

*Oneida Tribe of Indians of
Wisconsin*

Energy Audits

*Oneida Nation Reservation,
Wisconsin*

FOA Title: Energy Efficiency Development and Deployment in Indian Country

FOA Number: DE-FOA-0000423

Award Number: DOE-EE0005176

Topic Area: Feasibility Study

Final Report Prepared July, 2014 by:

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Executive Summary

The Oneida Energy Team coordinated and researched best practices to improve the energy efficiency of the Oneida Nation infrastructure for several years beginning in 2008. Regarding buildings, one impediment to move forward was building audits. This project funded audits of 44 governmental and commercial buildings owned and operated by the Oneida Nation. Audits were performed by consultants SEH and GDS. The audits have provided valuable information regarding the most cost effective ways to save energy via energy efficiency upgrades. This project has been critical in providing the justification to move forward with needed improvements to Oneida Nation buildings and facilities over the next several fiscal years.

In summary, 44 buildings owned by the Oneida Nation were audited for energy savings and first cut renewable energy opportunities. The size of the facilities audited range from 1,200SF to 160,000 SF, with a combined total square footage of 1,142,577 SF. Space use includes a wide range of activities including education, warehouse, office, convenience stores, casino, and social services. Over 680 energy reduction opportunities were identified in the study. Stand-alone measure savings include:

- 3,700,000 in kWh Savings
- 99,500 in Therm Savings
- 3,600,000 in Gallons of Water Savings
- \$480,000 in Annual Savings

Project Overview

Oneida Energy Controls Manager Ray Olson created a detailed RFP soliciting comprehensive audits for 44 Oneida facilities, along with the deliverables of an executive summary and database summarizing all findings. Energy audits were scheduled to be performed over a 6 month time frame. Energy audits were to comply with the Focus on Energy Energy Conservation Feasibility Study Guidelines created by the State of Wisconsin. Once compiled, improvements were prioritized based on cost considerations (payback), safety and building comfort concerns, and other factors. All these considerations were drafted into a Strategic Energy Reduction Plan. Most importantly, energy audits are assisting in the justification of increased tribal funding to make prudent energy efficiency improvements.

The Oneida Nation of Wisconsin, and specifically the Oneida Department of Public Works, has a documented history of commitment to energy efficiency and realizing energy efficiency improvements. The Department of Public works manages over 105 tribal buildings totaling more than 1,750,000 sq ft. Comprehensive audits on 44 of these buildings are assisting Oneida in targeting and budgeting funds to address needed energy efficiency improvements. The benefits of an improved building infrastructure not only include monetary savings which strengthen the Oneida General Fund, but also reduce the energy use which drives global warming. Furthermore, the project is aligned with Oneida Nation National Priorities statement #5: *We ensure a stable Oneida economy that sustains our sovereign government, family, community and affords all members the opportunities to participate in the economic resources.*

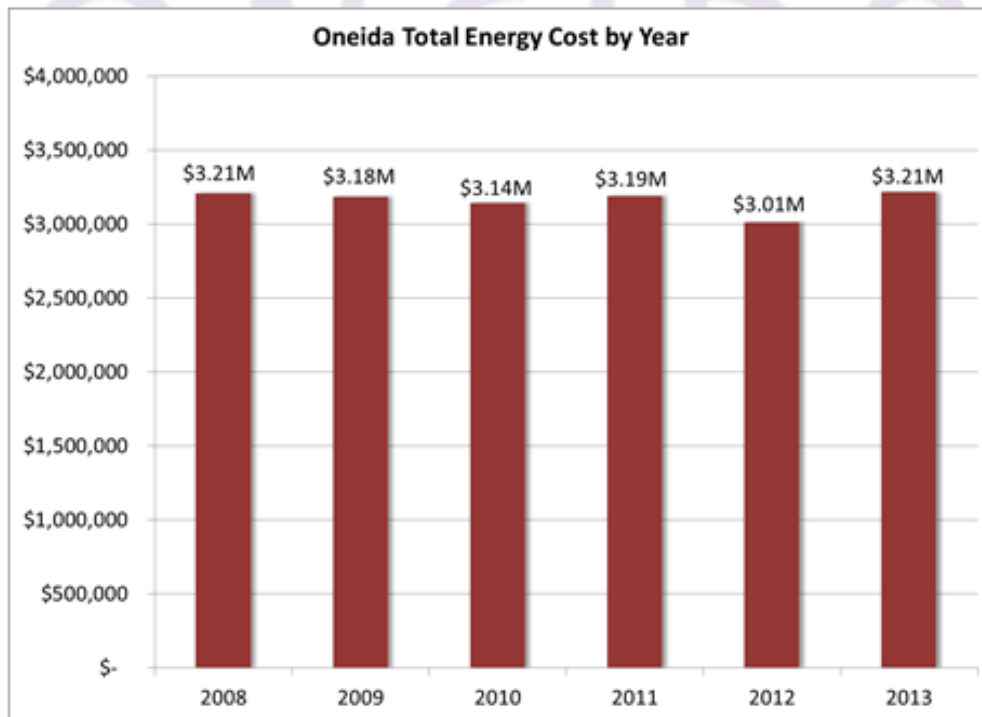


Figure 1: Oneida's total energy costs (electricity/natural gas) for largest facilities.

	Buildings with Energy Data	Total Square Footage	Average Heat Degree Days	Total Energy Cost	Average Cost per Square Foot
2008	85	1,229,479	7,854	\$3,207,485	\$ 2.61
2009	86	1,289,269	7,777	\$3,183,019	\$ 2.47
2010	89	1,289,269	6,993	\$3,141,961	\$ 2.44
2011	89	1,289,269	7,675	\$3,188,643	\$ 2.47
2012	90	1,289,269	6,251	\$3,009,751	\$ 2.33
2013	92	1,376,764	7,614	\$3,213,270	\$ 2.33

Figure 2: Recent improvements in energy efficiency, noted by cost/square ft.

Objectives

The Energy Efficiency Development and Deployment grant funded energy audits of approximately 44 tribally owned buildings operated by the Oneida Tribe. These buildings were selected for their size, age, or known energy concerns and total over 1 million square feet. Audits include feasibility studies and strategic energy plans to address cost effective ways to save energy via energy efficiency upgrades. This project builds off the work of Oneida Department of Public Works and Facilities in diligently upgrading energy inefficient aspects of dozens of Oneida buildings. The comprehensive energy audit assessment developed for Oneida's core buildings is assisting Oneida in taking the next steps to target and fund needed energy efficiency upgrades. This project was specified by the Oneida General Manager in the January 2009 RFI submitted to the Department of Energy. Large-scale building assessments were noted as the primary challenge and the main request from the Oneida Nation General Manager to the DOE. The additional request was to provide funding to tribes to hire personnel or consultants to perform activities such as commercial energy audits and feasibility studies. Therefore, the objective of Oneida's application for audits was to identify cost effective Energy Reduction Opportunities (EROs) within each facility. This occurred through successive phases of formal energy audits and feasibility studies. Additionally financial impacts were identified and evaluated for applicable private, utility, state and federal energy incentives and grant programs.

Oneida Facilities & DPW Staff

- Jacque Boyle – Facilities Director
- Ray Olson – Energy Manager
- Kevin Rentmeester – Electrical Manager
- Mark Engel – Master Electrician
- Mitch Skenandore – Journeyman Electrician
- Jill Bocker – Journeyman Electrician
- Waylon Denny – Journeyman Electrician
- Brad Vanevery - Journeyman Electrician

Figure 3: Summary of key Oneida staff involved in project implementation

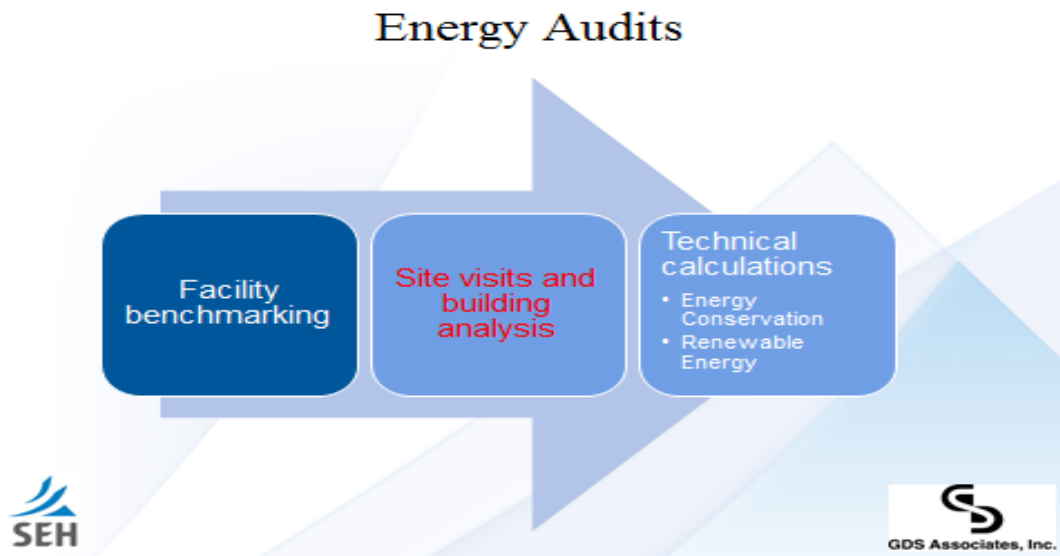


Figure 4: Summary Energy Audit process defined by SEH and GDS



Figure 5: Photos of Oneida staff performing upgrades recommended by strategic energy reduction opportunities.

Description of Activities Performed

The energy audits were broken up into a series of phases over the course of the year. The phases were implemented to divide the large quantity of buildings into reasonable amounts for each visit, and to make sure the process for the first audits and following technical calculations was agreeable to both parties. Phase 1 of Energy Audits and Feasibility Studies began in Fall 2012. Energy audits were originally scheduled to be performed over an approximate 6-9 month time frame, but were completed in approximately 1 year. Energy audits were conducted by staff from GDS and SHE consultants. Oneida Facilities staff accompanied the consultants on their site visits and provided additional information, as well as reviewing findings and providing additional analysis/feedback where needed. Additional review and quality control from the consultants took place in spring and summer of 2013. Following the completion of audits and logging of data, improvements were prioritized based on cost considerations (payback), safety and building comfort concerns, and other factors. Additionally, during the project period there were frequent meetings and correspondence between the Oneida Nation Project Team and SEH/GDS consultants.

The EROs resulting from the audits and studies were integrated into a Strategic Energy Reduction Plan. This plan is referenced for short and long term capital planning, resource requests, and internal project justifications. In addition to the audits the project included “first cut” renewable energy assessment for 44 tribally owned facilities, and also importantly the development of a Microsoft Access Database as an energy management tool (see Appendix A for examples). All energy audits were entered into this database and the database was further customized with feedback from the Oneida Statistician and Operations Analyst. The database is continuously updated with details of improvements made to facilities and the most recent quarterly data on electricity and natural gas usage per facility from the local utilities.

Conclusions and Recommendations

The following summarizes the broad findings and categorizations of Oneida's strategic energy reduction opportunities (see Appendix B for more detailed discussion of audit findings):

12 of the 44 buildings receiving audits were benchmarked for energy performance using Energy Star, including Bay Bank, Civic Center, Conservation, DPW-Main Building, Elder Services, Gaming Warehouse, Land Management, Norbert Hill, Occupational Health, Oneida Community Health Center, SSB-Cottage #1, and Turtle Elementary School. Most of Oneida's facilities do not correspond to an Energy Star building type. Overall, Oneida's buildings meet or exceed industry standards for energy efficiency.

A list of "Top 10" top capital projects was suggested, which includes gaming and non-gaming facilities. The majority of projects (small capital) projects were sorted into 10 categories. Operational adjustments, Relighting/Relamping, and Electrical demand management were the categories with the highest number of EROs listed. Data is also summarized for the "first-cut" analysis of renewable energy opportunities on various buildings. ROI, annual savings, and many other estimates are detailed for each ERO opportunity.

In total, the 680 energy reduction opportunities identified in the study total to include the potential for the following savings (comprehensive details can be found in Appendix C):

- 3,700,000 in kWh Savings
- 99,500 in Therm Savings
- 3,600,000 in Gallons of Water Savings
- \$480,000 in Annual Savings

The Oneida Tribe of Indians of Wisconsin is actively moving forward with requests for capital expenditures during the next several fiscal years to implement the best reduction opportunities to reduce use, save money, and improve the quality of the Oneida building environment for employees and customers.

Lessons Learned

- Effective communication and coordination with consultants is essential
- Lighting/Ballast changes, Motion Sensors, and Operational Adjustments are some of the most effective EROs
- Utilizing the specialized skills of various team members is the best way to plan, implement, and assess projects
- Strong advocacy and strong information are needed in coordination to justify expenditures for projects
- DOE Tribal Energy Program has been a strong advocate and partner for Tribes

Next Steps

- ▶ Continue efficient implementation of audit recommendations
- ▶ Monitor energy usage and document effectiveness of upgrades
- ▶ Advocate for energy efficiency and life-cycle considerations in any new building construction
- ▶ Work as a coordinated Energy Team to support residential, transportation, and renewable efficiencies as well

Energy Strategies for Our Community

ONEIDA



ENERGY TEAM

Energy Strategies for Our Community

Oneida Tribe of Indians of WI

**Working collectively saves
everyone's energy!**

Energy Strategies for Our Community

Appendix A: Oneida Database Examples

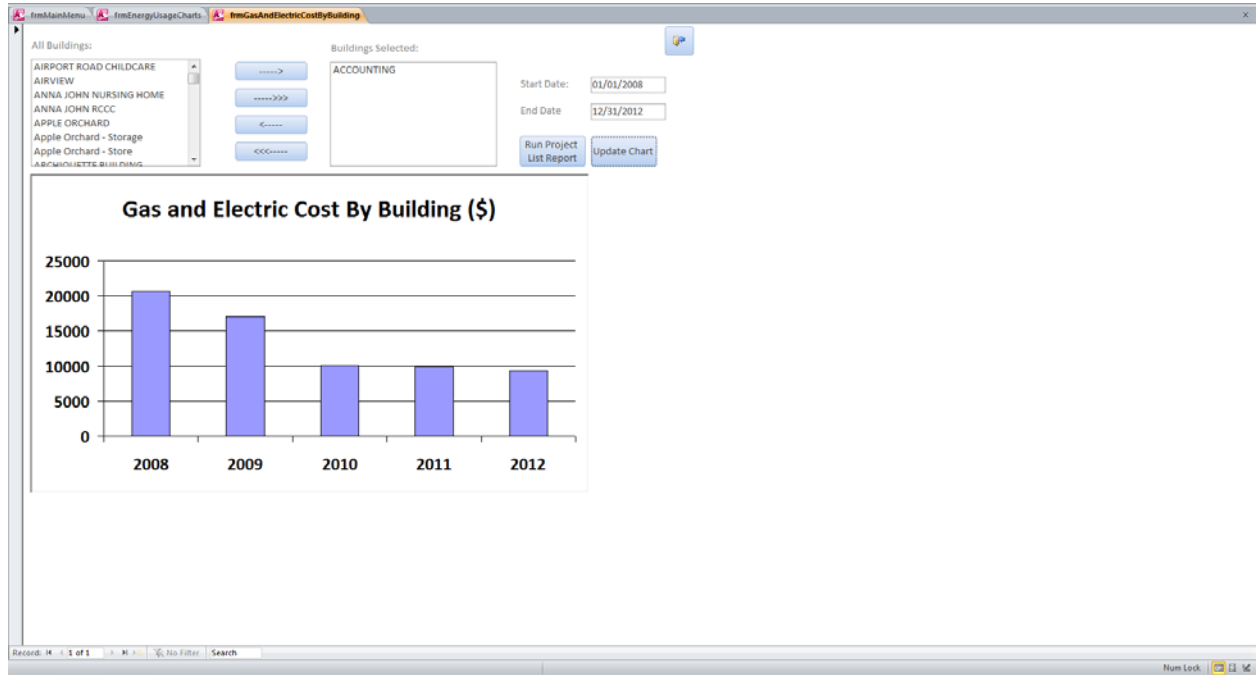
Project Search Form

The screenshot shows the 'Oneida Project Maintenance' application window. The 'New' form is open, displaying various input fields for project information. The 'Building' dropdown is set to 'FARM OFFICE'. The 'Proposed Action' is 'Plug Loads'. The 'Proposed Measure' is 'Misc. Measure'. The 'Project Number' is '2004-08'. The 'Project Completion Date' is '2/15/2018'. The 'Time Required To Complete (Weeks)' is '5'. The 'Project Specific Text' field contains 'Install Vending Machine on 3 vending machine in back porch'. The 'Measure General Text' field is empty. The 'Form View' status bar at the bottom indicates 'Record: 1 of 683'.

Building Information Form

The screenshot shows the 'Building Information' form in the 'Oneida Project Maintenance' application. The form is divided into several sections: 'Full Site Assessment Justified?' (checked), 'Evaluation Dates' (10/18/2012), 'Square Feet' (13320), 'Building Condition' (Roof Ages, Roof Material: steel joist and decking with exterior mem, Estimated Roof Replacement Date, Roof Pitch: Flat, Roof Length: 111, Roof Width: 120, Roof Orientation), 'Address' (Latitude: 44.5283520, Longitude: -88.0836770, Elevation: 639, Street Address: 2155 Hutson Rd., City: Green Bay, State: WI, Zip: 54303), 'Geographical Character/Setting' (Property Description, Rural Or Urban: Urban, Lot Size), 'Electrical' (Electric Panel Description, Service Size Voltage, Annual kWh Consumption: 61200, Peak Demand: Not reported), 'Heating and Cooling' (Fuel Source: Natural Gas, Size - MMBTU, Size-Gallons, HVAC Type: Furnace, Distribution System: Forced Air), 'Pool' (Pool, Heated Pool), 'Water Heater Type', and 'Summer Load Description'. The 'Form View' status bar at the bottom indicates 'Record: 1 of 683'.

Gas and Electric Cost Chart



Energy Cost per Square Foot Report

Energy Cost Per Square Foot 2013							
Building	Electrical Cost	Electrical Usage	Gas Cost	Gas Usage	Total Cost	Square Feet	Total Cost Per Sq. Ft.
ACCOUNTING	58,413.76	69760.00	52,217.78	4721.80	810,651.54	13320.00	50.80

Page 1 of 1

Total Energy Use by Building Report

Total Energy Use by Building and Month							
Building	Bill Year	Bill Month	Electric Usage	Electric Cost	Gas Usage	Gas Cost	Water Usage
ACCOUNTING							Water Cost
2006							
		6	14,400	\$1,245.95	145.0	\$137.66	3,100
		7	18,800	\$1,564.08	100.2	\$96.65	
		9	37,600	\$3,150.18	200.1	\$209.96	
		10	16,400	\$1,444.37	223.2	\$190.42	3,220
		11	14,720	\$1,269.35	459.4	\$127.58	
		12	13,520	\$1,087.86	614.8	\$620.23	
		Annual	115,440	\$9,761.79	1,742.7	\$1,882.50	6,320
							\$783.94
2007							
		1	13,360	\$1,106.90	767.5	\$739.38	3,230
		2	14,000	\$1,330.46	947.9	\$897.91	
		3	14,080	\$1,344.47	973.9	\$981.49	
		4	13,520	\$1,134.27	710.2	\$721.51	3,140
		5	12,240	\$1,127.35	362.1	\$366.58	
		6	13,840	\$1,323.51	145.4	\$165.36	
		7	18,000	\$1,711.16	93.6	\$116.58	3,130
		8	16,800	\$1,595.58	89.3	\$103.06	
		9	18,000	\$1,711.16	97.2	\$104.36	
		10	16,240	\$1,543.88	131.0	\$123.13	3,260
		11	14,000	\$1,337.08	286.3	\$256.37	
		Annual	164,080	\$15,265.82	4,604.4	\$4,575.73	12,760
							\$1,629.20
2008							
		1	27,440	\$2,629.66	1,911.0	\$1,810.78	3,030
		2	12,400	\$1,215.84	844.8	\$823.90	
		4	24,400	\$2,428.50	1,386.4	\$1,504.16	3,276
		5	12,320	\$1,246.66	364.1	\$458.11	
		6	13,200	\$1,336.12	229.9	\$307.02	

Energy Use by Building with # of Completed Projects

Electric Use by Building # of Electric Projects				
Building	Bill Year	Month	Electric KWH Used	Electric Cost
ACCOUNTING				# of Completed Proj
2006				
		6	14,400	\$1,245.95
		7	18,800	\$1,564.08
		9	37,600	\$3,150.18
		10	16,400	\$1,444.37
		11	14,720	\$1,269.35
		12	13,520	\$1,087.86
		Annual	115,440	\$9,761.79
				0
2007				
		1	13,360	\$1,106.90
		2	14,000	\$1,330.46
		3	14,080	\$1,344.47
		4	13,520	\$1,134.27
		5	12,240	\$1,127.35
		6	13,840	\$1,323.51
		7	18,000	\$1,711.16
		8	16,800	\$1,595.58
		9	18,000	\$1,711.16
		10	16,240	\$1,543.88
		11	14,000	\$1,337.08
		Annual	164,080	\$15,265.82
				0
2008				
		1	27,440	\$2,629.66
		2	12,400	\$1,215.84
		4	24,400	\$2,428.50
		5	12,320	\$1,246.66
		6	13,200	\$1,336.12

Appendix B: Comprehensive Energy Audits – Final Report

Comprehensive Energy Audits Final Report

Comprehensive Energy Audits, Feasibility Studies, and Strategic Energy Reduction and Grant Application Plan

Sovereign Oneida Nation of Wisconsin

SEH No. ONETI 121438

July 23, 2014



GDS Associates, Inc.
Engineers and Consultants



Building a Better World
for All of Us®

Engineers | Architects | Planners | Scientists



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July 23, 2014

RE: Comprehensive Energy Audits, Feasibility
Studies, and Strategic Energy Reduction
and Grant Application Plan
Comprehensive Energy Audits Final
Report
Oneida, Wisconsin
SEH No. ONETI 121438

Mr. Chad Wilson
Oneida Tribe of Indians of Wisconsin
909 Packerland Drive
Oneida, WI 54155

Dear Mr Wilson:

On behalf of the entire SEH and GDS Project Team, I would like to thank you for the opportunity work with the Oneida Nation on the Comprehensive Energy Audits project over the past 12 months.

As a result of several years of planning and investment, the Oneida Nation has made great strides toward reducing its energy consumption. The Environmental Resources Board, Department of Public Works, and the entire Energy Team have all played a key role. SEH and GDS appreciate the opportunity to help contribute to your on-going energy efficiency efforts.

Attached is the final Executive Summary Report for your records. The Microsoft Access Database is the second primary deliverable for this project and is being made available on USB jump drives for your convenience.

Best of wishes with your on-going efforts to reduce energy and diversify your energy resources.

Sincerely,

Andrew Dane, AICP, ENV SP
Community Development / Sustainability

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Engineers | Architects | Planners | Scientists

Short Elliott Hendrickson Inc., 425 West Water Street, Suite 300, Appleton, WI 54911-6058

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Executive Summary

Forty-four buildings owned by the Oneida Nation were audited for energy savings and first cut renewable energy opportunities. The size of the facilities audited ranged from 1,200SF to 160,000 SF, with a combined total square footage of 1,142,577 SF. Space use includes a wide range of activities including education, warehouse, office, convenience stores, casino, and social services.

12 of the 44 buildings were benchmarked for energy performance using Energy Star, including Bay Bank, Civic Center, Conservation, DPW-Main Building, Elder Services, Gaming Warehouse, Land Management, Norbert Hill, Occupational Health, Oneida Community Health Center, SSB-Cottage #1, and Turtle Elementary School. The balance of Oneida's facilities audited did not correspond to an Energy Star building type. Overall, the Tribe's buildings appear to meet or exceed industry standards for energy efficiency. Energy efficient lighting projects, HVAC related upgrades, and other energy efficiency measures have been completed over the past five years, which will continue to improve the Tribe's overall facility energy performance.

Over 680 energy reduction opportunities were identified in the study. Stand alone measure savings include:

- 3,700,000 in kWh Savings
- 99,500 in Therm Savings
- 3,600,000 in Gallons of Water Savings
- \$480,000 in Annual Savings

The cumulative return on investment or projected ROI over the expected lifetime of the proposed measures is approximately \$6,755,000. The net present value of the proposed measures is \$3,740,000.

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Comprehensive Energy Audits Final Report

Comprehensive Energy Audits, Feasibility Studies, and Strategic Energy Reduction and Grant Application Plan

Prepared for Oneida Tribe of Indians of Wisconsin

1.0 Introduction & Background

The Oneida Nation operates more than 90 buildings totaling over 2 million square feet. The Oneida Department of Public Works and Gaming Maintenance are responsible for the maintenance and operation of these buildings. Of these 90 buildings, 44 have been selected for completion of energy audits, feasibility studies, and the development of a strategic energy reduction and grant application plan.

The Department of Public Works staff of the Oneida Nation have completed and continued to implement energy upgrades to several of these facilities. These upgrades include: lighting, HVAC, DDC controls and insulation. During the energy audit process, these improvements were noted and included in the building information database and this report.

The Oneida Nation's primary goal of this study was to identify cost effective Energy Reduction Opportunities (EROs) within their facilities through the commissioning of a series of formal energy audits and Feasibility Studies. In addition, the Tribe wanted to identify and evaluate the financial impact of all applicable private, utility, State and Federal energy incentives and grant programs on the economic performance of these ERO's.

The EROs resulting from these audits and studies are integrated into a Strategic Energy Reduction and Grant Application Plan. This plan will be used for short and long term capital planning, resource allocation, project justifications, and for submissions to energy reduction incentive and grant programs.

The Sovereign Oneida Nation of Wisconsin selected the Short Elliott Hendrickson Inc. (SEH) project team for completion of Comprehensive Energy Audits, Feasibility Studies, and Development of a Strategic Energy Reduction and Grant Application Plan (the Project). The project included energy audits, a first cut renewable energy assessment for 44 tribally owned facilities, and development of a Microsoft Access Database as an energy management tool. Funding for the project was provided through a grant from the United States Department of Energy Tribal Energy Program.

Energy audits were conducted by staff from GDS & Associates and SEH during site visits to each facility in the summer and fall of 2012. Additional review and quality control took place in spring and summer of 2013. Finally, all data from the energy audits was entered into a Microsoft Access Database as one component of the final deliverables for the project.

The targeted Energy Reduction Opportunities (EROs) and associated costs and savings included in this study have been estimated based on SEH/GDS experience and industry standards and norms. A more detailed analysis may be necessary to refine costs and savings values prior to initiating a project or performance contract.

The Department of Public Works staff has been integral to the completion of this study, plan, and report. DPW staff accompanied SEH and GDS professionals on all of their site visits and provided additional information in a timely manner. DPW administration reviewed all of the study's key findings and provided additional analysis where needed.

2.0 Large Capital Projects

A summary of large capital projects is provided in Table 1 on the following page. These projects are measures which require a capital investment of \$25,000 or more to complete. The Building ID column refers to the building where the energy savings project was identified. The ERO Number column refers to the "energy reduction opportunity" as it is numbered in the database. The Opportunity column describes the recommendation associated with the ERO, and the Description column provides additional details regarding the project. Estimated Project Savings refers to estimated annual energy savings resulting from the project. Estimated Project Cost is the cost of implementing the ERO. ROI refers to return on investment, calculated by dividing estimated project cost by estimated project savings. This type of ROI is also referred to as the simple payback period.

Table 1
Summary of Large Capital Projects

Building ID	ERO Number	Opportunity/ Recommendation	Description	Est. Project Savings	Est. Project Cost	ROI
Norbert Hill Center	0003-20	Replace the windows with quality low U-Value windows and sashes.	Install new windows in the entire building. Replace with double pane, argon filled windows with a U value of 0.29.	\$23,139	\$1,513,600	64.2
Casino	0092-15	Replace fixtures in parking garage	Garage - There are occupancy sensing bi-level LED lighting fixtures on the market however since these fixtures are relatively new it may not make sense to replace them at this time. The cost of bi-level LEDs at this time may also be prohibitive.	\$8,610	\$216,000	24.3
Oneida Nation Elementary School	0084-10	Install VAV's	Recommend further study to verify potential savings. Consider a major capital project to install VAVs on all diffusers in the building (1 VAV per room).	\$33,634	\$200,000	5.95
Mason Street Casino	0028-18	Replace the older less efficient DX Roof Top Unit with a new high efficiency DX Unit	Replace Existing RTUs with New More Efficient Units (At least 12.7EER or 14SEER). Because the RTUs have HRUs, the savings estimates for this calculation are less exact than normal.	\$7,987	\$148,125	18.5
Social Services Building	0055-24	Replace boiler with a new high efficiency boiler.	Consider replacing the existing steam boilers with condensing natural gas hot water boilers. The steam boilers (in mech. Room A116) are vastly oversized, and outdated. They are currently operated as absolutely efficiently as humanly possible, but were not designed for the application they're now used for (originally fed a large laundry facility). Savings for this measure come from meeting the heating needs of the facility more efficiently (higher efficiency boilers, no losses in heat exchangers, more responsive to load demands, and much lower standby losses in the mechanical room), from enabling a boiler lockout on warm days in shoulder months, and from decreased maintenance costs.	\$5,748	\$100,000	13.05

Table 1 (Continued)
Summary of Large Capital Projects

Building ID	ERO Number	Opportunity/ Recommendation	Description	Est. Project Savings	Est. Project Cost	ROI
Social Services Building	0055-23	Replace environmental controls	Consider completely removing the pneumatic controls system and replacing it with DDC. For the sections of the building not already on CSI control (A wing and fitness center), the current thermostats are non-programmable pneumatic devices. This means that there are no setback schedules, the comfort control is imprecise, the controls can be dramatically out of calibration, and compressors are required to run the system - all of which waste energy. The savings from converting to DDC include allowing setback schedules, eliminating simultaneous heating/cooling (from uncalibrated fighting zones), shutting off air compressors, more accurately controlling set points, a more responsive HW temperature reset, and enabling VFD motor controls. Some of these savings can be achieved with the pneumatic system (pneumatic VFD controls or pneumatic programmable thermostats, for example), but it is not recommended to pursue those investments.	\$4,394.24	\$75,000	22.76
Archiquette Building	0006-18	Replace the windows in the facility with quality low U-Value windows and sashes.	On the Enrollment side of the building there are multiple fixed single pane windows and a single pane sliding windows. The windows should be replaced with more efficient double pane windows filled with argon gas or equivalent window to reach a U-value of 0.29.	\$852	\$37,600	8.8
One-Stop 54	0049-11	Replace the older less efficient DX Roof Top Unit with a new high efficiency DX Unit	Replace the existing RTUs that are >15 years old (3 units) with New More Efficient Units (15 SEER). If the building is slated for demolition, do not consider this project.	\$906	\$33,750	37.2
Casino	0092-17	Parking lot Pole Lighting	Garage - There are 31 pole mounted Metal Halide and HPS light fixtures that could be replaced with Fluorescent or LED lighting. For the sake of calculations in this report LED lighting will be recommended. Fluorescent pole lighting is in use at other Nation buildings.	\$3,279	\$31,000	9.1
Casino	0092-39	Replace the older less efficient DX Roof Top Unit with a new high efficiency DX Unit	Consider replacing existing RTUs #7 and #8 with new, more efficient units (at least 13 EER or 14 SEER). ROI is longer, but the value of the project over time is high.	\$502	\$26,250	52.2
			Totals	\$89,052	\$2,381,325	26.7

2.1 Small Capital Projects

A summary of small capital projects is shown in Table 2 below. These projects are measures which require a capital investment of under \$25,000 to complete. These projects are grouped into common scopes of work to increase project feasibility.

Table 2
Summary of Small Capital Projects

Quantity of ERO's	General Scope of Measures	Total Est. Project Savings	Total Est. Project Cost	Average ROI
26	Building Weatherization.	\$6,554	\$38,795	4.3
14	Water Heater Replacement	\$4,859	\$13,200	4.4
30	Energy Controls	\$4,693	\$3,022	0.6
18	Small Unit Replacement	\$13,235	\$129,025	11.3
144	Operational Adjustments	\$190,056	\$59,159	0.4
194	Relamping / Relighting	\$111,878	\$211,628	2.6
86	Lighting Occupancy	\$37,519	\$132,163	3.2
13	Motors and Drives	\$14,042	\$22,115	3
105	Electrical Demand Management	\$19,853	\$57,620	2.3
36	Water Saving Measures	\$9,075	\$2,920	0.2
8	Building Use Change/Closure	\$11,334	\$12,395	3.1
674	Totals	\$423,098	\$682,042	

2.2 Qualifications of ERO Summary

Several factors influence the results outlined in the above energy reduction opportunity (ERO) summaries including factors not able to be measured or identified in our report. An example would be the available funding from the government and/or internal Tribal priorities.

The costs associated with the ERO are budget estimates and meant to be conservative. All estimated costs would need to be verified as specific projects are identified. Inflation has not been factored into these budgets. See Section 3.0 for additional budget qualifications.

3.0 Methodology for Estimating Savings and Costs

In estimating the savings and costs for each ERO, GDS relied on standard engineering calculations and equipment manufacturer's published information. Cost estimates were derived using information gathered from previous projects that involved similar energy efficient equipment, contractor and budget estimates, quotes from manufacturers and their websites, and RS Means CostWorks 2008 cost information.

Savings estimates were developed using standard engineering calculations which were then calibrated to the historical utility data. For heating, lighting, electrical and miscellaneous measures, calculations were developed based on site conditions found during the walk-

through assessments. The utility costs for 2009 are based on the price paid for electricity on a dollar per kWh basis and for natural gas on a dollar per therm (100,000 Btu) basis.

3.1 Leveraging

The report includes economic calculations based on using Focus on Energy incentives. The Tribe is eligible for electricity and natural gas reduction measures through WPS and WE energies. The numbers for Focus on Energy incentives is the current incentive that the Tribe could apply for as of the project period. Focus on Energy incentives change over time and the Tribe will need to verify current incentive levels before making investment decisions for energy conservation measures. The incentive levels are further detailed in the Calculation Methods section below.

3.2 ROI Definitions

3.2.1 Simple Payback

Simple Payback is the period of time required for an investment to “pay for itself” through the annual benefit that it provides. It is the initial capital cost divided by the estimated annual energy and water savings. Simple payback does not include operations and maintenance savings, measure life, inflation, or many other relevant costs and benefits.

Simple Payback = Total Proposed Investment/First-Year Savings

Strengths:

- Easy to understand and calculate

Weaknesses

- Measures time, not profitability
- Fails to account for benefits accruing after payback is achieved
- Analysis does not isolate impact of variables (energy prices, volume of energy saved, rebates, etc...)
- No discounting of future dollars for time value of money
- Fails to measure the cost of NOT doing the project

3.2.2 Net Present Value (NPV)

Net Present Value is a measure of how much value the proposed project will add to the firm. NPV can be described as the “difference amount” between the sums of discounted: cash inflows and cash outflows. It compares the present value of money today to the present value of money in the future, taking inflation and returns into account

Strengths:

- Captures the full measure of value added by the project’s returns
- Reflects risk by incorporating the time value of money
- Excellent tool for ranking two or more proposals for the total value they generate

Weaknesses

- Entire calculation relies on a series of guesses about future annual returns
- Calculation and interpretation may be too demanding for some users
- Fails to measure the cost of NOT doing the project

4.0 Description of Database

4.1 Purpose and Capabilities

A customized and comprehensive database was designed as a component of the overall project. The purpose of the database is to store the information generated during this project, as well as to provide a flexible tool for future planning and monitoring of energy related activities. The database was developed in Microsoft Access, a widely-used software program which the Oneida Nation currently uses in a variety of capacities, including energy reporting.

The database includes a variety of data, including all of the raw data associated with the 44 energy audits conducted for this project, as well as data associated with recently completed energy reduction measures completed by the Oneida DPW. In addition, the database includes historical utility data for Oneida Nation buildings, as well as information regarding utility accounts associated with those buildings.

4.2 Forms, Reports, Filters

The database includes a number of forms, tables, and reports, some of which were designed within the scope of this project and others which were copied from an existing Energy Usage Access database with the Oneida Nation had developed. There are 51 forms (and associated tables) contained within the database, which are summarized in the bulleted list below:

- *Utility data entry forms* – for maintaining gas, electric, and water utility data
- *Building description forms* – for maintaining information related to building type, components, size, layout, condition, etc...
- *Maintenance forms* – for maintaining the framework of the database including buildings, energy measures, etc...
- *First cut forms* – for maintaining information related to renewable energy opportunities including solar, wind, bioenergy, and geothermal
- *Master project list forms* – for maintaining the information associated with energy reduction opportunities including general information, images, rates, and savings data

The database also includes the ability to generate reports. The two primary vehicles for generating reports are the Master Project List form and the Energy Usage Charts forms. The Master Project List form allows the user to apply a single or a combination of filters before generating reports. The Master Project list contains the following filters:

- Building name
- Proposed action (Building envelope, domestic hot water, environmental, etc...)
- Proposed measure (92 measures each associated with 1 of 9 actions)
- Rebate source (Focus on Energy, etc...)
- Estimated project cost
- Rebate amount
- Immediate replacement ROI (Simple payback)
- Completion category/project status (Complete, pending 2014, 2015, etc...)
- Difficulty to complete (On a scale from 1 to 10)
- Time required to complete (Weeks, from 1 to 52)
- Rebate amount (\$, \$0 to \$100, \$100 to \$500, \$500 to \$1,000, >\$1,000)
- Available incentives or grant funding (yes/no)
- Utility provider, multiple selections (yes/no)

- External contractor required (yes/no)
- Oneida engineering required (yes/no)

5.0 Benchmarking

5.1.1 Energy Star - Portfolio Manager

Of the 44 facilities audited, ten facilities match “Building Designation” categories from Energy Star, thus there is a rating category for these buildings but not the other buildings audited. It should also be noted that some of the buildings below, for example Norbert Hill and Gaming Warehouse, were not designed for their current use. Therefore, their Energy Star ratings may be negatively impacted.

