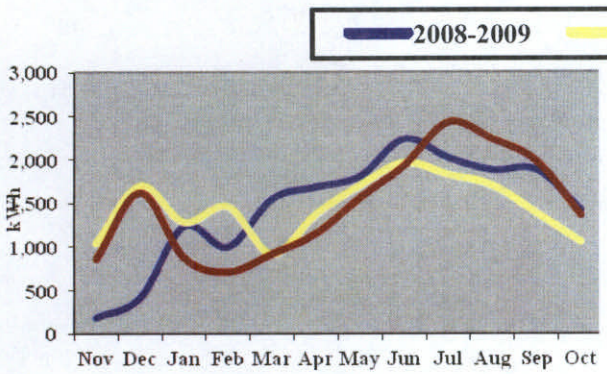
5.51 Utilities – 341 SE Greenway Terrace

Overview

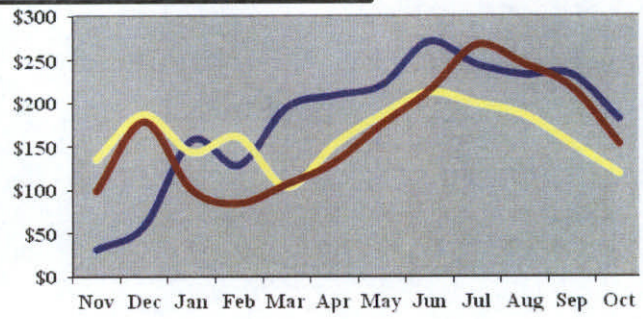
Address: 341 SE Greenway Terrace Port St. Lucie, FL
Sq Ft.: 1,545
Hours of Operation: Mon -Fri 7am to 4pm
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility was built in 1984 and is a converted residential facility used by the utilities department for mapping/GIS.

Utility Analysis



kWh Consumption



kWh Charges

Existing Conditions

- The building's existing lighting consists of incandescent and compact fluorescent fixtures.
- The building's plumbing fixtures are high flow toilets, and high flow aerators on sinks.
- Building HVAC is provided by two 3 ton DX split systems which were installed in 2009 and are in good condition.
- HVAC controls are stand alone non-programmable thermostats.

Recommendations

Honeywell is recommending the following ECMs:

- Building Lighting Upgrades (replace incandescent with CFL)
- Water Conservation Retrofits (fixture replacements)
- HVAC Controls Programmable Thermostats and Integration
- Energy Star Appliances

The total cost of recommended ECMs for this building is **$6,600**.

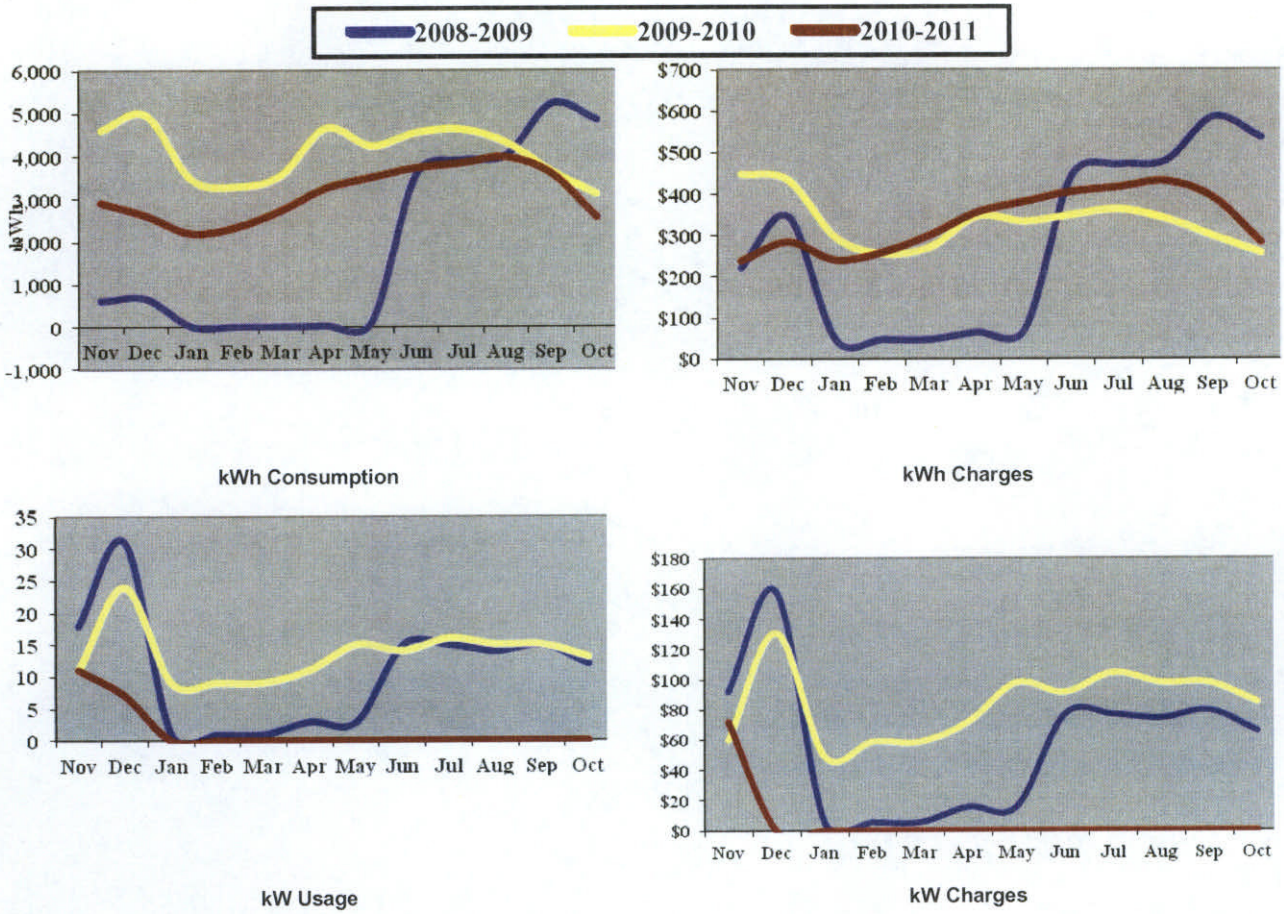
5.52 PD Station East

Overview

Address: 2000 SE Village Green Drive Port St. Lucie, FL
Sq Ft.: 4,872
Hours of Operation: 24/7
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Model

This facility was built in 1985 and is a police department.

Utility Analysis



Existing Conditions

- The building's existing lighting consists of 32w T-8 linear fluorescent interior fixtures as well as compact flourescent lamps. Existing exit signs are LED. Occupancy sensors in back of house areas only.
- The building's plumbing fixtures are high flow tank type toilets, 1gpf urinals and high flow aerators on sinks.
- Building HVAC is provided by two DX split systems which are in good condition.
- HVAC controls are stand alone programmable thermostats, that were noted to be in the permanent hold position during unoccupied hours.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8s, reflectors/delamping, occupancy sensor controls)
- Vending Misers
- Water Conservation Retrofits (toilet fixture and aerator replacements)

- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$10,670**.

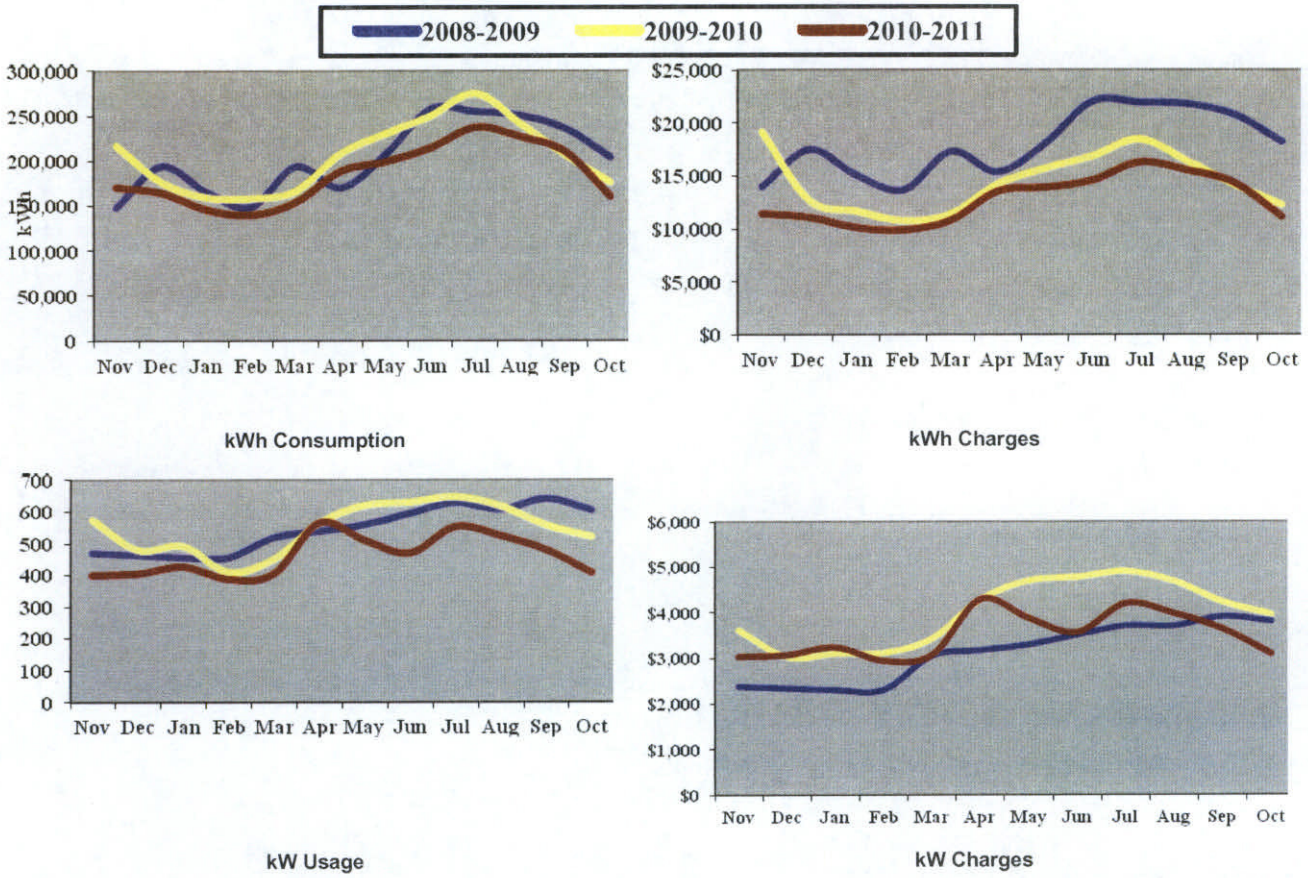
5.53a Civic Center Warehouse

Overview

Address: SE Civic Center Place Port St. Lucie, FL
Sq Ft.: 7,500
Hours of Operation: 24/7 storage
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Per ECM

This facility was built in 2008 and is a warehouse storage building located at the Civic Center.

Utility Analysis



Existing Conditions

- The building's existing lighting consists of T8 linear fluorescent interior fixtures as well as T5 fixtures in the warehouse. Compact flourescent lamps are also utilized. Existing exit signs are LED. 175w metal halide wall packs are utilized for exterior lighting.
- The building's plumbing fixtures are low flow 1.6 gpf toilets, 1gpf urinals and low flow aerators on sinks.
- Building HVAC is ventilated only and fans are controlled by Cos sensors.
- HVAC controls are a modern Trane Tracer Summit DDC system.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8s, reflectors/delamping, occupancy sensor controls)
- Building Exterior Lighting Retrofits

The total cost of recommended ECMs for this building is **$2,460**.

