

East Camden Regional High School District

OCTOBER 2009



Final Energy Audit Report

NEW JERSEY
STATE DEPARTMENT OF EDUCATION
BEST PRACTICE



15 British American Boulevard
Latham, New York 12110
tel: 518-782-4500
fax: 518-786-3810

October 19, 2009

Mr. Fred Wright
School Business Administrator
Eastern Camden County Regional School District
Voorhees, NJ 08043

Subject: Energy Audit for the Eastern Camden County Regional High School

Dear Mr. Wright:

Please find enclosed two copies of the final report detailing the findings and recommendations of CDM's energy audit for the Eastern Camden County Regional High School. An electronic copy of this report has also been provided to TRC for their record.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Matthew T. Goss'.

Matthew T. Goss, P.E., C.E.M., C.E.A., LEED® AP
Project Manager
CDM

c: Theodore C. Schlette (CDM)
Colleen Kling (TRC)

Enclosure

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Executive Summary

As part of an initiative to reduce energy cost and consumption, the East Camden Regional High School District has secured the services of Camp Dresser and McKee (CDM) to perform an energy audit for the high school building, which is owned and operated by the District, in an effort to develop comprehensive Energy Conservation and Retrofit Measures (ECRMs).

CDM's energy audit team visited the facilities on July 23, 2009. As a result of the site visits and evaluation of the historical energy usage of the facilities, CDM was successful in identifying opportunities for energy savings measures.

CDM has also evaluated the potential for renewable energy technologies to be implemented at the District's facilities to offset the District's electrical energy usage. Specifically, the use of solar electric photovoltaic panels, ground source heat pumps and wind turbines were investigated.

In addition, CDM solicited a proposal from a third party electric energy supplier to investigate any additional energy cost savings that may be available for the District.

Not all ECRMs identified as a result of the energy audit are recommended. ECRMs must be economically feasible to be recommended to the District for implementation. The feasibility of each ECRM was measured through a simple payback analysis. The simple payback period was determined after establishing Engineer's Opinion of Probable Construction Cost estimates, O&M estimates, projected annual energy savings estimates, and the potential value of New Jersey Clean Energy rebates, or Renewable Energy Credits, if applicable. ECRMs with a payback period of 20 years or less can be recommended.

Historical Energy Usage

The following table, Table ES-1, summarizes the 2008 energy usage at each of the East Camden High School. These values can serve as a benchmarking tool, along with the building profile that has been established through the EPA's Portfolio Manager Program, to quantify the reduction in electrical energy, natural gas, fuel oil and propane usage following the implementation of the recommended ECRMs.

	Electrical Energy Use (kWH)	Peak Summer Demand (kW)	Peak Winter Demand (kW)	Fuel Use for Entire Building (therms)	Cost for Electric Service	Cost for Fuel
East Camden Intermediate High School	2,672,223	687	543	327,637	\$366,600	\$494,949
East Camden Senior High School	1,746,953	525	409		\$246,441	

Recommended ECRMs

The following table, Table ES-2, presents the ranking of recommended ECRMs identified for the building lighting, HVAC systems and miscellaneous plug loads. Additional ECRMs were identified and evaluated, as discussed in Section 4; however, were not recommended due to longer payback periods. This table includes the Engineer's Opinion of Probable Construction Cost, projected annual energy cost savings, projected annual energy usage savings, and total simple payback period for each recommended ECRM. The ECRMs are ranked based on payback period.

Table ES-3 summarizes the Total Engineer's Opinion of Construction Cost, annual energy savings, projected annual energy and O&M cost savings and the payback period based on the implementation of all recommended ECRMs.

Overall Ranking (Based on Simple Payback)	ECRM	Engineer's Opinion of Probable Construction Cost ¹	Projected Annual Energy Savings (kWH or therms)	Projected Annual Energy Cost Savings	Simple Payback Period (years)
1	Installation of Smart Strips (representative number of 30 application points)	\$1,200	10,890	\$1,506	0.8
2	Lighting System Retrofits (Option 1)	\$345,840	107,353	\$36,520	9.5
3	Boiler Upgrade	\$606,547	19,400	\$41,904	14.5

1. Engineers Probable Construction takes into account any applicable rebates.

Table ES-3: Recommended ECRM's¹			
Total Engineer's Opinion of Probable Construction Cost	Projected Annual Energy Savings (kWH or therms)	Projected Annual Energy Cost Savings	Simple Payback Period (years)
\$953,587	118,243 kWH 19,400 therms	\$79,930	12

1. Does not include energy savings associated with Solar Energy System.

Renewable Energy Technologies

Solar Energy

Section 4.3 of the report provides for an economic evaluation of a solar energy system recommended to be installed at the high school. The evaluation covered the economic feasibility of the District furnishing and installing a solar energy system under a typical construction contract and to assume full responsibility of the operation of such a system.

Based on the simple payback model, summarized in Table ES-4, it would benefit the District to further investigate the installation of a solar energy system. This is primarily based on the initial upfront capital investment required for a solar energy system installation and the 9.5 year payback period. This payback period justifies installing the solar energy system. Other options such as Power Purchase Agreements are potentially available as well to help finance the project. Solar technology is constantly changing and will most likely continue to lower in price.

Two major factors influencing the project financial evaluation is the variance of the prevailing energy market conditions and Solar Renewable Energy Credit (SREC) rates, with the largest impact to the payback model being the SREC credit pricing. For the payback model, conservative estimates of the SREC's market value over a 15 year period were assumed, as discussed in Section 4.3.

Table ES-4 includes a simple payback analysis for the installation of a solar energy system the high school. Refer to Appendix E for a more detailed solar financing spreadsheet.

Table ES-4: Simple Payback Analysis for Solar Energy System	
Parameter	Solar
Estimated Budgetary Project Cost	\$23,900,130
1 st Year Production	3,159,464 kWh
Annual Electric Savings	\$511,517
Annual Estimated SREC Revenue	\$1,991,843
Project Simple Payback	9.5 Years

Section 1

Introduction

1.1 General

As part of an initiative to reduce energy cost and consumption, the East Camden County Regional School District has secured the services of Camp Dresser and McKee (CDM) to perform an energy audit at the District's Regional High School in an effort to develop comprehensive energy conservation initiatives.