Table 3
Energy Star Rating

Building	Energy Star Rating (1-100)
Bay Bank	66
Civic Center	77
DPW-Main Building	64
Elder Services	83
Gaming Warehouse	27
Land Management	75
Norbert Hill	32
Occupational Health	94
Oneida Community Health Center	39
Turtle Elementary School	85

For fourteen types of facilities energy performance can be rated on a scale of 1–100, relative to similar buildings nationwide. Statistically representative models are used to compare your building against similar buildings from a national survey conducted by the Department of Energy’s Energy Information Administration. This national survey, known as the Commercial Building Energy Consumption Survey (CBECS), is conducted every four years, and gathers data on building characteristics and energy use from thousands of buildings across the United States. Your building’s peer group of comparison are those buildings in the CBECS survey that have similar building and operating characteristics.

A rating of 50 indicates that the building, from an energy consumption standpoint, performs better than 50% of all similar buildings nationwide, while a rating of 75 indicates that the building performs better than 75% of all similar buildings nationwide. Buildings rating 75 or greater may qualify for the ENERGY STAR label.

6.0 Building Systems Analysis

A systems review and performance analysis was conducted for each of the major building systems as part of this project. Systems reviewed included:

- Lighting, HVAC, controls
- Building envelope
- Additional energy intensive systems within the buildings (i.e. exhaust hoods, safety exhaust systems, space heaters, etc...)

-
- Exterior lighting and controls
 - Age, condition, reliability, and maintainability of major systems

The results of the building systems analysis are provided in the Oneida Energy Audits Access Database provided to the Tribe in conjunction with this Executive Summary Report. The information can be found in the Building Description Table and its associated Form. Additional related information can be found in the Building Information Table and its associated Form.

7.0 Current & Recently Completed Energy Conservation Measures

7.1 Summary Tables By Facilities

Table 5 on the following page summarizes projects recently completed projects in conjunction with the Tribe's Bond Remodel and Energy Efficiency project funding. The projects were initiatives based on energy savings potential, remaining useful life of existing equipment, maintenance costs, and reliability.

Table 4
Summary of Recently Completed Projects

Description	Facility	Project Amount	Completion Date	Est. Annual kWh Saved	Est. Annual Therms Saved	Est. Annual Savings (\$)
Lighting Upgrades (gym)	County H Rec Center	\$7,337	Feb-13	24,422		\$2,198
Gym Lighting Replacement	NHC	\$13,966	Jan-13	61,066		\$5,496
HVAC UV System	ORCCC	\$13,588	Nov-12	30,188		\$2,717
Ozone Laundry System	ORCCC	\$7,767	Nov-12		4,222	\$4,222
Replace boiler cottages #1 - #4	SSB	\$190,000	Oct-12			
Replace oil furnace with Natural Gas	TSY Farm	\$8,000	Oct-12			
Replace furnace and A/C systems	Cultural Heritage	\$6,500	Sep-12			
Replace furnace and A/C systems	Decaster	\$6,500	Sep-12			
Replace furnace and A/C systems	GLIS	\$6,500	Sep-12			
Replace furnace and A/C systems	DPW Office	\$6,500	Sep-12			
Replace chiller	Elder Services	\$70,000	Sep-12			
Data center additional Liebert unit	Skenandoah	\$100,000	Sep-12			
Solar Hot Water System	ORCCC	\$215,977	Sep-12		4,411	\$4,411
Indoor Lighting Replacement	SSB	\$19,533	Sep-12	40,711		\$3,664
Boilers & Heat Exchanger Replacement	Turtle School	\$147,990	Sep-12		12,325	\$12,325
Chiller & Ice Storage System	Turtle School	\$334,024	Sep-12	177,886		\$32,182
Lighting Upgrades	Green Earth Library	\$2,818	Jun-12	10,555		\$950
Outdoor Lighting Replacement	SSB	\$51,489	Jun-12	183,311		\$16,498
Indoor Lighting Replacement	Turtle School	\$34,096	Jun-12	44,766		\$4,029
Outdoor Lighting Replacement	Turtle School	\$8,523	Jun-12	23,766		\$2,139
Outdoor lighting	172 Child Care	\$6,675	May-12	23,869		\$2,145
Outdoor Lighting Replacement	OPD	\$8,105	Apr-12	28,855		\$2,597
Replace and add Boiler	Elder Services	\$86,800	Mar-12		6,658	\$6,658
Replace Furnaces/AC	Library	\$20,600	Mar-12		240	\$240
Outdoor Lighting Replacement	NHC	\$20,500	Jan-12	72,988		\$6,569
Outdoor Lighting	Health Center	\$42,495	Nov-11	127,555		\$11,480
Outdoor Lighting Replacement	Skenandoah	\$18,031	Nov-11	30,900		\$2,781
Indoor Lighting Replacement (LED)	Skenandoah	\$28,745	Sep-11	106,571		\$9,591
	Totals	\$1,483,059		\$987,409	\$27,856	\$132,892

8.0 Renewable Energy Opportunities

8.1 Summary Table from First Cut Renewable Energy Study

Table 5 below summarizes the results of the First Cut Renewable Energy Study which was completed in conjunction with the Energy Audits. Check boxes indicate that initial screenings of the facility suggests that the associated renewable energy technology may be viable at that location and deserves further study.

Table 5
Summary Table of First Cut Renewable Energy Opportunities

Facility No.	Facility	Wind	Solar PV	Solar Thermal	Solar Hot Air	Bioenergy	Geothermal	District
96	Accounting		X				X	
41	Air View		X			X		
63	Airport Road Child Care							
6	Archiquette Bldg.		X			X		
81	Bay Bank							
92	Casino			X				X
1	Civic Center		X	X				
5	Community Education Center		X					
93	Conservation		X	X			X	
14	Cultural Heritage Department (CHD)							
4	Department of Public Works					X		
31	Department of Public Works - AUTO					X		
100	Elder Services & Apartments							
94	Farm Office	X	X					
101	Food Distribution Center						X	
106	Gaming Warehouse/Offices				X			X
83	GLIS		X					
8	Human Resource Dept. (Old) (2630 W Mason St.)		X				X	
18	Irene Moore Activity Center					X		X
86	Land Management Office		X		X	X	X	
21	Law Enforcement Center		X	X		X	X	
23	Library - Green Earth Branch							
38	Little Bear Development Center		X	X			X	X
28	Mason St. Casino							
16	Museum		X			X		
3	Norbert Hill Center		X	X		X		X
80	Occupational Health			X			X	
97	One Stop - Westwind		X					
105	Oneida Community Health Center						X	
84	Oneida Nation Elementary School		X	X		X		X
49	One-Stop 54		X	X				
51	One-Stop E&EE		X	X				
99	Parish Hall		X			X	X	
104	Recreation Center - Cty H		X	X		X		
11	Retail Building (Printing) (2710 W Mason St)		X		X			
42	Ridgeview Plaza		X				X	
7	Senior Center				X	X		
132	Skenandoah Complex		X	X		X	X	
55	Social Services Building		X	X				X
56	SSB - Cottage #1			X		X		X
57	SSB - Cottage #2					X		X
58	SSB - Cottage #3					X		X
59	SSB - Cottage #4					X		X
54	Three Sisters Head Start							

9.0 Recommendations

In order to continue to save energy and money, the Tribe should continue to invest in its energy efficiency programs through both capital expenditures as well as programmatic investments in operations and training. In addition to pursuing the implementation of the prioritized small and large capital projects identified in this report, the SEH/GDS project team identified the following recommendations applicable across the organization:

9.1 Envelope

- Install building weatherization measures including additional insulation, sealants and envelope upgrades. Continue to monitor and upgrade building conditions.

9.2 Water

- Right size water heaters
- Replace faucet aerators
- Replace toilets with 1.28 to 1.6 GPF toilets

9.3 Vacant Buildings

- Vacant buildings that are not being used should be re-evaluated for long term use.

9.4 Energy

- Upgrade aging equipment.
- Install occupancy sensors of various types are a cost effective measure to manage electrical and mechanical loads.
- Manage plug loads
- Install timers on fountains, soda machines, plumbed coffee machines, etc..
- Install Vending Misers on all vending machines with lights and condensers
- Not recommended for vending machines with perishable items
- Smart Strips
- Best use in offices with multiple plug loads such as task lighting, adding machines, monitors, fans, local printers, etc..

9.5 Lighting

- Take a close look at lighting measures
- De-lamping, re-lamping, daylighting, occupancy sensors, LEDs

9.6 Financial/Policy

- Take advantage of WPS's 'Cool Credits' program
- Continue to pursue all applicable grants to help offset costs of energy efficiency projects
- Re-evaluate the current natural gas contract with Integrys to verify its cost-effectiveness. The current arrangement may in fact be costing the Tribe more than simply purchasing natural gas directly from the utility.

9.7 HVAC

- Invest in HVAC energy conservation training for mechanical staff
- Pursue Recommissioning measures
- Setpoint adjustments, demand control ventilation, economizer adjustments, etc..
- Consider developing a 'Heating and Cooling' policy to ensure future building designs minimize simultaneous heating and cooling.

9.8 Operational

- Consolidate printers and refrigerators

Appendix A

Portfolio Manager Quick Reference Guide

Appendix B

1st Cut Renewable Energy Analysis Report

Appendix C

Database Update Procedures

1.0 Database Update Procedures

In order for the database to provide on-going value it will need to be maintained regularly. There are two primary sets of activities that will need to be done on a regular basis – updating utility data and updating the database.

1.1.1 Updating Utility Data

The first is updating the utility data, including water, electricity, and gas accounts. Within Oneida's shared Energy Folder there is an SOP (Standard Operating Procedures) document which provides detailed instructions on how to acquire and import utility data from various sources.

1.1.2 Updating the Database Itself

Besides populating existing tables with utility data, changes to the database structure itself will likely be needed to maintain the usefulness of the database over time.

1.1.2.1 Master Project List

The Master Project List form is the central hub for accessing and modifying any information related to energy reduction opportunities. Data can be modified on the lower half of the form, which appears as a white screen. The form has five tabs in order to organize related data fields and make navigation of the form easier. Table 3 below summarizes the data fields contained on each tab and their properties

Table 6
Data Fields in the Master Project List

Tab	Field	
General	Building No. (#)	#
	Building (name)	Text
	Project Number (#)	Text
	Proposed Action (text)	Text; building envelope, etc...
	Proposed Measure (text)	Text; more specific description of action
	Measure Designation	#; identifies specific measure
	Measure General Text	Text; general for type of ERO
	Project Specific Text	Text; specific to project
	Estimated Proposed Equipment Quantity	#
	Proposed Efficiency of Equipment	#
	Related Projects	Text; other related projects
	Alternate Projects	Alternatives
	Project Complete	Complete, incomplete or pending date (2014, 2015, etc...)
	Date Project Complete	Date; actual date project completed
	Projected Complete Date	Date; estimate of when project will be completed
	Difficulty to Complete	#; 1 to 10
	Time Required to Complete	#; 1 to 52 weeks
Images	Images of EROs if applicable	Jpeg; photo
Rates	Expected Life of Measure	#; years
	Cumulative ROI Over Life of Measure	\$ savings over life of measure
	Net Present Value of Project	\$; cumulative ROI in today's dollars
	Blended Electric Rate	\$

	Summer Peak Demand Rate	\$; peak demand rate
Savings	Annual Savings	kWh
	Annual Peak Reduction	kW
	Annual Electric Savings	\$
	Annual Gas Savings	# Therms
	Annual Gas Savings	\$
	Annual Water Sewer Savings	# gallons
	Impacted Utilities	Electric, gas, water
	% of Facility Savings	Percent (0 to 100)
	Estimated Project Cost	\$

Table 6 (Continued)
Data Fields in the Master Project List

Tab	Field	
	Rebate Amount	#
	Immediate Replacement ROI	#, simple payback
	Rebate Source	Focus on Energy, etc..
	Rebate Funding Source Notes Field	Text
Other	Available Incentive of Grant Funding	Yes/no
	Required Resource – DPW	Yes/no
	Required Resource – External Contractor	Yes/no
	Required Resource – Oneida Engineering	Yes/no
	Energy Provider – WPS	Yes/no
	Energy Provider – Ashwaubenon	Yes/no
	Energy Provider – Green Bay	Yes/no
	Energy Provider – Oneida	Yes/no
	Energy Provider – WE	Yes/no

1.1.2.2 Building Accounts

As new accounts are added (or removed) those accounts will need to be mapped (or deleted) to/from the appropriate building. This can be done by first accessing the Maintenance Form from the Main Menu and clicking on Building Accounts. From there, click on the ‘Select a Building’ dropdown box on the top of the form. This will bring up the existing utility accounts mapped to the building selected. The boxes below allow the user to add or delete accounts associated with the building selected.

1.1.2.3 Buildings

If the user wishes to modify existing data associated with a building or add (or remove) new buildings from the database this can be done by accessing the Maintenance Form from the Main Menu and then clicking on Buildings. To modify data use the right/left arrow buttons on the bottom of the form to select the building to make desired changes. To add a building click on the “New/blank record” arrow button.

1.1.2.4 Proposed Actions & Measures

If the user wishes to modify the existing proposed Actions & Measures, this can also be done by accessing the Maintenance Form from the Main Menu and then clicking on either Actions or Measures. To modify data use the right/left arrow buttons on the bottom of the form to select the Action/Measure to make desired changes. To add an Action/Measure, click on the “New/blank record” arrow button.

Appendix D

Calculation Methods for Database

1.0 Calculation Methods

1.1.1 Greenhouse Gas (GHG)

The greenhouse gas calculator is based upon the US EPA Greenhouse Gas Inventory Protocol. A full listing of the protocols can be found at <http://www.epa.gov/climateleadership/guidance/inventory-guidance.html> The following assumptions are developed from this table.

1.1.2 CO2e Assumptions

The CO2 equivalent measures as calculated from energy savings are set at the following in the Ranking Calculator. The reference assumption is included in parentheses.

0.0008475 MT CO2e per kWh (MRO East region)

0.0053057 MT CO2e per Therm (Default)

1.1.3 Rebate Incentive

The rebate incentive calculation is the estimated Focus on Energy incentive that may be available for a particular project if eligible. The calculation is based upon GDS Associates experience with the programs and utilities. The calculations on how to reach this value vary by project, and may change as the work moves forward. Custom incentive applications are also reviewed by the Schools and Government Program Office before a final rebate amount is approved.

1.1.4 Lifecycle Ration

The Life Cycle Ratio is the only calculation that accounts for the measure life and inflationary tendencies of energy and labor costs. GDS Associates feels that these assumptions are conservative and based upon long term histories of typical values.

Life Cycle Ratio = Present Value of energy + maintenance cost savings over the measure life (\$) / Initial Capital Cost (\$)

Assumptions:

- Life Cycle Ratio does not include potential incentives in initial costs.
- Electricity = 5.0% Annual inflation
- Natural Gas = 5.0% Annual inflation
- Maintenance Costs = 2.5% Annual inflation

Appendix C: Comprehensive Details on the 680 EROs

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0001-01	CIVIC CENTER	Put timers on the water fountains (if possible) and on the food vending machine to turn off the units during unoccupied hours.	650	-	\$69.74		\$0.00		\$0.00	\$69.74	Electric	0.38%	\$120.00	\$0.00	1.72	\$1,027.00	\$786.00
0001-02	CIVIC CENTER	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	0	-	\$0.00	110	\$83.68		\$27.31	\$110.99	Gas and Water	0.20%	\$50.00	\$0.00	-	\$1,775.00	\$1,392.00
0001-03	CIVIC CENTER	Replace Two 8' T12 fixtures with Three 4' T8 fixtures with electronic ballasts	1,214	-	\$130.29		\$0.00	4,552	\$0.00	\$130.29	Electric	0.71%	\$195.00	\$12.00	1.40	\$1,199.00	\$992.00
0001-04	CIVIC CENTER	65-W Incandescent to 13-Watt CFL	649	-	\$69.63		\$0.00		\$0.00	\$69.63	Electric	0.38%	\$16.00	\$8.00	0.11	\$731.00	\$620.00
0001-05	CIVIC CENTER	Replace exterior 100w MH fixtures with 30-Watt LED Wall pack	2,964	-	\$318.03		\$0.00		\$0.00	\$318.03	Electric	1.74%	\$2,100.00	\$150.00	6.13	\$5,261.00	\$3,347.00
0001-06	CIVIC CENTER	Recessed CFL bulbs to 6-Watt LED bulbs	849	-	\$91.06		\$0.00		\$0.00	\$91.06	Electric	0.50%	\$720.00	\$240.00	5.27	\$1,585.00	\$1,037.00
0001-07	CIVIC CENTER	Delamp 4'-Foot, 4-Lamp Fluorescent fixtures down to 2-Lamps	8,112	-	\$870.40		\$0.00		\$0.00	\$870.40	Electric	4.76%	\$0.00	\$0.00	-	\$9,231.00	\$7,850.00
0001-08	CIVIC CENTER	32-Watt T8 Lamps to 25-Watt T8 Lamps	6,246	-	\$670.21		\$0.00		\$0.00	\$670.21	Electric	3.66%	\$858.00	\$286.00	0.85	\$6,536.00	\$5,472.00
0001-09	CIVIC CENTER	Occupancy Sensors to Control Lighting Runtime. There are 21 locations that could benefit from wall occupancy sensors and the gym can use 2 ceiling mounted sensors to shut off lights when not in use (recommended to leave one light on for safety)	7,943	-	\$852.26		\$0.00		\$0.00	\$852.26	Electric	4.66%	\$3,100.00	\$177.50	3.43	\$11,093.00	\$8,153.00
0001-10	CIVIC CENTER	In the Lobby a photocell should be used to control the 7 13-watt CFLs. There is plenty of daylight available. -- The two exterior lights mounted on the back Gym wall by the rear parking lot are hard wired into the Gym lights. This should be rewired and photocell sensor installed on each of the (est.) 400-watt Metal Halides. -- There is a faulty photocell on a 100-watt wall pack on the side of the building. This unit should be replaced.	1,424	-	\$152.79		\$0.00		\$0.00	\$152.79	Electric	0.83%	\$500.00	\$0.00	3.27	\$2,013.00	\$1,486.00
0001-11	CIVIC CENTER	Install Vending Miser	2,100	-	\$225.33		\$0.00		\$0.00	\$225.33	Electric	1.23%	\$400.00	\$120.00	1.24	\$3,425.00	\$2,648.00
0001-12	CIVIC CENTER	Use Energy Efficient Power Strips	728	-	\$78.11		\$0.00		\$0.00	\$78.11	Electric	0.43%	\$280.00	\$0.00	3.58	\$1,005.00	\$735.00
0001-13	CIVIC CENTER	All of the doors need new weather-stripping. The rear door is not closing properly.	81	-	\$8.74	171	\$129.77		\$0.00	\$138.51	Electric and Gas	0.43%	\$120.00	\$0.00	0.87	\$1,349.00	\$1,129.00
0001-14	CIVIC CENTER	There are 7 RTUs at the facility. All of them should undergo a routine tune-up. Focus on Energy provides a reasonable rebate for performing the tune-up, but by doing the tune-up you can then qualify for additional rebates from the next several recommended measures. Savings are from increased RTU efficiency for all 7 units due to improvements such as straightening the cooling fins, replacing filters, tightening belts, and cleaning coils.	2,985	-	\$320.26	922	\$701.34			\$1,021.60	Electric and Gas	3.16%	\$700.00	\$280.00	0.41	\$4,823.00	\$4,378.00
0001-15	CIVIC CENTER	There is no DDC module controlling the economizers on the RTUs, only a basic enable when OAT<60F. A new control should be programmed and a new sensor installed to open OA dampers when OAT<RAT and there is cooling demand. This will achieve a much more efficient economizer function. The Focus RTU program has an attractive rebate for installing new economizer controls, check to see if this project qualifies (calculations assume that it does not).	2,388	-	\$256.21	738	\$561.07			\$817.28	Electric and Gas	2.53%	\$1,200.00	\$0.00	1.47	\$12,241.00	\$9,421.00
0001-16	CIVIC CENTER	Three RTUs (serving the gym) can benefit from Demand Control Ventilation. (It is feasible to outfit the remaining RTUs with DCV, but at a higher cost and level of difficulty).	4,477	-	\$480.40	1,383	\$1,052.01			\$1,532.40	Electric and Gas	4.74%	\$1,200.00	\$1,050.00	0.10	\$25,049.00	\$19,763.00
0001-17	CIVIC CENTER	Consider enrolling 6 RTUs (Not the heating-only RTU) in the Contracted Direct Load Control program offered by WPS. approximately 95 kW total will be enrolled. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	1,663	-	\$114.49	-	\$0.00		\$0.00	\$2,296.49	Electric	0.63%	\$0.00	\$2,182.00	-	\$25,034.00	\$21,228.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0003-01	NHC	Reduce Hallway Lighting. In some of the hallways such as the first floor, every other light fixture could be turned off or the lamps disconnected. There will still be ample lighting and it will save energy. This measure is often controversial with the building occupants because of aesthetic reasons.	10,296	4.400	\$884.42		\$0.00		\$0.00	\$884.42	Electric	0.89%	\$0.00	\$0.00	-	\$9,380.00	\$7,976.00
0003-02	NHC	Replace 65-Watt incandescent bulbs with 13-Watt CFL bulbs in the Kitchen Dry Storage and Walk-in Coolers.	608	0.260	\$52.26		\$0.00		\$0.00	\$52.26	Electric	0.05%	\$20.00	\$10.00	0.19	\$544.00	\$461.00
0003-03	NHC	40-Watt U-Shaped Lamps to 30-Watt U-Shaped Lamps (a lower wattage lamp may meet lighting needs in some spaces). There are approximately 490 U-Shaped 40-Watt lamps being used in the facility. This DOES NOT include the lighting on the 3rd floor in rooms 315 to 364. This is an unused portion of the building currently.	11,466	4.900	\$984.93		\$0.00		\$0.00	\$984.93	Electric	0.99%	\$7,350.00	\$0.00	7.46	\$3,096.00	\$1,533.00
0003-04	NHC	In the Gym there are 21 Metal Halides assumed to be 450-Watts a piece. It is recommended to replace them with 6-Lamp 32-Watt T8s. High output lamps may not be necessary for this application. Consult a lighting contractor for further recommendations.	12,361	6.867	\$1,061.77		\$0.00		\$0.00	\$1,061.77	Electric	1.07%	\$7,350.00	\$525.00	6.43	\$4,436.00	\$2,751.00
0003-05	NHC	Replace the six remaining 8-Foot 2-Lamp T12 fixtures with 4-foot 2-Lamp T8 Fixtures with 25-watt lamps. It may not be necessary to replace two 4-foot fixtures for every one 8-foot fixture.	1,332	0.740	\$114.42		\$0.00		\$0.00	\$114.42	Electric	0.12%	\$390.00	\$24.00	3.20	\$847.00	\$666.00
0003-06	NHC	32-Watt T8 Lamps to 25-Watt T8 Lamps	26,876	14.931	\$2,308.63		\$0.00		\$0.00	\$2,308.63	Electric	2.33%	\$6,399.00	\$2,133.00	1.85	\$20,219.00	\$16,554.00
0003-07	NHC	There are approximately 435 4 and 3 lamp fluorescent fixtures in the facility. It is recommended to de-lamp these by 1 lamp.	20,396	11.331	\$1,752.00		\$0.00		\$0.00	\$1,752.00	Electric	1.77%	\$0.00	\$0.00	-	\$18,581.00	\$15,801.00
0003-08	NHC	Outside in the rear of the facility is pavilion and flag pole lighting (field lighting not included in this measure). It is estimated there are 11 150-Watt and 7 250-Watt Metal Halide and HPS lamps and fixtures being used. It is recommended to consider replacing with LED spotlights and space lighting.	4,858	2.429	\$417.30		\$0.00		\$0.00	\$417.30	Electric	0.42%	\$6,000.00	\$375.00	13.48	\$3,837.00	\$1,325.00
0003-09	NHC	Fluorescent Exit Signs to .5 Watt LED. There are approximately 11 Exit signs that have not been converted to LED.	1,205	0.138	\$103.47		\$0.00		\$0.00	\$103.47	Electric	0.10%	\$275.00	\$0.00	2.66	\$2,072.00	\$1,449.00
0003-10	NHC	Gymnasium Occupancy Sensors. Two occupancy sensors should be installed in the Gymnasium to control lighting runtime. One light should not be controlled by occupancy sensors as a safety measure.	7,128	3.960	\$612.29		\$0.00		\$0.00	\$612.29	Electric	0.62%	\$1,200.00	\$20.00	1.93	\$8,889.00	\$6,777.00
0003-11	NHC	There are approximately 152 locations were wall mounted occupancy sensors should be used, NOT including the gymnasium, stairwells or the unused portion of the 3rd floor. Each office and room with a door should have one installed including the classrooms.	26,037	14.465	\$2,236.54		\$0.00		\$0.00	\$2,236.54	Electric	2.25%	\$15,200.00	\$1,140.00	6.29	\$22,720.00	\$15,005.00
0003-12	NHC	Photocells should be installed to control the lighting in various of the facility that have ample daylighting available. The following locations are recommended to install photocell to control all or a portion of the lighting: Daycare Hallway, Weight Room, Head Start Classroom 198, Science Hallway, & Room 284A.	4,161	1.778	\$357.39		\$0.00		\$0.00	\$357.39	Electric	0.36%	\$500.00	\$0.00	1.40	\$5,378.00	\$4,145.00
0003-13	NHC	Replace 2.2 GPM Aerators with 1.5 GPM Aerators		-	\$0.00	924	\$664.19	22,758	\$114.94	\$779.14	Gas and Water	0.93%	\$420.00	\$0.00	0.54	\$12,394.00	\$9,706.00
0003-14	NHC	Insulate Domestic Hot Water Pipes. In the Kitchen the DHW boiler has exposed hot water pipes. All pipes should be wrapped with foam insulation.		-		12	\$8.96		\$0.00	\$8.96	Gas	0.02%	\$20.00	\$0.00	2.23	\$128.00	\$97.00
0003-15	NHC	Reduce Runtime of DHW Circulation Pump. Install a timer(s) to turn off the hot water circulation pump(s) when the facility is unoccupied.	601	-	\$51.64	1,002	\$720.26		\$0.00	\$771.91	Electric and Gas	0.05%	\$500.00	\$0.00	0.65	\$12,194.00	\$9,531.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0003-16	NHC	Replace Pre-Rinse Spray Valves with low flow 1.6 GPM Spray Valves. There are 8 pre-rinse sprayers in the facility, 5 in the Canary and 3 in the Kitchen that should be replaced.	0	-	\$0.00	1,306	\$938.89	42,000	\$212.12	\$1,151.01	Gas and Water	1.38%	\$1,280.00	\$0.00	1.11	\$17,648.00	\$13,677.00
0003-17	NHC	Use Energy Efficient Power Strips	11,752	-	\$1,009.50		\$0.00		\$0.00	\$1,009.50	Electric	1.02%	\$4,520.00	\$0.00	4.48	\$12,081.00	\$8,599.00
0003-18	NHC	There are multiple coffee makers and drinking fountains that should have timers installed to reduce runtime when facility is unoccupied. There is also a fan running (facing the wall) in the MIS room when the room was unoccupied for the day.	1,590	-	\$136.58		\$0.00		\$0.00	\$136.58	Electric	0.14%	\$200.00	\$0.00	1.46	\$2,046.00	\$1,575.00
0003-19	NHC	Install Vending Miser	5,250	-	\$450.97		\$0.00		\$0.00	\$450.97	Electric	0.45%	\$600.00	\$180.00	0.93	\$6,996.00	\$5,440.00
0003-20	NHC	Install new windows in the entire building. Replace with double pane, argon filled windows with a U value of 0.29.	100,000	-	\$8,589.99	20,000	#####		\$0.00	\$23,139.00	Electric and Gas	15.32%	\$1,513,600.00		64.18		

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0005-01	CEC	Replace remaining 65-W Incandescent bulbs with 13-Watt CFLs	54		\$7.10		\$0.00		\$0.00	\$7.10	Electric	0.05%	\$8.00	\$4.00	0.56	\$71.00	\$60.00
0005-02	CEC	Replace exterior lighting. 75W MH with 30W LED wall packs and 200W MH with 40-Watt LED Wall pack	2,184		\$286.88		\$0.00		\$0.00	\$286.88	Electric	2.07%	\$1,750.00	\$125.00	5.66	\$4,880.00	\$3,153.00
0005-03	CEC	50W halogens that are on 24/7 should be replaced with 4W LED. Some have already been converted! All of them should be	1,206		\$158.36		\$0.00		\$0.00	\$158.36	Electric	1.14%	\$105.00	\$30.00	0.47	\$3,517.00	\$2,563.00
0005-04	CEC	32-Watt T8 Lamps to 25-Watt T8 Lamps (358 total bulbs)	7,363		\$967.11		\$0.00		\$0.00	\$967.11	Electric	6.99%	\$1,074.00	\$358.00	0.74	\$9,541.00	\$8,006.00
0005-05	CEC	Install Occupancy Sensors to Control Lighting Runtime in offices and selected other areas (see picture for list)	2,840		\$373.07		\$0.00		\$0.00	\$373.07	Electric	2.70%	\$1,200.00	\$90.00	2.98	\$5,025.00	\$3,738.00
0005-06	CEC	There are 2 non-programmable thermostats that should be replaced with programmable models. GED area and back conference area. The schedules should be setback to 62F heating and 85F cooling from 8PM-7:30AM weekdays and on weekends	2,937		\$385.77	62	\$64.49		\$0.00	\$450.26	Electric and Gas	2.71%	\$200.00	\$0.00	0.44	\$7,205.00	\$5,652.00
0005-07	CEC	There are 2 programmable thermostats that are not currently programmed. In computer classroom and hallway. The schedules should be setback to 62F heating and 85F cooling from 8PM-7:30AM weekdays and on weekends	2,203		\$289.32	47	\$48.37		\$0.00	\$337.69	Electric and Gas	2.04%	\$0.00	\$0.00	-	\$5,554.00	\$4,389.00
0005-08	CEC	There are 2 programmed thermostats that should have their schedules tweaked. In front conference room and near vending area. The schedules should be setback to 62F heating and 85F cooling from 8PM-7:30AM weekdays and on weekends. In particular, the front conference room is currently calling for 64F in cooling mode every evening from 8-10PM and that thermostat is designed as a residential model to provide comfort (not setbacks) on weekends. Consider replacing it or carefully programming it.	1,259		\$165.33	8	\$8.06		\$0.00	\$173.39	Electric and Gas	1.04%	\$0.00	\$0.00	-	\$2,852.00	\$2,254.00
0005-09	CEC	Use Energy Efficient Power Strips -at least 4 workstations can benefit	416		\$54.64		\$0.00		\$0.00	\$54.64	Electric	0.39%	\$160.00	\$0.00	2.93	\$739.00	\$550.00
0005-10	CEC	Install software on classroom computers to shut down monitors when not in use	1,938		\$254.50		\$0.00		\$0.00	\$254.50	Electric	1.84%	\$0.00	\$0.00	-	\$4,186.00	\$3,308.00
0005-11	CEC	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	726		\$95.36	-	\$0.00	6,989	\$41.93	\$137.30	Electric	0.69%	\$20.00	\$0.00	0.15	\$2,238.00	\$1,764.00
0005-12	CEC	Replace Electric Water Heater with Condensing Natural Gas Water Heater	3,688		\$484.43	(142)	(\$147.09)		\$0.00	\$337.34	Electric and Gas	2.03%	\$1,000.00	\$0.00	3.00	\$4,548.00	\$3,384.00
0005-13	CEC	Install Vending Miser	3,150		\$413.76		\$0.00		\$0.00	\$413.76	Electric	2.99%	\$400.00	\$0.00	0.97	\$6,404.00	\$4,977.00
0005-14	CEC	Enroll in "Cool Credits" program offered by WPS. 6 small AC units should be enrolled in the Cool Credits Direct Load Control Program Option 1 (Central Air Conditioner - Full Shutoff and Cycling). 3 electric water heater should be enrolled in the DLCP CP Option 2 (Electric Water Heater - Full Shutoff and Cycling) and NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	1,500		\$197.03		\$0.00		\$0.00	\$485.03	Electric	1.42%	\$0.00	\$288.00		\$5,144.00	\$4,374.00
0005-15	CEC	Install simple timer on the water fountain to shut off overnight	219		\$28.77		\$0.00		\$0.00	\$28.77	Electric	0.21%	\$20.00	\$0.00	0.70	\$453.00	\$354.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0006-01	ARCHIQUETTE BUILDING	There are an estimated 4 100-Watt HPS lights in the 'Tower' that are used for aesthetic purposes. It is recommended to replace them with 20 to 30 watt LEDs	1,835	0.420	\$230.56		\$0.00		\$0.00	\$230.56	Electric	1.42%	\$200.00	\$100.00	0.43	\$5,130.00	\$2,593.00
0006-02	ARCHIQUETTE BUILDING	60-W Incandescent to 13-Watt CFL	1,320	0.423	\$165.86		\$0.00		\$0.00	\$165.86	Electric	1.02%	\$36.00	\$18.00	0.11	\$1,742.00	\$1,209.00
0006-03	ARCHIQUETTE BUILDING	250-W MH Exterior Lights with Magnetic Ballast to 40-Watt LEDs	2,228	0.510	\$279.96		\$0.00		\$0.00	\$279.96	Electric	1.72%	\$700.00	\$50.00	2.32	\$5,700.00	\$2,619.00
0006-04	ARCHIQUETTE BUILDING	The canopy lights are a combination of incandescent and high pressure sodium bulbs. It is recommended to replace them with 10 to 15 watt LED bulbs.	5,080	1.074	\$638.40		\$0.00		\$0.00	\$638.40	Electric	3.92%	\$760.00	\$475.00	0.45	\$14,193.00	\$7,169.00
0006-05	ARCHIQUETTE BUILDING	32-Watt T8 lamps to 25-Watt T8 lamps	7,032	2.254	\$883.80		\$0.00		\$0.00	\$883.80	Electric	5.43%	\$966.00	\$322.00	0.73	\$8,731.00	\$5,893.00
0006-06	ARCHIQUETTE BUILDING	Delamp all 4 or 3 lamp fixtures by 1 lamp	6,106	1.957	\$767.35		\$0.00		\$0.00	\$767.35	Electric	4.71%	\$0.00	\$0.00		\$8,140.00	\$5,676.00
0006-07	ARCHIQUETTE BUILDING	Fluorescent Exit Signs to .5 Watt LED	876	0.100	\$110.09		\$0.00		\$0.00	\$110.09	Electric	0.68%	\$200.00	\$0.00	1.82	\$2,297.00	\$1,085.00
0006-08	ARCHIQUETTE BUILDING	Use wall mounted occupancy sensors in bathrooms, offices, storeroom and conference room	1,423	0.456	\$178.80		\$0.00		\$0.00	\$178.80	Electric	1.10%	\$600.00	\$45.00	3.10	\$2,387.00	\$1,203.00
0006-09	ARCHIQUETTE BUILDING	Control exterior and Tower lighting runtime with the combination of photocell sensors and timers. Currently these lights run from 7:00 p.m. to 7:00 a.m. It is recommended to install photocells to control the start time of the lights and the current timers to shut the lights at 11:00 p.m. or sooner.	4,188	1.342	\$526.30		\$0.00		\$0.00	\$526.30	Electric	3.23%	\$800.00	\$0.00	1.52	\$8,302.00	\$4,818.00
0006-10	ARCHIQUETTE BUILDING	The thermostat for the main library area is not programmed with any setbacks. It is running at 72 cooling and 70 heating 24x7. Program to reflect actual occupied hours. For a space this size it is recommended to set the occupied start time for 45 minutes before facility is occupied and setback to unoccupied setting 1 hour before closing.	440		\$55.25	122	\$101.97		\$0.00	\$157.22	Electric and Gas	0.83%	\$0.00	\$0.00		\$2,563.00	\$1,532.00
0006-11	ARCHIQUETTE BUILDING	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	726	0.073	\$91.24		\$0.00	3,494	\$158.41	\$249.65	Electric and Water	1.53%	\$20.00	\$0.00	0.08	\$4,066.00	\$2,422.00
0006-12	ARCHIQUETTE BUILDING	Reduce DHW Temperature to 120 degrees	171		\$21.48	-	\$0.00		\$0.00	\$21.48	Electric	0.13%	\$0.00	\$0.00		\$2,939.00	\$1,756.00
0006-13	ARCHIQUETTE BUILDING	Replace Electric Water Heater with Condensing Natural Gas Water Heater	885		\$111.22	(32)	(\$26.82)		\$0.00	\$84.40	Electric and Gas	0.45%	\$500.00	\$0.00	5.90	\$1,414.00	\$486.00
0006-14	ARCHIQUETTE BUILDING	Use Energy Efficient Power Strips	416		\$52.28		\$0.00		\$0.00	\$52.28	Electric	0.32%	\$160.00	\$0.00	3.06	\$700.00	\$354.00
0006-15	ARCHIQUETTE BUILDING	Unplug Under Used Appliances or use Timers to Control Runtime During Unoccupied Hours. There is a drinking fountain and coffee maker that can be controlled.	300		\$37.70		\$0.00		\$0.00	\$37.70	Electric	0.23%	\$80.00	\$0.00	2.12	\$540.00	\$291.00
0006-16	ARCHIQUETTE BUILDING	Install Vending Miser	1,750		\$219.93		\$0.00		\$0.00	\$219.93	Electric	1.35%	\$200.00	\$60.00	0.64	\$3,477.00	\$2,021.00
0006-17	ARCHIQUETTE BUILDING	The weather-stripping on most of the doors should be replaced	34		\$4.30	95	\$79.86		\$0.00	\$84.16	Electric and Gas	0.44%	\$40.00	\$0.00	0.48	\$1,339.00	\$784.00
0006-18	ARCHIQUETTE BUILDING	On the Enrollment side of the building there are multiple fixed single pane windows and a single pane sliding windows The windows should be replaced with more efficient double pane windows filled with argon gas or equivalent window to reach a U-value of .4 or lower. This is a good measure to pursue as most if not all of the heat in the enrollment side is electrical heat and space heaters are used a lot to maintain comfort levels for occupants.	6,777	0.455	\$851.73		\$0.00		\$0.00	\$851.73	Electric	5.23%	\$37,600.00	\$0.00	8.81	\$36,832.00	\$5,772.00
0006-19	ARCHIQUETTE BUILDING	Enroll in "Cool Credits" program offered by WPS. Four small AC unit should be enrolled in the Cool Credits Direct Load Control Program Option 1 (Central Air Conditioner - Full Shutoff and Cycling). Two electric water heaters should be enrolled in the DLCP Option 2 (Electric Water Heater - Full Shutoff and Cycling+L1). NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	1,000		\$125.67		\$0.00		\$0.00	\$317.67	Electric	0.77%	\$0.00	\$192.00			