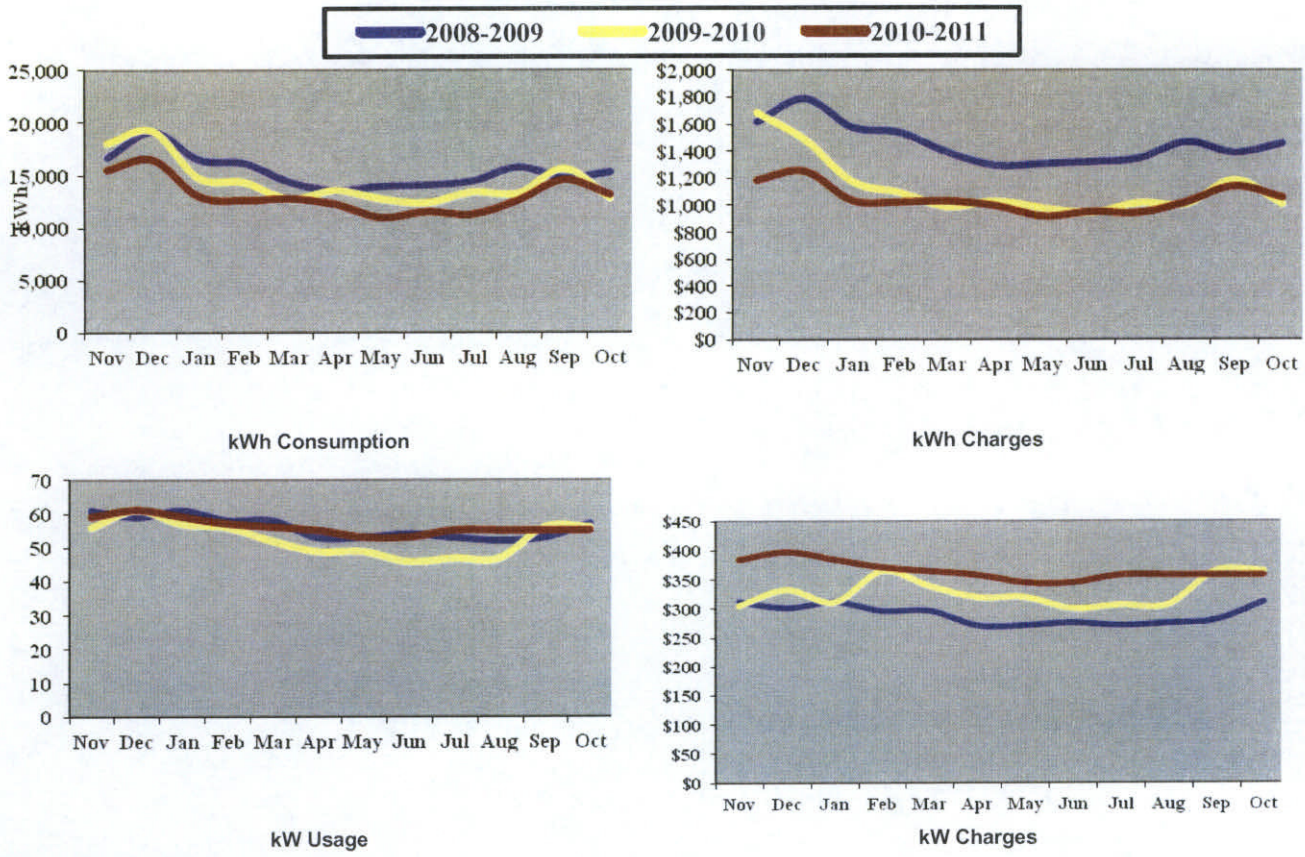
5.53b Civic Center

Overview

Address: SE Civic Center Place Port St. Lucie, FL
Sq Ft.: 100,000
Hours of Operation: Sun - Sat 5 am to 3 am
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Model

The Civic Center was built in 2008 and serves as a large multipurpose facility. It houses office spaces as well as a gymnasium, fitness center, game rooms, conference center and multipurpose rooms.

Utility Analysis



Existing Conditions

- The building's existing lighting consists of T8 linear fluorescent interior fixtures as well as compact flourescent lamps. Existing exit signs are LED. Occupancy sensors in back of house areas only.
- The building's plumbing fixtures are low flow 1.6 gpf toilets, 1gpf urinals and low flow aerators on sinks.
- The building envelope was found to have numerous instances of air gap leakage at roof joints, windows and door sweeps.
- Building HVAC is provided by two 200 ton air cooled chillers, and chilled water air handling units, see HVAC summary in facilities overview section.
- HVAC controls are a modern Trane Tracer Summit DDC system.
- The building has two existing 1250 kW emergency generators which are capable of carrying the entire building peak electrical load.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades (28w T8s, reflectors/delamping, occupancy sensor controls)
- Vending Misers
- Building Envelope Weatherization
- Chilled Water Pumping Optimization
- HVAC Controls Sequences Modifications
- Utilize existing generator for load shedding

The total cost of recommended ECMs for this building is **$300,200**.

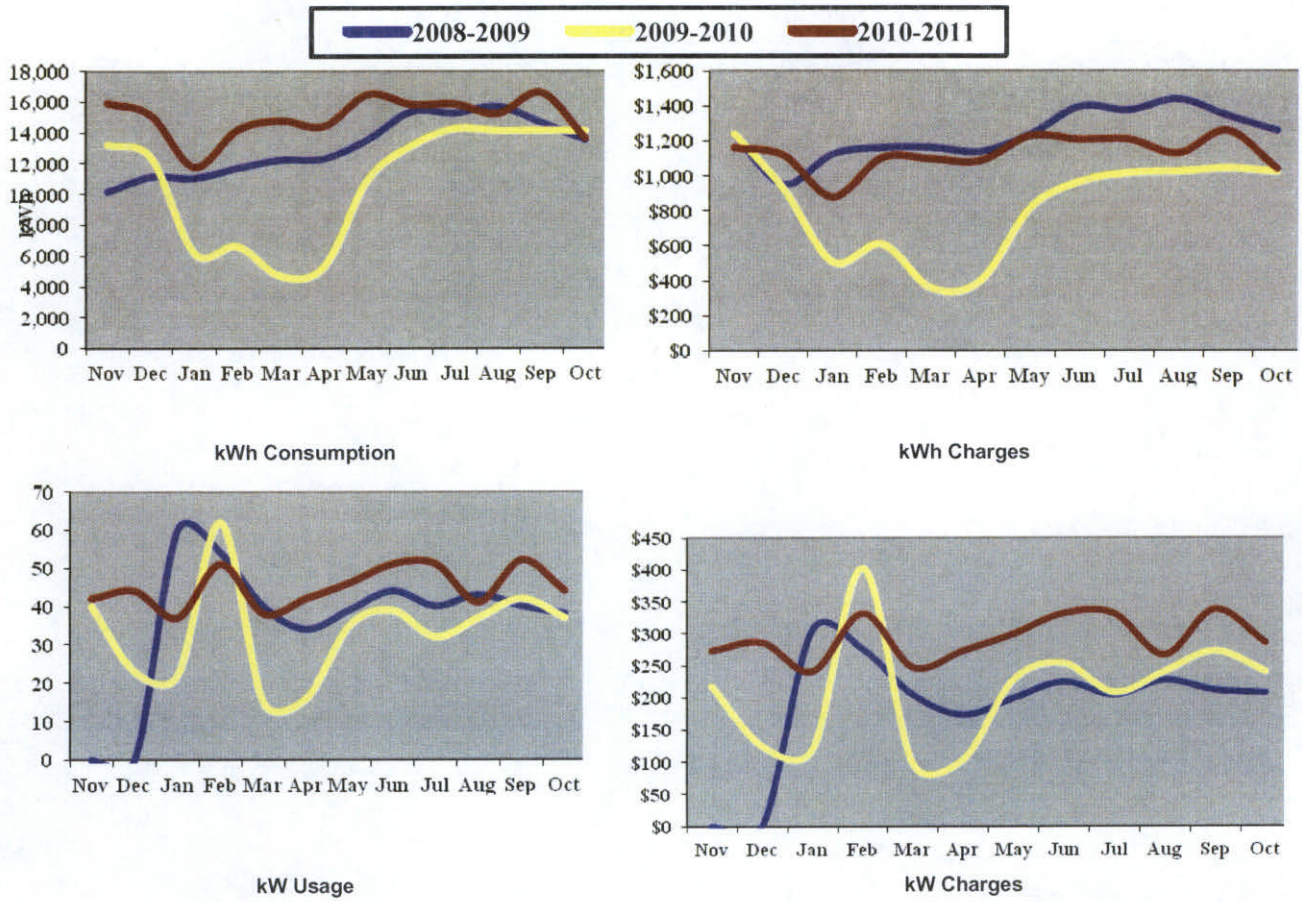
5.53c Civic Center Parking Garage

Overview

Address: SE Civic Center Place Port St. Lucie, FL
Sq Ft.: 269,000
Hours of Operation: 24/7 unconditioned
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Per ECM

This facility was built in 2008 and is the parking garage located at the Civic Center.

Utility Analysis



Existing Conditions

- The building's existing lighting consists of mostly of T5 linear fluorescent fixtures as well as some T8 fixtures. There are also numerous HID fixtures such as the 150w HPS pole top fixtures on the roof.

Recommendations

Honeywell is recommending the following ECMs:

- Lighting Retrofits (28w T8s, reflectors, induction lighting)

The total cost of recommended ECMs for this building is **$25,000**.

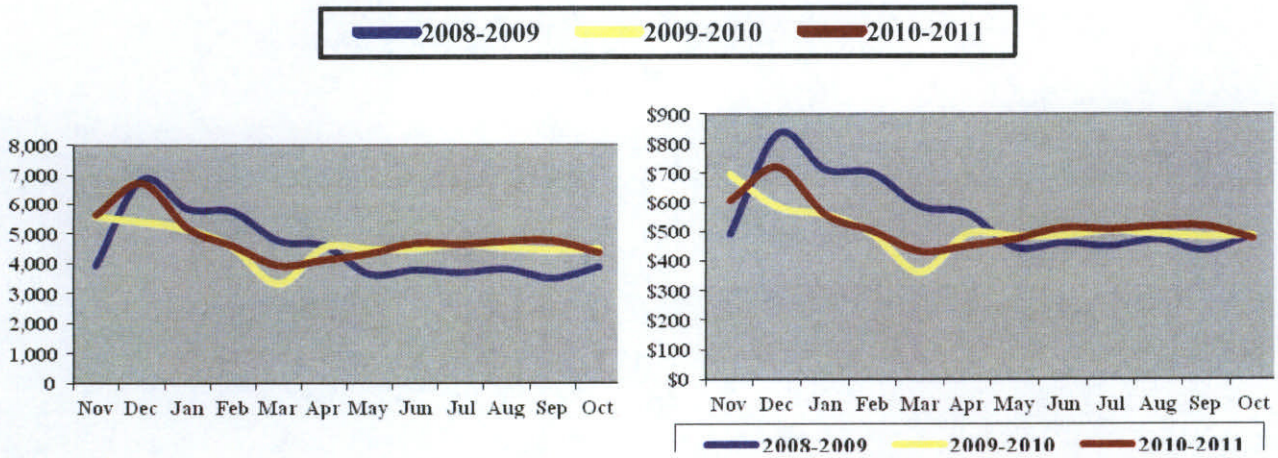
5.53d Civic Center Pavilion and Stage

Overview

Address: SE Civic Center Place Port St. Lucie, FL
Sq Ft.: 3,638
Hours of Operation: Sun - Sat 5 am to 3 am
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Per ECM

This facility was built in 2008 and is an outdoor function space at the Civic Center.

Utility Analysis



kWh Consumption

kWh Charges

Existing Conditions

- The stage is currently illuminated by 400w metal halide fixtures.
- There are HID fixtures located along the walkway and in the center courtyard.

