Local Government Energy Audit:
Energy Audit Report

Hammonton Middle School

75 North Liberty Street
Hammonton, New Jersey 08037
Hammonton Board of Education

December 17, 2018

Final Report by:

TRC Energy Services

Disclaimer

The intent of this energy analysis report is to identify energy savings opportunities and recommend upgrades to the facility's energy using equipment and systems. Approximate saving are included in this report to help make decisions about reducing energy use at the facility. This report, however, is not intended to serve as a detailed engineering design document. Further design and analysis may be necessary in order to implement some of the measures recommended in this report.

The energy conservation measures and estimates of energy savings have been reviewed for technical accuracy. However, estimates of final energy savings are not guaranteed, because final savings may depend on behavioral factors and other uncontrollable variables. TRC Energy Services (TRC) and New Jersey Board of Public Utilities (NJBPU) shall in no event be liable should the actual energy savings vary.

Estimated installation costs are based on TRC's experience at similar facilities, pricing from local contractors and vendors, and/or cost estimates from *RS Means*. The owner of the facility is encouraged to independently confirm these cost estimates and to obtain multiple estimates when considering measure installations. Since actual installed costs can vary widely for certain measures and conditions, TRC and NJBPU 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 NJBPU reserves the right to extend, modify, or terminate programs without prior notice. The owner of the facility should review available program incentives and eligibility requirements prior to selecting and installing any energy conservation measures.

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1 EXECUTIVE SUMMARY

The New Jersey Board of Public Utilities (NJBPU) has sponsored this Local Government Energy Audit (LGEA) Report for Hammonton Middle School.

The goal of an LGEA report is to provide you with information on how your facility uses energy, identify energy conservation measures (ECMs) that can reduce your energy use, and provide information and assistance to help facilities implement ECMs. The LGEA report also contains valuable information on financial incentives from New Jersey's Clean Energy Program (NJCEP) for implementing ECMs.

This study was conducted by TRC Energy Services (TRC), as part of a comprehensive effort to assist New Jersey schools in controlling energy costs and protecting our environment by offering a wide range of energy management options and advice.

1.1 Facility Summary

Hammonton Middle School is a 109,950 square foot facility building comprised of various space types including classrooms, offices, a cafeteria, a library, a gymnasium, and various mechanical and storage spaces.

Lighting at Hammonton Middle School consists of aging and inefficient fluorescent and incandescent lighting. Space heating is provided by a large condensing hot water boiler and split heat pump units. Cooling is supplied by a mixture of split-systems (heat pump), and packaged rooftop units. Domestic hot water is produced by a storage water heater. A thorough description of the building and our observations are located in Section 2.

1.2 Your Cost Reduction Opportunities

Energy Conservation Measures

TRC evaluated eight measures which together represent an opportunity for Hammonton Middle School to reduce annual energy costs by roughly $56,415 and annual greenhouse gas emissions by 262,613 lbs CO_2e. We estimate that if all measures were implemented as recommended, the project would pay for itself in 2.3 years. The breakdown of existing and potential utility costs after project implementation are illustrated in Figure 1 and Figure 2, respectively. Together these measures represent an opportunity to reduce Hammonton Middle School's annual energy use by 14%.

Figure 1 – Previous 12 Month Utility Costs

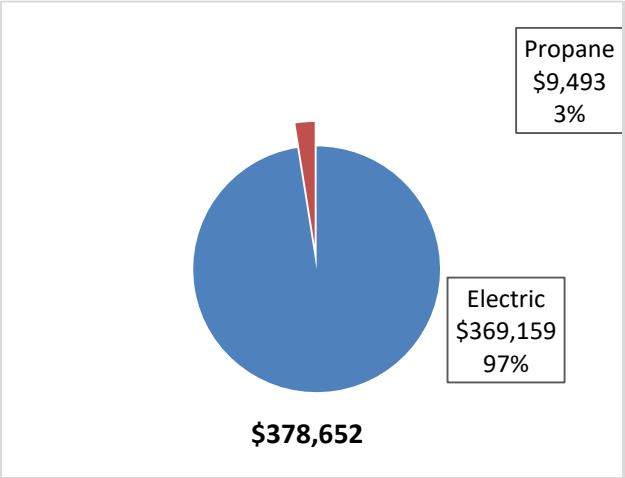
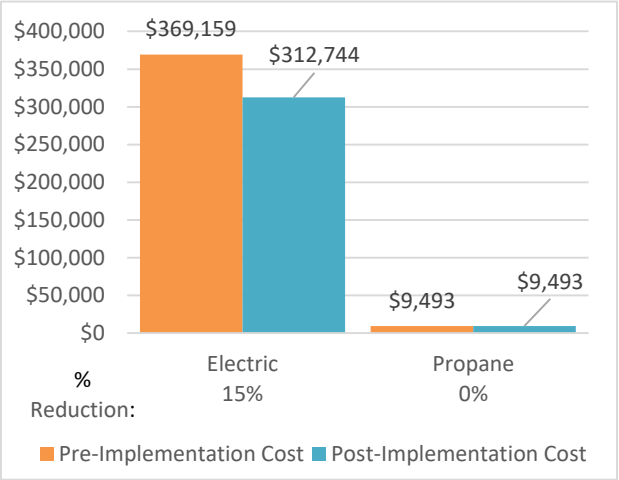


Figure 2 – Potential Post-Implementation Costs



A detailed description of Hammonton Middle School's existing energy use can be found in Section 3.

Estimates of the total cost, energy savings, and financial incentives for the proposed energy efficient upgrades are summarized below in Figure 3. A brief description of each category can be found below and a description of savings opportunities can be found in Section 4.

Figure 3 – Summary of Energy Reduction Opportunities

Energy Conservation Measure		Recommend?	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_2e Emissions Reduction (lbs)
Lighting Upgrades			**209,295**	**37.4**	**0.0**	**$45,275.51**	**$102,744.97**	**$16,860.00**	**$85,884.97**	**1.9**	**210,758**
ECM 1	Install LED Fixtures	Yes	68,746	12.3	0.0	$14,871.46	$54,963.22	$6,775.00	$48,188.22	3.2	69,227
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	492	0.1	0.0	$106.51	$280.24	$15.00	$265.24	2.5	496
ECM 3	Retrofit Fixtures with LED Lamps	Yes	140,056	25.0	0.0	$30,297.53	$47,501.51	$10,070.00	$37,431.51	1.2	141,035
Lighting Control Measures			**35,072**	**6.2**	**0.0**	**$7,586.95**	**$34,506.00**	**$4,080.00**	**$30,426.00**	**4.0**	**35,317**
ECM 4	Install Occupancy Sensor Lighting Controls	Yes	32,047	5.7	0.0	$6,932.46	$31,706.00	$4,080.00	$27,626.00	4.0	32,271
ECM 5	Install High/Low Lighitng Controls	Yes	3,026	0.5	0.0	$654.49	$2,800.00	$0.00	$2,800.00	4.3	3,047
Electric Unitary HVAC Measures			**4,114**	**1.4**	**0.0**	**$890.02**	**$13,613.76**	**$552.00**	**$13,061.76**	**14.7**	**4,143**
ECM 6	Install High Efficiency Electric AC	Yes	4,114	1.4	0.0	$890.02	$13,613.76	$552.00	$13,061.76	14.7	4,143
Domestic Water Heating Upgrade			**11,966**	**0.0**	**0.0**	**$2,588.47**	**$215.10**	**$0.00**	**$215.10**	**0.1**	**12,049**
ECM 7	Install Low-Flow Domestic Hot Water Devices	Yes	11,966	0.0	0.0	$2,588.47	$215.10	$0.00	$215.10	0.1	12,049
Plug Load Equipment Control - Vending Machine			**343**	**0.0**	**0.0**	**$74.09**	**$230.00**	**$0.00**	**$230.00**	**3.1**	**345**
ECM 8	Vending Machine Control	Yes	343	0.0	0.0	$74.09	$230.00	$0.00	$230.00	3.1	345
TOTALS FOR HIGH PRIORITY MEASURES			**260,789**	**45.0**	**0.0**	**$56,415.05**	**$151,309.83**	**$21,492.00**	**$129,817.83**	**2.3**	**262,613**
TOTALS FOR ALL EVALUATED MEASURES			**260,789**	**45.0**	**0.0**	**$56,415.05**	**$151,309.83**	**$21,492.00**	**$129,817.83**	**2.3**	**262,613**

* - All incentives presented in this table are based on NJ Smart Start Building 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).

Lighting Upgrades generally involve the replacement of existing lighting components such as lamps and ballasts (or the entire fixture) with higher efficiency lighting components. These measures save energy by reducing the power used by the lighting components due to improved electrical efficiency.

Lighting Controls measures generally involve the installation of automated controls to turn off lights or reduce light output when not needed. Automated control reduces reliance on occupant behavior for adjusting lights. These measures save energy by reducing the amount of time lights are on.

Electric Unitary HVAC measures generally involve replacing older inefficient air conditioning systems with modern energy efficient systems. New air conditioning systems can provide equivalent cooling to older air condition systems at a reduced energy cost. These measures save energy by reducing the power used by the air conditioning systems, due to improved electrical efficiency.

Domestic Hot Water upgrade measures generally involve replacing older inefficient domestic water heating systems with modern energy efficient systems. New domestic hot water heating systems can provide equivalent, or greater, water heating capacity compared to older systems at a reduced energy cost. These measures save energy by reducing the fuel used for domestic hot water heating due to improved heating efficiency or reducing standby losses.

Plug Load Equipment control measures generally involve installing automated devices that limit the power usage or operation of equipment that is plugged into an electric outlets when not in use.

Energy Efficient Practices

TRC also identified eight low cost or no cost energy efficient practices. A facility's energy performance can be significantly improved by employing certain behavioral or operational adjustments and by performing better routine maintenance on building systems. These practices can extend equipment lifetime, improve occupant comfort, provide better health and safety, as well as reduce annual energy and O&M costs. Potential opportunities identified at Hammonton Middle School include:

- Close Doors and Windows
- Perform Proper Lighting Maintenance
- Develop a Lighting Maintenance Schedule
- Clean Evaporator/Condenser Coils on AC Systems
- Clean and/or Replace HVAC Filters
- Perform Proper Boiler Maintenance
- Perform Proper Water Heater Maintenance
- Water Conservation

For details on these energy efficient practices, please refer to Section 5.

On-Site Generation Measures

TRC evaluated the potential for installing on-site generation for Hammonton Middle School. Based on the configuration of the site and its loads there is a high potential for installing a photovoltaic (PV) array.

Figure 4 – Photovoltaic Potential

Potential	High	
System Potential	530	kW DC STC
Electric Generation	631,426	kWh/yr
Displaced Cost	$54,930	/yr
Installed Cost	$1,378,000	

For details on our evaluation and on-site generation potential, please refer to Section 6.

1.3 Implementation Planning

To realize the energy savings from the ECMs listed in this report, a project implementation plan must be developed. Available capital must be considered and decisions need to be made whether it is best to pursue individual ECMs separately, groups of ECMs, or a comprehensive approach where all ECMs are implemented together, possibly in conjunction with other facility upgrades or improvements.

Rebates, incentives, and financing are available from NJCEP, as well as other sources, to help reduce the costs associated with the implementation of energy efficiency projects. Prior to implementing any measure, please review the relevant incentive program guidelines before proceeding. This is important because in most cases you will need to submit applications for the incentives prior to purchasing materials or commencing with installation.

The ECMs outlined in this report may qualify under the following program(s):

- SmartStart
- SREC (Solar Renewable Energy Certificate) Registration Program (SRP)
- Energy Savings Improvement Program (ESIP)

For facilities wanting 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 in this program you may utilize internal resources, or an outside firm or contractor, to do the final design of the ECM(s) and do the installation. Program pre-approval is required for some SmartStart incentives, so only after receiving pre-approval should you proceed with ECM installation. The incentive estimates listed above in Figure 3 are based on the SmartStart program. More details on this program and others are available in Section 8.

For larger facilities with limited capital availability to implement ECMs, project financing may be available through the Energy Savings Improvement Program (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. An LGEA report (or other approved energy audit) is required for participation in ESIP. Please refer to Section 8.3 for additional information on the ESIP Program.

The Demand Response Energy Aggregator is a (non-NJCEP) program designed to reduce 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. Demand Response (DR) service providers (a.k.a. Curtailment Service Providers) are registered with PJM, the independent system operator (ISO) for mid-Atlantic state region that is charged with maintaining electric grid reliability. By enabling grid operators to call upon commercial facilities to reduce their electric usage 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 DR programs. Program participation is voluntary and facilities receive payments whether or not they are called upon to curtail their load during times of peak demand. Refer to Section 7 for additional information on this program.

Additional information on relevant incentive programs is located in Section 8. You may also check the following website for more details: www.njcleanenergy.com/ci.

2 FACILITY INFORMATION AND EXISTING CONDITIONS

2.1 Project Contacts

Figure 5 – Project Contacts

Name	Role	E-Mail	Phone #
Customer			
Barbara Prettyman	Business Administrator	bprettyman@hammontonps.org	609-567-7053
TRC Energy Services			
Alexander Klieverik	Auditor	AKlieverik@trcsolutions.com	732-855-0033

2.2 General Site Information

On June 21, 2018, TRC performed an energy audit at Hammonton Middle School located in Hammonton, New Jersey. TRC's team met with Barbara Prettyman to review the facility operations and help focus our investigation on specific energy-using systems.

Hammonton Middle School is a 109,950 square foot facility building comprised of various space types including classrooms, offices, a cafeteria, a library, a gymnasium, and various mechanical and storage spaces.

