



Local Government Energy Audit Report

Egg Harbor Township High School

July 11, 2019

Prepared for:

Egg Harbor Township School District
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Disclaimer

The goal of this audit report is to identify potential energy efficiency opportunities, help prioritize specific measures for implementation, and provide information about financial incentives that may be available. Most energy conservation measures have received preliminary analysis of feasibility that identifies expected ranges of savings and costs. This level of analysis is usually considered sufficient to establish a basis for further discussion and to help prioritize energy measures.

TRC Energy Services (TRC) reviewed the energy conservation measures and estimates of energy savings were reviewed for technical accuracy. Actual, achieved energy savings depend on behavioral factors and other uncontrollable variables and, therefore, estimates of final energy savings are not guaranteed. TRC and the New Jersey Board of Public Utilities (NJBP) shall in no event be liable should the actual energy savings vary.

TRC bases estimated installation costs on our experience at similar facilities, pricing from local contractors and vendors, and/or cost estimates from RS Means. We encourage the owner of the facility is encouraged to independently confirm these cost estimates and to obtain multiple estimates when considering measure installations. Actual installation costs can vary widely based on individual measures and conditions. TRC and NJBP do not guarantee installed cost estimates and shall in no event be held liable should actual installed costs vary from estimates.

New Jersey's Clean Energy Program (NJCEP) incentive values provided in this report are estimates based on program information available at the time of the report. Incentive levels are not guaranteed. The NJBP reserves the right to extend, modify, or terminate programs without prior notice. Please review all available program incentives and eligibility requirements prior to selecting and installing any energy conservation measures.

The customer and their respective contractor(s) are responsible to implement energy conservation measures in complete conformance with all applicable local, state and federal requirements.

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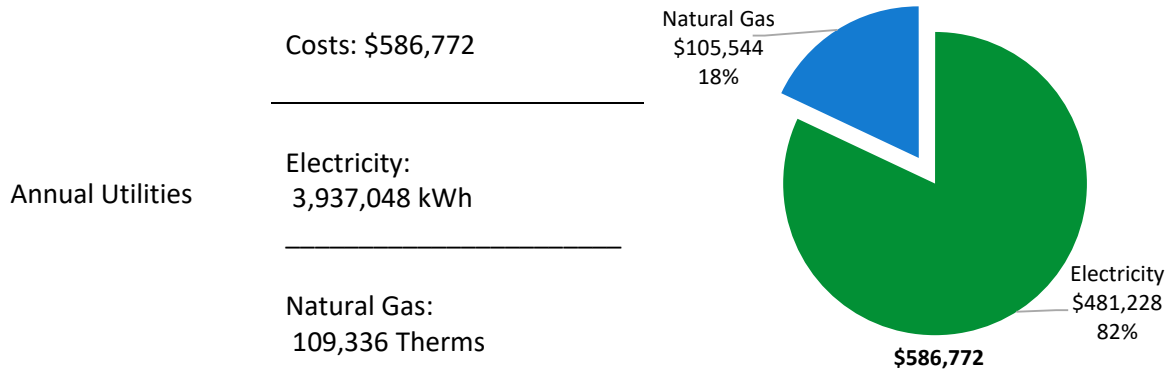
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1 EXECUTIVE SUMMARY

The New Jersey Board of Public Utilities (NJBP) has sponsored this Local Government Energy Audit (LGEA) report for Egg Harbor Township High School. This report provides you with information about your facility's energy use, identifies energy conservation measures (ECMs) that can reduce your energy use, and provides information and assistance to help make changes in your facility. TRC Energy Services (TRC) conducted this study as part of a comprehensive effort to assist New Jersey school districts and local governments in controlling their energy costs and help protect our environment by reducing statewide energy consumption.

BUILDING PERFORMANCE REPORT



ENERGY STAR® Benchmarking Score	<p>79 <i>(1-100 scale)</i></p>	<p>Congratulations, your building performs better than the national average. This report has suggestions about how to keep your building running efficiently, further improve performance and lower your energy bills even more.</p>
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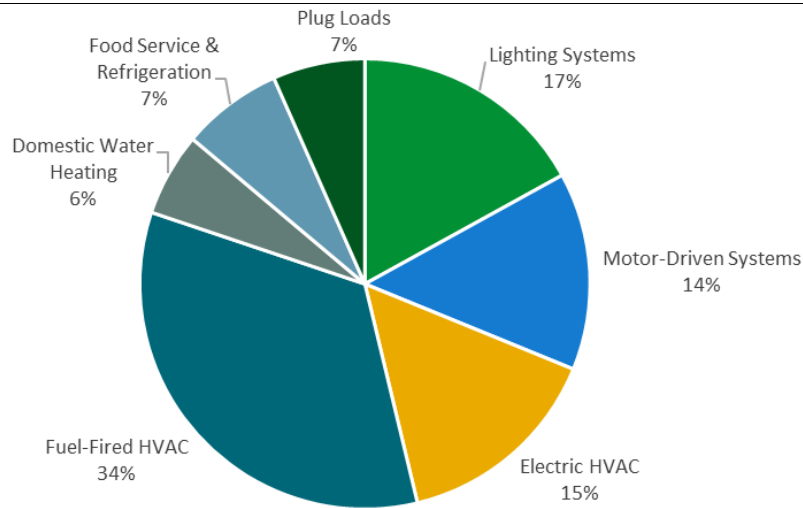


Figure 1 - Energy Use by System

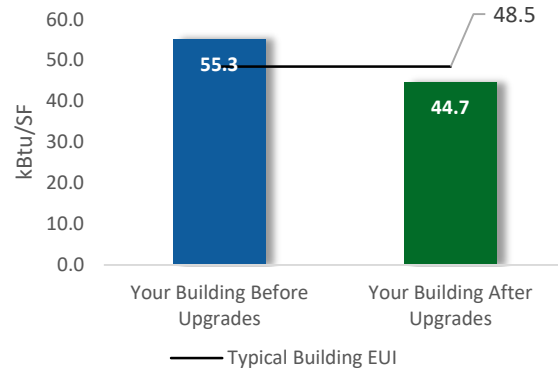
POTENTIAL IMPROVEMENTS



This energy audit considered a range of potential energy improvements in your building. Costs and savings will vary between improvements. Presented below are two potential scopes of work for your consideration.

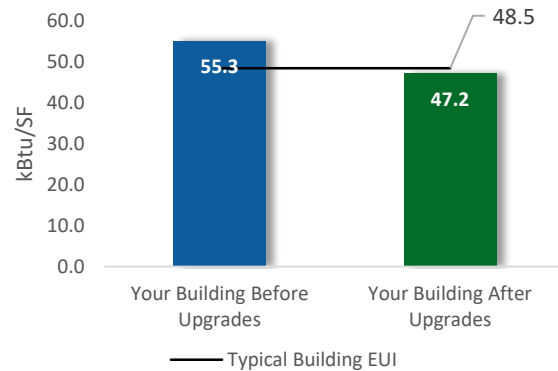
Scenario 1: Full Package (all evaluated measures)

Installation Cost	\$2,604,143
Potential Rebates & Incentives ¹	\$96,427
Annual Cost Savings	\$153,687
Annual Energy Savings	Electricity: 1,216,652 kWh Natural Gas: 5,153 Therms
Greenhouse Gas Emission Savings	643 Tons
Simple Payback	16.3 Years
Site Energy Savings (all utilities)	19%



Scenario 2: Cost Effective Package²

Installation Cost	\$583,971
Potential Rebates & Incentives	\$85,463
Annual Cost Savings	\$117,877
Annual Energy Savings	Electricity: 937,097 kWh Natural Gas: 3,455 Therms
Greenhouse Gas Emission Savings	492 Tons
Simple Payback	4.2 Years
Site Energy Savings (all utilities)	15%



On-site Generation Potential

Photovoltaic	High
Combined Heat and Power	High

¹ Incentives are based on current SmartStart Prescriptive incentives. Other Program incentives may apply.

² A cost-effective measure is defined as one where the simple payback does not exceed two-thirds of the expected proposed equipment useful life. Simple payback is based on the net measure cost after potential incentives.

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Lifetime Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		788,241	203.6	-141	\$94,985	\$1,424,776	\$450,820	\$73,568	\$377,252	4.0	777,231
ECM 1	Install LED Fixtures	338,837	75.9	-48	\$40,954	\$614,312	\$255,142	\$27,220	\$227,922	5.6	335,601
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	283	0.1	0	\$34	\$511	\$138	\$20	\$118	3.4	279
ECM 3	Retrofit Fixtures with LED Lamps	449,121	127.6	-93	\$53,997	\$809,953	\$195,540	\$46,328	\$149,212	2.8	441,351
Lighting Control Measures		85,833	24.0	-18	\$10,318	\$82,545	\$94,908	\$10,970	\$83,938	8.1	84,332
ECM 4	Install Occupancy Sensor Lighting Controls	77,690	22.3	-16	\$9,339	\$74,714	\$87,308	\$10,970	\$76,338	8.2	76,331
ECM 5	Install High/Low Lighting Controls	8,143	1.7	-2	\$979	\$7,831	\$7,600	\$0	\$7,600	7.8	8,001
Motor Upgrades		3,896	1.1	0	\$476	\$7,144	\$13,462	\$0	\$13,462	28.3	3,923
	Premium Efficiency Motors	3,896	1.1	0	\$476	\$7,144	\$13,462	\$0	\$13,462	28.3	3,923
Variable Frequency Drive (VFD) Measures		62,026	12.0	314	\$10,611	\$159,163	\$44,742	\$1,240	\$43,502	4.1	99,205
	Install VFDs on Constant Volume (CV) Fans	6,930	2.4	0	\$847	\$12,706	\$11,001	\$640	\$10,361	12.2	6,978
ECM 6	Install VFDs on Heating Water Pumps	42,955	9.6	0	\$5,250	\$78,757	\$26,518	\$0	\$26,518	5.1	43,256
ECM 7	Install VFDs on Kitchen Hood Fan Motors	12,141	0.0	314	\$4,513	\$67,701	\$7,223	\$600	\$6,623	1.5	48,971
Electric Unitary HVAC Measures		253,483	269.4	0	\$30,983	\$464,750	\$1,933,840	\$9,474	\$1,924,366	62.1	255,255
	Install High Efficiency Air Conditioning Units	250,439	268.7	0	\$30,611	\$459,170	\$1,920,313	\$8,738	\$1,911,575	62.4	252,190
	Install High Efficiency Heat Pumps	3,044	0.7	0	\$372	\$5,580	\$13,527	\$736	\$12,791	34.4	3,065
Domestic Water Heating Upgrade		0	0.0	191	\$1,841	\$18,412	\$480	\$0	\$480	0.3	22,333
ECM 8	Install Low-Flow DHW Devices	0	0.0	191	\$1,841	\$18,412	\$480	\$0	\$480	0.3	22,333
Food Service & Refrigeration Measures		12,961	1.1	0	\$1,584	\$19,204	\$15,891	\$1,175	\$14,716	9.3	13,051
ECM 10	Refrigeration Controls	4,197	0.0	0	\$513	\$8,208	\$2,193	\$125	\$2,068	4.0	4,226
	Replace Refrigeration Equipment	5,033	0.6	0	\$615	\$7,383	\$11,869	\$850	\$11,019	17.9	5,069
ECM 11	Vending Machine Control	2,639	0.3	0	\$323	\$1,613	\$920	\$200	\$720	2.2	2,658
Custom Measures		10,213	0.0	170	\$2,887	\$0	\$50,000	\$0	\$50,000	17.3	30,166
	Pool Covers Measure	10,213	0.0	170	\$2,887	\$0	\$50,000	\$0	\$50,000	17.3	30,166
TOTALS		1,216,652	511.1	515	\$153,687	\$2,175,995	\$2,604,143	\$96,427	\$2,507,716	16.3	1,285,495

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

** - Simple Payback Period is based on net measure costs (i.e. after incentives).

Figure 2 – Evaluated Energy Improvements

1.1 Planning Your Project

Careful planning makes for a successful energy project. When considering this scope of work, you will have some decisions to make, such as:

- ◆ How will the project be funded and/or financed?
- ◆ Is it best to pursue individual ECMs, groups of ECMs, or use a comprehensive approach where all ECMs are installed together?
- ◆ Are there other facility improvements that should happen at the same time?

Pick Your Installation Approach

New Jersey’s Clean Energy Programs give you the flexibility to do a little or a lot. Rebates, incentives, and financing are available to help reduce both your installation costs and your energy bills. If you are planning to take advantage of these programs, make sure to review incentive program guidelines before proceeding. This is important because in most cases you will need to submit applications for the incentives before purchasing materials or starting installation.

The potential ECMs identified for this building likely qualify for multiple incentive and funding programs. Based on current program rules and requirements, your measures are likely to qualify for the following programs:

Energy Conservation Measure		SmartStart	Direct Install	Pay For Performance
ECM 1	Install LED Fixtures	X		X
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	X		X
ECM 3	Retrofit Fixtures with LED Lamps	X		X
ECM 4	Install Occupancy Sensor Lighting Controls	X		X
ECM 5	Install High/Low Lighting Controls			X
ECM 6	Install VFDs on Hot Water Pumps			X
ECM 7	Install VFDs on Single-Speed Kitchen Hoods	X		X
ECM 8	Install Low-Flow Domestic Hot Water Devices			X
ECM 9	Refrigerator/Freezer Case Electrically Commutated Motors			X
ECM 10	Refrigeration Controls	X		X
ECM 11	Vending Machine Control	X		X

Figure 3 – Funding Options



New Jersey's Clean Energy Programs At-A-Glance

	SmartStart Flexibility to install at your own pace	Direct Install Turnkey installation	Pay for Performance Whole building upgrades
Who should use it?	Buildings installing individual measures or small group of measures.	Small to mid-size facilities that can bundle multiple measures together. Average peak demand should be below 200 kW. Not suitable for significant building shell issues.	Mid to large size facilities looking to implement as many measures as possible at one time. Peak demand should be over 200 kW.
How does it work?	Use in-house staff or your preferred contractor.	Pre-approved contractors pass savings along to you via reduced material and labor costs.	Whole-building approach to energy upgrades designed to reduce energy use by at least 15%. The more you save, the higher the incentives.
What are the Incentives?	Fixed incentives for specific energy efficiency measures.	Incentives pay up to 70% of eligible costs, up to \$125,000 per project. You pay the remaining 30% directly to the contractor.	Up to 25% of installation cost, calculated based on level of energy savings per square foot.
How do I participate?	Submit an application for the specific equipment to be installed.	Contact a participating contractor in your region.	Contact a pre-qualified partner to develop your energy reduction plan and set your energy savings targets.

Take the next step by visiting www.njcleanenergy.com for program details, applications, and to contact a qualified contractor.

Individual Measures with SmartStart

For facilities wishing to pursue only selected individual measures (or planning to phase implementation of selected measures over multiple years), incentives are available through the SmartStart program. To participate, you can use internal resources or an outside firm or contractor to perform the final design of the ECM(s) and install the equipment. Program pre-approval is required for some SmartStart incentives, so only after receiving pre-approval should you proceed with ECM installation.

Turnkey Installation with Direct Install

The Direct Install program provides turnkey installation of multiple measures through an authorized network of participating contractors. This program can provide substantially higher incentives than SmartStart, up to 70% of the cost of selected measures. Direct Install contractors will assess and verify individual measure eligibility and, in most cases, they perform the installation work. The Direct Install program is available to sites with an average peak demand of less than 200 kW.

Whole Building Approach with Pay for Performance

Pay for Performance can be a good option for medium to large sized facilities to achieve deep energy savings. Pay for Performance allows you to install as many measures as possible under a single project as well as address measures that may not qualify for other programs. Many facilities pursuing an Energy Savings Improvement Program (ESIP) loan also use this program. Pay for Performance works for larger customers with a peak demand over 200 kW. The minimum installed scope of work must include at least two unique measures resulting in at least 15% energy savings, where lighting cannot make up the majority of the savings.

More Options from Around the State

Financing and Planning Support with the Energy Savings Improvement Program (ESIP)

For larger facilities with limited capital availability to implement ECMs, project financing may be available through the ESIP. Supported directly by the NJBPU, ESIP provides government agencies with project development, design, and implementation support services, as well as, attractive financing for implementing ECMs. You have already taken the first step as an LGEA customer, because this report is required to participate in ESIP.

Resiliency with Return on Investment through Combined Heat & Power (CHP)

The CHP program provides incentives for combined heat and power (aka cogeneration) and waste heat to power projects. Combined heat and power systems generate power on-site and recover heat from the generation system to meet on-site thermal loads. Waste heat to power systems use waste heat to generate power. You will work with a qualified developer who will design a system that meets your building's heating and cooling needs.

Ongoing Electric Savings with Demand Response

The Demand Response Energy Aggregator program reduces electric loads at commercial facilities when wholesale electricity prices are high or when the reliability of the electric grid is threatened due to peak power demand. By enabling commercial facilities to reduce their electric demand during times of peak demand, the grid is made more reliable and overall transmission costs are reduced for all ratepayers. Curtailment service providers provide regular payments to medium and large consumers of electric power for their participation in demand response (DR) programs. Program participation is voluntary, and facilities receive payments regardless of whether they are called upon to curtail their load during times of peak demand.

2 EXISTING CONDITIONS

The New Jersey Board of Public Utilities (NJBP) has sponsored this Local Government Energy Audit (LGEA) Report for Egg Harbor Township High School. This report provides information on how your facility uses energy, identifies energy conservation measures (ECMs) that can reduce your energy use, and provides information and assistance to help you implement the ECMs. This report also contains valuable information on financial incentives from New Jersey’s Clean Energy Program (NJCEP) for implementing ECMs.

TRC conducted this study as part of a comprehensive effort to assist New Jersey educational and local government facilities in controlling energy costs and protecting our environment by offering a wide range of energy management options and advice.

2.1 Site Overview

On December 18, 2018, TRC performed an energy audit at Egg Harbor Township High School located in Egg Harbor Township, New Jersey. TRC met with Vincent Verna to review the facility operations and help focus our investigation on specific energy-using systems.

Egg Harbor Township High School is a comprehensive community public high school that serves students in ninth through twelfth grades from Egg Harbor Township in Atlantic County, New Jersey, operating as the lone secondary school of the Egg Harbor Township Schools. The facility comprises many sections that total 440,900 square feet and are connected by hallways. It was originally built in 1980 and expanded to accommodate additional spaces in 2002. Spaces include: classrooms, administrative offices, gymnasiums, locker rooms, auditorium, kitchens, cafeterias, an indoor pool, conference rooms, and storage and mechanical spaces.

Facility lighting primarily consists of 32-Watt T8 fluorescent fixtures. HVAC is provided mainly by roof top units (RTUs), many of which have passed their useful life and are due for an upgrade. Heating is provided by three hot water boilers. The facility has solar photovoltaic (PV) arrays installed on the roof and two gas fired backup generators. Air is exhausted from spaces by roof mounted exhausters. The HVAC system is controlled with a Siemens Apogee Building Automation System (BAS).

Refer to Appendix A for detailed information about each unit.

2.2 Building Occupancy

The school operates on a 12-month schedule. The facility is open Monday through Saturday. The gymnasiums and indoor pool are used after classes and on weekends for sports and other events. The entire facility is shut down around 10:00 PM after the cleaning process. During a typical day, the facility is occupied by approximately 2,700 staff and students.

Building Name	Weekday/Weekend	Operating Schedule
Egg Harbor HS - Classes Hours	Weekday	7:15 AM - 2:30 PM
	Weekend	8:00 AM - 2:00 PM (Saturday)
Egg Harbor HS - General Operation Hours	Weekday	6:00 AM - 10:00 PM
	Weekend	6:00 AM - 4:00 PM

Figure 4 - Building Occupancy Schedule

2.3 Building Envelope

The foundation consists of cast-in-place concrete perimeter walls. Sections of the building walls are concrete block over structural steel, while others are made of concrete masonry units (CMUs) with a brick veneer façade. The facility has both flat roof sections covered with a thermoplastic black membrane and pitched roof sections finished with standing seam metal. The roof is in good condition.

The windows are double glazed and have metal frames with a thermal break fiberglass. The operable window weather seals are in good condition. The entrance doors are fully glazed with a metal framed set in the storefront framing system, while the exit doors are made of metal frames and in good condition. A few exit doors are missing the wall-to-frame thermal break fiberglass. Overall, the building envelope appears to be in good condition.



Building Envelope

2.4 Lighting Systems

The primary interior lighting system uses 32-Watt linear fluorescent T8 lamps with electronic ballasts as well as compact fluorescent lamps (CFL). Additionally, there are several LED tubes and screw-in fixtures. The T8 fluorescent fixture types include 2-lamp, 4-foot long recessed troffers. The 4 PIN compact fluorescent (26-Watt, 42-Watt, 80-Watt) are found in spaces such as the hallways, main library, cafeterias, Kitchen 2, and stairwells, while the 32-Watt linear fluorescent fixtures illuminate the classrooms, offices, auditorium, cafeteria, Kitchen 1, hallways, and other spaces. Interior lighting fixtures are in good condition and lighting levels were generally sufficient. Exit signs throughout the facility are LED fixtures. Lighting fixtures in spaces are controlled with both occupancy sensors and manual wall switches.

Exterior illumination is provided with a combination of LED, high intensity discharge (HID), and CFLs fixtures. The LED fixtures are 55-Watt wall-mounted and 125-Watt pole-mounted fixtures, while the HID fixtures comprise 100-Watt wall-mounted metal halide and high pressure sodium (HPS), and 175-Watt wall-mounted and 400-Watt parking lot pole-mounted fixtures. 26-Watt CFLs lamps in recessed troffers can found around the building. Exterior light fixtures are controlled by time clock that appears also in the building automation system (BAS).



Interior Lighting & Occupancy Sensors



Image 1: Exterior Wall Pack & Recessed Fixtures



Image 2: LED, Metal Halide Pole Lights & Timer

2.5 Air Handling Systems

Direct Expansion Air Conditioning System (DX)

Cooling at the facility is provided by direct expansion (DX) split system heat pumps and rooftop packaged units (RTUs). It comprises 17 split systems ranging from 1.5 ton to 45 tons, seven split system heat pumps ranging from 1 to 12 tons, and 41 packaged units ranging from 6 to 70 tons. Many roof top units (RTUs) are 17 years old, have passed their useful life, and are due for an upgrade. They utilize outside air economizers to provide free cooling when outside air temperature is lower than the return air temperature in cooling mode. The packaged units are variable air volume and cooled air is distributed through ducts to variable air volume (VAV) terminals concealed above the ceilings. The packaged units are controlled with the Siemens Apogee BAS system while the split system air conditioners are controlled with programmable thermostats. Some packaged units have a two-stage cooling mode. The indoor pool dehumidification is controlled via a new 60 ton dedicated Desert Air unit.



Packaged Units



VRF Heat Pump & Split System Units



VFD Control & Programmable Thermostat

Air Distribution System

The air distribution system consists of seven single zone indoor air handler units (AHUs) equipped with hot water coil for heating and DX coil for cooling. The AHUs are variable air volume and air distribution is provided to supply air registers by ducts concealed above the ceilings. They are controlled with the Siemens Apogee BAS system.

2.6 Heating Hot Water Systems

Three Burnham Industrial 6,695 MBh hot water boilers serve the building heating load. The burners are full-modulating and are estimated to be operating at 80% combustion efficiencies. The boilers are configured in an automated lead-lag control scheme. Two boilers are required under high load condition. Installed in 2002, they are in good condition and well maintained. The boilers serve a primary/secondary distribution system with two 40 hp variable speed pumps circulating the primary loop and two 50 hp constant speed heating hot water pumps circulating the secondary loop. Hot water is distributed to hydronic baseboard, unit heaters, and AHUs. The boilers are controlled by a Multi-MOD platinum Heat-Timer with a full modulation sequencing control capability. It is connected to the Siemens Apogee BAS system and changes the temperature setpoint based on the outdoor temperature and return water temperature. The heating temperature setpoint is 72°F when the outside temperature is 55°F.

The indoor pool has a dedicated LAARS 849 MBh condensing hot water boiler with a fully-modulating burner that has 84.9% combustion efficiency. It is three years old and is in good condition.