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0006-20	ARCHIQUETTE BUILDING	Currently there are 3 furnaces that heat the Library and 1 older unit that heats part of the Enrollment area. The remainder of the Enrollment area is heated by electric baseboard heat and space heaters are also used. It is recommended to consider adding a new natural gas high efficiency furnace to replace the electric heat. Multiple replacement strategies could be applied. One strategy is to replace the existing furnace with a higher BTUH unit and add supply ductwork and diffusers to the space. Another strategy is to add a separate furnace, ductwork and diffusers to service the area currently utilizing electric heat.	32,381	32.381	\$4,069.40	(1,577)	(\$1321.78)		\$0.00	\$2,747.61	Electric and Gas	14.52%	\$20,000.00	\$275.00	7.18	\$42,600.00	\$12,364.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0007-01	SENIOR CENTER	65-W Incandescent to 13-Watt CFL	1,379	0.624	\$170.77		\$0.00		\$0.00	\$170.77	Electric	2.09%	\$48.00	\$24.00	0.14	\$1,787.00	\$1,239.00
0007-02	SENIOR CENTER	32-Watt T8 Lamps to 25-Watt T8 Lamps	1,918	0.868	\$237.54		\$0.00		\$0.00	\$237.54	Electric	2.91%	\$372.00	\$124.00	1.04	\$2,271.00	\$1,509.00
0007-03	SENIOR CENTER	Occupancy Sensors to Control Lighting Runtime	1,462	0.662	\$181.06		\$0.00		\$0.00	\$181.06	Electric	2.22%	\$700.00	\$52.50	3.58	\$2,330.00	\$1,131.00
0007-04	SENIOR CENTER	Photocell Sensors to Control Lighting Runtime	385	0.174	\$47.62		\$0.00		\$0.00	\$47.62	Electric	0.58%	\$100.00	\$0.00	2.10	\$684.00	\$368.00
0007-05	SENIOR CENTER	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	908	0.091	\$112.38		\$0.00	6,828	\$122.19	\$234.57	Electric	1.38%	\$25.00	\$0.00	0.11	\$2,722.00	\$1,617.00
0007-06	SENIOR CENTER	Replace Pre-Rinse Spray Valves with low flow 1.6 GPM Spray Valves	939	-	\$116.34		\$0.00	5,334	\$95.46	\$211.80	Electric and Water	2.36%	\$160.00	\$0.00	0.76	\$2,454.00	\$1,402.00
0007-07	SENIOR CENTER	Use Energy Efficient Power Strips	208	-	\$25.76		\$0.00		\$0.00	\$25.76	Electric	0.32%	\$80.00	\$0.00	3.11	\$344.00	\$173.00
0007-08	SENIOR CENTER	Unplug Under Used Appliances or use Timers to Control Runtime During Unoccupied Hours	300	-	\$37.15		\$0.00		\$0.00	\$37.15	Electric	0.45%	\$80.00	\$0.00	2.15	\$1,272.00	\$446.00
0007-09	SENIOR CENTER	Install Vending Miser	2,100	-	\$260.04		\$0.00		\$0.00	\$260.04	Electric	3.18%	\$200.00	\$0.00	0.77	\$4,176.00	\$2,455.00
0007-10	SENIOR CENTER	Seal Door and Window Air Leakage	8	-	\$0.98	32	\$27.76		\$0.00	\$28.74	Electric and Gas	0.28%	\$6.00	\$0.00	0.21	\$294.00	\$203.00
0007-11	SENIOR CENTER	Enroll in "Cool Credits" program offered by WPS. 1 electric water heater should be enrolled in the DLCP Option 2 (Electric Water Heater - Full Shutoff and Cycling) and 1 large condensing units 10 kW total) should be enrolled in the Contracted Direct Load Control Program. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	175	-	\$21.67		\$0.00		\$0.00	\$257.67	Electric	0.27%	\$0.00	\$236.00	-		
0007-12	SENIOR CENTER	The facility is occupied from 7 a.m. to 3:30 p.m. Monday-Friday. The AHU runs from 5:30 a.m. to 10 p.m. 7 days a week. Change AHU runtime to better match occupancy. Recommended 6:30 a.m. to 3:00 p.m. Monday-Friday. Some weekend runtime in cold Winter months may be necessary based on an interior setback temperature of 50 degrees.	4,360	-	\$539.92	154	\$131.64		\$0.00	\$671.56	Electric and Gas	6.43%	\$100.00	\$0.00	0.15	\$11,041.00	\$6,597.00
0007-13	SENIOR CENTER	Adjust settings to the economizer. On a 40 degree day in November the economizer was 30% open. The Return Air was 69.7, Mixed Air 77.8 and Supply Air temperature was 67.3. The room temperature system set point is 75 degrees. The settings to the economizer need to be changed so the unit is set to its minimum requirement which should be 10% open. In effect what is happening is that the system is cooling down the Return Air then it is being re-heated and supplied to the building. This is not an efficient method.		-	\$0.00	330	\$281.96		\$0.00	\$281.96	Gas	12.44%	\$100.00	\$0.00	0.40	\$4,535.00	\$2,669.00
0007-14	SENIOR CENTER	The dishwasher is typically turned on in the mornings and shut off at closing. It is recommended to only turn the unit on 15 minutes before the unit is too be used and turned off after the last cycle is run. If the unit could be shut down 50% of the time the following savings could be realized.	900	-	\$111.45		\$0.00		\$0.00	\$111.45	Electric	1.36%	\$0.00	\$0.00	-	\$4,057.00	\$1,577.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0008-01	HRD	Replace (1) 75W incandescent flood lamp with a 15W CFL in the vestibule. Calculation assumes 7-5, M-F occupancy	156	-	\$20.58		\$0.00		\$0.00	\$20.58	Electric	0.46%	\$4.00	\$2.00	0.10	\$214.00	
0008-02	HRD	Replace the exterior MH light fixtures with LED wallpacks. (2) 30W LED and (2) 40W LED should be sufficient. The calculations assume that the lights are on sunset to sunrise (no INET control viewable though)	3,994	-	\$526.84		\$0.00		\$0.00	\$526.84	Electric	11.76%	\$1,400.00	\$100.00	2.47	\$10,647.00	\$7,475.00
0008-03	HRD	Replace the 8' T12 fixture in the mechanical room with a 4' 25W T8 fixture. There will be less, but still enough, light in the room. Note that T12 bulbs will no longer be available, so the transition will need to be made eventually	73	-	\$9.60		\$0.00		\$0.00	\$9.60	Electric	0.21%	\$65.00	\$0.00	6.77	\$37.00	\$22.00
0008-04	HRD	If the building will be occupied again, replace the 32-Watt T8 Lamps with 25-Watt T8 Lamps (504 total bulbs). Savings assume 7-5, M-F occupancy	9,173	-	\$1,210.10		\$0.00		\$0.00	\$1,210.10	Electric	27.01%	\$1,512.00	\$504.00	0.83	\$11,826.00	
0008-05	HRD	If the building will be occupied again, there are at least (22) areas that could benefit from occupancy sensors including all walled offices and restrooms (with exhaust fans). Calculations assume 7-5, M-F occupancy	6,016	-	\$793.66		\$0.00		\$0.00	\$793.66	Electric	17.72%	\$2,200.00	\$165.00	2.56	\$11,016.00	
0008-06	HRD	The schedule is currently set to be occupied from 4AM to 6PM daily for two zones. The purpose is to keep the fans running, but the system is also maintaining a set point of 73F when occupied. The building is vacant and the schedule should be unoccupied (or the occupied set point should be adjusted) so that the heating set point is only 60F and the cooling set point is 90F at all times. The fans should be independently controlled if it's necessary to keep them running part of the time.	5,094	-	\$671.99	749	\$701.42		\$0.00	\$1,373.42	Electric and Gas	17.56%	\$0.00	\$0.00	-	\$7,048.00	\$6,451.00
0008-07	HRD	If the building is to become occupied, replace 2.2 GPM aerators with 1.5 GPM aerators	726	-	\$95.78	-	\$0.00	8,904	\$53.42	\$149.20	Electric and Water	3.08%	\$20.00	\$0.00	0.13	\$2,434.00	
0008-08	HRD	If the building is to become occupied, consider replacing the electric water heater with condensing natural gas water heater. Calculations assume 75-person occupancy of the building	3,759	-	\$495.90	(144)	(\$134.78)		\$0.00	\$361.12	Electric and Gas	4.62%	\$700.00	\$0.00	1.90	\$5,238.00	\$3,993.00
0008-09	HRD	Enroll in "Cool Credits" program offered by WPS. 4 small AC unit should be enrolled in the Cool Credits Direct Load Control Program Option 1 (Central Air Conditioner - Full Shutoff and Cycling) and 1 electric water heater should be enrolled in the DLCP Option 2 (Electric Water Heater - Full Shutoff and Cycling) and NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	1,000	-	\$131.92		\$0.00		\$0.00	\$299.92	Electric	2.94%	\$0.00	\$168.00	-	\$3,181.00	\$2,705.00
0008-10	HRD	If the building is to remain vacant, unplug the drinking fountains and switch off the hot water heater.	2,278	-	\$300.52	-	\$0.00		\$0.00	\$300.52	Electric	6.71%	\$0.00	\$0.00	-	\$1,542.00	\$1,411.00
0008-11	HRD	NOTE: Ensure that the electric baseboard heaters have set points below the set point of the furnaces (recommend lowering baseboard set point to 55F). The baseboards were not observed to currently turn on, so no savings are calculated. But if the set points are too high, they will be operating completely unnecessarily so it is worth verifying they have low set points.	0	-	\$0.00	-	\$0.00			\$0.00	Electric	0.00%	\$0.00	\$0.00	-	\$0.00	\$0.00
0008-12	HRD	The building consumes significant energy and is used only for storage. This makes investments into efficiency measures difficult. However, we do recommend moving the stored files to another location (possibly Skenandoah or the printing building) where the heating, cooling, and lighting energy is being consumed for useful purposes. Then the entire HRD building can be shut down, leased, or sold. The savings here assume a complete shut down and do not include possible additional savings from incoming rent or sale of the building.	33,958	-	\$4,479.82	3,569	\$3,340.58		\$0.00	\$57,820.40	Electric and Gas	1.00%	\$0.00	\$0.00	-	\$37,628.00	\$34,227.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0011-01	RETAIL BUILDING	(4) 65-W Incandescent should be replaced with 13-Watt CFLs (these are on fewer hours per week, but are still worth replacing)	216	-	\$22.63		\$0.00		\$0.00	\$22.63	Electric	0.10%	\$16.00	\$8.00	0.35	\$364.00	\$286.00
0011-02	RETAIL BUILDING	Replace exterior wallpack lighting with LED wallpacks	2,002	-	\$209.40		\$0.00		\$0.00	\$209.40	Electric	0.91%	\$1,750.00	\$125.00	7.76	\$3,123.00	\$1,862.00
0011-03	RETAIL BUILDING	Replace all 32-Watt T8 Lamps with 25-Watt T8 Lamps	7,815	-	\$817.42		\$0.00		\$0.00	\$817.42	Electric	3.55%	\$1,356.00	\$452.00	1.11	\$7,765.00	\$6,468.00
0011-04	RETAIL BUILDING	There are 8 walled rooms that could benefit from installing occupancy sensors to control lighting runtime	2,398	-	\$250.81		\$0.00		\$0.00	\$250.81	Electric	1.09%	\$800.00	\$60.00	2.95	\$3,385.00	\$2,519.00
0011-05	RETAIL BUILDING	Consider installing a ceiling occupancy sensor to turn off most lighting on the main floor when nobody is in the room. On the site visit, the main floor was minimally occupied over 2 hours. If the floor is normally occupied more often disregard this recommendation.	752	-	\$78.67		\$0.00		\$0.00	\$78.67	Electric	0.34%	\$200.00	\$10.00	2.42	\$1,103.00	\$832.00
0011-06	RETAIL BUILDING	Use Energy Efficient Power Strips - 4 workstations could benefit	416	-	\$43.51		\$0.00		\$0.00	\$43.51	Electric	0.19%	\$160.00	\$0.00	3.68	\$556.00	\$405.00
0011-07	RETAIL BUILDING	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	363	-	\$37.97	-	\$0.00	1,165	\$6.99	\$44.96	Electric and Water	0.20%	\$10.00	\$0.00	0.22	\$730.00	\$594.00
0011-08	RETAIL BUILDING	Install Vending Miser	1,050	-	\$109.83		\$0.00		\$0.00	\$109.83	Electric	0.48%	\$200.00	\$0.00	1.82	\$1,606.00	\$1,227.00
0011-09	RETAIL BUILDING	Enroll in "Cool Credits" program offered by WPS.1 electric water heater should be enrolled in the DLCP Option 2 (Electric Water Heater - Full Shutoff and Cycling) and 5 large rooftop units (55.2 kW total) should be enrolled in the Contracted Direct Load Control Program. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	966	-	\$101.04		\$0.00		\$0.00	\$1,320.24	Electric	0.44%	\$0.00	\$1,219.20	-	\$14,000.00	\$11,905.00
0011-10	RETAIL BUILDING	Install a simple timer on the coffee maker to ensure that it's not heating water overnight unnecessarily	159	-	\$16.60		\$0.00		\$0.00	\$16.60	Electric	0.07%	\$10.00	\$0.00	0.60	\$263.00	\$206.00
0011-11	RETAIL BUILDING	Perimeter electric heat is used, but not setback on the same schedule as the rest of the building. This could actually increase heating costs during setback periods because the electric heat runs instead of gas. The electric heaters should be tied to the same setback control as the RTUs and should have their set points 1 degree below the gas heat source to ensure they're only used when the (cheaper) gas source doesn't fully meet the heating demand.	5,784	-	\$604.98	(117)	(\$92.55)	-	\$0.00	\$512.43	Electric and Gas	1.84%	\$400.00	\$0.00	0.78	\$8,027.00	\$6,259.00
0011-12	RETAIL BUILDING	There are 5 RTUs at the facility. All of them should undergo a routine tune-up. Focus on Energy provides a reasonable rebate for performing the tune-up, but by doing the tune-up you can then qualify for additional rebates for implementing Demand Control Ventilation. Savings are from increased RTU efficiency for all 5 units due to improvements such as straightening the cooling fins, replacing filters, tightening belts, and cleaning coils.	2,309	-	\$241.53	183	\$144.24	-	\$0.00	\$385.77	Electric and Gas	1.39%	\$500.00	\$200.00	0.78	\$1,680.00	\$1,512.00
0011-13	RETAIL BUILDING	The RTUs can benefit from Demand Control Ventilation because the space is variably occupied. (It may be worth considering skipping the RTUs that serve office spaces due to higher cost of installation, but these estimates assume DCV installed for all units).	7,697	-	\$805.09	609	\$480.81	-	\$0.00	\$1,285.91	Electric and Gas	4.62%	\$3,500.00	\$1,750.00	1.36	\$19,396.00	\$14,960.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0014-01	CULTURAL HERITAGE	65-W Incandescent to 13-Watt CFL (15) bulbs total	2,528		\$321.18		\$0.00		\$0.00	\$321.18	Electric	9.42%	\$68.00	\$34.00	0.10	\$3,372.00	\$2,862.00
0014-02	CULTURAL HERITAGE	32-Watt T8 Lamps to 25-Watt T8 Lamps (7) lamps total	180		\$22.89		\$0.00		\$0.00	\$22.89	Electric	0.67%	\$27.00	\$9.00	0.80	\$225.00	\$188.00
0014-03	CULTURAL HERITAGE	Replace 2L T12 8-foot fixtures with 1 or 2 2L T8 4-foot 25W fixtures. T12 bulbs will no longer be available and this is the last chance to capture rebates for replacing them	3,206		\$407.30		\$0.00		\$0.00	\$407.30	Electric	11.95%	\$390.00	\$18.00	0.90	\$3,948.00	\$3,301.00
0014-04	CULTURAL HERITAGE	Replace stairway sconce lighting with 5W LED lamps	515		\$65.40		\$0.00		\$0.00	\$65.40	Electric	1.92%	\$140.00	\$40.00	1.50	\$1,383.00	\$990.00
0014-05	CULTURAL HERITAGE	Occupancy Sensors to Control Lighting Runtime. There are (5) locations at least that could benefit from occ sensors. Especially the garage and the office with track lighting should be outfitted.	1,695		\$215.38		\$0.00		\$0.00	\$215.38	Electric	6.32%	\$700.00	\$40.00	3.10	\$2,881.00	\$2,138.00
0014-06	CULTURAL HERITAGE	Re-Program Thermostats. Currently the upstairs thermostat goes to unoccupied at 9PM and the downstairs one is unoccupied at 10PM. Both should be changed to 5:30PM (this is when the building is unoccupied according to staff). They should also be set to unoccupied on weekends. The temperatures are already set reasonably, just the time periods need to change.	367		\$46.57	129	\$124.30		\$0.00	\$170.87	Electric and Gas	3.19%	\$0.00	\$0.00	-	\$2,811.00	\$2,211.00
0014-07	CULTURAL HERITAGE	Use Energy Efficient Power Strips- at least 7 workstations could benefit from smart strips	832		\$105.69		\$0.00		\$0.00	\$105.69	Electric	3.10%	\$320.00	\$0.00	3.00	\$1,418.00	\$1,054.00
0014-08	CULTURAL HERITAGE	Enroll in "Cool Credits" program offered by WPS. 2 small AC condensing units should be enrolled in the Cool Credits Direct Load Control Program Option 1 (Central Air Conditioner - Full Shutoff and Cycling). NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	500		\$63.52		\$0.00		\$0.00	\$135.52	Electric	1.86%	\$0.00	\$72.00		\$2,229.00	\$1,761.00
0014-09	CULTURAL HERITAGE	Use a simple timer to ensure the coffee maker is completely turned off overnight	191		\$24.20		\$0.00		\$0.00	\$24.20	Electric	0.71%	\$15.00	\$0.00	0.60	\$384.00	\$300.00
0014-10	CULTURAL HERITAGE	Replace Electric Water Heater with Condensing Natural Gas Water Heater	1,475		\$208.30	(57)	(\$46.17)		\$0.00	\$162.13	Electric and Gas	1.15%	\$400.00	\$0.00	2.50	\$2,266.00	\$1,707.00
0014-11	CULTURAL HERITAGE	Insulate Domestic Hot Water Pipes near the water heater	33		\$4.68		\$0.00		\$0.00	\$4.68	Electric	0.05%	\$7.00	\$0.00	1.50	\$99.00	\$71.00
0014-12	CULTURAL HERITAGE	Install Vending Miser on one soda machine	1,050		\$148.28		\$0.00		\$0.00	\$148.28	Electric	1.48%	\$200.00	\$60.00	0.94	\$2,298.00	\$1,787.00
0014-13	CULTURAL HERITAGE	Enroll in "Cool Credits" program offered by WPS. 4 small AC units should be enrolled in the Cool Credits Direct Load Control Program Option 1 (Central Air Conditioner - Full Shutoff and Cycling), 1 electric water heater should be enrolled in the DLCP Opt	1,000		\$141.22		\$0.00		\$0.00	\$309.22	Electric	1.41%	\$0.00	\$168.00		\$3,279.00	\$2,789.00
0014-14	CULTURAL HERITAGE	Install a Timer on the coffee maker to turn off heating element during unoccupied hours	318		\$44.84		\$0.00		\$0.00	\$44.84	Electric	0.45%	\$15.00	\$0.00	0.33	\$724.00	\$569.00
0014-15	CULTURAL HERITAGE	Replace all 8-Foot, 2-Lamp T12 fixtures in the out building with 4-lamp, 4-foot HPT8 fixtures (1-for-1). Due to the upfront fixture cost, the ROI is less attractive, but the fixture will have to be replaced anyways when the bulbs burn out (T12s no longer	582		\$82.25		\$0.00		\$0.00	\$82.25	Electric	0.82%	\$600.00	\$80.00	6.32	\$352.00	\$221.00
0014-16	CULTURAL HERITAGE	Replace exterior HPS fixtures with coperable LED wall packs (not sure of original fixture wattage, likely 40W LEDs will work)	3,931		\$555.16		\$0.00		\$0.00	\$555.16	Electric	5.56%	\$2,100.00	\$150.00	3.51	\$10,637.00	\$7,295.00
0014-17	CULTURAL HERITAGE	32-Watt T8 Lamps to 25-Watt T8 Lamps (192 total bulbs)	3,494		\$493.47		\$0.00		\$0.00	\$493.47	Electric	4.94%	\$576.00	\$192.00	0.78	\$4,849.00	\$4,066.00
0014-18	CULTURAL HERITAGE	Occupancy Sensors to Control Lighting Runtime. Install in most walled offices, all restrooms, and in the outbuilding/garage. Savings for these applications have been reduced because there is already a culture of conservation present; still room for improv	2,510		\$354.50		\$0.00		\$0.00	\$354.50	Electric	3.55%	\$1,400.00	\$92.50	3.69	\$4,522.00	\$3,299.00
0014-19	CULTURAL HERITAGE	Install a programmable thermostat to control the temperature upstairs (current stat non-programmable). Set back unoccupied periods to 60F heating and 85F cooling	1,006		\$142.10	39	\$31.49		\$0.00	\$173.59	Electric and Gas	1.23%	\$100.00	\$0.00	0.58	\$2,754.00	\$2,156.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0014-20	CULTURAL HERITAGE	Reprogram thermostat in central hallway of the main floor. Set back the temperature for unoccupied periods to 62F heating and 85F cooling	1,286		\$181.57	128	\$104.09		\$0.00	\$285.66	Electric and Gas	2.02%	\$0.00	\$0.00	-	\$4,698.00	\$3,713.00
0014-21	CULTURAL HERITAGE	Install a programmable thermostat to control UV and space heaters in the garage. Setback unoccupied times to 55F heat	0		\$0.00	243	\$196.80		\$0.00	\$196.80	Electric and Gas	1.39%	\$100.00	\$0.00	0.51	\$3,137.00	\$2,458.00
0014-22	CULTURAL HERITAGE	Use Energy Efficient Power Strips	1,352		\$190.93		\$0.00		\$0.00	\$190.93	Electric	1.91%	\$520.00	\$0.00	2.72	\$2,620.00	\$1,961.00
0014-23	CULTURAL HERITAGE	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	545		\$76.89	-	\$0.00	2,330	\$13.98	\$90.87	Electric and Water	0.91%	\$15.00	\$0.00	0.17	\$1,481.00	\$1,167.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0016-01	MUSEUM	Eliminate simultaneous heating and cooling. During the site visit on a 80+ degree day the boiler was cycling on and off and heating the coil in the AHU, while the unit was also cooling. While this may be difficult to prevent completely due to comfort concerns of occupants, a concerted effort to simultaneously determine a 'happy medium' of saving energy and providing comfort should be attempted.	1,000		\$132.53	199	\$181.43		\$0.00	\$313.96	Electric and Gas	3.03%	\$0.00	\$0.00		\$16,316.00	\$4,886.00
0016-02	MUSEUM	Unplug Fridge/Freezer in Trailer as the unit is used sporadically and is usually empty. Install a timer on the drinking fountain in the museum to turn off the compressor when space is unoccupied.	600		\$79.52		\$0.00		\$0.00	\$79.52	Electric	0.84%	\$20.00	\$0.00	0.25	\$4,136.00	\$1,239.00
0016-03	MUSEUM	Install a programmable thermostat for the baseboard heating in the stairwell.	1,272		\$168.53		\$0.00		\$0.00	\$168.53	Electric	1.78%	\$155.00	\$0.00	0.92	\$3,666.00	\$1,813.00
0016-04	MUSEUM	Replace 2.2 GPM Aerators with 1.5 GPM Aerators			\$0.00		\$30.03	1,232	\$6.16	\$36.19	Gas and Water	3.88%	\$15.00	\$0.00	0.41	\$1,274.00	\$755.00
0016-05	MUSEUM	Replace Exterior (estimated) 35-Watt MH Bulbs with 13-Watt CFLs	366	0.176	\$48.52		\$0.00		\$0.00	\$48.52	Electric	0.51%	\$32.00	\$16.00	0.33	\$498.00	\$343.00
0016-06	MUSEUM	Replace 50-Watt Metal Halide Track Lights with 7 to 10 -Watt LEDs	345	0.129	\$45.78		\$0.00		\$0.00	\$45.78	Electric	0.48%	\$60.00	\$30.00	0.66	\$1,006.00	\$504.00
0016-07	MUSEUM	Replace 15-Watt CFL spotlights with 7-Watt LEDs	1,007	0.376	\$133.45		\$0.00		\$0.00	\$133.45	Electric	1.41%	\$940.00	\$470.00	3.52	\$2,555.00	\$1,088.00
0016-08	MUSEUM	Delamp 4-Lamp Trough Lighting to 3-Lamps	1,028	0.384	\$136.29		\$0.00		\$0.00	\$136.29	Electric	1.44%	\$0.00	\$0.00		\$1,445.00	\$1,007.00
0016-09	MUSEUM	Replace Display Case 32-watt Lighting with (2) 4-watt LED Strips	300	0.112	\$39.75		\$0.00		\$0.00	\$39.75	Electric	0.42%	\$25.00	\$0.00	0.63	\$876.00	\$439.00
0016-10	MUSEUM	32-Watt T8 Lamps to 25-Watt T8 Lamps	1,950	0.728	\$258.38		\$0.00		\$0.00	\$258.38	Electric	2.74%	\$312.00	\$104.00	0.81	\$2,532.00	\$1,703.00
0016-11	MUSEUM	Fluorescent Exit Signs to .5 Watt LED	657	0.075	\$87.07		\$0.00		\$0.00	\$87.07	Electric	0.92%	\$150.00	\$0.00	1.72	\$1,824.00	\$866.00
0016-12	MUSEUM	Occupancy Sensors to Control Lighting Runtime (16 Sensors including 2 in the Trailer)	1,441	0.538	\$190.95		\$0.00		\$0.00	\$190.95	Electric	2.02%	\$1,600.00	\$120.00	7.75	\$1,660.00	\$396.00
0016-13	MUSEUM	Use Energy Efficient Power Strips	728		\$96.48		\$0.00		\$0.00	\$96.48	Electric	1.02%	\$280.00	\$0.00	2.90	\$1,306.00	\$668.00
0016-14	MUSEUM	Install new windows in the Trailer. The current ones are single pane units with a U value of 1.1. Replace with double pane, argon filled windows with a U value of .29. At the very least it is recommended to install shades on the windows. This measure will likely qualify for a custom rebate from the utility or the Focus on Energy.	666	0.656	\$88.26	140	\$127.54		\$0.00	\$247.69	Electric and Gas	2.08%	\$1,800.00	\$0.00	7.27	\$9,420.00	\$1,560.00
0016-15	MUSEUM	Seal Door and Window Air Leakage. The lower back door is not shutting correctly. The door closing mechanism should be inspected and repaired and weather-stripping should be added to the door frame as needed.	23		\$3.05	97	\$88.60		\$0.00	\$91.65	Electric and Gas	0.88%	\$35.00	\$0.00	0.38	\$1,467.00	\$862.00
0016-16	MUSEUM	Replace the Trailers Bard Wall-Mount eclectic furnace and AC unit with a split system. Use a natural gas 95+ furnace and an 1.5 to 2 ton condenser. Cost consideration of \$1000 to route natural gas to the trailer furnace was included in the price of the project.	13,048		\$1,729.31	(455)	(\$414.13)		\$0.00	\$1,315.18	Electric and Gas	12.68%	\$2,950.00	\$425.00	1.92	\$27,312.00	\$12,849.00
0016-17	MUSEUM	Replace 12.5 ton Carrier air cooled condensing unit with a new high efficiency unit (minimum of 14 EER)	4,286		\$567.97		\$0.00		\$0.00	\$567.97	Electric	6.02%	\$5,400.00	\$150.00	9.24	\$7,626.00	\$1,380.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0018-01	IMAC	Install timers to reduce runtime during unoccupied hours for all coffee makers and soda machines with water heating and cooling.	700	-	\$50.06		\$0.00		\$0.00	\$50.06	Electric	0.02%	\$80.00	\$0.00	1.60	\$743.00	\$412.00
0018-02	IMAC	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	3,630	0.363	\$259.61		\$0.00	81,760	\$310.69	\$570.30	Electric and Water	0.25%	\$100.00	\$0.00	0.18	\$12,235.00	\$7,270.00
0018-03	IMAC	Replace Electric Water Heater with Condensing Natural Gas Water Heater	33,050	-	\$2,363.67	(1,293)	#####		\$0.00	\$1,126.27	Electric and Gas	0.46%	\$2,000.00	\$100.00	1.69	\$16,612.00	\$9,161.00
0018-04	IMAC	Replace Neon 'Open' Sign with LED	1,887	0.324	\$134.95		\$0.00		\$0.00	\$134.95	Electric	0.05%	\$200.00	\$0.00	1.48	\$2,859.00	\$1,375.00
0018-05	IMAC	65-W Incandescent to 13-Watt CFL	1,211	0.208	\$86.64		\$0.00		\$0.00	\$86.64	Electric	0.04%	\$16.00	\$8.00	0.09	\$910.00	\$632.00
0018-06	IMAC	Recessed 15-Watt CFL Bulb to 7-Watt LED Bulb	5,451	0.936	\$389.86		\$0.00		\$0.00	\$389.86	Electric	0.16%	\$2,925.00	\$1,170.00	4.50	\$7,082.00	\$2,795.00
0018-07	IMAC	32-Watt T8 Lamps to 25-Watt T8 Lamps	38,077	6.538	\$2,723.21		\$0.00		\$0.00	\$2,723.21	Electric	1.11%	\$2,802.00	\$934.00	0.69	\$27,006.00	\$18,267.00
0018-08	IMAC	During the onsite assessment staff was unable to determine if the Exit signs were fluorescent or LED. If they are fluorescent then replace with .5 Watt LED	3,176	0.363	\$227.11		\$0.00		\$0.00	\$227.11	Electric	0.09%	\$725.00	\$0.00	3.19	\$4,424.00	\$1,926.00
0018-09	IMAC	Locations - Break room, Kitchen Dry Storage, Kitchen Store Room, Kitchen Stairwell, Offices, Table Gaming Storage, Bathrooms, Table Gaming Training	8,107	1.392	\$579.80		\$0.00		\$0.00	\$579.80	Electric	0.24%	\$1,800.00	\$135.00	2.87	\$7,867.00	\$4,031.00
0018-10	IMAC	Install Vending Miser	5,600	-	\$400.50		\$0.00		\$0.00	\$400.50	Electric	0.16%	\$800.00	\$0.00	2.00	\$5,785.00	\$3,134.00
0018-11	IMAC	Use Energy Efficient Power Strips	1,664	-	\$119.01		\$0.00		\$0.00	\$119.01	Electric	0.05%	\$640.00	\$0.00	5.38	\$1,317.00	\$529.00
0018-12	IMAC	The Kitchen walk in cooler and freezer doors are not closing correctly. Replace weather stripping and install new door closers on each unit.	1,084	-	\$77.53		\$0.00		\$0.00	\$77.53	Electric	0.03%	\$300.00	\$0.00	3.87	\$975.00	\$462.00
0018-13	IMAC	The Freezer door curtain has been cut and partially removed. It is recommended to replace the curtain with a new one.	2,168	-	\$155.06		\$0.00		\$0.00	\$155.06	Electric	0.06%	\$300.00	\$0.00	1.93	\$2,249.00	\$1,223.00
0018-14	IMAC	Replace AHU 10 Make-Up Air fan motor with a 93% efficient motor	3,025	0.378	\$216.36		\$0.00		\$0.00	\$216.36	Electric	0.09%	\$847.00	\$0.00	3.91	\$7,466.00	\$2,365.00
0018-15	IMAC	Install VFD to Control Motor Speed on AHU 10. NOTE: the cost associated with this measure is for the VFD only. This does NOT include any potential added sensors or controls programming that may be needed, however those costs should be relatively minor.	33,006	4.126	\$2,360.51		\$0.00		\$0.00	\$2,360.51	Electric	0.96%	\$1,600.00	\$500.00	0.47	\$84,815.00	\$32,289.00
0018-16	IMAC	Rooftop Unit #6 air intake filter is clogged. Filters should be inspected quarterly to ensure good airflow.	100	-	\$7.15	70	\$66.99		\$0.00	\$74.14	Electric and Gas	0.03%	\$0.00	\$0.00	-	\$76.00	\$53.00
0018-17	IMAC	On the day of the onsite assessment the temperature was 80+ degrees. The York #3 DX unit's economizer louvers were open. This could be a mechanical issue, a failed sensor, or a incorrect set point. This will allow warm humid air to be brought into the system and cause cooling energy loss. This is a cooling only unit.	1,500	-	\$107.28		\$0.00		\$0.00	\$107.28	Electric	0.01%	\$100.00	\$0.00	0.93	\$1,037.00	\$693.00
0018-18	IMAC	Seal Door and Window Air Leakage	371	-	\$26.51	264	\$253.06		\$0.00	\$279.57	Electric and Gas	0.11%	\$200.00	\$0.00	0.72	\$4,391.00	\$2,543.00
0018-19	IMAC	NOTE: Half of the facility was having new RTUs installed during the onsite evaluation. The savings for enrolling in the Cool Credits program are only of the units that were in place at the time onsite evaluation. This came to 200 tons of cooling that could be enrolled. On a facility such as this, a good approach may be to put a percentage of the units on load control and gradually add more load control devices as the comfort levels of occupant's are ascertained. Enroll in "Cool Credits" program offered by WPS. 1 electric water heater should be enrolled in the DLCP Option 2 (Electric Water Heater - Full Shutoff and Cycling) and 10 large condensing units (712 kW total) should be enrolled in the Contracted Direct Load Control Program. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	12,460	-	\$891.11		\$0.00		\$0.00	\$18,947.11	Electric	0.36%	\$0.00	\$18,056.00	-		