Lighting at Hammonton Middle School consists of aging and inefficient fluorescent and incandescent lighting. Space heating is provided by a large condensing hot water boiler and split heat pump units. Cooling is supplied by a mixture of split-systems (heat pump), and packaged rooftop units. Domestic hot water is produced by a storage water heater.

The building was constructed in 1965. In 2017 several wings were added to the building while others were renovated.

2.3 Building Occupancy

The building is open Monday through Friday from 6:00 AM to 10:00 PM. The gym is open on the weekends for events. The typical schedule is presented in the table below. The building is used throughout the school year, with limited use throughout the summer. During a typical day, the building is occupied by approximately 104 staff and 930 students.

Figure 6 - Building Schedule

Building Name	Weekday/Weekend	Operating Schedule
Hammonton Middle School	Weekday	6:30 AM - 10:00 PM
Hammonton Middle School	Weekend	6:30 AM - 10:00 PM

2.4 Building Envelope

The building is constructed of concrete block, and structural steel with a brick facade. The building has a flat roof covered with a membrane. The building has double pane windows which are in good condition. The exterior doors are constructed of aluminum and are in good condition.

Fig 1a - Roof

Fig 1b – Exterior wall

2.5 On-Site Generation

Hammonton Middle School does not have any on-site electric generation capacity.

2.6 Energy-Using Systems

Please see Appendix A: Equipment Inventory & Recommendations for an inventory of the facility's equipment.

Lighting System

Lighting at the building is provided mostly by 32-Watt linear fluorescent T8 lamps with electronic ballasts as well as LED linear tubes in the kitchen area. Most of the fixtures are 2-lamp 4-foot long troffers with diffusers. There are also some incandescent lamps located throughout the building in various restrooms and storage spaces.

Fig 2a – T8s (Music Room)

Fig 2b –(T8s Classroom)

Lighting control in most spaces is provided by wall switches. There are occupancy sensors installed in a few locations, including the faculty room, restrooms, and the locker rooms. Stairwells, elevator lobbies and main lobby areas do not contain any occupancy sensors and operate continuously throughout the day until the evening maintenance staff leaves the building after their shift.

The building's exterior lighting consists primarily of efficient HID fixtures that are controlled by schedule timers. There are also LED building mounted wallpacks and CFL fixtures at the exterior doorways.

Fig 3a – Exterior Pole

Fig 3b –Exterior Wallpack

Hot Water Heating System

The hot water system consists of one 399 kBtu/hr Laars propane-fired condensing hot water boiler. The boiler is one year old and approximately 97% efficient. The boiler provides hot water to the 2017 addition to the building, via radiators and RTUs. Some of the classrooms have radiators to distribute heat, while the remaining classrooms and center hallway are heated and cooled by two heat recovery ventilators. The water is circulated by two 1 hp hot water pumps (with VFDs) configured in a variable primary loop.

Fig 4a – Laars boiler

Fig 4b –Hot Water Pumps

Direct Expansion Air Conditioning System (DX)

The building is conditioned by a variety of equipment types. There are 17 split system heat pump systems (Daikin, Sanyo, Mitsubishi) of varying capacities (from 1 to 10 tons) throughout the building. These systems serve areas in the A, B, C and D wing as well as the kitchen and cafeteria.

Fig 5a – Kitchen Office (Mitsubishi City Multi)

Fig 5b – A Wing: Split Systems (Daikin VRV)

There are 13 packaged AC units (York, Carrier, Greenheck) of varying capacities (from 2.5 to 30 tons). The Greenheck units are heat recovery ventilators (HRV) with a heat pump section for supplemental cooling, and electric resistance coils for heating.

Fig 6a – Faculty Lounge (Carrier)

Fig 6b – Library: Package Unit (York)

Fig 7a – E-Wing HRV (Greenheck)

Fig 7b – A-Wing: Heat Pump HRV-1 (Greenheck ERCH)

The units are controlled locally in each room, and also centrally from the building Energy Management System (EMS). The system has the ability to set schedules for space temperature setpoints (Occupied/Unoccupied) and cooling and heating lockouts.

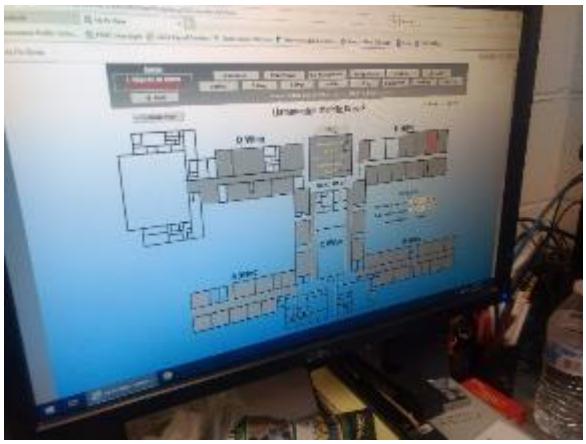


Fig 8a – EMS (Building view)

Fig 8b – EMS (A-Wing)

Building Energy Management System (BEMS)

The building has an EMS that can be monitored and controlled by the District. Please refer to DX Air Conditioning System section above for more details.

Domestic Hot Water Heating System

The domestic hot water heating system consists of a propane fired storage water heater (AO Smith) with an input rating of 1,000 kBtu/hr and a thermal efficiency of 84.5%. There are also two electric (4.5 kW, 80 gallon and 5.5 kW, 40 gallon) storage heaters located in the C-2 prep room and the CST storage room.

Food Service

The school has an all-electric kitchen that is used to prepare approximately 900 lunches per day for the students and staff. Most of the cooking is done using the two convection ovens and the single large griddle.

Refrigeration

The kitchen has two walk-in refrigerators and one walk in freezer that is used to store food prepared for school lunches. The walk-in refrigerator maintains the space temperature at 35°F while the freezer maintains the temperature at -5 °F. The kitchen also has a six free standing commercial size freezer.

Building Plug Load

There are roughly 206 desktop computers, 45 projectors, 26 desk printers, four photocopiers, 53 LCD televisions, 11 mini-fridges, and six full refrigerators. There is also an electric kiln and other small appliances. There is one non-refrigerated vending machine located in the kitchen hallway.

2.7 Water-Using Systems

There are 25 restrooms at this facility. A sampling of restrooms found that all of the faucets are rated for 2.0 gallons per minute (gpm) or below, the toilets are rated at 1.7 gallons per flush (gpf) and the urinals are rated at 1 gpf.

3 SITE ENERGY USE AND COSTS

Utility data for electricity and propane was analyzed to identify opportunities for savings. In addition, data for electricity and propane was evaluated to determine the annual energy performance metrics for the building in energy cost per square foot and energy usage per square foot. These metrics are an estimate of the relative energy efficiency of this building. There are a number of factors that could cause the energy use of this building to vary from the "typical" energy usage profile for facilities with similar characteristics. Local weather conditions, building age and insulation levels, equipment efficiency, daily occupancy hours, changes in occupancy throughout the year, equipment operating hours, and energy efficient behavior of occupants all contribute to benchmarking scores. Please refer to the Benchmarking section within Section 3.4 for additional information.

3.1 Total Cost of Energy

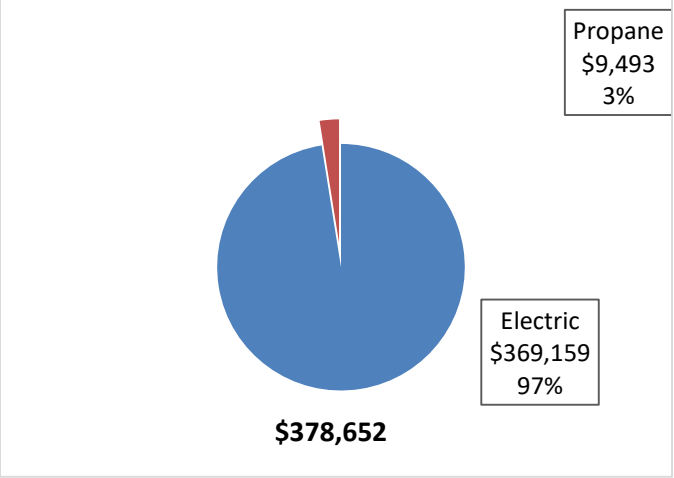
The following energy consumption and cost data is based on the last 12-month period of utility billing data that was provided for each utility. A profile of the annual energy consumption and energy cost of the facility was developed from this information.

Figure 7 - Utility Summary

Utility Summary for Hammonton Middle School		
Fuel	**Usage**	**Cost**
Electricity	1,706,505 kWh	$369,159
Propane	4,557 Gallons	$9,493
Total		**$378,652**

The current annual energy cost for this facility is $378,652 as shown in the chart below.

Figure 8 - Energy Cost Breakdown



3.2 Electricity Usage

Electricity is provided by Atlantic City Electric. The average electric cost over the past 12 months was $0.216/kWh, which is the blended rate that includes energy supply, distribution, and other charges. This rate is used throughout the analyses in this report to assess energy costs and savings. A significant amount of electric usage is evident from December to April (winter months) indicating the use of electric space heating. Demand (kW) charges for the summer months are also high, reflecting cooling requirements. The monthly electricity consumption and peak demand are shown in the chart below.

Figure 9 - Electric Usage & Demand

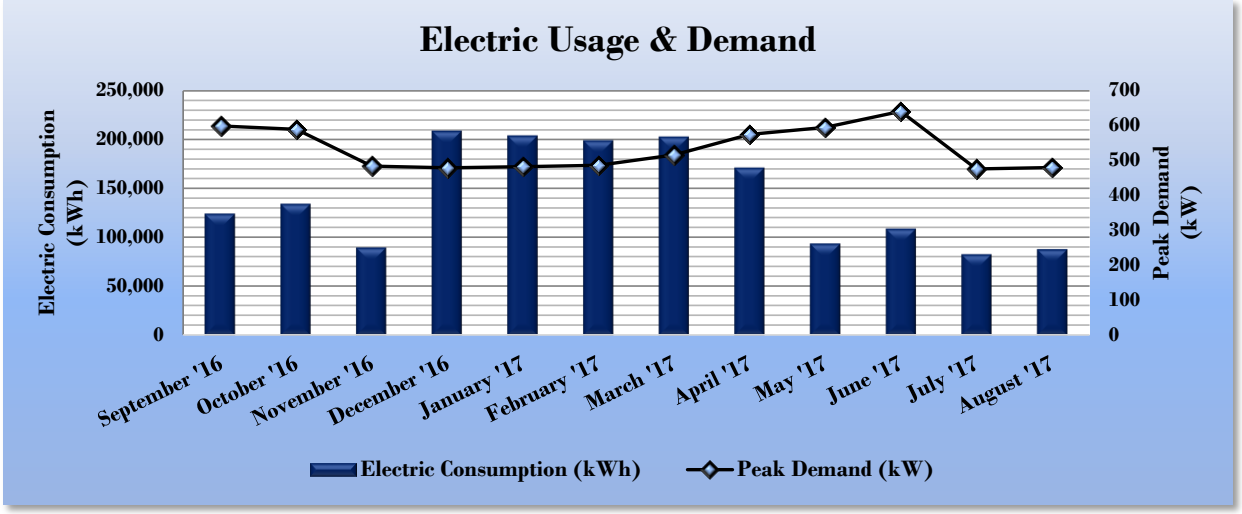


Figure 10 - Electric Usage & Demand

Electric Billing Data for Hammonton Middle School						
Period Ending	Days in Period	Electric Usage (kWh)	Demand (kW)	Demand Cost	Total Electric Cost	TRC Estimated Usage?
9/29/16	30	124,098	599		$39,029	No
10/30/16	31	134,177	590		$34,849	No
11/29/16	30	89,709	483		$25,809	No
12/28/16	29	208,872	479		$26,524	No
1/30/17	33	203,844	482		$25,809	Yes
2/27/17	28	198,896	486		$25,093	No
3/20/17	21	202,802	516		$29,947	No
4/27/17	38	170,930	575		$27,000	No
5/30/17	33	93,532	595		$39,428	No
6/29/17	30	108,893	641		$33,170	No
7/30/17	31	82,843	476		$31,547	No
8/30/17	31	87,909	479		$30,955	No
Totals	**365**	**1,706,505**	**640.98**	**$0**	**$369,159**	
Annual	**365**	**1,706,505**	**640.98**	**$0**	**$369,159**	

3.3 Propane Usage

Propane is provided by Suburban Propane. The average propane cost for the past 12 months is $2.083/Gallon, which is the blended rate used throughout the analyses in this report. The propane consumption is shown in the table below.

Figure 11 – Propane Usage

Propane Billing Data for Hammonton Middle School				
Period Ending	Days in Period	Propane Usage (Gallons)	Fuel Cost	TRC Estimated Usage?
9/29/16	30	755	$1,428	Yes
10/30/16	31	755	$1,428	Yes
11/29/16	30	411	$890	Yes
12/28/16	29	412	$890	Yes
1/30/17	33	527	$1,178	No
2/27/17	28	793	$1,719	No
3/20/17	21	302	$655	Yes
4/27/17	38	301	$652	Yes
5/30/17	33	301	$652	Yes
6/29/17	30			
7/30/17	31			
8/30/17	31			
Totals	**365**	**4,557**	**$9,493**	
Annual	**365**	**4,557**	**$9,493**	

3.4 Benchmarking

This facility was benchmarked using Portfolio Manager®, an online tool created and managed by the United States Environmental Protection Agency (EPA) through the ENERGY STAR® program. Portfolio Manager® analyzes your building's consumption data, cost information, and operational use details and then compares its performance against a national median for similar buildings of its type. Metrics provided by this analysis are Energy Use Intensity (EUI) and an ENERGY STAR® score for select building types.