The performance of an Energy Audit requires a coordinated phased approach to identify, evaluate and recommend energy conservation and retrofit measures (ECRM). The various phases conducted under this Energy Audit included the following:

- Gather preliminary data on all facilities;
- Facility inspection;
- Identify and evaluate potential ECRMs;
- Develop the energy audit report.

Figure 1-1 is a schematic representation of the phases utilized by CDM to prepare the Energy Audit Report.

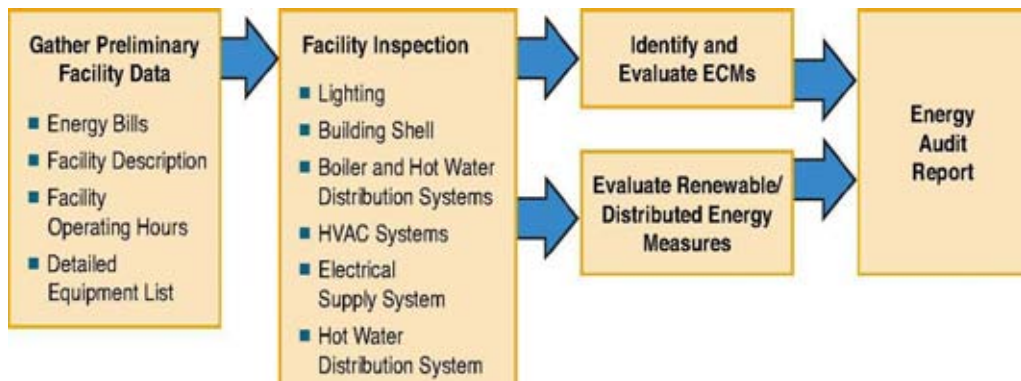


Figure 1-1: Energy Audit Phases

1.2 Background

The East Camden Regional High School is a 407,000 ft² building that was originally built in 1964, with extensions to provide additional classroom space built in the '80's, again in the early '90's and 2007. The school is utilized for intermediate and senior high school students, for a total of 2,150 students and 250 faculty and staff members.

The high school is occupied from 6:30 am to approximately 7 pm during the week and is open on the weekends.

1.3 Purpose and Scope

The objective of the energy audit is to identify energy conservation and retrofit measures to reduce energy usage and to develop an economic basis to financially validate the planning and implementation of identified energy conservation and retrofit measures.

The high school building was originally designed to comfortably house students and staff with limited consideration for energy consumption. Currently, due to the rising costs of power and the desire to minimize dependence on foreign oil supplies, energy consumption is taking a higher priority across the nation. Significant energy savings may be available with retrofits to the buildings' envelopes, heating, cooling systems and lighting systems. It should be noted that the magnitude of energy savings available is not only dependent on the type of heating, lighting or insulation systems that are in use, but also on the age and condition of the equipment and the capital available to implement major changes.

The purpose of this energy audit is to identify the various critical building comfort systems within the high school that are major consumers of electrical energy and are clear candidates for energy savings measures. In addition, the potential for solar electric systems to be installed at each building was evaluated and presented herein.

In addition to identifying ECRMs and the potential for on-site energy generation, an alternate third party electric supplier was contacted in an effort to identify further cost savings available for the District, by switching service providers. This is discussed further in Section 5.

Section 2

Facility Description

2.1 Eastern Camden Regional High School

2.1.1 Description of Building Envelope

The energy audit included an evaluation of the building's envelope (exterior shell) to determine the components' effective R-values to be utilized in the building model and to locate and fix any thermal weaknesses that may be present. The components of a building envelope include the exterior walls, foundation and roof. The construction and material, age and general condition of these components, including exterior windows and doors, impact the building's energy use.

The East Camden High School's walls are composite cavity walls consisting of brick facade, cavity and concrete masonry CMU back-up blocks. The existing roofing system through the majority of the building consists of insulation and EPDM membrane roofing over flat roof decks. Although there are soft spots on the roof, there were no signs of leakage from the roof. In addition, there was minimal pooling observed on the roof, indicating that the drains are maintained and the roof is properly sloped to minimize accumulation of water.

The windows throughout the building are insulating double paned windows. The exterior doors throughout the high school are fiberglass reinforced plastic (FRP) doors. FRP doors are recommended on an energy efficiency level, as the doors are made out of a high strength, light weight material with energy saving insulation and good sealing ability, as the doors will not expand or contract with changing climate.

The existing windows and exterior doors were sealed well with no signs of infiltration. As such, it was determined that the building envelope is in good condition and is currently providing a high level of insulation. Therefore, any modifications to the insulation system would not prove to be cost effective, from an energy savings stand-point.

2.1.2 Description of Building HVAC

The high school is primarily heated using a hot water system. Boilers located in three separate boiler rooms serve the hot water system, which then feeds individual unit ventilators and fin-tube radiators in the classrooms. Three large, 10,000 MBH (1 MBH = 1,000 Btu/Hr), Johnston boilers contribute 90-95% of the system's heating capacity, while two smaller Weil Mclain boilers contribute the other 5-10% of the total system heating capacity.

While certain areas of the school are provided with air conditioning systems, the majority of the high school is not cooled. Where cooling is provided, it is done so with either roof top air conditioning units, or through-the-wall air conditioners.

Domestic water heating is done with natural gas heaters, located in two of the boiler rooms. The Intermediate High School domestic hot water system utilizes an A.O. Smith water tube heater with a 1,480 MBH capacity and 400 gallons of storage. The Senior High School domestic hot water system utilizes a Teledyne heater with a 1,640 MBH capacity and 600 gallons of storage.

2.1.3 Description of Building Lighting

The East Camden High School's existing lighting system consists of 2X2 (2 lamp), 1X4 (1, 2, 3, and 4 lamp), 2X4 (2, 3, and 4 lamp) linear fluorescent fixtures with electronic ballasts, and T12 linear fluorescent fixtures with magnetic ballasts, along with compact fluorescent, metal halide, and incandescent fixtures. The school has already converted a majority of the building lighting to energy efficient T8 lamps, with electronic ballasts. The remaining T12 linear fluorescent fixtures should be retrofitted with T8 linear fluorescent bulbs, reflectors, and electronic ballasts. The existing incandescent fixtures should be retrofitted with compact fluorescent bulbs, sized to match existing light output of the fixtures. The school utilizes metal halide HID lighting in its gymnasiums, and other athletic areas, and it is recommended that the metal halide HID fixtures be replaced with T8 linear fluorescent high bay fixtures for an increase in quality of light, light output, and significant decrease in energy consumption. In addition, inactive storage and maintenance areas were identified during the audit where the installation of occupancy sensors would increase overall energy savings. As an additional energy conservation measure, two options are provided for the replacement of the parking lot and exterior lighting fixtures. The first option is to replace the fixtures with energy efficient LED fixtures, the second is to not change the fixtures. Changing all the exterior lighting fixtures to LED will result in an additional annual savings of \$13,834.