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0021-01	LAW ENFORCEMENT CENTER	Replace 10, 8-Foot 2-Lamp T12 fixtures in the Garage, replace with 16, 4-Foot fixtures with 25-Watt Lamps	3,861	0.442	\$309.48		\$0.00		\$0.00	\$309.48	Electric	1.40%	\$1,040.00	\$64.00	3.15	\$2,300.00	\$1,308.00
0021-02	LAW ENFORCEMENT CENTER	Replace flag existing 100w MH flag pole spotlight with a 40-Watt LED spotlight	371	0.085	\$29.76		\$0.00		\$0.00	\$29.76	Electric	0.13%	\$250.00	\$25.00	7.56	\$448.00	\$121.00
0021-03	LAW ENFORCEMENT CENTER	Recessed 26-Watt CFL to 12-Watt LED	6,360	0.728	\$509.73		\$0.00		\$0.00	\$509.73	Electric	2.31%	\$3,640.00	\$0.00	7.14	\$7,896.00	\$2,300.00
0021-04	LAW ENFORCEMENT CENTER	32-Watt T8 Lamps to 25-Watt T8 Lamps	31,188	3.570	\$2,499.63		\$0.00		\$0.00	\$2,499.63	Electric	11.32%	\$1,530.00	\$510.00	0.41	\$25,442.00	\$17,433.00
0021-05	LAW ENFORCEMENT CENTER	In Hallway 136 there are 9 26-Watt CFL recessed lights. There will be ample hallway lighting if 1/2 of these are turned off permanently. The lighting is already wired to do this.	1,136	0.130	\$91.02		\$0.00		\$0.00	\$91.02	Electric	0.41%	\$0.00	\$0.00	-	\$964.00	\$672.00
0021-06	LAW ENFORCEMENT CENTER	Use Occupancy Sensors in the lower level in the hallway of the Mechanical Room (4-Fixtures), Locker Rooms, in the Lobby area (11-Fixtures), in the Fitness area (8-Fixtures), Garage (9 fixtures). In all enclosed spaces such as the Fitness area where the l	8,491	0.972	\$680.57		\$0.00		\$0.00	\$680.57	Electric	3.08%	\$600.00	\$45.00	0.82	\$10,596.00	\$6,099.00
0021-07	LAW ENFORCEMENT CENTER	Photocell Sensors to Control Lighting Runtime	4,704	0.539	\$377.04		\$0.00		\$0.00	\$377.04	Electric	1.71%	\$720.00	\$0.00	1.91	\$5,469.00	\$2,978.00
0021-08	LAW ENFORCEMENT CENTER	Replace 2.2 GPM Aerators with 1.5 GPM Aerators		-	\$0.00	143	\$107.02	3,414	\$36.16	\$143.17	Gas	0.93%	\$65.00	\$0.00	-	\$2,289.00	\$1,341.00
0021-09	LAW ENFORCEMENT CENTER	Reduce DHW Temperature from an average of 133 degree to 120 degrees		-	\$0.00	273	\$204.29		\$0.00	\$204.29	Gas	1.78%	\$0.00	\$0.00	-	\$7,434.00	\$2,889.00
0021-10	LAW ENFORCEMENT CENTER	Use Energy Efficient Power Strips	1,664	-	\$133.37		\$0.00		\$0.00	\$133.37	Electric	0.60%	\$640.00	\$0.00	4.80	\$1,549.00	\$668.00
0021-11	LAW ENFORCEMENT CENTER	Install Vending Miser	1,400	-	\$112.21		\$0.00		\$0.00	\$112.21	Electric	0.51%	\$200.00	\$0.00	1.78	\$1,642.00	\$900.00
0021-12	LAW ENFORCEMENT CENTER	The two lower level exit door on the North side of the building should have their weather stripping replaced.	47	-	\$3.74	112	\$83.77		\$0.00	\$87.51	Electric and Gas	0.26%	\$20.00	\$0.00	0.23	\$1,420.00	\$840.00
0021-13	LAW ENFORCEMENT CENTER	The ceiling tiles above the north half of the office space are all that separate the conditioned office space with the partially conditioned attic space. The attic space has heating that is used to prevent the fire prevention system from freezing (this should be set to maintain a minimum of 55 degrees). The issue is that the majority of the year this space is largely unconditioned and conditioned air is escaping to the attic from the office space in the summer months. In the winter cool air is falling into the office space. R13 fiberglass batts should be placed over the exposed ceiling tiles.	4,903	-	\$393.00	493	\$369.06		\$0.00	\$762.07	Electric and Gas	2.27%	\$659.46	\$0.00	0.87	\$38,937.00	\$11,197.00
0021-14	LAW ENFORCEMENT CENTER	Enroll in the Cool Credits program form WPS for the main 40-Ton condenser unit.	1,930	-	\$154.69		\$0.00		\$0.00	\$2,590.69	Electric	0.70%	\$0.00	\$2,436.00	-		
0021-15	LAW ENFORCEMENT CENTER	Outside Air Reduction. The minimum setting for the economizer is currently 25% open. This should be reduced (if local codes allow) to 10%.	4,498	-	\$360.51	1,784	\$1,335.09		\$0.00	\$400.00	Electric and Gas	5.05%	\$400.00	\$0.00	0.20	\$17,569.00	\$12,131.00
0021-16	LAW ENFORCEMENT CENTER	On a 40 degree day, when no space was calling for cooling, the economizer was 60% open. The Supply Air at the VAV boxes was 56 degrees and being heated to 72 degrees when heating was called for. The economizer criteria should be revamped so the unit is at the minimum opening setting when the temperature is this low.		-	\$0.00	636	\$513.00		\$0.00	\$513.00	Gas	4.47%	\$400.00	\$0.00	0.80	\$4,645.00	\$3,118.00
0021-17	LAW ENFORCEMENT CENTER	AHU 1 Supply Air Reset is keeping the economizer open to cool the Return Air to 58 degrees. This is a good setting for the cooling season, but not good for the heating season. A possible solution would be to change the Reset criteria to include a statement that the economizer can only open when the hot water heating valve is closed.		-	\$0.00	823	\$616.00		\$0.00	\$616.00	Gas	5.37%	\$400.00	\$0.00	0.60	\$6,129.00	\$4,153.00
0021-18	LAW ENFORCEMENT CENTER	The Dispatch Room has a lot of internal heat load. To compensate for this the HVAC system must keep a lower supply temperature than is needed for the rest of the facility. It is recommended to consider installing a dedicated cooling unit such as a Mitsubishi wall mounted ductless cooling unit. This will allow the supply air set point to be raised (at least in the winter) and reduce re-heating to other portions of the facility.	911	-	\$73.00	369	\$276.31		\$0.00	\$349.31	Electric and Gas	1.04%	\$2,000.00	\$200.00	5.15	\$4,500.00	\$2,500.00

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0021-20	LAW ENFORCEMENT CENTER	NOTE: The criteria for the economizer enable should be examined. Current settings are {Outside Enthalpy < Indoor Enthalpy} AND {OA Temp > 10 Degrees and less than 55 Degrees}. Based on this the economizer would only ever be enabled from 10 to 55 degrees. It is recommended to change the enable criteria to different temperature ranges, for example allow the economizer to run from 40 degrees to 72 degrees as long as the Enthalpy criteria is met.	2,500	-	\$200.37	-	\$0.00			\$200.37	Electric	0.91%		\$0.00	-	\$2,124.00	\$1,806.00
0021-21	LAW ENFORCEMENT CENTER	NOTE: In the Shooting Range lead bullets are no longer used. Different air code requirements may now apply. Currently 100% of the air is exhausted directly out of the space to outside. It is recommended to have qualified mechanical contractors provide bids on installing heat recovery equipment to capture conditioned air and preheat or precool the outside air as it is brought into the system.	10,000	-	\$801.47	650	\$486.42			\$1,451.47	Electric and Gas	3.84%	\$2,000.00	\$0.00	1.38	\$7,313.00	\$5,359.00

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0023-01	GREEN EARTH BRANCH LIBRARY	There are 58 lamps to be replaced.	760	0.406	\$105.59		\$0.00		\$0.00	\$105.59	Electric	4.83%	\$174.00	\$58.00	1.10	\$1,004.00	\$665.00
0023-02	GREEN EARTH BRANCH LIBRARY	All non-LED exit signs should be replaced with .5 Watt LED Exit Signs.	329	0.038	\$45.64		\$0.00		\$0.00	\$45.64	Electric	2.09%	\$75.00	\$0.00	1.64	\$961.00	\$458.00
0023-03	GREEN EARTH BRANCH LIBRARY	Both bathrooms and the back storage room should have occupancy sensors installed.	347	0.186	\$48.27	-	\$0.00		\$0.00	\$48.27	Electric	2.21%	\$300.00	\$22.50	5.70	\$517.00	\$197.00
0023-04	GREEN EARTH BRANCH LIBRARY	For recessed PL style 54-Watt CFL lights.	344	0.184	\$47.86		\$0.00		\$0.00	\$47.86	Electric	2.19%	\$160.00	\$0.00	3.34	\$626.00	\$309.00
0023-05	GREEN EARTH BRANCH LIBRARY	The current water heater is 40-Gallons, this is larger than is needed for this facility. Go to a 10-20 Gallon Natural Gas Hot Water Heater	158		\$21.95	(6)	(\$6.02)		\$0.00	\$15.93	Electric and Gas	1.01%	\$500.00	\$100.00	25.10	(\$138.00)	(\$244.00)
0023-07	GREEN EARTH BRANCH LIBRARY	Current temperature is estimated at 130 degrees.	12		\$1.69		\$0.00		\$0.00	\$1.69	Electric	0.08%	\$0.00	\$0.00		\$27.00	\$16.00
0023-08	GREEN EARTH BRANCH LIBRARY		152	0.081	\$21.07		\$0.00		\$0.00	\$21.07	Electric	0.96%	\$50.00	\$0.00	2.37	\$297.00	\$157.00
0023-09	GREEN EARTH BRANCH LIBRARY	There is 1 65-Watt incandescent bulb. Change to 13-Watt CFL.	151	0.052	\$21.04		\$0.00		\$0.00	\$21.04	Electric	0.96%	\$4.00	\$2.00	0.10	\$220.00	\$153.00
0023-11	GREEN EARTH BRANCH LIBRARY	There are 2 hand washing sinks in the building	363	0.036	\$50.43		\$0.00		\$12.52	\$62.95	Electric, Gas, and Water	2.31%	\$10.00	\$0.00	0.16	\$300.00	\$267.00
0023-12	GREEN EARTH BRANCH LIBRARY	Install flashing to redirect the air coming from the diffuser in the 'Storage Room' to the middle of the building. This will increase comfort and reduce excessive running of the HVAC equipment to meet comfort needs in the middle room. Also throttle the remaining diffusers down to limit the amount of conditioned air entering the 'Storage Room'.	259		\$36.04	30	\$30.12		\$0.00	\$66.15	Electric and Gas	3.50%	\$15.00	\$0.00	0.23	\$3,431.00	\$1,017.00
0023-13	GREEN EARTH BRANCH LIBRARY	The entryway has a wall mounted fan coil with built in thermostat. By adding a programmable on to set back during unoccupied times savings will be realized in the winter months by allowing the natural gas furnace to handle the heating instead of the more costly electric fan coil.	700		\$97.25	(30)	(\$30.23)		\$0.00	\$67.14	Electric and Gas	3.00%	\$100.00	\$0.00	1.49	\$1,868.00	\$778.00
0023-14	GREEN EARTH BRANCH LIBRARY	Replace the 100-Watt (estimated) Metal Halide lamp with a magnetic ballast wall pack with a 40-Watt LED wall pack.	248	0.085	\$34.39		\$0.00		\$0.00	\$34.39	Electric	1.57%	\$350.00	\$25.00	9.50	\$451.00	\$72.00
0023-15	GREEN EARTH BRANCH LIBRARY	As condenser units reach 15 years of age, consideration should be given to replacing the units with new more efficient units. The current unit is 5-Tons and is approximately 16-years old.	2,600		\$361.22					\$361.22	Electric	16.00%	\$2,250.00	\$200.00	5.68	\$6,138.00	\$2,166.00
0023-17	GREEN EARTH BRANCH LIBRARY	The current programmable thermostat is not being used properly. It is not programmed and staff is manually adjusting it. No nighttime setbacks are being used. Current settings are 72 degrees cooling and 76 degrees heating 24x7. A general recommendation	238		\$33.13	17	\$17.35		\$0.00	\$50.48	Electric and Gas	4.35%	\$0.00	\$0.00		\$1,474.00	\$657.00
0023-18	GREEN EARTH BRANCH LIBRARY	Enroll the condensing unit and the electric DHW heater in the Cool Credits program from WPS	250		\$34.73		\$0.00		\$0.00	\$94.73	Electric	1.59%	\$0.00	\$60.00			

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0028-01	MASON STREET CASINO	24/7 Lighting. There are a total of (114) 32W T8 bulbs that should be replaced with 25W T8 bulbs. Even if it requires replacing the fixture to accommodate the more efficient bulb, it will absolutely be worth the cost due to runtime.	6,971	0.798	\$480.09		\$0.00		\$0.00	\$480.09	Electric	0.22%	\$342.00	\$114.00	0.47	\$4,863.00	\$4,101.00
0028-02	MASON STREET CASINO	24/7 Lighting. There are (3) 2LT12 fixtures that should be replaced with new 2LT8 fixtures with 25W bulbs. Note that T12 bulbs will no longer be available, so the replacement will have to occur sometime, but the rebate is only guaranteed to be available through 2012.	734	0.084	\$50.54		\$0.00		\$0.00	\$50.54	Electric	0.02%	\$195.00	\$9.00	3.68	\$350.00	\$270.00
0028-03	MASON STREET CASINO	24/7 Lighting. Consider replacing all CFL cans on the gaming floor with LED down lights. (147) total cans	29,536	3.381	\$2,034.05		\$0.00		\$0.00	\$2,034.05	Electric	0.93%	\$5,145.00	\$1,470.00	1.81	\$42,444.00	\$30,200.00
0028-04	MASON STREET CASINO	24/7 Lighting. The halogen lights around the poker area should be replaced with 4W LED lamps	6,849	0.784	\$471.66		\$0.00		\$0.00	\$471.66	Electric	0.22%	\$420.00	\$140.00	0.59	\$10,414.00	\$7,575.00
0028-05	MASON STREET CASINO	24/7 Lighting. There are 4 advertisement boards assumed to be backlit by 2 2'T8 lamps each. These should be replaced with LED tube or rope lighting.	909	0.104	\$62.57		\$0.00		\$0.00	\$62.57	Electric	0.03%	\$200.00	\$0.00	3.20	\$1,219.00	\$843.00
0028-06	MASON STREET CASINO	32-Watt T8 Lamps to 25-Watt T8 Lamps. These are the remaining bulbs that are not on 24/7 (offices etc). Total of 292 additional bulbs	7,975	2.191	\$549.22		\$0.00		\$0.00	\$549.22	Electric	0.25%	\$939.00	\$313.00	1.14	\$5,199.00	\$4,327.00
0028-07	MASON STREET CASINO	24/7 Lighting. There are (2) 2LT12 fixtures that should be replaced with new 2LT8 fixtures with 25W bulbs. Note that T12 bulbs will no longer be available, so the replacement will have to occur sometime, but the rebate is only guaranteed to be available through 2012.	204	0.056	\$14.04		\$0.00		\$0.00	\$14.04	Electric	0.01%	\$130.00	\$6.00	8.83	\$25.00	\$3.00
0028-08	MASON STREET CASINO	24/7 Lighting. Exterior 200W MH wall packs should be replaced with 40W LED wall packs	4,848	0.555	\$333.89		\$0.00		\$0.00	\$333.89	Electric	0.15%	\$1,050.00	\$75.00	2.92	\$6,595.00	\$4,585.00
0028-09	MASON STREET CASINO	Reach-in coolers in the smoke shop currently have fluorescent lighting. This should be replaced with LED lights with occupancy sensor controls (one sensor for all cases). The savings from the swap are from reduced lighting, runtime, and from decreased excess heat in the case that has to be cooled	804	0.092	\$55.35		\$0.00		\$0.00	\$55.35	Electric	0.03%	\$360.00	\$50.00	5.60	\$945.00	\$612.00
0028-10	MASON STREET CASINO	Fluorescent Exit Signs to .5 Watt LED	110	0.013	\$7.54		\$0.00		\$0.00	\$7.54	Electric	0.00%	\$25.00	\$0.00	3.32	\$147.00	\$101.00
0028-11	MASON STREET CASINO	Occupancy Sensors to Control Lighting Runtime. There are approximately 16 offices and other areas that will benefit from occupancy sensors.	4,803	1.320	\$330.79		\$0.00		\$0.00	\$330.79	Electric	0.15%	\$1,200.00	\$120.00	3.26	\$4,359.00	\$3,218.00
0028-12	MASON STREET CASINO	Use Energy Efficient Power Strips. There are approximately 7 workstations that could benefit from smart strips	728		\$50.13		\$0.00		\$0.00	\$50.13	Electric	0.02%	\$280.00	\$0.00	5.59	\$544.00	\$372.00
0028-13	MASON STREET CASINO	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	5,082	0.508	\$349.98	-	\$0.00	32,704	\$196.22	\$546.20	Electric and Water	0.24%	\$140.00	\$0.00	0.26	\$8,842.00	\$6,958.00
0028-14	MASON STREET CASINO	Reduce DHW Temperature. A sample of the hot water at hand washing faucets showed that the temperature was set much too high. These calcs assume that all water heaters are set to the same high temperature. They should be reduced to 120F	9,776		\$673.21	-	\$0.00		\$0.00	\$673.21	Electric	0.31%	\$0.00	\$0.00		\$11,071.00	\$8,749.00
0028-15	MASON STREET CASINO	Replace (2) Electric Water Heaters (1 40-gal and 1 50-gal) with Condensing Natural Gas Water Heaters. There are several small water heaters that will not pay back an upgrade investment, but there is one large electric water heater that should be replaced with gas.	22,684		\$1,562.15	(871)	(\$623.02)		\$0.00	\$939.13	Electric and Gas	0.39%	\$1,300.00	\$0.00	1.40	\$14,144.00	\$10,904.00
0028-16	MASON STREET CASINO	Install Vending Miser devices on the drink and non-refrigerated snack machines in the break room	2,125		\$146.34		\$0.00		\$0.00	\$146.34	Electric	0.07%	\$400.00	\$75.00	2.22	\$2,082.00	\$1,577.00
0028-17	MASON STREET CASINO	Enroll in "Cool Credits" program offered by WPS. 3 electric water heaters should be enrolled in the DLCP Option 2 (Electric Water Heater - Full Shutoff and Cycling) and 12 Rooftop units (246 kW total) should be enrolled in the Contracted Direct Load ad Control Program. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	4,320		\$297.52		\$0.00		\$0.00	\$6,212.27	Electric	0.14%	\$0.00	\$5,914.75		\$65,886.00	\$56,025.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0028-18	MASON STREET CASINO	Replace Existing RTUs with New More Efficient Units (At least 12.7EER or 14SEER). Because the RTUs have HRUs, the savings estimates for this calculation are less exact than normal. It is reasonable to expect significant savings from this measure though because the building demands conditioned air 24/7, meaning improved RTU efficiency will pay back faster than at other buildings. Still, because of the cost of the measure it may be worth considering waiting until the end of the useful life of the current units to invest in higher efficiency ones. Note that since heating is done primarily with boilers, there is no significant gas savings anticipated from this measure	115,982		\$7,987.17	-	\$0.00		\$0.00	\$7,987.17	Electric	3.65%	\$148,125.00	\$0.00	18.55	\$141,600.00	
0028-19	MASON STREET CASINO	It is recommended to tune up each of the Rooftop Units at least once every two years. The Focus on Energy Program currently provides rebates for RTU tune-ups and upgrades to more energy efficient controls.	11,931		\$821.64	499	\$357.05			\$1,178.69	Electric and Gas	0.49%	\$1,200.00	\$480.00	0.61	\$5,329.00	\$4,816.00
0028-20	MASON STREET CASINO	The existing economizers on the RTUs have been disabled because the HRUs provide continuous airflow to the RTU to supply. The HRUs have a basic economizer control that stops the desiccant wheel from spinning when free cooling is available. First, verify that these basic economizer controls are installed; if they are not the savings from installing them is a no-brainer. Next, the existing controls do not capture all available economizer savings and since the building operates 24/7 it is worth considering upgrading the controls. To upgrade, a new DDC control module should be programmed to send an economizer enable signal to the HRU when the exhaust temperature is higher than OAT (the economizer should also be disabled below 20F OAT and when the RTU is not calling for cooling). The DDC module can be programmed in INET and an additional control line will need to be added from the local controller to the HRU. This differential temperature control is significantly more efficient than the current basic control that only enables the economizer on OA temperature. See the next recommendation to take this measure one step further for more savings.	15,908		\$1,095.52	666	\$476.07		\$0.00	\$1,571.58	Electric and Gas	0.65%	\$3,600.00	\$0.00	2.29	\$22,245.00	\$16,823.00
0028-21	MASON STREET CASINO	All HRUs should be equipped with differential enthalpy economizer controls to decrease the operation of the desiccant wheel when conserving exhaust enthalpy actually increases cooling costs (stop the energy recovery to achieve free cooling). See the previous measure recommending to program a DDC module to compare exhaust air temp to OA temp. This measure can use the same DDC module, but should use exhaust and OA enthalpy instead of temperature. This measure will also require installing RH sensors in the exhaust stream of each HRU. (costs and savings for this measure are total, not additive the previous measure)	39,770		\$2,738.79	1,664	\$1,190.17		\$0.00	\$3,928.96	Electric and Gas	1.62%	\$4,800.00	\$0.00	1.22	\$59,812.00	\$46,258.00
0028-22	MASON STREET CASINO	Consider installing Demand Control Ventilation on HRUs. The Heat Recovery Units are designed to ventilate the building when it is maximally occupied. Installing Demand Control Ventilation controls can throttle back the HRU fan motors when ventilation requirements are lower (at times of lower occupancy). The manufacturers of the HRUs (both types at the building) make a compatible VFD for the blower motors and a sensor for monitoring CO2 levels. The cost and savings estimates assume that both are installed. Because this building is open 24/7 and the occupancy varies greatly, it is an ideal candidate for DCV savings. Keep in mind that code does require higher minimum ventilation for buildings that allow smoking (this likely actually means there will be greater savings because the HRUs currently use more energy than a similarly sized non-smoking building). Also, the Focus on Energy program has attractive rebates for DCV for at least the first half of 2013. Note Focus on Energy requires that the RTUs undergo a qualified tune-up (separate measure) to receive the rebate.	119,310		\$8,216.37	4,992	\$3,570.51		\$0.00	\$11,786.88	Electric and Gas	4.85%	\$13,600.00	\$4,200.00	0.80	\$184,435.00	\$143,773.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0031-01	DPW AUTO	Replace all 8-Foot, 2-Lamp T12 fixtures in the out building with 4-lamp, 4-foot HPT8 fixtures (1-for-1). Due to the upfront fixture cost, the ROI is less attractive, but the fixture will have to be replaced anyways when the bulbs burn out (T12s no longer sold) and a rebate is currently available	70		\$9.25		\$0.00		\$0.00	\$9.25	Electric	0.12%	\$75.00	\$10.00	7.02	\$33.00	\$18.00
0031-02	DPW AUTO	Install a separate switch to shut off high bay fluorescent fixtures that are covered by the garage door during summer months. The affected fixtures are on the "center" circuit	437		\$57.58		\$0.00		\$0.00	\$57.58	Electric	0.77%	\$100.00	\$0.00	1.74	\$847.00	\$649.00
0031-03	DPW AUTO	Replace exterior HPS (looks like 250W bulbs) with 40W LED wall pack	9,198		\$1,212.58		\$0.00		\$0.00	\$1,212.58	Electric	16.27%	\$1,750.00	\$125.00	1.34	\$25,869.00	\$18,570.00
0031-04	DPW AUTO	Install Timer on exterior lights (already have a photocell) to ensure that they are on only when it's dark AND off between 11PM and 6AM (unless needed for security)	1,125		\$148.31		\$0.00		\$0.00	\$148.31	Electric	1.99%	\$100.00	\$0.00	0.67	\$2,339.00	\$1,827.00
0031-05	DPW AUTO	Occupancy Sensors to Control Lighting Runtime. Install in most walled offices, all restrooms, and in the outbuilding/garage. Savings for these applications have been reduced because there is already a culture of conservation present; still room for improvement	870		\$114.66		\$0.00		\$0.00	\$114.66	Electric	1.54%	\$525.00	\$52.50	4.12	\$1,414.00	\$1,018.00
0031-06	DPW AUTO	Install a Programmable Thermostat to control UV and unit space heaters in garage. The current stat is being set back most nights, but not 100% effective and setting back these heaters can save a lot of energy	0		\$0.00	302	\$252.61		\$0.00	\$252.61	Gas	9.20%	\$100.00	\$0.00	0.40	\$4,054.00	\$3,182.00
0031-07	DPW AUTO	Replace 2.2 GPM Aerators with 1.5 GPM Aerators in the restrooms	363		\$47.85	-	\$0.00	582	\$3.49	\$51.35	Electric and Water	0.59%	\$10.00	\$0.00	0.19	\$834.00	\$657.00
0031-08	DPW AUTO	Reduce DHW Temperature to approximately 120F	380		\$50.07	-	\$0.00		\$0.00	\$50.07	Electric	0.67%	\$0.00	\$0.00		\$824.00	\$651.00
0031-09	DPW AUTO	Replace Electric Water Heater with Condensing Natural Gas Water Heater	2,108		\$277.90	(81)	(\$67.83)		\$0.00	\$210.07	Electric and Gas	2.06%	\$600.00	\$0.00	2.90	\$2,854.00	\$2,130.00
0031-10	DPW AUTO	Reinstall weather stripping around upstairs door	18		\$2.39	57	\$47.88		\$0.00	\$50.27	Electric and Gas	0.49%	\$16.00	\$0.00	0.32	\$517.00	\$437.00
0031-11	DPW AUTO	Install Vending Miser	1,400		\$184.56		\$0.00		\$0.00	\$184.56	Electric	2.48%	\$200.00	\$0.00	1.08	\$2,835.00	\$2,198.00
0031-12	DPW AUTO	Enroll in "Cool Credits" program offered by WPS. 4 small AC units should be enrolled in the Cool Credits Direct Load Control Program Option 1 (Central Air Conditioner - Full Shutoff and Cycling), 1 electric water heater should be enrolled in the DLCP CP Option 2 (Electric Water Heater - Full Shutoff and Cycling). NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	250		\$32.96		\$0.00		\$0.00	\$92.96	Electric	0.44%	\$0.00	\$60.00		\$986.00	\$838.00
0031-13	DPW AUTO	Install Timer on drinking fountain to Control cooling Runtime During Unoccupied Hours	318		\$41.86		\$0.00		\$0.00	\$41.86	Electric	0.56%	\$15.00	\$0.00	0.36	\$674.00	\$530.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0038-01	LITTLE BEAR DEVELOPMENT CENTER	The exterior lighting consists of 'Post' lights and soffit lighting. Except for 2 Post lights which are 100-Watt MH the remainder are estimated to be 75-Watt MH. Replace with 10-20 Watt LEDs.	3,194	1.755	\$399.24		\$0.00		\$0.00	\$399.24	Electric	1.77%	\$1,240.00	\$310.00	2.33	\$8,125.00	\$3,731.00
0038-02	LITTLE BEAR DEVELOPMENT CENTER	Replace 15-Watt recessed CFLs in the entrance canopy with 7-10 Watt LEDs	92	0.032	\$11.44		\$0.00		\$0.00	\$11.44	Electric	0.05%	\$120.00	\$40.00	6.99	\$181.00	\$54.00
0038-03	LITTLE BEAR DEVELOPMENT CENTER	32-Watt T8 Lamps to 25-Watt T8 Lamps	9,650	3.374	\$1,206.15		\$0.00		\$0.00	\$1,206.15	Electric	5.35%	\$1,446.00	\$482.00	0.80	\$11,829.00	\$7,957.00
0038-04	LITTLE BEAR DEVELOPMENT CENTER	Fluorescent Exit Signs to .5 Watt LED	1,314	0.150	\$164.24		\$0.00		\$0.00	\$164.24	Electric	0.73%	\$300.00	\$0.00	1.83	\$3,424.00	\$1,617.00
0038-05	LITTLE BEAR DEVELOPMENT CENTER	Occupancy Sensors to Control Lighting Runtime	9,438	3.300	\$1,179.70		\$0.00		\$0.00	\$1,179.70	Electric	5.24%	\$4,900.00	\$367.50	3.84	\$14,868.00	\$7,059.00
0038-06	LITTLE BEAR DEVELOPMENT CENTER	Many of the VAVs are scheduled from 5 a.m. till 9 p.m. These should be rescheduled to better match building occupancy. 6 a.m. till 5 p.m.	2,373		\$296.55	276	\$213.70		\$0.00	\$510.25	Electric and Gas	1.86%	\$400.00	\$0.00	0.78	\$7,996.00	\$4,616.00
0038-07	LITTLE BEAR DEVELOPMENT CENTER	Replace 2.2 GPM Aerators with 1.5 GPM Aerators			\$0.00	55	\$42.65	7,283	\$111.35	\$154.00	Gas	0.87%	\$25.00	\$0.00	-	\$2,472.00	\$1,467.00
0038-08	LITTLE BEAR DEVELOPMENT CENTER	Replace Electric Water Heater with Condensing Natural Gas Water Heater	2,913		\$364.11	(109)	(\$84.53)		\$0.00	\$279.58	Electric and Gas	1.02%	\$1,000.00	\$100.00	3.20	\$5,441.00	\$2,365.00
0038-09	LITTLE BEAR DEVELOPMENT CENTER	Use Energy Efficient Power Strips	3,744		\$467.98		\$0.00		\$0.00	\$467.98	Electric	2.08%	\$1,440.00	\$0.00	3.08	\$6,256.00	\$3,158.00
0038-10	LITTLE BEAR DEVELOPMENT CENTER	Unplug Under Used Appliances or use Timers to Control Runtime During Unoccupied Hours. There is a coffee maker and drinking fountain that should have timers installed.	150		\$18.75		\$0.00		\$0.00	\$18.75	Electric	0.08%	\$80.00	\$0.00	4.27	\$228.00	\$104.00
0038-11	LITTLE BEAR DEVELOPMENT CENTER	Install Vending Miser	3,100		\$387.48		\$0.00		\$0.00	\$387.48	Electric	1.72%	\$600.00	\$135.00	1.20	\$5,907.00	\$3,342.00
0038-12	LITTLE BEAR DEVELOPMENT CENTER	Enroll in "Cool Credits" program offered by WPS. X small AC unit should be enrolled in the Cool Credits Direct Load Control Program Option 1 (Central Air Conditioner - Full Shutoff and Cycling). X electric water heater should be enrolled in the DLCP P Option 2 (Electric Water Heater - Full Shutoff and Cycling) and X large condensing units (XX kW total) should be enrolled in the Contracted Direct Load Control Program. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	630		\$78.75		\$0.00		\$0.00	\$966.75	Electric	0.35%	\$0.00	\$888.00			
0038-13	LITTLE BEAR DEVELOPMENT CENTER	Replace AHU Motor with High Efficiency Motor	4,742		\$592.71		\$0.00		\$0.00	\$592.71	Electric	2.63%	\$825.00	\$0.00	1.39	\$16,553.00	\$6,928.00
0038-14	LITTLE BEAR DEVELOPMENT CENTER	Install VFD to Control Motor Speed	27,106	3.094	\$3,388.10		\$0.00		\$0.00	\$3,388.10	Electric	15.04%	\$1,200.00	\$375.00	0.24	\$75,999.00	\$38,729.00
0038-15	LITTLE BEAR DEVELOPMENT CENTER	Outside Air Reduction	1,889		\$236.11	863	\$669.25		\$0.00	\$906.00	Electric and Gas	3.30%	\$400.00	\$0.00	0.40	\$14,482.00	\$8,492.00
0038-16	LITTLE BEAR DEVELOPMENT CENTER	Schedule AHUs	6,951		\$868.90	227	\$176.28		\$0.00	\$1,045.18	Electric and Gas	3.81%	\$400.00	\$0.00	0.38	\$16,782.00	\$9,866.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0041-01	AIRVIEW	Replace 100W incandescent bulbs in basement with 26W CFL bulbs	231		\$24.36		\$0.00		\$0.00	\$24.36	Electric	0.16%	\$36.00	\$0.00	1.48	\$222.00	\$184.00
0041-02	AIRVIEW	Replace 75W exterior incandescent bulbs with 26W CFL	178		\$18.82		\$0.00		\$0.00	\$18.82	Electric	0.13%	\$6.00	\$0.00	0.32	\$193.00	\$163.00
0041-03	AIRVIEW	Replace 150W HPS exterior overhang lights with 30-Watt LED Wall pack	2,184		\$230.39		\$0.00		\$0.00	\$230.39	Electric	1.55%	\$1,250.00	\$125.00	4.88	\$4,099.00	\$2,712.00
0041-04	AIRVIEW	32-Watt T8 Lamps to 25-Watt T8 Lamps (375 total lamps)	6,825		\$719.97		\$0.00		\$0.00	\$719.97	Electric	4.86%	\$1,125.00	\$375.00	1.04	\$6,886.00	\$5,743.00
0041-05	AIRVIEW	Fluorescent Exit Signs to .5 Watt LED	657		\$69.31		\$0.00		\$0.00	\$69.31	Electric	0.47%	\$150.00	\$0.00	2.16	\$1,421.00	\$1,004.00
0041-06	AIRVIEW	Occupancy Sensors to Control Lighting Runtime	4,923		\$519.35		\$0.00		\$0.00	\$519.35	Electric	3.50%	\$1,900.00	\$130.00	3.41	\$6,770.00	\$4,979.00
0041-07	AIRVIEW	Use Energy Efficient Power Strips - There are at least 25 work stations that could benefit from the smart strip	2,600		\$274.27		\$0.00		\$0.00	\$274.27	Electric	1.85%	\$1,000.00	\$0.00	3.65	\$3,510.00	\$2,564.00
0041-08	AIRVIEW	Install Vending Miser on one soda machine	1,050		\$110.76		\$0.00		\$0.00	\$110.76	Electric	0.75%	\$200.00	\$60.00	1.26	\$1,682.00	\$1,299.00
0041-09	AIRVIEW	Enroll in "Cool Credits" program offered by WPS. 5 large condensing units (34.4 kW total) should be enrolled in the Contracted Direct Load Control Program. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	602		\$63.51		\$0.00		\$0.00	\$717.91	Electric	0.43%	\$0.00	\$654.40		\$7,610.00	\$6,471.00
0041-10	AIRVIEW	Replace 1 Existing RTU with New More Efficient Unit (Southern-most unit is in need of replacement)	689		\$72.73	-	\$0.00		\$0.00	\$72.73	Electric	0.49%	\$3,750.00	\$0.00	51.56	\$648.00	
0041-11	AIRVIEW	Install Timers to turn off coffee maker and drink cooler in break room overnight	600		\$63.29		\$0.00		\$0.00	\$63.29	Electric	0.43%	\$25.00	\$0.00	0.39	\$1,016.00	\$798.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0042-01	RIDGEVIEW	NOTE: Along the back side of Suite 8 the outside corner of the building is pulling away from the main building. In Suite 8 there is a leak in this section. This matter should be further investigated by the tribe.			\$0.00		\$0.00		\$0.00	\$0.00			\$0.00	\$0.00			
0042-02	RIDGEVIEW	Reduce DHW Temperature on all water heater to 120 degree maximum.	1,253		\$166.31		\$0.00		\$0.00	\$166.31	Electric	0.93%	\$0.00	\$0.00		\$2,734.00	\$1,634.00
0042-03	RIDGEVIEW	Install timers for the water cooler/heaters and the plumbed in coffee maker in Suite 8	300		\$39.81		\$0.00		\$0.00	\$39.81	Electric	0.22%	\$120.00	\$0.00	0.33	\$738.00	\$345.00
0042-04	RIDGEVIEW	The ducts in the facility are poorly balanced. Certain rooms such as the Courtroom get so cold during the cooling season that several 1500-Watt electric heaters are used to raise the room's temperature. The ductwork throughout the facility has dampers inline. It is recommended to use the dampers to better balance the conditioned air distribution throughout the facility. This will have the added bonus of increasing occupant comfort.	900		\$119.42		\$0.00		\$0.00	\$119.42	Electric	0.67%	\$200.00	\$0.00	1.67	\$2,508.00	\$1,194.00
0042-05	RIDGEVIEW	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	2,178	0.218	\$288.99		\$0.00	3,844	\$23.06	\$312.05	Electric	1.62%	\$60.00	\$0.00	0.19	\$5,072.00	\$3,006.00
0042-06	RIDGEVIEW	65-W Incandescent to 13-Watt CFL	333	0.104	\$44.13		\$0.00		\$0.00	\$44.13	Electric	0.25%	\$8.00	\$4.00	0.09	\$465.00	\$323.00
0042-07	RIDGEVIEW	100w MH with Magnetic Ballast to 40-Watt LED Wall pack	2,175	0.680	\$288.54		\$0.00		\$0.00	\$288.54	Electric	1.62%	\$2,800.00	\$200.00	9.01	\$3,944.00	\$769.00
0042-08	RIDGEVIEW	The wattage and type of the 21 recessed soffit light fixtures could not be verified. The assumption was made that they are 50-Watt PL base Metal Halides. If this is the case it is recommended to replace the bulb with a PL Base 6-Watt LED	3,287	0.903	\$436.13		\$0.00		\$0.00	\$436.13	Electric	2.45%	\$1,050.00	\$210.00	1.93	\$9,050.00	\$4,252.00
0042-09	RIDGEVIEW	32-Watt T8 Lamps to 25-Watt T8 Lamps	15,312	4.788	\$2,031.69		\$0.00		\$0.00	\$2,031.69	Electric	11.42%	\$2,052.00	\$684.00	0.67	\$20,182.00	\$13,660.00
0042-10	RIDGEVIEW	Delamp 4-Lamp fixtures to 3-Lamps	13,432	4.200	\$1,782.19		\$0.00		\$0.00	\$1,782.19	Electric	10.01%	\$0.00	\$0.00		\$18,904.00	\$13,183.00
0042-11	RIDGEVIEW	Fluorescent Exit Signs to .5 Watt LED	1,752	0.200	\$232.47		\$0.00		\$0.00	\$232.47	Electric	1.31%	\$400.00	\$0.00	1.72	\$4,871.00	\$2,314.00
0042-12	RIDGEVIEW	Occupancy Sensors to Control Lighting Runtime	2,927	0.915	\$388.35		\$0.00		\$0.00	\$388.35	Electric	2.18%	\$2,000.00	\$150.00	4.76	\$4,537.00	\$1,966.00
0042-13	RIDGEVIEW	Install Vending Miser	1,750		\$232.20		\$0.00		\$0.00	\$232.20	Electric	1.30%	\$200.00	\$60.00	0.60	\$3,619.00	\$2,082.00
0042-14	RIDGEVIEW	Insulate Domestic Hot Water Pipes - Electric Heater	930		\$123.37		\$0.00		\$0.00	\$123.37	Electric	0.69%	\$150.00	\$0.00	1.22	\$1,879.00	\$1,063.00
0042-15	RIDGEVIEW	Use Energy Efficient Power Strips	2,288		\$303.59		\$0.00		\$0.00	\$303.59	Electric	1.71%	\$880.00	\$0.00	2.90	\$4,113.00	\$2,103.00
0042-16	RIDGEVIEW	Seal Door and Window Air Leakage	11		\$1.48	46	\$45.72		\$0.00	\$47.20	Electric and Gas	0.21%	\$40.00	\$0.00	0.85	\$737.00	\$425.00
0042-17	RIDGEVIEW	Enroll in "Cool Credits" program offered by WPS. Eight electric water heater should be enrolled in the DLCP Option 2 (Electric Water Heater - Full Shutoff and Cycling) and eight large condensing units (110.36 kW total) should be enrolled in the Contracted Direct Load Control Program. NOTE: The kWh saving and the Rebate amount are included in the Total Cost Savings for this measure.	2,000		\$265.37		\$0.00		\$0.00	\$745.37	Electric	1.49%	\$0.00	\$480.00			
0042-18	RIDGEVIEW	Suite 3 and 4 are spaces that are unoccupied for large portions of the day/week. It is recommend to install a manual override either controlled by an occupancy sensor or a push button input that will ramp up the system to the Occupied setting for a set period of time them set back to an Unoccupied setting to save energy when nobody is present.	2,500		\$331.72	110	\$109.52		\$0.00	\$441.24	Electric and Gas	1.96%	\$499.00	\$0.00	0.91	\$6,857.00	\$3,936.00
0042-19	RIDGEVIEW	The awning lighting is currently programmed to run from sunrise to sunset. This should be changed to sunset to 11 p.m. The Parking lot lights are currently set to turn on a 4 p.m. and shut off at 11 p.m. These lights should be programmed to start at sunset.	2,995		\$397.42		\$0.00		\$0.00	\$397.42	Electric	2.23%	\$0.00	\$0.00		\$6,600.00	\$3,850.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0049-01	ONE STOP 54	Replace (16) canopy HID lights with LEDs. These lights are currently on during daylight hours, which increases savings estimates.	15,375	-	\$1,085.35		\$0.00		\$0.00	\$1,085.35	Electric	3.05%	\$7,200.00	\$640.00	6.04	\$18,049.00	\$11,516.00
0049-02	ONE STOP 54	Replace MH wall pack lighting with LED wall pack. Currently wall pack is on 24/7, which increases savings estimate.	743	-	\$52.42		\$0.00		\$0.00	\$52.42	Electric	0.15%	\$350.00	\$25.00	6.20	\$864.00	\$548.00
0049-03	ONE STOP 54	Replace (9) can lights on the casino floor with LEDs. Due to runtime and location, this is a good LED application	1,494	-	\$105.45		\$0.00		\$0.00	\$105.45	Electric	0.30%	\$405.00	\$90.00	2.99	\$2,076.00	\$1,441.00
0049-04	ONE STOP 54	There are approximately (142) 32-Watt T8 Lamps that can be changed to 25-Watt T8 Lamps	6,047	-	\$426.89		\$0.00		\$0.00	\$426.89	Electric	1.20%	\$426.00	\$142.00	0.67	\$4,243.00	\$3,566.00
0049-05	ONE STOP 54	Install occupancy sensors to control lighting runtime - there are 10 rooms that could use occupancy sensors. For sensitive areas that need lighting for security cameras, it is assumed that only half the lights in the room are controlled with the sensor.	2,677	-	\$188.97		\$0.00		\$0.00	\$188.97	Electric	0.53%	\$1,000.00	\$75.00	4.90	\$2,183.00	\$1,531.00
0049-06	ONE STOP 54	Install an occupancy sensor to control the display case lighting for the bank of reach-in cases. Only one sensor is needed.	672	-	\$47.41	-	\$0.00	-	\$0.00	\$47.41	Electric	0.13%	\$150.00	\$80.00	1.48	\$710.00	\$546.00
0049-07	ONE STOP 54	The photo sensor for the canopy lighting is damaged or miscalibrated. It should be repaired or replaced. (Or connect the canopy lighting to the exterior lighting CSI control)	10,483	-	\$740.01		\$0.00		\$0.00	\$740.01	Electric	2.08%	\$100.00	\$0.00	0.14	\$12,069.00	\$9,516.00
0049-08	ONE STOP 54	There is currently no occupied/unoccupied schedule programmed in INET for the RTUs. The temperature set point should be setback from midnight to 5AM each day to 65H/80C. (Though they have slightly different operating schedules, it doesn't make sense to have different set point schedules for the gas station and the casino)	13,234	-	\$934.16	185	\$154.43		\$0.00	\$1,088.59	Electric and Gas	2.84%	\$0.00	\$0.00	-	\$17,902.00	\$14,147.00
0049-09	ONE STOP 54	Use Energy Efficient Power Strips. There are about (4) workstations that will benefit.	416	-	\$29.37		\$0.00		\$0.00	\$29.37	Electric	0.08%	\$160.00	\$0.00	5.45	\$323.00	\$222.00
0049-10	ONE STOP 54	4 rooftop units (~60 kW total) should be enrolled in the Contracted Direct Load Control Program offered by WPS.NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	1,050	-	\$74.12		\$0.00		\$0.00	\$1,442.12	Electric	0.21%	\$0.00	\$1,368.00	-	\$15,295.00	\$13,006.00
0049-11	ONE STOP 54	Replace the existing RTUs that are >15 years old (3 units) with New More Efficient Units (15 SEER). If the building is slated for demolition, do not consider this project	9,183	-	\$648.24	308	\$257.81		\$0.00	\$906.05	Electric and Gas	2.36%	\$33,750.00	\$0.00	37.25	\$12,544.00	\$7,090.00
0049-12	ONE STOP 54	It is recommended to tune up each of the Rooftop Units at least once every two years. The Focus on Energy Program currently provides rebates for RTU tune-ups and upgrades to more energy efficient controls.	7,058	-	\$498.22	131	\$109.82	-	\$0.00	\$608.03	Electric and Gas	1.59%	\$400.00	\$160.00	0.39	\$2,880.00	\$2,616.00
0049-13	ONE STOP 54	Consider installing Demand Control Ventilation on RTUs. The design OA intake is set to ventilate the building when it is maximally occupied. Installing Demand Control Ventilation controls can throttle back the RTU fan motors when ventilation requirements are lower (at times of lower occupancy). Because the occupancy varies greatly, this building is a good candidate for DCV savings. Keep in mind that code does require higher minimum ventilation for buildings that allow smoking (this likely actually means there will be greater savings). Also, the Focus on Energy program has attractive rebates for DCV for at least the first half of 2013. Note Focus on Energy requires that the RTUs undergo a qualified tune-up (separate measure) to receive the rebate.	19,409	-	\$1,370.09	361	\$302.00	-	\$0.00	\$1,672.10	Electric and Gas	4.36%	\$4,500.00	\$1,400.00	1.85	\$14,633.00	\$11,979.00
0049-14	ONE STOP 54	Install a timer to shut off the coffee maker heating coils from midnight to 5AM.	127	-	\$8.96		\$0.00		\$0.00	\$8.96	Electric	0.03%	\$15.00	\$0.00	1.67	\$132.00	\$102.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0051-01	ONE STOP E&EE	Reduce DHW Temperature	1,777		\$168.13		\$0.00		\$0.00	\$168.13	Electric	0.45%	\$0.00	\$0.00		\$5,743.00	\$1,735.00
0051-02	ONE STOP E&EE	Turn off the exhaust fan running in the unused casino area.			\$0.00		\$26.17		\$0.00	\$26.17	Gas	1.35%	\$0.00	\$0.00		\$1,361.00	\$408.00
0051-03	ONE STOP E&EE	Install timers for the Soda Machine, Coffee and Cappuccino makers to shut off during unoccupied hours.	1,200		\$113.51		\$0.00		\$0.00	\$113.51	Electric	0.30%	\$80.00	\$0.00	1.42	\$1,867.00	\$1,115.00
0051-04	ONE STOP E&EE	Install Anti-Sweat Heater Controls. An Anti-Sweat Heater needs to only run when relative humidity reaches 55 percent. The controls will greatly reduce the energy used by and the runtime of the Anti-Sweat Heaters as well as provide savings for the refrigeration system.	15,566	-	\$1,472.49		\$0.00		\$0.00	\$1,472.49	Electric	3.92%	\$1,400.00	\$560.00	0.57	\$23,376.00	\$13,629.00
0051-05	ONE STOP E&EE	Install Night Curtain on reach in display case in the store. This will help conserve energy during unoccupied hours.	1,000	-	\$94.59		\$0.00		\$0.00	\$94.59	Electric	0.25%	\$300.00	\$36.00	2.79	\$1,881.00	\$840.00
0051-06	ONE STOP E&EE	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	545	0.054	\$51.51		\$0.00	4,088	\$24.53	\$76.03	Electric and Water	0.19%	\$15.00	\$0.00	0.20	\$1,236.00	\$733.00
0051-07	ONE STOP E&EE	Replace Electric Water Heater with Condensing Natural Gas Water Heater	7,942		\$751.26	(286)	(\$249.48)		\$0.00	\$501.78	Electric and Gas	1.27%	\$3,000.00	\$50.00	5.90	\$5,304.00	\$1,982.00
0051-08	ONE STOP E&EE	Replace the 250-Watt Metal Halide Canopy Fixtures (wattage estimated), with 70-Watt LED canopy fixtures. Though it is not documented here, the maintenance savings should be considered as well. A quality LED canopy fixture should last 20-years, during that time it can be expected that the Metal Halide lamp will need to be replaced 2 to 4 times.	12,285	2.250	\$1,162.09		\$0.00		\$0.00	\$1,162.09	Electric	3.09%	\$5,000.00	\$400.00	3.96	\$21,751.00	\$8,967.00
0051-09	ONE STOP E&EE	Delamp 4-Lamp Trough Fixtures to 3-Lamps	11,411	2.090	\$1,079.45		\$0.00		\$0.00	\$1,079.45	Electric	2.87%	\$0.00	\$0.00		\$11,449.00	\$7,984.00
0051-10	ONE STOP E&EE	32-Watt T8 Lamps to 25-Watt T8 Lamps	3,784	0.693	\$357.92		\$0.00		\$0.00	\$357.92	Electric	0.95%	\$297.00	\$99.00	0.55	\$3,599.00	\$2,449.00
0051-11	ONE STOP E&EE	Occupancy Sensors to Control Lighting Runtime	127	0.023	\$11.98		\$0.00		\$0.00	\$11.98	Electric	0.03%	\$130.00	\$15.00	9.60	\$83.00	\$3.00
0051-12	ONE STOP E&EE	Insulate Domestic Hot Water Pipes - Electric Heater	239		\$22.58		\$0.00		\$0.00	\$22.58	Electric	0.06%	\$20.00	\$0.00	0.89	\$1,156.00	\$332.00
0051-13	ONE STOP E&EE	Use Energy Efficient Power Strips	104		\$9.84		\$0.00		\$0.00	\$9.84	Electric	0.03%	\$40.00	\$0.00	4.07	\$122.00	\$57.00
0051-14	ONE STOP E&EE	Use a photocell to regulate the lighting runtime for the 4-Lamp fluorescents that are next to the windows in the store. There is ample Daylighting to provide sufficient light for a significant amount of time annually.	961	0.176	\$90.90		\$0.00		\$0.00	\$90.90	Electric	0.24%	\$100.00	\$0.00	1.10	\$1,395.00	\$793.00
0051-15	ONE STOP E&EE	The front doors need new weather-stripping to reduce infiltration.	26		\$2.50	58	\$50.70		\$0.00	\$53.20	Electric and Gas	0.13%	\$14.00	\$0.00	0.26	\$858.00	\$507.00
0051-16	ONE STOP E&EE	Clean all condenser coils/fins in the walk in coolers/freezers and exterior ice machine. This will increase efficiency and reduce maintenance calls.	397		\$37.59		\$0.00		\$0.00	\$37.59	Electric	0.10%	\$0.00	\$0.00		\$618.00	\$369.00
0051-17	ONE STOP E&EE	Only one of the RTU units is being used currently. The Carrier unit should be replaced with a new high efficiency unit.	3,350		\$316.89	441	\$384.61		\$0.00	\$701.50	Electric and Gas	1.77%	\$5,000.00	\$0.00	7.13	\$10,905.00	\$3,189.00
0051-18	ONE STOP E&EE	Enroll in the space cooling condenser and the electric water heater in the Cool Credits program from WPS.	350		\$33.11		\$0.00		\$0.00	\$529.11	Electric	0.09%	\$0.00	\$496.00			