In addition to the heating hot water system, supplemental heating is provided in some spaces--such as the kitchens--by gas fired units comprised of one furnace, two make-up air units (MAU1, MAU2), and one energy recovery unit (ERU). They are controlled with building automation system.



Hot Water Boilers & Heat-Timer



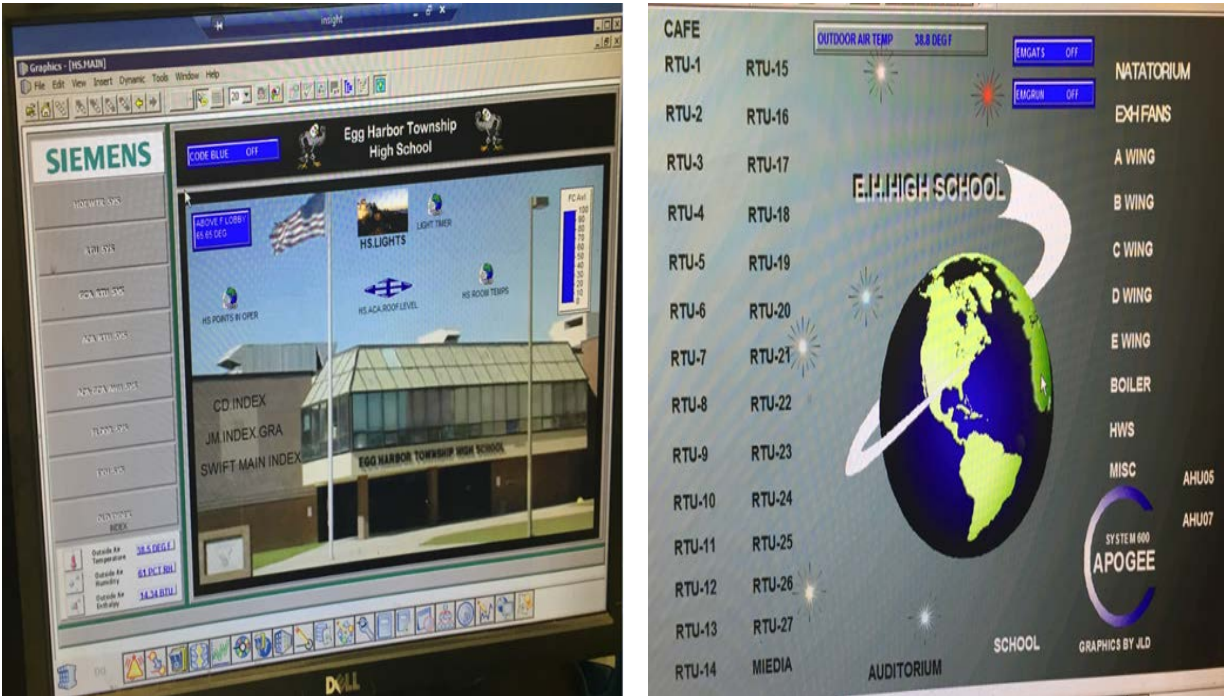
Hot Water Pumps & VFD Control System



: Indoor Pool Heating Hot Water Boiler

2.7 Building Energy Management Systems (EMS)

A Siemens Apogee Building Automation System (BAS) controls the HVAC equipment, the boilers, the air handlers, the package units, and the exhaust fans. The BAS provides equipment scheduling control, and monitors and controls space temperatures, supply air temperatures, humidity, and heating water loop temperatures.



Siemens Apogee Building Automation System

2.8 Domestic Hot Water

The facility's domestic hot water system, located in the mechanical room, consists of three AERCO 1,000 MBh commercial gas-fired water heaters with a 93% combustion efficiency. One heater produces 140°F water for the kitchens while the remaining two provide the building domestic hot water needs. The hot water heaters are 16 years old and appear in good condition. Two 1 hp circulation pumps distribute water to end users. The domestic hot water pipes are insulated, and the insulation is in good condition.



Domestic Hot Water Heaters

2.9 Food Service Equipment

The High School houses two commercial kitchens and two cafeterias. The cooking system consists of a combination of gas and electric convection ovens. The range tops, griddles, and steamers are all gas fired. Kitchen 1 has a high temperature electric conveyor dishwasher with a 36 kW electric booster. Bulk prepared foods are held in several electric holding cabinets.

Our analysis determined that this building's food service equipment accounts for a relatively high proportion of overall energy use (5.63%). While cost effective opportunities to replace equipment are limited at this time, we recommend that you work with your food service equipment suppliers to maintain equipment in a way that minimizes energy use. This may include cleaning air intakes and exhausts or other methods of keeping your existing equipment operating in top shape. When food service equipment is eventually replaced, consider installing high efficiency or ENERGY STAR® labeled equipment.

Visit https://www.energystar.gov/products/commercial_food_service_equipment for the latest information on high efficiency food service equipment.

2.10 Refrigeration

The facility has commercial refrigeration systems which consist of standup refrigerators and freezers, three walk-in units, and two commercial ice makers located either in the kitchen, cafeteria, or some common areas. Some old standup refrigerators are due for upgrade.



Kitchen Equipment



Refrigeration System

2.11 Plug Load & Vending Machines

The utility bill analysis indicates that plug loads consume approximately 6.63% percent of total building energy use. This is higher than a typical building.

You may wish to consider paying particular attention to minimizing your plug load usage. This report makes suggestions for ECMs in this area as well as Energy Efficient Best Practices.

There are approximately 800 computer work stations throughout the facility and 1,000 Chromebooks. There is a computer power management system in the facility. Plug loads throughout the building include general office equipment such copiers, printers, TVs, small refrigerators, water coolers, coffee machines, and microwaves. There are classroom typical loads such as Smartboards and projectors. There are several residential style refrigerators throughout the building. The main data center comprises many types of servers with different wattage.

There are three non-refrigerated vending machines and one refrigerated vending machine, none of which are equipped with occupancy-based controls.

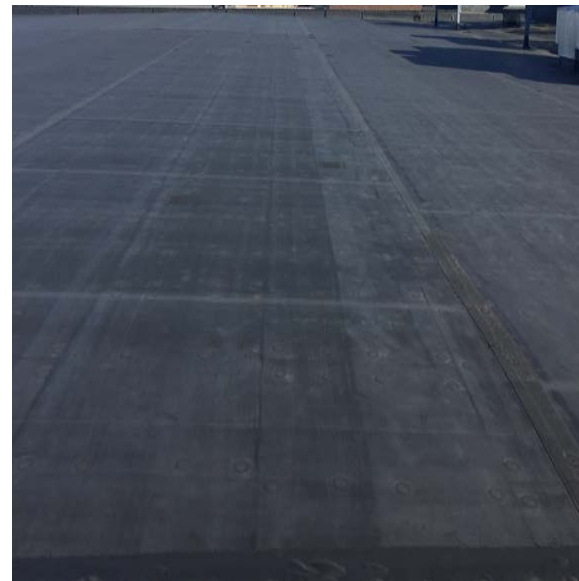
2.12 Water-Using Systems

There are several restrooms at the High School. A sampling of restrooms found that most faucets are rated for 2.2 gallons per minute (gpm) or higher, the toilets are rated at 2.5 gallons per flush (gpf), and the urinals are rated at 2 gpf. Girls' and boys' locker rooms are frequently used. The showerheads are rated as low-flow.

2.13 On-Site Generation

Egg Harbor Township High School has PV arrays installed on the flat roof sections, which provide approximately 11% of the electricity required by the facility. There are more opportunities to install additional PV in the remaining free spaces of the flat roof sections (refer to Section 6 of the Report).

The facility also has two gas fired backup generators.

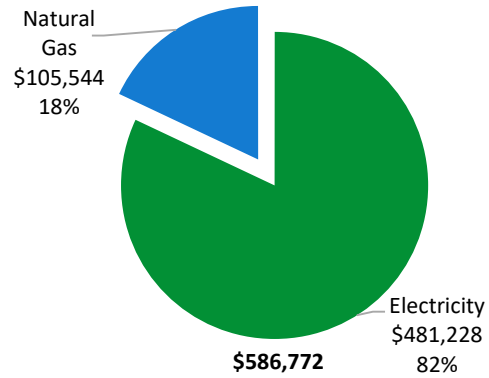


PV Arrays & Additional Free Spaces on the Roof

3 ENERGY USE AND COSTS

Twelve months of utility billing data are used to develop annual energy consumption and cost data. This information creates a profile of the annual energy consumption and energy costs.

Utility Summary		
Fuel	Usage	Cost
Electricity	3,937,048 kWh	\$481,228
Natural Gas	109,336 Therms	\$105,544
Total		\$586,772



An energy balance identifies and quantifies energy use in your various building systems. This can highlight areas with the most potential for improvement. This energy balance was developed using calculated energy use for each of the end uses noted in the figure.

The energy auditor collects information regarding equipment operating hours, capacity, efficiency and other operational parameters from facility staff, drawings, and on-site observations. This information is used as the inputs to calculate the existing conditions energy use for the site. The calculated energy use is then compared to the historical energy use and the initial inputs are revised, as necessary, to balance the calculated energy use to the historical energy use.

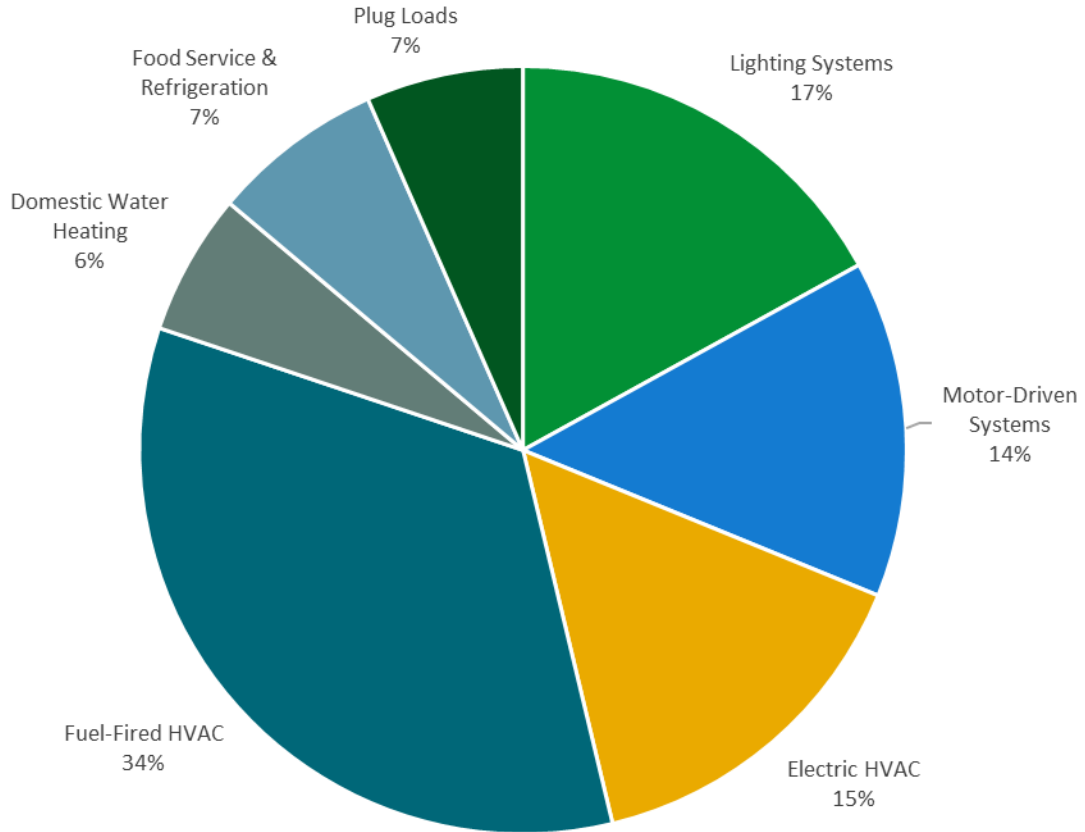
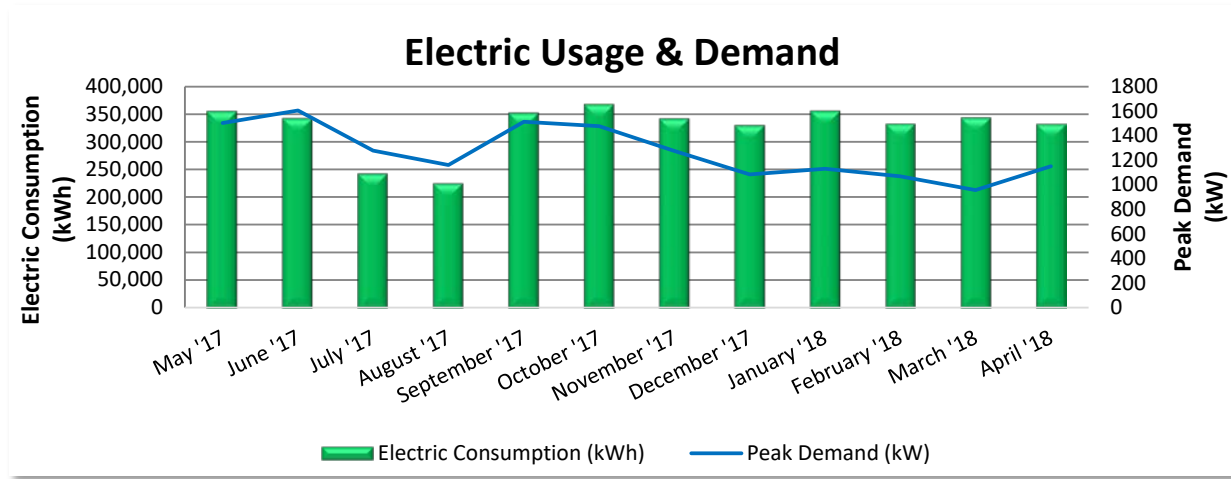


Figure 5 - Energy Balance

3.1 Electricity

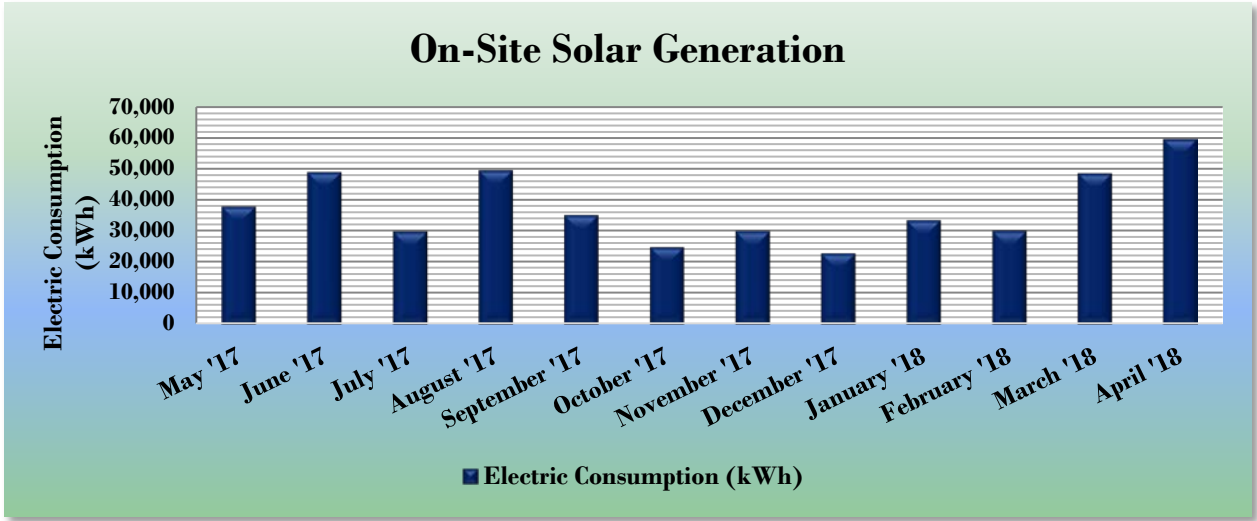
Atlantic City Electric delivers electricity under rate class Annual General Service Primary, with electric production provided by New Xoom Energy, a third-party supplier.



Electric Billing Data					
Period Ending	Days in Period	Electric Usage (kWh)	Demand (kW)	Demand Cost	Total Electric Cost
6/11/17	30	356,329	1,504	\$11,212	\$48,511
7/12/17	31	343,868	1,607	\$11,613	\$41,329
8/12/17	31	243,878	1,280	\$10,083	\$31,840
9/12/17	30	226,680	1,161	\$10,086	\$28,129
10/13/17	31	353,762	1,514	\$10,933	\$43,054
11/13/17	30	368,708	1,479	\$11,924	\$45,719
12/14/17	31	343,576	1,278	\$10,034	\$41,019
1/14/18	31	330,937	1,084	\$10,369	\$40,635
2/14/18	28	356,943	1,131	\$10,343	\$43,018
3/15/18	31	333,699	1,070	\$9,343	\$40,057
4/12/18	30	345,269	956	\$10,346	\$40,365
5/8/18	31	333,399	1,153	\$9,701	\$37,552
Totals	365	3,937,048	1,607	\$125,987	\$481,228
Annual	365	3,937,048	1,607	\$125,987	\$481,228

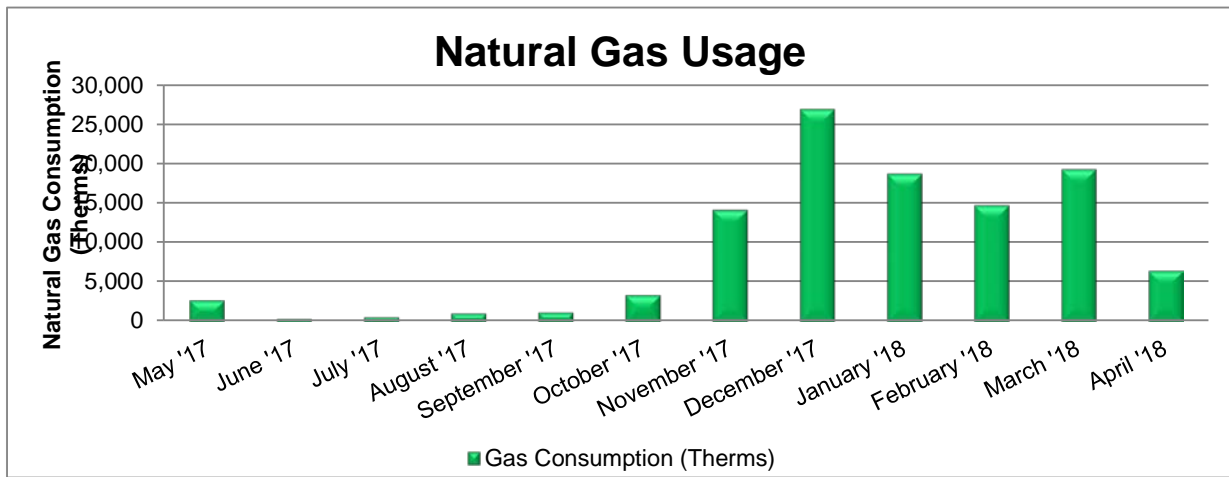
Notes:

- Peak demand of 1,607 kW occurred in July '17.
- The average electric cost over the past 12 months was \$0.122/kWh, which is the blended rate that includes energy supply, distribution, demand, and other charges. This report uses this blended rate to estimate energy cost savings.
- The electricity use profile reflects high occupancy throughout the year.
- All of the electricity generated on-site by the solar PV is used on-site. (see figure below)



3.2 Natural Gas

South Jersey Gas delivers natural gas under rate class General Service, with natural gas supply provided by Constellation New Energy, a third-party supplier.



Gas Billing Data			
Period Ending	Days in Period	Natural Gas Usage (Therms)	Natural Gas Cost
5/31/17	31	2,719	\$3,162
6/30/17	30	353	\$1,205
7/31/17	31	570	\$1,466
8/31/17	31	1,038	\$2,042
9/30/17	30	1,151	\$1,956
10/31/17	31	3,353	\$3,923
11/30/17	30	14,138	\$13,121
12/31/17	31	26,889	\$23,992
1/31/18	31	18,715	\$16,860
2/28/18	28	14,695	\$13,715
3/31/18	31	19,271	\$17,687
4/30/18	30	6,444	\$6,415
Totals	365	109,336	\$105,544
Annual	365	109,336	\$105,544

Notes:

- The average gas cost for the past 12 months is \$0.965/therm, which is the blended rate used throughout the analysis.
- The gas use profile is typical for a facility with a significant heating load relative to other end uses.

3.3 Benchmarking

Your building was benchmarked using the United States Environmental Protection Agency’s (EPA) *Portfolio Manager*® software. Benchmarking compares your building’s energy use to that of similar buildings across the county, while neutralizing variations due to location, occupancy and operating hours. Some building types can be scored with a 1-100 ranking of a building’s energy performance relative to the national building market. A score of 50 represents the national average and a score of 100 is best.

This ENERGY STAR® benchmarking score provides a comprehensive snapshot of your building’s energy performance. It assesses the building’s physical assets, operations, and occupant behavior, which is compiled into a quick and easy-to-understand score.

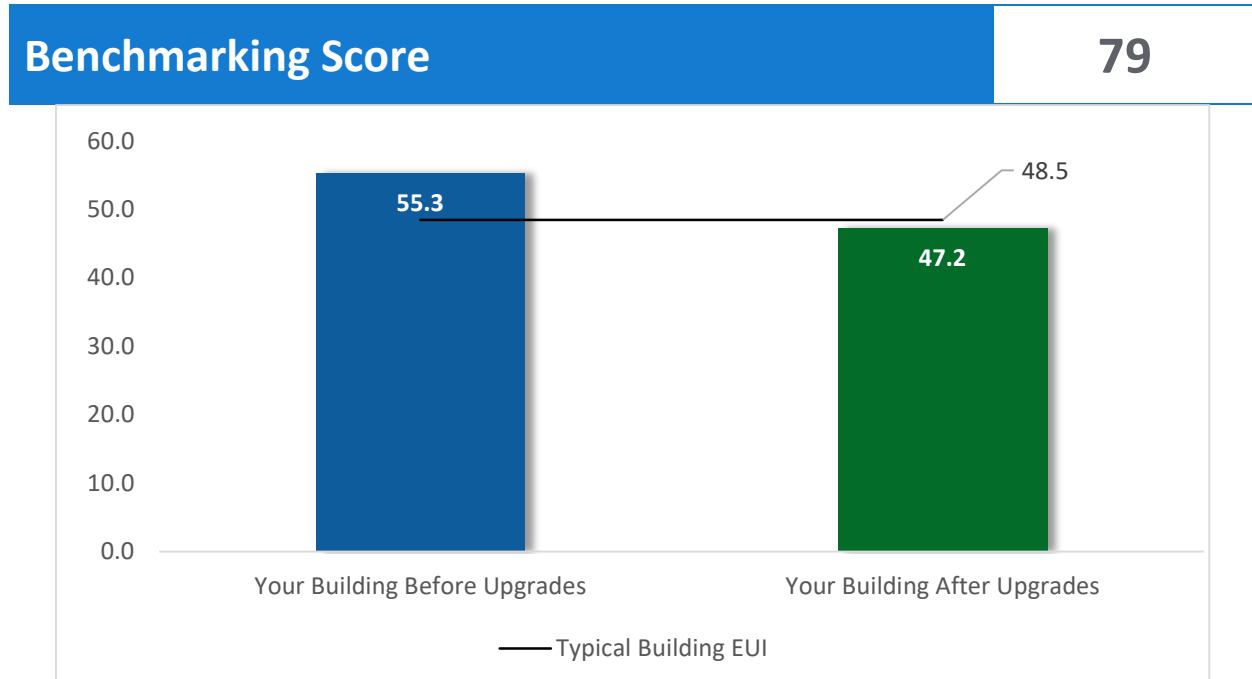


Figure 6 - Energy Use Intensity Comparison

Congratulations, your building performs better than the national average. This report has suggestions about how to keep your building running efficiently, further improve performance, and lower your energy bills even more.

Energy use intensity (EUI) measures energy consumption per square foot and is the standard metric for comparing buildings’ energy performance. A lower EUI means better performance and less energy consumed. A number of factors can cause a building to vary from the “typical” energy usage. Local weather conditions, building age and insulation levels, equipment efficiency, daily occupancy hours, changes in occupancy throughout the year, equipment operating hours, and occupant behavior all contribute to a building’s energy use and the benchmarking score.