Recommendations

Honeywell is recommending the following ECMs:

- Lighting Retrofits
  (replace the 400w metal halide fixtures on the stage with 4-Lamp vapor resistant T5 fixtures)

The total cost of recommended ECMs for this building is **$2,800**.

5.53e Civic Center Restrooms at Pavillion

Overview

Address: SE Civic Center Place Port St. Lucie, FL
Sq Ft.: 900
Hours of Operation: 24/7 unconditioned
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Per ECM

Existing Conditions

- This building's lighting consists of T8 linear fluorescent fixtures and compact fluorescent lamps.
- The space is unconditioned.
- The building's plumbing fixtures are low flow 1.6 gpf toilets, 1gpf urinals and low flow aerators on sinks.

Recommendations

Honeywell is recommending the following ECMs:

- Lighting Retrofits (28w T8s, reflectors)

The total cost of recommended ECMs for this building is **$1,250**.

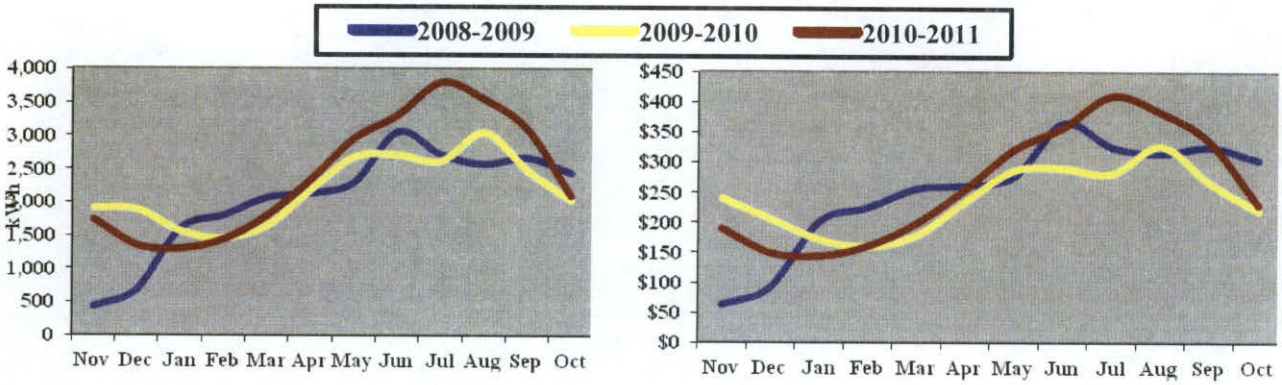
5.54 Prineville Expansion – 329 SE Greenway Terrace

Overview

Address 329 South East Greenway Terrace, Port St. Lucie, FL
Sq Ft.: 1986
Hours of Operation: Mon-Fri 7am to 4pm
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility is a converted residential building which was originally built in 2005. It serves as an office space for Utility Information Systems.

Utility Analysis



kWh Consumption

kWh Charges

Existing Conditions

- The building's existing lighting consists of inefficient incandescent technology. The majority of the existing interior fixtures in this facility are 3-lamp incandescent fixtures with 60w lamps
- The exterior areas of this facility are currently illuminated by 100w incandescent porch and canopy fixtures
- The building's plumbing fixtures are high flow tank type toilets and sink aerators.
- Building HVAC is provided by one 3 ton split DX air conditioner which is in good condition.
- The HVAC unit is controlled by a manual 24/7 thermostat.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Retrofits (Compact fluorescent lamps)
- Water Conservation Retrofits (replace toilet fixtures and sink aerators)
- HVAC Controls Integration and Programmable Thermostat.
- Energy Star Appliances

The total cost of recommended ECMs for this building is **$6,300**.

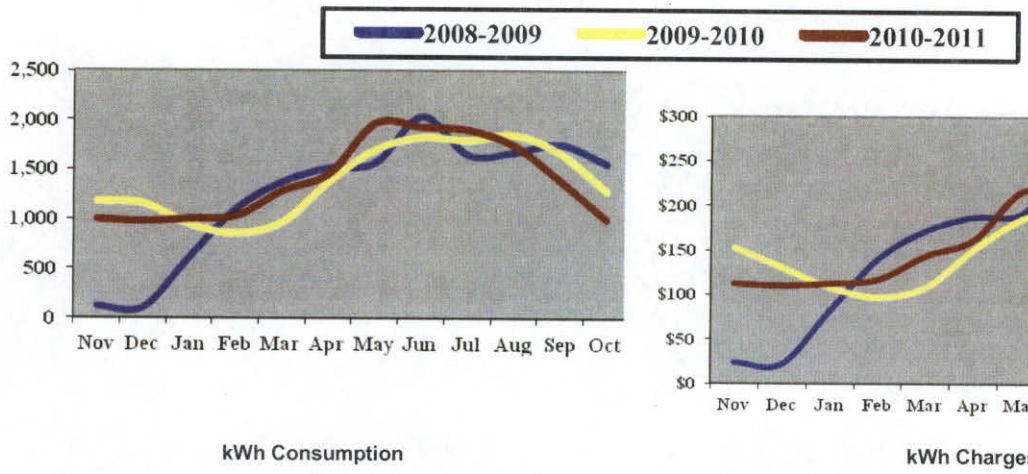
5.55 Prineville Expansion – 961 SE Ogden Lane

Overview

Address 961 South East Ogden Lane, Port St. Lucie, FL
Sq Ft.: 1,211
Hours of Operation: Sun-Sat 7am to 1am
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility is a converted residential building which was originally built in 2003. It serves as an office space for Utility Information Systems.

Utility Analysis



kWh Consumption

kWh Charges

Existing Conditions

- The building's existing lighting consists of a mixture of T-12, T-8, and incandescent technology. The majority of the existing interior fixtures in this facility are 1x4 2-lamp T-8 linear fluorescent fixtures. The exterior areas of this facility are currently illuminated by 60w incandescent canopy fixtures.
- The building's plumbing fixtures are high flow tank type toilets and sink aerators.
- Building HVAC is provided by one 3 ton split DX air conditioner which is in good condition.
- The HVAC unit is controlled by a manual 24/7 thermostat.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Retrofits (28w T-8s and compact fluorescent lamps)
- Water Conservation Retrofits (replace toilet fixtures and sink aerators)
- HVAC Controls Integration and Programmable Thermostat.
- Energy Star Appliances

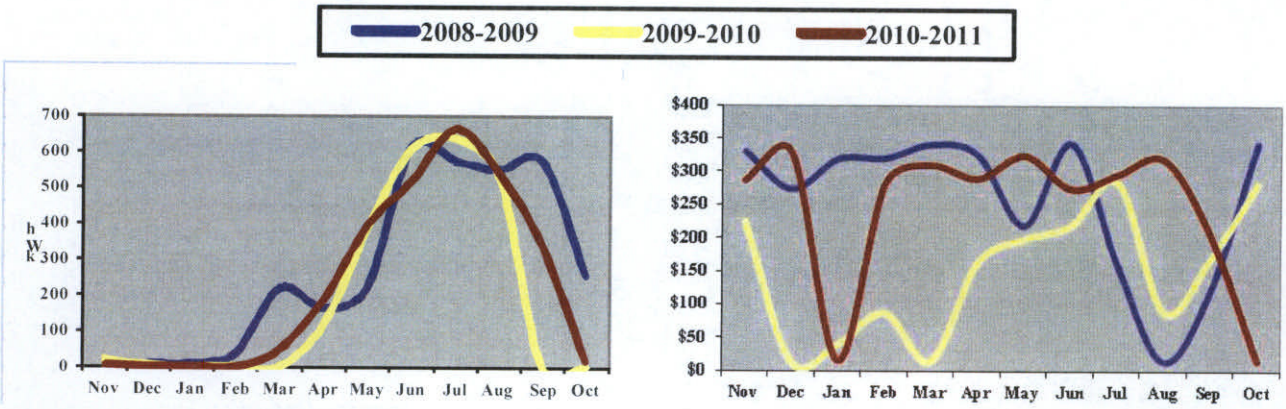
The total cost of recommended ECMs for this building is **$7,100**.

5.56 Prineville Expansion – 950 SE Prineville Street

Overview

This building is unoccupied and therefore no ECMs are recommended.

Utility Analysis



kWh Consumption

kWh Charges

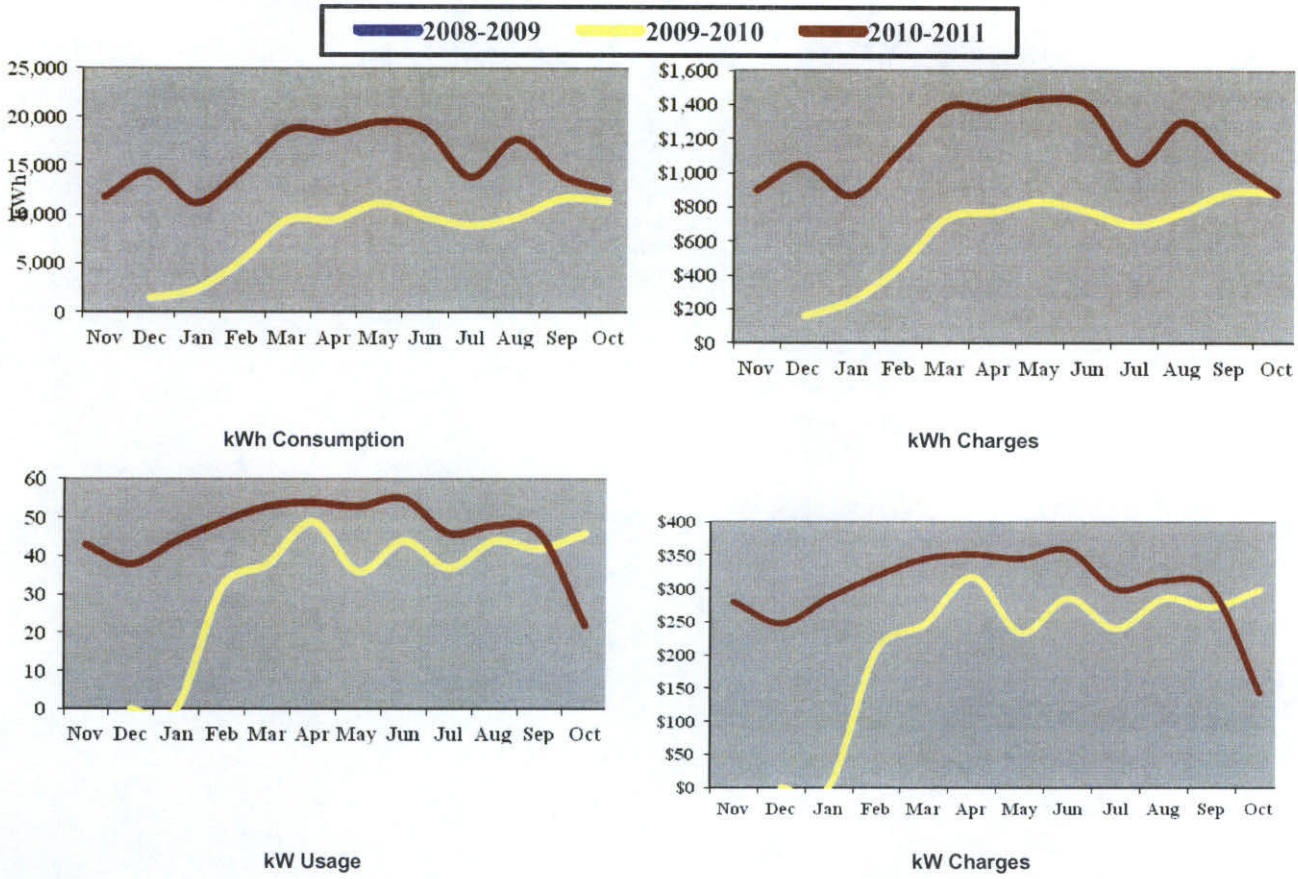
5.57a Botanical Gardens (Visitor's Center)

Overview

Address: 2410 SE Westmoreland Blvd Port St. Lucie, FL
Sq Ft.: 7,464
Hours of Operation:
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Model

The Botanical Gardens Nature Center was built in 2010 and was equipped throughout with energy efficient technology.