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0054-01	THREE SISTERS HEAD START	Reduce DHW Temperature. Current temperature is 130 degrees, then it is mixed down to 115 degrees for hand washing. The kitchen dishwasher has a preheating unit that can preheat process water sufficiently.			\$0.00	332	\$239.42		\$0.00	\$239.42	Gas	4.66%	\$0.00	\$0.00		\$12,473.00	\$3,724.00
0054-02	THREE SISTERS HEAD START	Limit runtime of Kitchen Exhaust Hood. The unit was running on a day when no children were present and no food preparation was taking place. Limiting the runtime of this unit will save on cooling and heating as well as the electricity to run the hood. Here are the estimated savings based upon reducing runtime 8 hours per week.	1,750		\$184.28	50	\$36.01		\$0.00	\$220.29	Electric and Gas	1.01%	\$0.00	\$0.00		\$11,461.00	\$3,432.00
0054-03	THREE SISTERS HEAD START	Delamp. Remove 1 lamp in the 3-lamp and 4-lamp 4-foot trough fixtures that do NOT have the capability of turning 1,2 or all of the fixtures lamps. It is assumed that most fixtures in the facility do not have this capability.	8,786	2.028	\$925.16		\$0.00		\$0.00	\$925.16	Electric	5.57%	\$0.00	\$0.00		\$9,812.00	\$6,842.00
0054-04	THREE SISTERS HEAD START	Replace 2.2 GPM Aerators with 1.5 GPM Aerators			\$0.00	121	\$87.14	3,983	\$19.91	\$107.06	Gas and Water	1.74%	\$55.00	\$0.00	0.51	\$2,372.00	\$1,195.00
0054-05	THREE SISTERS HEAD START	Install timers to turn on and off the water fountains. This will reduce compressor runtimes while facility is unoccupied.	657		\$69.18		\$0.00		\$0.00	\$69.18	Electric	0.42%	\$50.00	\$0.00	0.72	\$2,848.00	\$1,682.00
0054-06	THREE SISTERS HEAD START	250-Watt MH with Magnetic Ballast to 40-Watt LED Wall pack	2,730	1.050	\$287.47		\$0.00		\$0.00	\$287.47	Electric	1.73%	\$1,750.00	\$125.00	5.65	\$4,893.00	\$1,731.00
0054-07	THREE SISTERS HEAD START	32-Watt T8 Lamps to 25-Watt T8 Lamps	7,513	1.734	\$791.11		\$0.00		\$0.00	\$791.11	Electric	4.76%	\$1,032.00	\$344.00	0.87	\$7,702.00	\$5,163.00
0054-08	THREE SISTERS HEAD START	Replace pre-rinse spray valves with low flow 1.6 GPM spray valves			\$0.00	83	\$59.73	10,668	\$53.34	\$113.07	Gas and Water	1.84%	\$160.00	\$0.00	1.42	\$1,700.00	\$951.00
0054-09	THREE SISTERS HEAD START	Occupancy Sensors to Control Lighting Runtime	6,989	2.240	\$735.92		\$0.00		\$0.00	\$735.92	Electric	4.43%	\$1,600.00	\$157.50	1.96	\$10,502.00	\$5,695.00
0054-10	THREE SISTERS HEAD START	Install timers to control runtime of domestic hot water circulation pumps. While the building is unoccupied it is unnecessary to continually circulate hot water throughout the system.	368		\$38.77	31	\$22.33		\$0.00	\$61.10	Electric and Gas	0.28%	\$125.00	\$0.00	2.05	\$879.00	\$475.00
0054-11	THREE SISTERS HEAD START	Repair kitchen air intake. During the onsite inspection on a hot (78 degree day) the intake air louvers for the Kitchen's AHU was 100% open. The unit should have been to a 10% minimum opening. These saving assume the unit is open 100% for 365 days annually.	4,000		\$421.20	833	\$599.93		\$0.00	\$1,021.13	Electric and Gas	4.70%	\$300.00	\$0.00	0.29	\$22,849.00	\$11,619.00
0054-12	THREE SISTERS HEAD START	Use Energy Efficient Power Strips	520		\$54.76		\$0.00		\$0.00	\$54.76	Electric	0.33%	\$200.00	\$0.00	3.65	\$700.00	\$338.00
0054-13	THREE SISTERS HEAD START	Photocell Sensors to Control Lighting Runtime. Can be used in the Classrooms, lobby and potentially the vestibule.	3,994	1.280	\$420.53		\$0.00		\$0.00	\$420.53	Electric	2.53%	\$600.00	\$0.00	1.43	\$6,316.00	\$3,532.00
0054-14	THREE SISTERS HEAD START	Replace Older Condensing Units with New More Efficient Units. There are 3 Trane Model 2TTA00600300AA condensing units that are approximately 15 years old that should be considered to be replaced.	6,200		\$652.83		\$0.00		\$0.00	\$652.83	Electric	3.93%	\$6,750.00	\$600.00	9.42	\$8,653.00	\$1,471.00
0054-15	THREE SISTERS HEAD START	Enroll in "Cool Credits" program offered by WPS. 3 large condensing units 18 kW total) should be enrolled in the Contracted Direct Load Control Program.NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	315		\$33.17		\$0.00		\$0.00	\$357.17	Electric	0.20%	\$0.00	\$324.00			

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0055-01	SOCIAL SERVICES	The (16) incandescent bulbs in the boiler room should be replaced with 26W CFLs	2,063	1.984	\$166.87		\$0.00		\$0.00	\$166.87	Electric	0.19%	\$96.00	\$32.00	0.38	\$1,705.00	\$1,441.00
0055-02	SOCIAL SERVICES	There are approximately (12) 75W incandescent light bulbs in the facility that should be replaced with 15W CFLs	2,572	0.720	\$208.02		\$0.00		\$0.00	\$208.02	Electric	0.24%	\$48.00	\$24.00	0.12	\$2,182.00	\$1,852.00
0055-03	SOCIAL SERVICES	There is one exterior MH wall pack that should be replaced with a 30- or 40-Watt LED wall pack depending upon desired light output (exact wattage of existing wall pack is unknown). The rest of the exterior lighting is newly installed Orion fixtures	582	0.160	\$47.10		\$0.00		\$0.00	\$47.10	Electric	0.05%	\$350.00	\$25.00	6.90	\$742.00	\$459.00
0055-04	SOCIAL SERVICES	There are (6) 8'2LT12 fixtures in the garage area that should be replaced with a total of 9 4'2LT8 fixtures with 25W bulbs. ROI is long due to assumed low operational hours, but T12 bulbs will no longer be available soon, so the replacement must happen eventually. The sooner they're replaced, the more energy savings will be achieved.	524	0.288	\$42.39		\$0.00		\$0.00	\$42.39	Electric	0.05%	\$390.00	\$18.00	8.78	\$77.00	\$10.00
0055-05	SOCIAL SERVICES	Approximately (1282) 32-Watt T8 Lamps should be replaced with 25-Watt T8 Lamps	32,059	8.974	\$2,592.69		\$0.00		\$0.00	\$2,592.69	Electric	2.96%	\$3,846.00	\$1,282.00	0.99	\$24,934.00	\$20,818.00
0055-06	SOCIAL SERVICES	There are at least (22) T12 fixtures in the building (in rooms A198 and A100) that should be replaced with T8 fixtures with 25W bulbs. T12 bulbs will no longer be available soon, so the replacement must happen eventually. The sooner they're replaced, the more energy savings will be achieved	4,244	1.188	\$343.23		\$0.00		\$0.00	\$343.23	Electric	0.39%	\$1,430.00	\$66.00	3.97	\$2,276.00	\$1,731.00
0055-07	SOCIAL SERVICES	Replace the sconce lighting in the auditorium with 4- or 5-Watt LED bulbs (depending upon desired light level). The location and hours make this an appropriate application for LED	500	0.140	\$40.45		\$0.00		\$0.00	\$40.45	Electric	0.05%	\$490.00	\$140.00	8.65	\$567.00	\$323.00
0055-08	SOCIAL SERVICES	There are (36) T12 fixtures in the locker rooms by the pool. These should be replaced with 4'2LT8 fixtures with 25W bulbs. Note that these fixtures are currently on 24/7. Also, T12 bulbs will no longer be available soon, so the replacement must happen eventually. The sooner they're replaced, the more energy savings will be achieved.	16,983	1.944	\$1,373.45		\$0.00		\$0.00	\$1,373.45	Electric	1.57%	\$2,340.00	\$108.00	1.63	\$12,335.00	\$10,155.00
0055-09	SOCIAL SERVICES	Install occupancy sensors to reduce lighting runtime. Note: some areas already have them installed (1st floor A and C buildings). All walled offices and restrooms should have sensors installed. Also consider installing sensors in bigger rooms like C040, A100, and A198 for more savings. In all, it is estimated that 144 additional rooms will benefit from installing lighting occupancy sensors.	30,842	8.633	\$2,494.28		\$0.00		\$0.00	\$2,494.28	Electric	2.84%	\$14,400.00	\$1,080.00	5.34	\$27,699.00	\$19,094.00
0055-10	SOCIAL SERVICES	The lights in the locker rooms are currently on 24/7 for safety and because janitorial crews could be in the rooms at any time. However the space is usually unoccupied overnight. It is recommended to install a timer to switch off most of the lights from 10PM to 5:30AM. Also install an override switch in each locker room that turns the lights back on for one hour and then shuts them back off again. Leave 3 fixtures in each locker room on 24/7 for safety purposes.	7,881	-	\$637.34		\$0.00		\$0.00	\$637.34	Electric	0.73%	\$1,000.00	\$0.00	1.57	\$9,481.00	\$7,283.00
0055-11	SOCIAL SERVICES	Install a timer to reduce exhaust fan runtime in locker rooms. See the previous measure recommending installing a timer to control lighting runtime in the locker rooms. If possible use the same timer to switch off the exhaust fans when the rooms are unoccupied. The savings here are for the fan only and the cost is low because it is assumed that the same timer from the previous measure will be used.(Assumed that there are 2 1/6HP exhaust fans. Savings will increase if there are more or larger fans)	1,354	-	\$109.51		\$0.00		\$0.00	\$109.51	Electric	0.12%	\$100.00	\$0.00	0.91	\$1,701.00	\$1,323.00
0055-12	SOCIAL SERVICES	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	0	-	\$0.00	297	\$208.25	47,012	\$282.07	\$490.32	Gas and Water	1.43%	\$135.00	\$0.00	0.28	\$7,928.00	\$6,237.00
0055-13	SOCIAL SERVICES	Reduce Runtime of DHW Circulation Pump. The DHW circulation pump is currently controlled by return water temperature, which is fairly efficient. However, the heaters are still making up for system wide standby losses at night and supplying hot water unnecessarily during unoccupied hours. Consider installing a simple timer to turn off the hot water	210	-	\$16.98	186	\$130.42		\$0.00	\$147.40	Electric and Gas	0.12%	\$100.00	\$0.00	0.68	\$2,324.00	\$1,816.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
		circulation pump between 10PM and 5:30AM. Note: gas savings from this measure come from reduced standby losses. Also, there will be some additional electric savings in the summer because the reduced standby losses will decrease the cooling load on the HVAC system (these savings are not included in the calculations).															
0055-14	SOCIAL SERVICES	It is estimated that (150) workstations in the building will benefit from the use of a 'smart strip'. Deploy them according to likelihood of saving energy (based on work station plug loads, occupancy times, and employee acceptance).	15,600	-	\$1,261.62		\$0.00		\$0.00	\$1,261.62	Electric	1.44%	\$6,000.00	\$0.00	4.76	\$14,747.00	\$10,395.00
0055-15	SOCIAL SERVICES	Install simple timers on drinking fountains and water coolers to turn them off over night.	1,095	-	\$88.56		\$0.00		\$0.00	\$88.56	Electric	0.10%	\$400.00	\$0.00	4.52	\$1,056.00	\$751.00
0055-16	SOCIAL SERVICES	Install simple timers to shut off (3) coffee makers in the building overnight. These coffee makers continue heating water even when switched off.	450	-	\$36.39		\$0.00		\$0.00	\$36.39	Electric	0.04%	\$120.00	\$0.00	3.30	\$478.00	\$353.00
0055-17	SOCIAL SERVICES	Install Vending Miser controls on (4) vending machines.	1,400	-	\$113.22		\$0.00		\$0.00	\$113.22	Electric	0.13%	\$800.00	\$240.00	4.95	\$1,302.00	\$911.00
0055-18	SOCIAL SERVICES	4 large condensing units (71.87 kW total) should be enrolled in the Contracted Direct Load Control Program offered by WPS. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	1,258	-	\$101.72		\$0.00		\$0.00	\$1,778.34	Electric	0.12%	\$0.00	\$1,676.62	-	\$18,854.00	\$16,033.00
0055-19	SOCIAL SERVICES	Examine the AHU economizer DDC controls. It appears that the OA damper position depends on the relationship between SAT set point and actual SAT. This means that the systems are only "free cooling" and not taking full advantage of economizer functionality. That is, in certain conditions outside air is being brought in incorrectly and in	1,125	-	\$90.98	542	\$379.95		\$0.00	\$470.93	Electric and Gas	0.39%	\$0.00	\$0.00	-	\$7,745.00	\$6,120.00
0055-20	SOCIAL SERVICES	Consider replacing the HW pump motors with NEMA premium efficiency motors. One pump runs 24/7 from December to March and the other runs 16 hours per day September to December. Though expensive, efficient motors will save considerable energy.	5,302	-	\$428.81		\$0.00		\$0.00	\$428.81	Electric	0.49%	\$4,180.00	\$0.00	9.75	\$5,542.00	\$2,961.00
0055-21	SOCIAL SERVICES	Consider installing a VFD to control the HW pump motors. This measure may work best if implemented after new motors are installed. Also, if new DDC controls are ever considered for this section of the building, it will be easier to program VFD controls for these motors because they should be controlled by driving to meet the HW supply set point, which currently resets using pneumatic controls.	18,387	4.198	\$1,487.02		\$0.00		\$0.00	\$1,487.02	Electric	1.70%	\$2,400.00	\$750.00	1.11	\$22,804.00	\$17,674.00
0055-22	SOCIAL SERVICES	Install a Demand Control Ventilation to reduce the runtime of the air handler in the gymnasium. Currently the unit operates continuously despite the fact that the gym is often unoccupied. The unit should only be used to maintain temperature or provide necessary ventilation and should be off at all other times. This measure will require installing a CO2 sensor and fan motor controls.	9,676	-	\$782.53	508	\$508.35		\$0.00	\$1,290.88	Electric and Gas	1.06%	\$1,000.00	\$0.00	0.80	\$17,731.00	\$13,802.00
0055-23	SOCIAL SERVICES	Consider completely removing the pneumatic controls system and replacing it with DDC. For the sections of the building not already on CSI control (A wing and fitness center), the current thermostats are non-programmable pneumatic devices. This means that there are no setback schedules, the comfort control is imprecise, the controls can be dramatically out of calibration, and compressors are required to run the system - all of which waste energy. The current building engineer manages the system very well, but it is cumbersome and time consuming in addition to being difficult to pass off to a new engineer. The savings from converting to DDC include allowing setback schedules, eliminating simultaneous heating/cooling (from uncalibrated fighting zones), shutting off air compressors, more accurately controlling set points, a more responsive HW temperature reset, and enabling VFD motor controls. Some of these savings can be achieved with the pneumatic system (pneumatic VFD controls or pneumatic programmable thermostats, for example), but it is not recommended to pursue	43,389	1.2	\$3,508.99	1,228	\$885.25		\$0.00	\$4,394.24	Electric and Gas	3.50%	\$75,000.00	\$0.00	22.76	\$23,750	(\$2,466.00)

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
		those investments. Note: this measure is one of 2 major investment recommendations to consider when management of the building turns over (re: when Lance retires). Costs and savings calculated for this measure are educated, but rough estimates.															
0055-24	SOCIAL SERVICES	Consider replacing the existing steam boilers with condensing natural gas hot water boilers. The steam boilers (in mech. Room A116) are vastly oversized, and outdated. They are currently operated as absolutely efficiently as humanly possible, but were not designed for the application they're now used for (originally fed a large laundry facility). Savings for this measure come from meeting the heating needs of the facility more efficiently (higher efficiency boilers, no losses in heat exchangers, more responsive to load demands, and much lower standby losses in the mechanical room), from enabling a boiler lockout on warm days in shoulder months, and from decreased maintenance costs. Note: this measure is one of 2 major investment recommendations to consider when management of the building turns over (re: when Lance retires). Costs and savings calculated for this measure are educated, but rough estimates.	0	-	\$0.00	7,973	\$5,748.41			\$5,748.41	Gas	16.00%	\$100,000.00	\$0.00	13.05	\$30,160.00	(\$4,395.00)

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0056-01	SSB - Cottage #1	There are 3 non-programmable thermostats in the facility. It is unlikely that staff is manually setting these thermostats back to 60 degrees during unoccupied times. It is assumed the thermostats are set to 72 degrees all the time during the heating months. Install programmable thermostats and program to set back to 60 degrees a half an hour before space is unoccupied until a half an hour before the space is occupied.			\$0.00	601	\$437.50		\$0.00	\$437.50	Gas	27.43%	\$300.00	\$0.00	0.69	\$22,434.00	\$6,507.00
0056-02	SSB - Cottage #1	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	1,997		\$161.46		\$0.00	910	\$5.48	\$166.95	Electric	3.68%	\$55.00	\$0.00	0.33	\$2,691.00	\$1,586.00
0056-03	SSB - Cottage #1	65-W Incandescent to 13-Watt CFL	541	0.260	\$43.74		\$0.00		\$0.00	\$43.74	Electric	1.00%	\$20.00	\$10.00	0.23	\$502.00	\$344.00
0056-04	SSB - Cottage #1	75w MH with Magnetic Ballast to 15-Watt LED Wall pack	1,365	0.375	\$110.39		\$0.00		\$0.00	\$110.39	Electric	2.52%	\$1,250.00	\$125.00	10.19	\$1,502.00	\$227.00
0056-05	SSB - Cottage #1	32-Watt T8 Lamps to 25-Watt T8 Lamps	1,805	0.868	\$146.01		\$0.00		\$0.00	\$146.01	Electric	3.33%	\$372.00	\$124.00	1.70	\$1,300.00	\$832.00
0056-06	SSB - Cottage #1	Occupancy Sensors to Control Lighting Runtime	2,850	1.370	\$230.46		\$0.00		\$0.00	\$230.46	Electric	5.25%	\$1,800.00	\$135.00	7.22	\$2,125.00	\$600.00
0056-07	SSB - Cottage #1	Use Energy Efficient Power Strips	728		\$58.88		\$0.00		\$0.00	\$58.88	Electric	1.34%	\$280.00	\$0.00	4.76	\$688.00	\$298.00
0056-08	SSB - Cottage #1	Install timers to shut off window mounted AC units when facility is unoccupied.	488		\$39.48		\$0.00		\$0.00	\$39.48	Electric	0.90%	\$120.00	\$0.00	3.04	\$529.00	\$268.00
0056-09	SSB - Cottage #1	Photocell Sensors to Control Lighting Runtime on exterior 26-watt CFLs	406	0.052	\$32.80		\$0.00		\$0.00	\$32.80	Electric	0.75%	\$100.00	\$0.00	3.05	\$440.00	\$223.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0057-01	SSB - Cottage #2	Relocate thermostat or printer in the facility. One of the thermostats is located right above a printer. The printer will give off heat and affect the effectiveness of the thermostat and/or affect comfort of occupants.			\$0.00		\$0.00		\$0.00	\$0.00	Gas	0.00%	\$0.00	\$0.00		\$0.00	
0057-02	SSB - Cottage #2	Reduce domestic hot water temperature from an estimated 130 degrees to 120 degrees.	1,286		\$16.00		\$0.00		\$0.00	\$16.00	Electric	0.36%	\$0.00	\$0.00		\$5,411.00	\$1,620.00
0057-03	SSB - Cottage #2	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	1,997	0.200	\$161.46		\$0.00	910	\$5.48	\$166.95	Electric	3.68%	\$55.00	\$0.00	0.33	\$2,691.00	\$1,586.00
0057-04	SSB - Cottage #2	65-W Incandescent to 13-Watt CFL	1,379	0.624	\$111.53		\$0.00		\$0.00	\$111.53	Electric	2.54%	\$48.00	\$24.00	0.22	\$1,159.00	\$801.00
0057-05	SSB - Cottage #2	75w MH with Magnetic Ballast to 15-Watt LED Wall pack	546	0.150	\$44.16		\$0.00		\$0.00	\$44.16	Electric	1.01%	\$500.00	\$50.00	10.19	\$18.00	(\$123.00)
0057-06	SSB - Cottage #2	Delamp 3-Lamp fluorescent trough fixtures to 2-lamps	241	0.108	\$19.53		\$0.00		\$0.00	\$19.53	Electric	0.45%	\$0.00	\$0.00		\$207.00	\$144.00
0057-07	SSB - Cottage #2	32-Watt T8 Lamps to 25-Watt T8 Lamps	1,036	0.469	\$83.82		\$0.00		\$0.00	\$83.82	Electric	1.91%	\$201.00	\$67.00	1.60	\$755.00	\$486.00
0057-08	SSB - Cottage #2	Occupancy Sensors to Control Lighting Runtime	3,275	1.482	\$264.88		\$0.00		\$0.00	\$264.88	Electric	6.04%	\$1,900.00	\$142.50	6.64	\$2,598.00	\$845.00
0057-09	SSB - Cottage #2	Use Energy Efficient Power Strips	1,144		\$92.52		\$0.00		\$0.00	\$92.52	Electric	2.11%	\$440.00	\$0.00	4.76	\$1,081.00	\$469.00
0057-10	SSB - Cottage #2	Install timers to shut off window mounted AC units when facility is unoccupied.	488		\$39.48		\$0.00		\$0.00	\$39.48	Electric	0.90%	\$120.00	\$0.00	3.04	\$529.00	\$268.00
0057-11	SSB - Cottage #2	Photocell Sensors to Control Lighting Runtime	3,456	0.864	\$279.50		\$0.00		\$0.00	\$279.50	Electric	6.37%	\$300.00	\$0.00	1.07	\$4,296.00	\$2,446.00
0057-12	SSB - Cottage #2	Close exterior doors and windows when facility air is being conditioned. During the onsite assessment the front door was propped open on a hot 80+ degree day. At the same time several of the window mounted AC units were running.	2,269		\$183.48		\$0.00		\$0.00	\$183.48	Electric	4.18%	\$0.00	\$0.00		\$3,018.00	\$1,803.00
0057-13	SSB - Cottage #2	Replace large under-utilized refrigerator - freezer with a smaller 'Dorm Room' style refrigerator	600		\$48.52		\$0.00		\$0.00	\$48.52	Electric	1.11%	\$200.00	\$0.00	4.12	\$598.00	\$277.00

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0058-01	SSB - Cottage #3	Relocate thermostat that is located in the wall between the conference room and the hallway. This is a poor selection for a location. This stat controls the heating for the two different departments. The departments are separated by walls and closed doors. It is recommended that once the stat is moved to a hallway location then the doors between the spaces should be opened or at the very least made into half doors. Personnel report vast difference in temperature and comfort levels between the spaces. Another thermostat is located in a store room and was buried behind stuffed animals and toys. The area in from of the thermostat should be kept clear of obstructions.			\$0.00		\$0.00		\$0.00	\$0.00	Gas	0.00%	\$0.00	\$0.00			
0058-02	SSB - Cottage #3	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	1,089	0.109	\$88.07		\$0.00	1,479	\$8.91	\$96.98	Electric	2.01%	\$30.00	\$0.00	0.31	\$1,419.00	\$836.00
0058-03	SSB - Cottage #3	65-W Incandescent to 13-Watt CFL	132	0.052	\$10.72		\$0.00		\$0.00	\$10.72	Electric	0.24%	\$4.00	\$2.00	0.19	\$111.00	\$77.00
0058-04	SSB - Cottage #3	75w MH with Magnetic Ballast to 15-Watt LED Wall pack	1,911	0.525	\$154.55		\$0.00		\$0.00	\$154.55	Electric	3.52%	\$1,750.00	\$175.00	10.19	\$1,930.00	\$230.00
0058-05	SSB - Cottage #3	Delamp 4-Lamp fluorescent trough fixtures to 3-lamps	637	0.250	\$51.52		\$0.00		\$0.00	\$51.52	Electric	1.17%	\$0.00	\$0.00		\$547.00	\$381.00
0058-06	SSB - Cottage #3	32-Watt T8 Lamps to 25-Watt T8 Lamps	1,516	0.595	\$122.61		\$0.00		\$0.00	\$122.61	Electric	2.80%	\$255.00	\$85.00	1.39	\$1,131.00	\$737.00
0058-07	SSB - Cottage #3	Occupancy Sensors to Control Lighting Runtime	1,485	0.583	\$120.09		\$0.00		\$0.00	\$120.09	Electric	2.74%	\$2,100.00	\$157.50	16.17	\$689.00	\$122.00
0058-08	SSB - Cottage #3	Use Energy Efficient Power Strips	1,248		\$100.93		\$0.00		\$0.00	\$100.93	Electric	2.30%	\$480.00	\$0.00	4.76	\$1,180.00	\$512.00
0058-09	SSB - Cottage #3	Install timers to shut off window mounted AC units when facility is unoccupied.	3,254		\$263.17		\$0.00		\$0.00	\$263.17	Electric	6.00%	\$240.00	\$0.00	0.91	\$5,729.00	\$2,883.00
0058-10	SSB - Cottage #3	Photocell Sensors to Control Lighting Runtime	3,456	0.864	\$279.50		\$0.00		\$0.00	\$279.50	Electric	6.37%	\$100.00	\$0.00	0.36	\$4,498.00	\$2,647.00
0058-11	SSB - Cottage #3	Install a timer to turn off the water cooler/heater when space is unoccupied	318		\$25.68		\$0.00		\$0.00	\$25.68	Electric	0.59%	\$40.00	\$0.00	1.56	\$543.00	\$260.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0059-01	SSB - Cottage #4	The thermostat on the south side of the building could be moved into the hallway to increase occupancy comfort.			\$0.00		\$0.00		\$0.00	\$0.00		0.00%	\$0.00	\$0.00			
0059-02	SSB - Cottage #4	On the day of the onsite visit approximately 10 ceiling fans running in spaces that were not occupied. Onsite personnel confirmed that the fans are often left on even when the space is unoccupied. This can be resolved with behavioral changes of ensuring the fans are turned off.	720		\$58.23		\$0.00		\$0.00	\$58.23	Electric	1.33%	\$0.00	\$0.00		\$1,321.00	\$680.00
0059-03	SSB - Cottage #4	Reduce domestic hot water from an estimated 130 degrees to 120 degrees.	495		\$40.01		\$0.00		\$0.00	\$40.01	Electric	0.91%	\$0.00	\$0.00		\$2,084.00	\$624.00
0059-04	SSB - Cottage #4	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	1,271		\$102.75		\$0.00		\$6.85	\$109.60	Electric	2.34%	\$35.00	\$0.00		\$1,768.00	\$1,042.00
0059-05	SSB - Cottage #4	65-W Incandescent to 13-Watt CFL	2,231	0.127	\$180.41		\$0.00	1,138	\$0.00	\$180.41	Electric	4.11%	\$60.00	\$30.00	0.32	\$1,884.00	\$1,305.00
0059-06	SSB - Cottage #4	Replace T12 fluorescent light fixtures with T8 25-Watt fixtures with electronic ballasts	2,008	0.780	\$162.37		\$0.00		\$0.00	\$162.37	Electric	3.70%	\$650.00	\$52.00	0.17	\$1,115.00	\$593.00
0059-07	SSB - Cottage #4	75w MH with Magnetic Ballast to 15-Watt LED Wall pack	819	0.702	\$66.24		\$0.00		\$0.00	\$66.24	Electric	1.51%	\$750.00	\$75.00	3.68	\$827.00	\$98.00
0059-08	SSB - Cottage #4	Delamp 3-Lamp fluorescent trough fixtures to 2-lamps	480	0.225	\$38.86		\$0.00		\$0.00	\$38.86	Electric	0.89%	\$0.00	\$0.00	10.19	\$412.00	\$287.00
0059-09	SSB - Cottage #4	32-Watt T8 Lamps to 25-Watt T8 Lamps	1,782	0.168	\$144.10		\$0.00		\$0.00	\$144.10	Electric	3.29%	\$267.00	\$89.00		\$1,351.00	\$888.00
0059-10	SSB - Cottage #4	Occupancy Sensors to Control Lighting Runtime	3,904	0.623	\$315.77		\$0.00		\$0.00	\$315.77	Electric	7.20%	\$1,600.00	\$120.00	1.24	\$3,714.00	\$1,623.00
0059-11	SSB - Cottage #4	Replace 2 bathroom occupancy sensors. They are faulty and are not shutting off lights consistently.	194	1.365	\$15.73		\$0.00		\$0.00	\$15.73	Electric	0.36%	\$200.00	\$15.00	4.69	\$73.00	(\$31.00)
0059-12	SSB - Cottage #4	Use Energy Efficient Power Strips	520	0.068	\$42.05		\$0.00		\$0.00	\$42.05	Electric	0.96%	\$200.00	\$0.00	11.76	\$492.00	\$213.00
0059-13	SSB - Cottage #4	Install timers to shut off window mounted AC units when facility is unoccupied.	651		\$52.63		\$0.00		\$0.00	\$52.63	Electric	1.20%	\$120.00	\$0.00	4.76	\$1,074.00	\$495.00
0059-14	SSB - Cottage #4	Photocell Sensors to Control Lighting Runtime	108		\$8.73		\$0.00		\$0.00	\$8.73	Electric	0.20%	\$100.00	\$0.00	2.28	\$44.00	(\$14.00)
				0.027											11.45		