Tracking Your Energy Performance

Keeping track of your energy use on a monthly basis is one of the best ways to keep energy costs in check. Update your utility information in Portfolio Manager® regularly, so that you can keep track of your building's performance.

We have created a Portfolio Manager® account for your facility and we have already entered the monthly utility data shown above for you. Account login information for your account will be sent via email.

Free online training is available to help you use ENERGY STAR® Portfolio Manager® to track your building's performance at: <https://www.energystar.gov/buildings/training>.

For more information on ENERGY STAR® and Portfolio Manager®, visit their website³.

³ <https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/earn-recognition/energy-star-certification/how-app-1>

4 ENERGY CONSERVATION MEASURES

The goal of this audit report is to identify and evaluate potential energy efficiency improvements, provide information about the cost effectiveness of those improvements, and recognize potential financial incentives from NJBPU. Most energy conservation measures have received preliminary analysis of feasibility which identifies expected ranges of savings and costs. This level of analysis is typically sufficient to demonstrate project cost-effectiveness and help prioritize energy measures.

Calculations of energy use and savings are based on the current version of the *New Jersey's Clean Energy Program Protocols to Measure Resource Savings*, which is approved by the New Jersey Board of Public Utilities. Further analysis or investigation may be required to calculate more precise savings based on specific circumstances.

Operation and maintenance costs for the proposed new equipment will generally be lower than the current costs for the existing equipment—especially if the existing equipment is at or past its normal useful life. We have conservatively assumed there to be no impact on overall maintenance costs over the life of the equipment.

Financial incentives are based on the current NJCEP prescriptive SmartStart program. A higher level of investigation may be necessary to support any SmartStart Custom, Pay for Performance, or Direct Install incentive applications. Some measures and proposed upgrades may be eligible for higher incentives than those shown below through other NJCEP programs described in a following section of this report.

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		788,241	203.6	-141	\$94,985	\$450,820	\$73,568	\$377,252	4.0	777,231
ECM 1	Install LED Fixtures	338,837	75.9	-48	\$40,954	\$255,142	\$27,220	\$227,922	5.6	335,601
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	283	0.1	0	\$34	\$138	\$20	\$118	3.4	279
ECM 3	Retrofit Fixtures with LED Lamps	449,121	127.6	-93	\$53,997	\$195,540	\$46,328	\$149,212	2.8	441,351
Lighting Control Measures		85,833	24.0	-18	\$10,318	\$94,908	\$10,970	\$83,938	8.1	84,332
ECM 4	Install Occupancy Sensor Lighting Controls	77,690	22.3	-16	\$9,339	\$87,308	\$10,970	\$76,338	8.2	76,331
ECM 5	Install High/Low Lighting Controls	8,143	1.7	-2	\$979	\$7,600	\$0	\$7,600	7.8	8,001
Motor Upgrades		3,896	1.1	0	\$476	\$13,462	\$0	\$13,462	28.3	3,923
	Premium Efficiency Motors	3,896	1.1	0	\$476	\$13,462	\$0	\$13,462	28.3	3,923
Variable Frequency Drive (VFD) Measures		62,026	12.0	314	\$10,611	\$44,742	\$1,240	\$43,502	4.1	99,205
	Install VFDs on Constant Volume (CV) Fans	6,930	2.4	0	\$847	\$11,001	\$640	\$10,361	12.2	6,978
ECM 6	Install VFDs on Heating Water Pumps	42,955	9.6	0	\$5,250	\$26,518	\$0	\$26,518	5.1	43,256
ECM 7	Install VFDs on Kitchen Hood Fan Motors	12,141	0.0	314	\$4,513	\$7,223	\$600	\$6,623	1.5	48,971
Electric Unitary HVAC Measures		253,483	269.4	0	\$30,983	\$1,933,840	\$9,474	\$1,924,366	62.1	255,255
	Install High Efficiency Air Conditioning Units	250,439	268.7	0	\$30,611	\$1,920,313	\$8,738	\$1,911,575	62.4	252,190
	Install High Efficiency Heat Pumps	3,044	0.7	0	\$372	\$13,527	\$736	\$12,791	34.4	3,065
Domestic Water Heating Upgrade		0	0.0	191	\$1,841	\$480	\$0	\$480	0.3	22,333
ECM 8	Install Low-Flow DHW Devices	0	0.0	191	\$1,841	\$480	\$0	\$480	0.3	22,333
Food Service & Refrigeration Measures		12,961	1.1	0	\$1,584	\$15,891	\$1,175	\$14,716	9.3	13,051
ECM 9	Refrigerator/Freezer Case Electrically Commutated Motors	1,091	0.1	0	\$133	\$910	\$0	\$910	6.8	1,099
ECM 10	Refrigeration Controls	4,197	0.0	0	\$513	\$2,193	\$125	\$2,068	4.0	4,226
	Replace Refrigeration Equipment	5,033	0.6	0	\$615	\$11,869	\$850	\$11,019	17.9	5,069
ECM 11	Vending Machine Control	2,639	0.3	0	\$323	\$920	\$200	\$720	2.2	2,658
Custom Measures		10,213	0.0	170	\$2,887	\$50,000	\$0	\$50,000	17.3	30,166
	Pool Covers Measure	10,213	0.0	170	\$2,887	\$50,000	\$0	\$50,000	17.3	30,166
TOTALS		1,216,652	511.1	515	\$153,687	\$2,604,143	\$96,427	\$2,507,716	16.3	1,285,495

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

** - Simple Payback Period is based on net measure costs (i.e. after incentives).

Figure 7 – All Evaluated ECMs

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		788,241	203.6	-141	\$94,985	\$450,820	\$73,568	\$377,252	4.0	777,231
ECM 1	Install LED Fixtures	338,837	75.9	-48	\$40,954	\$255,142	\$27,220	\$227,922	5.6	335,601
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	283	0.1	0	\$34	\$138	\$20	\$118	3.4	279
ECM 3	Retrofit Fixtures with LED Lamps	449,121	127.6	-93	\$53,997	\$195,540	\$46,328	\$149,212	2.8	441,351
Lighting Control Measures		85,833	24.0	-18	\$10,318	\$94,908	\$10,970	\$83,938	8.1	84,332
ECM 4	Install Occupancy Sensor Lighting Controls	77,690	22.3	-16	\$9,339	\$87,308	\$10,970	\$76,338	8.2	76,331
ECM 5	Install High/Low Lighting Controls	8,143	1.7	-2	\$979	\$7,600	\$0	\$7,600	7.8	8,001
Variable Frequency Drive (VFD) Measures		55,096	9.6	314	\$9,764	\$33,741	\$600	\$33,141	3.4	92,226
ECM 6	Install VFDs on Heating Water Pumps	42,955	9.6	0	\$5,250	\$26,518	\$0	\$26,518	5.1	43,256
ECM 7	Install VFDs on Kitchen Hood Fan Motors	12,141	0.0	314	\$4,513	\$7,223	\$600	\$6,623	1.5	48,971
Domestic Water Heating Upgrade		0	0.0	191	\$1,841	\$480	\$0	\$480	0.3	22,333
ECM 8	Install Low-Flow DHW Devices	0	0.0	191	\$1,841	\$480	\$0	\$480	0.3	22,333
Food Service & Refrigeration Measures		7,927	0.5	0	\$969	\$4,023	\$325	\$3,698	3.8	7,983
ECM 9	Refrigerator/Freezer Case Electrically Commutated Motors	1,091	0.1	0	\$133	\$910	\$0	\$910	6.8	1,099
ECM 10	Refrigeration Controls	4,197	0.0	0	\$513	\$2,193	\$125	\$2,068	4.0	4,226
ECM 11	Vending Machine Control	2,639	0.3	0	\$323	\$920	\$200	\$720	2.2	2,658
TOTALS		937,097	237.7	346	\$117,877	\$583,971	\$85,463	\$498,508	4.2	984,104

* - All incentives presented in this table are based on NJ SmartStart equipment incentives and assume proposed equipment meets minimum performance criteria for that program.

** - Simple Payback Period is based on net measure costs (i.e. after incentives).

Figure 8 – Cost Effective ECMs

4.1 Lighting

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Upgrades		788,241	203.6	-141	\$94,985	\$450,820	\$73,568	\$377,252	4.0	777,231
ECM 1	Install LED Fixtures	338,837	75.9	-48	\$40,954	\$255,142	\$27,220	\$227,922	5.6	335,601
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	283	0.1	0	\$34	\$138	\$20	\$118	3.4	279
ECM 3	Retrofit Fixtures with LED Lamps	449,121	127.6	-93	\$53,997	\$195,540	\$46,328	\$149,212	2.8	441,351

When considering lighting upgrades, we suggest using a comprehensive design approach that simultaneously upgrades lighting fixtures and controls to maximize energy savings and improve occupant lighting. Comprehensive design will also consider appropriate lighting levels for different space types to make sure that the right amount of light is delivered where needed. If conversion to LED light sources is proposed, we suggest converting all of a specific lighting type (e.g. linear fluorescent) to LED lamps to minimize the number of lamp types in use at the facility, which should help reduce future maintenance costs.

ECM 1: Install LED Fixtures

Replace existing fixtures containing metal halide, high pressure sodium (HPS), and 80-Watt CFL lamps with new LED light fixtures. This measure saves energy by installing LEDs, which use less power than other technologies with a comparable light output.

In some cases, HID fixtures (metal halide and HPS) can be retrofit with screw-based LED lamps. Replacing an existing HID fixture with a new LED fixture will generally provide better overall lighting optics; however, replacing the HID lamp with a LED screw-in lamp is typically a less expensive retrofit. We recommend you work with your lighting contractor to determine which retrofit solution is best suited to your needs and will be compatible with the existing fixtures.

Maintenance savings may also be achieved since LED lamps last longer than other light sources and therefore do not need to be replaced as often.

Affected building areas: gymnasium, auditorium, interior, and exterior fixtures.

ECM 2: Retrofit Fluorescent Fixtures with LED Lamps and Drivers

Retrofit fluorescent T12 fixtures by removing the fluorescent tubes and ballasts and replacing them with LED tubes and LED drivers (if necessary), which are designed to be used in retrofitted fluorescent fixtures.

The measure uses the existing fixture housing but replaces the electric components with more efficient lighting technology which use less power than other lighting technologies but provides equivalent lighting output. Maintenance savings may also be achieved as LED tubes last longer than fluorescent tubes and therefore do not need to be replaced as often.

Affected building areas: hallway display fixtures.

ECM 3: Retrofit Fixtures with LED Lamps

Replace fluorescent T8, CFL, and incandescent lamps with LED lamps. Many LED tubes are direct replacements for existing fluorescent tubes and can be installed while leaving the fluorescent fixture ballast in place. LED lamps can be used in existing fixtures as a direct replacement for most other lighting technologies.

This measure saves energy by installing LEDs, which use less power than other lighting technologies, while providing equivalent lighting output for the space. Maintenance savings may also be available, as longer-lasting LEDs lamps will not need to be replaced as often as the existing lamps.

Affected building areas: all areas with fluorescent fixtures with T8 tubes, CFL, and incandescent lamps.

4.2 Lighting Controls

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Lighting Control Measures		85,833	24.0	-18	\$10,318	\$94,908	\$10,970	\$83,938	8.1	84,332
ECM 4	Install Occupancy Sensor Lighting Controls	77,690	22.3	-16	\$9,339	\$87,308	\$10,970	\$76,338	8.2	76,331
ECM 5	Install High/Low Lighting Controls	8,143	1.7	-2	\$979	\$7,600	\$0	\$7,600	7.8	8,001

Lighting controls reduce energy use by turning off or lowering lighting fixture power levels when not in use. A comprehensive approach to lighting design should upgrade the lighting fixtures and the controls together for maximum energy savings and improved lighting for occupants.

ECM 4: Install Occupancy Sensor Lighting Controls

Install occupancy sensors to control lighting fixtures in areas that are frequently unoccupied, even for short periods. For most spaces, we recommend lighting controls that use dual technology sensors, which reduce the possibility of lights turning off unexpectedly.

Occupancy sensors detect occupancy using ultrasonic and/or infrared sensors. When an occupant enters the space, the lighting fixtures switch to full lighting levels. Most occupancy sensor lighting controls allow users to manually turn fixtures on/off as needed. Some controls can also provide dimming options.

Occupancy sensors can be mounted on the wall at existing switch locations, mounted on the ceiling, or in remote locations. In general, wall switch replacement sensors are best suited to single occupant offices and other small rooms. Ceiling-mounted or remote mounted sensors are used in large spaces, locations without local switching, and where wall switches are not in the line-of-sight of the main work area.

This measure provides energy savings by reducing the lighting operating hours.

Affected building areas: offices, conference rooms, classrooms, gymnasium, library, restrooms, and storage rooms.

ECM 5: Install High/Low Lighting Controls

Install occupancy sensors to provide dual level lighting control for lighting fixtures in spaces that are infrequently occupied but may require some level of continuous lighting for safety or security reasons.

Lighting fixtures with these controls operate at default low levels when the area is unoccupied to provide minimal lighting to meet security or safety requirements. Sensors detect occupancy using ultrasonic and/or infrared sensors. When an occupant enters the space, the lighting fixtures switch to full lighting levels. Fixtures automatically switch back to low level after a predefined period of vacancy. In parking lots and parking garages with significant ambient lighting, this control can sometimes be combined with photocell controls to turn the lights off when there is sufficient daylight.

This measure provides energy savings by reducing the light fixture power draw when reduced light output is appropriate.

Affected building areas: hallways.

For this type of measure the occupancy sensors will generally be ceiling or fixture mounted. Sufficient sensor coverage must be provided to ensure that lights turn on in each area as an occupant approaches.

4.3 Motors

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Motor Upgrades		3,896	1.1	0	\$476	\$13,462	\$0	\$13,462	28.3	3,923
	Premium Efficiency Motors	3,896	1.1	0	\$476	\$13,462	\$0	\$13,462	28.3	3,923

Premium Efficiency Motors

Replace standard efficiency motors with IHP 2014 efficiency motors. This evaluation assumes that existing motors will be replaced with motors of equivalent size and type. In some cases, additional savings may be possible by downsizing motors to better meet the motor’s current load requirements.

Affected motors:

Location	Area(s)/System(s) Served	Motor Quantity	Motor Application	HP Per Motor	Additional Motor Description
Boiler Room	Heating Hot Water	2	Heating Hot Water Pump	50.0	Heating Hot Water Pump
Fire Bld	Exhaust Fan	1	Exhaust Fan	1.0	Exhaust Fan
Roof Top	Kitchen Hood1	1	Kitchen Hood Exhaust Fan	0.5	Exhaust Fan
Roof Top	Kitchen Hood2	1	Kitchen Hood Exhaust Fan	0.5	Exhaust Fan

Location	Area(s)/System(s) Served	Motor Quantity	Motor Application	HP Per Motor	Additional Motor Description
Roof Top	Kitchen Hood3	1	Kitchen Hood Exhaust Fan	1.0	Exhaust Fan
Roof Top	School -EF19	1	Exhaust Fan	2.0	Exhaust Fan
Roof Top	School -EF26	1	Exhaust Fan	3.0	Exhaust Fan
Roof Top	School -EF20	1	Exhaust Fan	2.0	Exhaust Fan

Savings are based on the difference between baseline and proposed efficiencies and the assumed annual operating hours. The base case motor energy consumption is estimated based on the efficiencies found on nameplates or on the age of the motor and our best estimates of motor run hours. Efficiencies of proposed motor upgrades are obtained from the current *New Jersey’s Clean Energy Program Protocols to Measure Resource Savings*.

4.4 Variable Frequency Drives (VFD)

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$) *	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Variable Frequency Drive (VFD) Measures		62,026	12.0	314	\$10,611	\$44,742	\$1,240	\$43,502	4.1	99,205
	Install VFDs on Constant Volume (CV) Fans	6,930	2.4	0	\$847	\$11,001	\$640	\$10,361	12.2	6,978
ECM 6	Install VFDs on Heating Water Pumps	42,955	9.6	0	\$5,250	\$26,518	\$0	\$26,518	5.1	43,256
ECM 7	Install VFDs on Kitchen Hood Fan Motors	12,141	0.0	314	\$4,513	\$7,223	\$600	\$6,623	1.5	48,971

Variable frequency drives control motors for fans, pumps, and process equipment based on the actual output required of the driven equipment. Energy savings result from more efficient control of motor energy usage when equipment operates at partial load. The magnitude of energy savings depends on the estimated amount of time that the motor would operate at partial load. For equipment with proposed VFDs, we have included replacing the controlled motor with a new motor—unless the existing motor meets or exceeds IHP 2014 standards—to conservatively account for the cost of an inverter duty rated motor. The savings and cost associated with the new motor are presented with the Premium Efficiency Motor measures. If the proposed VFD measure is not selected for implementation, the motor replacement should be reevaluated.

Install VFDs on Constant Volume (CV) Fans

Install VFDs to control constant volume fan motor speeds. This converts a constant-volume, single-zone air handling system into a variable-air-volume (VAV) system. A separate VFD is usually required to control the return fan motor or dedicated exhaust fan motor, if the air handler has one.

Zone thermostats signal the VFD to adjust fan speed to maintain the appropriate temperature in the zone while maintaining a constant supply air temperature.

VAV system controls should not raise the supply air temperature at the expense of the fan power. A common mistake is to reset the supply air temperature to achieve chiller energy savings, which can lead to additional air flow requirements. Supply air temperature should be kept low (e.g. 55°F) until the minimum fan speed (typically about 50%) is met. At this point, it is efficient to raise the supply air temperature as the load decreases, but not such that additional air flow—thus fan energy—is required.

For air handlers with direct expansion (DX) cooling systems, the minimum air flow across the cooling coil required to prevent the coil from freezing must be determined during the final project design. The control system programming should maintain the minimum air flow whenever the compressor is operating.

Energy savings result from reducing the fan speed (and power) when conditions allow for reduced air flow.

ECM 6: Install VFDs on Heating Water Pumps

Install variable frequency drives (VFD) to control heating water pumps. Two-way valves must serve the hot water coils and the hot water loop must have a differential pressure sensor installed. If three-way valves or a bypass leg are used in the hot water distribution, they will need to be modified when this measure is implemented. As the hot water valves close, the differential pressure increases and the VFD modulates the pump speed to maintain a differential pressure setpoint.

Energy savings result from reducing pump motor speed (and power) as hot water valves close. The magnitude of energy savings is based on the estimated amount of time that the system will operate at reduced load.

Affected pumps: P1, P2

ECM 7: Install VFDs on Kitchen Hood Fan Motors

Install VFDs and sensors to control the kitchen hood fan motors. The air flow of the hood is varied based on two key inputs: temperature and smoke/cooking fumes. The VFD controls the amount of exhaust (and kitchen make-up air) based on temperature—the lower the temperature the lower the flow. If the optic sensor is triggered by smoke or cooking fumes, the speed of the fan ramps up to 100%.

Energy savings result from reducing the hood fan speed (and power) when conditions allow for reduced air flow.

4.5 Electric Unitary HVAC

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Electric Unitary HVAC Measures		253,483	269.4	0	\$30,983	\$1,933,840	\$9,474	\$1,924,366	62.1	255,255
	Install High Efficiency Air Conditioning Units	250,439	268.7	0	\$30,611	\$1,920,313	\$8,738	\$1,911,575	62.4	252,190
	Install High Efficiency Heat Pumps	3,044	0.7	0	\$372	\$13,527	\$736	\$12,791	34.4	3,065

Replacing the unitary HVAC units (packaged and split system units) has a long payback period and may not be justifiable based simply on energy considerations. However, some of the units at the High School have reached the end of their normal useful life. Typically, the marginal cost of purchasing a high efficiency unit can be justified by the marginal savings from the improved efficiency. When the unitary HVAC units are eventually replaced, consider purchasing equipment that exceeds the minimum efficiency required by building codes.

Install High Efficiency Air Conditioning Units

We have evaluated replacing standard efficiency packaged and split system air conditioning units with high efficiency packaged air conditioning units. The magnitude of energy savings for this measure depends on the relative efficiency of the older unit versus the new high efficiency unit, the average cooling load, and the estimated annual operating hours.

Install High Efficiency Heat Pumps

We have evaluated replacing standard efficiency heat pumps with high efficiency heat pumps. A higher EER or SEER rating indicates a more efficient cooling system and a higher HPSF rating indicates more efficient heating mode. The magnitude of energy savings for this measure depends on the relative efficiency of the older unit versus the new high efficiency unit, the average heating and cooling loads, and the estimated annual operating hours.

4.6 Domestic Water Heating

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$) *	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Domestic Water Heating Upgrade		0	0.0	191	\$1,841	\$480	\$0	\$480	0.3	22,333
ECM 8	Install Low-Flow DHW Devices	0	0.0	191	\$1,841	\$480	\$0	\$480	0.3	22,333

ECM 8: Install Low-Flow DHW Devices

Install low-flow devices to reduce overall hot water demand. The following low flow device is recommended to reduce hot water usage:

Device	Flow Rate
Faucet aerators (lavatory)	0.5 gpm

Low-flow devices reduce the overall water flow from the fixture while still providing adequate pressure for washing. Additional cost savings may result from reduced water usage.

4.7 Food Service & Refrigeration Measures

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$)*	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Food Service & Refrigeration Measures		12,961	1.1	0	\$1,584	\$15,891	\$1,175	\$14,716	9.3	13,051
ECM 9	Refrigerator/Freezer Case Electrically Commutated Motors	1,091	0.1	0	\$133	\$910	\$0	\$910	6.8	1,099
ECM 10	Refrigeration Controls	4,197	0.0	0	\$513	\$2,193	\$125	\$2,068	4.0	4,226
	Replace Refrigeration Equipment	5,033	0.6	0	\$615	\$11,869	\$850	\$11,019	17.9	5,069
ECM 11	Vending Machine Control	2,639	0.3	0	\$323	\$920	\$200	\$720	2.2	2,658

ECM 9: Refrigerator/Freezer Case Electrically Commutated Motors

Replace shaded pole or permanent split capacitor (PSC) motors with electronically commutated (EC) motors in the walk-in cooler serving the flower shop. Fractional horsepower EC motors are significantly more efficient than mechanically commutated brushed motors, particularly at low speeds or partial load. By using variable-speed technology, EC motors can optimize fan usage. Because these motors are brushless and use DC power, losses due to friction and phase shifting are eliminated.

Savings for this measure consider both the increased efficiency of the motor as well as the reduction in refrigeration load due to motor heat loss.

ECM 10: Refrigeration Controls

Install additional controls to optimize the operation of the flower shop's walk-in cooler.

Many walk-in coolers and freezers have continuously operating electric heaters on the doors to prevent condensation formation. This measure adds a control system feature to shut off the door heaters when the humidity level is low enough that condensation will not occur if the heaters are off. This is done by measuring the ambient humidity and temperature of the store, comparing that to the dewpoint, and using pulse width modulation to control the anti-sweat door heaters.

Defrost controllers can be used to override defrost of evaporator fans when the defrost operation is not necessary, which reduces annual energy consumption. This measure is applicable to existing evaporator fans with a traditional electric defrost mechanism.

Many walk-in coolers and freezers have evaporator fans that run continuously. The measure adds a control system feature to automatically shut off evaporator fans when not needed.

Energy savings for each of the control measures account for reduction in compressor and fan operating hours as well as reduction in the refrigeration heat load as appropriate.

ECM 11: Replace Refrigeration Equipment

Replace four commercial refrigerators with new ENERGY STAR® rated equipment. The energy savings associated with this measure come from more efficient technology, and reduced energy usage and run times.

ECM 12: Vending Machine Control

Vending machines operate continuously, even during unoccupied hours. Install occupancy sensor controls to reduce energy use. These controls power down vending machines when the vending machine area has been vacant for some time, and power up the machines at necessary regular intervals or when the surrounding area is occupied. Energy savings are dependent on the vending machine and activity level in the area surrounding the machines.