2.1.4 Miscellaneous Equipment

On average, each classroom contains at least one (1) computer, TV and overhead projector. In addition, the school also has media classrooms which contain 25 to 30 computers each. It is recommended that the District consider implementing the standardized use of Smart Strips, as the need arises. Computer peripherals, such as monitors, printers or scanners, continue to use energy even after they are shut off, adding up over time. The Smart Strip power strips offer surge protection and the ability to monitor the current on a single 'control' outlet. When the computer that is plugged into that single outlet is shut down and Smart Strip shuts off all of the other peripherals on the power strip. This is discussed further in Section 4.4.

The school also has office areas, faculty rooms, a trainer's office and a nurse's office that contain copiers, microwaves, refrigerators, vending machines, soda machines and coffee makers.

The East Camden High School's has two kitchens with a number of appliances including convection ovens, ovens, refrigerators, one (1) walk-in refrigerator, electric warming tables, dish washers and cabinets. It is also recommended that the District

consider implementing the standardized use of Energy Star appliances, as the need arises. Energy Star refrigerators and freezers, for example, use up to 40% less energy than models built in 2001. Energy Star appliances will not only reduce the District's utility bills, but will also outperform standard appliances, due to the improved design and advanced technologies.

Section 3

Baseline Energy Use

3.1 Utility Data Analysis

The first step in the energy audit process is the compilation and quantification of the facility's current and historical energy usage and associated utility costs. It is important to establish the existing patterns of electric, gas and fuel oil usage in order to be able to identify areas in which energy consumption can be reduced.

For this study, monthly utility bills were analyzed and unit costs of energy were obtained. The unit cost of energy, as determined from the monthly utility bills, was utilized in determining the feasibility of switching from one energy source to another or reducing the demand on that particular source of energy to create annual cost savings for the East Camden Regional School District.

3.1.1 Electric Charges

It was also important to understand how the utility's charge for the service. The majority of the energy consumed is electric, as a result of both indoor and outdoor lighting and appliances, such as kitchen appliances, computers, printers and projectors. Electricity is charged by three basic components: electrical consumption (kWH), electrical demand (kW) and power factor (kVAR) (reactive power). The cost for electrical consumption is similar to the cost for fuel oil, the monthly consumption appears on the utility bill as kWH consumed per month with a cost figure associated with it. The School District's service connections are billed with time of day rates for consumption, as explained in Section 3.2.1.

Electrical demand can be as much as 50 percent or more of the electric bill. The maximum demand (kW value) during the billing period is multiplied by the demand cost factor and the result is added to the electric bill. It is often possible to decrease the electric bill by 15 - 25 percent by reducing the demand, while still using the same amount of energy.

The power factor (reactive power) is the power required to energize electric and magnetic fields that result in the production of real power. Power factor is important because transmission and distribution systems must be designed and built to manage the need for real power as well as the reactive power component (the total power). If the power factor is low, then the total power required can be greater than 50 percent or more than the real power alone. The power factor charge is a penalty for having a low power factor. This penalty charge does not impact the School District.

The other parts of the electric bill are the supply charges, delivery charges, system benefits, transmission revenue adjustments, state and municipality tariff surcharges and sales taxes, which cannot be avoided.

3.1.2 Fuel Charges

South Jersey Gas is the current supplier and distributor of natural gas for the District. South Jersey Gas charges the District for the cost of the natural gas, a delivery charge and a customer charge, which covers South Jersey Gas administration charges.

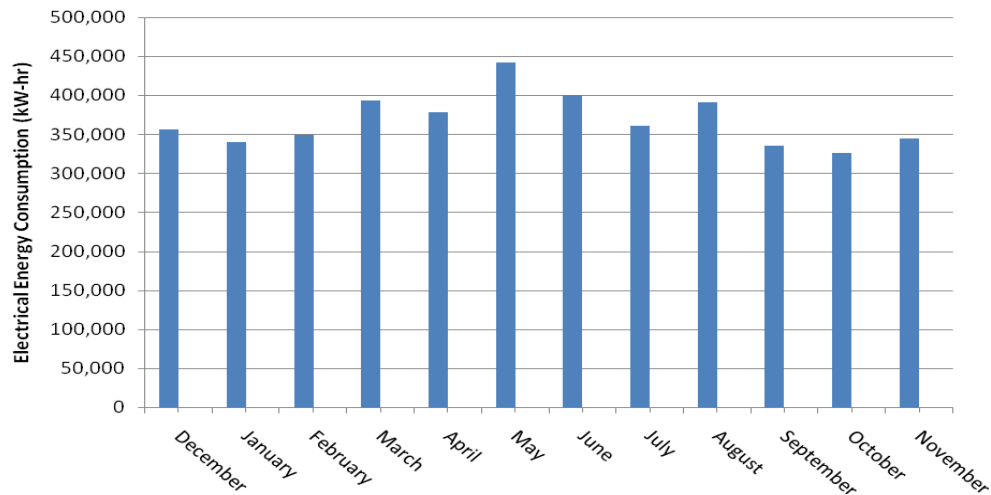
3.2 Facility Results

3.2.1 East Camden High School

Electric power for the East Camden Regional High School Building is fed from two General Secondary Service lines from Public Service Electric and Gas Company (PSE&G). Figure 3.2-1 illustrates the monthly total energy consumption from November 2007 through November 2008. From this graph, it can be determined that the electrical baseline consumption for the East Camden High School averages around 325,000 kWh / month. This is the total baseline value from both service points.

This building is billed with a time of day kWh charge based on PSE&G's current tariff rates. With the time of day service charges, demand charges are still calculated using the highest measured load for the month and billed with a flat rate, but consumption (kWh) charges are billed at a peak (8 am – 8 pm) and off-peak (8 pm – 8 am) rate. Thereby, running the buildings mechanical equipment during off-peak hours would work to save on the electrical utility bills. Figure 3.2-2 illustrates the monthly demand load for the High School from November 2007 through November 2008.