EUI is a measure of a facility's energy consumption per square foot, and it is the standard metric for comparing buildings' energy performance. Comparing the EUI of a building with the national median EUI for that building type illustrates whether that building uses more or less energy than similar buildings of its type on a square foot basis. 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.

Figure 12 - Energy Use Intensity Comparison – Existing Conditions

Energy Use Intensity Comparison - Existing Conditions		
	Hammonton Middle School	National Median Building Type: School (K-12)
Source Energy Use Intensity (kBtu/ft^2)	170.1	141.4
Site Energy Use Intensity (kBtu/ft^2)	56.8	58.2

Implementation of all recommended measures in this report would improve the building's estimated EUI significantly, as shown in the table below:

Figure 13 - Energy Use Intensity Comparison – Following Installation of Recommended Measures

Energy Use Intensity Comparison - Following Installation of Recommended Measures		
	Hammonton Middle School	National Median Building Type: School (K-12)
Source Energy Use Intensity (kBtu/ft^2)	144.7	141.4
Site Energy Use Intensity (kBtu/ft^2)	48.7	58.2

Many types of commercial buildings are also eligible to receive an ENERGY STAR® score. This score is a percentile ranking from 1 to 100. It compares your building's energy performance to similar buildings nationwide. A score of 50 represents median energy performance, while a score of 75 means your building performs better than 75 percent of all similar buildings nationwide and may be eligible for ENERGY STAR® certification. The facility has a current score of 27.

A Portfolio Manager® Statement of Energy Performance (SEP) was generated for this facility, see Appendix B: ENERGY STAR® Statement of Energy Performance.

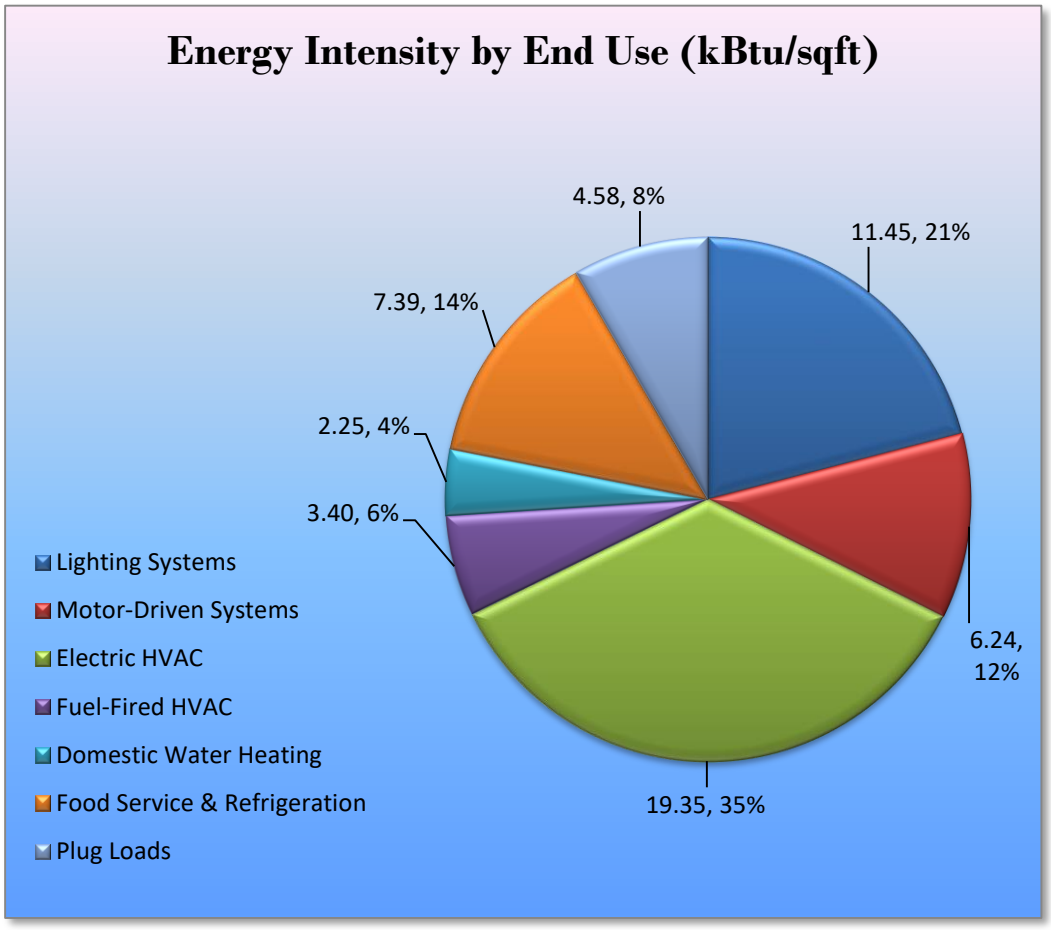
For more information on ENERGY STAR® certification go to: https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/earn-recognition/energy-star-certification/how-app-1.

A Portfolio Manager® account has been created online for your facility and you will be provided with the login information for the account. We encourage you to update your utility information in Portfolio Manager® regularly, so that you can keep track of your building's performance. 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.

3.5 Energy End-Use Breakdown

In order to provide a complete overview of energy consumption across building systems, an energy balance was performed at this facility. An energy balance utilizes standard practice engineering methods to evaluate all components of the various electric and fuel-fired systems found in a building to determine their proportional contribution to overall building energy usage. This chart of energy end uses highlights the relative contribution of each equipment category to total energy usage. This can help determine where the greatest benefits might be found from energy efficiency measures.

Figure 14 - Energy Balance (% and kBtu/SF)



4 ENERGY CONSERVATION MEASURES

Level of Analysis

The goal of this audit report is to identify potential energy efficiency opportunities, help prioritize specific measures for implementation, and provide information to the Hammonton Middle School regarding financial incentives for which they may qualify to implement the recommended measures. For this audit report, most measures have received only a preliminary analysis of feasibility which identifies expected ranges of savings and costs. This level of analysis is usually considered sufficient to demonstrate project cost-effectiveness and help prioritize energy measures. Savings are based on the New Jersey Clean Energy Program Protocols to Measure Resource Savings dated June 29, 2016, 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. A higher level of investigation may be necessary to support any custom SmartStart or Pay for Performance, or Direct Install incentive applications. Financial incentives for the ECMs identified in this report have been calculated based the NJCEP prescriptive SmartStart program. Some measures and proposed upgrade projects may be eligible for higher incentives than those shown below through other NJCEP programs as described in Section 8.

The following sections describe the evaluated measures.

4.1 Recommended ECMs

The measures below have been evaluated by the auditor and are recommended for implementation at the facility.

Figure 15 – Summary of Recommended 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_2e Emissions Reduction (lbs)
Lighting Upgrades		**209,295**	**37.4**	**0.0**	**$45,275.51**	**$102,744.97**	**$16,860.00**	**$85,884.97**	**1.9**	**210,758**
ECM 1	Install LED Fixtures	68,746	12.3	0.0	$14,871.46	$54,963.22	$6,775.00	$48,188.22	3.2	69,227
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	492	0.1	0.0	$106.51	$280.24	$15.00	$265.24	2.5	496
ECM 3	Retrofit Fixtures with LED Lamps	140,056	25.0	0.0	$30,297.53	$47,501.51	$10,070.00	$37,431.51	1.2	141,035
Lighting Control Measures		**35,072**	**6.2**	**0.0**	**$7,586.95**	**$34,506.00**	**$4,080.00**	**$30,426.00**	**4.0**	**35,317**
ECM 4	Install Occupancy Sensor Lighting Controls	32,047	5.7	0.0	$6,932.46	$31,706.00	$4,080.00	$27,626.00	4.0	32,271
ECM 5	Install High/Low Lighitng Controls	3,026	0.5	0.0	$654.49	$2,800.00	$0.00	$2,800.00	4.3	3,047
Electric Unitary HVAC Measures		**4,114**	**1.4**	**0.0**	**$890.02**	**$13,613.76**	**$552.00**	**$13,061.76**	**14.7**	**4,143**
ECM 6	Install High Efficiency Electric AC	4,114	1.4	0.0	$890.02	$13,613.76	$552.00	$13,061.76	14.7	4,143
Domestic Water Heating Upgrade		**11,966**	**0.0**	**0.0**	**$2,588.47**	**$215.10**	**$0.00**	**$215.10**	**0.1**	**12,049**
ECM 7	Install Low-Flow Domestic Hot Water Devices	11,966	0.0	0.0	$2,588.47	$215.10	$0.00	$215.10	0.1	12,049
Plug Load Equipment Control - Vending Machine		**343**	**0.0**	**0.0**	**$74.09**	**$230.00**	**$0.00**	**$230.00**	**3.1**	**345**
ECM 8	Vending Machine Control	343	0.0	0.0	$74.09	$230.00	$0.00	$230.00	3.1	345
TOTALS		**260,789**	**45.0**	**0.0**	**$56,415.05**	**$151,309.83**	**$21,492.00**	**$129,817.83**	**2.3**	**262,613**

* - All incentives presented in this table are based on NJ Smart Start Building 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).

4.1.1 Lighting Upgrades

Our recommendations for upgrades to existing lighting fixtures are summarized in Figure 16 below.

Figure 16 – Summary of Lighting Upgrade 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_2e Emissions Reduction (lbs)
Lighting Upgrades		**209,295**	**37.4**	**0.0**	**$45,275.51**	**$102,744.97**	**$16,860.00**	**$85,884.97**	**1.9**	**210,758**
ECM 1	Install LED Fixtures	68,746	12.3	0.0	$14,871.46	$54,963.22	$6,775.00	$48,188.22	3.2	69,227
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	492	0.1	0.0	$106.51	$280.24	$15.00	$265.24	2.5	496
ECM 3	Retrofit Fixtures with LED Lamps	140,056	25.0	0.0	$30,297.53	$47,501.51	$10,070.00	$37,431.51	1.2	141,035

During lighting upgrade planning and design, we recommend a comprehensive approach that considers both the efficiency of the lighting fixtures and how they are controlled.

ECM 1: Install LED Fixtures

Summary of Measure Economics

Interior/ Exterior	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_2e Emissions Reduction (lbs)
Interior	35,099	6.2	0.0	$7,592.83	$26,345.99	$5,100.00	$21,245.99	2.8	35,345
Exterior	33,647	6.1	0.0	$7,278.63	$28,617.23	$1,675.00	$26,942.23	3.7	33,882

Measure Description

We recommend replacing metal halide and high-pressure sodium vapor fixtures currently located in exterior and in the gym with new high performance LED light fixtures. This measure saves energy by installing LEDs which use less power than other technologies with a comparable light output.

Additional savings from lighting maintenance can be anticipated since LEDs have lifetimes which are more than twice that of metal halide and other HID fixtures.

ECM 2: Retrofit Fluorescent Fixtures with LED Lamps and Drivers

Summary of Measure Economics

Interior/ Exterior	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_2e Emissions Reduction (lbs)
Interior	492	0.1	0.0	$106.51	$280.24	$15.00	$265.24	2.5	496
Exterior	0	0.0	0.0	$0.00	$0.00	$0.00	$0.00	0.0	0

Measure Description

We recommend retrofitting existing T12 fluorescent fixtures by removing fluorescent tubes and ballasts and replacing them with LEDs and LED drivers (if necessary), which are designed to be used retrofitted fluorescent fixtures. The measure uses the existing fixture housing but replaces the rest of the components with more efficient lighting technology. This measure saves energy by installing LEDs which use less power than other lighting technologies yet provide equivalent lighting output for the space.

Additional savings from lighting maintenance can be anticipated since LEDs have lifetimes which are more than twice that of fluorescent tubes.

ECM 3: Retrofit Fixtures with LED Lamps

Summary of Measure Economics

Interior/ Exterior	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_2e Emissions Reduction (lbs)
Interior	134,161	24.2	0.0	$29,022.29	$46,992.97	$9,990.00	$37,002.97	1.3	135,099
Exterior	5,895	0.8	0.0	$1,275.24	$508.54	$80.00	$428.54	0.3	5,936

Measure Description

We recommend retrofitting existing fluorescent, incandescent, and CFL lamps with LED lamps. Many LED tube lamps are direct replacements for existing fluorescent lamps and can be installed while leaving the fluorescent fixture ballast in place. LED bulbs 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 yet provide equivalent lighting output for the space.

Additional savings from lighting maintenance can be anticipated since LEDs have lifetimes which are more than twice that of fluorescent tubes and CFLs and more than ten times longer than many incandescent lamps.

4.1.2 Lighting Control Measures

Our recommendations for lighting control measures are summarized in Figure 17 below.

Figure 17 – Summary of Lighting Control 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_2e Emissions Reduction (lbs)
Lighting Control Measures		**35,072**	**6.2**	**0.0**	**$7,586.95**	**$34,506.00**	**$4,080.00**	**$30,426.00**	**4.0**	**35,317**
ECM 4	Install Occupancy Sensor Lighting Controls	32,047	5.7	0.0	$6,932.46	$31,706.00	$4,080.00	$27,626.00	4.0	32,271
ECM 5	Install High/Low Lighitng Controls	3,026	0.5	0.0	$654.49	$2,800.00	$0.00	$2,800.00	4.3	3,047

During lighting upgrade planning and design, we recommend a comprehensive approach that considers both the efficiency of the lighting fixtures and how they are controlled.