4.8 Custom Measures

#	Energy Conservation Measure	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings (\$)	Estimated Install Cost (\$)	Estimated Incentive (\$) *	Estimated Net Cost (\$)	Simple Payback Period (yrs)**	CO ₂ e Emissions Reduction (lbs)
Custom Measures		10,213	0.0	170	\$2,887	\$50,000	\$0	\$50,000	17.3	30,166
	Pool Covers Measure	10,213	0.0	170	\$2,887	\$50,000	\$0	\$50,000	17.3	30,166

Pool Covers Measure

We evaluated a custom measure for covering the indoor pool that is not subjected to the environment, although it still potentially loses significant amounts of energy from evaporation. Covering the pool when not in use is the single most effective way of reducing pool heating costs. For each pound of water evaporated, approximately 1050 Btu leave the pool, cooling the water. The cooling effect of evaporation accounts for over 90% of pool water heating costs. Indoor pools also require room ventilation to control indoor humidity caused by the large amount of evaporation. The ventilated air also must be conditioned, which adds to the energy costs. Pool covers minimize evaporation from both outdoor and indoor pools. Covering a pool when not in use is the single most effective means of reducing pool heating costs.

Reasons for not Recommending

The simple payback of this custom measure exceeds the expected useful life of the equipment and is therefore not recommended on the basis of energy savings alone.

5 ENERGY EFFICIENT BEST PRACTICES

A whole building maintenance plan will extend equipment life; improve occupant comfort, health, and safety; and reduce energy and maintenance costs. You may already be doing some of these things— see our list below for potential additions to your maintenance plan. Be sure to consult with qualified equipment specialists for details on proper maintenance and system operation.

Energy Tracking with ENERGY STAR® Portfolio Manager®



You've heard it before - you can't manage what you don't measure. ENERGY STAR® Portfolio Manager® is an online tool that you can use to measure and track energy and water consumption, as well as greenhouse gas emissions⁴. Your account has already been established. Now you can continue to keep tabs on your energy performance every month.

Weatherization

Caulk or weather strip leaky doors and windows to reduce drafts and loss of heated or cooled air. Sealing cracks and openings can reduce heating and cooling costs, improve building durability, and create a healthier indoor environment.

Lighting Controls

As part of a lighting maintenance schedule, test lighting controls to ensure proper functioning. For occupancy sensors, this requires triggering the sensor and verifying that the sensor's timer settings are correct. For daylight and photocell sensors, maintenance involves cleaning sensor lenses and confirming that setpoints and sensitivity are configured properly.

Motor Maintenance

Motors have many moving parts. As these parts degrade over time, the efficiency of the motor is reduced. Routine maintenance prevents damage to motor components. Routine maintenance should include cleaning surfaces and ventilation openings on motors to prevent overheating, lubricating moving parts to reduce friction, inspecting belts and pulleys for wear and to ensure they are at proper alignment and tension, and cleaning and lubricating bearings. Consult a licensed technician to assess these and other motor maintenance strategies.

Fans to Reduce Cooling Load

Install ceiling fans to supplement your cooling system. Thermostat settings can typically be increased by 4°F with no change in overall occupant comfort due to the wind chill effect of moving air.

⁴ <https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager>

Thermostat Schedules and Temperature Resets



Use thermostat setback temperatures and schedules to reduce heating and cooling energy use during periods of low or no occupancy. Thermostats should be programmed for a setback of 5-10°F during low occupancy hours (reduce heating setpoints and increase cooling setpoints). Cooling load can be reduced by increasing the facility's occupied setpoint temperature. In general, during the cooling season, thermostats should be set as high as possible without sacrificing occupant comfort.

Economizer Maintenance

Economizers can significantly reduce cooling system load. A malfunctioning economizer can increase the amount of heating and mechanical cooling required by introducing excess amounts of cold or hot outside air. Common economizer malfunctions include broken outdoor thermostat or enthalpy control, or dampers that are stuck or improperly adjusted.

Periodic inspection and maintenance will keep economizers working in sync with the heating and cooling system. This maintenance should be part of annual system maintenance, and it should include proper setting of the outdoor thermostat/enthalpy control, inspection of control and damper operation, lubrication of damper connections, and adjustment of minimum damper position.

AC System Evaporator/Condenser Coil Cleaning

Dirty evaporator and condenser coils restrict air flow and restrict heat transfer. This increases the loads on the evaporator and condenser fan and decreases overall cooling system performance. Keeping the coils clean allows the fans and cooling system to operate more efficiently.

HVAC Filter Cleaning and Replacement

Air filters should be checked regularly (often monthly) and cleaned or replaced when appropriate. Air filters reduce indoor air pollution, increase occupant comfort, and help keep equipment operating efficiently. If the building has a building management system, consider installing a differential pressure switch across filters to send an alarm about premature fouling or overdue filter replacement. Over time, filters become less and less effective as particulate buildup increases. Dirty filters also restrict air flow through the air conditioning or heat pump system, which increases the load on the distribution fans.

Duct Sealing

Duct leakage in commercial buildings can account for five to twenty-five percent of the supply airflow. In the case of rooftop air handlers, duct leakage can occur to the outside of the building wasting conditioned air. Eliminating duct leaks can improve ventilation system performance and reduce heating and cooling system operation.

Boiler Maintenance

Many boiler problems develop slowly over time, so regular inspection and maintenance is essential to keeping the heating system running efficiently and preventing expensive repairs. Annual tune-ups should include a combustion analysis to analyze the exhaust from the boilers and to ensure the boiler is operating safely. Boilers should be cleaned according to the manufacturer's instructions to remove soot and scale from the water side or fire side of the boiler.

Furnace Maintenance

Preventative maintenance can extend the life of the system, maintain energy efficiency, and ensure safe operation. Following the manufacturer's instructions, a yearly tune-up should: check for gas / carbon monoxide leaks; change the air and fuel filters; check components for cracks, corrosion, dirt, or debris build-up; ensure the ignition system is working properly; test and adjust operation and safety controls; inspect electrical connections; and lubricate motors and bearings.

Water Heater Maintenance

Preventative maintenance can extend the life of the system, maintain energy efficiency, and ensure safe operation. At least once a year, follow manufacturer instructions to drain a few gallons out of the water heater using the drain valve. If there is a lot of sediment or debris, then a full flush is recommended. Turn the temperature down and then completely drain the tank. Annual checks should include checks for:

- Leaks or heavy corrosion on the pipes and valves.
- Corrosion or wear on the gas line and on the piping. If you noticed any black residue, soot, or charred metal, this is a sign you may be having combustion issues and you should have the unit serviced by a professional.
- For electric water heaters, look for signs of leaking such as rust streaks or residue around the upper and lower panels covering the electrical components on the tank.
- For water heaters more than three years old, have a technician inspect the sacrificial anode annually.

Compressed Air System Maintenance

Compressed air systems require periodic maintenance to operate at peak efficiency. A maintenance plan for compressed air systems should include:

- Inspection, cleaning, and replacement of inlet filter cartridges
- Cleaning of drain traps
- Daily inspection of lubricant levels to reduce unwanted friction
- Inspection of belt condition and tension
- Check for leaks and adjust loose connections
- Overall system cleaning

Contact a qualified technician for help with setting up periodic maintenance schedule.

Water Conservation



Installing dual flush or low-flow toilets and low-flow/waterless urinals are ways to reduce water use. The EPA WaterSense™ ratings for urinals is 0.5 gpf and for flush valve toilets is 1.28 gpf (this is lower than the current 1.6 gpf federal standard).

For more information regarding water conservation go to the EPA's WaterSense™ website⁵ or download a copy of EPA's "WaterSense™ at Work: Best Management Practices for Commercial and Institutional Facilities"⁶ to get ideas for creating a water management plan and best practices for a wide range of water using systems.

Water conservation devices that do not reduce hot water consumption will not provide energy savings at the site level, but they may significantly affect your water and sewer usage costs. Any reduction in water use does however ultimately reduce grid-level electricity use since a significant amount of electricity is used to deliver water from reservoirs to end users.

If the facility has detached buildings with a master water meter for the entire campus, check for unnatural wet areas in the lawn or water seeping in the foundation at water pipe penetrations through the foundation. Periodically check overnight meter readings when the facility is unoccupied, and there is no other scheduled water usage.

Manage irrigation systems to use water more effectively outside the building. Adjust spray patterns so that water lands on intended lawns and plantings and not on pavement and walls. Consider installing an evapotranspiration irrigation controller that will prevent over-watering.

Procurement Strategies

Purchasing efficient products reduces energy costs without compromising quality. Consider modifying your procurement policies and language to require ENERGY STAR® or WaterSense™ products where available.

⁵ <https://www.epa.gov/watersense>

⁶ <https://www.epa.gov/watersense/watersense-work-0>

6 ON-SITE GENERATION

You don't have to look far in New Jersey to see one of the thousands of solar electric systems providing clean power to homes, businesses, schools, and government buildings. On-site generation includes both renewable (e.g., solar, wind) and non-renewable (e.g., fuel cells) technologies that generate power to meet all or a portion of the facility's electric energy needs. Also referred to as distributed generation, these systems contribute to greenhouse gas (GHG) emission reductions, demand reductions and reduced customer electricity purchases reduction, which results in improved electric grid reliability through better use of transmission and distribution systems.

Preliminary screenings were performed to determine if an on-site generation measure could be a cost-effective solution for your facility. Before deciding to install an on-site generation system, we recommend conducting a feasibility study to analyze existing energy profiles, siting, interconnection, and the costs associated with the generation project including interconnection costs, departing load charges, and any additional special facilities charges.

6.1 Solar Photovoltaic

Photovoltaic (PV) panels convert sunlight into electricity. Individual panels are combined into an array that produces direct current (DC) electricity. The DC current is converted to alternating current (AC) through an inverter. The inverter is then connected to the building’s electrical distribution system.

As noted in Section 2.13 “On-Site Generation”, Egg Harbor Township High School has PV arrays installed on the flat roof sections which provide approximately 11% of the electricity required by the facility. More opportunities exist to install additional PV in the remaining free spaces of the flat roof sections.

A preliminary screening based on the facility’s electric demand, size and location of free area, and shading elements shows that the facility has **high** potential for installing a PV array.

The amount of free area, ease of installation (location), and the lack of shading elements contribute to the high potential. A PV array located on the roof may be feasible. If you are interested in pursuing the installation of PV, we recommend conducting a full feasibility study.

The graphic below displays the results of the PV potential screening conducted as a part of this audit. The position of each slider indicates the potential (potential increases to the right) that each factor contributes to the overall site potential.

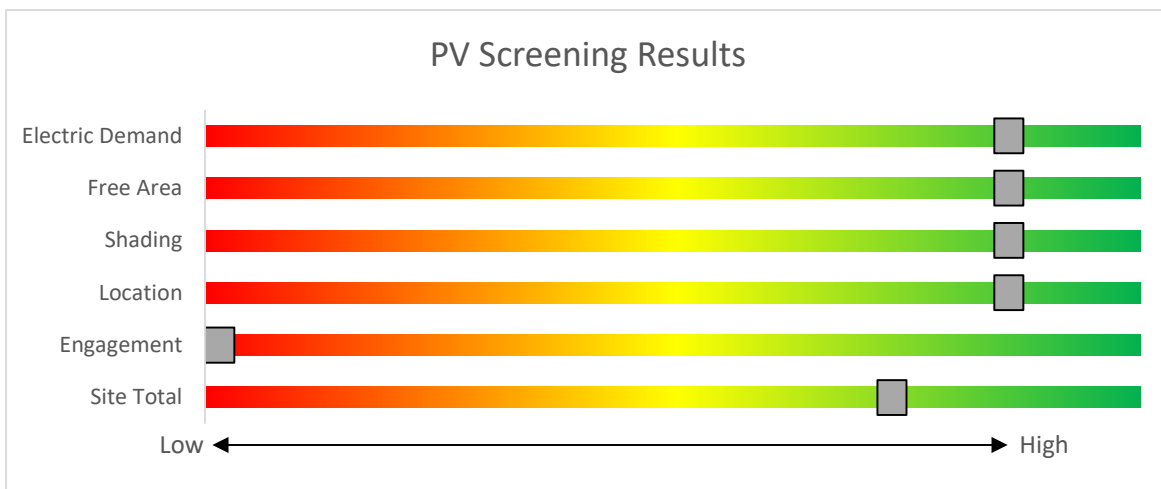


Figure 9 - Photovoltaic Screening

Solar Renewable Energy Credit (SREC) Registration Program

Rebates are not available for solar projects, but owners of solar projects MUST register their projects in the SREC Registration Program before starting construction. Once your PV system is up and running, you periodically earn credits, which can then be sold on the open market for up to 15 years.

If you are considering installing solar photovoltaics on your building, visit www.njcleanenergy.com/srec for more information about the SREC Registration Program.

Get more information about solar power in New Jersey or find a qualified solar installer who can help you decide if solar is right for your building:

- **Basic Info on Solar PV in New Jersey:** www.njcleanenergy.com/whysolar
- **New Jersey Solar Market FAQs:** www.njcleanenergy.com/renewable-energy/program-updates-and-background-information/solar-transition/solar-market-faqs
- **Approved Solar Installers in the New Jersey Market:** www.njcleanenergy.com/commercial-industrial/programs/nj-smartstart-buildings/tools-and-resources/tradeally/approved_vendorsearch/?id=60&start=1

6.2 Combined Heat and Power (Indoor Pool)

Combined heat and power (CHP) generate electricity at the facility and puts waste heat energy to good use. Common types of CHP systems are reciprocating engines, microturbines, fuel cells, backpressure steam turbines, and (at large facilities) gas turbines.

CHP systems typically produce a portion of the electric power used on-site, with the balance of electric power needs supplied by the local utility company. The heat is used to supplement (or replace) existing boiler and provide space heating and/or domestic hot water heating. Waste heat can also be routed through absorption chillers for space cooling.

The key criteria used for screening the CHP feasibility for the indoor pool is the amount of time that the CHP system would operate at full load and the facility's ability to use the recovered heat. Facilities with a continuous need for large quantities of waste heat are the best candidates for CHP. The pool water heating is required to bring pool up to temperature, to heat make-up water during operation, and to replace heat lost through pool water evaporation.

A preliminary screening based on heating and electrical demand, siting, and interconnection shows that the indoor pool has **high** potential for installing a cost-effective Microturbine.

The magnitude, type, and duration of the thermal demand, the coincident electric load, and the ease of interconnection contribute to the potential for CHP at the site. Based on the amount of hot water used throughout the year and the concurrent electric demand a Microturbine may be feasible. If you are interested in pursuing combined heat and power, we recommend performing a detailed feasibility study, which will provide a thorough understanding of the costs and savings associated with this technology.

The graphic below displays the results of the microturbine potential screening conducted as a part of this audit. The position of each slider indicates the potential (potential increases to the right) that each factor contributes to the overall site potential.

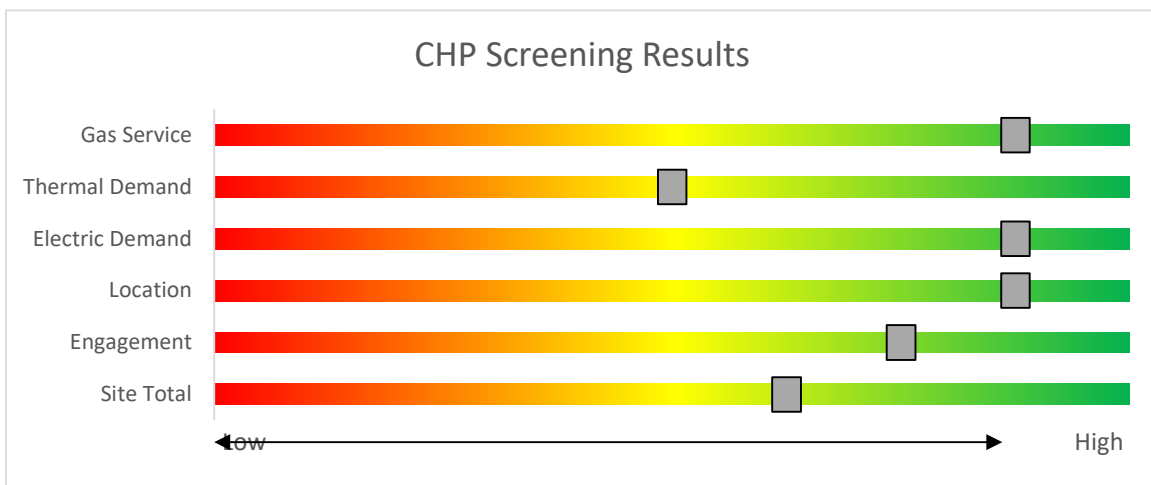


Figure 10 - Combined Heat and Power Screening

Find a qualified firm that specializes in commercial CHP cost assessment and installation: http://www.njcleanenergy.com/commercial-industrial/programs/nj-smartstart-buildings/tools-and-resources/tradeally/approved_vendorsearch/

7 PROJECT FUNDING AND INCENTIVES

Ready to improve your building’s performance? Pick the program that works best for you. Incentive programs that may apply to this facility are identified in the Executive Summary. This section provides an overview of currently available New Jersey’s Clean Energy Programs.

	SmartStart <i>Flexibility to install at your own pace</i>	Direct Install <i>Turnkey installation</i>	Pay for Performance <i>Whole building upgrades</i>
Who should use it?	Buildings installing individual measures or small group of measures.	Small to mid-size facilities that can bundle multiple measures together. Average peak demand should be below 200 kW. Not suitable for significant building shell issues.	Mid to large size facilities looking to implement as many measures as possible at one time. Peak demand should be over 200 kW.
How does it work?	Use in-house staff or your preferred contractor.	Pre-approved contractors pass savings along to you via reduced material and labor costs.	Whole-building approach to energy upgrades designed to reduce energy use by at least 15%. The more you save, the higher the incentives.
What are the Incentives?	Fixed incentives for specific energy efficiency measures.	Incentives pay up to 70% of eligible costs, up to \$125,000 per project. You pay the remaining 30% directly to the contractor.	Up to 25% of installation cost, calculated based on level of energy savings per square foot.
How do I participate?	Submit an application for the specific equipment to be installed.	Contact a participating contractor in your region.	Contact a pre-qualified Partner to develop your Energy Reduction Plan and set your energy savings targets.
Take the next step by visiting www.njcleanenergy.com for program details, applications, and to contact a qualified contractor.			

7.1 SmartStart



SmartStart offers incentives for installing prescriptive and custom energy efficiency measures at your facility. This program provides an effective mechanism for securing incentives for energy efficiency measures installed individually or as part of a package of energy upgrades. This program serves most common equipment types and sizes.

SmartStart routinely adds, removes, or modifies incentives from year-to-year for various energy efficient equipment based on market trends and new technologies.

Equipment with Prescriptive Incentives Currently Available:

Electric Chillers

Electric Unitary HVAC

Gas Cooling

Gas Heating

Gas Water Heating

Ground Source Heat Pumps

Lighting

Lighting Controls

Refrigeration Doors

Refrigeration Controls

Refrigerator/Freezer Motors

Food Service Equipment

Variable Frequency Drives

Incentives

The SmartStart Prescriptive program provides fixed incentives for specific energy efficiency measures. Prescriptive incentives vary by equipment type.

SmartStart Custom provides incentives for more unique or specialized technologies or systems that are not addressed through prescriptive incentives. Custom incentives are calculated at \$0.16/kWh and \$1.60/therm based on estimated annual savings. Incentives are capped at 50% of the total installed incremental project cost, or a project cost buy down to a one-year payback (whichever is less). Program incentives are capped at \$500,000 per electric account and \$500,000 per natural gas account, per fiscal year.

How to Participate

Submit an application for the specific equipment to be installed. Many applications are designed as rebates, although others require application approval prior to installation. You can work with your preferred contractor or use internal staff to install measures.

Visit www.njcleanenergy.com/SSB for a detailed program description, instructions for applying, and applications.

7.2 Pay for Performance - Existing Buildings



Pay for Performance (P4P) works for larger customers with a peak demand over 200 kW. The minimum installed scope of work must include at least two unique measures that results in at least 15% source energy savings, and lighting cannot make up the majority of the savings. P4P is a generally a good option for medium-to-large sized facilities looking to implement as many

measures as possible under a single project to achieve deep energy savings. This program has an added benefit of addressing measures that may not qualify for other programs. Many facilities pursuing an Energy Savings Improvement Program loan also use this program.

Incentives

Incentives are based on estimated and achieved energy savings ranging from \$0.18-\$0.22/kWh and \$1.80-\$2.50/therm, capped at the lesser of 50% total project cost, or \$1 million per electric account and \$1 million per natural gas account, per fiscal year, not to exceed \$2 million per project. An incentive of \$0.15/square foot is also available to offset the cost of developing the Energy Reduction Plan (see below) contingent on the project moving forward with measure installation.

How to Participate

Contact one of the pre-approved consultants and contractors (“Partners”). Under direct contract to you, they will help further evaluate the measures identified in this report through development of the energy reduction plan, assist you in implementing selected measures, and verify actual savings one year after the installation. Your Partner will also help you apply for incentives.

Approval of the final scope of work is required by the program prior to installation. Installation can be done by the contractor of your choice (some P4P Partners are also contractors) or by internal staff, but the Partner remains involved throughout construction to ensure compliance with the program requirements.

Detailed program descriptions, instructions for applying, applications and list of Partners can be found at: www.njcleanenergy.com/P4P.

7.3 Combined Heat and Power

The Combined Heat & Power (CHP) program provides incentives for eligible CHP or waste heat to power (WHP) projects. Eligible CHP or WHP projects must achieve an annual system efficiency of at least 65% (lower heating value, or LHV), based on total energy input and total utilized energy output. Mechanical energy may be included in the efficiency evaluation.

Incentives

Eligible Technologies	Size (Installed Rated Capacity) ¹	Incentive (\$/kW)	% of Total Cost Cap per Project ³	\$ Cap per Project ³	
Powered by non-renewable or renewable fuel source ⁴	≤500 kW	\$2,000	30-40% ²	\$2 million	
	Gas Internal Combustion Engine	>500 kW - 1 MW			\$1,000
	Gas Combustion Turbine	> 1 MW - 3 MW	\$550	30%	\$3 million
	Microturbine	>3 MW	\$350		
Fuel Cells with Heat Recovery	>3 MW	\$350			
Waste Heat to Power*	<1 MW	\$1,000	30%	\$2 million	
	> 1MW	\$500		\$3 million	

*Waste Heat to Power: Powered by non-renewable fuel source, heat recovery or other mechanical recovery from existing equipment utilizing new electric generation equipment (e.g. steam turbine).

Check the NJCEP website for details on program availability, current incentive levels, and requirements.

How to Participate

You work with a qualified developer or consulting firm to complete the CHP application. Once the application is approved the project can be installed. Information about the CHP program can be found at: www.njcleanenergy.com/CHP.

7.4 Energy Savings Improvement Program

The Energy Savings Improvement Program (ESIP) serves New Jersey's government agencies by financing energy projects. An ESIP is a type of performance contract, whereby school districts, counties, municipalities, housing authorities, and other public and state entities enter in to contracts to help finance building energy upgrades. Annual payments are lower than the savings projected from the ECMs, ensuring that ESIP projects are cash flow positive for the life of the contract.

ESIP provides government agencies in New Jersey with a flexible tool to improve and reduce energy usage with minimal expenditure of new financial resources. NJCEP incentive programs described above can also be used to help further reduce the total project cost of eligible measures.

How to Participate

This LGEA report is the first step to participating in ESIP. Next, you will need to select an approach for implementing the desired ECMs:

- (1) Use an energy services company or "ESCO."
- (2) Use independent engineers and other specialists, or your own qualified staff, to provide and manage the requirements of the program through bonds or lease obligations.
- (3) Use a hybrid approach of the two options described above where the ESCO is used for some services and independent engineers, or other specialists or qualified staff, are used to deliver other requirements of the program.

After adopting a resolution with a chosen implementation approach, the development of the energy savings plan (ESP) can begin. The ESP demonstrates that the total project costs of the ECMs are offset by the energy savings over the financing term, not to exceed 15 years. The verified savings will then be used to pay for the financing.

The ESIP approach may not be appropriate for all energy conservation and energy efficiency improvements. Carefully consider all alternatives to develop an approach that best meets your needs. A detailed program descriptions and application can be found at: www.njcleanenergy.com/ESIP.