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0063-01	AIRPORT ROAD CHILDCARE	Replace HPS lights under the overhang with 40W LED wall packs	3,822		\$401.99		\$0.00		\$0.00	\$401.99	Electric	2.78%	\$1,750.00	\$125.00	4.04	\$7,490.00	\$5,070.00
0063-02	AIRPORT ROAD CHILDCARE	Replace exterior 100 W incandescent bulbs with 26W CFL bulbs	539		\$56.66		\$0.00		\$0.00	\$56.66	Electric	0.39%	\$12.00	\$0.00	0.21	\$589.00	\$499.00
0063-03	AIRPORT ROAD CHILDCARE	Replace exterior 75W HPS lamps with 20W LED wall packs	3,786		\$398.16		\$0.00		\$0.00	\$398.16	Electric	2.75%	\$1,280.00	\$200.00	2.71	\$7,948.00	\$5,551.00
0063-04	AIRPORT ROAD CHILDCARE	32-Watt T8 Lamps to 25-Watt T8 Lamps (144 total lamps)	5,242		\$551.29		\$0.00		\$0.00	\$551.29	Electric	3.81%	\$432.00	\$144.00	0.52	\$5,559.00	\$4,684.00
0063-05	AIRPORT ROAD CHILDCARE	Occupancy Sensors to Control Lighting Runtime. Especially since the cleaning crew is on-site for many hours per day, occupancy sensors will achieve good savings	4,507		\$474.02		\$0.00		\$0.00	\$474.02	Electric	3.27%	\$2,900.00	\$167.50	5.76	\$5,063.00	\$1,925.00
0063-06	AIRPORT ROAD CHILDCARE	Install photocell sensor to turn off Entry lights when unneeded.	433		\$45.50		\$0.00		\$0.00	\$45.50	Electric	0.31%	\$100.00	\$0.00	2.20	\$648.00	\$491.00
0063-07	AIRPORT ROAD CHILDCARE	Use Energy Efficient Power Strips - 5 workstations in the building could benefit	520		\$54.69		\$0.00		\$0.00	\$54.69	Electric	0.38%	\$200.00	\$0.00	3.66	\$699.00	\$511.00
0063-08	AIRPORT ROAD CHILDCARE	Replace 2.2 GPM Aerators with 1.5 GPM Aerators in 13 frequently used (bathroom) faucets.	0		\$0.00	143	\$113.12	17,472	\$104.83	\$217.95	Gas and Water	4.48%	\$65.00	\$0.00	-	\$3,519.00	\$2,767.00
0063-09	AIRPORT ROAD CHILDCARE	Reduce DHW Temperature from the current approximately 140F to 120F	0		\$0.00	173	\$136.73		\$0.00	\$136.73	Gas	3.59%	\$0.00	\$0.00		\$2,248.00	\$1,776.00
0063-10	AIRPORT ROAD CHILDCARE	Install Vending Miser on one vending machine	1,750		\$184.06		\$0.00		\$0.00	\$184.06	Electric	1.27%	\$200.00	\$60.00	0.76	\$2,887.00	\$2,252.00
0063-11	AIRPORT ROAD CHILDCARE	Enroll in "Cool Credits" program offered by WPS. 9 small AC units should be enrolled in the Cool Credits Direct Load Control Program Option 1 (Central Air Conditioner - Full Shutoff and Cycling), NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	2,250		\$236.65		\$0.00		\$0.00	\$560.65	Electric	1.63%	\$0.00	\$324.00		\$5,946.00	\$5,056.00
0063-12	AIRPORT ROAD CHILDCARE	Install simple Timers to turn off drinking fountains overnight	1,051		\$110.56		\$0.00		\$0.00	\$110.56	Electric	0.76%	\$80.00	\$0.00	0.72	\$1,738.00	\$1,356.00
0063-13	AIRPORT ROAD CHILDCARE	Setback the electric heater (ECH-1) set point when the building is unoccupied. The set point for the heater is currently 70F at all times. It should be set back to 64 when the schedule is unoccupied. This can be easily implemented in INET at no cost. Savings for this measure are rough estimates due to difficulty in modeling the heating load of the	400		\$42.07					\$42.07	Electric	0.29%	\$0.00	\$0.00		\$692.00	\$547.00
0063-14	AIRPORT ROAD CHILDCARE	Adjust setback settings. Current occupied temperatures and schedules are set well. The unoccupied set points can be changed from 78C/68H (for most areas) to 85C/64H. The space will still reach comfortable temperature in plenty of time for occupants and will allow for savings. To accomplish this measure, INET settings are all that have to be changed (no investment necessary)	4,671		\$491.25	296	\$234.17		\$0.00	\$725.42	Electric and Gas	3.97%	\$0.00	\$0.00	-	\$11,930.00	\$9,427.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0080-01	OCCUPATIONAL HEALTH	75-W Incandescent to 15-Watt CFL- in the restroom	1,092	-	\$138.15		\$0.00		\$0.00	\$138.15	Electric	3.39%	\$28.00	\$14.00	0.10	\$1,451.00	\$1,232.00
0080-02	OCCUPATIONAL HEALTH	Replace exterior HPS wall pack with 30- or 40-Watt LED Wall pack (depending on light level needed, savings assume 40W)	480	-	\$60.78		\$0.00		\$0.00	\$60.78	Electric	1.49%	\$350.00	\$25.00	5.35	\$1,052.00	\$686.00
0080-03	OCCUPATIONAL HEALTH	32-Watt T8 Lamps to 25-Watt T8 Lamps - 230 total bulbs	5,860	-	\$741.38		\$0.00		\$0.00	\$741.38	Electric	18.19%	\$690.00	\$230.00	0.62	\$7,402.00	\$6,226.00
0080-04	OCCUPATIONAL HEALTH	Replace 2L8'T12 in mechanical room with 3L4'T8. There will be plenty of light. T12s won't be replaceable anymore anyways	318	-	\$40.26		\$0.00		\$0.00	\$40.26	Electric	0.99%	\$75.00	\$10.00	1.61	\$362.00	\$298.00
0080-05	OCCUPATIONAL HEALTH	Install wall-mounted Occupancy Sensors in (5) offices with an average of 3 4LT8 fixtures each.	1,802	-	\$227.94		\$0.00		\$0.00	\$227.94	Electric	5.59%	\$375.00	\$37.50	1.48	\$3,411.00	\$2,625.00
0080-06	OCCUPATIONAL HEALTH	The thermostats should be setback for heating during unoccupied hours	0	-	\$0.00	80	\$76.16		\$0.00	\$76.16	Gas	8.75%	\$0.00	\$0.00	-	\$1,252.00	\$989.00
0080-07	OCCUPATIONAL HEALTH	Consider setting back the thermostat cooling set point during unoccupied hours. Due to humidity requirements, the setback may not be possible. However, controlling humidity separately and allowing the temperature to set back is much cheaper than keeping the space cool at all times. The calculation was done assuming a new dehumidifier is installed and consumes half the energy saved by not running the full A/C system to achieve dehumidification (conservative savings estimate)	1,127	-	\$142.61	-	\$0.00			\$142.61	Electric	3.50%	\$700.00	\$0.00	4.91	\$2,345.00	\$1,853.00
0080-08	OCCUPATIONAL HEALTH	There are approximately 5 workstations that could benefit from using Energy Efficient Power Strips	520	-	\$65.78		\$0.00		\$0.00	\$65.78	Electric	1.61%	\$200.00	\$0.00	3.04	\$882.00	\$655.00
0080-09	OCCUPATIONAL HEALTH	NOTE: This measure should only be considered if humidity can be satisfactorily controlled without the A/C condensers available. Enroll in "Cool Credits" program offered by WPS. 2 small AC units should be enrolled in the Cool Credits Program Option 1 (Central Air Conditioner - Full Shutoff and Cycling). NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	500	-	\$63.25		\$0.00		\$0.00	\$135.25	Electric	1.55%	\$0.00	\$72.00	-	\$1,434.00	\$1,220.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0081-01	BAY BANK	Install timers on water fountains (2) and coffee makers (2) to turn off overnight	876		\$91.85	-	\$0.00	-	\$0.00	\$91.85	Electric	0.47%	\$25.00	\$0.00	0.27	\$1,486.00	\$1,169.00
0081-02	BAY BANK	Unplug chest freezer in the break room (move small amount of food to upright fridge/freezer in the same room) - If possible	800		\$83.89	-	\$0.00	-	\$0.00	\$83.89	Electric	0.43%	\$0.00	\$0.00		\$1,379.00	\$1,090.00
0081-03	BAY BANK	Re-program Schedule for Basement Thermostats Both Zones need to be updated. Schedule should be changed to 7:30A-4:30P M-F (currently very different). Occ temp settings can remain unchanged (69H/71C), but unocc setbacks should be changed to 64H/85C.	1,551		\$162.60	88	\$70.14	-	\$0.00	\$680.86	Electric and Gas	0.99%	\$0.00	\$0.00		\$3,828.00	\$3,025.00
0081-04	BAY BANK	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	545		\$57.10	-	\$0.00	4,032	\$24.19	\$81.29	Electric and Water	0.42%	\$15.00	\$0.00	0.18	\$1,323.00	\$1,042.00
0081-05	BAY BANK	Replace Electric Water Heater with Condensing Natural Gas Water Heater	2,837		\$297.48	(109)	(\$86.47)	-	\$0.00	\$211.13	Electric and Gas	0.90%	\$600.00	\$0.00	2.80	\$2,870.00	\$2,142.00
0081-06	BAY BANK	Replace 32-Watt T8 lamps with 25-Watt lamps - Basement (118 total bulbs)	2,371		\$248.61	-	\$0.00	-	\$0.00	\$248.61	Electric	1.27%	\$354.00	\$118.00	0.95	\$2,401.00	\$2,006.00
0081-07	BAY BANK	Replace 32-Watt T8 lamps with 25-Watt lamps - upstairs. Note: Only if the space is to be occupied again	2,497		\$261.87	-	\$0.00	-	\$0.00	\$261.87	Electric	1.34%	\$351.00	\$117.00	0.89	\$2,534.00	\$2,127.00
0081-08	BAY BANK	Replace 32-Watt T8 lamps with 25-Watt lamps - 1st Floor (188 total bulbs)	5,286		\$554.31	-	\$0.00	-	\$0.00	\$554.31	Electric	2.84%	\$564.00	\$188.00	0.68	\$5,502.00	\$4,623.00
0081-09	BAY BANK	Turn off lights in unoccupied space upstairs	1,217		\$127.59	-	\$0.00	-	\$0.00	\$127.59	Electric	0.65%	\$0.00	\$0.00	-	\$655.00	\$599.00
0081-10	BAY BANK	Occupancy Sensors to Control Lighting Runtime	2,276		\$238.62	-	\$0.00	-	\$0.00	\$238.62	Electric	1.22%	\$675.00	\$67.50	2.55	\$3,317.00	\$2,494.00
0081-11	BAY BANK	Use Energy Efficient Power Strips (12 in basement, 8 on 1st floor for 20 total) Some stations may benefit more than others, gets people involved in efficiency push. If people don't like them, scale back.	2,080		\$218.10	-	\$0.00	-	\$0.00	\$218.10	Electric	1.12%	\$800.00	\$0.00	3.67	\$2,787.00	\$2,034.00
0081-12	BAY BANK	Photocell Sensors to Control Lighting Runtime In Naturally-Lit Foyer Area. Assumed just large "bowl" lamps are controlled; savings will increase if other lighting in the area is also controlled	412		\$43.18	-	\$0.00	-	\$0.00	\$43.18	Electric	0.22%	\$100.00	\$0.00	2.32	\$610.00	\$461.00
0081-13	BAY BANK	Replace Older Condensing Units with New More Efficient Units - Due to payback period, this measure is more likely to be beneficial at the end of life of the current equipment	3,739		\$392.10	-	\$0.00	-	\$0.00	\$392.10	Electric	2.01%	\$9,675.00	\$0.00	24.67	\$6,739.00	
0081-14	BAY BANK	Enroll in "Cool Credits" program offered by WPS. 1 small AC unit should be enrolled in the Cool Credits Direct Load Control Program Option 1 (Central Air Conditioner - Full Shutoff and Cycling), 1 electric water heater should be enrolled in the DLCP P Option 2 (Electric Water Heater - Full Shutoff and Cycling), and 2 large condensing units (25.8 kW total) should be enrolled in the Contracted Direct Load Control Program.	702		\$73.56	-	\$0.00	-	\$0.00	\$73.56	Electric	0.38%	\$0.00	\$634.80		\$7,513.00	\$6,389.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0083-01	GLIS	Install simple timer on coffee maker to shut off over night. The off switch on this unit only turns off the pot warmer, not the water heater. A timer from a hardware store will work great	318		\$40.94				\$0.00	\$40.94	Electric	1.71%	\$10.00	\$0.00	0.24	\$664.00	\$523.00
0083-02	GLIS	Programmable Thermostat. The thermostat for the building is non-programmable and was set to 71F for cooling. Recommend installing programmable thermostat with unoccupied setbacks to 80F for cooling and 60F for heating.	879		\$113.33	58	\$70.11		\$0.00	\$183.44	Electric and Gas	6.81%	\$100.00	\$0.00	0.55	\$2,916.00	\$2,284.00
0083-03	GLIS	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	182		\$23.40	-	\$0.00	1,120	\$5.60	\$29.00	Electric and Water	1.16%	\$5.00	\$0.00	0.17	\$473.00	\$373.00
0083-04	GLIS	Replace 200W HPS exterior fixtures with 40 Watt LED Wall packs. These lights are likely on a different meter than the rest of the building; it is drawing very little power	2,330		\$300.40		\$0.00		\$0.00	\$300.40	Electric		\$1,400.00	\$100.00	4.33	\$5,512.00	\$3,704.00
0083-05	GLIS	Replace 75W Incandescent bulbs with 23W CFL	108		\$13.95		\$0.00		\$0.00	\$13.95	Electric	0.58%	\$10.00	\$0.00	0.72	\$138.00	\$116.00
0083-06	GLIS	Replace 32-Watt T8 Lamps with 25-Watt T8 Lamps (44 total bulbs)	641		\$82.61		\$0.00		\$0.00	\$82.61	Electric	3.46%	\$132.00	\$44.00	1.07	\$789.00	\$657.00
0083-07	GLIS	Install Occupancy Sensors in conference room to Control Lighting Runtime	166		\$21.46		\$0.00		\$0.00	\$21.46	Electric	0.90%	\$100.00	\$7.50	4.31	\$260.00	\$186.00
0083-08	GLIS	Use Energy Efficient Power Strips	624		\$80.47		\$0.00		\$0.00	\$80.47	Electric	3.37%	\$240.00	\$0.00	2.98	\$1,083.00	\$806.00
0083-09	GLIS	When the furnace needs replacement (currently a 24-year-old furnace), consider installing a high efficiency unit. Until the existing unit fails, there is not enough savings potential at the site to justify upgrading to an efficient unit.	0	-	\$0.00	34	\$40.79			\$40.79	Gas	1349.00%	\$5,000.00		6.13	\$421.00	\$280.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0084-01	ONES	(12) of the hallway lights are designated as emergency and stay on 24/7. These can be replaced with LED lamps and due to high runtime hours can capture worthwhile savings. Contact a lighting contractor to determine type and configuration of the lamps to fit this specific need. Savings assume 55W of LED per fixture.	5,556	0.636	\$726.01		\$0.00		\$0.00	\$726.01	Electric	0.40%	\$4,800.00	\$300.00	6.20	\$11,961.00	\$7,591.00
0084-02	ONES	Replace exterior MH walk lighting with LED fixtures (similar to the 2 39W fixtures by the chiller already)	7,608	2.090	\$994.08		\$0.00		\$0.00	\$994.08	Electric	0.55%	\$6,650.00	\$475.00	6.21	\$16,366.00	\$10,379.00
0084-03	ONES	Consider replacing MH can overhang lighting with 25W LED down lights. It was assumed that these lights are on the exterior lighting schedule; if this is not the case savings likely do not justify the cost	12,285	3.375	\$1,605.27		\$0.00		\$0.00	\$1,605.27	Electric	0.89%	\$2,025.00	\$675.00	0.84	\$35,047.00	\$25,385.00
0084-04	ONES	Adjust the Economizer controls. The economizers on the AHUs are programmed with enthalpy lockouts and high OAT lockouts. They do not need both and the high temp lockouts can be removed. The enthalpy lockout means that if OA enthalpy is higher than RA enthalpy, the OA damper will close to minimum position. The economizers also have a high temperature lockout, meaning that if OAT > 55F, the damper will close to minimum position. The temperature lockout is unnecessary and allows the system to forego potential savings. (Consider an example: OAT=56, SATstpt=68, RAT=75, in this scenario mechanical cooling will be used to reduce RAT from 75 to 68 when OA could be used instead). All that is needed is to remove the high temp economizer lockout module (do not remove the low temp lockout or the enthalpy lockout). For all AHUs, DDC module 4 can be altered so that line 2 is no longer an input. Note that off-peak electric rates were used to estimate savings because this will likely save the chiller from operating at night to create ice.	4,725	-	\$617.41	-	\$0.00	-	\$0.00	\$617.41	Electric	0.34%	\$0.00	\$0.00	-	\$13,703.00	\$10,065.00
0084-05	ONES	Install a VFD to control motor speed on the CHW pumps. The VFD can be controlled by the differential between return water temp and supply water temp (the control will take some effort to calibrate) or on system cooling load. Because the pumps likely run <2000 hours/year, there is no rebate for this measure	6,189	10.314	\$808.66		\$0.00		\$0.00	\$808.66	Electric	0.45%	\$3,750.00	\$0.00	4.64	\$9,554.00	\$6,763.00
0084-06	ONES	Install a VFD to control motor speed on the HW pumps. The VFD can be controlled by the differential between return water temp and supply water temp (the control will take some effort to calibrate) or on system heating load. Note that a HWST reset will achieve some of the same savings, but not as much. If the VFD is not installed, it is recommended to consider a HWST reset.	23,517	3.094	\$3,072.89		\$0.00		\$0.00	\$3,072.89	Electric	1.71%	\$1,200.00	\$375.00	0.27	\$49,710.00	\$39,109.00
0084-07	ONES	Install a VFD on the supply fan of AHU-B2. This is the only AHU that will currently benefit from a supply fan VFD because all the diffusers it serves are modulated by VAV dampers	2,475	0.825	\$323.46	-	\$0.00	-	\$0.00	\$323.46	Electric	0.18%	\$550.00	\$100.00	1.39	\$4,862.00	\$3,747.00
0084-08	ONES	A secondary chiller is used to condition some spaces in the building during the summer when occupancy is minimal. It is recommended to keep this chiller offline. Last summer, the chiller was offline and the building operated without the conditioning. Estimated savings here are the cost to keep the chiller running and can be used to determine whether it is worth running the chiller. Note: there are also water/sewer savings from shutting the chiller down, but an estimate of how great the saving are was not calculated	11,520	13.600	\$1,505.31	-	\$0.00			\$1,505.31	Electric	0.84%	\$0.00	\$0.00	-	\$24,750.00	\$19,558.00
0084-09	ONES	Program a HW supply temperature reset to decrease the load on the boilers on warmer days. Note that savings are modest because the system design will not allow a robust reset schedule without affecting comfort. Also note that significantly higher savings could be achieved if the capital investment recommendation (separate measure) were implemented. Finally note that installing a VFD on the HW pumps (separate measure) will reduce the savings potential for using a HWST reset. It is recommended to implement the HWST reset only if the HW pump VFD will not be installed.	0	-	\$0.00	259	\$186.81	-	\$0.00	\$186.81	Gas	0.44%	\$0.00	\$0.00	-	\$3,075.00	\$2,430.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0086-01	LAND MANAGEMENT OFFICE	Replace old oversized domestic natural gas hot water heater. The current unit in the 'older' part of the facility is a 60-gallon unit. This is oversized. It is recommended that when this unit fails replace it with a 30-gallon or smaller high efficiency natural gas water heater. Though replacing the unit now may save a slight amount of energy from heating more water than is needed and from the unit being less efficient than newer models, the financial gain is too small to consider a retrofit at this time.	(433)		(\$51.31)	74	\$56.91			\$5.60	Electric and Gas	0.00%			-		
0086-02	LAND MANAGEMENT OFFICE	During the onsite inspection it was noted that on a warm 70+ degree day in July the Boiler #2 was circulating hot water through the system. The return water temp was approximately 150 degrees. All boilers should be shut down during the summer months or have a Boiler Cut Out Control installed. Currently a large amount of Therms are being used during the summer months some of which is for the natural gas heating, but the majority of the Therms are being used on the boilers.	208		\$24.64	1,785	\$1,372.41		\$0.00	\$1,397.05	Electric and Gas	6.33%	\$0.00	\$0.00		\$31,682.00	\$16,312.00
0086-03	LAND MANAGEMENT OFFICE	Install load controls on all the condenser units and the electric water heater	221		\$26.12		\$0.00		\$0.00	\$257.72	Electric	0.18%	\$0.00	\$231.60			
0086-04	LAND MANAGEMENT OFFICE	Install timers on the coffee maker and popcorn machine to reduce runtime during unoccupied hours.	600		\$71.08		\$0.00		\$0.00	\$71.08	Electric	0.49%	\$80.00	\$0.00	1.13	\$1,532.00	\$750.00
0086-05	LAND MANAGEMENT OFFICE	Re-Program Thermostats. The File Room stat is set to go to 71 for cooling at 8:00 a.m., change this setting to 75 degrees. From 4:30 at night to 6:00 a.m. the heat is set to 70 degrees, change this to 60 degrees. The Downstairs stat's 8:00 a.m. weekend setting is currently at 75 degrees for cooling, change to 82 degrees. Set all thermostats to start their occupied cycle at 6:45 a.m. and the Unoccupied cycle at 4:15 p.m. These setting can be adjusted to meet occupant's comfort levels.	486		\$57.62	168	\$129.12		\$0.00	\$186.74	Electric	0.40%	\$0.00	\$0.00		\$4,235.00	\$2,180.00
0086-06	LAND MANAGEMENT OFFICE	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	363	0.036	\$43.00	22	\$16.92	2,959	\$17.75	\$77.67	Electric, Gas, and Water	0.34%	\$20.00	\$0.00	0.16	\$1,258.00	\$743.00
0086-07	LAND MANAGEMENT OFFICE	Replace Electric Water Heater with Condensing Natural Gas Water Heater	1,338		\$158.50	(48)	(\$36.91)		\$0.00	\$121.59	Electric and Gas	0.55%	\$600.00	\$100.00	4.10	\$1,500.00	\$695.00
0086-08	LAND MANAGEMENT OFFICE	65W Incandescent to 13-Watt CFL	845	0.260	\$100.10		\$0.00		\$0.00	\$100.10	Electric	0.69%	\$20.00	\$10.00	0.10	\$661.00	\$458.00
0086-09	LAND MANAGEMENT OFFICE	75W MH with Magnetic Ballast to 40-Watt LED Wall pack	218	0.060	\$25.87		\$0.00		\$0.00	\$25.87	Electric	0.18%	\$350.00	\$25.00	12.56	\$261.00	(\$23.00)
0086-10	LAND MANAGEMENT OFFICE	15W spotlight style CFL to 7-Watt LED	416	0.128	\$49.28		\$0.00		\$0.00	\$49.28	Electric	0.34%	\$480.00	\$160.00	6.49	\$798.00	\$255.00
0086-11	LAND MANAGEMENT OFFICE	Two 8' T12 fixtures to four 4' T8 fixtures with electronic ballasts and two 25-watt lamps	426	0.131	\$50.51		\$0.00		\$0.00	\$50.51	Electric	0.35%	\$260.00	\$16.00	4.83	\$291.00	\$129.00
0086-12	LAND MANAGEMENT OFFICE	Recessed 54-Watt CFL to 12-Watt LED	2,184	0.672	\$258.72		\$0.00		\$0.00	\$258.72	Electric	1.80%	\$1,280.00	\$0.00	4.95	\$4,588.00	\$1,741.00
0086-13	LAND MANAGEMENT OFFICE	32-Watt T8 Lamps to 25-Watt T8 Lamps	4,960	1.526	\$587.51		\$0.00		\$0.00	\$587.51	Electric	4.08%	\$654.00	\$218.00	0.74	\$5,798.00	\$3,911.00
0086-14	LAND MANAGEMENT OFFICE	Delamp existing fluorescent 4-lamp and 3-lamp fixtures by 1 lamp	3,088	0.950	\$365.75		\$0.00		\$0.00	\$365.75	Electric	2.54%	\$0.00	\$0.00		\$3,881.00	\$2,706.00
0086-15	LAND MANAGEMENT OFFICE	Occupancy Sensors to Control Lighting Runtime	5,242	1.613	\$620.92		\$0.00		\$0.00	\$620.92	Electric	4.31%	\$2,600.00	\$650.00	3.14	\$8,265.00	\$4,154.00
0086-16	LAND MANAGEMENT OFFICE	Install Vending Miser	1,750		\$207.31		\$0.00		\$0.00	\$207.31	Electric	1.44%	\$200.00	\$0.00	0.96	\$1,999.00	\$1,334.00
0086-17	LAND MANAGEMENT OFFICE	Use Energy Efficient Power Strips	3,432		\$406.56		\$0.00		\$0.00	\$406.56	Electric	2.82%	\$1,320.00	\$0.00	3.25	\$7,901.00	\$3,428.00
0086-18	LAND MANAGEMENT OFFICE	Photocell Sensors to Control Lighting Runtime	744	0.229	\$88.09		\$0.00		\$0.00	\$88.09	Electric	0.61%	\$100.00	\$0.00	1.14	\$1,350.00	\$766.00
0086-19	LAND MANAGEMENT OFFICE	Seal Door and Window Air Leakage	7		\$0.80	38	\$29.48		\$0.00	\$30.29	Electric and Gas	0.14%	\$7.00	\$0.00	0.23	\$312.00	\$215.00
0086-20	LAND MANAGEMENT OFFICE	Replace Older Condensing Units with New More Efficient Units. The 2.5 and 3 ton Temp Star and Carrier condensers should be replaced.	2,581		\$305.70		\$0.00		\$0.00	\$305.70	Electric	2.12%	\$2,475.00	\$200.00	7.44	\$4,660.00	\$1,295.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0086-21	LAND MANAGEMENT OFFICE	The Economizer low limit is currently set for 45% open. This should be changed to better match occupancy. During a time when the exterior temperature was 25 to 40 degrees the economizer was open 67% to 47% over a 24 hour period. The programming for the economizer should be adjusted to better match usage of the facility.	11,028		\$1,306.39	2,758	\$2,757.95		\$0.00	\$4,064.34	Electric and Gas	18.40%	\$500.00	\$0.00	0.10	\$55,869.00	\$33,180.00
0086-22	LAND MANAGEMENT OFFICE	Currently the VAVs have no setback during unoccupied hours (at least that could be found in INET). These units should be setback to 60 heating and 85 cooling from 1 hour before facility is unoccupied to 1/2 hour before it is re-occupied.	2,373		\$296.55	276	\$213.70		\$0.00	\$510.25	Electric and Gas	2.31%	\$400.00	\$0.00	0.78	\$7,615.00	\$4,348.00
0086-23	LAND MANAGEMENT OFFICE	Currently the AHU runs 24x7. The unit should be programmed to shut down or 'coast' based upon the occupancy of the facility from 1 hour before facility is unoccupied to 1/2 hour before it is re-occupied.	10,057		\$1,191.39	941	\$723.16		\$0.00	\$1,914.55	Electric and Gas	8.67%	\$500.00	\$0.00	0.26	\$30,998.00	\$18,320.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0092-02	MAIN CASINO	Above the Cashier windows replace the neon 'Open' sign with LED signs	4,953	0.567	\$347.72		\$0.00		\$0.00	\$347.72	Electric	0.09%	\$350.00	\$0.00	1.01	\$7,534.00	\$5,441.00
0092-03	MAIN CASINO	In the Lobby Elevator, Main Entrance, Atrium and Main Bar Incandescent bulbs are being utilized. These should all be replaced with LED bulbs with wattage ranging from 4 to 13 Watts depending upon desired lighting level. For example, in the Elevator a 4	12,654	1.448	\$888.29		\$0.00		\$0.00	\$888.29	Electric	0.23%	\$1,400.00	\$280.00	1.26	\$19,021.00	\$13,674.00
0092-04	MAIN CASINO	In the East side elevator there are 2 T12 fixtures. These should be replaced with four 4-Watt to 7-Watt LED fixtures.	1,267	0.145	\$88.92		\$0.00		\$0.00	\$88.92	Electric	0.02%	\$160.00	\$20.00	1.57	\$803.00	\$662.00
0092-05	MAIN CASINO	There are (18) 8-Foot T12 and two 4-Foot T12 fixtures (not including East side elevator) in the facility and in the Carpenters Shop. It is recommended to replace them with 25-Watt T8 fixtures.	8,160	0.934	\$572.84		\$0.00		\$0.00	\$572.84	Electric	0.15%	\$260.00	\$54.00	0.36	\$5,869.00	\$4,960.00
0092-06	MAIN CASINO	32-Watt T8 Lamps to 25-Watt T8 Lamps. All 4-Foot T8 lighting in the building, including the Soffit lighting in the Casino.	87,692	10.038	\$6,155.96		\$0.00		\$0.00	\$6,155.96	Electric	1.57%	\$4,302.00	\$1,434.00	0.47	\$62,420.00	\$52,649.00
0092-07	MAIN CASINO	It is recommended to remove 1 lamp from every 3 or 4 lamp fluorescent fixture in the facility. Most of the office and employee areas have an excessive amount of lighting. Removing 1 lamp will save energy and there will still be ample lighting for the sp	130,629	14.953	\$9,170.16		\$0.00		\$0.00	\$9,170.16	Electric	2.34%	\$0.00	\$0.00		\$150,803.00	\$119,167.00
0092-08	MAIN CASINO	There are approximately 19 52-Watt Recessed CFL fixtures in the office areas and the Atrium restrooms. Each of the fixtures should have one of the 26-Watt bulbs removed. There will be sufficient task lighting with half the energy consumption.	4,316	0.494	\$302.95		\$0.00		\$0.00	\$302.95	Electric	0.08%	\$0.00	\$0.00		\$4,983.00	\$3,937.00
0092-09	MAIN CASINO	A good use for LED lights would be in the High Stakes room and the Executive Lounge. Replace the estimated 50-Watt MR16 Metal Halides with 4 to 10 Watt LEDs.	23,290	2.666	\$1,634.97		\$0.00		\$0.00	\$1,634.97	Electric	0.42%	\$2,480.00	\$620.00	1.14	\$35,211.00	\$25,369.00
0092-10	MAIN CASINO	The lighting for the 'Column' on the casino floor is using approximately 40 26-Watt CFLs. It is recommended to test out one of the column's lighting using 10 to 20 Watt LED bulbs and if it looks aesthetically pleasing then install LEDs in all the 'Columns'. The real bonus to this a good quality LED should last significantly longer than a CFL, thus reducing maintenance costs. Only electrical savings are indicated in this report.	3,844	0.440	\$269.84		\$0.00		\$0.00	\$269.84	Electric	0.07%	\$2,000.00	\$400.00	5.93	\$4,518.00	\$2,894.00
0092-11	MAIN CASINO	There are 20 canopy lights at the East entrance to the casino and 8 lights in the North stairwell that appear to be 15-Watt CFL screw in base bulbs. 7-Watt LED replacement bulbs should be installed (after a test to ensure the fixture and the LED will function properly together).	1,957	0.224	\$137.37		\$0.00		\$0.00	\$137.37	Electric	0.04%	\$1,120.00	\$280.00	6.11	\$2,275.00	\$1,448.00
0092-12	MAIN CASINO	Fluorescent Exit Signs to .5 Watt LED. There are approximately 36 remaining Exit Signs that are using incandescent lighting. These should be replaced with .5-Watt LED Exit Signs.	12,423	1.422	\$872.06		\$0.00		\$0.00	\$872.06	Electric	0.22%	\$900.00	\$0.00	1.03	\$18,874.00	\$13,624.00
0092-13	MAIN CASINO	In the Executive Lounge, Smoke Shop and the Main Bar areas there are approximately 51 G10 Halogen lights being used. These should be replaced with 2 to 5 Watt LEDs.	18,713	2.142	\$1,313.61		\$0.00		\$0.00	\$1,313.61	Electric	0.34%	\$2,040.00	\$510.00	1.16	\$28,255.00	\$20,348.00
0092-14	MAIN CASINO	Garage - Relamp 32-Watt fluorescents to 25-Watt fluorescents	99,154	11.350	\$6,960.56		\$0.00		\$0.00	\$6,960.56	Electric	1.78%	\$0.00	\$0.00		\$73,822.00	\$62,774.00
0092-15	MAIN CASINO	Garage - There are occupancy sensing bi-level LED lighting fixtures on the market however since these fixtures are relatively new it may not make sense to replace them at this time. The cost of bi-level LEDs at this time may also be prohibitive, currently an estimated cost of \$800 per fixture is being estimated. In several years though the price may drop substantially or if funding for the project were to become available. However for the sake of this report savings/cost estimates for replacing all parking area fluorescents with bi-level lighting occupancy sensing LED fixtures is included.	122,653	14.040	\$8,610.25		\$0.00		\$0.00	\$8,610.25	Electric	2.20%	\$216,000.00	\$6,750.00	24.30	(\$14,024.00)	(\$65,853.00)