ECM 4: Install Occupancy Sensor Lighting Controls

Summary of Measure Economics

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_2e Emissions Reduction (lbs)
32,047	5.7	0.0	$6,932.46	$31,706.00	$4,080.00	$27,626.00	4.0	32,271

Measure Description

We recommend installing occupancy sensors to control lighting fixtures that are currently controlled by manual switches in restrooms, storage rooms, classrooms, offices areas, etc. Lighting sensors detect occupancy using ultrasonic and/or infrared sensors. For most spaces, we recommend lighting controls use dual technology sensors, which can eliminate the possibility of any lights turning off unexpectedly. Lighting systems are enabled when an occupant is detected. Fixtures are automatically turned off after an area has been vacant for a preset period. Some controls also provide dimming options and all modern occupancy controls can be easily over-ridden by room occupants to allow them to manually turn fixtures on or off, as desired. Energy savings results from only operating lighting systems when they are required.

Occupancy sensors may be mounted on the wall at existing switch locations, mounted on the ceiling, or in remote locations. In general, wall switch replacement sensors are recommended for single occupant offices and other small rooms. Ceiling-mounted or remote mounted sensors are used in locations without local switching or where wall switches are not in the line-of-sight of the main work area and in large spaces. We recommend a comprehensive approach to lighting design that upgrades both the lighting fixtures and the controls together for maximum energy savings and improved lighting for occupants.

ECM 5: Install High/Low Lighting Controls

Summary of Measure Economics

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_2e Emissions Reduction (lbs)
3,026	0.5	0.0	$654.49	$2,800.00	$0.00	$2,800.00	4.3	3,047

Measure Description

We recommend installing 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. Typical areas for such lighting control are stairwells, interior corridors, parking lots, and parking garages.

Lighting fixtures with these controls operate at default low levels when the area is not occupied to provide minimal lighting to meet security or safety requirements. Sensors detect occupancy using ultrasonic and/or infrared sensors. The lighting systems are switched to full lighting levels whenever an occupant is detected. Fixtures are automatically switched back to low level after an area has been vacant for a preset period of time. 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 daylighting. Energy savings results from only providing full lighting levels when it is required.

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

Additional savings from reduced lighting maintenance may also result from this measure, due to reduced lamp operation.

4.1.3 Electric Unitary HVAC Measures

Our recommendations for unitary HVAC measures are summarized in Figure 18 below.

Figure 18 - Summary of Unitary HVAC 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_2e Emissions Reduction (lbs)
Electric Unitary HVAC Measures		**4,114**	**1.4**	**0.0**	**$890.02**	**$13,613.76**	**$552.00**	**$13,061.76**	**14.7**	**4,143**
ECM 6	Install High Efficiency Electric AC	4,114	1.4	0.0	$890.02	$13,613.76	$552.00	$13,061.76	14.7	4,143

ECM 6: Install High Efficiency Air Conditioning Units

Summary of Measure Economics

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_2e Emissions Reduction (lbs)
4,114	1.4	0.0	$890.02	$13,613.76	$552.00	$13,061.76	14.7	4,143

Measure Description

We recommend replacing standard efficiency packaged air conditioning units that serve the guidance office area and the conference room with high efficiency packaged air conditioning units. There have been significant improvements in both compressor and fan motor efficiencies over the past several years. Therefore, electricity savings can be achieved by replacing these older units with new high efficiency units. A higher EER or SEER rating indicates a more efficient cooling system. 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.

4.1.4 Domestic Hot Water Heating System Upgrades

Our recommendations for domestic water heating system improvements are summarized in Figure 19 below.

Figure 19 - Summary of Domestic Water Heating 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_2e Emissions Reduction (lbs)
Domestic Water Heating Upgrade		**11,966**	**0.0**	**0.0**	**$2,588.47**	**$215.10**	**$0.00**	**$215.10**	**0.1**	**12,049**
ECM 7	Install Low-Flow Domestic Hot Water Devices	11,966	0.0	0.0	$2,588.47	$215.10	$0.00	$215.10	0.1	12,049

ECM 7: Install Low-Flow DHW Devices

Summary of Measure Economics

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_2e Emissions Reduction (lbs)
11,966	0.0	0.0	$2,588.47	$215.10	$0.00	$215.10	0.1	12,049

Measure Description

We recommend installing low-flow domestic hot water devices to reduce overall hot water demand. Energy demand from domestic hot water heating systems can be reduced by reducing water usage in general. Faucet aerators and low-flow showerheads can reduce hot water usage, relative to standard showerheads and aerators, which saves energy. Pre-rinse spray valves (PRSVs), often used in commercial and institutional kitchens, are designed to remove food waste from dishes prior to dishwashing. Replacing standard pre-rinse spray valves with low flow PRSVs will reduce hot water usage and save energy.

Low-flow devices reduce the overall water flow from the fixture, while still adequate pressure for washing. This reduces the amount of water used per day resulting in energy and water savings.

4.1.5 Plug Load Equipment Control - Vending Machines

Our recommendations for plug load equipment control measures are summarized in Figure 20 below.

Figure 20 - Summary of Plug Load Equipment Control 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_2e Emissions Reduction (lbs)
Plug Load Equipment Control - Vending Machine		**343**	**0.0**	**0.0**	**$74.09**	**$230.00**	**$0.00**	**$230.00**	**3.1**	**345**
ECM 8	Vending Machine Control	343	0.0	0.0	$74.09	$230.00	$0.00	$230.00	3.1	345

ECM 8: Vending Machine Control

Summary of Measure Economics

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_2e Emissions Reduction (lbs)
343	0.0	0.0	$74.09	$230.00	$0.00	$230.00	3.1	345

Measure Description

Vending machines operate continuously, even during non-business hours. It is recommended to install occupancy sensor controls to reduce the energy use. These controls power down vending machines when the vending machine area has been vacant for some time, then power up at regular intervals, as needed, to turn machine lights on or keep the product cool. Energy savings are a dependent on vending machine and activity level in the area surrounding the machines.

5 ENERGY EFFICIENT PRACTICES

In addition to the quantifiable savings estimated in Section 4, a facility's energy performance can also be improved through application of many low cost or no-cost energy efficiency strategies. By employing certain behavioral and operational changes and performing routine maintenance on building systems, equipment lifetime can be extended; occupant comfort, health and safety can be improved; and energy and O&M costs can be reduced. The recommendations below are provided as a framework for developing a whole building maintenance plan that is customized to your facility. Consult with qualified equipment specialists for details on proper maintenance and system operation.

Close Doors and Windows

Ensure doors and windows are closed in conditioned spaces. Leaving doors and windows open leads to a significant increase in heat transfer between conditioned spaces and the outside air. Reducing a facility's air changes per hour (ACH) can lead to increased occupant comfort as well as significant heating and cooling savings, especially when combined with proper HVAC controls and adequate ventilation.

Perform Proper Lighting Maintenance

In order to sustain optimal lighting levels, lighting fixtures should undergo routine maintenance. Light levels decrease over time due to lamp aging, lamp and ballast failure, and buildup of dirt and dust on lamps, fixtures and reflective surfaces. Together, these factors can reduce total illumination by 20% - 60% or more, while operating fixtures continue drawing full power. To limit this reduction, lamps, reflectors and diffusers should be thoroughly cleaned of dirt, dust, oil, and smoke film buildup approximately every 6 – 12 months.

Develop a Lighting Maintenance Schedule

In addition to routine fixture cleaning, development of a maintenance schedule can both ensure maintenance is performed regularly and can reduce the overall cost of fixture re-lamping and re-ballasting. By re-lamping and re-ballasting fixtures in groups, lighting levels are better maintained and the number of site visits by a lighting technician or contractor can be minimized, decreasing the overall cost of maintenance.

Clean Evaporator/Condenser Coils on AC Systems

Dirty evaporators and condensers coils cause a restriction to air flow and restrict heat transfer. This results in increased evaporator and condenser fan load and a decrease in cooling system performance. Keeping the coils clean allows the fans and cooling system to operate more efficiently.

Clean and/or Replace HVAC Filters

Air filters work to reduce the amount of indoor air pollution and increase occupant comfort. Over time, filters become less and less effective as particulate buildup increases. In addition to health concerns related to clogged filters, filters that have reached saturation also restrict air flow through the facility's air conditioning or heat pump system, increasing the load on the distribution fans and decreasing occupant comfort levels. Filters should be checked monthly and cleaned or replaced when appropriate.

Perform Proper Boiler Maintenance

Many boiler problems develop slowly over time, so regular inspection and maintenance is essential to retain proper functionality and efficiency of the heating system. Fuel burning equipment should undergo yearly tune-ups to ensure they are operating as safely and efficiently as possible from a combustion standpoint. A tune-up should include a combustion analysis to analyze the exhaust from the boilers and to ensure the boiler is operating safely. Buildup of dirt, dust, or deposits on the internal surfaces of a boiler can greatly affect its heat transfer efficiency. These deposits can accumulate on the water side or fire side of the boiler. Boilers should be cleaned regularly according to the manufacturer's instructions to remove this build up in order to sustain efficiency and equipment life.

Perform Proper Water Heater Maintenance

At least once a year, 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. Once a year check for any leaks or heavy corrosion on the pipes and valves. For gas water heaters, check the draft hood and make sure it is placed properly, with a few inches of air space between the tank and where it connects to the vent. Look for any 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 any 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 over three to four years old have a technician inspect the sacrificial anode annually.

Water Conservation

Installing low-flow faucets or faucet aerators, low-flow showerheads, and kitchen sink pre-rinse spray valves saves both energy and water. These devices save energy by reducing the overall amount of hot water used hence reducing the energy used to heat the water. The flow ratings for EPA WaterSense™ (http://www3.epa.gov/watersense/products) labeled devices are 1.5 gpm for bathroom faucets, 2.0 gpm for showerheads, and 1.28 gpm for pre-rinse spray valves.

Installing dual flush or low-flow toilets and low-flow or waterless urinals are additional ways to reduce the sites water use, however, these devices do not provide energy savings at the site level. 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. The EPA WaterSense™ ratings for urinals is 0.5 gpf and toilets that use as little as 1.28 gpf (this is lower than the current 1.6 gpf federal standard).

Refer to Section 4.1.4 for any low-flow ECM recommendations.

6 On-Site Generation Measures

On-site generation measure options include both renewable (e.g., solar, wind) and non-renewable (e.g., fuel cells) on-site technologies that generate power to meet all or a portion of the electric energy needs of a facility, often repurposing any waste heat where applicable. Also referred to as distributed generation, these systems contribute to Greenhouse Gas (GHG) emission reductions, demand reductions and reduced customer electricity purchases, resulting in the electric system reliability through improved transmission and distribution system utilization.

The State of New Jersey's Energy Master Plan (EMP) encourages new distributed generation of all forms and specifically focuses on expanding use of combined heat and power (CHP) by reducing financial, regulatory and technical barriers and identifying opportunities for new entries. The EMP also outlines a goal of 70% of the State's electrical needs to be met by renewable sources by 2050.

Preliminary screenings were performed to determine the potential that a generation project could provide a cost-effective solution for your facility. Before making a decision to implement, a feasibility study should be conducted that would take a detailed look at 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.

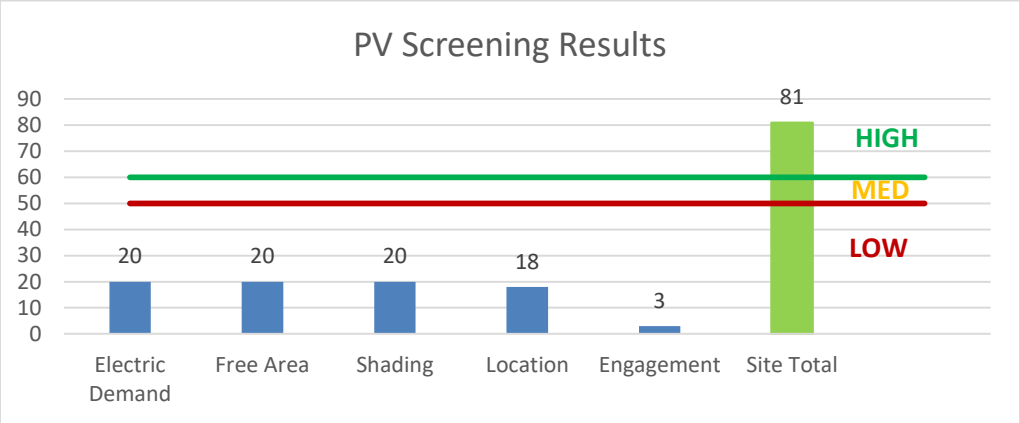
6.1 Photovoltaic

Sunlight can be converted into electricity using photovoltaics (PV) modules. Modules are racked together into an array that produces direct current (DC) electricity. The DC current is converted to alternating current (AC) through an inverter. The inverter is interconnected to the facility's electrical distribution system. The amount of unobstructed area available determines how large of a solar array can be installed. The size of the array combined with the orientation, tilt, and shading elements determines the energy produced.

A preliminary screening based on the facility's electric demand, size and location of free area, and shading elements shows that the facility has a **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 for PV at the site. A PV array located on the roof of the buildings or over the main parking lot may be feasible. If Hammonton Middle School is interested in pursuing the installation of PV, we recommended a full feasibility study be conducted.

Figure 21 - Photovoltaic Screening



Potential	High	
System Potential	530	kW DC STC
Electric Generation	631,426	kWh/yr
Displaced Cost	$54,930	/yr
Installed Cost	$1,378,000	

Solar projects must register their projects in the SREC (Solar Renewable Energy Certificate) Registration Program (SRP) prior to the start of construction in order 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 developed new solar projects and insight into future SREC pricing. Refer to Section 8.2 for additional information.