Figure 3.2-1: East Camden High School Total Building Electrical Usage



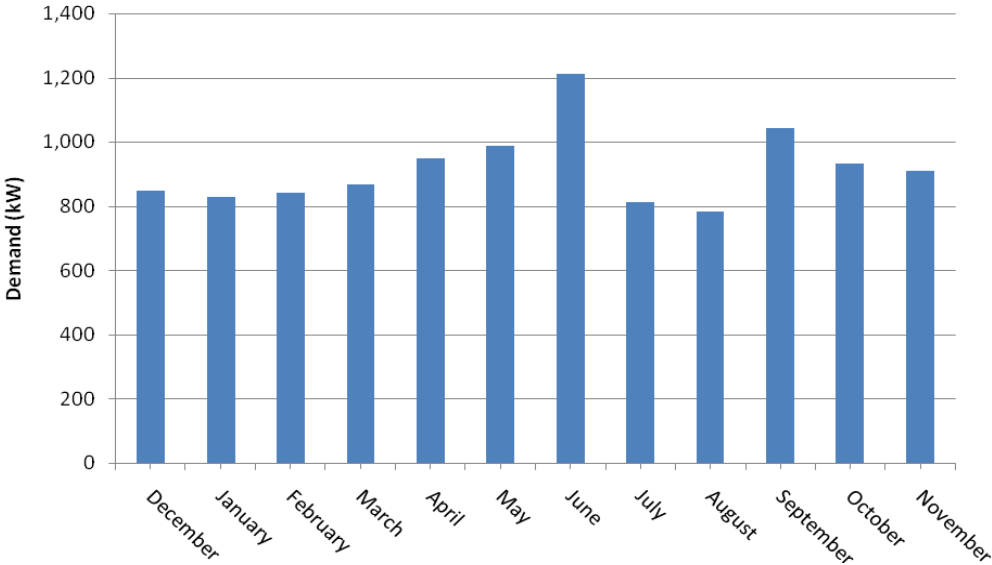
The most recent tariff rates available at the time of this audit for General Secondary Service from PSE&G for the Senior High School electrical service are as follows:

Service Charge:	\$372.11	-
Energy Distribution Charges:	\$0.0032671/kWH	Peak
	\$0.0032671/kWH	Off-Peak
BGS Transmission Charges:	\$1.6888202/kWH	-
BGS Generation Charges:	\$4.6641913/kWH	-
BGS Energy Supply Charges:	\$0.1050101/kWH	Peak
	\$0.0692631/kWH	Off-Peak
Societal Benefits Charges:	\$0.006140/total kWH	-
Securitization Transition Charge:	\$0.0099880/kWH	-
Demand Charges:	\$3.2254044/kW	Annual
	\$7.6735059/kW	July - October

The most recent tariff rates available at the time of this audit for General Secondary Service from PSE&G for the Intermediate High School electrical service are as follows:

Service Charge:	\$372.11	-
Energy Distribution Charges:	\$0.0032670/kWH	Peak
	\$0.0032670/kWH	Off-Peak
BGS Transmission Charges:	\$1.6888151/kWH	-
BGS Generation Charges:	\$4.6641889/kWH	-
BGS Energy Supply Charges:	\$0.1050100/kWH	Peak
	\$0.0692630/kWH	Off-Peak
Societal Benefits Charges:	\$0.006140/total kWH	-
Securitization Transition Charge:	\$0.0099880/kWH	-
Demand Charges:	\$3.2254042/kW	Annual
	\$7.6734963/kW	July - October

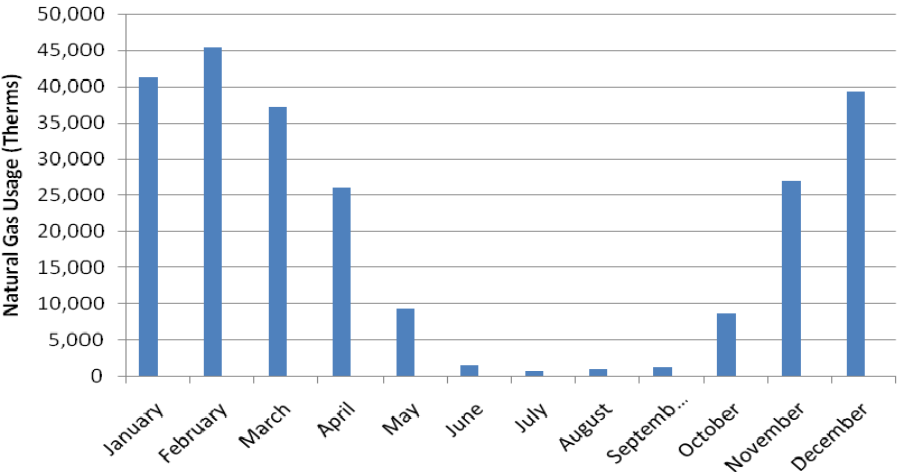
**Figure 3.2-2: East Camden High School
Maximum Monthly Demand**



Refer to Table 3.3-1, in Section 3.3, for average electrical aggregate cost. These tariffs are subject to change quite frequently. Refer to Appendix A for complete Historical Data Analysis.

Figure 3.2 -3 illustrates the building's monthly average natural gas consumption from January 2004 through June 2009.

Figure 3.2-3: East Camden High School Gas Usage



The District is billed on a flat rate from South Jersey Gas, as shown in Appendix A.

For more on the building gas usage, refer to Section 4.2.

3.3 Aggregate Costs

For the purposes of computing energy savings for all identified energy conservation and retrofit measures, aggregate unit costs for electrical energy and fuel, in terms of cost/kWH and cost/therm, were determined for each building and utilized in the simple payback analyses discussed in subsequent sections. The aggregate unit cost accounts for all distribution and supply charges for each location. Table 3.3-1 and Table 3.3-2 summarize the aggregate costs for electrical energy consumption and therms utilized, respectively.

Table 3.3-1: Electrical Aggregate Unit Costs

Service Location	Aggregate \$ / kW-hr
East Camden High School	\$0.1383

Table 3.3-2: Natural Gas Aggregate Unit Costs

Service Location	Aggregate \$ / therm
East Camden High School	\$2.16

After a review of accounts, billing practices and additional communication with PSE&G, it has become apparent that a potential savings exists should the district consolidate its athletic field accounts into their facility accounts. Conversations with PSE&G have indicated that account consolidation is possible where fields are located at the same billing address. While account consolidation will not decrease the cost of energy consumed or transported, it has the potential to reduce the athletic field demand charges therefore reducing the overall utility bill.