Utility Analysis



Existing Conditions

- The building's existing lighting consists of high efficiency T5 linear fluorescent interior fixtures as well as compact flourescent lamps. Some 2x4 2-lamp T8 fixtures are present in the reception and office areas. Existing exit signs are LED. Exterior lighting consists of 100w metal halide wall packs.
- The building's plumbing fixtures are high flow tank type toilets and sinks.
- Building HVAC is provided by one 15 ton high efficiency split DX air conditioner.

Recommendations

Honeywell is recommending the following ECMs:
- Building Lighting Upgrades
- Exterior Lighting Upgrades
- Water Conservation Retrofits
- HVAC Controls Integration

The total cost of recommended ECMs for this building is **$5,950**.

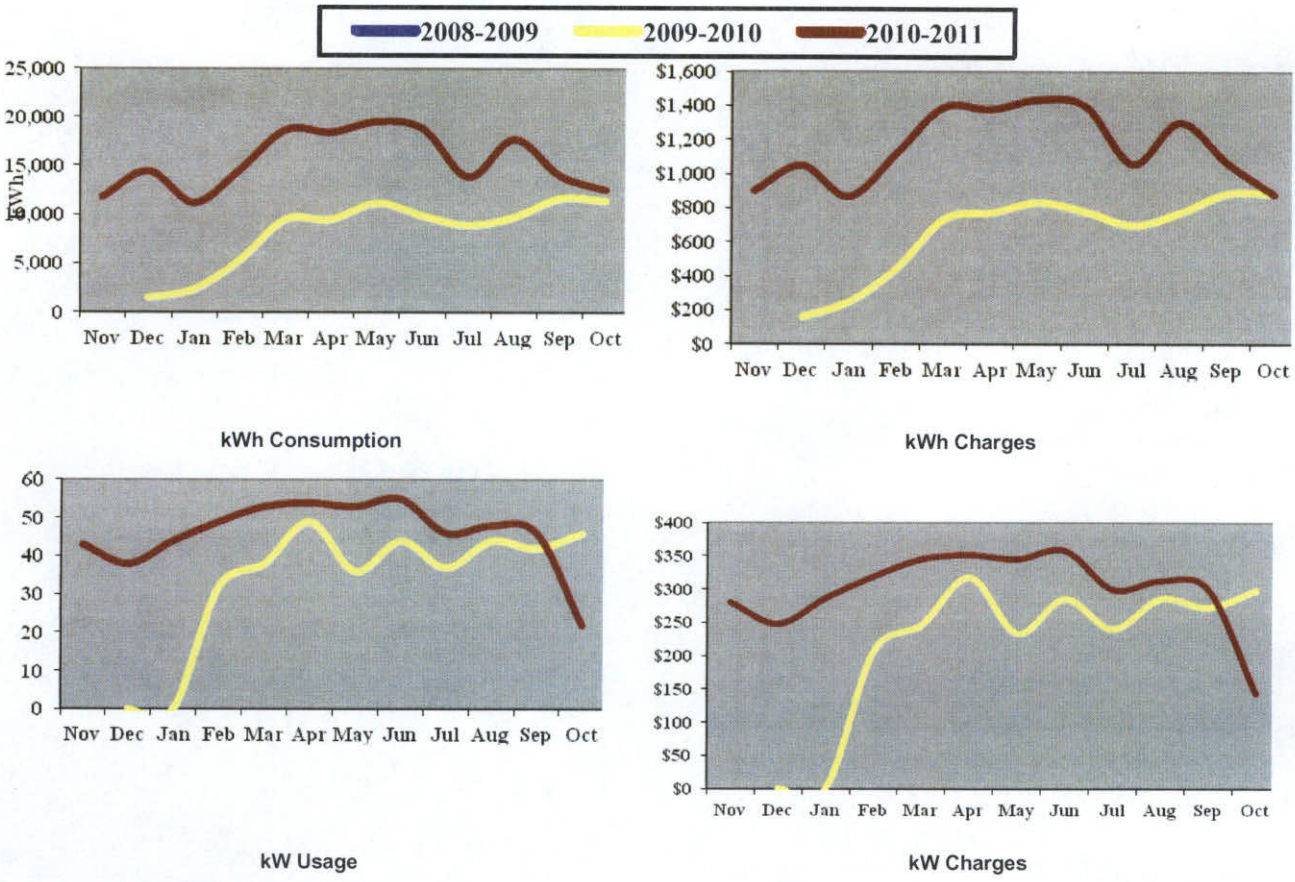
5.57b Botanical Gardens (Maintenance Building)

Overview

Address: 2410 SE Westmoreland Blvd Port St. Lucie, FL
Sq Ft.: 2,430
Hours of Operation:
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Per ECM

This facility is the maintenance building for the Botanical Garden. This facility was built in 2010 and was equipped throughout with energy efficient technology.

Utility Analysis



Existing Conditions

- The building's existing lighting consists of high efficiency T5 linear fluorescent interior fixtures as well as compact flourescent lamps. Existing exit signs are LED. Exterior lighting consists of 100w metal halide wall packs.
- The building's plumbing fixtures are high flow tank type toilets and sinks.
- Building HVAC is provided by one fractional ton DX window unit which is currently on a timer.

Recommendations

Honeywell is recommending the following ECMs:

- Exterior Lighting Upgrades
- Water Conservation Retrofits

The total cost of recommended ECMs for this building is **$2,250.**

5.58 Prineville Expansion – 902 SE Prineville Street

Overview

This building is unoccupied and therefore no ECMs are recommended.

5.59 Prineville Expansion – 974 SE Prineville Street

Overview

This building is unoccupied and therefore no ECMs are recommended.

5.60 Engineering Home – 1409 SE Barker Lane

Overview

This building is unoccupied and therefore no ECMs are recommended.

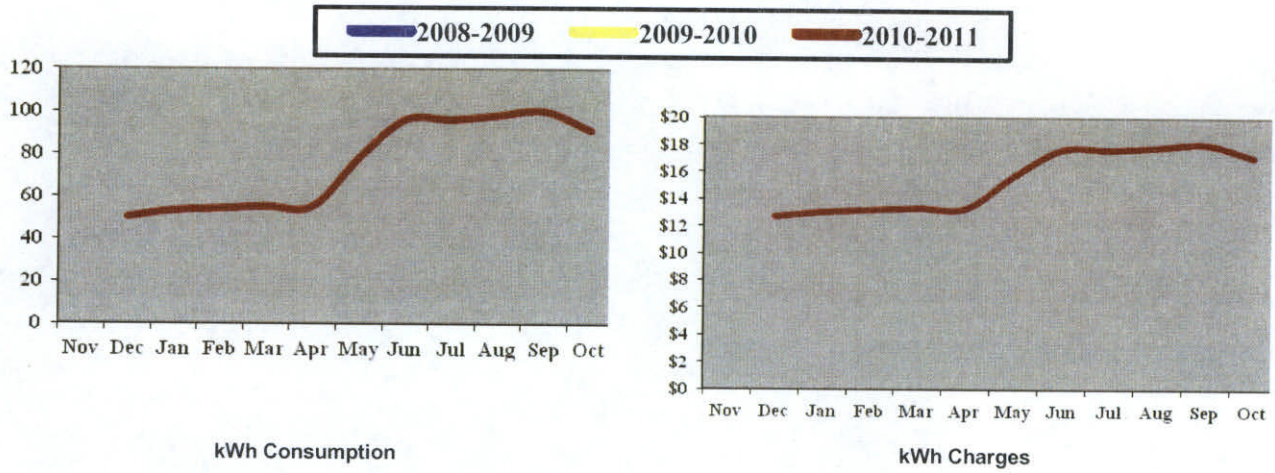
5.61 Veteran's Memorial Park

Overview

Address: 2203 SE Midport Rd. St. Port St. Lucie, FL
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

Veteran's Memorial Park is a small city owned public park which consists of a small grassy area and Korean War Memorial.

Utility Analysis



kWh Consumption

kWh Charges

Existing Conditions

- There is minimal lighting at this park.
- There is one set of restrooms with low flow toilet fixtures and high flow aerators on sinks.

Recommendations

Honeywell is recommending the following measures for this facility:

- Replace the 50w incandescent fixtures at the memorial with CFLs.
- Water Conservation (aerator replacements)

The total cost of recommended ECMs for this facility is **$300**.

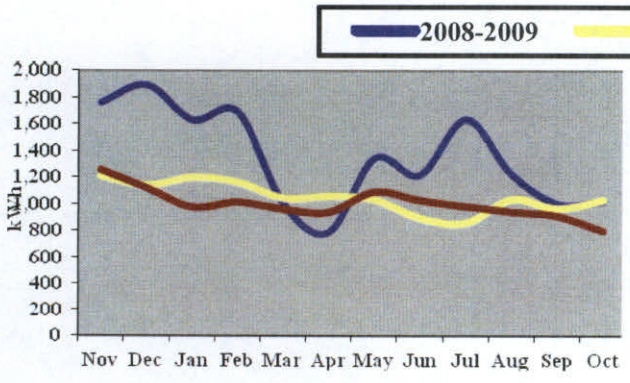
5.62 Tom Hooper Park

Overview

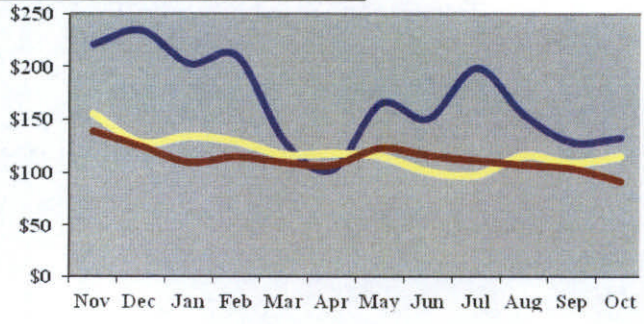
FP&L Rate Structure: GSD-1
Savings Calculation Methodology: Per ECM

Tom Hooper Park is a small city owned public park which consists of a small pond and grassy area.

Utility Analysis



kWh Consumption



kWh Charges

Existing Conditions

- The lighting at this park is all solar powered.
- There are no interior spaces and thus no plumbing or HVAC systems.
- The only energy consuming equipment for this park is the pond fountain pump.

Recommendations

Honeywell is not recommending any measures for this facility.

The total cost of recommended ECMs for this facility is **$0**.

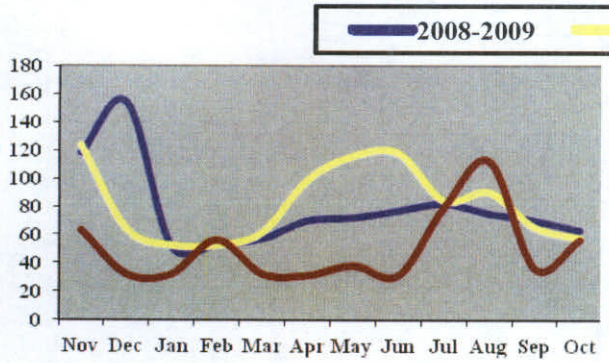
5.63 Traffic Ops Shops – 1485-1497 SW Biltmore

Overview

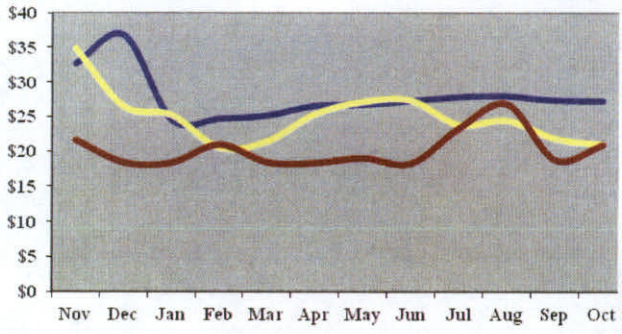
Address: 1497 SW Biltmore Port St. Lucie, FL
FP&L Rate Structure: GS-1
Savings Calculation Methodology: Per ECM

This facility is a warehouse which serves as the shop building for the traffic operations department.