For more information on solar PV technology and commercial solar markets in New Jersey, or to find a qualified solar installer, who can provide a more detailed assessment of the specific costs and benefits of solar develop of the site, please visit the following links below:

- **Basic Info on Solar PV in NJ**: http://www.njcleanenergy.com/whysolar
- **NJ Solar Market FAQs**: http://www.njcleanenergy.com/renewable-energy/program-updates-and-background-information/solar-transition/solar-market-faqs
- **Approved Solar Installers in the NJ Market**: http://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

Combined heat and power (CHP) is the on-site generation of electricity along with the recovery of heat energy, which is put to beneficial use. Common technologies for CHP include reciprocating engines, microturbines, fuel cells, backpressure steam turbines, and (at large facilities) gas turbines. Electric generation from a CHP system is typically interconnected to local power distribution systems. Heat is recovered from exhaust and ancillary cooling systems and interconnected to the existing hot water (or steam) distribution systems.

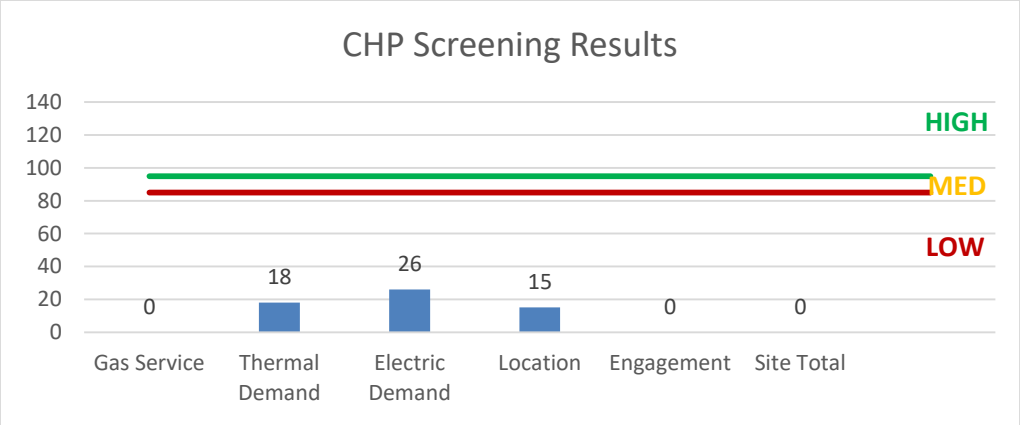
CHP systems are typically used to produce a portion of the electric power used onsite by a facility, with the balance of electric power needs supplied by grid purchases. The heat is used to supplement (or supplant) existing boilers for the purpose of space heating and/or domestic hot water heating. Waste heat can also be routed through absorption chillers for the purpose of space cooling. The key criteria used for screening, however, is the amount of time the system operates at full load and the facility's ability to use the recovered heat. Facilities with continuous use for large quantities of waste heat are the best candidates for CHP.

A preliminary screening based on heating and electrical demand, siting, and interconnection shows that the facility has a **low** potential for installing a cost-effective CHP system.

Lack of gas service, low or infrequent thermal load, and lack of space near the existing boilers are the most significant factors contributing to the potential for CHP at the site. In our opinion, the facility does not appear to meet the minimum requirements for a cost-effective CHP installation.

For a list of qualified firms in New Jersey specializing in commercial CHP cost assessment and installation, go to: http://www.njcleanenergy.com/commercial-industrial/programs/nj-smartstart-buildings/tools-and-resources/tradeally/approved_vendorsearch/.

Figure 22 - Combined Heat and Power Screening



7 DEMAND RESPONSE

Demand Response (DR) is a program designed to reduce the electric load of commercial facilities when electric wholesale prices are high or when the reliability of the electric grid is threatened due to peak demand. Demand Response service providers (a.k.a. Curtailment Service Providers) are registered with PJM, the independent system operator (ISO) for mid-Atlantic state region that is charged with maintaining electric grid reliability.

By enabling grid operators to call upon Curtailment Service Providers and commercial facilities to reduce electric usage 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 DR programs. Program participation is voluntary and participants receive payments whether or not their facility is called upon to curtail their electric usage.

Typically an electric customer needs to be capable of reducing their electric demand, within minutes, by at least 100 kW or more in order to participate in a DR program. Customers with a greater capability to quickly curtail their demand during peak hours will receive higher payments. Customers with back-up generators onsite may also receive additional DR payments for their generating capacity if they agree to run the generators for grid support when called upon. Eligible customers who have chosen to participate in a DR programs often find it to be a valuable source of revenue for their facility because the payments can significantly offset annual electric costs.

Participating customers can often quickly reduce their peak load through simple measures, such as temporarily raising temperature set points on thermostats, so that air conditioning units run less frequently, or agreeing to dim or shut off less critical lighting. This usually requires some level of building automation and controls capability to ensure rapid load reduction during a DR curtailment event. DR program participants may need to install smart meters or may need to also sub-meter larger energy-using equipment, such as chillers, in order to demonstrate compliance with DR program requirements.

DR does not include the reduction of electricity consumption based on normal operating practice or behavior. For example, if a company's normal schedule is to close for a holiday, the reduction of electricity due to this closure or scaled-back operation is not considered a demand response activity in most situations.

The first step toward participation in a DR program is to contact a Curtailment Service Provider. A list of these providers is available on PJM's website and it includes contact information for each company, as well as the states where they have active business (www.pjm.com/markets-and-operations/demand-response/csps.aspx). PJM also posts training materials that are developed for program members interested in specific rules and requirements regarding DR activity (http://www.pjm.com/training/training%20material.aspx), along with a variety of other DR program information.

Curtailment Service Providers typically offer free assessments to determine a facility's eligibility to participate in a DR program. They will provide details regarding program rules and requirements for metering and controls, assess a facility's ability to temporarily reduce electric load, and provide details on payments to be expected for participation in the program. Providers usually offer multiple options for DR to larger facilities and may also install controls or remote monitoring equipment of their own to help ensure compliance with all terms and conditions of a DR contract.

In our opinion this building is not a good candidate for DR**.**

8 PROJECT FUNDING / INCENTIVES

The NJCEP is able to provide the incentive programs described below, and other benefits to ratepayers, because of the Societal Benefits Charge (SBC) Fund. The SBC was created by the State of New Jersey's Electricity Restructuring Law (1999), which requires all customers of investor-owned electric and gas utilities to pay a surcharge on their monthly energy bills. As a customer of a state-regulated electric or gas utility and therefore a contributor to the fund your organization is eligible to participate in the LGEA program and also eligible to receive incentive payment for qualifying energy efficiency measures. Also available through the NJBPU are some alternative financing programs described later in this section. Please refer to Figure 23 for a list of the eligible programs identified for each recommended ECM.

Figure 23 - ECM Incentive Program Eligibility

Energy Conservation Measure		SmartStart Prescriptive	SmartStart Custom	Direct Install	Pay For Performance Existing Buildings	Large Energy Users Program	Combined Heat & Power and Fuel Cell
ECM 1	Install LED Fixtures	x					
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	x					
ECM 3	Retrofit Fixtures with LED Lamps	x					
ECM 4	Install Occupancy Sensor Lighting Controls	x					
ECM 5	Install High/Low Lighitng Controls						
ECM 6	Install High Efficiency Electric AC	x					
ECM 7	Install Low-Flow Domestic Hot Water Devices						
ECM 8	Vending Machine Control						

SmartStart is generally well-suited for implementation of individual measures or small group of measures. It provides flexibility to install measures at your own pace using in-house staff or a preferred contractor. Direct Install caters to small to mid-size facilities that can bundle multiple ECMs together. This can greatly simplify participation and may lead to higher incentive amounts, but requires the use of pre-approved contractors. The Pay for Performance (P4P) program is a "whole-building" energy improvement program designed for larger facilities. It requires implementation of multiple measures meeting minimum savings thresholds, as well as use of pre-approved consultants. The Large Energy Users Program (LEUP) is available to New Jersey's largest energy users giving them flexibility to install as little or as many measures, in a single facility or several facilities, with incentives capped based on the entity's annual energy consumption. LEUP applicants can use in-house staff or a preferred contractor.

Generally, the incentive values provided throughout the report assume the SmartStart program is utilized because it provides a consistent basis for comparison of available incentives for various measures, though in many cases incentive amounts may be higher through participation in other programs.

Brief descriptions of all relevant financing and incentive programs are located in the sections below. Further information, including most current program availability, requirements, and incentive levels can be found at: www.njcleanenergy.com/ci.

8.1 SmartStart

Overview

The SmartStart program offers incentives for installing prescriptive and custom energy efficiency measures at your facility. Routinely the program adds, removes or modifies incentives from year to year for various energy efficiency 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

Most equipment sizes and types are served by this program. This program provides an effective mechanism for securing incentives for energy efficiency measures installed individually or as part of a package of energy upgrades.

Incentives

The SmartStart prescriptive incentive program provides fixed incentives for specific energy efficiency measures, whereas the custom SmartStart program provides incentives for more unique or specialized technologies or systems that are not addressed through prescriptive incentive offerings for specific devices.

Since your facility is an existing building, only the retrofit incentives have been applied in this report. Custom measure incentives are calculated at $0.16/kWh and $1.60/therm based on estimated annual savings, 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

To participate in the SmartStart program you will need to submit an application for the specific equipment to be installed. Many applications are designed as rebates, although others require application approval prior to installation. Applicants may work with a contractor of their choosing and can also utilize internal personnel, which provides added flexibility to the program. Using internal personnel also helps improve the economics of the ECM by reducing the labor cost that is included in the tables in this report.

Detailed program descriptions, instructions for applying and applications can be found at: www.njcleanenergy.com/SSB.

8.2 SREC Registration Program

The SREC (Solar Renewable Energy Certificate) 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 in the SRP prior to the start of construction in order 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 RPS. One way they can meet the RPS requirements is by purchasing SRECs. As SRECs are traded in a competitive market, the price may vary significantly. The actual price of an SREC during a trading period can and will fluctuate depending on supply and demand.

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

8.3 Energy Savings Improvement Program

The Energy Savings Improvement Program (ESIP) is an alternate method for New Jersey's government agencies to finance the implementation of energy conservation measures. 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. This is done in a manner that ensures that annual payments are lower than the savings projected from the ECMs, ensuring that ESIP projects are cash flow positive in year one, and every year thereafter. 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 can be leveraged to help further reduce the total project cost of eligible measures.

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 utilized 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. Entities should carefully consider all alternatives to develop an approach that best meets their needs. A detailed program descriptions and application can be found at: www.njcleanenergy.com/ESIP.

Please note that ESIP is a program delivered directly by the NJBPU and is not an NJCEP incentive program. As mentioned above, you may utilize NJCEP incentive programs to help further reduce costs when developing the ESP. You should refer to the ESIP guidelines at the link above for further information and guidance on next steps.

9 ENERGY PURCHASING AND PROCUREMENT STRATEGIES

9.1 Retail Electric Supply Options

In 1999, New Jersey State Legislature passed the Electric Discount & Energy Competition Act (EDECA) to restructure the electric power industry in New Jersey. This law deregulated the retail electric markets, allowing all consumers to shop for service from competitive electric suppliers. The intent was to create a more competitive market for electric power supply in New Jersey. As a result, utilities were allowed to charge Cost of Service and customers were given the ability to choose a third-party (i.e. non-utility) energy supplier.

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 is purchasing electricity from a third-party supplier, review and compare prices at the end of the current contract or every couple years.

A list of third-party electric suppliers, who are licensed by the state to provide service in New Jersey, can be found online at: www.state.nj.us/bpu/commercial/shopping.html.