3.4 Portfolio Manager

3.4.1 Portfolio Manager Overview

Portfolio Manager is an interactive energy management tool that allows the Board of Education to track and assess energy consumption across the School District's buildings in a secure online environment. Portfolio Manager can help the Board of Education set investment priorities, verify efficiency improvements, and receive EPA recognition for superior energy performance.

3.4.2 Energy Performance Rating

For many facilities, you can rate their energy performance on a scale of 1-100 relative to similar facilities nationwide. Your facility is *not* compared to the other facilities entered into Portfolio Manager to determine your ENERGY STAR rating. Instead,

statistically representative models are used to compare your facility against similar facilities from a national survey conducted by the Department of Energy's Energy Information Administration. This national survey, known as the Commercial Building Energy Consumption Survey (CBECS), is conducted every four years, and gathers data on building characteristics and energy use from thousands of facilities across the United States. Your facility's peer group of comparison is those facilities in the CBECS survey that have similar facility and operating characteristics. A rating of 50 indicates that the facility, from an energy consumption standpoint, performs better than 50% of all similar facilities nationwide, while a rating of 75 indicates that the facility performs better than 75% of all similar facilities nationwide.

K through 12 grade school buildings and office buildings are eligible to receive a rating.

3.4.3 Portfolio Manager Account Information

A Portfolio Manager account has been established for the District, which includes a profile for the High School. Information entered into this Portfolio Manager building profile, including electrical energy consumption and natural gas consumption may be used to apply for an Energy Star rating with the USEPA.

At the time of this report, the High School received a rating of 52.

The electrical energy consumption data was > 120 days old, so this information should be updated to determine a current rating.

A Statement of Energy Performance report for the High School was generated through Portfolio Manager and included in Appendix B, along with a Portfolio Manager reference sheet.

In order to qualify for an energy star rating, utility data must be current. Therefore, as the District takes possession of this account, it is important to keep it updated with the latest utility bill data. Also, as a result of the District's commitment to implementing energy efficiency improvements, the building ratings may improve to be 75 or more, warranting an Energy Star label.

The following website link, username and password shall be used to access the Portfolio Manager account and building profiles that has been established for the District:

<https://www.energystar.gov/istar/pmpam/>

USERNAME: EASTCAMDEN

PASSWORD: HIGHSCHOOL1

Section 4

Energy Conservation and Retrofit Measures (ECRM)

4.1 Building Lighting Systems

The goal of this section is to present any lighting energy conservation measures that may also be cost beneficial. It should be noted that replacing current bulbs with more energy-efficient equivalents will have a small effect on the building heating and cooling loads. The building cooling load will see a small decrease from an upgrade to more efficient bulbs and the heating load will see a small increase, as the more energy efficient bulbs give off less heat.

Please note that the probable construction costs presented herein are estimates based on historic data compiled from similar installations and engineering opinions. Additional engineering will be required for each measure identified in this report and final scope of work and budget cost estimates will need to be confirmed prior to the coordination of project financing or the issuance of a Request for Proposal.

4.1.1 East Camden Regional High School

It is recommended that the existing lighting system at the East Camden Regional High School, which consists of T-12 and T-8 fixtures, metal halide, and incandescent fixtures, as discussed in Section 2.1.2, be upgraded to high efficiency standards to create lighting uniformity throughout the buildings. Limited ECRM's can be applied to the existing system, because the school has recently performed a T-8 upgrade on a majority of the lighting in the high school building. In general, the recommended lighting upgrade project, as presented in Appendix D, involves installing energy-efficient lighting retrofit kits, electronic ballasts, and new energy-efficient luminaires to the existing lighting systems. Two options have also been proposed in Appendix D for the parking lot and the exterior lighting. Option 1 includes the cost to replace all the existing parking lot and exterior lighting with high efficiency LED fixtures, and Option 2 does not include this cost, and assumes that no ECRM's will be applied to the aforementioned lighting. The strategies included in this section focus on maximizing energy savings and maintaining or exceeding existing lighting levels, while also maintaining the existing look of each fixture; therefore, proposed lamp styles remain consistent with existing lamp styles. The additional recommendations to install occupancy sensors in specified areas of the facility are included in Options 1 and 2. Please refer to Appendix D: Lighting Retrofit Spreadsheets for a line-by-line proposed detailed lighting upgrades.

The annual energy savings for Option 1 is estimated to be 30.4kW, 107,353 kWh and \$36,520. The annual energy savings for Option 2 is estimated to be 13.1kW, 38,181 kWh and \$22,686. The following table, Table 4.1-1, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements at the East Camden Regional High School. Included in this simplified

payback analysis summary table is a 'Return on Investment' (ROI) values. This value is a performance measure used to evaluate the efficiency of an investment and is calculated by dividing the 'return' or savings associated with an investment by the total investment cost. ROI values are calculated by dividing the annual energy savings by the retrofit cost after incentives. ROI ratings can be utilized to prioritize the implementation of energy savings measures.

Table 4.1-1 East Camden Regional High School Lighting System Improvements		
	Option 1	Option 2
New & Retrofit Cost (Material and Labor)	\$ 357,620	\$41,862
New Jersey SmartStart Rebate	-\$11,780	-\$11,780
Total Cost	\$345,840	\$30,082
Annual Energy Savings	\$36,520	\$22,686
Simple Payback	9.5 years	1.3 years
Return on Investment (ROI)	11%	75%

It should be noted that the Lighting Annual Savings assume the annual hours per year of operation as outlined under the columns entitled "Proposed Operational Hours" and "Proposed Operational Hours with Sensors" in Appendix D.

4.2 HVAC Systems

The goal of this section is to present any heating and cooling energy reduction and cost saving measures that may also be cost beneficial. Where possible, measures will be presented with a life-cycle cost analysis. This analysis displays a payback period based on weighing the capital cost of the measure against predicted annual fiscal savings. To do this, the buildings have been modeled as accurately as possible to predict energy usage for space heating and cooling, as well as domestic hot water use.