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0092-16	MAIN CASINO	Garage - There are 42 23-Watt CFL recessed flood lights that appear to have the screw in style base. It is recommended to replace these with 7 to 10 Watt LEDs.	5,871	0.672	\$412.11		\$0.00		\$0.00	\$412.11	Electric	0.11%	\$1,680.00	\$420.00	3.06	\$8,085.00	\$5,604.00
0092-17	MAIN CASINO	Garage - There are 31 pole mounted Metal Halide and HPS light fixtures that could be replaced with Fluorescent or LED lighting. For the sake of calculations in this report LED lighting will be recommended. Fluorescent pole lighting is in use at other Nation's facilities. This may be a good opportunity to have a test with LED parking lot lighting.	46,716	10.695	\$3,279.44		\$0.00		\$0.00	\$3,279.44	Electric	0.84%	\$31,000.00	\$1,240.00	9.07	\$44,598.00	\$24,857.00
0092-18	MAIN CASINO	Garage - There are 3 estimated 250-Watt Wall packs on 24/7 on the exterior of the parking garage. These could be replaced with 40-Watt LED Wall packs with photocell sensors installed.	6,683	0.765	\$469.15		\$0.00		\$0.00	\$469.15	Electric	0.12%	\$1,350.00	\$105.00	2.65	\$9,392.00	\$6,568.00
0092-19	MAIN CASINO	The gaming floor is lit with approximately (77) recessed CFL fixtures. This presents an ideal opportunity to conserve energy by switching to LED lighting. It is recommended to try replacing 5 lights with 10W, LED bulbs rated at ~3000K (meaning they give off a warm light) to maintain the current light level and color. Tweak the Wattage and color of the bulbs if necessary before replacing the rest of the lighting on the floor. It may take a small amount of effort to get the right light levels and color of the lighting, but because this application is an ideal use for LEDs, it will be well worth the effort especially in the long run. There are two main reasons this is an ideal place to use LEDs: First, because the lights are on 24/7, the reduced Wattage of the LEDs conserves more energy than in other applications. Second, because the bulbs are difficult to replace (we saw two maintenance personnel accompanied by a security guard using a scissor lift to changing just one burned out bulb the day we were there) the fact that LED bulbs last 4 times as long as fluorescents will save maintenance costs in addition to conserving electricity. Only the electric savings are calculated in here. There is no prescriptive rebate for replacing fluorescent with LED lighting, but Focus on Energy will likely be willing to provide a custom rebate (estimated \$5/bulb) by calling 800.762.7077	28,252	3.234	\$1,983.30		\$0.00		\$0.00	\$1,983.30	Electric	0.51%	\$3,080.00	\$385.00	1.36	\$42,274.00	\$30,335.00
0092-20	MAIN CASINO	The gaming floor has approximately (25) halogen GU10-style lights used for accent lighting. This is another ideal application for LED lighting due to the fact that the lights are on 24/7. The existing bulbs should be replaced with 4W LED lamps (try one first and see if 5 or 6W would be preferred). The life of the bulb and the 24/7 energy savings will make this measure worth the effort.	12,230	1.400	\$858.57		\$0.00		\$0.00	\$858.57	Electric	0.22%	\$1,025.00	\$250.00	0.90	\$18,691.00	\$13,523.00
0092-21	MAIN CASINO	All stairwells, especially ones that are used sparingly should have occupancy sensors or occupancy sensing fixtures installed to reduce lighting runtime. For the calculations in this report installation of Occupancy Sensors is assumed (due to low lighting loads in stairwells the occupancy sensing fixtures will make the payback period too long).	2,636	0.302	\$185.02		\$0.00		\$0.00	\$185.02	Electric	0.05%	\$1,200.00	\$80.00	6.05	\$1,923.00	\$1,285.00
0092-22	MAIN CASINO	Though the facility is occupied 24/7 some of the spaces and offices are not. These spaces should have occupancy sensors installed. For the sake of the calculations in this report it is assumed that 50% of the offices and employee spaces would be able to reduce their runtime significantly.	44,554	5.100	\$3,127.65		\$0.00		\$0.00	\$3,127.65	Electric	0.80%	\$3,000.00	\$225.00	0.89	\$48,660.00	\$37,870.00
0092-23	MAIN CASINO	The Carpenter Shop and the Old Groundskeeper Shop should have 2 ceiling mounted occupancy sensors installed to control lighting runtime. The Paint Storage should also have wall mounted occupancy sensors installed.	5,537	1.065	\$388.69		\$0.00		\$0.00	\$388.69	Electric	0.10%	\$900.00	\$47.50	2.19	\$5,540.00	\$4,199.00
0092-24	MAIN CASINO	Photocells should be used to control the lighting runtime of the following locations: East Canopy and the East Foyer	6,458	0.739	\$453.33		\$0.00		\$0.00	\$453.33	Electric	0.12%	\$200.00	\$0.00	0.44	\$7,255.00	\$5,691.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0092-25	MAIN CASINO	In the Atrium area there are 14 Metal Halides estimated to be using 400-Watt lamps, Install a photocell sensor to control their runtime as there is ample daylighting available in the Atrium.	1,586	0.182	\$111.37		\$0.00		\$0.00	\$111.37	Electric	0.03%	\$200.00	\$0.00	1.80	\$1,631.00	\$1,247.00
0092-26	MAIN CASINO	Photocells should be installed on the 3 estimated 250-Watt Metal Halide Wall packs on the exterior of the garage. Currently these units are on during daylight hours. The costs in this report account for the installation of 1 photocell to control all 3 fixtures.	1,289	0.148	\$90.46		\$0.00		\$0.00	\$90.46	Electric	0.02%	\$200.00	\$0.00	2.21	\$1,288.00	\$976.00
0092-27	MAIN CASINO	Replace 2.2 GPM Aerators with 1.5 GPM Aerators			\$0.00	473	\$307.82		\$711.84	\$1,019.65	Gas	0.59%	\$215.00	\$0.00	0.21	\$16,556.00	\$13,038.00
0092-28	MAIN CASINO	Reduce DHW Temperature			\$0.00	446	\$290.16		\$0.00	\$290.16	Gas	0.56%	\$0.00	\$0.00		\$4,772.00	\$3,771.00
0092-29	MAIN CASINO	Use Energy Efficient Power Strips	12,688		\$890.70		\$0.00		\$0.00	\$890.70	Electric	0.23%	\$4,880.00	\$0.00	5.48	\$9,767.00	\$6,695.00
0092-30	MAIN CASINO	In some areas of the facility that are not continually occupied timers should be used for electrical plug loads. The following locations and items are recommended. Executive Lounge - Water Cooler, Coffee Maker; 2nd floor office corridors water fountain(s) and Coffee Maker.	1,260		\$88.45		\$0.00		\$0.00	\$88.45	Electric	0.02%	\$160.00	\$0.00	1.81	\$1,295.00	\$989.00
0092-31	MAIN CASINO	Install Vending Miser	12,625		\$886.27		\$0.00		\$0.00	\$886.27	Electric	0.23%	\$1,600.00	\$435.00	1.31	\$13,410.00	\$10,352.00
0092-32	MAIN CASINO	The 4 Coin Rollers in the Vault are on 24/7 but only used at most 20% of the time they are on. It is recommended for staff to turn off the Coin Rollers when not in use. Sensor mat that would activate the Coin Rollers when someone steps on them could also control the runtime, as well as other strategies such as a simple manually turned timer that operates for 15 minutes then shuts off the machines. However it is much simpler to have the employees turn the units off when they are not in use.	5,100		\$358.02		\$0.00		\$0.00	\$358.02	Electric	0.09%	\$0.00	\$0.00		\$5,888.00	\$4,653.00
0092-33	MAIN CASINO	Install new weather stripping and door sweeps on the exterior and foyer doors at the East entrance.	767		\$53.81	1,079	\$701.93		\$0.00	\$755.74	Electric and Gas	0.17%	\$200.00	\$0.00	0.26	\$7,815.00	\$6,616.00
0092-35	MAIN CASINO	There are approximately 20 mini-refrigerators throughout the facility. These should be consolidated to centralized large refrigerators. It is assumed that 4 refrigerators would be purchased to compensate for the mini-fridges.	4,600		\$322.92		\$0.00		\$0.00	\$322.92	Electric	0.08%	\$2,400.00	\$0.00	7.43	\$2,910.00	\$1,796.00
0092-36	MAIN CASINO	Most of the exhaust fans (Power Roof Ventilators, or PRVs) all run at max capacity continuously. The facility is at a predictably low occupancy level between 1 and 6AM, so at least half of the PRVs can safely be cycled off for at least 15 minutes every half hour during that period. To implement this measure, a schedule should be programmed	9,809		\$688.60	-	\$0.00		\$0.00	\$688.60	Electric	0.18%	\$0.00	\$0.00		\$11,324.00	\$8,948.00
0092-37	MAIN CASINO	The 4 chillers (940 kW total) can be enrolled in the Contracted Direct Load Control Program. First, it should be verified that the equipment can be switched on and off. Second, Oneida should talk with WPS to see if there are any custom programs for large chillers to possibly work out an even more beneficial arrangement. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	16,450		\$1,154.79		\$0.00		\$0.00	\$25,402.79	Electric	0.30%	\$0.00	\$24,248.00		\$258,028.00	\$219,412.00
0092-38	MAIN CASINO	6 Rooftop units (177 kW total) can be enrolled in the Contracted Direct Load Control Program. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	3,098		\$217.44		\$0.00		\$0.00	\$4,531.44	Electric	0.06%	\$0.00	\$4,314.00		\$48,059.00	\$40,867.00
0092-39	MAIN CASINO	Consider replacing existing RTUs #7 and #8 with new, more efficient units (at least 13 EER or 14 SEER). ROI is longer, but the value of the project over time is high.	5,236		\$367.54	207	\$134.86		\$0.00	\$502.41	Electric and Gas	0.11%	\$26,250.00	\$0.00	52.25	\$4,388.00	
0092-40	MAIN CASINO	There are 7 functional RTUs at the facility. All of them should undergo a routine tune-up. Focus on Energy provides a reasonable rebate for performing the tune-up, but by doing the tune-up you can then qualify for additional rebates from the next several recommended measures. Savings are from	7,958		\$558.63	359	\$233.32			\$791.95	Electric and Gas	0.18%	\$700.00	\$280.00	0.53	\$3,646.00	\$3,301.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
		increased RTU efficiency for all 7 units.															
0092-41	MAIN CASINO	Three RTUs are paired with HRUs (RTU #1, 2, and 8). The HRUs likely have existing basic economizer control that stops the desiccant wheel from spinning when free cooling is available (at 55F OAT). First, verify that these basic economizer controls are installed; if they are not, the savings from this measure will double to triple. Next, the existing controls do not capture all available economizer savings and since the building operates 24/7 it is worth considering upgrading the controls. To upgrade, a new DDC control module should be programmed to send an economizer enable signal to the HRU when the exhaust temperature is higher than OAT (the inputs already exist, all that is needed is a new DDC control). The economizer should also be disabled below 20F OAT and when the RTU is not calling for cooling. The DDC module can be programmed in INET and an additional control line will need to be added from the local controller to the HRU. This differential temperature control is significantly more efficient than the current basic control that only enables the economizer on OA temperature. See the next recommendation to take this measure one step further for more savings.	2,653		\$186.21	120	\$77.77		\$0.00	\$263.98	Electric and Gas	0.06%	\$1,000.00	\$0.00	3.79	\$3,342.00	\$2,431.00
0092-42	MAIN CASINO	Three RTUs are paired with HRUs (RTU #1, 2, and 8). These HRUs can be equipped with differential enthalpy economizer controls to decrease the operation of the desiccant wheel when conserving exhaust enthalpy actually increases cooling costs (stop the energy recovery to achieve free cooling). See the previous measure recommending to program a DDC module to compare exhaust air temp to OA temp. This measure can use the same DDC module, but should use exhaust and OA enthalpy instead of temperature. This measure will also require installing RH sensors in the exhaust stream of each HRU. (costs and savings for this measure are total, not additive to the previous measure)	6,631		\$465.53	299	\$194.44		\$0.00	\$659.96	Electric and Gas	0.15%	\$1,200.00	\$0.00	1.82	\$9,653.00	\$7,376.00
0092-43	MAIN CASINO	Three RTUs (RTU #1, 2, and 8) can benefit from Demand Control Ventilation. A fourth (RTU #7) should be considered too if the first three achieve the desired savings (it is feasible to outfit the remaining RTUs with DCV, but at a higher cost and level of difficulty). Open spaces in the casino are ideal candidates for saving energy from DCV because they are ventilated 24/7 and the occupancy fluctuates widely throughout the day. A new control should be programmed into INET so that RTU/HRU Supply and Return fans can be turned off when there is no call for heat or cool and when the space is properly ventilated. There also needs to be a CO2 sensor installed with an associated input into the local CSI controller for each unit. The savings are rough estimates, but they are conservative. If it's possible to implement the project, the savings will easily cover the costs. The major hurdle to consider is how CO2 sensors behave in smoking areas. This means that at a given CO2 level, more ventilation will be needed in a smoking area than would be required in a non-smoking area. However, this also means that savings will be higher because at times of low occupancy DCV can prevent larger exhaust losses in smoking facilities. Because the space is important to properly ventilate, extra cost was included for the measure to maintain and calibrate the sensors more often than usual.	21,221		\$1,489.68	956	\$622.20		\$2,111.88	Electric and Gas	0.48%	\$2,000.00	\$1,050.00	0.45		\$33,779.00	\$26,494.00
0092-44	MAIN CASINO	Consider implementing Demand Control Ventilation for the 4 large Energy Recovery Units. The casino is an ideal candidate for saving energy from DCV because it is ventilated 24/7 and the occupancy fluctuates widely throughout the day. A new control should be programmed into INET so that Supply and Return fans can be throttled down when there is no call for heat or cool and when the space is properly ventilated. To provide the	62,667		\$4,399.22	3,048	\$1,983.25			\$6,382.47	Electric and Gas	1.44%	\$1,500.00	\$0.00	0.24	\$103,459.00	\$81,441.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
		occupancy input, a CO2 sensor will need to be installed near the thermostat for each ERU and that will provide the input to INET. The major hurdle to consider is how CO2 sensors behave in smoking areas. This means that at a given CO2 level, more ventilation will be needed in a smoking area than would be required in a non-smoking area. However, this also means that savings will be higher because at times of low occupancy DCV can prevent larger exhaust losses in smoking facilities. The savings are rough estimates, but they are conservative. If it's possible to implement the project, the savings will easily cover the costs of the project. Because the space is important to properly ventilate, extra cost was included for the measure to maintain and calibrate the sensors more often than usual. Note that the ERUs already have VFDs installed on the fan motors, but they are operating at 100% capacity continuously because there is nothing to modulate them. DCV can provide that modulating input.															
0092-45	MAIN CASINO	Implement set point setbacks for appropriate areas. All set points in all areas of the casino are currently 72F at all times. For the main gaming floor and many other areas, a 24/7 schedule is necessary. For many other office areas a schedule including unoccupied setback periods is appropriate. It is recommended to identify those areas that can be set back and program an occupied schedule into the INET controller for the VAV that serves each area. There are already ASCs set up in INET that have setbacks programmed, all that would be needed is to implement them with the new schedule. Alternately, a simple unoccupied set point of 85C/64H can be added to the I/O points and each VAV set point can be set to vary on the new schedule. Some offices can be set back as much as 14 hours a day and all weekends. For the savings calculations, it is estimated that each VAV can be setback for 8 hours per day on average. Note that RTUs 4 and 5 are equipped to reduce energy consumption as a result of the reduced load.	17,749		\$1,245.97	437	\$312.76			\$1,558.73	Electric and Gas	0.35%	\$0.00	\$0.00		\$25,170.00	\$19,890.00
0092-46	MAIN CASINO	EDH-11 set point should be reduced (INET controller in 'RT1 /HRU5 PCU' DCU). The current set point is 73F even though the VAV supplying the duct has a space set point of 72. That means that the duct heater is running even when the gas heat from the RTU is off. The set point should be changed to 71.5F so that the electric heat is only on if the gas heat is unable to maintain comfort. This effectively transfers the heat load from the more expensive electric heat to cheaper gas heat.	10,000		\$702.00	(427)	(\$277.56)			\$424.44	Electric and Gas	0.10%	\$0.00	\$0.00		\$6,595.00	\$5,211.00
0092-47	MAIN CASINO	Similar to the EDH-11 recommendation, it is recommended to reduce the set point of all functional electric heaters, thereby shifting some of the heating load onto gas heating equipment while still maintaining the same comfort level. The rest of the heaters have the same set point (72F) as the gas system, so savings won't be as dramatic. Still, even reducing their set points to 71.5F will ensure that the gas equipment is shouldering the bulk of the heating burden and lower electric consumption while maintaining comfort. Note that there are 14 electric duct heaters. Approximately 5 of them are currently broken. If the space is able to maintain comfort without the electric heaters, it is recommended to skip repairing them.	13,500		\$947.70	(576)	(\$374.70)			\$573.00	Electric and Gas	0.13%	\$0.00	\$0.00		\$9,423.00	\$7,446.00

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0093-01	CONSERVATION	75-W Incandescent to 13-Watt CFL-15 total bulbs in bathrooms, basement, and rear exterior light (low weekly hours, but still easily worth it)	1,209		\$152.94		\$0.00		\$0.00	\$152.94	Electric	2.42%	\$75.00	\$30.00	0.29	\$1,577.00	\$1,334.00
0093-02	CONSERVATION	200w MH with Magnetic Ballast to 40-Watt LED Wall pack	582		\$73.67		\$0.00		\$0.00	\$73.67	Electric	1.16%	\$350.00	\$25.00	4.41	\$1,344.00	\$901.00
0093-03	CONSERVATION	Woodshed incandescent lights to CFL	928		\$117.42		\$0.00		\$0.00	\$117.42	Electric	1.86%	\$30.00	\$12.00	0.15	\$1,227.00	\$1,041.00
0093-04	CONSERVATION	32-Watt T8 Lamps to 25-Watt T8 Lamps-only 1 fixture in the copy room	74		\$9.30		\$0.00		\$0.00	\$9.30	Electric	0.15%	\$12.00	\$4.00	0.86	\$91.00	\$76.00
0093-05	CONSERVATION	Workshop (4) 8'2LT12 fixtures to (4) 4'4LT8 with 25W bulbs	1,682		\$212.76		\$0.00		\$0.00	\$212.76	Electric	3.36%	\$400.00	\$40.00	1.69	\$1,897.00	\$1,559.00
0093-06	CONSERVATION	Occupancy Sensors to Control Lighting Runtime - From shortest to longest payback: ceiling sensor in woodshed, ceiling in workshop, wall sensor in restrooms, wall in front office	715		\$90.42		\$0.00		\$0.00	\$90.42	Electric	1.43%	\$600.00	\$35.00	6.25	\$922.00	\$610.00
0093-07	CONSERVATION	Re-Program (3) indoor thermostats. There are 2 thermostats that are not configured to be programmable, but they are capable of being changed; no capital investment required. And there is one stat that is improperly programmed For those stats that currently cannot be scheduled, enter the installer setup menu and change function 160 from 0 to 4, this will enable the scheduling format. The stats should be changed to set back the temperature set point to 62 heating and 85 cooling during unoccupied hours, 4:30PM-6:30AM M-F and weekends (there will be some small savings from conserving fan and heat pump motors, but these are difficult to model). GAS SAVINGS ARE FROM CONSERVING PROPANE; no natural gas.	0		\$0.00		\$299.70		\$0.00	\$299.70	Propane	8.00%	\$0.00	\$0.00		\$4,929.00	\$3,895.00
0093-08	CONSERVATION	The thermostat in the workshop is currently set to 62F continuously. The stat should be set back overnight to as low as 50F from 5PM to 5AM and on weekends because the space does not need to be heated when nobody is there. The schedule can start the occupied period at 6AM to ensure that it will be comfortable by the time people arrive for the day. GAS SAVINGS FROM CONSERVING PROPANE; no natural gas	0		\$0.00		\$506.55			\$506.55	Propane	15.00%	\$0.00	\$0.00		\$8,330.00	\$6,583.00
0093-09	CONSERVATION	Use Energy Efficient Power Strips	624		\$78.94		\$0.00		\$0.00	\$78.94	Electric	1.25%	\$240.00	\$0.00	3.04	\$1,058.00	\$786.00
0093-10	CONSERVATION	Farmhouse - Working from the exterior of the wall, insulate the existing wall cavities with blown in foam or cellulose insulation installed through holes created after removing siding.	2,813		\$355.78		\$22.14			\$377.92	Electric/Propane	9.00%	\$8,000.00	\$0.00	21.20		
0093-11	CONSERVATION	Farmhouse - Add additional batt insulation, minimum 12" R38, to floor and wall of crawl spaces. Install weather-stripping on the crawl space access doors. Install missing fiberglass batt insulation between accessible roof rafters.	500		\$63.25		\$2.46			\$131.42	Electric/Propane	1.00%	\$600.00	\$0.00	4.60		
0093-12	CONSERVATION	Workshop - Install 72" wide (assumed for existing structural wood framing) R-19 faced fiberglass batt insulation in existing wall and roof structure. Install OSB sheathing up to 8' above finish floor for protection.	0		\$0.00		\$481.46			\$481.46	Propane	14.00%	\$9,600.00	\$0.00	19.90		
0093-13	CONSERVATION	Workshop overhead door is frequently open during the working day. An air curtain installed above the overhead door forces a pressurized column of air in front of the door when it is open. This maintains the interior conditioned temperature.	0		\$0.00		\$384.50			\$384.50	Propane	11.18%	\$7,200.00	\$0.00	18.70		

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0094-01	FARM OFFICE	32-Watt T8 Lamps to 25-Watt T8 Lamps (24 lamps total)	489		\$69.24		\$0.00		\$0.00	\$69.24	Electric	2.79%	\$72.00	\$24.00	0.69	\$686.00	\$576.00
0094-02	FARM OFFICE	Install Programmable Thermostat and program setbacks to 85F cooling and 60F heating for the periods 4:30PM-6:30AM M-F and 10:30AM-8AM SS	1,054		\$149.12	163	\$142.48		\$0.00	\$291.59	Electric and Gas	7.32%	\$100.00	\$0.00	0.34	\$4,696.00	\$3,690.00
0094-03	FARM OFFICE	Use Energy Efficient Power Strips - 2 work stations can benefit	208		\$29.44		\$0.00		\$0.00	\$29.44	Electric	1.18%	\$80.00	\$0.00	2.72	\$404.00	\$303.00
0094-04	FARM OFFICE	Reduce DHW Temperature to 120F	0		\$0.00	15	\$12.74		\$0.00	\$12.74	Gas	0.85%	\$0.00	\$0.00		\$210.00	\$166.00
0094-05	FARM OFFICE	Replace rear door weather stripping	25		\$3.55	105	\$91.70		\$0.00	\$95.25	Electric and Gas	2.39%	\$12.00	\$0.00	0.13	\$998.00	\$847.00
0094-06	FARM OFFICE	Install Vending Miser on 1 vending machine in back room	1,225		\$173.37				\$0.00	\$173.37	Electric	6.98%	\$200.00	\$60.00	0.81	\$2,711.00	\$2,113.00

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0096-01	ACCOUNTING	Disconnect emergency lights. They're not needed for the unoccupied space and several of them seem to be malfunctioning and drawing energy unnecessarily	157		\$19.53		\$0.00		\$0.00	\$19.53	Electric	0.26%	\$0.00	\$0.00	-	\$207.00	\$176.00
0096-02	ACCOUNTING	200w MH and HPS wall pack fixtures should be replaced with 40-Watt LED Wall packs	2,002		\$248.68		\$0.00		\$0.00	\$248.68	Electric	3.27%	\$1,750.00	\$125.00	6.53	\$4,013.00	\$2,517.00
0096-03	ACCOUNTING	32-Watt T8 Lamps to 25-Watt T8 Lamps (Note long payback due to assumed infrequent light usage)	480		\$59.68		\$0.00		\$0.00	\$59.68	Electric	0.79%	\$792.00	\$264.00	8.85	\$104.00	\$10.00
0096-04	ACCOUNTING	Fluorescent Exit Signs to .5 Watt LED	219		\$27.20		\$0.00		\$0.00	\$27.20	Electric	0.36%	\$50.00	\$0.00	1.84	\$567.00	\$403.00
0096-05	ACCOUNTING	Most of the lights in the building were on when we entered. The lights in the main storage area should be tied to a timer that shuts 90% (25 of the u-shaped fixtures and all of the linear fluorescents) of the lights off 1hr after they're turned on and the rest of the lights off 2hrs after they were turned on (occupant should still be able to turn the lights off when they leave if they remember). This measure assumes lights are not frequently left on accidentally (as they had been the day we visited). The more frequent lights are left on, the more savings the measure will achieve.	1,890		\$234.76		\$0.00		\$0.00	\$234.76	Electric	3.09%	\$200.00	\$0.00	0.85	\$3,661.00	\$2,851.00
0096-06	ACCOUNTING	Take exterior lights off independent photocell sensors and put them on the INET7 schedule from sunset to 11PM (current photocell malfunctioning and lights don't need to be on all the time anyways)	730		\$90.68		\$0.00		\$0.00	\$90.68	Electric	1.19%	\$250.00	\$0.00	2.76	\$1,241.00	\$928.00
0096-07	ACCOUNTING	Building temperature should be setback at all times. The building is rarely used and unnecessarily wastes energy to achieve comfortable temperatures. Because the building is unoccupied, it is recommended to set the heating set point to 62F and the cooling set point to 90F. Note that this measure automatically achieves savings by eliminating simultaneous heating and cooling- see increase dead band measure; can't achieve both measure savings. One or the other. Also note that if the building must remain conditioned for comfort at some times, setbacks for part of the week will achieve partial savings and are worth pursuing.	4,457		\$3,607.23	4,086	\$3,306.62		\$0.00	\$5,738.94	Electric and Gas	63.53%	\$0.00	\$0.00	-	\$63,482.00	\$50,165.00
0096-08	ACCOUNTING	If the building set points cannot be setback significantly, there should at least be a dead band of 3F instituted to separate heating and cooling set points. Currently both heating and cooling call for 73F space temperature and between 55F and 78F OAT both the boilers and A/C are enabled. This causes simultaneous heating and cooling (for example, the facility used 43 Therms in the month of August to heat the building). Also note that reduced heating/cooling loads will decrease supply fan energy consumption. This measure should be done at a minimum. Also consider setting back the set points more significantly	12,098		\$1,502.81	464	\$375.83			\$1,878.64	Electric and Gas	17.26%	\$0.00	\$0.00	-	\$30,893.00	\$24,412.00
0096-09	ACCOUNTING	If the hot water heater must remain in place and cannot be switched off completely, the temperature setting should be reduced	53		\$6.62	-	\$0.00		\$0.00	\$6.62	Electric	0.09%	\$0.00	\$0.00		\$108.00	\$86.00
0096-10	ACCOUNTING	Enroll in "Cool Credits" program offered by WPS. 1 electric water heater should be enrolled in the DLCP Option 2 (Electric Water Heater - Full Shutoff and Cycling) and 1 large condensing units (24 kW total) should be enrolled in the Contracted Direct Load Control Program. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	420		\$52.17		\$0.00		\$0.00	\$652.17	Electric	0.69%	\$0.00	\$600.00		\$6,917.00	\$5,882.00
0096-12	ACCOUNTING	Disconnect and remove the electric hot water heater. There shouldn't be any need for hot water in the facility for its current usage. Verify the building won't be repurposed soon before completing this measure.	3,285		\$408.05		\$0.00		\$0.00	\$408.05	Electric	5.37%	\$0.00	\$0.00		\$6,710.00	\$5,303.00
0096-11	ACCOUNTING	Replace 20-ton condensing unit with new unit of at least 13 EER. Note that this measure's savings were calculated assuming that some of the controls recommendations were adopted; in the current building operation, savings from replacing the condenser would be approximately double this estimate, but it	4,691		\$582.68	-	\$0.00		\$0.00	\$582.68	Electric	7.66%	\$9,000.00	\$0.00	15.45	\$11,212.00	

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
		is DEFINITELY recommended to make the controls changes before considering replacing the condenser. Note that this measure will not pay for itself if the building will be repurposed or shuttered before the ROI period is over.															
0096-13	ACCOUNTING	Reduce minimum OA damper position from 10% to 0% (leave the economizer enabled) There is no ventilation requirement if the building is unoccupied and if 1 person is there, there is a separate ventilation fan running anyways	356		\$44.22	991	\$801.99			\$846.21	Electric and Gas	7.78%	\$0.00	\$0.00		\$13,916.00	\$10,997.00

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0097-01	ONE STOP WESTWIND	Replace 50W halogen display lighting with 4W LED	3,215	0.368	\$231.35		\$0.00		\$0.00	\$231.35	Electric	0.81%	\$240.00	\$80.00		\$5,086.00	\$3,693.00
0097-02	ONE STOP WESTWIND	32-Watt T8 Lamps to 25-Watt T8 Lamps - 102 total bulbs	6,238	0.714	\$448.86		\$0.00		\$0.00	\$448.86	Electric	1.58%	\$306.00	\$102.00	0.69	\$4,557.00	\$3,844.00
0097-03	ONE STOP WESTWIND	Install an Occupancy Sensor (or timer switch) to Control Lighting Runtime in the Mechanical room. Currently the lights are on far too often	2,375	0.305	\$170.92		\$0.00		\$0.00	\$170.92	Electric	0.60%	\$300.00	\$15.00	0.45	\$2,526.00	\$1,936.00
0097-04	ONE STOP WESTWIND	Replace 2.2 GPM Aerators with 1.5 GPM Aerators (3 faucets)	545	-	\$39.18	-	\$0.00	1,962	\$11.77	\$50.96	Electric and Water	0.18%	\$15.00	\$0.00	1.67	\$824.00	\$648.00
0097-05	ONE STOP WESTWIND	Replace Electric Water Heater with Condensing Natural Gas Water Heater	11,835	-	\$851.67	(454)	(\$416.05)		\$0.00	\$435.62	Electric and Gas	1.45%	\$1,000.00	\$0.00	0.29	\$6,164.00	\$4,661.00
0097-06	ONE STOP WESTWIND	Fix the bent walk-in cooler door that currently lets cooled air escape.	413	-	\$29.73	-	\$0.00		\$0.00	\$29.73	Electric	0.10%	\$100.00	\$0.00	2.30	\$389.00	\$286.00
0097-07	ONE STOP WESTWIND	Enroll in "Cool Credits" program offered by WPS. 1 electric water heater should be enrolled in the DLCP Option 2 (Electric Water Heater - Full Shutoff and Cycling) and 1 large condensing unit (~11.4 kW total) should be enrolled in the Contracted Direct Lo	200	-	\$14.36		\$0.00		\$0.00	\$286.76	Electric	0.05%	\$0.00	\$272.40	-	\$3,042.00	\$2,586.00
0097-08	ONE STOP WESTWIND	Replace Older Condensing Units with New More Efficient Units	5,067	-	\$364.61		\$0.00		\$0.00	\$364.61	Electric	1.28%	\$4,275.00	\$0.00	11.72	\$3,993.00	\$1,798.00
0097-09	ONE STOP WESTWIND	Install timers to turn off menu lighting when Subway is closed	561	-	\$40.33		\$0.00		\$0.00	\$40.33	Electric	0.14%	\$100.00	\$0.00	2.48	\$564.00	\$425.00
0097-10	ONE STOP WESTWIND	Replace AHU supply fan Motors with High Efficiency Motors (currently 82.5% efficient, go to NEMA rated). These fans run continuously.	2,975	0.340	\$214.05		\$0.00		\$0.00	\$214.05	Electric	0.75%	\$467.50	\$0.00	2.18	\$4,386.00	\$3,097.00
0097-11	ONE STOP WESTWIND	2-part recommendation: 1) Repair the broken OA damper on AHU-1 to allow economizer to function. Currently permanently closed. 2) Inspect and possibly improve the DDC economizer control module. The economizer DDC controls appear to be comparing space temp to temp set point to determine OA damper position. This program will not capture the most efficient possible operation of the damper. To fix this, the process variable in the economizer PID DDC module should be changed to OA temp (also may need to change the output mode to reverse, see the INET manual). NOTE: If the DDC module is incorrectly programmed, repairing the damper may actually result in higher heating costs and may not achieve savings.	3,392	-	\$244.00					\$244.00	Electric	0.86%	\$200.00	\$0.00	0.82	\$3,814.00	\$2,972.00
0097-12	ONE STOP WESTWIND	Install anti-sweat heaters controls on display case doors. The anti-sweat heaters already exist, but were not functioning properly or correctly sized so they were disabled. Anti-sweat heater controls turn the heaters off if the humidity is low enough that the doors will not fog over. This measure will add some electric consumption of the heaters, but can achieve savings by keeping the doors de-fogged on humid days without having to run the A/C to dehumidify the whole building. Savings for this measure are approximate, but should justify the effort.	15,751	-	\$1,133.44	-	\$0.00		\$0.00	\$1,133.44	Electric	3.98%	\$1,445.00	\$680.00	0.67	\$11,256.00	\$9,457.00
0097-13	ONE STOP WESTWIND	Install occupancy sensors to control the display case lighting for the 2 banks of reach-in cases. One sensor per bank is recommended. Rebate is from Focus on Energy commercial refrigeration program at \$10/door.	2,970	-	\$213.74	-	\$0.00	-	\$0.00	\$213.74	Electric	0.75%	\$300.00	\$170.00	0.61		