Utility Analysis



kWh Consumption



kWh Charges

Existing Conditions

- The building's existing lighting consists of 32w T-8 flourescents as well as incandescent lamps. Existing exit signs are LED.
- The building's only plumbing fixture is a low flow tank toilet and sink.
- Building HVAC is provided by one fractional ton DX window unit.

Recommendations

Honeywell is recommending the following ECMs:

- Lighting Retrofits (28w T-8s, reflectors/delamping, CFLs)

The total cost of recommended ECMs for this building is **$960.**

6.0 MEASUREMENT & VERIFICATION OVERVIEW

6.1 Overview

The purpose of performing any Measurement and Verification (M&V) is to establish an agreed-upon process that provides the Hospital both a level of satisfaction that the improvements have been delivered and ongoing information as to their operation and performance. Additionally, this effort will be used to assess the actual dollars of savings versus either some guarantee level or to determine payments to Honeywell. It is essential for the success of this program that Honeywell and the City agree on a mutually acceptable methodology for measuring and verifying energy savings that are attributable to the ECMs Honeywell installs.

The plan for measuring and verifying energy savings for the proposed ECMs is based on the methods described in the ***International Performance Measurement and Verification Protocol (IPMVP)***. Our approach to M&V is directly consistent with, and in compliance with, the IPMVP. This protocol provides a framework for the most widely accepted and used M&V methods in the industry.

Engineering calculations of energy and cost savings for the project are based on operating parameters (such as weather, temperature settings, run hours, occupancy patterns, and space usage) and equipment performance characteristics. The M&V plan uses the operating parameters established in the baseline for all savings calculations during the term of the project. The intent of the M&V plan is to verify that the ECMs installed by Honeywell will provide the expected energy savings. Therefore, Honeywell will collect data and relative information during the post-retrofit period to demonstrate that the installed equipment is performing at expected levels. Honeywell is not responsible for changes in operating parameters or the impact they may have on savings. The detailed M&V plan (provided in the contract once final ECMs are selected) follows a separate M&V approach for each type ECM. This approach allows the City to adapt to the demands of growth and changes without the need for the City and Honeywell to negotiate energy baseline adjustments.

This M&V plan requires Honeywell having Internet or dial-up access to the appropriate City control interfaces.

One (1) year after the commencement date of the ECMs, Honeywell will submit a report verifying and calculating the energy and cost savings for the first year. This report will be submitted for facility review and approval. For the remaining contract term, Honeywell will provide annual reports. These reports will include results of inspections of the installed equipment/systems, energy and cost savings, and recommendations to provide optimum energy performance.

6.2 General Approach to M&V

Energy and water savings are determined by comparing the energy and water use associated with a facility or certain systems within a facility before and after the installation of an ECM or other measure. The "before" case is the baseline. The "after" case is the post-installation or performance period. Baseline and post-installation energy use measurements or estimates can be constructed using the methods associated with M&V Options A, B, C, and D, as described in the IPMVP. The challenge of M&V is to balance M&V costs, accuracy, and repeatability with the value of the ECM(s) or systems being evaluated, and to increase the potential for greater savings by careful monitoring and reporting.

6.3 M&V Options

The IPMVP guidelines classify the M&V procedures into four (4) categories: Options A, B, C and D. The specific Option to be used per ECM will be defined in the contract once the final ECMs are selected. As shown in the table below, these options differ in their approach to the level of complexity of the M&V procedures.

M&V Options Summary			
FEMP Guidelines / Option	**Verification of Potential to Perform (and Generate Savings)**	**Verification of Performance (Savings)**	**Performance Verification Techniques**
Option A - Verifying that the opportunity has the potential to perform and to generate savings.	Yes	Stipulated	Engineering calculations (possibly including spot measurements) with stipulated values.
Option B - Verifying that the opportunity has the potential to perform and verifying actual performance by end use.	Yes	Yes	Engineering calculations with metering and monitoring throughout term of contract.
Option C - Verifying that the opportunity has the potential to perform and verifying actual performance (whole building analysis).	Yes	Yes	Utility meter billing analysis.
Option D - Simulating that the opportunity has the potential to perform and simulating actual performance.	Yes	Yes	Computer simulation.

In general,

ECM Energy Savings = Baseline Energy Use - Post-Installation Energy Use

And

Energy Cost Savings ($) = Total Energy Savings x Contractual Energy Rates

Since energy use at a facility is rarely, if ever, constant, another way to define M&V is as a comparison of a facility's post-installation energy use with its usage, if the ECM or system had not been installed. This takes into account situations in which baseline energy use must be adjusted to account for changing conditions, such as changes in facility operation, occupancy, or use or external factors such as weather.

Post-Retrofit M&V Activities

There are two (2) components associated with M&V of performance contract projects:

1. Verifying the potential of the ECM to generate savings also stated as confirming that the proper equipment/systems were installed, are performing to specification and have the potential to generate the predicted savings.
2. Determining/verifying energy savings achieved by the installed ECM(s).

Verifying the Potential to Generate Savings

Verifying baseline and post-installation conditions involves inspections (or observations), spot measurements, and/or commissioning activities. Commissioning includes the following activities:

- Documentation of ECM or system design assumptions
- Documentation of the ECM or system design intent for use by contractors, agencies and operators
- Functional performance testing and documentation necessary for evaluating the ECM or system for acceptance
- Adjusting the ECM or system to meet actual needs within the capability of the system

Post-Installation Verification

Post-installation M&V verification is conducted by both Honeywell and the Hospital to ensure that the proper equipment/systems that were installed are operating correctly and have the potential to generate the predicted savings. Verification methods may include surveys, inspections, and/or spot or short-term metering.

Regular Interval Post-Installation Verification

At least annually (this is negotiable), Honeywell will verify that the installed equipment/systems have been properly maintained, continue to operate correctly, and continue to have the potential to generate the predicted savings. Savings reports for all the installed ECMs will be submitted each year after the acceptance date of the work performed by Honeywell.

Computation of Energy Savings

After the ECMs are installed, energy and cost savings will be determined annually by Honeywell in accordance with an agreed-upon M&V approach, as defined in a project-specific M&V plan.

Construction/Interim Savings

Construction or Interim savings are usually measured by using the same methodology as described in the detailed M&V plan in each ECM. The start and the completion time for each ECM are agreed to between Honeywell and the City.

Electricity and thermal savings from the ECMs, where no detailed long-term data is required to be collected (such as a lighting ECM), will be stipulated and will be based on the starting and the final completion dates and verification of the operation of the ECMs. For other ECMs, where long-term data collection is required by the M&V plan, spot or short-term data will be used to calculate the savings. For example, electricity savings for the installation of a VFD; the kW is spot measured at a set speed for selected motors through a sampling plan. The measured kW is subtracted from the baseline kW to calculate the savings. The results are extrapolated to cover all the VFDs installed by Honeywell.

The savings for each of the monitored VFD is calculated on an interval basis as follows:

kWSaved = (kWBase – kWSpot Measured)
kWhSaved = Estimated operating hours during the interim period * kWSaved
The total kWh savings is the sum of the kWhSaved for all the installed VFDs.

Software Used to Model Savings

From an energy management system perspective, Honeywell will implement our modeling concepts into the control system to promote real-time reporting capabilities using system level trending information and weather data. The Honeywell Energy Manager (HEM) software tool is an example of energy analysis and management tools available to supplement the basic data provided by the Building Management System (BAS).

Energy Manager is an advanced energy management and energy information software tool that captures, analyzes and acts on data. Energy Manager can be linked to our Enterprise Buildings

Integrator (EBI) system, or operate in conjunction with other energy management systems that utilize open protocol communications. Where EBI is focused on real-time data management, Honeywell Energy Manager provides interval-based meter data management functions, software and tools to support the energy analysis, energy reporting, and energy management functions of this project. Important tools, which are included with Energy Manager, include the Rate Engine, Load Forecasting, Bill Validation, Enterprise Load Management, Benchmarking, and Reporting. HEM leverages the robust data gathering, alarming, trending and graphing capabilities of EBI.

6.4 Baseline Calculation Methodology

Baseline Calculation Methodology is the most critical element of performance contracting and is the cornerstone of all energy performance contract agreements. Accuracy, diligence and specifically defining all elements that influence the recognition of the guaranteed energy savings must be understood and accepted. The contract must allow for changes to facilities and systems without compromising the saving guarantees.

6.5 Adjustment to Baseline Methodology

Honeywell's methodology for establishing and adjusting the baseline is determined by the characteristics of the facility, the conservation technology being installed, the technology being replaced, the type of measurement and verification the City requires and the needs of the City for future changes in facility use.

The purpose of this flexible approach is to make the most accurate possible measurement of the changes in energy use that are specifically attributable to Honeywell installed ECMs. This creates the ability over the life of the contract to continue measuring only savings achieved by Honeywell and leaves the City free to make future changes to the building or systems without affecting the savings agreement. It also necessitates fewer provisions for making adjustments to the baseline.

Modifications to the energy baseline or savings will be made for any of the following:
1. Changes in the number of days in the annual review cycle
2. Changes in the square footage of the facilities
3. Changes in the operational schedules of the facilities
4. Changes in facility indoor temperatures
5. Significant changes in climate
6. Significant changes in the amount of equipment or lighting utilized in the facility

Examples of situations where the baseline needs to be adjusted are: i) changes in the amount

of space being air conditioned, ii) changes in auxiliary systems (towers, pumps, etc.) and iii) changes in occupancy or schedule. If the baseline conditions for these factors are not well documented, it becomes difficult, if not impossible, to properly adjust them when they change and require changes to payment calculations. To compensate for any addition and deletion of buildings and impact on the baseline model, Honeywell will use sound technical methodologies to adjust the baseline. An example would be to add or delete building energy impact via the calculated cooling load in tons, as a percentage of the existing campus tonnage baseline or use indices like W/ft2 and Btu/ft2 to calculate the energy consumption of the building and then add or subtract the energy usage to or from the baseline energy consumption.

Modifications to the baseline may be required for major changes in operation (e.g. closing a facility or adding a wing). The modification may result in an energy increase or decrease to the baseline.

Typically in an Option A or B guarantee, there is no modification for weather.

If an adjustment to a baseline is necessary, the most important step is communication between Honeywell and the City. This allows for early detection of major changes in the facility or early correction of energy wasting practices. If a major change in the facility or operation is detected, Honeywell determines the magnitude of the modification. A modification consists of a number of units to be applied, a time period to apply the units, and a description of why the modification is being applied. Modifications are made only with Customer's explicit approval.

6.6 Savings Calculations

Calculating the units of energy saved is a critical measure of energy efficiency improvements, but it does not indicate the actual dollars saved. To do this, Honeywell and the City will
establish the base rates that will act as "floor" rates in calculating the savings. These are usually the rates that are in effect at the time of the start of the contract or rates used for audit estimated savings.

The following equation will be used to calculate the annual savings in dollars.

$$\text{Annual Savings (\$)} = \sum_{m=1}^{12} \{ (\text{Rate}_{\text{kWh,Base}} \times \text{kWh}_{\text{saved,m}}) + (\text{Rate}_{\text{Gas,Base}} \times \text{Gas}_{\text{saved,m}}) \} + \text{Agreed (\$)}$$

where:
RatekWh,Base= defined base rate for kWh consumption
kWhSaved,m= calculated kWh savings for month *m*
Rategas, Base= defined base rate for gas savings
GasSaved,m= calculated gas savings for month *m*
Agreed($)= Annual savings in dollars (water, sewer, maintenance, etc.)