Appendix A: Equipment Inventory & Recommendations

Lighting Inventory & Recommendations

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	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
Ewing_Boiler Room Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	114	3,220	Relamp	No	2	LED - Linear Tubes: (4) 4' Lamps	Wall Switch	58	3,220	0.06	361	0.0	$78.02	$146.06	$40.00	1.36
Ewing_Boiler Room Office RR	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	None	No	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Ewing_Boiler Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
Ewing_Boiler Room	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	None	No	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Exterior_Bldg Light	10	High-Pressure Sodium: (1) 150W Lamp	Wall Switch	188	4,380	Fixture Replacement	No	10	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Wall Switch	56	4,380	0.86	6,629	0.0	$1,433.95	$9,659.66	$1,000.00	6.04
Exterior_Door Light	1	Incandescent: A Lamp (100 W)	Wall Switch	100	4,380	Relamp	No	1	LED Screw-In Lamps: Screw In	Wall Switch	15	4,380	0.06	428	0.0	$92.62	$17.23	$5.00	0.13
Exterior_Wallpack	20	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Wall Switch	40	4,380	None	No	20	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Wall Switch	40	4,380	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Exterior_Bldg Light	5	Metal Halide: (1) 100W Lamp	Wall Switch	128	4,380	Fixture Replacement	No	5	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Wall Switch	38	4,380	0.29	2,257	0.0	$488.15	$4,829.83	$500.00	8.87
Exterior_Parking Lot	16	Metal Halide: (1) 175W Lamp	Wall Switch	215	4,380	Fixture Replacement	No	16	LED - Fixtures: Outdoor Post-Mount	Wall Switch	65	4,380	1.58	12,129	0.0	$2,623.82	$6,458.40	$80.00	2.43
Exterior_Doorway Light	9	Incandescent: A Lamp (100 W)	Wall Switch	100	4,380	Relamp	No	9	LED Screw-In Lamps: Screw In	Wall Switch	15	4,380	0.50	3,853	0.0	$833.56	$155.03	$45.00	0.13
Exterior_Doorway Light	9	Compact Fluorescent: pin based	Wall Switch	42	4,380	Relamp	No	9	LED Screw-In Lamps: LED retrofit	Wall Switch	29	4,380	0.07	571	0.0	$123.56	$155.03	$0.00	1.25
Exterior_Flood lights	6	Incandescent: Par38 - 75 W	Wall Switch	75	4,380	Relamp	No	6	LED Screw-In Lamps: Screw In	Wall Switch	11	4,380	0.25	1,927	0.0	$416.78	$181.26	$30.00	0.36
Exterior_Pole Lamp	1	Metal Halide: (1) 175W Lamp	Wall Switch	215	4,380	Fixture Replacement	No	1	LED - Fixtures: Outdoor Post-Mount	Wall Switch	65	4,380	0.10	758	0.0	$163.99	$403.65	$5.00	2.43
Exterior_Pole Lamp	8	Metal Halide: (1) 175W Lamp	Wall Switch	215	4,380	Fixture Replacement	No	8	LED - Fixtures: Outdoor Post-Mount	Wall Switch	65	4,380	0.79	6,065	0.0	$1,311.91	$3,229.20	$40.00	2.43
Exterior_Parking Lot K	4	Metal Halide: (1) 175W Lamp	Wall Switch	215	4,380	Fixture Replacement	No	4	LED - Fixtures: Outdoor Post-Mount	Wall Switch	65	4,380	0.39	3,032	0.0	$655.95	$1,614.60	$20.00	2.43
Exterior_Tennis Court	6	Metal Halide: (1) 1000W Lamp	Wall Switch	1,080	1,500	Fixture Replacement	No	6	LED - Fixtures: Outdoor Post-Mount	Wall Switch	324	1,500	2.97	7,825	0.0	$1,692.65	$2,421.90	$30.00	1.41
Kithchen Hall	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	None	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kithchen Hall_Custodial	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	None	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kithchen Hall_RR	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	None	No	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen_WalkIn	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	None	No	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen_Freezer WalkIn	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	None	No	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen_OldWalkIns	3	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	None	No	3	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen_KitchenOffice	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	None	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen_WashArea	3	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	None	No	3	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen_Back Storage	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	400	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	400	0.02	15	0.0	$3.28	$36.52	$10.00	8.07

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	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
Kitchen_Back Storage	1	Compact Fluorescent: pin based	Wall Switch	18	400	Relamp	No	1	LED Screw-In Lamps: LED retrofit	Wall Switch	13	400	0.00	2	0.0	$0.54	$17.23	$0.00	32.06
Kitchen_Kitchen Area	24	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	None	No	24	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen_Hood Exhaust	6	Compact Fluorescent: pin based	Wall Switch	18	3,220	Relamp	No	6	LED Screw-In Lamps: LED retrofit	Wall Switch	13	3,220	0.02	120	0.0	$25.95	$103.35	$0.00	3.98
Kitchen_Cafeteria	15	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	None	Yes	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.09	483	0.0	$104.54	$270.00	$35.00	2.25
Kitchen_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	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
E-Wing_Custodial Rm	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.09	489	0.0	$105.74	$146.06	$40.00	1.00
E-Wing_E-2	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,220	Relamp	Yes	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,254	0.49	2,779	0.0	$601.27	$927.27	$215.00	1.18
E-Wing_E-4	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,220	Relamp	Yes	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,254	0.49	2,779	0.0	$601.27	$927.27	$215.00	1.18
E-Wing_E-1	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,220	Relamp	Yes	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,254	0.49	2,779	0.0	$601.27	$927.27	$215.00	1.18
E-Wing_E-6	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,220	Relamp	Yes	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,254	0.49	2,779	0.0	$601.27	$927.27	$215.00	1.18
E-Wing_E-3 LRC	4	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,220	Relamp	Yes	4	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,254	0.16	926	0.0	$200.42	$335.09	$80.00	1.27
E-Wing_E-8 Comp.Lab	15	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,220	Relamp	Yes	15	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,254	0.62	3,474	0.0	$751.58	$1,091.59	$260.00	1.11
E-Wing_E-8 Comp.Lab	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
E-Wing_E-5	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,220	Relamp	Yes	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,254	0.49	2,779	0.0	$601.27	$927.27	$215.00	1.18
E-Wing_E-7	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,220	Relamp	Yes	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,254	0.49	2,779	0.0	$601.27	$927.27	$215.00	1.18
E-Wing_E-9	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,220	Relamp	Yes	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,254	0.49	2,779	0.0	$601.27	$927.27	$215.00	1.18
E-Wing_E-10	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,220	Relamp	Yes	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,254	0.49	2,779	0.0	$601.27	$927.27	$215.00	1.18
E-Wing_E-10	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
E-Wing_E-10 (SideRm)	2	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,220	Relamp	No	2	LED - Linear Tubes: (3) 4' Lamps	Wall Switch	44	3,220	0.06	367	0.0	$79.30	$109.55	$30.00	1.00
E-Wing_E-11	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,220	Relamp	Yes	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,254	0.49	2,779	0.0	$601.27	$927.27	$215.00	1.18
E-Wing_ExitVestibule	12	U-Bend Fluorescent - T8: U T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	12	LED - Linear Tubes: (2) U-Lamp	Occupancy Sensor	33	2,254	0.31	1,729	0.0	$373.93	$1,139.52	$35.00	2.95
E-Wing_ExitVestibule	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
E-Wing_Hall	17	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	17	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,254	0.46	2,625	0.0	$567.86	$1,220.76	$170.00	1.85
E-Wing_Hall	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
CR C-8	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.09	489	0.0	$105.74	$146.06	$40.00	1.00

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	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
Cafeteria Hall	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
Cafeteria Hall	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
CR D-2	8	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	8	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.17	972	0.0	$210.20	$624.06	$35.00	2.80
CR D-2	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	Yes	2	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,254	0.03	162	0.0	$35.01	$306.52	$45.00	7.47
D-1	12	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	12	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.26	1,458	0.0	$315.29	$801.09	$35.00	2.43
D-1	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
D-1_Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
D-3	12	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	12	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.26	1,458	0.0	$315.29	$801.09	$35.00	2.43
D-3	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
D-3_Practice Rm Hall	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
D-3_Practice Rm1	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.02	122	0.0	$26.43	$36.52	$10.00	1.00
D-3_Practice Rm2	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.02	122	0.0	$26.43	$36.52	$10.00	1.00
D-3_Storage	2	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	400	Relamp	No	2	LED - Linear Tubes: (1) 8' Lamp	Wall Switch	36	400	0.03	20	0.0	$4.38	$88.52	$0.00	20.22
D-4	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	No	4	LED - Linear Tubes: (1) 8' Lamp	Wall Switch	36	3,220	0.06	326	0.0	$70.49	$177.03	$0.00	2.51
D-4	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.09	489	0.0	$105.74	$146.06	$40.00	1.00
D-4_RR	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	None	No	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
D-4_Storage	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	400	None	No	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	400	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
D-6	9	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	9	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.19	1,093	0.0	$236.47	$668.32	$35.00	2.68
D-6_Storage	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	400	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	400	0.02	15	0.0	$3.28	$36.52	$10.00	8.07
D-5	6	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	6	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.13	729	0.0	$157.65	$535.55	$35.00	3.18
D-8	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.22	1,235	0.0	$267.23	$562.12	$115.00	1.67
Girls-RR	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
Custodial Closet	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	None	No	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Boys-RR	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
Boys Locker	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.49	2,779	0.0	$601.27	$927.27	$215.00	1.18

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	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
Boys Locker	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Shower Area	6	Incandescent: A Lamp (60 W)	Wall Switch	60	3,220	Relamp	No	6	LED Screw-In Lamps: Screw In	Wall Switch	9	3,220	0.20	1,133	0.0	$245.12	$103.35	$30.00	0.30
Storage Closet	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	400	None	No	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	400	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Boys Locker Rm_TeamRm	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.30	1,699	0.0	$367.44	$671.67	$145.00	1.43
Boys Locker Rm_TeamRm	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Boys Locker Rm_TeamRm_RR	1	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	None	No	1	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Boys Locker Rm_Coaches Office	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
Boys Locker Rm_Coaches Office_RR	2	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	None	No	2	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Girls Locker	22	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	22	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.60	3,397	0.0	$734.88	$1,343.33	$290.00	1.43
Girls Locker	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Girls Locker Rm_Elec Rm	2	Linear Fluorescent - T12: 4' T12 (40W) - 1L	Wall Switch	46	3,220	Relamp & Reballast	No	2	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	3,220	0.04	233	0.0	$50.47	$101.03	$10.00	1.80
Girls Locker Rm_Coaches Office	1	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	114	3,220	Relamp	No	1	LED - Linear Tubes: (4) 4' Lamps	Wall Switch	58	3,220	0.04	207	0.0	$44.86	$73.03	$20.00	1.18
Girls Locker Rm_Coaches Office	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.02	122	0.0	$26.43	$36.52	$10.00	1.00
Girls Locker Rm_Coaches Office_RR	2	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	None	No	2	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Girls Locker Rm_StorageRm	1	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	400	Relamp	No	1	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	400	0.01	8	0.0	$1.74	$18.26	$5.00	7.61
Girls Locker Rm_ShowerArea	5	Incandescent: A Lamp (60 W)	Wall Switch	60	3,220	Relamp	No	5	LED Screw-In Lamps: Screw In	Wall Switch	9	3,220	0.17	944	0.0	$204.27	$86.13	$25.00	0.30
Girls Locker Rm_RR	2	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	None	No	2	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Girls Locker Rm_Small Hallway	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.02	122	0.0	$26.43	$36.52	$10.00	1.00
Girls Locker Rm_Team Rm	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.33	1,853	0.0	$400.85	$708.18	$155.00	1.38
Girls Locker Rm_Team Rm	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Girls Locker Rm_Gym	6	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	6	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Gym	34	Metal Halide: (1) 400W Lamp	Wall Switch	458	3,220	Fixture Replacement	Yes	34	LED - Fixtures: High-Bay	Occupancy Sensor	137	2,254	8.06	45,554	0.0	$9,854.41	$26,885.99	$5,170.00	2.20
Gym_Storage1	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	400	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	400	0.02	15	0.0	$3.28	$36.52	$10.00	8.07
Gym_Storage1	1	Linear Fluorescent - T12: 4' T12 (40W) - 1L	Wall Switch	46	400	Relamp & Reballast	No	1	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	400	0.02	14	0.0	$3.13	$50.52	$5.00	14.52
Gym_Storage1	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	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
Gym_Storage2	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	400	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	400	0.02	15	0.0	$3.28	$36.52	$10.00	8.07
Gym_Storage2	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	400	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	400	0.06	46	0.0	$9.85	$109.55	$30.00	8.07
Gym_Vestibule	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
Gym_AthleticDirector	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
Gym_TechOffice	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
C-6	8	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	8	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.17	972	0.0	$210.20	$624.06	$35.00	2.80
C-6	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	Yes	2	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,254	0.03	162	0.0	$35.01	$306.52	$45.00	7.47
ElectricalRm	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.06	367	0.0	$79.30	$109.55	$30.00	1.00
ElectricalRm	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	No	2	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	3,220	0.02	130	0.0	$28.04	$36.52	$10.00	0.95
ElectricalRm	6	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	None	No	6	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
ElectricalRm	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Storage Room1	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	400	Relamp	No	2	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	400	0.02	16	0.0	$3.48	$36.52	$10.00	7.61
Storage Room2	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	400	Relamp	No	2	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	400	0.02	16	0.0	$3.48	$36.52	$10.00	7.61
C-4	28	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	28	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.60	3,401	0.0	$735.68	$1,779.21	$70.00	2.32
C-4	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	Yes	2	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,254	0.03	162	0.0	$35.01	$306.52	$45.00	7.47
Maintenance Storage	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	400	None	No	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	400	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
C-4/C-2 Prep Room	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	5	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.11	611	0.0	$132.17	$182.58	$50.00	1.00
C-2	8	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	8	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.17	972	0.0	$210.20	$624.06	$35.00	2.80
C-2	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	Yes	2	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,254	0.03	162	0.0	$35.01	$306.52	$45.00	7.47
C-1	20	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	20	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.55	3,088	0.0	$668.08	$1,000.30	$235.00	1.15
Kiln Room	1	Incandescent: A Lamp (60 W)	Wall Switch	60	3,220	Relamp	No	1	LED Screw-In Lamps: Screw In	Wall Switch	9	3,220	0.03	189	0.0	$40.85	$17.23	$5.00	0.30
Kiln Room_Art Storage	4	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	400	Relamp	No	4	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	400	0.05	32	0.0	$6.97	$73.03	$20.00	7.61
C-3	8	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	8	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.17	972	0.0	$210.20	$624.06	$35.00	2.80
C-3	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	Yes	2	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,254	0.03	162	0.0	$35.01	$306.52	$45.00	7.47
Maintenance Closet	2	Incandescent: A Lamp (60 W)	Wall Switch	60	3,220	Relamp	No	2	LED Screw-In Lamps: Screw In	Wall Switch	9	3,220	0.07	378	0.0	$81.71	$34.45	$10.00	0.30