ESIP is a program delivered directly by the NJBPU and is not an NJCEP incentive program. As mentioned above, you can use NJCEP incentive programs to help further reduce costs when developing the energy savings plan. Refer to the ESIP guidelines at the link above for further information and guidance on next steps.

7.5 SREC Registration Program

The SREC Registration Program (SRP) is used to register the intent to install solar projects in New Jersey. Rebates are not available for solar projects, but owners of solar projects *must* register their projects prior to the start of construction to establish the project's eligibility to earn SRECs. Registration of the intent to participate in New Jersey's solar marketplace provides market participants with information about the pipeline of anticipated new solar capacity and insight into future SREC pricing.

After the registration is accepted, construction is complete, and final paperwork has been submitted and is deemed complete, the project is issued a New Jersey certification number, which enables it to generate New Jersey SRECs. SREC's are generated once the solar project has been authorized to be energized by the Electric Distribution Company (EDC).

Each time a solar installation generates 1,000 kilowatt-hours (kWh) of electricity, an SREC is earned. Solar project owners report the energy production to the SREC Tracking System. This reporting allows SREC's to be placed in the customer's electronic account. SRECs can then be sold on the SREC Tracking System, providing revenue for the first 15 years of the project's life.

Electricity suppliers, the primary purchasers of SRECs, are required to pay a Solar Alternative Compliance Payment (SACP) if they do not meet the requirements of New Jersey's Solar Renewable Portfolio Standard. Purchasing SRECs can help them meet those requirements. As SRECs are traded in a competitive market, the price may vary significantly. The actual price of an SREC during a trading period fluctuates depending on supply and demand.

Information about the SRP can be found at: www.njcleanenergy.com/srec.

8 ENERGY PURCHASING AND PROCUREMENT STRATEGIES

8.1 Retail Electric Supply Options

Energy deregulation in New Jersey has increased energy buyers' options by separating the function of electricity distribution from that of electricity supply. So, though you may choose a different company from which to buy your electric power, responsibility for your facility's interconnection to the grid and repair to local power distribution will still reside with the traditional utility company serving your region.

If your facility is not purchasing electricity from a third-party supplier, consider shopping for a reduced rate from third-party electric suppliers. If your facility already buys electricity from a third-party supplier, review and compare prices at the end of each contract year.

A list of licensed third-party electric suppliers is available at the NJBPU website⁷.

8.2 Retail Natural Gas Supply Options

The natural gas market in New Jersey is also deregulated. Most customers that remain with the utility for natural gas service pay rates that are market-based and that fluctuate monthly. The utility provides basic gas supply service (BGSS) to customers who choose not to buy from a third-party supplier for natural gas commodity.

A customer's decision about whether to buy natural gas from a retail supplier typically depends on whether a customer prefers budget certainty and/or longer-term rate stability. Customers can secure longer-term fixed prices by signing up for service through a third-party retail natural gas supplier. Many larger natural gas customers may seek the assistance of a professional consultant to assist in their procurement process.

If your facility does not already purchase natural gas from a third-party supplier, consider shopping for a reduced rate from third-party natural gas suppliers. If your facility already purchases natural gas from a third-party supplier, review and compare prices at the end of each contract year.

A list of licensed third-party natural gas suppliers is available at the NJBPU website⁸.

⁷ www.state.nj.us/bpu/commercial/shopping.html.

⁸ www.state.nj.us/bpu/commercial/shopping.html

APPENDIX A: EQUIPMENT INVENTORY & RECOMMENDATIONS

Lighting Inventory & Recommendations

Location	Existing Conditions						Proposed Conditions						Energy Impact & Financial Analysis								
	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Boiler Room	20	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,184	3	Relamp	No	20	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,184	0.5	1,586	0	\$191	\$730	\$200	2.8
Boiler Room	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Mechanical Room	21	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,872	3	Relamp	No	21	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	1,872	0.5	1,427	0	\$172	\$767	\$210	3.2
Room A214	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	384	0	\$46	\$416	\$75	7.4
Exterior Wall Pack	3	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Timeclock		55	4,380		None	No	3	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Timeclock	55	4,380	0.0	0	0	\$0	\$0	\$0	0.0
Exterior Wall Pack	38	Metal Halide: (1) 100W Lamp	Timeclock		128	4,380	1	Fixture Replacement	No	38	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Timeclock	25	4,380	2.0	17,143	0	\$2,095	\$36,707	\$3,800	15.7
Exterior Wall Pack	26	High-Pressure Sodium: (1) 100W Lamp	Timeclock		138	4,380	1	Fixture Replacement	No	26	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Timeclock	25	4,380	1.5	12,868	0	\$1,573	\$25,115	\$2,600	14.3
Exterior Recessed	43	Compact Fluorescent: 4PIN	Timeclock		26	4,380	3	Relamp	No	43	LED Screw-In Lamps: LED Screw-In Lamps	Timeclock	14	4,380	0.3	2,260	0	\$276	\$2,169	\$86	7.5
Exterior Wall Washer	2	Metal Halide: (1) 175W Lamp	Timeclock		215	4,380	1	Fixture Replacement	No	2	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Timeclock	45	4,380	0.2	1,489	0	\$182	\$1,932	\$200	9.5
Exterior Wall Pack	12	Compact Fluorescent: 4PIN	Timeclock		42	4,380	3	Relamp	No	12	LED Screw-In Lamps: LED Screw-In Lamps	Timeclock	19	4,380	0.1	1,209	0	\$148	\$207	\$12	1.3
Exterior Wall Pack	7	Metal Halide: (1) 175W Lamp	Timeclock		215	4,380	1	Fixture Replacement	No	7	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Timeclock	45	4,380	0.6	5,212	0	\$637	\$6,762	\$700	9.5
Exterior Pole Light	3	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Timeclock		125	4,380		None	No	3	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Timeclock	125	4,380	0.0	0	0	\$0	\$0	\$0	0.0
Exterior Pole Light	47	Metal Halide: (1) 400W Lamp	Timeclock		458	4,380	1	Fixture Replacement	No	47	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Timeclock	120	4,380	7.9	69,581	0	\$8,505	\$43,737	\$4,700	4.6
Court Yard	8	Metal Halide: (1) 100W Lamp	Timeclock		128	4,380	1	Fixture Replacement	No	8	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Timeclock	25	4,380	0.4	3,609	0	\$441	\$7,445	\$800	15.1
Fire Building	7	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,560	3, 4	Relamp	Yes	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,076	0.2	504	0	\$61	\$526	\$105	6.9
Indoor Pool	16	LED - Fixtures: Downlight Pendant	Occupancy Sensor		250	1,872		None	No	16	LED - Fixtures: Downlight Pendant	Occupancy Sensor	250	1,872	0.0	0	0	\$0	\$0	\$0	0.0
Indoor Pool	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,872	3, 4	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,292	0.2	519	0	\$62	\$489	\$95	6.3
Indoor Pool	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Pool Office	3	LED - Fixtures: LED Panel	Wall Switch	S	50	1,872	4	None	Yes	3	LED - Fixtures: LED Panel	Occupancy Sensor	50	1,292	0.0	96	0	\$12	\$116	\$0	10.1
Pool Pump Room	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	S	29	1,560		None	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	1,560	0.0	0	0	\$0	\$0	\$0	0.0
Pool Old Pump Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,560	3, 4	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,076	0.1	288	0	\$35	\$416	\$75	9.8
Indoor Pool	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	1,872	3	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	1,872	0.0	66	0	\$8	\$65	\$12	6.7
A144 - Boys Locker Room	6	LED - Fixtures: LED Panel	Wall Switch	S	40	2,808	4	None	Yes	6	LED - Fixtures: LED Panel	Occupancy Sensor	40	1,938	0.1	230	0	\$28	\$270	\$35	8.5
A144 - Boys Locker Room	5	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	S	29	2,808	4	None	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.0	139	0	\$17	\$116	\$0	7.0
A144 - Boys Locker Room	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room A152	6	LED - Fixtures: LED Panel	Wall Switch	S	40	2,080	4	None	Yes	6	LED - Fixtures: LED Panel	Occupancy Sensor	40	1,435	0.1	170	0	\$20	\$270	\$35	11.5
Room A152	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room A152	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	S	29	2,080		None	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,080	0.0	0	0	\$0	\$0	\$0	0.0
Room A213	4	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room A213	9	Metal Halide: (1) 250W Lamp	Wall Switch	S	295	2,080	1, 4	Fixture Replacement	Yes	9	LED - Fixtures: Downlight Pendant	Occupancy Sensor	75	1,435	1.6	5,009	-1	\$602	\$1,636	\$80	2.6
Room A213	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,080	0.0	76	0	\$9	\$37	\$10	2.9
Roof Aces Room	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$380	\$65	9.1
Main Gym	8	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	8	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Main Gym	24	Metal Halide: (1) 1000W Lamp	Wall Switch	S	1,080	3,120	1, 4	Fixture Replacement	Yes	24	LED - Fixtures: High-Bay	Occupancy Sensor	250	2,153	15.7	74,749	-16	\$8,986	\$23,877	\$4,440	2.2
Main Gym	42	Compact Fluorescent: Screw in	Wall Switch	S	200	2,080	3	Relamp	No	42	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	120	2,080	2.4	7,688	-2	\$924	\$723	\$42	0.7
Main Gym	63	Compact Fluorescent: Screw in	Wall Switch	S	55	2,080	3	Relamp	No	63	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	25	2,080	1.4	4,324	-1	\$520	\$1,085	\$63	2.0
Wrestling Gym	12	Metal Halide: (1) 400W Lamp	Wall Switch	S	458	2,080	1, 4	Fixture Replacement	Yes	12	LED - Fixtures: High-Bay	Occupancy Sensor	120	1,435	3.2	10,301	-2	\$1,238	\$11,939	\$2,220	7.8
Wrestling Gym	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room A184 - Storage Room	16	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	S	15	1,872	4	None	Yes	16	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	1,292	0.1	148	0	\$18	\$232	\$0	13.0
Weght Room	20	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,808	3, 4	Relamp	Yes	20	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,938	0.9	3,891	-1	\$468	\$1,635	\$370	2.7
Weght Room	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room A195 - Fitness Center	30	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,808	3, 4	Relamp	Yes	30	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.9	3,891	-1	\$468	\$1,635	\$370	2.7
Room A195 - Fitness Center	3	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Back Gym Entrance	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,120	3	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.0	227	0	\$27	\$73	\$20	1.9
Back Gym Entrance	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room A196 - Storage Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,872	3, 4	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,292	0.1	346	0	\$42	\$346	\$40	7.4
Room A193	47	Linear Fluorescent - T8: 4' T8 (32W) - 6L	Wall Switch	S	176	2,808	3, 4	Relamp	Yes	47	LED - Linear Tubes: (6) 4' Lamps	Occupancy Sensor	87	1,938	3.9	16,836	-4	\$2,024	\$5,959	\$1,515	2.2
Room A193	3	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room A101	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,808	3, 4	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.2	1,038	0	\$125	\$562	\$115	3.6
Room A101	4	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,808	3	Relamp	No	4	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,808	0.0	198	0	\$24	\$130	\$24	4.5

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Men Restroom	7	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,184	3	Relamp	No	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.2	555	0	\$67	\$256	\$70	2.8
Room A193A	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,080	3	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,080	0.0	110	0	\$13	\$98	\$18	6.0
Room A101	3	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Women Restroom	7	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,184	3	Relamp	No	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.2	555	0	\$67	\$256	\$70	2.8
Closet	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	1,872	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,872	0.0	68	0	\$8	\$37	\$10	3.2
Room A171 - Office	6	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,808	3, 4	Relamp	Yes	6	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,938	0.3	1,167	0	\$140	\$599	\$125	3.4
Room A171 - Office	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,808	3	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,808	0.1	306	0	\$37	\$110	\$30	2.2
Room A171 - Team Locker Room	20	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,496	3, 4	Relamp	Yes	20	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,722	0.6	2,306	0	\$277	\$1,270	\$270	3.6
Room A171 - Office	3	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room A194 - Storage Room	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,872	3, 4	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,292	0.2	692	0	\$83	\$492	\$80	5.0
Room A177 - Office	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,808	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.3	1,167	0	\$140	\$599	\$125	3.4
Team Locker Room	27	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,496	3, 4	Relamp	Yes	27	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,722	0.8	3,113	-1	\$374	\$1,796	\$375	3.8
Room A177 - Office	3	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room A120 - Women Locker Room	40	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,496	3, 4	Relamp	Yes	40	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,722	1.2	4,612	-1	\$554	\$2,271	\$505	3.2
Room A120 - Women Locker Room	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,496	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,496	0.0	44	0	\$5	\$33	\$6	5.0
Room A120 - Women Locker Room	5	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	5	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Office	6	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,808	3, 4	Relamp	Yes	6	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,938	0.3	1,167	0	\$140	\$599	\$125	3.4
Office	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,808	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	1,938	0.0	197	0	\$24	\$214	\$18	8.3
Room A148 - Office	1	LED - Fixtures: LED Panel	Wall Switch	S	50	5,200		None	No	1	LED - Fixtures: LED Panel	Wall Switch	50	5,200	0.0	0	0	\$0	\$0	\$0	0.0
Room A157 - Elevator Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,560	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,076	0.1	144	0	\$17	\$273	\$20	14.6
Storage Room	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	1,560	3	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	1,560	0.0	55	0	\$7	\$65	\$12	8.0
Room C172 - Elevator Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,560	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	1,560	0.0	57	0	\$7	\$37	\$10	3.9
Gym Vestibule	11	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,120	3	Relamp	No	11	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	3,120	0.1	604	0	\$73	\$358	\$66	4.0
Men Restroom	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,184	3, 4	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,507	0.2	605	0	\$73	\$489	\$95	5.4
Women Restroom	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,184	3, 4	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,507	0.1	404	0	\$49	\$416	\$75	7.0

Location	Existing Conditions						Proposed Conditions						Energy Impact & Financial Analysis								
	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room A162 - Storage Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,872	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	1,872	0.0	68	0	\$8	\$37	\$10	3.2
1st Floor A Wing - Hallway	61	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,120	3, 5	Relamp	Yes	61	LED - Linear Tubes: (2) 2' Lamps	High/Low Control	17	2,153	0.9	4,453	-1	\$535	\$3,183	\$366	5.3
1st Floor A Wing - Hallway	8	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	8	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
1st Floor A Wing - Hallway	9	Compact Fluorescent: 4PIN	Wall Switch	S	52	3,120	3, 5	Relamp	Yes	9	LED Screw-In Lamps: LED Screw-In Lamps	High/Low Control	26	2,153	0.2	1,052	0	\$126	\$654	\$18	5.0
1st Floor A Wing - Hallway Display	8	Linear Fluorescent - T8: 3' T8 (25W) - 1L	Wall Switch	S	27	3,120	3	Relamp	No	8	LED - Linear Tubes: (1) 3' Lamp	Wall Switch	11	3,120	0.1	453	0	\$54	\$146	\$40	1.9
Room A181 - Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.1	288	0	\$35	\$380	\$65	9.1
Room A181 - Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,080	0.0	151	0	\$18	\$73	\$20	2.9
Indoor Pool Stairwell	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,120	3	Relamp	No	5	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.1	566	0	\$68	\$183	\$50	1.9
Indoor Pool Stairwell	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Romm A203	8	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	8	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
2nd Floor A Wing - Hallway	25	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,120	3, 5	Relamp	Yes	25	LED - Linear Tubes: (2) 2' Lamps	High/Low Control	17	2,153	0.4	1,825	0	\$219	\$1,213	\$150	4.8
2nd Floor A Wing - Hallway	7	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	7	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
A Wing Stairwell	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,120	3	Relamp	No	6	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.1	680	0	\$82	\$219	\$60	1.9
A Wing Stairwell	3	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Romm A201	11	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	11	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.5	1,585	0	\$191	\$872	\$200	3.5
Romm A200	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Romm A202	11	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	11	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.5	1,585	0	\$191	\$872	\$200	3.5
Romm A215	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	480	0	\$58	\$453	\$85	6.4
Romm A212	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	384	0	\$46	\$416	\$75	7.4
Press Box	4	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	S	114	5,200	3, 4	Relamp	Yes	4	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	3,588	0.2	1,693	0	\$203	\$562	\$115	2.2
Press Box	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	5,200	3, 4	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	3,588	0.2	1,921	0	\$231	\$562	\$115	1.9
Press Box	4	Halogen Incandescent: PAR38	Wall Switch	S	90	5,200	3	Relamp	No	4	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	13	5,200	0.2	1,762	0	\$212	\$69	\$4	0.3
IT Room	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	5,200	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	3,588	0.1	721	0	\$87	\$380	\$65	3.6
Men Restroom	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	480	0	\$58	\$453	\$85	6.4
Room A204	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room A205	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,441	0	\$173	\$818	\$185	3.7
Room A206	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room A207	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room A216	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$380	\$65	9.1
Room C162 - Kitchen	8	Compact Fluorescent: 4PIN	Wall Switch	S	52	2,080	3	Relamp	No	8	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	26	2,080	0.1	476	0	\$57	\$404	\$16	6.8
Room C162 - Kitchen	15	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	15	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.2	549	0	\$66	\$488	\$90	6.0
Room C162 - Kitchen	24	Incandescent: Screw in	Wall Switch	S	65	2,080	3, 4	Relamp	Yes	24	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	10	1,435	1.0	3,190	-1	\$384	\$953	\$94	2.2
Room C162 - Kitchen	31	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3	Relamp	No	31	LED - Linear Tubes: (3) 4' Lamps	Wall Switch	44	2,080	1.1	3,511	-1	\$422	\$1,698	\$465	2.9
Room C162 - Kitchen	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room C162C - Kitchen Storage	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	384	0	\$46	\$346	\$40	6.6
Room C162G	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,080	0.0	76	0	\$9	\$37	\$10	2.9
Room C156	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,080	0.0	76	0	\$9	\$37	\$10	2.9
Room C163	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Wall Switch	44	2,080	0.0	113	0	\$14	\$55	\$15	2.9
Room C165 - Restroom	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,560	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,076	0.1	144	0	\$17	\$189	\$20	9.8
Storage Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,872	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,292	0.1	173	0	\$21	\$273	\$20	12.2
Restroom	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Walk in Units	15	Compact Fluorescent: Screw in	Wall Switch	S	14	780	3	Relamp	No	15	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	9	780	0.1	64	0	\$8	\$258	\$15	31.5
Walk in Units	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	780	3	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	780	0.1	113	0	\$14	\$146	\$40	7.8
Kitchen	13	Incandescent: Screw in	Wall Switch	S	65	2,080	3	Relamp	No	13	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	10	2,080	0.5	1,636	0	\$197	\$224	\$13	1.1
Cafeteria	25	Compact Fluorescent: 4PIN	Wall Switch	S	52	2,340	3, 4	Relamp	Yes	25	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	26	1,615	0.6	2,192	0	\$263	\$1,801	\$120	6.4
Cafeteria	75	Compact Fluorescent: 4PIN	Wall Switch	S	80	2,340	1, 4	Fixture Replacement	Yes	75	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	1,615	2.8	10,116	-2	\$1,216	\$16,355	\$1,300	12.4
Cafeteria	4	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Middle Cafeteria	14	Compact Fluorescent: 4PIN	Wall Switch	S	52	2,340	3, 4	Relamp	Yes	14	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	26	1,615	0.3	1,227	0	\$148	\$976	\$63	6.2
Middle Cafeteria	3	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Middle Cafeteria	18	Compact Fluorescent: 4PIN	Wall Switch	S	52	2,340	3, 4	Relamp	Yes	18	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	26	1,615	0.4	1,578	0	\$190	\$1,140	\$76	5.6

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Lower Cafeteria	28	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,340	3, 4	Relamp	Yes	28	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,615	1.3	4,539	-1	\$546	\$2,074	\$490	2.9
Lower Cafeteria	5	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	5	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Lower Cafeteria	22	Compact Fluorescent: 4PIN	Wall Switch	S	80	2,340	1, 4	Fixture Replacement	Yes	22	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	1,615	0.8	2,967	-1	\$357	\$4,941	\$400	12.7
Kitchen 2	39	Compact Fluorescent: 4PIN	Wall Switch	S	80	2,808	1	Fixture Replacement	No	39	LED - Fixtures: Ambient 2x2 Fixture	Wall Switch	40	2,808	1.1	4,819	-1	\$579	\$7,803	\$585	12.5
Kitchen 2	2	Compact Fluorescent: 4PIN	Wall Switch	S	52	2,808	3	Relamp	No	2	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	26	2,808	0.0	161	0	\$19	\$101	\$4	5.0
Kitchen 2	3	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Kitchen 2	9	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,808	3	Relamp	No	9	LED - Linear Tubes: (3) 4' Lamps	Wall Switch	44	2,808	0.3	1,376	0	\$165	\$493	\$135	2.2
Kitchen 2	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,808	3	Relamp	No	6	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,808	0.1	612	0	\$74	\$219	\$60	2.2
Walk in Units	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	780	3	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	780	0.0	57	0	\$7	\$73	\$20	7.8
Walk in Units	6	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	S	10	780		None	No	6	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	10	780	0.0	0	0	\$0	\$0	\$0	0.0
Kitchen 2	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,808	3	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,808	0.0	148	0	\$18	\$98	\$18	4.5
Room F118 - Auditorium	10	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	10	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room F118 - Auditorium	102	Incandescent: Screw in	Wall Switch	S	150	2,184	3	Relamp	No	102	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	21	2,184	9.5	31,611	-7	\$3,800	\$1,757	\$102	0.4
Room F118 - Auditorium	31	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,184	3	Relamp	No	31	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,184	0.7	2,458	-1	\$295	\$1,132	\$310	2.8
Room F118 - Auditorium	2	Compact Fluorescent: 4PIN	Wall Switch	S	42	2,184	3	Relamp	No	2	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	19	2,184	0.0	111	0	\$13	\$50	\$2	3.6
Room F118 - Stage	21	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	S	114	1,560	3	Relamp	No	21	LED - Linear Tubes: (4) 4' Lamps	Wall Switch	58	1,560	0.8	2,018	0	\$243	\$1,534	\$420	4.6
Room F118 - Stage	5	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	5	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room F118 - Auditorium	13	Metal Halide: (1) 100W Lamp	Wall Switch	S	128	2,184	1	Fixture Replacement	No	13	LED - Fixtures: Downlight Pendant	Wall Switch	25	2,184	1.0	3,217	-1	\$387	\$1,973	\$65	4.9
Room F218 - Upper Auditorium	33	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,184	3	Relamp	No	33	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,184	0.8	2,616	-1	\$315	\$1,205	\$330	2.8
Room F218 - Upper Auditorium	4	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room F218 - Upper Auditorium	17	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	S	114	2,184	3	Relamp	No	17	LED - Linear Tubes: (4) 4' Lamps	Wall Switch	58	2,184	0.7	2,287	0	\$275	\$1,242	\$340	3.3
Room F218 - Upper Auditorium	14	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,184	3	Relamp	No	14	LED - Linear Tubes: (3) 4' Lamps	Wall Switch	44	2,184	0.5	1,665	0	\$200	\$767	\$210	2.8
Room F218 - Upper Auditorium	66	Halogen Incandescent: 2PIN	Wall Switch	S	750	2,184	1	Fixture Replacement	No	66	LED - Fixtures: Track or Mono-Point Directional Lighting Fixtures	Wall Switch	125	2,184	29.7	99,099	-21	\$11,913	\$22,768	\$1,980	1.7
Main Library	59	Compact Fluorescent: 4PIN	Wall Switch	S	52	2,496	3, 4	Relamp	Yes	59	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	26	1,722	1.4	5,517	-1	\$663	\$4,056	\$258	5.7
Main Library	74	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,496	3, 4	Relamp	Yes	74	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,722	3.4	12,797	-3	\$1,538	\$5,403	\$1,285	2.7