The purpose for establishing a baseline for an energy performance project is to accurately predict what the energy consumption and costs would have been, as if the energy project was never completed. The baseline can then be used to measure the improvement in efficiency and determine the overall energy savings of the project. A baseline also needs to incorporate changes in facility use, such as a change in hours of operation or increased levels of outside air. Once again, if these changes would have occurred in the absence of the energy project, they should be incorporated into the project's baseline.

For this proposal, Honeywell will calculate the baseline based on the systems and operating conditions as they currently exist. The baseline will be established by use of both commercially available energy modeling software and isolation retrofit engineering calculations. Honeywell finds baseline development most accurate if specific measurements are taken on equipment over a period of time (early in the audit phase) to determine actual kW, kWh, gpm, hours of use, etc. A summary of some of the methods, which have been and will be used by Honeywell to establish baselines and support calculated savings are listed below.

1. Spot measurements of electrical loads such as lighting, fan and pump motors, chillers, electric heat, etc.
2. Measurement of equipment operating hours using electric data recorders
3. Measurement of existing operating conditions using data recorders for space temperature and humidity, air handler temperatures (mixed, return), and space occupancy using lighting loggers
4. Running measurements of chiller operation, including simultaneous measurement of input kWh and chilled water supply and return temperatures

The data from the above is used to calculate existing energy use, which is subtracted from the baseline data to determine energy avoidance and cost savings.

The ECMs installed in many projects allow for energy savings to be identified by direct metering or a combination of metering and calculations with accepted assumptions. In the case of lighting, for example, it is relatively easy to meter representative samples of unique fixture types, both before and after a retrofit, to determine the power consumption difference in Watts. When multiplied by the quantity of each fixture type, the total connected load reduction can be derived. In combination with run time assumptions or meters, the electrical reduction can be accurately determined. Where possible, direct measurement of ECMs during construction (before and after the retrofit) coupled with energy savings calculations is a method Honeywell finds to be very accurate and cost-effective.

Due to the nature of some ECMs, or when a combination of ECMs is installed, individual (discrete) metering may not be either possible or able to fully document a baseline and calculate savings.

Formulas exercised in energy savings calculations follow the laws of physics, and many are included in the ASHRAE Handbook of Fundamentals. However, such calculations (i.e. equipment operation profiles) must be tempered by experience, past retrofit practice, and expectations of future operating conditions to arrive at achievable values in practice.

Honeywell always reviews each and every project, in detail, for the anticipated savings and never hesitates to reduce the anticipated energy calculations where experience dictates necessary. The final result is a coupled project where the final savings are equal to or greater than anticipated.

Dollar Savings Calculations

Honeywell assigns dollar values to the true incremental value of savings for energy and water. In other words, we do not combine, for example, demand and consumptions numbers so that there is an average value to savings. Honeywell looks at each incremental rate to units saved to properly determine the value (dollar) to the City or "real bill reductions". In addition, we will work with the City to mutually agree upon escalation factors, such as projected by the U.S. Department of Commerce or local utility.

Based on this, Honeywell will review all utility bills (hourly data), tariffs, special contracts and commodity contracts to develop the incremental value (costs) of each utility. The O&M savings is typically a function of existing City budgets (labor & direct costs), maintenance contracts and operations (supplier) contracts. Honeywell will go through the information to provide a conservative savings representation for the City's review and acceptance. The information will include all calculations and assumptions.

6.7 Site Specific M&V Plan

Honeywell has developed a site specific M&V plan for the recommended project. This plan identifies the recommended M&V approach for each of the recommended ECMs. Note that ECMs which have two options pertain to ECMs which are implemented at buildings which were and were not modeled. Buildings which were modeled will likely utilize option D. The site specific M&V plan is provided in the following table:

ECM M&V Options and Data Required for Baseline Establishment and Savings Calculations
City of Port St Lucie, Florida

Energy Conservation Measure (ECM)	M&V Option	Data Points for Baseline, Savings Calculations, and M&V
Generator Load Shedding	A	Load shedding event history from FP&L, stipulated savings based on rate adjustments less generator stipulated run times
Energy Efficient Transformers	A	Baseline transformer efficiencies, transformer counts, retrofitted transformer efficiencies
Building Lighting System Upgrades	A	Baseline fixture power draws, fixture count, baseline and proposed run hours, proposed fixture power draws, fixture demand diversity factors, building details including HVAC system types, efficiencies, and perimeter zone area, and utility rate structures.
Sports Lighting Upgrades and Controls	A	Baseline fixture power draws, fixture count, baseline and proposed run hours, proposed fixture power draws, fixture demand diversity factors, and utility rate structures.
Vending Misers	A	Baseline vending machine power draw and stipulated unoccupied time durations
Street Lighting	A	Baseline fixture power draws, fixture count, baseline and proposed run hours, proposed fixture power draws, fixture demand diversity factors, and utility rate structures.
Water Conservation	A	Baseline Fixture Water Flows from Manufacturer's Data and Field Testing Sample
Building Envelope Improvements	A or D	Visual inspection, calculated infiltration rate, calculated thermal heat transfer coefficients for windows and roofs
City Hall Campus High Efficiency Chiller Plant	B or D	Baseline chiller and pump motor horsepowers and efficiencies, supply and return temperatures, retrofitted chiller and pump motors horsepowers and efficiencies and measured runtime, amps, and supply and return temperatures
City Hall Ice Storage System	B or D	Baseline chiller and pump motor horsepowers and efficiencies, supply and return temperatures, retrofitted chiller and pump motors horsepowers and efficiencies and measured runtime, amps, and supply and return temperatures
HVAC Chilled Water Pumping Optimizations	B or D	Baseline pump motor horsepowers and efficiencies, supply and return temperatures, retrofitted pump motors horsepowers and efficiencies and measured runtime, amps, and supply and return temperatures
HVAC DX System Replacements	A and/or D	Baseline HVAC system operating hours and temperature setpoints, HVAC system types, heating and cooling system airflows and efficiencies, HVAC system details including fan motor sizes, supply and outdoor air flow rates
VAV Kitchen Hood Exhaust Systems	B	Baseline supply and exhaust fan horsepower and runtime based on data logging. Savings based on supply and exhaust air reductions while devices not in use based on logging data. Savings measured by retrofitted amps and runtime.
AHU VAV Conversions	B or D	Baseline motor horsepowers and efficiencies, retrofitted motors horsepowers and efficiencies and measured runtime and amps.
Controls System Upgrades*	A or D	Baseline HVAC system operating hours and temperature setpoints, building details including floorplans, insulation levels, window and skylight sizes and types, HVAC system types, lighting and equipment power draws, heating and cooling system efficiencies, envelope infiltration rates, HVAC system details including fan motor sizes, supply and outdoor air flow rates, composite base year utility data for whole building model calibration, hours of occupancy, proposed "standards of comfort" including occupied and unoccupied temperatures, and utility rate structure.
PowerSmiths Automated PC Power Management	A	Stipulated baseline quantity of computers and users by customer
Green Print (printing paper and ink reduction software)	A	Stipulated baseline quantity of computers, printers and users by customer.

* Controls ECM includes control strategies that will result in energy savings as follows:
  a. Improve match between occupancy schedules and HVAC equipment runtime (includes optimum start)
  b. Change unoccupied period setup/setback temperature setpoints

7.0 COMMISSIONING

The commissioning process is one of the most critical components of the project's success. Honeywell proposes this is the stage that validates that the installation was accomplished as documented in this proposal.

Honeywell believes one of its strengths is the expertise that its team has in assuring that systems are installed and started up to meet specifications and the intended performance requirements.

This section details the typical process that Honeywell follows in developing and executing a commissioning plan. Also included are a few sample commissioning documents that may be used during the start up and functional testing phases. Below is a summary of components of a commissioning plan:

Components of Commissioning Plan	
Construction	• Review subcontractor submittals to ensure consistency with the design intent and performance criteria. • Document any modifications or variations to the original design. • Implement and document pre startup per OEM requirements • Implement and document equipment and system start up in accordance with OEM requirements • Update project specifications, drawings and sequences as required • Develop O&M manuals and training procedures.
Acceptance	• Train the O&M staff on the procedures for ongoing operations, maintenance, and troubleshooting of all systems. • Provide full O&M manuals, warranty and contact information.

Commissioning Process & Procedures

These procedures and criteria will be developed as additional information becomes available from the project team or existing design and construction information is amended.

Commissioning during the construction of this project is intended to achieve the following specific objectives: 1) Ensure that applicable equipment and systems are installed properly and receive adequate operational checkout; 2) Verify and document proper performance of equipment and systems; 3) Ensure that O&M documentation left on site is complete; and 4) Ensure that the Owner's operating personnel are adequately trained.

Systems to be commissioned include chilled water systems, including controls, variable speed drives; air handling units; and building automation systems.

Pre-functional checklists include procedures to prepare the equipment or system for initial operation. Functional testing is the dynamic testing of systems, rather than just components, under full operation. The systems are run through the control system's sequences of operation and components are verified to be responding as the sequences state.

Type of testing and information includes:

- Measurements of electrical loads (kW), for lighting, motors, etc.
- Functional testing of control systems and individual components. At times this includes fooling systems to simulate conditions (i.e. winter or summer) and simultaneous communication between an operator's panel and an individual location at the terminal device. Demonstrating successful operation of each point and the proper functioning of the software system over various conditions is a critical element in the proper commissioning of automated control systems.
- Completion of as-built drawing and operation and maintenance manuals. They will record the changes that were made to the building systems; manufacturer's parts list; manufacturer's recommended procedures for start-up, maintenance and trouble-shooting; warranties; and supplies.

The following chart depicts the commissioning activity timeline during the project construction phase.

COMMISSIONING PLAN TIMELINE	CONSTRUCTION ACTIVITIES								
COMMISSIONING ACTIVITIES	PRE-PLAN	BUY-OUT	SHOP DWGS	ROUGH-IN	TEMP HVAC	START-UP	TEST	TURN-OVER	POST-CONST
Coordination meeting with all parties	X								
Review design and resolve issues	X								
Define Owner acceptance criteria	X								
Review construction schedule	X								
Define pre-start procedures (all trades)		X							
Develop commissioning plan		X							
Assemble commissioning team		X							
Review equipment submittals			X						
Review control submittals			X						
Major equipment start-up					X	X			
System flushing and cleaning					X	X			
Control system communication link test						X			
Control system software and graphics							X		
Control input testing/calibration (critical)							X		
Control output testing and calibration							X		
Functional performance testing							X		
O & M manuals to Owner								X	
Owner training								X	
Owner acceptance testing								X	
Final Walk-Thru/Cleaning								X	
De-briefing									X

8.0 ENVIRONMENTAL IMPACT & SUSTAINABILITY

Honeywell is dedicated to protecting the environment with a comprehensive and contemporary commitment to address some of the world's toughest challenges. Through our energy services, we can help the City of Port St. Lucie become more "sustainable" and "green".