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	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
Maintenance Closet	1	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	No	1	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	3,220	0.01	65	0.0	$14.02	$18.26	$5.00	0.95
Maintenance Closet	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	No	2	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	3,220	0.02	130	0.0	$28.04	$36.52	$10.00	0.95
C-5	30	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	30	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.82	4,632	0.0	$1,002.11	$1,635.45	$370.00	1.26
C-5_Storage	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	400	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	280	0.11	77	0.0	$16.60	$416.06	$40.00	22.66
Girls RR	5	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	None	No	5	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Storage Room	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	400	None	No	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	400	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Boys RR	5	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	None	No	5	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Faculty Room	7	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,254	None	No	7	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,254	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Faculty Room_RR1	1	LED Screw-In Lamps: A type - 9W	Occupancy Sensor	9	2,254	None	No	1	LED Screw-In Lamps: A type - 9W	Occupancy Sensor	9	2,254	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Faculty Room_RR2	1	LED Screw-In Lamps: A type - 9W	Occupancy Sensor	9	2,254	None	No	1	LED Screw-In Lamps: A type - 9W	Occupancy Sensor	9	2,254	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Faculty 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	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Auditorium	65	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	Yes	65	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,254	0.93	5,259	0.0	$1,137.69	$2,266.74	$465.00	1.58
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	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Auditorium	11	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	Yes	11	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,254	0.16	890	0.0	$192.53	$470.83	$90.00	1.98
Auditorium	30	Incandescent: A Lamp (60 W)	Wall Switch	60	3,220	Relamp	Yes	30	LED Screw-In Lamps: Screw In	Occupancy Sensor	9	2,254	1.06	5,966	0.0	$1,290.49	$1,056.75	$220.00	0.65
Stage Area	6	Incandescent: Flood (75 W)	Wall Switch	75	3,220	Relamp	No	6	LED Screw-In Lamps: Screw In	Wall Switch	11	3,220	0.25	1,416	0.0	$306.40	$181.26	$30.00	0.49
Stage Area	80	Incandescent: A Lamp (60 W)	Wall Switch	60	3,220	Relamp	No	80	LED Screw-In Lamps: Screw In	Wall Switch	9	3,220	2.67	15,108	0.0	$3,268.28	$1,378.00	$400.00	0.30
Stage Area	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Stage Area	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	None	No	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Sound Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	No	2	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	3,220	0.02	130	0.0	$28.04	$36.52	$10.00	0.95
Sound Room_Storage	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	400	Relamp	No	2	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	400	0.02	16	0.0	$3.48	$36.52	$10.00	7.61
BoyRR	4	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	None	No	4	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Maintenace Closet	1	Compact Fluorescent: pin based	Wall Switch	18	3,220	Relamp	No	1	LED Screw-In Lamps: LED retrofit	Wall Switch	13	3,220	0.00	20	0.0	$4.33	$17.23	$0.00	3.98
Girls RR	5	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	None	No	5	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Library	10	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	114	3,220	Relamp	Yes	10	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,254	0.48	2,718	0.0	$587.97	$1,000.30	$235.00	1.30

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	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
Library	1	Linear Fluorescent - T8: 3' T8 (25W) - 4L	Wall Switch	89	3,220	Relamp	Yes	1	LED - Linear Tubes: (4) 3' Lamps	Occupancy Sensor	42	2,254	0.04	221	0.0	$47.74	$343.03	$35.00	6.45
Library	1	U-Bend Fluorescent - T8: U T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	1	LED - Linear Tubes: (2) U-Lamp	Occupancy Sensor	33	2,254	0.03	144	0.0	$31.16	$342.46	$35.00	9.87
Library	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Library_Office 1	2	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	114	3,220	Relamp	No	2	LED - Linear Tubes: (4) 4' Lamps	Wall Switch	58	3,220	0.07	415	0.0	$89.72	$146.06	$40.00	1.18
Library_Storage/Server	2	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	114	400	Relamp	No	2	LED - Linear Tubes: (4) 4' Lamps	Wall Switch	58	400	0.07	52	0.0	$11.15	$146.06	$40.00	9.52
Library_Storage/Server	1	Linear Fluorescent - T8: 3' T8 (25W) - 4L	Wall Switch	89	400	Relamp	No	1	LED - Linear Tubes: (4) 3' Lamps	Wall Switch	42	400	0.03	22	0.0	$4.68	$73.03	$0.00	15.61
Library_Office 2	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
School Store	2	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	114	3,220	Relamp	No	2	LED - Linear Tubes: (4) 4' Lamps	Wall Switch	58	3,220	0.07	415	0.0	$89.72	$146.06	$40.00	1.18
School Store_Display Cab	2	Compact Fluorescent: pin based	Wall Switch	18	3,220	Relamp	No	2	LED Screw-In Lamps: LED retrofit	Wall Switch	13	3,220	0.01	40	0.0	$8.65	$34.45	$0.00	3.98
AB-1	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.09	486	0.0	$105.10	$447.03	$35.00	3.92
AB-1	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	Yes	2	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,254	0.03	162	0.0	$35.01	$306.52	$45.00	7.47
AB-1	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.09	486	0.0	$105.10	$447.03	$35.00	3.92
B2_MenRR	1	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	None	No	1	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
B2_Womens RR	1	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	None	No	1	LED - Linear Tubes: (1) 3' Lamp	Occupancy Sensor	11	2,254	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
B2_B-2	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	10	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.27	1,544	0.0	$334.04	$635.15	$135.00	1.50
B2_B-4	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	No	4	LED - Linear Tubes: (1) 8' Lamp	Wall Switch	36	3,220	0.06	326	0.0	$70.49	$177.03	$0.00	2.51
B-4	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.09	489	0.0	$105.74	$146.06	$40.00	1.00
B-3	16	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	114	3,220	Relamp	Yes	16	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,254	0.77	4,349	0.0	$940.75	$1,438.48	$355.00	1.15
B-5	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.09	486	0.0	$105.10	$447.03	$35.00	3.92
B-5	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
B-6	8	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	8	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.17	972	0.0	$210.20	$624.06	$35.00	2.80
B-6	4	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,254	0.06	324	0.0	$70.01	$343.03	$55.00	4.11
Building Storage	1	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	400	Relamp	No	1	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	400	0.01	8	0.0	$1.74	$18.26	$5.00	7.61
ElecRoom	1	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	No	1	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	3,220	0.01	65	0.0	$14.02	$18.26	$5.00	0.95
B-8	8	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	8	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.17	972	0.0	$210.20	$624.06	$35.00	2.80

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	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
B-8	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	Yes	2	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,254	0.03	162	0.0	$35.01	$306.52	$45.00	7.47
B-7	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.09	486	0.0	$105.10	$447.03	$35.00	3.92
B-7	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
B-10	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.09	486	0.0	$105.10	$447.03	$35.00	3.92
B-10	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
B-9	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.09	486	0.0	$105.10	$447.03	$35.00	3.92
B-9	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
B-12	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.09	486	0.0	$105.10	$447.03	$35.00	3.92
B-12	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
B-11	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.09	486	0.0	$105.10	$447.03	$35.00	3.92
B-11	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
Guidance Office	7	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.19	1,081	0.0	$233.83	$525.61	$105.00	1.80
Guidance Office_ConfRoom	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.22	1,235	0.0	$267.23	$562.12	$115.00	1.67
Guidance Office_Safe	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.02	122	0.0	$26.43	$36.52	$10.00	1.00
Guidance Office_Storage Corridor	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	400	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	400	0.02	15	0.0	$3.28	$36.52	$10.00	8.07
Guidance Office_Lounge Room	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.08	463	0.0	$100.21	$379.55	$65.00	3.14
Guidance Office_Office 1	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
Guidance Office_RR1	1	Incandescent: A Lamp (60 W)	Wall Switch	60	3,220	Relamp	No	1	LED Screw-In Lamps: Screw In	Wall Switch	9	3,220	0.03	189	0.0	$40.85	$17.23	$5.00	0.30
Guidance Office_Office 2	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
Guidance Office_Office 3	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.08	463	0.0	$100.21	$379.55	$65.00	3.14
Guidance Office_Kitchenette	1	Linear Fluorescent - T8: 3' T8 (25W) - 1L	Wall Switch	27	3,220	Relamp	No	1	LED - Linear Tubes: (1) 3' Lamp	Wall Switch	11	3,220	0.01	61	0.0	$13.22	$18.26	$0.00	1.38
Guidance Office_RR	1	Incandescent: A Lamp (60 W)	Wall Switch	60	3,220	Relamp	No	1	LED Screw-In Lamps: Screw In	Wall Switch	9	3,220	0.03	189	0.0	$40.85	$17.23	$5.00	0.30
Guidance Office_MainOffice	23	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	23	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.63	3,552	0.0	$768.29	$1,379.85	$300.00	1.41
Guidance Office_Mail Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
Guidance Office_Principal	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.16	926	0.0	$200.42	$489.09	$95.00	1.97

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	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
Guidance Office_VicePrincipal	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.16	926	0.0	$200.42	$489.09	$95.00	1.97
Guidance Office_Safe	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	None	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Guidance Office_AttendanceOffice	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.02	122	0.0	$26.43	$36.52	$10.00	1.00
Guidance Office_Kitchen	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
Guidance Office_Supervisor Office	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
Guidance Office_WomensRR	1	Incandescent A Lamp (60 W)	Wall Switch	60	3,220	Relamp	No	1	LED Screw-In Lamps: Screw In	Wall Switch	9	3,220	0.03	189	0.0	$40.85	$17.23	$5.00	0.30
Guidance Office_MensRR	1	Incandescent A Lamp (60 W)	Wall Switch	60	3,220	Relamp	No	1	LED Screw-In Lamps: Screw In	Wall Switch	9	3,220	0.03	189	0.0	$40.85	$17.23	$5.00	0.30
CST Hall	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,254	0.16	926	0.0	$200.42	$419.09	$60.00	1.79
Storage Rm	1	Incandescent A Lamp (60 W)	Wall Switch	60	400	Relamp	No	1	LED Screw-In Lamps: Screw In	Wall Switch	9	400	0.03	23	0.0	$5.07	$17.23	$5.00	2.41
Fanz Room	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.08	463	0.0	$100.21	$379.55	$65.00	3.14
Bigler Office	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.08	463	0.0	$100.21	$379.55	$65.00	3.14
CST Hall	1	Linear Fluorescent - T8: 3' T8 (25W) - 4L	Wall Switch	89	3,220	Relamp	No	1	LED - Linear Tubes: (4) 3' Lamps	Wall Switch	42	3,220	0.03	174	0.0	$37.65	$73.03	$0.00	1.94
CST Conf Rm	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
Sacdco Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
Office 2	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
CST Main Area	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.30	1,699	0.0	$367.44	$671.67	$145.00	1.43
CST Main Area	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
CST Copy Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
CST Copy 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	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
CST_Speech Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.02	122	0.0	$26.43	$36.52	$10.00	1.00
CST_Speech 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	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Resource Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
Nurses Suite	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	5	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.11	611	0.0	$132.17	$182.58	$50.00	1.00
Nurses Suite_Office	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.02	122	0.0	$26.43	$36.52	$10.00	1.00
Nurses Suite_FileRoom	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.02	122	0.0	$26.43	$36.52	$10.00	1.00

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	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
Nurses Suite_RR	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	None	No	1	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
FrontStorage	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	400	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	400	0.04	30	0.0	$6.57	$73.03	$20.00	8.07
Wing Elec Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	No	2	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	3,220	0.02	130	0.0	$28.04	$36.52	$10.00	0.95
A-1	8	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	8	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.17	972	0.0	$210.20	$624.06	$35.00	2.80
A-1	4	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,254	0.06	324	0.0	$70.01	$343.03	$55.00	4.11
A-3	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.09	486	0.0	$105.10	$447.03	$35.00	3.92
A-5	6	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	6	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.13	729	0.0	$157.65	$535.55	$35.00	3.18
A-5	4	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,254	0.06	324	0.0	$70.01	$343.03	$55.00	4.11
A-2	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
A-2	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.09	486	0.0	$105.10	$447.03	$35.00	3.92
A-7	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
A-7	8	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	8	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.17	972	0.0	$210.20	$624.06	$35.00	2.80
A-4	16	Linear Fluorescent - T8: 4' T8 (32W) - 4L	Wall Switch	114	3,220	Relamp	Yes	16	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	2,254	0.77	4,349	0.0	$940.75	$1,438.48	$355.00	1.15
A-6	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.09	486	0.0	$105.10	$447.03	$35.00	3.92
A-6	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
A-8	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.09	486	0.0	$105.10	$447.03	$35.00	3.92
A-8	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
Girls RR	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.14	772	0.0	$167.02	$452.58	$85.00	2.20
Maintenance Closet	1	Compact Fluorescent: pin based	Wall Switch	18	3,220	Relamp	No	1	LED Screw-In Lamps: LED retrofit	Wall Switch	13	3,220	0.00	20	0.0	$4.33	$17.23	$0.00	3.98
Boys RR	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.14	772	0.0	$167.02	$452.58	$85.00	2.20
Boys RR_Closet	1	Incandescent: A Lamp (60 W)	Wall Switch	60	3,220	Relamp	No	1	LED Screw-In Lamps: Screw In	Wall Switch	9	3,220	0.03	189	0.0	$40.85	$17.23	$5.00	0.30
A-9	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.09	486	0.0	$105.10	$447.03	$35.00	3.92
A-9	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55
A-10	4	Linear Fluorescent - T8: 8' T8 (59W) - 1L	Wall Switch	58	3,220	Relamp	Yes	4	LED - Linear Tubes: (1) 8' Lamp	Occupancy Sensor	36	2,254	0.09	486	0.0	$105.10	$447.03	$35.00	3.92
A-10	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.11	618	0.0	$133.62	$416.06	$75.00	2.55