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Main Library	5	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	5	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Main Library	4	Compact Fluorescent: 2PIN	Wall Switch	S	26	2,496	3	Relamp	No	4	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	14	2,496	0.0	132	0	\$16	\$202	\$8	12.2
Main Library	5	Halogen Incandescent: Halogen Incandescent	Wall Switch	S	70	2,496	3	Relamp	No	5	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	21	2,496	0.2	673	0	\$81	\$86	\$5	1.0
Room C228	2	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.1	288	0	\$35	\$380	\$65	9.1
Room C229	6	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	6	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room C231	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Wall Switch	44	2,080	0.0	113	0	\$14	\$55	\$15	2.9
Room C232	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.5	1,729	0	\$208	\$927	\$215	3.4
Room C231	8	Compact Fluorescent: 4PIN	Wall Switch	S	52	2,080	3, 4	Relamp	Yes	8	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	26	1,435	0.2	623	0	\$75	\$674	\$51	8.3
Library 2	24	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,496	3, 4	Relamp	Yes	24	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,722	1.1	4,150	-1	\$499	\$1,855	\$430	2.9
Library 2	5	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	5	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Library 2	65	Compact Fluorescent: 4PIN	Wall Switch	S	84	2,496	3, 4	Relamp	Yes	65	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	40	1,722	2.6	10,065	-2	\$1,210	\$4,089	\$235	3.2
Auditorium Control Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	S	114	1,248	3, 4	Relamp	Yes	4	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	861	0.2	406	0	\$49	\$562	\$115	9.2
Room F210B - Electrical Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,808	3	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,808	0.1	408	0	\$49	\$146	\$40	2.2
Back Entrance B Wing	8	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,184	3	Relamp	No	8	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,184	0.1	308	0	\$37	\$260	\$48	5.7
Back Entrance B Wing	12	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	12	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
1st Floor B Wing Hallway	13	Compact Fluorescent: 4PIN	Wall Switch	S	42	3,120	3, 5	Relamp	Yes	13	LED Screw-In Lamps: LED Screw-In Lamps	High/Low Control	19	2,153	0.3	1,289	0	\$155	\$528	\$13	3.3
1st Floor B Wing Hallway	43	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	3,120	3	Relamp	No	43	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	3,120	1.0	4,870	-1	\$585	\$1,570	\$430	1.9
1st Floor B Wing Hallway - Display	15	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	S	10	3,120		None	No	15	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	10	3,120	0.0	0	0	\$0	\$0	\$0	0.0
Room B126	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room B126	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.5	1,729	0	\$208	\$927	\$215	3.4
Storage Room	8	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	3,120	3	Relamp	No	8	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	3,120	0.3	1,359	0	\$163	\$438	\$120	1.9
Display	2	Linear Fluorescent - T12: 4' T12 (40W) - 2L	Wall Switch	S	88	2,184	2	Relamp & Reballast	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,184	0.1	283	0	\$34	\$138	\$20	3.4
Room B180	13	Compact Fluorescent: 2PIN	Wall Switch	S	26	2,080	3, 4	Relamp	Yes	13	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	14	1,435	0.2	486	0	\$58	\$926	\$61	14.8
Room B180	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room B179	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room B179	12	Compact Fluorescent: 2PIN	Wall Switch	S	26	2,080	3, 4	Relamp	Yes	12	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	14	1,435	0.1	449	0	\$54	\$875	\$59	15.1
Room B192	23	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	23	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	1.0	3,315	-1	\$398	\$1,800	\$415	3.5
Nurse Office	35	Compact Fluorescent: 4PIN	Wall Switch	S	80	2,080	1, 4	Fixture Replacement	Yes	35	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	1,435	1.3	4,196	-1	\$504	\$7,542	\$595	13.8
1st Floor B Wing Hallway	13	Compact Fluorescent: 4PIN	Occupancy Sensor	S	80	3,120	1	Fixture Replacement	No	13	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	3,120	0.4	1,785	0	\$215	\$2,601	\$195	11.2
Nurse Office	18	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	18	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.7	2,306	0	\$277	\$1,315	\$360	3.4
Nurse Office	3	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Nurse Office - Restroom	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	1,820	3	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	1,820	0.0	64	0	\$8	\$65	\$12	6.9
Room B106	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room B132 CST	20	Compact Fluorescent: 4PIN	Occupancy Sensor	S	80	2,080	1	Fixture Replacement	No	20	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	2,080	0.6	1,830	0	\$220	\$4,001	\$300	16.8
Offices	20	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	S	114	2,080	3, 4	Relamp	Yes	20	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	1,435	1.1	3,385	-1	\$407	\$2,001	\$470	3.8
Closet	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,872	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	1,872	0.0	68	0	\$8	\$37	\$10	3.2
Room B160	8	Compact Fluorescent: 4PIN	Wall Switch	S	80	2,080	1, 4	Fixture Replacement	Yes	8	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	1,435	0.3	959	0	\$115	\$1,871	\$155	14.9
Offices	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	769	0	\$92	\$562	\$115	4.8
Room B160	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room B199	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	480	0	\$58	\$453	\$85	6.4
Boys Restroom	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,184	3, 4	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,507	0.2	605	0	\$73	\$489	\$95	5.4
Women Restroom	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,184	3, 4	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,507	0.2	605	0	\$73	\$489	\$95	5.4
Room B177	18	Compact Fluorescent: 4PIN	Wall Switch	S	80	2,080	1, 4	Fixture Replacement	Yes	18	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	1,435	0.7	2,158	0	\$259	\$4,141	\$340	14.7
Room B177	6	Halogen Incandescent: Screw in	Wall Switch	S	90	2,080	3, 4	Relamp	Yes	6	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	13	1,435	0.4	1,112	0	\$134	\$373	\$41	2.5
Room B177	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,080	0.0	151	0	\$18	\$73	\$20	2.9
Flower Shop	1	Compact Fluorescent: 4PIN	Wall Switch	S	80	2,080	1	Fixture Replacement	No	1	LED - Fixtures: Ambient 2x2 Fixture	Wall Switch	40	2,080	0.0	92	0	\$11	\$200	\$15	16.8
Flower Shop	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,729	0	\$208	\$1,197	\$250	4.6
Room B175	8	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	S	114	2,080	3, 4	Relamp	Yes	8	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	1,435	0.4	1,354	0	\$163	\$854	\$195	4.0
Room B129	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
1st Floor E Wing Hallway	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	3,120	3	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	3,120	0.1	340	0	\$41	\$110	\$30	1.9

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
1st Floor E Wing Hallway	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room B124	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room B109	14	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	14	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,345	0	\$162	\$781	\$175	3.7
Room B123	13	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	13	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,249	0	\$150	\$745	\$165	3.9
Room B123	1	Compact Fluorescent: 4PIN	Wall Switch	S	80	2,080	1	Fixture Replacement	No	1	LED - Fixtures: Ambient 2x2 Fixture	Wall Switch	40	2,080	0.0	92	0	\$11	\$200	\$15	16.8
Room B110	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room B111	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,441	0	\$173	\$818	\$185	3.7
Room B112	14	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	14	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.3	1,057	0	\$127	\$511	\$140	2.9
Room B115	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,729	0	\$208	\$1,197	\$250	4.6
Room B116	17	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	17	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,633	0	\$196	\$1,161	\$240	4.7
Room B117A	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room B122	16	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	16	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,537	0	\$185	\$854	\$195	3.6
Room B125	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	1,057	0	\$127	\$672	\$145	4.1
Room B117	14	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	14	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,345	0	\$162	\$781	\$175	3.7
B Wing Stairwell	24	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,120	3	Relamp	No	24	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.6	2,718	-1	\$327	\$876	\$240	1.9
2nd Floor B Wing Hallway	104	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,120	3, 5	Relamp	Yes	104	LED - Linear Tubes: (2) 2' Lamps	High/Low Control	17	2,153	1.6	7,592	-2	\$913	\$4,982	\$624	4.8
2nd Floor B Wing Hallway	13	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	13	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
2nd Floor B Wing Hallway - Display	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,120	3	Relamp	No	5	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.1	566	0	\$68	\$183	\$50	1.9
Room B231	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	1,057	0	\$127	\$672	\$145	4.1
Room B231	2	Compact Fluorescent: 4PIN	Wall Switch	S	84	2,080	3	Relamp	No	2	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	40	2,080	0.1	201	0	\$24	\$101	\$4	4.0
Room B243	20	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	20	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.6	1,921	0	\$231	\$1,270	\$270	4.3
Room B243	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	37	0	\$4	\$33	\$6	6.0
Room B234A	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	576	0	\$69	\$489	\$95	5.7
Room B244	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	73	0	\$9	\$65	\$12	6.0
Room B244	17	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	17	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,633	0	\$196	\$891	\$205	3.5

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room B245	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	37	0	\$4	\$33	\$6	6.0
Room B245	19	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	19	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.6	1,825	0	\$219	\$1,234	\$260	4.4
Room B245A	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	576	0	\$69	\$489	\$95	5.7
Room B246	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	37	0	\$4	\$33	\$6	6.0
Room B246	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,729	0	\$208	\$1,197	\$250	4.6
Room B246A	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	769	0	\$92	\$562	\$115	4.8
Room B247	19	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	19	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.6	1,825	0	\$219	\$1,234	\$260	4.4
Room B247	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	73	0	\$9	\$65	\$12	6.0
Room B238	19	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	19	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.6	1,825	0	\$219	\$1,234	\$260	4.4
Room B238	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	73	0	\$9	\$65	\$12	6.0
Room B239	19	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	19	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.6	1,825	0	\$219	\$1,234	\$260	4.4
Room B239	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	73	0	\$9	\$65	\$12	6.0
Room B240	19	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	19	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.6	1,825	0	\$219	\$1,234	\$260	4.4
Room B240	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	73	0	\$9	\$65	\$12	6.0
Room B241	16	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	16	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,537	0	\$185	\$1,124	\$230	4.8
Room B241	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	73	0	\$9	\$65	\$12	6.0
Room B241A	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room B242	19	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	19	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.6	1,825	0	\$219	\$1,234	\$260	4.4
Room B242	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	37	0	\$4	\$33	\$6	6.0
Room B227	24	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,080	3	Relamp	No	24	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,080	0.9	2,718	-1	\$327	\$1,315	\$360	2.9
Room B227	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room B221 - Assistant Principal Office	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	1,057	0	\$127	\$672	\$145	4.1
Room B221	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	37	0	\$4	\$33	\$6	6.0
Room B230	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$380	\$65	9.1
Room B229	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$380	\$65	9.1

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room B228	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room B228	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	37	0	\$4	\$33	\$6	6.0
Room B204A	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.0	151	0	\$18	\$73	\$20	2.9
Room B204D	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	384	0	\$46	\$416	\$75	7.4
Men Restroom	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,820	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	1,820	0.0	66	0	\$8	\$37	\$10	3.3
Women Restroom	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,820	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	1,820	0.0	66	0	\$8	\$37	\$10	3.3
Room B203	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room B202	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	769	0	\$92	\$562	\$115	4.8
Room B202	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	37	0	\$4	\$33	\$6	6.0
Room B201	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room B220	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room B214	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room B215	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room B205	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room B206	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room B207	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room B208	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room B209	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	769	0	\$92	\$562	\$115	4.8
Room B209	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	37	0	\$4	\$33	\$6	6.0
Room B210	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Maintenance Shop	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,640	3, 4	Relamp	Yes	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,512	0.5	2,522	-1	\$303	\$818	\$185	2.1
Loading Dog	8	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,640	3, 4	Relamp	Yes	8	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,512	0.1	681	0	\$82	\$530	\$83	5.5
Room C176	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room C174	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$380	\$65	9.1
Loading Dog	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
C Wing Stairwell	23	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,120	3	Relamp	No	23	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.5	2,605	-1	\$313	\$840	\$230	1.9
Loading Dog Hallway	27	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,120	3, 5	Relamp	Yes	27	LED - Linear Tubes: (2) 2' Lamps	High/Low Control	17	2,153	0.4	1,971	0	\$237	\$1,278	\$162	4.7
Loading Dog Hallway	7	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	7	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Men Restroom	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,184	3, 4	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,507	0.2	605	0	\$73	\$489	\$95	5.4
Women Restroom	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,184	3, 4	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,507	0.2	504	0	\$61	\$453	\$85	6.1
Main C Wing Hallway	21	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,120	3, 5	Relamp	Yes	21	LED - Linear Tubes: (2) 2' Lamps	High/Low Control	17	2,153	0.3	1,533	0	\$184	\$1,083	\$126	5.2
Main C Wing Hallway	3	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room C128	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	480	0	\$58	\$453	\$85	6.4
Room C128	18	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3, 4	Relamp	Yes	18	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	1,435	0.3	876	0	\$105	\$1,125	\$178	9.0
Room C127	17	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	17	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,633	0	\$196	\$853	\$210	3.3
Room C126	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Main C Wing Hallway	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,120	3, 5	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,153	0.1	432	0	\$52	\$310	\$30	5.4
Storage Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	1,872	3	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,872	0.0	136	0	\$16	\$73	\$20	3.2
Men Restroom	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	1,872	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,872	0.0	68	0	\$8	\$37	\$10	3.2
Women Restroom	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	1,872	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,872	0.0	68	0	\$8	\$37	\$10	3.2
Room C106	11	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	11	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.5	1,585	0	\$191	\$872	\$200	3.5
Room C106	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room C116	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room C117	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room C110	22	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	22	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.7	2,114	0	\$254	\$1,343	\$290	4.1
Room C118	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room C119	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room C115	21	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	21	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.6	2,018	0	\$243	\$1,307	\$280	4.2
Room C115	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	37	0	\$4	\$33	\$6	6.0
Room C114	21	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	21	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.6	2,018	0	\$243	\$1,307	\$280	4.2

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room C102	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,729	0	\$208	\$1,197	\$250	4.6
Room C103	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,729	0	\$208	\$1,197	\$250	4.6
Room C105	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,729	0	\$208	\$1,197	\$250	4.6
Room C105	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
2nd Floor C Wing Hallway	39	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,120	3, 5	Relamp	Yes	39	LED - Linear Tubes: (2) 2' Lamps	High/Low Control	17	2,153	0.6	2,847	-1	\$342	\$1,868	\$234	4.8
2nd Floor C Wing Hallway	7	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	7	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room C260	4	Compact Fluorescent: 4PIN	Wall Switch	S	52	2,080	3, 4	Relamp	Yes	4	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	26	1,435	0.1	312	0	\$37	\$472	\$43	11.4
Room C260	3	Halogen Incandescent: 2PIN	Wall Switch	S	50	2,080	1, 4	Fixture Replacement	Yes	3	LED - Fixtures: Track or Mono-Point Directional Lighting Fixtures	Occupancy Sensor	21	1,435	0.1	244	0	\$29	\$1,151	\$90	36.2
Room C260	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,080	0.0	76	0	\$9	\$37	\$10	2.9
Room C260	13	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	13	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.6	1,873	0	\$225	\$982	\$230	3.3
Room C261	2	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.1	288	0	\$35	\$226	\$50	5.1
Room C260A	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$226	\$50	5.1
Room C261 Hallway	7	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,120	3, 5	Relamp	Yes	7	LED - Linear Tubes: (2) 2' Lamps	High/Low Control	17	2,153	0.1	511	0	\$61	\$428	\$42	6.3
Room C262	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Wall Switch	44	2,080	0.0	113	0	\$14	\$55	\$15	2.9
Room C263	1	Linear Fluorescent - T8: 2' T8 (17W) - 3L	Wall Switch	S	53	2,080	3	Relamp	No	1	LED - Linear Tubes: (3) 2' Lamps	Wall Switch	26	2,080	0.0	63	0	\$8	\$49	\$9	5.3
Room C272	3	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.1	432	0	\$52	\$434	\$80	6.8
Room C274	3	Linear Fluorescent - T8: 2' T8 (17W) - 3L	Wall Switch	S	53	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (3) 2' Lamps	Occupancy Sensor	26	1,435	0.1	243	0	\$29	\$262	\$27	8.1
Room C270	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$380	\$65	9.1
Room C271	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$380	\$65	9.1
Room C273	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$380	\$65	9.1
Room C269	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$380	\$65	9.1
Room C268	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$380	\$65	9.1
Room C267	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$380	\$65	9.1
Room C266	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$380	\$65	9.1
Room C265	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$380	\$65	9.1

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room C264	3	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.1	432	0	\$52	\$434	\$80	6.8
Room C264	7	Compact Fluorescent: 4PIN	Wall Switch	S	52	2,080	3, 4	Relamp	Yes	7	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	26	1,435	0.2	546	0	\$66	\$623	\$49	8.8
Room C272	3	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.1	432	0	\$52	\$434	\$80	6.8
Room C212	15	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	15	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.7	2,162	0	\$260	\$1,092	\$260	3.2
Room C212	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	288	0	\$35	\$380	\$65	9.1
Room C211	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,441	0	\$173	\$818	\$185	3.7
Room C211	5	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	5	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.2	721	0	\$87	\$544	\$110	5.0
Room C221	13	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	13	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,249	0	\$150	\$745	\$165	3.9
Room C227	24	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	24	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	1.1	3,459	-1	\$416	\$1,855	\$430	3.4
Room C227	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room C220	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room C202	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	769	0	\$92	\$562	\$115	4.8
Room C202	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	37	0	\$4	\$33	\$6	6.0
Room C203	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room C204	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room C205	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room C206	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room C208	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room C209	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room C210	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room C214	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room C215	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room C207D	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.1	302	0	\$36	\$146	\$40	2.9
Room C207A	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.0	151	0	\$18	\$73	\$20	2.9
Women Restroom	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,184	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.0	79	0	\$10	\$37	\$10	2.8

		Existing Conditions						Proposed Conditions						Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Men Restroom	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,184	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.0	79	0	\$10	\$37	\$10	2.8
E Wing Stairwell	14	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,120	3	Relamp	No	14	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.3	1,586	0	\$191	\$511	\$140	1.9
E Wing Stairwell	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
E Wing Hallway	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,120	3	Relamp	No	5	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.1	566	0	\$68	\$183	\$50	1.9
E Wing Hallway	7	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,120	3	Relamp	No	7	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	3,120	0.1	384	0	\$46	\$228	\$42	4.0
E Wing Hallway	14	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	14	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
E Wing Hallway	45	Compact Fluorescent: 4PIN	Wall Switch	S	80	3,120	1	Fixture Replacement	No	45	LED - Fixtures: Ambient 2x2 Fixture	Wall Switch	40	3,120	1.3	6,178	-1	\$743	\$9,003	\$675	11.2
E Wing Hallway	5	Compact Fluorescent: 4PIN	Wall Switch	S	52	3,120	3	Relamp	No	5	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	26	3,120	0.1	446	0	\$54	\$252	\$10	4.5
Men Restroom	1	Compact Fluorescent: 4PIN	Wall Switch	S	52	2,184	3	Relamp	No	1	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	26	2,184	0.0	62	0	\$8	\$50	\$2	6.5
Men Restroom	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,184	3,4	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,507	0.1	404	0	\$49	\$416	\$75	7.0
Women Restroom	1	Compact Fluorescent: 4PIN	Wall Switch	S	52	2,184	3	Relamp	No	1	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	26	2,184	0.0	62	0	\$8	\$50	\$2	6.5
Women Restroom	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,184	3,4	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,507	0.1	404	0	\$49	\$416	\$75	7.0
Room E100A	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,080	0.0	76	0	\$9	\$37	\$10	2.9
Room E101	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3,4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room E103	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3,4	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	384	0	\$46	\$416	\$75	7.4
Room E102	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3,4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
E Wing Hallway	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	3,120	3	Relamp	No	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	3,120	0.2	1,019	0	\$123	\$329	\$90	1.9
E Wing Hallway	7	Compact Fluorescent: 4PIN	Occupancy Sensor	S	80	3,120	1	Fixture Replacement	No	7	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	3,120	0.2	961	0	\$116	\$1,400	\$105	11.2
E Wing Hallway	6	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	6	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room E108	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3,4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room E109	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3,4	Relamp	Yes	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,441	0	\$173	\$818	\$185	3.7
Room E109	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room E105	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3,4	Relamp	Yes	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	1,057	0	\$127	\$672	\$145	4.1
Room E106	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3,4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room E107	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.1	453	0	\$54	\$219	\$60	2.9

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room E110	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room E111	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room E112	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room E113	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room E114	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	576	0	\$69	\$489	\$95	5.7
Room E104	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	576	0	\$69	\$489	\$95	5.7
Room E115	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room E116	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room E117	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room E118	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.2	680	0	\$82	\$329	\$90	2.9
Room E122	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room E123	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room E119	13	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	13	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,249	0	\$150	\$745	\$165	3.9
Room E119	1	Compact Fluorescent: 4PIN	Occupancy Sensor	S	80	2,080	1	Fixture Replacement	No	1	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	2,080	0.0	92	0	\$11	\$200	\$15	16.8
Room E120	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.2	680	0	\$82	\$329	\$90	2.9
Room E121	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.1	453	0	\$54	\$219	\$60	2.9
2nd Floor E Wing Hallway	13	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	3,120	3	Relamp	No	13	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	3,120	0.3	1,472	0	\$177	\$475	\$130	1.9
2nd Floor E Wing Hallway	4	Compact Fluorescent: 4PIN	Occupancy Sensor	S	80	3,120	1	Fixture Replacement	No	4	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	3,120	0.1	549	0	\$66	\$800	\$60	11.2
2nd Floor E Wing Hallway	13	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	13	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
2nd Floor E Wing Hallway	44	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,120	3, 5	Relamp	Yes	44	LED - Linear Tubes: (2) 2' Lamps	High/Low Control	17	2,153	0.7	3,212	-1	\$386	\$2,231	\$264	5.1
Room E201	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$343	\$55	12.5
Room E203	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	576	0	\$69	\$489	\$95	5.7
Room E204	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	576	0	\$69	\$489	\$95	5.7
Room E205	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room E206	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room E207	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.1	453	0	\$54	\$219	\$60	2.9
Room E208	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.2	680	0	\$82	\$329	\$90	2.9
Room E209	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.4	1,133	0	\$136	\$548	\$150	2.9
Room E210	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.2	680	0	\$82	\$329	\$90	2.9
Room E211	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room E212	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room E213	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Men Restroom	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,872	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	1,872	0.0	68	0	\$8	\$37	\$10	3.2
Men Restroom	1	Compact Fluorescent: 4PIN	Wall Switch	S	52	1,872	3	Relamp	No	1	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	26	1,872	0.0	54	0	\$6	\$50	\$2	7.5
Men Restroom	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,872	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	1,872	0.0	68	0	\$8	\$37	\$10	3.2
Men Restroom	1	Compact Fluorescent: 4PIN	Wall Switch	S	52	1,872	3	Relamp	No	1	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	26	1,872	0.0	54	0	\$6	\$50	\$2	7.5
2nd Floor E Wing Hallway	4	Compact Fluorescent: 4PIN	Wall Switch	S	52	3,120	3, 5	Relamp	Yes	4	LED Screw-In Lamps: LED Screw-In Lamps	High/Low Control	26	2,153	0.1	468	0	\$56	\$402	\$8	7.0
Room E215	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room E216	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room E217	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room E218	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room E219	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,441	0	\$173	\$818	\$185	3.7
Room E220	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room E221	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	576	0	\$69	\$489	\$95	5.7
Room E222	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room E223	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Auto Shop Hallway	8	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,120	3, 5	Relamp	Yes	8	LED - Linear Tubes: (2) 2' Lamps	High/Low Control	17	2,153	0.1	584	0	\$70	\$460	\$48	5.9
Room D104	39	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	39	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	1.2	3,747	-1	\$450	\$1,694	\$425	2.8
Room D104	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room D105	3	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	3	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.1	432	0	\$52	\$434	\$80	6.8