While evaluation of sustainability practices was not required for this report, as part of this energy audit, Honeywell did a preliminary evaluation of the City's sustainability practices, and evaluated potential green programs, particularly where there was the potential for energy savings. Several programs either considered or recommended are included in Section 4 of this report, including:

- Automated Computer Power Management (Section 4.14)
- GreenPrint (Section 4.15)
- Energy Awareness System (Section 4.19)

Our analysis of City practices based on discussions with staff, review of the City's website, and public reports indicates the City of Port St. Lucie takes part in activities which promote sustainable practices. Of particular note, the City's Keep Port St. Lucie Beautiful (KPSLB) program, and through the efforts of the KPSLB Committee, the City encourages sustainable practices by the City and within the community through education, public-private partnerships, volunteering, and promoting individual responsibility. Some of the KPSLB programs include:

- Recycling
- Litter prevention
- Adopt-a-Street
- Business beautification
- Tree planting & wholesale tree buying
- Promotions through meetings and special events

Through web-site links, the City also provides information on the City's sustainability efforts, as well as links and contacts for sustainability resources, such as:

- Department of Energy's Clean Energy Loan Program
- Civic Center Solar Panel Energy Savings
- South Florida Water Management District Conservation Tips
- U.S. Environmental Protection Agency's "WaterSense" Conservation Program

Can the City do more? Yes! There are a number of actions and programs the City should consider to enhance sustainability and environmental impact. Some of these include:

- Sustainability as a priority—Include additional discussion of sustainability and environmental programs in City and departmental mission statements, management reports, CAFR, etc.

- Consider additional participation in certification programs, such as:
  - Green City Certification
  - LEED and Green Building promotion for homes and businesses
- More robust energy awareness education and outreach programs for employees and the community
- Implement measurements to document effectiveness of programs

ACT. EARTH™

Honeywell Energy Awareness

Environmental Impact

The energy efficiency improvements recommended for implementation will have a significant and positive impact on the City's carbon footprint. Honeywell uses the U.S. Environmental Protection Agency (EPA) "Greenhouse Gas Equivalencies Calculator" (www.epa.gov) to determine the environmental impact of energy reduction for Port St. Lucie. A summary is provided below:

Total Energy Savings:	**7,405,000 KWH**
Emissions Reduction:	**5,106 Metric Tons of CO2**
Equivalent to:	• **1,001 Passenger Vehicles** • **11,875 Barrels of Oil Consumed** • **637 Homes' Electricity Use** • **130,927 Tree Seedlings Grown for 10 Years** • **1,089 Acres of Fir Forests** • **1,779 Tons of Waste (Greenhouse gas avoided by not sending to landfill)**

9.0 FINANCIAL ANALYSIS

9.1 Program Financial Summary

Honeywell is pleased to present this financial analysis of recommendations provided in this report. Below is the recommended program financial summary.

Note: All cost, savings and other financial figures in this report are preliminary and budgetary in nature and not an offer to contract. A final Energy Performance Contract will be negotiated with the City following review of this report.

Program Savings	
Energy & Water (Year 1)	$750,855
O&M (Year 1)	$156,042,
Total Annual Savings (Yr 1)	$906,897
Total Savings (15-Yr Term)	**$17,014,711**
Program Costs	
Value of Improvements	**$11,040,070**
Support Services / M&V (Yr 1)	$62,571
Total Payments (Including M&V and Finance Costs)	$15,427,481
Program Performance	
Net Positive Cash Flow (15-Yr) (Including Rebates & Capital)	$1,920,230
Net Positive Cash Flow (20-yr) (Including Rebates & Capital)	$9,532,782

The tables below provide a program cash flow analysis, and overall summary of costs and savings for each energy conservation measure Honeywell studied. To aid evaluation and facilitate comparison of ECM's payback performance, data are provided for both recommended ECMs and those that are not recommended for implementation. Measures included in the total recommended project are noted with a "Yes". Note that the individual measures breakout costs do not include allocated costs such as M&V costs, Project Management, and bonding. These costs are reflected in the overall recommended project summary line. O&M savings are included in the table below, and are discussed with ECM descriptions in Section 4. A table developed in conjunction with City staff detailing Cost of Operations (Cost of Ops) budgeted and/or anticipated savings is provided in Appendix B.

Financed Cash Flow / Proforma:

Cash Flow Analysis	Performance Period (Guaranteed)																On-Going (Non-guaranteed Cash Flow)					
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Year		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
Energy Savings	$0	$750,855	$773,381	$796,582	$820,479	$845,094	$870,447	$896,560	$923,457	$951,161	$979,695	$1,009,086	$1,039,359	$1,070,540	$1,102,656	$1,135,735	$1,169,808	$1,204,902	$1,241,049	$1,278,280	$1,316,629	**$20,175,754**
Operations Savings	$0	$156,042	$161,504	$167,156	$173,007	$179,062	$185,329	$191,816	$198,529	$205,478	$212,670	$220,113	$227,817	$235,791	$244,043	$252,585	$261,425	$270,575	$280,045	$289,847	$299,992	**$4,412,828**
FP&L Rebate	$0	$38,681	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$38,681**
Guaranteed Savings	**$0**	**$945,578**	**$934,884**	**$963,738**	**$993,486**	**$1,024,156**	**$1,055,776**	**$1,088,376**	**$1,121,986**	**$1,156,639**	**$1,192,365**	**$1,229,199**	**$1,267,176**	**$1,306,330**	**$1,346,699**	**$1,388,320**	**$0**	**$0**	**$0**	**$0**	**$0**	$17,014,711
Payment	$0	$944,972	$944,972	$944,972	$944,972	$944,972	$944,972	$944,972	$944,972	$944,972	$944,972	$944,972	$944,972	$944,972	$944,972	$944,972	$0	$0	$0	$0	$0	**$14,174,580**
Maintenance	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Performance Assurance (M&V)	$0	$62,571	$65,074	$67,677	$70,384	$73,200	$76,127	$79,173	$82,339	$85,633	$89,058	$92,621	$96,326	$100,179	$104,186	$108,353	$0	$0	$0	$0	$0	**$1,252,901**
Total Annual Cost	**$0**	**$1,007,543**	**$1,010,046**	**$1,012,649**	**$1,015,356**	**$1,018,172**	**$1,021,099**	**$1,024,145**	**$1,027,311**	**$1,030,605**	**$1,034,030**	**$1,037,593**	**$1,041,298**	**$1,045,151**	**$1,049,158**	**$1,053,325**	**$0**	**$0**	**$0**	**$0**	**$0**	**$15,427,481**
*Capital Cost Contribution		$94,600	$114,400	$60,800	$63,200																	**$333,000**
Annual Cash Flow	$0	$32,635	$39,238	$11,889	$41,330	$5,985	$34,677	$64,231	$94,675	$126,034	$158,335	$191,607	$225,878	$261,180	$297,541	$334,995	$1,431,233	$1,475,477	$1,521,094	$1,568,127	$1,616,620	
Accumulated Cash Flow	$0	**$32,635**	**$71,873**	**$83,763**	**$125,093**	**$131,078**	**$165,754**	**$229,986**	**$324,660**	**$450,694**	**$609,029**	**$800,635**	**$1,026,514**	**$1,287,694**	**$1,585,235**	**$1,920,230**	$3,351,463	$4,826,940	$6,348,034	$7,916,162	$9,532,782	**$9,532,782**

Project Financing Factors:			
Project Cost:	$11,040,070		
Amount Financed	$11,040,070		
Term (Years)	15		
Payments per Year	1		
Interest Rate	3.30%	$ 3,134,510	Total Interest
Annual Energy Savings (First Year)	$750,855	3.00%	Escalation Rate
Annual Operations Savings (First Year)	$156,042	3.50%	Escalation Rate
Measurement & Verification Program (M&V)	$62,571	4.00%	Escalation Rate
Maintenance (First Year)	$0	4.00%	Escalation Rate

Financial Cost & Savings Summary (By ECM):

ECM #	Rec.	Description	Total Savings	Cost	Simple Payback (Years)	Savings Breakout		
						Energy ($)	O & M ($)	Water ($)
1	Yes	Generator Load Shedding	$ 28,000	$ 43,467	1.6	$ 28,000	$ -	$ -
-	No	Energy Efficient Transformers	$ 5,755	$ 91,764	15.9	$ 5,755	$ -	$ -
2	Yes	Building Lighting	$ 97,243	$ 961,252	9.9	$ 89,882	$ 7,361	$ -
2a	No	ALT Reduced scope Building Lighting	$ 82,658	$ 626,585	7.6	$ 75,998	$ 6,660	$ -
3	Yes	Sports Lighting (Whispering Pines)	$ 41,980	$ 550,000	13.1	$ 29,787	$ 12,193	$ -
3	Yes	Sports Lighting (Sandhill Crane)	$ 35,238	$ 434,187	12.3	$ 28,141	$ 7,097	$ -
3	Yes	Sports Lighting (Swan)	$ 12,880	$ 215,733	16.7	$ 2,989	$ 9,891	$ -
3	No	Sports Lighting (McChesney)	$ 12,107	$ 277,333	22.9	$ 4,586	$ 7,521	$ -
3	No	Sports Lighting (Jessica Clinton)	$ 7,239	$ 236,667	32.7	$ 3,239	$ 4,000	$ -
4	Yes	Vending Misers	$ 3,936	$ 12,369	3.1	$ 3,936	$ -	$ -
5	Yes	Water Conservation	$ 12,622	$ 120,668	9.6	$ 1,396	$ 871	$ 10,355
6	Yes	Building Envelope Improvements	$ 25,181	$ 155,813	6.2	$ 25,181	$ -	$ -
7a	No	City Hall Campus Ice Storage System	$ 116,465	$ 2,584,280	22.2	$ 83,756	$ 32,709	$ -
7b	Yes	ALT City Hall Campus CHW w/ High Efficiency Chillers	$ 156,092	$ 1,843,248	11.8	$ 123,383	$ 32,709	$ -
7c	No	ALT City Hall A Ice Plant	$ 77,690	$ 1,407,407	18.1	$ 63,720	$ 13,970	$ -
		ALT City Hall C New Air Cooled Chillers	$ 26,470	$ 301,550	11.4	$ 15,685	$ 10,785	$ -
8	Yes	Chilled Water Pumping	$ 23,687	$ 151,420	6.4	$ 23,687	$ -	$ -
9	Yes	DX Systems Replacements	$ 58,989	$ 593,557	10.1	$ 51,910	$ 7,079	$ -
10	Yes	City Hall Liebert Units for rest of bldg setback capability	$ 5,949	$ 99,360	16.7	$ 5,949	$ -	$ -
11	Yes	VAV AHU Conversions	$ 4,722	$ 12,000	2.5	$ 4,722	$ -	$ -
12	Yes	VAV Kitchen Hoods	$ 12,912	$ 100,947	7.8	$ 12,912	$ -	$ -
-	N	Water Heaters	$ 250	$ 14,851	59.4	$ 250	$ -	$ -
13	Yes	Controls	$ 60,665	$ 369,271	6.1	$ 49,571	$ 11,094	$ -
14	Yes	Automated Power Management	$ 51,000	$ 27,600	0.5	$ 51,000	$ -	$ -
15	Yes	Green Print	$ 43,781	$ 38,640	0.9	$ -	$ 43,781	$ -
16	Yes	Street Lighting (LED Street and Induction Ped Decos)	$ 232,021	$ 3,648,773	15.7	$ 208,054	$ 23,967	$ -
16a	N	Street Lighting (All induction)	$ 199,134	$ 1,698,999	8.5	$ 175,167	$ 23,967	$ -
16b	N	Street Lighting (All LED)	$ 241,748	$ 4,573,465	18.9	$ 217,781	$ 23,967	$ -
Total Recommended Project (with allocated costs, M&V, construction interest)			**$ 906,897**	**$ 11,443,748**	**12.6**	**$ 740,500**	**$ 156,042**	**$ 10,355**

On-going Maintenance

Based on discussions with City staff, Honeywell's evaluation of City maintenance capabilities, and at the City's request, Port St. Lucie maintenance personnel will provide all required maintenance for implemented ECMs. While many of the ECMs will result in labor savings for maintenance staff, no City labor was included as O&M savings. As a result, Honeywell believes that the City has the capability and available resources to provide necessary maintenance. Honeywell will provide the City with training, warranty, and other support during the construction and commissioning phases of implementation. Honeywell has not included any additional on-going maintenance costs in this program.