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	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
E Wing Hall	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
E Wing Hall	17	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	17	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,254	0.46	2,625	0.0	$567.86	$1,220.76	$170.00	1.85
E Wing Hall-North	14	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	14	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,254	0.38	2,162	0.0	$467.65	$911.21	$140.00	1.65
D-Wing	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.41	2,316	0.0	$501.06	$817.73	$185.00	1.26
D-Wing	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
D-Wing_CafeHall	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.04	244	0.0	$52.87	$73.03	$20.00	1.00
D-Wing_CafeHall	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Gym Lobby	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Gym Lobby	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.22	1,235	0.0	$267.23	$562.12	$115.00	1.67
Gym Lobby_Display Cab	1	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,220	Relamp	No	1	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	3,220	0.01	65	0.0	$14.02	$18.26	$5.00	0.95
Gym Lobby_Display Cab	1	Linear Fluorescent - T12: 8' T12 (75W) - 2L	Wall Switch	158	3,220	Relamp & Reballast	No	1	LED - Linear Tubes: (2) 8' Lamps	Wall Switch	72	3,220	0.06	318	0.0	$68.89	$128.69	$0.00	1.87
Locker Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.02	122	0.0	$26.43	$36.52	$10.00	1.00
Entries B&G	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.02	122	0.0	$26.43	$36.52	$10.00	1.00
C Wing West	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.49	2,779	0.0	$601.27	$927.27	$215.00	1.18
C Wing West	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
C Wing East	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.49	2,779	0.0	$601.27	$927.27	$215.00	1.18
C Wing East	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
B Wing Hall	28	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	28	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,254	0.77	4,324	0.0	$935.31	$1,222.42	$280.00	1.01
B Wing Hall	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Main Lobby	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.22	1,235	0.0	$267.23	$562.12	$115.00	1.67
Main Lobby	12	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	None	Yes	12	LED Screw-In Lamps: A type - 9W	Occupancy Sensor	9	2,254	0.02	120	0.0	$25.95	$270.00	$35.00	9.05
Main Lobby_Display Cab	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.09	489	0.0	$105.74	$146.06	$40.00	1.00
Main Lobby_Track Lighting	9	Compact Fluorescent: pin based	Wall Switch	18	3,220	Relamp	No	9	LED Screw-In Lamps: LED retrofit	Wall Switch	13	3,220	0.03	180	0.0	$38.93	$155.03	$0.00	3.98
Main Lobby_Track Lighting	2	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	None	No	2	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Main Lobby	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,254	0.22	1,235	0.0	$267.23	$562.12	$115.00	1.67

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	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 Lobby	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Main Lobby_Display Cab	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,220	0.09	489	0.0	$105.74	$146.06	$40.00	1.00
Main Lobby_Vestibule	2	Compact Fluorescent: pin based	Wall Switch	18	3,220	Relamp	No	2	LED Screw-In Lamps: LED retrofit	Wall Switch	13	3,220	0.01	40	0.0	$8.65	$34.45	$0.00	3.98
Main Lobby_Vestibule_Ext	2	Compact Fluorescent: pin based	Wall Switch	18	3,220	Relamp	No	2	LED Screw-In Lamps: LED retrofit	Wall Switch	13	3,220	0.01	40	0.0	$8.65	$34.45	$0.00	3.98
Main Lobby	2	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	None	No	2	LED Screw-In Lamps: A type - 9W	Wall Switch	9	3,220	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
A Wing Hall	26	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,220	Relamp	Yes	26	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,254	0.71	4,015	0.0	$868.50	$1,749.39	$260.00	1.71
A Wing Hall	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Motor Inventory & Recommendations

		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?	Annual Operating Hours	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
E-Wng Boiler Rm	Ewing	2	Heating Hot Water Pump	3.0	87.5%	No	1,232	No	87.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
E-Wng Boiler Rm	Ewing	2	Condenser Water Pump	3.0	87.5%	No	1,373	No	87.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-3)	Half of E Wing	1	Supply Fan	1.0	82.5%	No	2,745	No	82.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-3)	Half of E Wing	1	Exhaust Fan	0.8	75.0%	No	2,745	No	75.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-2)	E Wing Hallway	1	Supply Fan	1.5	82.5%	No	2,745	No	82.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-2)	E Wing Hallway	1	Exhaust Fan	1.0	85.5%	No	2,745	No	85.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-1)	Half of E Wing	1	Supply Fan	0.5	75.0%	No	2,745	No	75.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-1)	Half of E Wing	1	Exhaust Fan	0.5	75.0%	No	2,745	No	75.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-5)	D-Wing	1	Supply Fan	3.0	89.5%	No	2,745	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-5)	D-Wing	1	Exhaust Fan	2.0	85.5%	No	2,745	No	85.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-3)	C-Wing Left	1	Supply Fan	1.0	85.5%	No	2,745	No	85.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-3)	C-Wing Left	1	Exhaust Fan	1.0	85.5%	No	2,745	No	85.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-1)	A-Wing	1	Supply Fan	3.0	89.5%	No	2,745	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-1)	A-Wing	1	Exhaust Fan	3.0	89.5%	No	2,745	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-2)	B-Wing	1	Supply Fan	5.0	89.5%	No	2,745	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-2)	B-Wing	1	Exhaust Fan	3.0	89.5%	No	2,745	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	C-Wing Right	1	Supply Fan	3.0	89.5%	No	2,745	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	C-Wing Right	1	Exhaust Fan	2.0	85.5%	No	2,745	No	85.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (AHU-K)	Kitchen	1	Supply Fan	1.0	80.0%	No	2,745	No	80.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (MUA-K)	Kitchen	1	Supply Fan	5.0	89.5%	No	2,745	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00

		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?	Annual Operating Hours	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 (HRV-6)	?	1	Supply Fan	1.5	85.5%	No	2,745	No	85.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-6)	?	1	Exhaust Fan	1.5	85.5%	No	2,745	No	85.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Gym Ceiling	Gym	2	Ventilation Fan	6.0	80.0%	No	3,391	No	80.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Cafeteria Ceiling	Cafeteria	8	Fan Coil Unit	0.8	75.0%	No	2,745	No	75.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Various	Various	40	Fan Coil Unit	0.8	75.0%	No	2,745	No	75.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	Various	6	Fan Coil Unit	0.8	75.0%	No	2,745	No	75.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Rm	Heat Pumps	1	Cooling Tower Fan	5.0	89.5%	No	2,745	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Electric HVAC Inventory & Recommendations

		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)	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)	Install Dual Enthalpy Economizer?	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	Kitchen	1	Electric Resistance Heat		157.15	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	Kitchen	1	Electric Resistance Heat		34.12	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Kitchen Office and Backroom	1	Ductless Mini-Split HP	3.00	42.00	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Faculty Lounge	1	Packaged AC	2.50		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-1)	Cafeteria	1	Packaged AC	10.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Cafeteria	1	Split-System Air-Source HP	9.50	129.00	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (D1,D2,D3)	D-Wing	3	Split-System Air-Source HP	8.00	108.00	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-5)	D-Wing	1	Packaged AC	10.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	D-Wing	1	Electric Resistance Heat		85.30	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-3)	C-Wing Left	1	Packaged AC	5.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	C-Wing Left	1	Electric Resistance Heat		34.12	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (C1,C2)	C-Wing Left	2	Split-System Air-Source HP	6.00	84.00	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-1)	A-Wing	1	Packaged AC	11.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	A-Wing	1	Electric Resistance Heat		85.30	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (A1,A2,A3)	A-Wing	3	Split-System Air-Source HP	10.00	132.00	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Main Office & CST	1	Packaged AC	3.17		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Guidance Office Area	1	Packaged AC	3.00		Yes	1	Packaged AC	3.00		14.00		No	0.69	2,057	0.0	$445.01	$6,806.88	$276.00	14.68
Roof	Conf.Room	1	Packaged AC	3.00		Yes	1	Packaged AC	3.00		14.00		No	0.69	2,057	0.0	$445.01	$6,806.88	$276.00	14.68
Roof	Library	1	Packaged AC	6.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	B-Wing	1	Packaged AC	15.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

		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)	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)	Install Dual Enthalpy Economizer?	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	B-Wing	1	Electric Resistance Heat		102.36	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	B-Wing	4	Split-System Air-Source HP	8.00	108.00	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	C-Wing Right	2	Split-System Air-Source HP	8.00	108.00	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-4)	C-Wing Right	1	Packaged AC	7.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	C-Wing Right	1	Electric Resistance Heat		34.12	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	Main Office	1	Packaged AC	7.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Custodial Breakroom	1	Ductless Mini-Split HP	1.00	42.00	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	?	1	Electric Resistance Heat		32.13	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof (HRV-6)	?	1	Packaged AC	30.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Fuel Heating Inventory & Recommendations

		Existing Conditions			Proposed Conditions						Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	System Quantity	System Type	Output Capacity per Unit (MBh)	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	Entire Facility	1	Condensing Hot Water Boiler	399.00	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Roof (AHU-K)	1	Furnace	100.00	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00

DHW Inventory & Recommendations

		Existing Conditions		Proposed Conditions						Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	System Quantity	System Type	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
Boiler Room	Building	1	Storage Tank Water Heater (> 50 Gal)	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00
C-2 Prep Room	Building	1	Storage Tank Water Heater (> 50 Gal)	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00
CST Storage Room	Building	1	Storage Tank Water Heater (≤ 50 Gal)	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Low-Flow Device Recommendations

	Recommedation Inputs				Energy Impact & Financial Analysis						
Location	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
Locker Rooms	30	Faucet Aerator (Lavatory)	2.50	1.00	0.00	11,966	0.0	$2,588.47	$215.10	$0.00	0.08

Walk-In Cooler/Freezer Inventory & Recommendations

	Existing Conditions		Proposed Conditions			Energy Impact & Financial Analysis						
Location	Cooler/ Freezer Quantity	Case Type/Temperature	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	Medium Temp Freezer (0F to 30F)	No	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	2	Cooler (35F to 55F)	No	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Commercial Refrigerator/Freezer Inventory & Recommendations

	Existing Conditions			Proposed Condi	Energy Impact & Financial Analysis						
Location	Quantity	Refrigerator/ Freezer Type	ENERGY STAR Qualified?	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	4	Stand-Up Refrigerator, Solid Door (31 - 50 cu. ft.)	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	2	Stand-Up Refrigerator, Solid Door (16 - 30 cu. ft.)	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Commercial Ice Maker Inventory & Recommendations

	Existing Conditions			Proposed Condi	Energy Impact & Financial Analysis						
Location	Quantity	Ice Maker Type	ENERGY STAR Qualified?	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	Ice Making Head (<450 lbs/day), Batch	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Novelty Cooler Inventory & Recommendations

	Existing Conditions		Proposed Conditions	Energy Impact & Financial Analysis						
Location	Quantity	Cooler Description	Install Automatic Shutoff 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	2	Milk Coolers	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Cooking Equipment Inventory & Recommendations

	Existing Conditions			Proposed Conditions	Energy Impact & Financial Analysis						
Location	Quantity	Equipment Type	High Efficiency Equipement?	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	6	Electric Steamer	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	2	Electric Convection Oven (Full Size)	Yes	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	2	Electric Combination Oven/Steam Cooker (<15 Pans)	Yes	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	4	Electric Combination Oven/Steam Cooker (<15 Pans)	Yes	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Dishwasher Inventory & Recommendations

	Existing Conditions					Proposed Conditions	Energy Impact & Financial Analysis						
Location	Quantity	Dishwasher Type	Water Heater Fuel Type	Booster Heater Fuel Type	ENERGY STAR Qualified?	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	Electric	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Plug Load Inventory

	Existing Conditions			
Location	Quantity	Equipment Description	Energy Rate (W)	ENERGY STAR Qualified?
Multiple Locations	206	desktop	200.0	
Multiple Locations	26	desk printer	50.0	
Multiple Locations	45	projector	300.0	
Multiple Locations	53	lcd tv	150.0	
Multiple Locations	4	photo-copier	1,500.0	
Multiple Locations	4	shredder	500.0	
Multiple Locations	2	window a/c	2,000.0	
Multiple Locations	11	mini-fridge	300.0	
Multiple Locations	6	refridgerator	500.0	
Multiple Locations	13	microwave	1,200.0	
Multiple Locations	1	water cooler	200.0	
Classroom	1	CRT TV	300.0	
Classroom	35	laptop cart	200.0	
Art Room	1	Kiln	10,350.0	

Vending Machine Inventory & Recommendations

	Existing Conditions		Proposed Conditions	Energy Impact & Financial Analysis						
Location	Quantity	Vending Machine Type	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
Kitchen Hall	1	Non-Refrigerated	Yes	0.00	343	0.0	$74.09	$230.00	$0.00	3.10

Appendix B: ENERGY STAR® Statement of Energy Performance

ENERGY STAR® Statement of Energy Performance

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ENERGY STAR® Score[1]

Hammonton Middle School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 109,950
Built: 1965

For Year Ending: July 31, 2017
Date Generated: September 11, 2018

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	Property Owner	Primary Contact
Hammonton Middle School 75 N. Libery Street Hammonton, New Jersey 08037	Hammonton Board of Education 566 Old Forks Road Hammonton, NJ 08037 (609) 567-7053	Barbara Prettyman 566 Old Forks Road Hammonton, NJ 08037 (609) 567-7053 bprettyman@hammontonps.org

Property ID: 6398316

Energy Consumption and Energy Use Intensity (EUI)

Site EUI
56.8 kBtu/ft²

Source EUI
152.1 kBtu/ft²

Annual Energy by Fuel

Propane (kBtu)	419,253 (7%)
Electric - Grid (kBtu)	5,820,617 (93%)

National Median Comparison

National Median Site EUI (kBtu/ft²)	44.9
National Median Source EUI (kBtu/ft²)	120.4
% Diff from National Median Source EUI	26%

Annual Emissions

Greenhouse Gas Emissions (Metric Tons CO2e/year)	617

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)