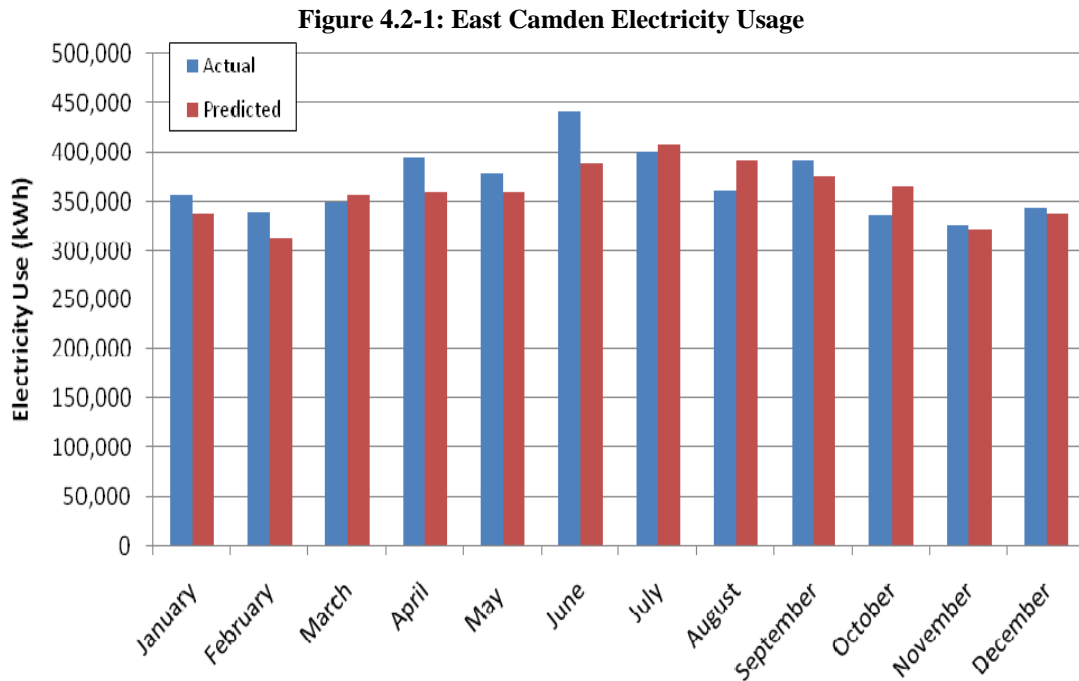
Each building is modeled using software called eQuest, a Department of Energy-sponsored energy modeling program, to establish a baseline space heating and cooling energy usage. Climate data from Moorestown, NJ was used for analysis. From this, the model may be calibrated, using historical utility bills, to predict the impact of theoretical energy savings measures. Refer to Appendix C for model run summaries.

Once annual energy savings from a particular measure have been predicted and the initial capital cost has been estimated, payback periods may be approximated. Equipment cost estimate calculations are provided in Appendix H.

4.2.1 East Camden Regional High School

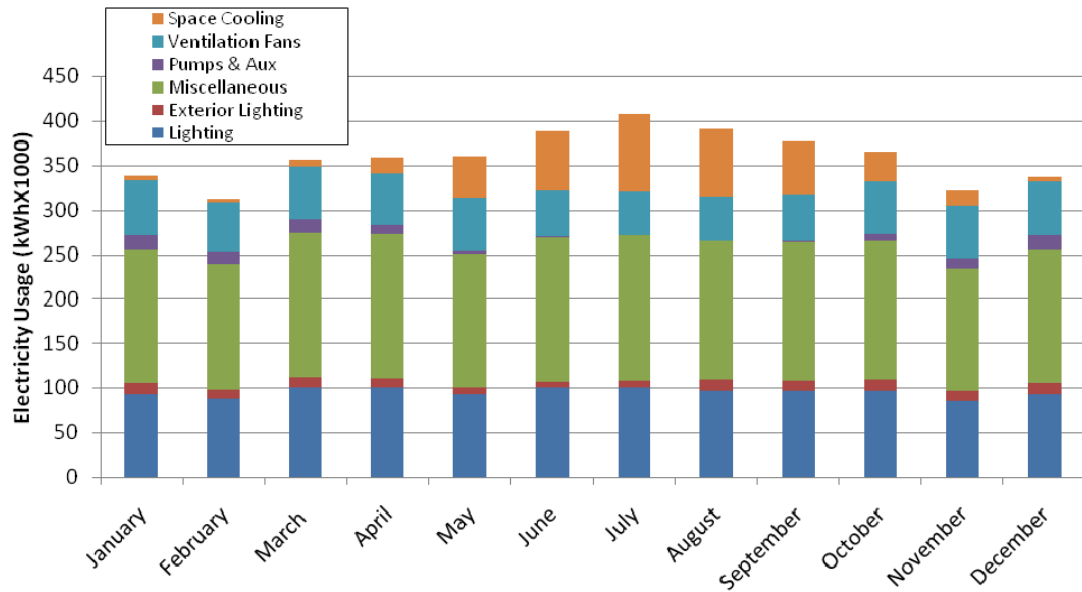
For the purposes of modeling, the Senior and Intermediate High Schools have been combined and treated as one building. Therefore, model results will be compared with the total electricity and gas usages from both schools. A model of the entire High School was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM used electricity bills from November, 2007 through November, 2008, and natural gas bills from January, 2004 through December, 2008. For natural gas, historical monthly usages were averaged for each month. For example, usage during the month of January was averaged for the five years, to yield an approximate average gas usage during the month of January. The same was done for all twelve months.

Figure 4.2-1 below compares actual monthly electricity usages, with those predicted by the eQuest model.



Once the eQuest model was calibrated, it could be used to predict approximate major usage categories, such as lighting, plug loads (miscellaneous), ventilation, and cooling. It should be noted that these are only estimated usages based on information gathered during CDM’s field audit. Figure 4.2-2 presents this information to help the District visualize where the electricity is ultimately being used.