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room D111 - Wood Shop	51	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	51	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	1.5	4,900	-1	\$589	\$2,132	\$545	2.7
Room D111 - Wood Shop	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room D116 - Auto Shop	48	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	48	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	1.5	4,612	-1	\$554	\$2,023	\$515	2.7
D Wing Hallway	27	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	S	29	3,120		None	No	27	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	3,120	0.0	0	0	\$0	\$0	\$0	0.0
D Wing Hallway	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Restroom	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	S	29	2,184		None	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.0	0	0	\$0	\$0	\$0	0.0
Room D107B	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	S	29	2,080		None	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.0	0	0	\$0	\$0	\$0	0.0
Room D107A	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	S	29	2,080		None	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.0	0	0	\$0	\$0	\$0	0.0
Room D107E	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	S	29	2,080		None	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.0	0	0	\$0	\$0	\$0	0.0
Room D107D	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	S	29	2,080		None	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.0	0	0	\$0	\$0	\$0	0.0
Restroom	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	S	29	2,184		None	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.0	0	0	\$0	\$0	\$0	0.0
Room D107H	3	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	S	29	2,080		None	No	3	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,080	0.0	0	0	\$0	\$0	\$0	0.0
D Wing Hallway	4	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,120	3, 5	Relamp	Yes	4	LED - Linear Tubes: (2) 2' Lamps	High/Low Control	17	2,153	0.1	292	0	\$35	\$330	\$24	8.7
D Wing Hallway	3	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
2nd Floor D Wing Hallway	26	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,120	3, 5	Relamp	Yes	26	LED - Linear Tubes: (2) 2' Lamps	High/Low Control	17	2,153	0.4	1,898	0	\$228	\$1,245	\$156	4.8
2nd Floor D Wing Hallway	3	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room D221	13	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	13	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,249	0	\$150	\$745	\$165	3.9
Men Restroom	7	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,184	3, 4	Relamp	Yes	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,507	0.2	706	0	\$85	\$526	\$105	5.0
Women Restroom	7	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,184	3, 4	Relamp	Yes	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,507	0.2	706	0	\$85	\$526	\$105	5.0
Room D201	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room D202	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	769	0	\$92	\$562	\$115	4.8
Room D202	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	37	0	\$4	\$33	\$6	6.0
Room D220	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	769	0	\$92	\$562	\$115	4.8
Room D203	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room D204	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room D205	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room D214	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room D215	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3
Room D216	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room D216	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	73	0	\$9	\$65	\$12	6.0
Room D206	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room D207	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room D208	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room D209	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room D210	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.3	865	0	\$104	\$599	\$125	4.6
Room D227	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Room D228	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	73	0	\$9	\$65	\$12	6.0
Room D229	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	384	0	\$46	\$416	\$75	7.4
Room D229	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	37	0	\$4	\$33	\$6	6.0
Room C251	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	73	0	\$9	\$65	\$12	6.0
Room C253	27	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3, 4	Relamp	Yes	27	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	1,435	0.4	1,314	0	\$158	\$1,418	\$232	7.5
Room C256	4	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3, 4	Relamp	Yes	4	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	1,435	0.1	195	0	\$23	\$246	\$24	9.5
Room C257	10	Compact Fluorescent: Screw in	Wall Switch	S	23	2,080	3, 4	Relamp	Yes	10	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	13	1,435	0.1	321	0	\$39	\$442	\$45	10.3
Room C257	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	384	0	\$46	\$416	\$75	7.4
Room C256	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,729	0	\$208	\$927	\$215	3.4
Room C256	16	Compact Fluorescent: 4PIN	Wall Switch	S	80	2,080	1	Fixture Replacement	No	16	LED - Fixtures: Ambient 2x2 Fixture	Wall Switch	40	2,080	0.5	1,464	0	\$176	\$3,201	\$240	16.8
Room C256	3	Halogen Incandescent: 2PIN	Wall Switch	S	750	1,040	1	Fixture Replacement	No	3	LED - Fixtures: High-Bay (Prismatic Reflector)	Wall Switch	160	1,040	1.3	2,025	0	\$243	\$2,321	\$450	7.7
Room C256	7	Halogen Incandescent: 2PIN	Wall Switch	S	500	1,040	1	Fixture Replacement	No	7	LED - Fixtures: High-Bay (Prismatic Reflector)	Wall Switch	160	1,040	1.7	2,723	-1	\$327	\$5,416	\$1,050	13.3
Room C256	10	Halogen Incandescent: 2PIN	Wall Switch	S	250	1,040	1	Fixture Replacement	No	10	LED - Fixtures: Track or Mono-Point Directional Lighting Fixtures	Wall Switch	75	1,040	1.3	2,002	0	\$241	\$3,450	\$300	13.1
Room C235	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.1	192	0	\$23	\$189	\$20	7.3

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room C248	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.5	1,441	0	\$173	\$818	\$185	3.7
Room C250	9	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	9	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.4	1,297	0	\$156	\$763	\$170	3.8
Room C234	8	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3, 4	Relamp	Yes	8	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,435	0.4	1,153	0	\$139	\$708	\$155	4.0
Restroom	5	Compact Fluorescent: 4PIN	Wall Switch	S	52	2,184	3, 4	Relamp	Yes	5	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	26	1,507	0.1	409	0	\$49	\$522	\$45	9.7
Restroom	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,184	3, 4	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,507	0.1	404	0	\$49	\$416	\$75	7.0
Room B103 - Dance Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	1,560	3, 4	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,076	0.1	288	0	\$35	\$416	\$75	9.8
Room B103 - Dance Room	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room B103 - Dance Room	24	LED - Fixtures: Ambient - 4' - Direct/Indirect Fixture	Wall Switch	S	50	1,560		None	No	24	LED - Fixtures: Ambient - 4' - Direct/Indirect Fixture	Wall Switch	50	1,560	0.0	0	0	\$0	\$0	\$0	0.0
Room B103 - Dance Room	22	Halogen Incandescent: Flood Light PAR38	Wall Switch	S	90	1,560	3	Relamp	No	22	LED Screw-In Lamps: LED Screw-In Lamps	Wall Switch	25	1,560	1.0	2,454	-1	\$295	\$379	\$22	1.2
Room B101	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Wall Switch	44	2,080	0.0	113	0	\$14	\$55	\$15	2.9
Room B102	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	S	93	2,080	3	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Wall Switch	44	2,080	0.0	113	0	\$14	\$55	\$15	2.9
Room B100	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,080	0.0	76	0	\$9	\$37	\$10	2.9
Room B195	34	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	34	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	1.0	3,266	-1	\$393	\$2,052	\$445	4.1
Room B195	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,080	0.0	37	0	\$4	\$33	\$6	6.0
Room B181	12	Linear Fluorescent - T8: 4' T8 (32W) - 6L	Occupancy Sensor	S	176	2,080	3	Relamp	No	12	LED - Linear Tubes: (6) 4' Lamps	Occupancy Sensor	87	2,080	0.8	2,444	-1	\$294	\$1,315	\$360	3.2
Room B181	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Dressing Room	46	Incandescent: Screw in	Wall Switch	S	25	1,040	3, 4	Relamp	Yes	46	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	13	718	0.5	844	0	\$101	\$1,602	\$151	14.3
Storage Room	6	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	1,560	3	Relamp	No	6	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,560	0.2	510	0	\$61	\$329	\$90	3.9
Room B181	27	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	27	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.6	2,039	0	\$245	\$986	\$270	2.9
1st Floor B Wing Hallway	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	3,120	3	Relamp	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	3,120	0.2	906	0	\$109	\$292	\$80	1.9
1st Floor B Wing Hallway	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
1st Floor F Wing Hallway	76	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	3,120	3	Relamp	No	76	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	3,120	1.8	8,607	-2	\$1,035	\$2,775	\$760	1.9
1st Floor F Wing Hallway	14	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	14	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
1st Floor F Wing Hallway	19	Compact Fluorescent: 4PIN	Wall Switch	S	84	3,120	3, 5	Relamp	Yes	19	LED Screw-In Lamps: LED Screw-In Lamps	High/Low Control	40	2,153	0.8	3,678	-1	\$442	\$1,358	\$38	3.0
Room F104	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,080	3	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,080	0.4	1,359	0	\$163	\$657	\$180	2.9

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room F125C	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.0	76	0	\$9	\$37	\$10	2.9
Men Restroom	7	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	1,872	3	Relamp	No	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,872	0.2	476	0	\$57	\$256	\$70	3.2
Women Restroom	7	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	1,872	3	Relamp	No	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,872	0.2	476	0	\$57	\$256	\$70	3.2
Room G100	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.1	302	0	\$36	\$146	\$40	2.9
Storage Room	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	1,872	3	Relamp	No	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,872	0.1	408	0	\$49	\$219	\$60	3.2
Room F100B	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.1	227	0	\$27	\$110	\$30	2.9
Room F101F	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.1	227	0	\$27	\$110	\$30	2.9
Room F101F	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,080	0.0	37	0	\$4	\$33	\$6	6.0
Room F101 - Main Office	28	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	3,120	3	Relamp	No	28	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	3,120	0.7	3,171	-1	\$381	\$1,022	\$280	1.9
Room F101 - Main Office	4	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room F101 - Main Office	12	Compact Fluorescent: 4PIN	Occupancy Sensor	S	80	3,120	1	Fixture Replacement	No	12	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	3,120	0.3	1,647	0	\$198	\$2,401	\$180	11.2
Room F101 - Main Office	2	Compact Fluorescent: 4PIN	Occupancy Sensor	S	84	3,120	3	Relamp	No	2	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	40	3,120	0.1	302	0	\$36	\$101	\$4	2.7
1st Floor F Wing Hallway	8	Compact Fluorescent: 4PIN	Occupancy Sensor	S	80	3,120	1	Fixture Replacement	No	8	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	3,120	0.2	1,098	0	\$132	\$1,601	\$120	11.2
Room F110F	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.1	302	0	\$36	\$146	\$40	2.9
Room F100C	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.0	151	0	\$18	\$73	\$20	2.9
Hallway Display	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	5,200	3	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	5,200	0.1	566	0	\$68	\$110	\$30	1.2
Main Lobby	18	Compact Fluorescent: 4PIN	Wall Switch	S	84	3,120	3, 4	Relamp	Yes	18	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	40	2,153	0.7	3,484	-1	\$419	\$1,448	\$106	3.2
Main Lobby	3	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
Room F105	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F106	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F107	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F108	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F109	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Men Restroom	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	1,872	3	Relamp	No	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,872	0.1	340	0	\$41	\$183	\$50	3.2
Women Restroom	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	1,872	3	Relamp	No	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,872	0.1	340	0	\$41	\$183	\$50	3.2

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room F110C	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,080	0.0	76	0	\$9	\$37	\$10	2.9
Room F121	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F122	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F124	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.0	151	0	\$18	\$73	\$20	2.9
Room F112	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F113	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F115	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F116	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F114	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
F Wing Stairwell	16	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,120	3	Relamp	No	16	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.4	1,812	0	\$218	\$584	\$160	1.9
F Wing Stairwell	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
2nd Floor F Wing Stairwell	7	Compact Fluorescent: 4PIN	Occupancy Sensor	S	80	3,120	1	Fixture Replacement	No	7	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	3,120	0.2	961	0	\$116	\$1,400	\$105	11.2
2nd Floor F Wing Stairwell	9	Compact Fluorescent: 4PIN	Occupancy Sensor	S	84	3,120	3	Relamp	No	9	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	40	3,120	0.3	1,359	0	\$163	\$454	\$18	2.7
2nd Floor F Wing Stairwell	10	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	10	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	\$0	\$0	\$0	0.0
2nd Floor F Wing Stairwell	81	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	3,120	3	Relamp	No	81	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	3,120	1.9	9,174	-2	\$1,103	\$2,958	\$810	1.9
Room F201	15	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	15	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.6	1,922	0	\$231	\$1,095	\$300	3.4
Room F202	18	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	18	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.7	2,306	0	\$277	\$1,315	\$360	3.4
Room F202	1	Compact Fluorescent: 4PIN	Occupancy Sensor	S	80	2,080	1	Fixture Replacement	No	1	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	2,080	0.0	92	0	\$11	\$200	\$15	16.8
Room F203	1	Compact Fluorescent: 4PIN	Occupancy Sensor	S	80	2,080	1	Fixture Replacement	No	1	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	2,080	0.0	92	0	\$11	\$200	\$15	16.8
Room F203	12	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	12	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.5	1,538	0	\$185	\$876	\$240	3.4
Room F203A	12	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	12	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.5	1,538	0	\$185	\$876	\$240	3.4
Room F204	12	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	12	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.5	1,538	0	\$185	\$876	\$240	3.4
Room F204A	3	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	3	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.1	384	0	\$46	\$219	\$60	3.4
Room F204A	1	Compact Fluorescent: 4PIN	Occupancy Sensor	S	80	2,080	1	Fixture Replacement	No	1	LED - Fixtures: Ambient 2x2 Fixture	Occupancy Sensor	40	2,080	0.0	92	0	\$11	\$200	\$15	16.8
Stairwell	8	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	S	114	3,120	3	Relamp	No	8	LED - Linear Tubes: (4) 4' Lamps	Wall Switch	58	3,120	0.3	1,538	0	\$185	\$584	\$160	2.3

Existing Conditions							Proposed Conditions							Energy Impact & Financial Analysis							
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Stairwell	2	Compact Fluorescent: 4PIN	Wall Switch	S	84	3,120	3, 4	Relamp	Yes	2	LED Screw-In Lamps: LED Screw-In Lamps	Occupancy Sensor	40	2,153	0.1	387	0	\$47	\$217	\$4	4.6
Room F225A	2	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	2	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.1	256	0	\$31	\$146	\$40	3.4
Room F205	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F206	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F207	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F208	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F209	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Men Restroom	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	1,872	3	Relamp	No	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,872	0.1	340	0	\$41	\$183	\$50	3.2
Women Restroom	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	1,872	3	Relamp	No	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,872	0.1	340	0	\$41	\$183	\$50	3.2
Room F212	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F213	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F214	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F215	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F216	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Restroom	1	Compact Fluorescent: 4PIN	Wall Switch	S	80	1,872	1	Fixture Replacement	No	1	LED - Fixtures: Ambient 2x2 Fixture	Wall Switch	40	1,872	0.0	82	0	\$10	\$200	\$15	18.7
Room F210A	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.0	151	0	\$18	\$73	\$20	2.9
Room F223C	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	2,080	3, 4	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,435	0.2	480	0	\$58	\$453	\$85	6.4
Room F223B	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.1	378	0	\$45	\$183	\$50	2.9
Room F224	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,080	3	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,080	0.1	302	0	\$36	\$146	\$40	2.9
Room F221	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4
Room F222	9	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Occupancy Sensor	S	114	2,080	3	Relamp	No	9	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,080	0.4	1,153	0	\$139	\$657	\$180	3.4

Motor Inventory & Recommendations

Location	Area(s)/System(s) Served	Existing Conditions							Proposed Conditions					Energy Impact & Financial Analysis						
		Motor Quantity	Motor Application	HP Per Motor	Full Load Efficiency	VFD Control?	Remaining Useful Life	Annual Operating Hours	ECM #	Install High Efficiency Motors?	Full Load Efficiency	Install VFDs?	Number of VFDs	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Boiler Room	Combustion Air	3	Combustion Air Fan	5.0	84.0%	No	W	1,152		No	84.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Boiler Room	Water Supply	3	Water Supply Pump	1.0	82.0%	No	W	2,745		No	82.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Boiler Room	Heating Hot Water	2	Heating Hot Water Pump	40.0	94.1%	Yes	W	1,428		No	94.1%	No		0.0	0	0	\$0	\$0	\$0	0.0
Boiler Room	Heating Hot Water	2	Heating Hot Water Pump	50.0	93.0%	No	W	1,428	NR, 6	Yes	94.5%	Yes	2	10.2	44,182	0	\$5,400	\$34,883	\$0	6.5
Boiler Room	Compressed Air	2	Air Compressor	1.5	77.0%	No	W	1,092		No	77.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Mechanical Room	DHW Recirculation	2	Process Pump	1.0	74.0%	No	W	2,745		No	74.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Ground Floor	Wood Shop - Duct Collector	1	Process Pump	5.0	84.0%	No	W	1,320		No	84.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Fire Bld	Exhaust Fan	1	Exhaust Fan	1.0	82.0%	No	W	2,745	NR, NR	Yes	85.5%	Yes	1	0.3	938	0	\$115	\$3,283	\$80	27.9
Pool Pump Room	Pool	1	Water Supply Pump	15.0	91.0%	Yes	W	3,391		No	91.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	Kitchen - MAU2	2	Exhaust Fan	0.8	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	Kitchen - MAU1	2	Exhaust Fan	1.5	82.0%	No	W	2,745		No	82.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School - EF22	1	Exhaust Fan	0.5	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School - EF4	1	Exhaust Fan	0.3	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School - EF9	1	Exhaust Fan	0.2	60.0%	No	W	2,745		No	60.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School - EF7	1	Exhaust Fan	0.8	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School - EF12	1	Exhaust Fan	0.3	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School - EF9	1	Exhaust Fan	0.3	60.0%	No	W	2,745		No	60.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School - EF11	1	Exhaust Fan	0.3	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	Kitchen Hood1	1	Kitchen Hood Exhaust Fan	0.5	65.0%	No	W	5,250	NR, 7	Yes	78.2%	Yes	1	0.1	4,105	105	\$1,512	\$2,848	\$150	1.8
Roof Top	Kitchen Hood2	1	Kitchen Hood Exhaust Fan	0.5	65.0%	No	W	5,250	NR, 7	Yes	78.2%	Yes	1	0.1	4,105	105	\$1,512	\$2,848	\$150	1.8

		Existing Conditions							Proposed Conditions					Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	Motor Quantity	Motor Application	HP Per Motor	Full Load Efficiency	VFD Control?	Remaining Useful Life	Annual Operating Hours	ECM #	Install High Efficiency Motors?	Full Load Efficiency	Install VFDs?	Number of VFDs	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Roof Top	Kitchen Hood3	1	Kitchen Hood Exhaust Fan	1.0	65.0%	No	W	5,250	NR, 7	Yes	85.5%	Yes	1	0.2	5,925	105	\$1,734	\$3,283	\$300	1.7
Roof Top	Boiler Room	1	Exhaust Fan	0.5	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School -EF1	1	Exhaust Fan	0.3	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	ERU1	1	Supply Fan	2.0	84.0%	Yes	W	2,745		No	84.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	ERU1	1	Return Fan	2.0	84.0%	Yes	W	2,745		No	84.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School -EF13	1	Exhaust Fan	0.5	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School -EF3	1	Exhaust Fan	0.3	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School -EF10	1	Exhaust Fan	0.2	60.0%	No	W	2,745		No	60.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School -EF14	1	Exhaust Fan	0.3	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School -EF19	1	Exhaust Fan	2.0	82.0%	No	W	2,745	NR, NR	Yes	86.5%	Yes	1	0.6	1,912	0	\$234	\$3,623	\$160	14.8
Roof Top	School -EF26	1	Exhaust Fan	3.0	84.0%	No	W	2,745	NR, NR	Yes	89.5%	Yes	1	1.0	2,843	0	\$347	\$3,812	\$240	10.3
Roof Top	School	2	Exhaust Fan	0.3	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School -EF20	1	Exhaust Fan	2.0	82.0%	No	W	2,745	NR, NR	Yes	86.5%	Yes	1	0.6	1,912	0	\$234	\$3,623	\$160	14.8
Roof Top	School	1	Exhaust Fan	0.2	60.0%	No	W	2,745		No	60.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School -EF16	1	Exhaust Fan	0.5	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School -EF5	1	Exhaust Fan	0.5	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	School -EF31	1	Exhaust Fan	0.3	65.0%	No	W	2,745		No	65.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	2	Supply Fan	7.5	86.5%	Yes	B	3,391		No	86.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	2	Return Fan	5.0	84.5%	Yes	B	2,745		No	84.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	6	Supply Fan	5.0	84.5%	Yes	B	2,745		No	84.5%	No		0.0	0	0	\$0	\$0	\$0	0.0

Location	Area(s)/System(s) Served	Existing Conditions							Proposed Conditions				Energy Impact & Financial Analysis							
		Motor Quantity	Motor Application	HP Per Motor	Full Load Efficiency	VFD Control?	Remaining Useful Life	Annual Operating Hours	ECM #	Install High Efficiency Motors?	Full Load Efficiency	Install VFDs?	Number of VFDs	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Roof Top	RTUs	6	Return Fan	5.0	84.5%	Yes	B	2,745		No	84.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	10	Supply Fan	5.0	84.5%	Yes	B	2,745		No	84.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	10	Return Fan	5.0	84.5%	Yes	B	2,745		No	84.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	2	Supply Fan	7.5	86.5%	Yes	W	3,391		No	86.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	2	Return Fan	5.0	84.5%	Yes	W	2,745		No	84.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	1	Supply Fan	2.0	84.0%	Yes	W	2,745		No	84.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	1	Return Fan	1.0	84.0%	Yes	W	2,745		No	84.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	4	Supply Fan	7.5	86.5%	Yes	W	3,391		No	86.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	4	Return Fan	3.0	84.0%	Yes	W	2,745		No	84.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	2	Supply Fan	7.5	86.5%	Yes	B	3,391		No	86.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	2	Return Fan	7.5	86.5%	Yes	B	3,391		No	86.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	1	Supply Fan	30.0	93.0%	Yes	N	3,391		No	93.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	2	Return Fan	7.5	89.5%	Yes	N	2,745		No	89.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	1	Supply Fan	20.0	91.0%	Yes	B	3,391		No	91.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	2	Return Fan	5.0	86.5%	Yes	B	2,745		No	86.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	4	Supply Fan	5.0	84.5%	Yes	B	2,745		No	84.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	4	Return Fan	5.0	84.5%	Yes	B	2,745		No	84.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	2	Supply Fan	3.0	84.0%	Yes	B	2,745		No	84.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	2	Return Fan	3.0	84.0%	Yes	B	2,745		No	84.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	2	Supply Fan	10.0	89.5%	Yes	W	3,391		No	89.5%	No		0.0	0	0	\$0	\$0	\$0	0.0

		Existing Conditions							Proposed Conditions					Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	Motor Quantity	Motor Application	HP Per Motor	Full Load Efficiency	VFD Control?	Remaining Useful Life	Annual Operating Hours	ECM #	Install High Efficiency Motors?	Full Load Efficiency	Install VFDs?	Number of VFDs	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Roof Top	RTUs	2	Return Fan	3.0	84.0%	Yes	W	2,745		No	84.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	2	Supply Fan	3.0	84.0%	Yes	B	2,745		No	84.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	1	Return Fan	5.0	84.5%	Yes	B	2,745		No	84.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	2	Supply Fan	15.0	91.0%	Yes	W	3,391		No	91.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	4	Return Fan	3.0	84.0%	Yes	W	2,745		No	84.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	1	Supply Fan	7.5	86.5%	Yes	W	3,391		No	86.5%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	1	Return Fan	2.0	84.0%	Yes	W	2,745		No	84.0%	No		0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTUs	1	Supply Fan	2.0	84.0%	Yes	W	2,745		No	84.0%	No		0.0	0	0	\$0	\$0	\$0	0.0

Electric HVAC Inventory & Recommendations

Location	Area(s)/System(s) Served	Existing Conditions						Proposed Conditions						Energy Impact & Financial Analysis							
		System Quantity	System Type	Cooling Capacity per Unit (Tons)	Heating Capacity per Unit (MBh)	Remaining Useful Life	ECM #	Install High Efficiency System?	System Quantity	System Type	Cooling Capacity per Unit (Tons)	Heating Capacity per Unit (MBh)	Cooling Mode Efficiency (SEER/EER)	Heating Mode Efficiency (COP)	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room D104	Room D104	1	Packaged AC	7.50		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Room D116	Room D116	1	Packaged AC	10.00		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU7 - Team Room	1	Packaged AC	25.00		B	NR	Yes	1	Packaged AC	25.00		12.00	7.5	6,990	0	\$854	\$42,185	\$1,975	47.1	
Roof Top	RTU1 - Weight Room	1	Packaged AC	50.00		B	NR	Yes	1	Packaged AC	50.00		12.00	15.0	13,980	0	\$1,709	\$110,799	\$0	64.8	
Roof Top	RTU6 - 2nd Floor A Wing	1	Packaged AC	40.00		B	NR	Yes	1	Packaged AC	40.00		12.00	12.0	11,184	0	\$1,367	\$88,639	\$0	64.8	
Roof Top	RTU1 - Aux Gym	1	Packaged AC	50.00		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU2 - Fitness Center	1	Packaged AC	10.00		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	School Building	4	Split-System Air-Source HP	2.00	28.00	B	NR	Yes	4	Split-System Air-Source HP	2.00	28.00	14.00	3.80	0.7	3,044	0	\$372	\$13,527	\$736	34.4
Roof Top	School Building	5	Split-System AC	1.50		B	NR	Yes	5	Split-System AC	1.50		14.00	1.8	1,664	0	\$203	\$11,222	\$690	51.8	
Roof Top	CU1	1	Split-System AC	45.00		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU2 - Gym	1	Packaged AC	40.00		B	NR	Yes	1	Packaged AC	40.00		12.00	12.0	11,184	0	\$1,367	\$88,639	\$0	64.8	
Roof Top	School Building	1	Packaged AC	31.00		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU3 - Gym - A Wing	1	Packaged AC	60.00		B	NR	Yes	1	Packaged AC	60.00		12.00	18.0	16,776	0	\$2,051	\$132,958	\$0	64.8	
Roof Top	RTU4 - Gym	1	Packaged AC	40.00		B	NR	Yes	1	Packaged AC	40.00		12.00	12.0	11,184	0	\$1,367	\$88,639	\$0	64.8	
Roof Top	CU2	1	Split-System AC	45.00		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	School Building	1	Split-System AC	26.00		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	DHU1 - Indoor Pool	1	Packaged AC	60.00		N		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU5 - Gym	1	Packaged AC	40.00		B	NR	Yes	1	Packaged AC	40.00		12.00	12.0	11,184	0	\$1,367	\$88,639	\$0	64.8	
Roof Top	CU3	1	Split-System AC	45.00		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	CU1 - With Annex Aire	1	Split-System AC	11.00		N		No						0.0	0	0	\$0	\$0	\$0	0.0	