Escalation Factors

Energy escalation refers to the projected change in energy prices during the term of the Performance Contract. As energy prices and utility rates increase, efficiency improvements made as part of this program result in greater savings to the City than if rates remained steady. In order to more accurately reflect the true energy savings associated with an Energy Conservation Measure, an energy escalation factor is used.

Honeywell evaluated historical energy prices, as well as energy increases projected by the Department of Energy. These data are presented in the tables below. While current market conditions create volatility in energy rates, Honeywell believes that, based on these energy cost projections, 3.5% is a conservative estimate for long-term electrical energy pricing. As such, Honeywell recommends a 3.5% annual energy escalation factor, but we are using a conservative 3.0% factor for these financials. In addition, Honeywell recommends an estimate of 3.5% for O&M escalation. These escalation factors will be stipulated and utilized in energy savings calculations.

Energy Cost History: FPL General Service (GS-1) and General Service Demand (GS-1) Rates:

Historical Rates - GS-1		Annual Change	
	Cents/kWh	6-Yr	5-Yr
2004	8.406		
2005	8.664	3.1%	3.1%
2006	10.873	25.5%	25.5%
2007	10.379	-4.5%	-4.5%
2008	10.295	-0.8%	-0.8%
2009	11.005	6.9%	6.9%
2010	9.570	-13.0%	
Average Annual Change:		**2.8%**	**6.0%**

Historical Rates - GSD-1				Annual Change	
	Cents/kWh	$/kWd	Weighted*	6-Yr	5-Yr
2004	5.289	8.16	6.611		
2005	5.530	8.320	6.913	4.6%	4.6%
2006	7.820	6.880	9.775	41.4%	41.4%
2007	7.377	6.520	9.221	-5.7%	-5.7%
2008	7.19	6.730	8.984	-2.6%	-2.6%
2009	7.583	7.523	9.479	5.5%	5.5%
2010	6.16	7.37	7.696	-18.8%	
Average Annual Change:				**4.1%**	**8.6%**

* Weighted Cents/kWH- 80% kWh, 20% Demand, typical for major accounts.

Department of Energy Escalation Factors:

DOE Energy Escalation Factors - Commercial
Census Region 3 (South)
Sources: Document NISTIR 85-3273-25, (Rev 5/10). Department of Energy, Federal Energy Management Program "Energy Price Indices and Discount Factors for Life Cycle Cost Analysis", September 2011. Table Ca-3.

Inflation Rate: http://www.usinflationcalculator.com/inflation/current-inflation-rates/, Table of Inflation Rates, Average for 2011

		Electric				Natural Gas			
		Annual Factor	Projected Inflation	Combined Electric / Inflation	Annual Change	Annual Factor	Projected Inflation	Combined Electric / Inflation	Annual Change
			3.2%				3.2%		
	Year	100.0%	100.0%	100.0%		100.0%	100.0%	100.0%	
1	2012	99.0%	103.2%	102.2%	2.2%	99.0%	103.2%	102.2%	2.2%
2	2013	98.0%	106.5%	104.4%	2.2%	97.0%	106.5%	103.3%	1.1%
3	2014	98.0%	109.9%	107.7%	3.2%	94.0%	109.9%	103.3%	0.0%
4	2015	97.0%	113.4%	110.0%	2.1%	95.0%	113.4%	107.8%	4.3%
5	2016	97.0%	117.1%	113.5%	3.2%	95.0%	117.1%	111.2%	3.2%
6	2017	98.0%	120.8%	118.4%	4.3%	96.0%	120.8%	116.0%	4.3%
7	2018	99.0%	124.7%	123.4%	4.3%	96.0%	124.7%	119.7%	3.2%
8	2019	99.0%	128.7%	127.4%	3.2%	97.0%	128.7%	124.8%	4.3%
9	2020	100.0%	132.8%	132.8%	4.2%	99.0%	132.8%	131.4%	5.3%
10	2021	100.0%	137.0%	137.0%	3.2%	101.0%	137.0%	138.4%	5.3%
11	2022	100.0%	141.4%	141.4%	3.2%	103.0%	141.4%	145.7%	5.2%
12	2023	100.0%	145.9%	145.9%	3.2%	105.0%	145.9%	153.2%	5.2%
13	2024	100.0%	150.6%	150.6%	3.2%	107.0%	150.6%	161.1%	5.2%
14	2025	101.0%	155.4%	157.0%	4.2%	110.0%	155.4%	171.0%	6.1%
15	2026	101.0%	160.4%	162.0%	3.2%	111.0%	160.4%	178.0%	4.1%
16	2027	102.0%	165.5%	168.8%	4.2%	113.0%	165.5%	187.0%	5.1%
17	2028	102.0%	170.8%	174.2%	3.2%	114.0%	170.8%	194.7%	4.1%
18	2029	102.0%	176.3%	179.8%	3.2%	115.0%	176.3%	202.7%	4.1%
19	2030	102.0%	181.9%	185.6%	3.2%	115.0%	181.9%	209.2%	3.2%
20	2031	102.0%	187.8%	191.5%	3.2%	116.0%	187.8%	217.8%	4.1%

Average Annual Change:		
10 Yr 2008 - 2018	**3.2%**	**3.3%**
12 Yr 2008 - 2020	**3.2%**	**3.9%**
15 Yr 2008 - 2023	**3.3%**	**3.3%**
20 Yr 2008 - 2028	**3.3%**	**3.6%**

Fuel Usage Mix:	**Electric**	100%	**Gas**	0%

Average Escalation Rates:		
	10-Yr	**3.2%**
	12-Yr	**3.2%**
	15-Yr	**3.3%**
	20-Yr	**3.3%**

Financing Options

Honeywell has the ability to assist the City of Port St. Lucie with a variety of financing options. Our internal financing organization, Honeywell Global Finance (HGF) will help identify third-party financing partners, including Minority Business Enterprise (MBE) providers, or financing can be accomplished through the City's own internal financing sources. No matter how YOU choose to finance your project, Honeywell will help ensure the most competitive rates and best financing options.

For energy performance contracts, Municipal Lease Purchase Agreements are generally the financing vehicle of choice for public sector customers throughout the nation. The following is a general overview of the Municipal Lease structure typically utilized with energy performance contracts. Some advantages of a municipal lease include:

- Municipal lease rates are the lowest they have been in twenty years.
- Due to non-appropriations language, these contracts are not generally considered debt at the state or local level.
- Tax Exempt Municipal Lease Purchase Agreements are far simpler and much less costly than issuing a Tax Exempt Bond, and rates are competitive to bonds with a much faster issuance process,
- There are generally no up front fees associated with the financing
- No payments until the project is installed, delivered, and acceptance executed by Florida A&M University
- Payments can be made monthly, quarterly, or annually and the payment amounts can easily be tailored to meet your cash flow needs or the energy savings generated by the project.
- Interest rates can be locked to remain fixed from the time of the Honeywell final contracts through the installation period and term of the lease
- Generally, funds are deposited into an escrow account, under your control at the beginning of the construction period when the Lease is funded. On your approval, the escrow agent will process milestone payments that are due Honeywell, and during the time your borrowed funds remain in escrow you benefit from any investment returns, minus any costs of setting up or maintaining the escrow account.

For this project, Honeywell has contacted various financial institutions secured preliminary interest quotes for Port St. Lucie. The interest rates are reflected in the financial pro-forma.

Capital Budget Funds

The energy conservation measures and improvements proposed herein include improvements for which the City has available capital funding. Although the proposed work and savings, exclusive of capital funds, represent a program which can be financed in compliance with the 20-year maximum term mandated by State of Florida statutes, capital funding may be allocated by the City to reduce the financing term. The table below identifies sources of funds from the 2011-2012 approved Budget & Capital Improvement Plan. Honeywell recommends utilizing capital funding in the amount of $333,000 spread over years 2012-2016 be applied to reduce the financing term. The Table below summarizes identified capital budget funds:

Department	Page #	Description	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	Total
Road & Bridge CIP (Traffic Control)	145	Highway Lighting & Maint	67,000	70,000	73,000	76,000	79,000	365,000
Amount Allocated to ESPC (80%):			53,600	56,000	58,400	60,800	63,200	292,000
General Fund 001 (2105-PD Svcs)	50	Replace AC Chiller for Main Station	41,000					41,000
Total ESPC Allocation:			**94,600**	**56,000**	**58,400**	**60,800**	**63,200**	**333,000**

9.2 Florida Power & Light Rebates

Honeywell has identified potential rebates and incentives available as a result of the above recommended measures. Florida Power and Light has a number of beneficial financial incentives available.

The following measures will qualify for rebates:

- Building Lighting Retrofits
- HVAC DX Equipment Replacements
- Demand Controlled Ventilation Systems
- High Efficiency Chiller Replacement Plant
- Campus Ice Storage Plant

Honeywell will assist the City in applying for any applicable rebates, including providing necessary documentation and coordination with FPL. However, responsibility for securing the rebates shall lie with the City, and Honeywell is not responsible for providing rebates or any funds associated with rebates.

Below is a summary of anticipated rebates available for these measures. These dollar amounts have not been included in the ECM payback calculations, Lifecycle Cost Analysis, or the overall project summary due to regulations per the Florida Statues for performance contracts. Therefore, the actual project paybacks may be faster than shown. The rebates ARE included in the financing pro-forma cash flow model.

	FP&L Criteria		Measure Installed		FP&L Rebate
Building Lighting					$6,990
DX Replacements	$1.24/Mbtuh	5 tons and under	Rest of Project	184 tons	$2,738
	$3.14/Mbtuh	20 tons and over	Community Center	120 tons	$4,522
Demand Controlled Ventilation	$348/1000 square foot		Civic Center	35,000 sq.ft.	$12,180
VAV Kitchen Hoods	see appendix 3		Civic Center	5600 cfm	$1,864
	see appendix 4		Saints Clubhouse	4390 cfm	$1,461
High Efficiency Chiller Replacements	$16.53/ton		(2) at 270 tons each		$8,926
Ice Storage Plant	$480/ton		450 tons		$216,000

9.3 Life Cycle Cost Analysis

Per the Florida Statutes for Energy Services Performance Contracts, Honeywell has prepared a life-cycle cost analysis. The number of alternatives to be studied per section 489.145 of the statutes for ESPC's is one. Therefore, Honeywell has compared the "baseline" case which is the cost of doing nothing, verses the "proposed project" case.

The life cycle cost analysis was performed using the State of Florida Life-Cycle Cost Analysis Program downloadable spreadsheet calculator. This analysis computes the overall present value for each alternative using the cost/annual payments for the proposed project, annual energy costs, annual maintenance costs and life cycle replacement costs. The full set of calculations is included in Appendix 7. A summary of the results is shown below.

Life-Cycle Cost Analysis Results		
Alternative	1	2
Description	*Honeywell ESPC*	Existing Conditions
Study Period (years)	15	15
Present Value of Ownership Costs	$11,898,468	$0
Present Value of FP&L Rebates	($37,554)	$0
Present Value of Life Cycle Energy Cost	$30,550,904	$39,098,928
Present Value of Life Cycle Maintenance Cost	$0	$3,025,562
Present Value of Life Cycle Replacement Cost	$0	$1,083,223
Total Present Value	$42,411,818	$43,207,714
Net Positive Difference in Honeywell ESPC Present Value	**$795,895**	

The time period chosen for the study was 15 years, which is just over the proposed ESPC project term. The analysis shows that the equivalent present value of savings for the Honeywell recommended project is almost $800,000. Note that the present values of the existing conditions replacement and maintenance costs are the net difference for maintenance and capital replacements which will not be expenditures under the Honeywell ESPC. Therefore these costs for the ESPC project will be zero.

It is also prudent to note that the actual service life of the majority of the equipment included in the recommended project will go beyond 20 years. Therefore, savings for the City will continue beyond the 15 year ESPC term. The net positive present value of the Honeywell ESPC when studied over 20 years results in just over $1,000,000 in savings for the City.