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0099-01	PARISH HALL	32-Watt T8 Lamps to 25-Watt T8 Lamps - 120 total lamps	2,053		\$252.97		\$0.00		\$0.00	\$252.97	Electric	2.54%	\$360.00	\$120.00	0.95	\$2,443.00	\$2,041.00
0099-02	PARISH HALL	Reduce Exterior Lighting runtime from sunset to sunrise to sunset to 12AM (Program new CSI schedule)	4,004		\$493.39		\$0.00		\$0.00	\$493.39	Electric	4.96%	\$0.00	\$0.00	-	\$8,114.00	\$6,412.00
0099-03	PARISH HALL	Change Unoccupied cooling set point from 80F to 85F. This will have little to no effect on the comfort of the building	884		\$108.90	-	\$0.00		\$0.00	\$108.90	Electric	1.09%	\$0.00	\$0.00	-	\$1,791.00	\$1,416.00
0099-04	PARISH HALL	The occupied schedule should be examined (this measure achieves maximum savings at some comfort cost, see next measure for compromise opportunity). Currently the schedule is occupied from 4:05AM to 7PM, but actual occupancy is much less frequent with approximately 3-4 unpredictable hours per day that the building is actually used. IF POSSIBLE, consider installing an occupancy override switch/sensor near the front door that users activate when they enter the building. The space will take <45 min to reach occupied temperature set point. It is recommended to program a new input into INET for the new occupied override switch to change to occupied for 4 hours after the switch is depressed and then revert to unoccupied all other times (INET has a unitary controller extension capable of achieving this functionality). This will need to be accompanied with clear instructions for the building users explaining the new building operation (recommending that someone arrive or call DPW half an hour before and event to activate the occupied se points) and the savings it can achieve. Current occupied set points are 71H 74C and unoccupied set points are 62H and 80C (see setback recommendation for changes to these values). If the occupied period is cut from 15 to 4 hours per day these are the savings that can be realized. If this measure is not possible, consider the following measure as a compromise.	1,667		\$205.35	1,109	\$849.97		\$0.00	\$1,055.32	Electric and Gas	6.22%	\$500.00	\$0.00	0.47	\$16,856.00	\$13,215.00
0099-05	PARISH HALL	Similar to previous measure. The occupied schedule should be examined. Currently the schedule is occupied from 4:05AM to 7PM, but actual occupancy is much less frequent with approximately 3-4 unpredictable hours per day that the building is actually used. IF POSSIBLE, consider installing an occupancy override switch/sensor near the front door that users activate when they enter the building. The schedule can remain the same, but now the space will be unoccupied overnight and 'idling' from 4AM-7PM. The idle temperature should be 65H and 77C. This will allow energy savings during most times of the day. It is recommended to program a new input into INET for the new occupied override switch to change to occupied for 4 hours after the switch is depressed and then revert to unoccupied/idle schedule all other times (INET has a unitary controller extension capable of achieving this functionality). The space will take <20 min to reach occupied temperature set point (compared to about 45 min from previous recommendation). This measure will need to be accompanied with clear instructions for the building users explaining the new building operation (reminding them how to activate the occupied mode to achieve the most comfortable set points) and the savings it can achieve. Current occupied set points are 71H 74C and unoccupied set points are 62H and 80C (see measure for setback temp recommendation). If the occupied period is changed from 15 hours to 11 hours of idling and 4 hours of occupied per day these are the savings that can be realized. Also consider the previous measure as a way of achieving even more savings.	833		\$102.68	370	\$283.32		\$0.00	\$386.00	Electric and Gas	2.28%	\$500.00	\$0.00	1.30	\$5,847.00	\$4,516.00
0099-06	PARISH HALL	Replace 2.2 GPM Aerators with 1.5 GPM Aerators (note that even if hand washing water is not hot by the time it gets to the sink, it is still drawing from the water heater and using gas)	0		\$0.00	44	\$33.74	-	\$0.00	\$33.74	Gas and Water	0.44%	\$20.00	\$0.00	0.59	\$535.00	\$418.00
0099-07	PARISH HALL	Reduce DHW Temperature	0		\$0.00	5	\$3.82		\$0.00	\$3.82	Gas	0.05%	\$0.00	\$0.00		\$63.00	\$50.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0099-08	PARISH HALL	Consider removing or downsizing existing natural gas domestic hot water heater if possible. Only 400 gallons of water are used per month at a maximum, probably mostly unheated water for toilets and sinks. Even if people are using the 'hot' side of the faucet, the water at the sink has most likely cooled by the time it gets used. The water	0		\$0.00	183	\$140.17	-	\$0.00	\$140.17	Gas	2.00%	\$500.00	\$0.00	-	\$2,305.00	\$1,821.00
0099-09	PARISH HALL	Improve weather-stripping around exterior doors	71		\$8.70	178	\$136.78		\$0.00	\$145.47	Electric and Gas	0.86%	\$26.00	\$0.00	0.18	\$1,518.00	\$1,287.00
0099-10	PARISH HALL	Install Vending Miser	1,750		\$215.64		\$0.00		\$0.00	\$215.64	Electric	2.17%	\$200.00	\$0.00	0.93	\$3,346.00	\$2,602.00
0099-11	PARISH HALL	Enroll in "Cool Credits" program offered by WPS. 1 small AC unit should be enrolled in the Cool Credits Direct Load Control Program Option 1 (Central Air Conditioner - Full Shutoff and Cycling) and 1 large condensing units (62.5 kW total) should be enrolled in the Contracted Direct Load Control Program. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	1,344		\$165.58		\$0.00		\$0.00	\$1,778.58	Electric	1.66%	\$0.00	\$1,613.00		\$18,864.00	\$16,040.00
0099-12	PARISH HALL	Replace Older Condensing Unit with New More Efficient (at least 13 EER) unit. Should also consider installing an enclosure around the on-grade condenser unit to prevent vandalism that decreases the efficiency of the unit (bent cooling fins). If it is not within the budget to upgrade the condenser at this time, consider a high efficiency unit when replacement becomes necessary.	14,717		\$1,813.44		\$0.00		\$0.00	\$1,813.44	Electric	18.21%	\$22,500.00	\$0.00	12.41	\$18,618.00	\$7,702.00
0099-13	PARISH HALL	Straighten fins on condenser unit. This measure may be useless if the fins are bent again by local children, but it is a significant enough savings to be worth trying. Consider installing an enclosure around the on-grade condenser to prevent vandalism	4,251		\$523.88		\$0.00		\$0.00	\$523.88	Electric	5.26%	\$200.00	\$0.00	0.38	\$2,488.00	\$2,260.00
0099-14	PARISH HALL	Install simple timers on drinking fountains to turn them off overnight	420		\$51.75		\$0.00		\$0.00	\$51.75	Electric	0.52%	\$30.00	\$0.00	0.58	\$821.00	\$643.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0100-01	ELDER SERVICES APTS	There are (28) cfl sconce lights in the hallways of the residence area. This would be a good application for LED lighting because the lights are on most/all of the time. Try one or two fixtures at first to get the right lighting color and brightness, then replace the rest of the lamps. It is recommended to try a 4-6W, 3000K bulb first and go from there.	2,446	-	\$209.77		\$0.00		\$0.00	\$209.77	Electric	0.70%	\$980.00	\$280.00	3.34	\$4,056.00	\$2,794.00
0100-02	ELDER SERVICES APTS	32-Watt T8 Lamps to 25-Watt T8 Lamps (511) total bulbs. If they're not all replaced at once, be sure to replace the bulbs that are on more hours first to realize greater savings.	11,160	-	\$957.08		\$0.00		\$0.00	\$957.08	Electric	3.20%	\$1,533.00	\$511.00	1.07	\$9,129.00	\$7,609.00
0100-03	ELDER SERVICES APTS	There are at least (19) good opportunities to use occupancy sensors to control lighting runtime. Each walled office, restroom, and common room can benefit from automatically turning off lights when there are no occupants.	4,521	-	\$387.70		\$0.00		\$0.00	\$387.70	Electric	1.30%	\$1,900.00	\$142.50	4.53	\$4,618.00	\$3,281.00
0100-04	ELDER SERVICES APTS	The Atrium and Lobby Entrance could benefit from photocell sensors to reduce lighting runtime when ample natural light is available.	513	-	\$44.00		\$0.00		\$0.00	\$44.00	Electric	0.15%	\$200.00	\$0.00	4.55	\$523.00	\$372.00
0100-05	ELDER SERVICES APTS	Temperature setbacks overnight. It appears that the office area of the building does not follow an unoccupied schedule. There is a master schedule properly programmed, and the RTU schedule is programmed to be unoccupied overnight, but each of the VAVs has their own schedule that is currently set to 24/7 that overrides the RTU schedule. The VAV schedules should be linked to the master schedule or programmed individually to set back to 85C/66H from 5PM to 7AM. (Note that the residential area of the facility should not be setback due to continuous occupancy)	7,765	-	\$665.91	853	\$618.88		\$0.00	\$1,284.80	Electric and Gas	2.54%	\$0.00	\$0.00	-	\$21,128.00	\$16,696.00
0100-06	ELDER SERVICES APTS	Note that HW and CHW supply temperature resets should already be in place at this facility as part of local controls for the boiler and chiller. The reset controls are not viewable in INET, but are supposed to be there. Verify this is true. If they are not in place, both are highly recommended and should be implemented. (No savings assumed, but worth verifying)	0	-	\$0.00	-	\$0.00	-	\$0.00	\$0.00	Electric and Gas	0.00%	\$0.00	\$0.00	-	\$0.00	\$0.00
0100-07	ELDER SERVICES APTS	RTU SAT set point reset. The RTU currently has a SA temperature reset that varies between 55F and 60F based on RTU average loading. Two corrections should be made. 1) the SAT should vary on maximum VAV load instead of average load. This will improve comfort response and allow most VAVs to reduce load most of the time. 2) The SAT reset should be allowed to rise as high as 70F. The SAT set point will rarely actually be 70F, but when it is it will prevent unnecessary conditioning and reheating, which will save energy. Also, because the economizer control is linked to the SAT set point, this change will improve the efficiency of the economizer operation (and prevent unnecessary reheating of outdoor air). Even if this exact recommendation is not adopted, the SAT reset operation should be inspected by the HVAC contractor because the RTU load shouldn't vary as wildly as it currently does and some improvement is necessary (see picture). Savings are rough estimates based on SAT reset calculation.	0	-	\$0.00	1,200	\$870.15	-	\$0.00	\$870.15	Gas	4.22%	\$0.00	\$0.00	-	\$14,310.00	\$11,308.00
0100-08	ELDER SERVICES APTS	Examine the RTU economizer DDC controls. It appears that the OA damper position depends on the relationship between SAT set point and actual SAT. This means that the system is only "free cooling" and not taking full advantage of economizer functionality. That is, in certain conditions outside air is being brought in incorrectly and in others mechanical cooling is used instead of available cool OA. An economizer should use OAT in its calculation. The Economizer PID DDC module (line 11 in INET) should change to OAT as the process variable and the series of economizer enabling modules should enable the economizer whenever OAT < SAT set point and there is a cooling load (also may need to change the output mode to "reverse" see INET manual to clarify). Savings are conservative estimates and there should be no capital investment required for this measure; the CSI system can implement the economizer with existing sensor inputs.	1,475	-	\$126.48	696	\$504.38		\$0.00	\$630.85	Electric and Gas	1.25%	\$0.00	\$0.00	-	\$10,374.00	\$8,198.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0100-09	ELDER SERVICES APTS	Use Energy Efficient Power Strips	1,768	-	\$151.62		\$0.00		\$0.00	\$151.62	Electric	0.51%	\$680.00	\$0.00	4.48	\$1,813.00	\$1,290.00
0100-10	ELDER SERVICES APTS	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	0	-	\$0.00	330	\$239.29	10,956	\$65.74	\$305.03	Gas and Water	1.27%	\$150.00	\$0.00	0.49	\$4,866.00	\$3,814.00
0100-11	ELDER SERVICES APTS	Install Vending Miser	1,050	-	\$90.05		\$0.00		\$0.00	\$90.05	Electric	0.30%	\$200.00	\$60.00	1.55	\$1,341.00	\$1,030.00
0100-12	ELDER SERVICES APTS	Consider Enrolling the main chiller and CHW pump equipment in the Contracted Direct Load Control Program offered by WPS. The comfort conditions in the building will not be significantly impacted, but there may be a difference on some hot days in the summer. If this is acceptable. the savings here can be achieved. Note that these savings are approximate because a new chiller was installed since the site visit. Also note: The Total Cost Savings includes electrical savings AND the rebate amount.	1,750	-	\$150.08		\$0.00		\$0.00	\$2,654.08	Electric	0.50%	\$0.00	\$2,504.00	-	\$29,739.00	\$25,289.00
0100-13	ELDER SERVICES APTS	Install timers to switch off the coolers on the water fountains overnight	318	-	\$27.23		\$0.00		\$0.00	\$27.23	Electric	0.09%	\$20.00	\$0.00	0.73	\$427.00	\$333.00
0100-14	ELDER SERVICES APTS	Install a VFD to control the CHW pump motor speed. (Remember that the motors will need a grounding ring installed to prevent wear on the motor. This should be a standard part of any VFD installation)	9,902	-	\$849.15		\$0.00		\$0.00	\$849.15	Electric	2.84%	\$2,400.00	\$750.00	1.94	\$17,603.00	\$12,492.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0101-01	FOOD DISTRIBUTION CENTER	NOTE: Set Warehouse stats to consistent settings. Currently stat settings range from 65 to 78 degrees. The 3 stats should all be set to 65 degrees or slightly lower as the space requires it. No energy savings will be gained because no simultaneous heating and cooling is taking place, however it will spread the load for the space equally between the 3 condensing units. Note that onsite personnel changed 'Pole Stat' down to 65 degrees at the time of the audit. It is recommended to confirm the stat settings are still correct.					\$0.00						\$0.00				
0101-02	FOOD DISTRIBUTION CENTER	De-Lamp current 4-foot trough fixtures from 4-Lamps to 2-Lamps. This will provide sufficient task lighting and save energy.	2,995	1.200	\$369.83		\$0.00		\$0.00	\$369.83	Electric	2.42%	\$0.00			\$3,923.00	\$2,736.00
0101-03	FOOD DISTRIBUTION CENTER	Unplug Under Used Appliances. The fridge/freezer unit is rarely used and should be unplugged and only used when needed. The TV in the entryway should be turned off except for the busiest times of the month.	1,023		\$126.31	-	\$0.00		\$0.00	\$126.31	Electric	0.83%	\$0.00				
0101-04	FOOD DISTRIBUTION CENTER	Install Contracted Load Control Devices on the Office Condensers. Installing the controllers allows the electric company to 'cycle' the use of the unit during peak load times. The electric company then pays the customer \$6.50 per kilowatt per month from June through September.	210		\$25.93		\$0.00		\$0.00	\$241.93	Electric	0.02%	\$0.00	\$216.00			
0101-05	FOOD DISTRIBUTION CENTER	Seal #9 Walk in Cooler. There is a large gap at the base of the door.	270		\$291.39		\$0.00		\$0.00	\$291.39	Electric	1.91%	\$100.00			\$7,852.00	\$4,631.00
0101-06	FOOD DISTRIBUTION CENTER	Adjust Occupied and Unoccupied Times of Thermostats and Adjust Temperature Settings. Current settings for the office are 6:00 a.m. to 5:00 p.m. occupied settings. Change these time to 6:45 a.m. to 4:45 p.m. Monday through Friday.	849		\$104.89	98	\$81.45			\$186.34	Electric and Gas	1.02%	\$0.00			\$5,460.00	\$2,436.00
0101-07	FOOD DISTRIBUTION CENTER	Replace 12 65-Watt Bulbs with 13-Watt CFLs	1,558	0.624	\$192.31		\$0.00			\$216.39	Electric	1.26%	\$48.00	\$24.00	0.11	\$2,017.00	\$1,399.00
0101-08	FOOD DISTRIBUTION CENTER	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	363	0.036	\$44.82	22	\$18.23	797	\$3.98	\$67.04	Electric and Water	0.32%	\$20.00		0.20	\$1,097.00	\$560.00
0101-09	FOOD DISTRIBUTION CENTER	Install door sweeps and door closing mechanisms on all doors separating the warehouse and the office space. During the audit doors were left open and large spaces under the doors were noted. The warehouse space is kept at 60 to 65 degrees, the office space averages 72 to 74 degrees.	3,940		\$486.53	95	\$78.48		\$0.00	\$565.01	Electric and Gas	3.09%	\$400.00		0.71	\$14,097.00	\$6,067.00
0101-10	FOOD DISTRIBUTION CENTER	32-Watt T8 Lamps to 25-Watt T8 Lamps	1,887	0.756	\$232.99		\$0.00			\$232.99	Electric	1.53%	\$324.00	\$108.00	0.93	\$2,148.00	\$1,400.00
0101-11	FOOD DISTRIBUTION CENTER	Photocell Sensors to Control Lighting Runtime	462	0.059	\$57.05					\$57.05	Electric	0.37%	\$75.00		1.31	\$1,219.00	\$591.00
0101-12	FOOD DISTRIBUTION CENTER	Fluorescent Exit Signs to .5 Watt LED	438	0.050	\$54.08		\$0.00			\$60.85	Electric	0.35%	\$100.00		1.64	\$1,126.00	\$531.00
0101-13	FOOD DISTRIBUTION CENTER	Use Energy Efficient Power Strips	416		\$51.37		\$0.00		\$0.00	\$51.37	Electric	0.34%	\$160.00		3.11	\$685.00	\$345.00
0101-14	FOOD DISTRIBUTION CENTER	Replace 250-Watt Metal Halides and use 6-Lamp High Bay Fluorescents	4,585	1.837	\$566.15		\$0.00			\$566.15	Electric	3.71%	\$2,475.00	\$275.00	3.89	\$3,808.00	\$1,989.00
0101-15	FOOD DISTRIBUTION CENTER	Install loading dock shelters or curtains.	2,473		\$305.33	181	\$150.17		\$0.00	\$455.49	Electric and Gas	2.49%	\$2,500.00	\$200.00	5.05	\$11,053.00	\$3,657.00
0101-16	FOOD DISTRIBUTION CENTER	Occupancy Sensors to Control Lighting Runtime	613	0.248	\$75.64					\$75.64	Electric	0.50%	\$450.00	\$45.00	5.35	\$840.00	\$339.00
0101-17	FOOD DISTRIBUTION CENTER	Replace existing condensers for the office space and warehouse with the highest efficient condensers available.	11,733		\$1,448.76		\$0.00		\$0.00	\$1,448.76	Electric	9.49%	\$9,000.00		6.21	\$23,855.00	\$7,916.00
0101-18	FOOD DISTRIBUTION CENTER	Isolate Warehouse Mezzanine Blocking off the dry storage of the 24x21x12 space will save energy used to currently cool the space.	467		\$57.66		\$0.00		\$0.00	\$57.66	Electric	0.38%	\$500.00		8.67	\$2,501.00	\$399.00
0101-19	FOOD DISTRIBUTION CENTER	Replace Estimated 250-Watt MH Wall packs with 40-LED Wall packs	2,475	0.850	\$305.62		\$0.00		\$0.00	\$343.89	Electric	2.00%	\$3,500.00	\$250.00	9.45	\$3,681.00	\$318.00

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0104-01	REC CENTER - COUNTY H	Install Timer on Water Fountain to turn Off Overnight	318		\$34.61		\$0.00		\$0.00	\$34.61	Electric	0.40%	\$25.00	\$0.00	0.72	\$545.00	\$425.00
0104-02	REC CENTER - COUNTY H	Change Thermostat Schedule. The schedule should be changed twice per year to switch between school-year and summer seasons. Currently the schedule is set to occupied 7AM-10PM every day. New Schedule occupied period should be set as follows. Summer season: 8:30-5 M-F, 7:30-10PM SS; School year season: 2:30-9PM M-F, unoccupied	1,538		\$167.68	312	\$255.35		\$0.00	\$423.03	Electric and Gas	3.58%	\$0.00	\$0.00		\$6,957.00	\$5,497.00
0104-03	REC CENTER - COUNTY H	Replace 2.2 GPM Aerators with 1.5 GPM Aerators (3 faucets)	545		\$59.36	-	\$0.00	7,840	\$42.82	\$102.17	Electric and Water	1.17%	\$15.00	\$0.00	0.15	\$1,666.00	\$1,314.00
0104-04	REC CENTER - COUNTY H	Replace Electric Water Heater with Condensing Natural Gas Water Heater	3,575		\$389.73	(137)	(\$112.14)		\$0.00	\$277.59	Electric and Gas	2.35%	\$600.00	\$0.00	2.20	\$3,965.00	\$3,007.00
0104-05	REC CENTER - COUNTY H	150W HP Sodium to 40-Watt LED Wall pack	343		\$37.41		\$0.00		\$0.00	\$37.41	Electric	0.44%	\$250.00	\$25.00	6.01	\$623.00	\$398.00
0104-06	REC CENTER - COUNTY H	Enroll in "Cool Credits" program offered by WPS. 4 small AC units should be enrolled in the Cool Credits Direct Load Control Program Option 1 (Central Air Conditioner - Full Shutoff and Cycling), 1 electric water heater should be enrolled in the DLCP CP Option 2 (Electric Water Heater - Full Shutoff and Cycling). NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	1,000		\$109.01		\$0.00		\$0.00	\$277.01	Electric	1.27%	\$0.00	\$168.00		\$2,938.00	\$2,498.00
0104-07	REC CENTER - COUNTY H	32-Watt T8 Lamps to 25-Watt T8 Lamps (105 total bulbs)	2,281		\$248.69		\$0.00		\$0.00	\$248.69	Electric	2.91%	\$315.00	\$105.00	0.84	\$2,427.00	\$2,033.00
0104-08	REC CENTER - COUNTY H	Install Vending Miser	875		\$95.39		\$0.00		\$0.00	\$95.39	Electric	1.12%	\$200.00	\$60.00	1.47	\$1,429.00	\$1,100.00
0104-09	REC CENTER - COUNTY H	Use Energy Efficient Power Strips on the Workstations at reception, the rear office, and on the monitors for the children's computers	312		\$34.01		\$0.00		\$0.00	\$34.01	Electric	0.40%	\$120.00	\$0.00	3.53	\$439.00	\$322.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0105-01	OCHC	There is a mixture of MR16, R30 and screw in style Halogen and Metal Halide bulbs used throughout the building, but mostly in the lobby area. These should be replaced with LED replacement bulbs. For the sake of calculations in this report 10-Watt LEDs are recommended. A lower wattage LED may work in some of the applications. Consult a lighting contractor for recommendations.	18,907	6.060	\$1,493.75		\$0.00		\$0.00	\$1,493.75	Electric	1.55%	\$6,464.00	\$2,020.00	2.98	\$29,425.00	\$20,433.00
0105-02	OCHC	65-Watt Incandescent to 13-Watt CFL	811	0.260	\$64.09		\$0.00		\$0.00	\$64.09	Electric	0.07%	\$20.00	\$10.00	0.16	\$670.00	\$568.00
0105-03	OCHC	There are approximately 158 2-Lamp 2-Foot U-Shaped fixtures using two 40-Watt lamps in each fixture. These lamps should be replaced with 32-Watt lamps.	7,887	2.528	\$623.14		\$0.00		\$0.00	\$623.14	Electric	0.65%	\$1,896.00	\$0.00	3.04	\$4,713.00	\$3,723.00
0105-04	OCHC	Recessed 52-Watt CFL to 12-Watt LED	29,222	9.366	\$2,308.66		\$0.00		\$0.00	\$2,308.66	Electric	2.39%	\$17,840.00	\$0.00	7.73	\$34,506.00	\$20,609.00
0105-05	OCHC	32-Watt T8 Lamps to 25-Watt T8 Lamps	51,127	16.387	\$4,039.30		\$0.00		\$0.00	\$4,039.30	Electric	4.19%	\$7,023.00	\$2,341.00	1.16	\$38,157.00	\$31,746.00
0105-06	OCHC	There are approximately 93 Exit signs in the facility. Onsite staff believes they are 13-Watt fluorescent Exit Signs. This was not confirmed onsite due to the difficulty of opening a sample of them. If they are CFLs they should be changed to .5 Watt LE	10,184	1.163	\$804.54		\$0.00		\$0.00	\$804.54	Electric	0.83%	\$2,325.00	\$0.00	2.89	\$15,917.00	\$11,074.00
0105-07	OCHC	There are (9) MH Wall packs at approximately 250W each on the exterior of the building. These could be replaced with 30 or 40-Watt LED Wall packs.	8,354	2.295	\$659.99		\$0.00		\$0.00	\$659.99	Electric	0.68%	\$3,150.00	\$315.00	4.30	\$12,130.00	\$8,157.00
0105-08	OCHC	Occupancy Sensors to Control Lighting Runtime	27,724	8.886	\$2,190.35		\$0.00		\$0.00	\$2,190.35	Electric	2.27%	\$22,900.00	\$1,717.50	9.67	\$14,838.00	\$7,281.00
0105-09	OCHC	Photocell Sensors to Control Lighting Runtime	19,675	6.306	\$1,554.39		\$0.00		\$0.00	\$1,554.39	Electric	1.61%	\$2,800.00	\$0.00	1.80	\$227,762.00	\$17,400.00
0105-10	OCHC	Use Energy Efficient Power Strips. There are approximately 160 workstations in the facility. The 'open space' workstations where multiple persons share the space may not be a good match for the Smart Strips with occupancy sensors. The offices with doors and 1 or 2 occupants may be a better choice of where to place the Smart Strips.	16,120	-	\$1,273.55		\$0.00		\$0.00	\$1,273.55	Electric	1.32%	\$6,200.00	\$0.00	4.87	\$14,744.00	\$10,350.00
0105-11	OCHC	Replace 2.2 GPM Aerators with 1.5 GPM Aerators		-	\$0.00	1,980	\$1,354.59	34,138	\$170.69	\$1,525.28	Gas	3.85%	\$900.00	\$0.00	0.59	\$24,183.00	\$18,921.00
0105-12	OCHC	Reduce DHW Temperature. Excessively high temperatures cause standby losses of heat and waste energy. Unless it is medically necessary to provide higher temperature hot water, it is recommended to reduce the temperature to 120F.		-	\$0.00	190	\$129.96		\$0.00	\$129.96	Gas	0.37%	\$0.00	\$0.00	-	\$2,138.00	\$1,689.00
0105-13	OCHC	Install Vending Miser	3,500	-	\$276.52		\$0.00		\$0.00	\$276.52	Electric	0.29%	\$400.00	\$120.00	1.01	\$4,276.00	\$3,313.00
0105-14	OCHC	The service water heating system has pumps that circulate hot water through the facility to make sure hot water is quickly available at taps. These pumps run 24 hours a day 7days a week regardless of the operational status of the facility. Pumping hot water through the facility can lead to significant heat loss. By installing a low cost timer, the pump can be turned off during facility unoccupied hours.	395	-	\$31.19	137	\$93.61		\$0.00	\$124.80	Electric and Gas	0.09%	\$500.00	\$0.00	4.00	\$1,552.00	\$1,122.00
0105-15	OCHC	Reduce Exhaust Fan Runtime. There are 9 major exhaust fans on the roof of the facility and all currently run 24/7. Some of them may have to for medical purposes, so check before beginning this project, but most of them can be turned off overnight (7PM-5AM) by installing a simple timer.	4,224	-	\$333.72	-	\$0.00	-	\$0.00	\$333.72	Electric	0.35%	\$600.00	\$0.00	1.80	\$4,888.00	\$3,737.00
0105-16	OCHC	Unoccupied temperature set point setbacks should be programmed for each VAV and an occupied schedule should be set so that set points in the building are 64H/85C between 6PM and 5AM M-F and on weekends. The whole building is clinic space and is empty after hours. There is no reason to maintain comfort conditions and programming the setbacks will cost nothing. Note that most spaces will reach comfortable levels by the time occupants arrive, but some larger spaces may want to have an occupied schedule at 4:30AM.	87,622	-	\$6,922.55	9,277	\$6,347.03		\$0.00	\$13,269.58	Electric and Gas	10.07%	\$0.00	\$0.00	-	\$217,618.00	\$171,840.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0105-17	OCHC	Consider enrolling the 4 large RTUs in the Contracted Direct Load Control program offered by WPS. If it is possible to sacrifice a small amount of comfort on very few days per year (which may not be possible in a medical facility), large rebates are redeemable.437.5 kW total to enroll. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	2,520	-	\$199.09	-	\$0.00	-	\$0.00	\$3,751.09	Electric	0.21%	\$0.00	\$3,552.00	-	\$39,783.00	\$33,829.00
0105-18	OCHC	Reduce OA intake. The economizer controls for the RTUs are locally controlled (not viewable in INET), but they likely have a minimum OA intake of 10% of airflow. Because the building is predictably unoccupied overnight, the HVAC contractor should be asked to inspect the controls to see if an unoccupied schedule can be set for OA intake to set it to 0% overnight (6PM-5AM M-F and weekends)	778	-	\$61.47	2,479	\$1,695.97	-	\$0.00	\$1,757.44	Electric and Gas	1.33%	\$500.00	\$0.00	0.28	\$28,401.00	\$22,338.00

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0106-01	GAMING WAREHOUSE	Reduce DHW Temperature. Note: Could not locate or access hot water heater(s), thus no replacement options are included for this facility.	267		\$20.46		\$0.00		\$0.00	\$20.46	Electric	0.08%	\$0.00	\$0.00		\$1,066.00	\$319.00
0106-02	GAMING WAREHOUSE	Pop Machine and Coffee Maker in the Office area should be put on timers to shut them off during unoccupied times. Even though the burners may be shut off, the coffee and pop units are respectively heating and cooling the water continually.	300		\$23.02		\$0.00		\$0.00	\$23.02	Electric	0.09%	\$25.00	\$0.00	1.09	\$1,172.00	\$333.00
0106-03	GAMING WAREHOUSE	Replace 2.2 GPM Aerators with 1.5 GPM Aerators	908	0.091	\$69.64	-	\$0.00	2,453	\$9.81	\$79.45	Electric and Gas	0.16%	\$25.00	\$0.00	0.31	\$4,109.00	\$1,213.00
0106-04	GAMING WAREHOUSE	Delamp Non-Highbay 4-foot fluorescent fixtures with 3 & 4 lamps by 1 lamp. Note savings may vary because in certain areas of the building personnel keep lights shut off on sunny days.	10,483	2.400	\$804.44		\$0.00		\$0.00	\$804.44	Electric	3.01%	\$0.00	\$0.00		\$8,528.00	\$5,947.00
0106-05	GAMING WAREHOUSE	400w MH with Magnetic Ballast to 40-Watt LED Wall pack	6,406	1.540	\$491.60		\$0.00		\$0.00	\$491.60	Electric	1.84%	\$1,400.00	\$100.00	2.60	\$18,910.00	\$9,105.00
0106-06	GAMING WAREHOUSE	32-Watt T8 Lamps to 25-Watt T8 Lamps	24,981	5.719	\$1,916.92		\$0.00		\$0.00	\$1,916.92	Electric	7.16%	\$2,451.00	\$817.00	0.85	\$18,687.00	\$12,537.00
0106-07	GAMING WAREHOUSE	Change all Exit signs that still have a 13-Watt Fluorescent in use to an Exit Sign with a .5 Watt LED	2,081	0.238	\$159.65		\$0.00		\$0.00	\$159.65	Electric	0.60%	\$475.00	\$0.00	2.98	\$1,218.00	\$705.00
0106-08	GAMING WAREHOUSE	Install 1 occupancy sensor/photocell sensor in the Break Room for the Office and 1 occupancy sensor in the Maintenance Bathroom.	2,160	0.247	\$165.71		\$0.00		\$0.00	\$165.71	Electric	0.62%	\$200.00	\$15.00	1.10	\$2,539.00	\$1,443.00
0106-09	GAMING WAREHOUSE	Install Vending Miser	2,125		\$163.06		\$0.00		\$0.00	\$163.06	Electric	0.61%	\$400.00	\$75.00	1.99	\$2,355.00	\$1,276.00
0106-10	GAMING WAREHOUSE	Repair Duct Leakage and Insulation. In the Warehouse Mezzanine and in the Maintenance shop mezzanine the duct work from the RTUs and the Furnace are leaking air and need the insulation repaired. Cooling savings only.	377		\$28.96		\$0.00		\$0.00	\$28.96	Electric	0.11%	\$25.00	\$0.00	0.86	\$1,000.00	\$124.00
0106-11	GAMING WAREHOUSE	Space near the ceiling in between the Shuttle Bay and Maintenance should be insulated and have a vapor barrier installed to reduce air exchange between the spaces as the Shuttle Bay doors are opened continually. The space between the Warehouse mezzanine and the 2nd floor office drop ceiling should be insulated and have a vapor barrier installed.	839		\$64.36	196	\$145.71		\$0.00	\$210.07	Electric and Gas	0.49%	\$800.00	\$0.00	3.81	\$10,015.00	\$2,468.00
0106-12	GAMING WAREHOUSE	Use Energy Efficient Power Strips	1,352		\$103.75		\$0.00		\$0.00	\$103.75	Electric	0.39%	\$520.00	\$0.00	5.01	\$1,185.00	\$499.00
0106-13	GAMING WAREHOUSE	Install strip curtains on the three garage doors in the Shuttle Area. These doors are opened continually throughout the year. If only two of the doors could be used during the heating months then only two of the doors would require the curtains, which would reduce project cost by an estimated \$2000. Air curtains could also be considered, though the return on investment will be longer.			\$0.00	1,092	\$809.53		\$0.00	\$809.53	Gas	5.00%	\$6,000.00	\$0.00	7.41	\$23,498.00	\$5,464.00
0106-14	GAMING WAREHOUSE	Bathroom in Maintenance Warehouse is cooled but door is being left open. The storage area in the Gaming Wardrobe area is not cooled but the door to the conditioned space is open Install door closing mechanisms to reduce conditioned air loss.	2,127		\$163.26	-	\$0.00		\$0.00	\$163.26	Electric	0.61%	\$100.00	\$0.00	0.61	\$1,300	\$521.00
0106-15	GAMING WAREHOUSE	Replace Shuttle Area furnace with a new high efficiency unit (minimum of 92% efficient) (The rebate listed is for a 95% or higher furnace)			\$0.00	209	\$156.00		\$0.00	\$156.00	Gas	0.96%	\$1,200.00	\$275.00	5.93	\$2,591.00	\$885.00
0106-16	GAMING WAREHOUSE	Replace Existing RTUs with New More Efficient Units	4,415		\$338.79	1,273	\$943.63		\$0.00	\$1,282.42	Electric and Gas	2.99%	\$15,000.00	\$0.00	11.70	\$14,095.00	(\$20.00)
0106-17	GAMING WAREHOUSE	Replace Older Condensing Units with New More Efficient Units	699		\$53.61		\$0.00		\$0.00	\$53.61	Electric	0.20%	\$700.00	\$200.00	9.33	\$716.00	\$126.00
0106-18	GAMING WAREHOUSE	Enroll in "Cool Credits" program offered by WPS. 1 small AC unit should be enrolled in the Cool Credits Direct Load Control Program Option 1 (Central Air Conditioner - Full Shutoff and Cycling). 2 electric water heaters should be enrolled in the DLCP Option 2 (Electric Water Heater - Full Shutoff and Cycling) and 33 large condensing units (76.8 kW total) should be enrolled in the Contracted Direct Load Control Program. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	1,594		\$122.32		\$0.00		\$0.00	\$2,107.12	Electric	0.46%	\$0.00	\$1,984.80			

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0106-19	GAMING WAREHOUSE	One of the two RTUs was found in INET. On this unit the economizer setting is improperly set. When the unit is in 'RTU Heat Mode' the economizer shuts. However it appears the unit is short cycling and when the unit is not in 'RTU Heat Mode' the economizer opens up to 68%, according to trending data. The setting for this unit and possibly the other RTU need to be examined and reset. The following is a rough estimate of the savings.			\$0.00	1,140	\$845.15		\$0.00	\$845.15	Gas	5.22%	\$500.00	\$0.00	0.59	\$13,410.00	\$7,811.00

Project Number	Building Name	Project-Specific Text	Annual Savings (kWh)	Annual Peak Reduction (kW)	Annual Electric Savings	Annual Savings (Therms)	Annual Gas Savings	Annual Water/ Sewer Savings (Gallons)	Annual Water/Sewer Savings	Total Project Savings	Impacted Utilities	Percent of Facility Savings	Estimated Project Cost	Rebate Amount	Immediate Replacement ROI (Years)	Cumulative ROI Over Life of Measure	Net Present Value of Project
0132-01	ONEIDA ADMINISTRATIVE BUILDING	There are 9 exterior accent and flag pole light fixtures that are 70 to 75-Watt Metal Halides. Replace with 10 to 30-Watt LEDs	2,097	0.480	\$172.27		\$0.00		\$0.00	\$172.27	Electric	0.19%	\$1,600.00	\$200.00	8.13	\$2,508.00	\$612.00
0132-02	ONEIDA ADMINISTRATIVE BUILDING	32-Watt T8 Lamps to 25-Watt T8 Lamps	33,994	11.886	\$2,793.05		\$0.00		\$0.00	\$2,793.05	Electric	3.06%	\$5,094.00	\$1,698.00	1.22	\$25,240.00	\$17,270.00
0132-03	ONEIDA ADMINISTRATIVE BUILDING	Delamp all 4 lamp fluorescent fixtures by 1-lamp. There will continue to be ample lumens in the facility workspaces and this measure will save energy	26,741	9.350	\$2,197.13		\$0.00		\$0.00	\$2,197.13	Electric	2.40%	\$0.00	\$0.00		\$23,313.00	\$16,257.00
0132-04	ONEIDA ADMINISTRATIVE BUILDING	There are approximately 14 enclosed office spaces that are regularly occupied in which a wall mounted occupancy sensor would help to reduce the lighting runtime for the space. Also each bathroom that does not have one installed already, should have an occupancy sensor installed	5,569	2.380	\$457.58		\$0.00		\$0.00	\$457.58	Electric	0.50%	\$1,400.00	\$105.00	2.83	\$6,233.00	\$3,203.00
0132-05	ONEIDA ADMINISTRATIVE BUILDING	The thermostat in the Customer Service Center has no setback. Area is open 6 a.m. to 5 p.m. Program local thermostat to set back the cooling unit to 85 degrees when space is unoccupied.	1,984		\$162.98		\$0.00		\$0.00	\$162.98	Electric	0.18%	\$65.00	\$0.00	0.40	\$3,633.00	\$1,839.00
0132-06	ONEIDA ADMINISTRATIVE BUILDING	Currently it appears that some of the VAVs are scheduled to run from 2:30 a.m. to 11:00 p.m. and some may be scheduled 24 hours a day. If this is the case they should have setbacks programmed to better match the occupancy of the facility. It is recommen	7,033		\$577.83	352	\$266.31		\$0.00	\$844.14	Electric and Gas	0.81%	\$500.00	\$0.00	0.59	\$5,631.00	\$3,766.00
0132-07	ONEIDA ADMINISTRATIVE BUILDING	Replace 2.2 GPM Aerators with 1.5 GPM Aerators			\$0.00	154	\$116.63	8,534	\$482.10	\$598.73	Electric and Gas	0.11%	\$70.00	\$0.00	0.12	\$7,997.00	\$4,750.00
0132-08	ONEIDA ADMINISTRATIVE BUILDING	Reduce DHW Temperature			\$0.00	152	\$115.10		\$0.00	\$115.10	Gas	0.91%	\$0.00	\$0.00		\$205.00	\$123.00
0132-09	ONEIDA ADMINISTRATIVE BUILDING	Reduce Runtime of DHW Circulation Pump. Install a timer(s) to turn off the hot water circulation pump(s) when the facility is unoccupied.	601		\$49.40	428	\$324.15		\$0.00	\$373.55	Electric and Gas	0.36%	\$500.00	\$0.00	1.34	\$5,641.00	\$3,169.00
0132-10	ONEIDA ADMINISTRATIVE BUILDING	It is estimated there are 150 workstations that could benefit from using Smart Strips with motion sensing to reduce plug loads at the workstation when it is unoccupied.	15,600		\$1,281.75		\$0.00		\$0.00	\$1,281.75	Electric	1.40%	\$6,000.00	\$0.00	4.68	\$15,088.00	\$6,600.00
0132-11	ONEIDA ADMINISTRATIVE BUILDING	Unplug Under Used Appliances or use Timers to Control Runtime During Unoccupied Hours. There are drinking fountains and coffee makers that can be controlled.	300		\$24.65		\$0.00		\$0.00	\$24.65	Electric	0.03%	\$80.00	\$0.00	3.25	\$326.00	\$162.00
0132-12	ONEIDA ADMINISTRATIVE BUILDING	Install Vending Misers on all vending machines.	5,900		\$484.76		\$0.00		\$0.00	\$484.76	Electric	0.53%	\$1,000.00	\$255.00	1.54	\$7,320.00	\$4,020.00
0132-13	ONEIDA ADMINISTRATIVE BUILDING	Enroll in "Cool Credits" program offered by WPS. The 2 RTUs (178.6 kW total) should be enrolled in the Contracted Direct Load Control Program. NOTE: The Total Cost Savings includes electrical savings AND the rebate amount.	1,050		\$86.27		\$0.00		\$0.00	\$1,550.27	Electric	0.09%	\$0.00	\$1,464.00			
0132-14	ONEIDA ADMINISTRATIVE BUILDING	Replace Motors with High Efficiency Motors. There is a 10 HP and a 5 HP motor on the chilled water system and a 20 HP motor for AHU 1 that are below current efficiency standards.	3,653		\$300.16		\$0.00		\$0.00	\$300.16	Electric	0.33%	\$2,695.00	\$0.00	8.98	\$4,113.00	\$810.00
0132-15	ONEIDA ADMINISTRATIVE BUILDING	Compressor Runtime Reduction. The Pneumatic control panel in AHU 1 has air leaks. These should be repaired.	458	0.267	\$37.61		\$0.00		\$0.00	\$37.61	Electric	0.04%	\$50.00	\$0.00	1.33	\$153.00	\$118.00
0132-16	ONEIDA ADMINISTRATIVE BUILDING	The current boiler is approximately 27 years old. The useful life of a boiler is usually considered to be 25 years. It is recommended to consider replacing the boiler with a high efficiency condensing boiler. A reduction in the MBH capacity may also be possible. An estimate of the boiler capacity needed for the space is 350 to 250 MBH. A more in-depth heating load analysis should be conducted prior to purchasing the unit to correctly size the unit. The utility rebate reflects purchasing a unit with => 90% Thermal Efficiency. One strategy may to size 2 separate boilers with the lead boiler sized to provide near 100% of its capacity the majority of the time with a smaller backup				1,122	\$849.45		\$0.00	\$849.45	Gas	6.70%	\$13,000.00	\$700.00	14.48	\$12,601.00	\$1,191.00

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		unit to augment the capacity when high heating loads are present.															
0132-17	ONEIDA ADMINISTRATIVE BUILDING	Currently the AHUs run 24x7. They should be shut down when the space is unoccupied (with a safety low temp set point of an average of 55 degrees in the facility). All VAVs should also be programmed to setback when facility is unoccupied as well and to respond with heating should the average facility temperature drop to AHU's set points.	39,122		\$3,214.43	297	\$224.71		\$0.00	\$3,439.14	Electric and Gas	3.31%	\$400.00	\$0.00	0.12	\$36,091.00	\$25,047.00