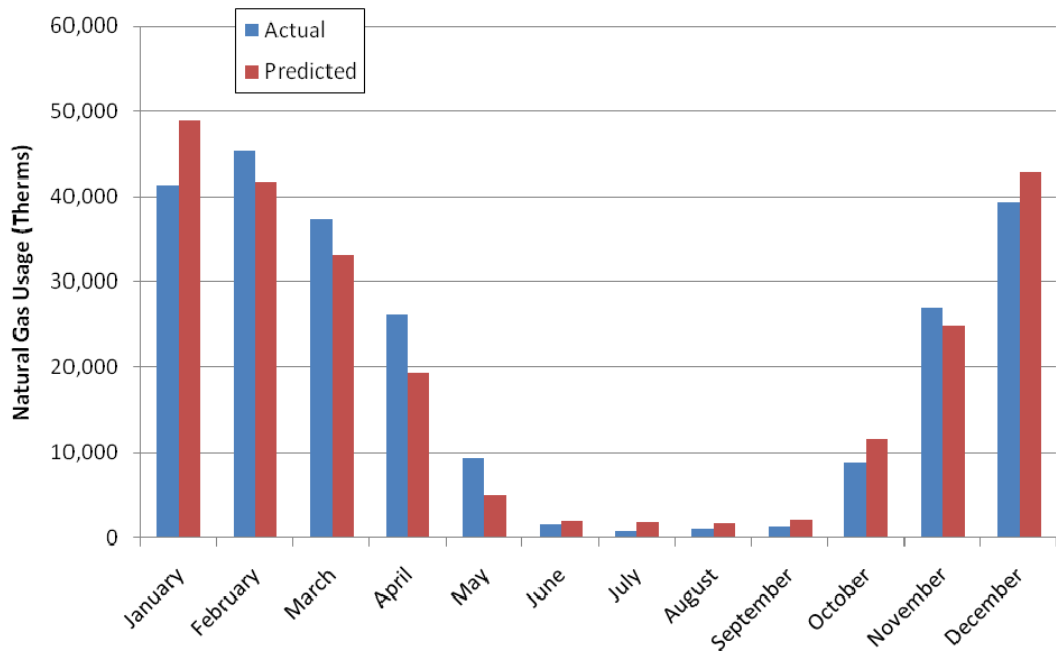
Figure 4.2-2: East Camden Electricity Usage Breakdown



Usage data presented above is for information purposes only, as CDM found no significant electricity usage reduction measures related to HVAC equipment.

Figure 4.2-3 below compares actual natural gas usage to model-predicted natural gas use, to demonstrate the accuracy of the model.

Figure 4.2-3: East Camden Natural Gas Usage

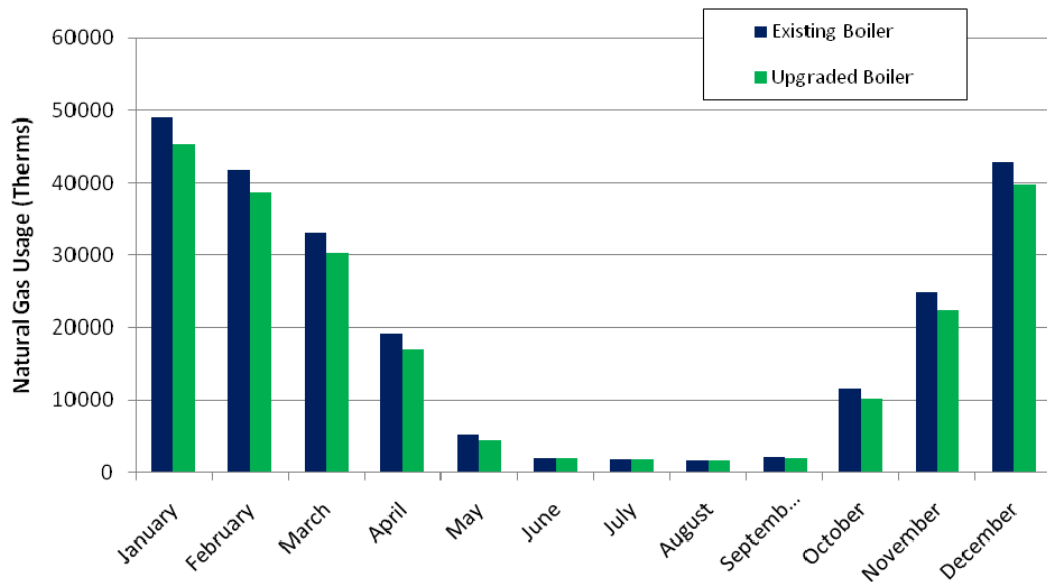


While some natural gas is used for domestic hot water heating and cooking, the boilers account for the majority of the natural gas usage at the school.

Currently, the school heating system utilizes three ~10,000 MBH Johnston boilers, and two ~750 MBH Weil McLain boilers. CDM estimates the three Johnston boilers to be 80% efficient. As these three boilers account for approximately 95% of the building heat, upgrading these to more efficient units may provide significant energy savings. While the combined heating capacity from the five boilers at the school is approximately 31,500 MBH, the eQuest model predicts the peak building heating load to be approximately 21,000 MBH. This indicates that one of the three Johnson boilers is likely primarily serving as a standby unit.

CDM recommends replacing the three Johnston boilers with high-efficiency, condensing boilers. With high-efficiency condensing boilers, the hot water loop temperature may be decreased from approximately 180F to 100F, resulting in even lower energy usage. Additionally, these boilers have very large turndown capabilities, which will save energy during transitional seasons when the building heating load is not as high.

Figure 4.2-4 compares current gas usage with predicted gas usage after upgrading to high-efficiency, condensing boilers.



CDM recommends that each primary 10,000 MBH Johnston boiler be replaced with five 2,000 MBH condensing boilers. These boilers are much smaller dimensionally, and should not require significantly more space than the current boilers occupy.

Also, as stated, CDM estimates that one of the three Johnston boilers is primarily serving as a standby unit that will only fire when another boiler is offline. Currently, if one boiler is offline, the school loses 10,000 MBH of heating capacity. However, if these boilers are replaced with smaller 2,000 MBH units, a boiler malfunction will

only result in a loss of 2,000 MBH of heating capacity. Consequently, only one 2,000 MBH boiler will be required for standby. This means that the three 10,000 MBH boilers may be replaced with eleven 2,000 MBH condensing boilers (ten boilers operate during peak heating periods with one standby) with no loss in the system’s ability to adequately heat the school. Providing only 22,000 MBH of total heating capacity will ensure that the system is not drastically oversized, and help keep initial upfront costs lower. Of course, if more redundancy is desired, additional units may be added.

Fiscal savings from such an upgrade are then identified in Table 4.2-1 below.