		Existing Conditions					Proposed Conditions								Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	System Quantity	System Type	Cooling Capacity per Unit (Tons)	Heating Capacity per Unit (kBtu/hr)	Remaining Useful Life	ECM #	Install High Efficiency System?	System Quantity	System Type	Cooling Capacity per Unit (Tons)	Heating Capacity per Unit (kBtu/hr)	Cooling Mode Efficiency (SEER/EER)	Heating Mode Efficiency (COP)	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Roof Top	School Building	1	Split-System Air-Source HP	1.00	18.00	W		No							0.0	0	0	\$0	\$0	\$0	0.0
Roof Top	RTU23 - B Wing Science Classrooms	1	Packaged AC	70.00		B	NR	Yes	1	Packaged AC	70.00		12.00		21.0	19,572	0	\$2,392	\$155,118	\$0	64.8
Roof Top	RTU8 - Downstaire B Wing Loop	1	Packaged AC	40.00		B	NR	Yes	1	Packaged AC	40.00		12.00		12.0	11,184	0	\$1,367	\$88,639	\$0	64.8
Roof Top	RTU12 - Downstaire B Wing Nurse & YST	1	Packaged AC	20.00		B	NR	Yes	1	Packaged AC	20.00		12.00		6.0	5,592	0	\$684	\$33,748	\$1,580	47.1
Roof Top	RTU13 - Commons B Wing	1	Packaged AC	40.00		B	NR	Yes	1	Packaged AC	40.00		12.00		12.0	11,184	0	\$1,367	\$88,639	\$0	64.8
Roof Top	RTU20 - C Wing LGI	1	Packaged AC	13.00		B	NR	Yes	1	Packaged AC	13.00		12.00		3.9	3,635	0	\$444	\$18,120	\$1,027	38.5
Roof Top	RTU10 - CV Stage	1	Packaged AC	20.00		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	School Building	2	Split-System AC	3.00		B	NR	Yes	2	Split-System AC	3.00		14.00		2.2	2,077	0	\$254	\$8,977	\$552	33.2
Roof Top	RTU3 - VAV - Downstair F Wing West	1	Packaged AC	31.00		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU4 - VAV - Upstair F Wing West	1	Packaged AC	20.00		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	School Building	4	Split-System AC	1.50		B	NR	Yes	4	Split-System AC	1.50		14.00		1.1	1,062	0	\$130	\$8,977	\$552	64.9
Roof Top	RTU9 - CV Music - C Wing	1	Packaged AC	13.00		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU9	1	Packaged AC	50.00		B	NR	Yes	1	Packaged AC	50.00		12.00		15.0	13,980	0	\$1,709	\$110,799	\$0	64.8
Roof Top	RTU14 - E Winh Link	1	Packaged AC	20.00		B	NR	Yes	1	Packaged AC	20.00		12.00		6.0	5,592	0	\$684	\$33,748	\$1,580	47.1
Roof Top	RTU15 - 1st Floor E Winh	1	Packaged AC	50.00		B	NR	Yes	1	Packaged AC	50.00		12.00		15.0	13,980	0	\$1,709	\$110,799	\$0	64.8
Roof Top	RTU16 - 2nd Floor E Winh	1	Packaged AC	50.00		B	NR	Yes	1	Packaged AC	50.00		12.00		15.0	13,980	0	\$1,709	\$110,799	\$0	64.8
Roof Top	ACCU4	1	Split-System AC	7.50		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	ACCU5	1	Split-System AC	3.50		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	ACCU6 - AHU3	1	Split-System AC	7.50		W		No						0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	ACCU7 - AHU4	1	Split-System AC	3.50		W		No						0.0	0	0	\$0	\$0	\$0	0.0	

		Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	System Quantity	System Type	Cooling Capacity per Unit (Tons)	Heating Capacity per Unit (kBtu/hr)	Remaining Useful Life	ECM #	Install High Efficiency System?	System Quantity	System Type	Cooling Capacity per Unit (Tons)	Heating Capacity per Unit (kBtu/hr)	Cooling Mode Efficiency (SEER/EER)	Heating Mode Efficiency (COP)	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years	
Roof Top	RTU27 - Kitchen	1	Packaged AC	30.00		B	NR	Yes	1	Packaged AC	30.00		12.00		9.0	8,388	0	\$1,025	\$66,479	\$0	64.8	
Roof Top	School Building	1	Split-System AC	5.00		B	NR	Yes	1	Split-System AC	5.00		14.00		1.9	1,731	0	\$212	\$7,481	\$460	33.2	
Roof Top	School Building	1	Split-System AC	3.50		B	NR	Yes	1	Split-System AC	3.50		14.00		1.3	1,212	0	\$148	\$5,237	\$322	33.2	
Roof Top	RTU25 - Guidance	1	Packaged AC	70.00		B	NR	Yes	1	Packaged AC	70.00		12.00		21.0	19,572	0	\$2,392	\$155,118	\$0	64.8	
Roof Top	RTU11 - Upstair C Wing loop	1	Packaged AC	40.00		B	NR	Yes	1	Packaged AC	40.00		12.00		12.0	11,184	0	\$1,367	\$88,639	\$0	64.8	
Roof Top	RTU10 - Downstair C Wing Lopp	1	Packaged AC	30.00		B	NR	Yes	1	Packaged AC	30.00		12.00		9.0	8,388	0	\$1,025	\$66,479	\$0	64.8	
Roof Top	School Building	1	Split-System AC	7.00		W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	School Building	1	Split-System AC	9.50		W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	ACCU13	1	Split-System AC	3.50		W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU26 - Upstair D Wing	1	Packaged AC	50.00		B	NR	Yes	1	Packaged AC	50.00		12.00		15.0	13,980	0	\$1,709	\$110,799	\$0	64.8	
Roof Top	RTU7 - Back Library F Wing	1	Packaged AC	20.00		W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU7 - Lower Cafeteria F Wing	1	Packaged AC	26.00		W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU16 - Auditorium F Wing	1	Packaged AC	31.00		W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU17 - Auditorium F Wing	1	Packaged AC	26.00		W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU5 - Main Office F Wing	1	Packaged AC	16.00		W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU6 - Upstair F Wing North	1	Packaged AC	25.00		W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU13 - Front Entrance F Wing	1	Packaged AC	6.00		W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU12 - Upstair F Wing	1	Packaged AC	31.00		W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU4 - Upstair F Wing	1	Packaged AC	20.00		W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Roof Top	RTU8 - Lower Kitchen F Wing	1	Packaged AC	18.00		W		No							0.0	0	0	\$0	\$0	\$0	0.0	
		Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	System Quantity	System Type	Cooling Capacity per Unit (Tons)	Heating Capacity per Unit (kBtu/hr)	Remaining Useful Life	ECM #	Install High Efficiency System?	System Quantity	System Type	Cooling Capacity per Unit (Tons)	Heating Capacity per Unit (kBtu/hr)	Cooling Mode Efficiency (SEER/EER)	Heating Mode Efficiency (COP)	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years	
Ground Floor	New Wing	1	Split-System Air-Source HP	10.00	129.00	W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Ground Floor	New Wing	1	Split-System Air-Source HP	12.00	154.00	W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Fire Room	Fire Room	1	Electric Resistance Heat		10.23	W		No							0.0	0	0	\$0	\$0	\$0	0.0	
Room A171	Room A171	1	Window AC	1.00		W		No							0.0	0	0	\$0	\$0	\$0	0.0	

Fuel Heating Inventory & Recommendations

Location	Area(s)/System(s) Served	Existing Conditions				Proposed Conditions							Energy Impact & Financial Analysis						
		System Quantity	System Type	Output Capacity per Unit (MBh)	Remaining Useful Life	ECM #	Install High Efficiency System?	System Quantity	System Type	Output Capacity per Unit (MBh)	Heating Efficiency	Heating Efficiency Units	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Boiler Room	School Heating System	3	Non-Condensing Hot Water Boiler	6,695.00	W		No						0.0	0	0	\$0	\$0	\$0	0.0
Room A214	Indoor Pool	1	Condensing Hot Water Boiler	849.00	W		No						0.0	0	0	\$0	\$0	\$0	0.0
Roof	Kitchen	1	Furnace	280.00	W		No						0.0	0	0	\$0	\$0	\$0	0.0
Roof	Kitchen - MAU1	1	Furnace	221.00	W		No						0.0	0	0	\$0	\$0	\$0	0.0
Roof	Kitchen - MAU2	1	Furnace	116.00	W		No						0.0	0	0	\$0	\$0	\$0	0.0
Roof	School - ERU1	1	Furnace	160.00	N		No						0.0	0	0	\$0	\$0	\$0	0.0

DHW Inventory & Recommendations

Location	Area(s)/System(s) Served	Existing Conditions				Proposed Conditions							Energy Impact & Financial Analysis					
		System Quantity	System Type	Remaining Useful Life	ECM #	Replace?	System Quantity	System Type	Fuel Type	System Efficiency	Efficiency Units	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Mechanical Room	Domestic Hot Water System	3	Tankless Water Heater	W		No						0.0	0	0	\$0	\$0	\$0	0.0
Attic Floor	Kitchen	1	Storage Tank Water Heater (≤ 50 Gal)	W		No						0.0	0	0	\$0	\$0	\$0	0.0

Low-Flow Device Recommendations

Location	Recommendation Inputs					Energy Impact & Financial Analysis						
	ECM #	Device Quantity	Device Type	Existing Flow Rate (gpm)	Proposed Flow Rate (gpm)	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
School	8	67	Faucet Aerator (Lavatory)	2.20	0.50	0.0	0	191	\$1,841	\$480	\$0	0.3

Walk-In Cooler/Freezer Inventory & Recommendations

Location	Existing Conditions		Proposed Conditions			Energy Impact & Financial Analysis							
	Cooler/Freezer Quantity	Case Type/Temperature	ECM #	Install EC Evaporator Fan Motors?	Install Electric Defrost Control?	Install Evaporator Fan Control?	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Kitchen	1	Cooler (35F to 55F)		No	No	No	0.0	0	0	\$0	\$0	\$0	0.0
Kitchen	1	Medium Temp Freezer (0F to 30F)		No	No	No	0.0	0	0	\$0	\$0	\$0	0.0
Flowershop	1	Cooler (35F to 55F)	9, 10	Yes	Yes	Yes	0.2	5,288	0	\$646	\$3,103	\$125	4.6

Commercial Refrigerator/Freezer Inventory & Recommendations

Location	Existing Conditions			Proposed Conditions		Energy Impact & Financial Analysis						
	Quantity	Refrigerator/ Freezer Type	ENERGY STAR Qualified?	ECM #	Install ENERGY STAR Equipment?	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Kitchen	1	Stand-Up Refrigerator, Solid Door (>50 cu. ft.)	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0
Kitchen	1	Stand-Up Refrigerator, Solid Door (>50 cu. ft.)	No	NR	Yes	0.1	986	0	\$120	\$2,301	\$200	17.4
Kitchen	1	Stand-Up Refrigerator, Solid Door (>50 cu. ft.)	No	NR	Yes	0.2	1,381	0	\$169	\$3,168	\$200	17.6
Kitchen	2	Stand-Up Refrigerator, Glass Door (16 - 30 cu. ft.)	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0
Kitchen	1	Stand-Up Refrigerator, Solid Door (>50 cu. ft.)	No	NR	Yes	0.1	1,279	0	\$156	\$2,944	\$200	17.6
Kitchen	7	Stand-Up Refrigerator, Glass Door (16 - 30 cu. ft.)	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0
Kitchen	1	Refrigerator Chest	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0
Kitchen	2	Stand-Up Refrigerator, Solid Door (31 - 50 cu. ft.)	No	NR	Yes	0.2	1,388	0	\$170	\$3,456	\$250	18.9
Kitchen2	3	Stand-Up Refrigerator, Solid Door (>50 cu. ft.)	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0
Room 175	1	Stand-Up Refrigerator, Solid Door (>50 cu. ft.)	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0

Commercial Ice Maker Inventory & Recommendations

Location	Existing Conditions			Proposed Conditions		Energy Impact & Financial Analysis						
	Quantity	Ice Maker Type	ENERGY STAR Qualified?	ECM #	Install ENERGY STAR Equipment?	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Kitchen	1	Self-Contained Unit (≥175 lbs/day), Batch	No		No	0.0	0	0	\$0	\$0	\$0	0.0
Room A195	1	Self-Contained Unit (≥175 lbs/day), Batch	No		No	0.0	0	0	\$0	\$0	\$0	0.0

Cooking Equipment Inventory & Recommendations

Location	Existing Conditions				Proposed Conditions		Energy Impact & Financial Analysis						
	Quantity	Equipment Type	High Efficiency Equipment?	ECM #	Install High Efficiency Equipment?	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years	
Kitchen	3	Gas Convection Oven (Half Size)	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0	
Kitchen	1	Gas Combination Oven/Steam Cooker (<15 Pans)	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0	
Kitchen	5	Gas Steamer	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0	
Kitchen	2	Insulated Food Holding Cabinet (Full Size)	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0	
Kitchen	2	Electric Griddle (≤2 Feet Width)	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0	
Kitchen	1	Insulated Food Holding Cabinet (3/4 Size)	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0	
Kitchen2	3	Gas Convection Oven (Half Size)	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0	
Kitchen2	3	Insulated Food Holding Cabinet (3/4 Size)	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0	
Kitchen2	2	Gas Steamer	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0	
Kitchen2	2	Gas Griddle (≤2 Feet Width)	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0	

Dishwasher Inventory & Recommendations

Location	Existing Conditions					Proposed Conditions		Energy Impact & Financial Analysis						
	Quantity	Dishwasher Type	Water Heater Fuel Type	Booster Heater Fuel Type	ENERGY STAR Qualified?	ECM #	Install ENERGY STAR Equipment?	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Payback w/ Incentives in Years
Kitchen	1	Single Tank Conveyor (High Temp)	Electric	N/A	Yes		No	0.0	0	0	\$0	\$0	\$0	0.0

Plug Load Inventory

Existing Conditions				
Location	Quantity	Equipment Description	Energy Rate (W)	ENERGY STAR Qualified?
Kitchen	1	Electric Booster	36,000.0	No
Kitchen	2	Hot Plate	995.0	No
Kitchen	2	Hot Plate	1,710.0	No
Kitchen2	1	Warmer	1,697.0	No
Kitchen2	3	Warmer	1,710.0	No
Kitchen2	1	Warmer	1,510.0	No
Kitchen2	1	Warmer	6,010.0	No
School	800	Desktop Computer	120.0	Yes
School	12	Copy Machine	450.0	Yes
School	250	Printers	125.0	Yes
School	1,000	Chromebooks	9.0	Yes
Data Center	14	Servers	750.0	No
Data Center	2	Servers	460.0	No
Data Center	2	Servers	1,080.0	No
Data Center	2	Servers	400.0	No
Data Center	6	Servers	100.0	No
Data Center	40	Servers	700.0	No
School	16	Small Refrigerator	45.0	Yes
School	12	Water Cooler	72.0	Yes
School	17	Refrigerator	155.0	Yes
School	26	Wall TVs	55.0	Yes
School	18	Coffee Machine	250.0	No
School	25	Microwave	800.0	No
School	13	Toaster	450.0	No
School	2	Kiln	1,000.0	No

Vending Machine Inventory & Recommendations

Location	Existing Conditions		Proposed Conditions		Energy Impact & Financial Analysis						
	Quantity	Vending Machine Type	ECM #	Install Controls?	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Cafeteria	3	Non-Refrigerated	11	Yes	0.1	1,028	0	\$126	\$690	\$150	4.3
Room F104	1	Refrigerated	11	Yes	0.2	1,612	0	\$197	\$230	\$50	0.9

APPENDIX B: ENERGY STAR® STATEMENT OF ENERGY PERFORMANCE

EUI is presented in terms of *site energy* and *source energy*. Site energy is the amount of fuel and electricity consumed by a building as reflected in utility bills. Source energy includes fuel consumed to generate electricity consumed at the site, factoring in electric production and distribution losses for the region.

ENERGY STAR® Statement of Energy Performance

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ENERGY STAR®
Score¹

Egg Harbor Township High School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 440,900
Built: 1980

For Year Ending: April 30, 2018
Date Generated: March 05, 2019

1. The ENERGY STAR score is a 1-100 assessment of a building's energy efficiency as compared with similar buildings nationwide, adjusting for climate and business activity.

Property & Contact Information		
Property Address Egg Harbor Township High School 24 High School Drive Egg Harbor Township, New Jersey 08234	Property Owner Egg Harbor Township School District 13 Swift Drive Egg Harbor Township, NJ 08234 809-848-8441	Primary Contact Chandra Anaya 13 Swift Drive Egg Harbor Township, NJ 08234 809-848-8441 anayac@eht.k12.nj.us
Property ID: 6627772		

Energy Consumption and Energy Use Intensity (EUI)			
Site EUI 55.4 kBtu/ft ²	Annual Energy by Fuel		National Median Comparison
	Electric - Grid (kBtu)	11,983,411 (49%)	National Median Site EUI (kBtu/ft ²)
	Electric - Solar (kBtu)	1,527,868 (6%)	National Median Source EUI (kBtu/ft ²)
	Natural Gas (kBtu)	10,933,644 (45%)	% Diff from National Median Source EUI
Source EUI 105.6 kBtu/ft ²			Annual Emissions
			Greenhouse Gas Emissions (Metric Tons CO ₂ e/year)
			1,795

Signature & Stamp of Verifying Professional

I _____ (Name) verify that the above information is true and correct to the best of my knowledge.

Signature: _____ Date: _____

Licensed Professional

() _____



Professional Engineer Stamp
(if applicable)

APPENDIX C: GLOSSARY

TERM	DEFINITION
Blended Rate	Used to calculate fiscal savings associated with measures. The blended rate is calculated by dividing the amount of your bill by the total energy use. For example, if your bill is \$22,217.22, and you used 266,400 kilowatt-hours, your blended rate is 8.3 cents per kilowatt-hour.
Btu	<i>British thermal unit</i> : a unit of energy equal to the amount of heat required to increase the temperature of one pound of water by one-degree Fahrenheit.
CHP	<i>Combined heat and power</i> . Also referred to as cogeneration.
COP	<i>Coefficient of performance</i> : a measure of efficiency in terms of useful energy delivered divided by total energy input.
Demand Response	Demand response reduces or shifts electricity usage at or among participating buildings/sites during peak energy use periods in response to time-based rates or other forms of financial incentives.
DCV	<i>Demand control ventilation</i> : a control strategy to limit the amount of outside air introduced to the conditioned space based on actual occupancy need.
US DOE	<i>United States Department of Energy</i>
EC Motor	<i>Electronically commutated motor</i>
ECM	<i>Energy conservation measure</i>
EER	<i>Energy efficiency ratio</i> : a measure of efficiency in terms of cooling energy provided divided by electric input.
EUI	<i>Energy Use Intensity</i> : measures energy consumption per square foot and is a standard metric for comparing buildings' energy performance.
Energy Efficiency	Reducing the amount of energy necessary to provide comfort and service to a building/area. Achieved through the installation of new equipment and/or optimizing the operation of energy use systems. Unlike conservation, which involves some reduction of service, energy efficiency provides energy reductions without sacrifice of service.
ENERGY STAR®	ENERGY STAR® is the government-backed symbol for energy efficiency. The ENERGY STAR® program is managed by the EPA.
EPA	<i>United States Environmental Protection Agency</i>
Generation	The process of generating electric power from sources of primary energy (e.g., natural gas, the sun, oil).
GHG	<i>Greenhouse gas</i> : gases that are transparent to solar (short-wave) radiation but opaque to long-wave (infrared) radiation, thus preventing long-wave radiant energy from leaving Earth's atmosphere. The net effect is a trapping of absorbed radiation and a tendency to warm the planet's surface.
gpf	<i>Gallons per flush</i>

gpm	<i>Gallon per minute</i>
HID	<i>High intensity discharge: high-output lighting lamps such as high-pressure sodium, metal halide, and mercury vapor.</i>
hp	<i>Horsepower</i>
HPS	<i>High-pressure sodium: a type of HID lamp.</i>
HSPF	<i>Heating seasonal performance factor: a measure of efficiency typically applied to heat pumps. Heating energy provided divided by seasonal energy input.</i>
HVAC	<i>Heating, ventilating, and air conditioning</i>
IHP 2014	<i>US DOE Integral Horsepower rule. The current ruling regarding required electric motor efficiency.</i>
IPLV	<i>Integrated part load value: a measure of the part load efficiency usually applied to chillers.</i>
kBtu	<i>One thousand British thermal units</i>
kW	<i>Kilowatt: equal to 1,000 Watts.</i>
kWh	<i>Kilowatt-hour: 1,000 Watts of power expended over one hour.</i>
LED	<i>Light emitting diode: a high-efficiency source of light with a long lamp life.</i>
LGEA	<i>Local Government Energy Audit</i>
Load	<i>The total power a building or system is using at any given time.</i>
Measure	<i>A single activity, or installation of a single type of equipment, that is implemented in a building system to reduce total energy consumption.</i>
MH	<i>Metal halide: a type of HID lamp.</i>
MBh	<i>Thousand Btu per hour</i>
MBtu	<i>One thousand British thermal units</i>
MMBtu	<i>One million British thermal units</i>
MV	<i>Mercury Vapor: a type of HID lamp.</i>
NJBPU	<i>New Jersey Board of Public Utilities</i>
NJCEP	<i>New Jersey Clean Energy Program: NJCEP is a statewide program that offers financial incentives, programs and services for New Jersey residents, business owners and local governments to help them save energy, money and the environment.</i>
psig	<i>Pounds per square inch gauge</i>
Plug Load	<i>Refers to the amount of power used in a space by products that are powered by means of an ordinary AC plug.</i>
PV	<i>Photovoltaic: refers to an electronic device capable of converting incident light directly into electricity (direct current).</i>

SEER	<i>Seasonal energy efficiency ratio</i> : a measure of efficiency in terms of annual cooling energy provided divided by total electric input.
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SEP	<i>Statement of energy performance</i> : a summary document from the ENERGY STAR® Portfolio Manager®.
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Simple Payback	The amount of time needed to recoup the funds expended in an investment or to reach the break-even point between investment and savings.
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SREC	<i>Solar renewable energy credit</i> : a credit you can earn from the state for energy produced from a photovoltaic array.
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T5, T8, T12	A reference to a linear lamp diameter. The number represents increments of 1/8 th of an inch.
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Temperature Setpoint	The temperature at which a temperature regulating device (thermostat, for example) has been set.
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therm	100,000 Btu. Typically used as a measure of natural gas consumption.
--------------	--

tons	A unit of cooling capacity equal to 12,000 Btu/hr.
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Turnkey	Provision of a complete product or service that is ready for immediate use.
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VAV	<i>Variable air volume</i>
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VFD	<i>Variable frequency drive</i> : a controller used to vary the speed of an electric motor.
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WaterSense™	The symbol for water efficiency. The WaterSense™ program is managed by the EPA.
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Watt (W)	Unit of power commonly used to measure electricity use.
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