Table 4.2-1: Boiler Upgrade Payback	
Predicted Annual Savings (Therms)	19,400
Total Annual Savings	\$41,904
Initial Capital Cost of Upgrade	\$628,547
Incentives	\$22,000
Cost of Upgrade	\$606,547
Simple Payback	14.5
Return on Investment (ROI)	7%

Over several decades, ASHRAE has compiled data pertaining to service lives of most HVAC related equipment. From this, ASHRAE indicates a median service life (life until replacement) for HVAC related equipment that may be used as an estimate for the useful life of HVAC equipment currently in service. For example, ASHRAE indicates a window air conditioning unit has a median service life of 10 years. Therefore, if a window unit has been in service for more than 10 years, the owner may want to consider replacement. Not only will a replacement ensure minimal downtime between units (the unit is replaced before it ceases to function), but it will also maintain rated system efficiency, as efficiency tends to decrease with age.

All major equipment noted during CDM’s on site audit is listed in Table 4.2-2 below, along with estimated current ages and ASHRAE-expected service lives. It should be noted that only equipment that was observed at the time of the audit is included. Where equipment ages were not found on the equipment tags, they have been estimated based on the unit appearance or approximate renovation dates. In some cases, service locations have been estimated based on unit proximity.

Table 4.2-2 East Camden High School HVAC Equipment Service Lives					
Description	Service Location	Manufacturer	Model	Estimated Age (Years)	ASHRAE Expected Life (Years)
Rooftop Unit (RTU)	Auditorium	Trane	RAUCC804PP132BDF013	<15	15
RTU	Auditorium	Trane	RAUCC804PP132BDF013	<15	15
RTU	Cafeteria	McQuay	Unknown	<15	15
RTU, Heat Recovery	Gym 4	McQuay	RBS800BW	<15	15
RTU, Heat Recovery	Gym 4	McQuay	RBS800BW	<15	15
RTU	Kitchen	Trane	TCD150D40	<15	15
RTU	Kitchen	McQuay	CUR086FYY	<15	15
RTU	Locker	Trane	TSC048A4R0A	5	15
RTU	Media	Carrier	50AK-030AE-611HW	<15	15
RTU	Recital Area	McQuay	CUR300ETYC	<15	15
RTU	Recital Area	McQuay	CUR110FYY	<15	15
RTU	Room 10	Trane	TSC048A4R0A1H	4	15
RTU	Room 11	Trane	TSC048A4R0A1H	4	15
RTU	Room 12	McQuay	Unknown	>15	15
RTU	Room 13	McQuay	CUR075FYYY	<15	15
RTU	Room 50	McQuay	CUR201E	<15	15
RTU	Room 58	Trane	TSC060A4R0A1FFZA0A10060Y	5	15
RTU, Heat Pump	Room 708	Trane	WSC060A4RBA	5	15
RTU, Heat Pump	Room 807	Trane	WSC060A4RBA	5	15
RTU, Heat Pump	Room 810	Trane	WSC060A4RBA	5	15
RTU	Room 907/Locker	Trane	TSC036A4R0A1A	5	15
RTU	Rooms 411, 605,607,609	Carrier	WeatherMaster	<15	15
RTU	Special Services	Lennox	LCA240SNIG	<15	15
RTU	Sr. High Cafeteria	McQuay	RPS036BY	<15	15
RTU	Sr. High Guidance Offices	Carrier	50HJ-012-561CA	<15	15
RTU	Sr. High Media Center	Trane	TTA150B400EA	5	15
RTU	Sr. High Media Center	Trane	TTA150B400EA	5	15
RTU	Teacher's Prep	Trane	THC102A4R0A2GG1C1A1BZB	1	15
RTU	Teacher's Prep (Blue Hall)	Trane	THC102A4R0A2GG1C1A1	1	15
RTU	Teachers Cafeteria	McQuay	Unknown	>15	15
RTU	Unknown	McQuay	RPS040BY	<15	15

Table 4.2-2 East Camden High School HVAC Equipment Service Lives					
RTU	Unknown	McQuay	RPS061BY	<15	15
RTU	Weight Room	Trane	THC092A4R0A1CG0A0A1020604	4	15
Boiler	High School	Johnston	Unknown (Firetube)	13	25
Boiler	High School	Johnston	Unknown (Firetube)	18	25
Boiler	High School	Johnston	Unknown (Firetube)	18	25
Boiler	High School	Weil McLain	Model 80 (Cast Iron)	17	30
Boiler	High School	Weil McLain	Model 80 (Cast Iron)	17	30

The two main domestic water heaters noted during CDM’s site visit appeared to be in good, working condition and would not warrant replacement. CDM found no significant energy savings measures related to domestic water heating.

4.3 Alternative Energy Sources

4.3.1 Photovoltaic Solar Energy System Overview

Photovoltaic (PV) cells convert energy in sunlight directly into electrical energy through the use of silicon semi conductors, diodes and collection grids. Several PV cells are then linked together in a single frame of module to become a solar panel. PV cells are able to convert the energy from the sun into electricity. The angle of inclination of the PV cells, the amount of sunlight available, the orientation of the panels, the amount of physical space available and the efficiency of the individual panels are all factors that affect the amount of electricity that is generated.

Based on the estimated cumulative total available roof area, calculations determine that the installation of a system rated at approximately 2,656 kW (dc) will be appropriate for East Camden Regional High School.

As part of this energy audit, a preliminary engineering feasibility study of the sites outlined above to support solar generation facilities was completed consisting of the following tasks:

- a. Site Visit by our engineers.
- b. Satellite Image Analysis and Conceptual design and layout of the photovoltaic system
- c. Design and construction cost estimates
- d. Determine a preliminary design for the size and energy production of the solar system.

The total unobstructed available area of each section of the roof with southern exposure was evaluated. It is important to note the following:

1. The structural integrity of the roofs was not confirmed during our site visit. The schools may require some degree of roofing work prior to the implementation of a solar system.
2. In the case of the flat areas, the PV system sizing and kWh production was calculated assuming the installation of a crystalline module facing south direction (220 Degree Azimuth) and tilted approximately 20 degrees to allow better rain water shedding and snow melting. Please note that the kWh production as well as system size may differ significantly based on final panel tilt selected during the RFP and design phase.
3. Blended electric rates were used based on actual utility bills and were applied for each facility.

The following is a preliminary study on the feasibility of installing a PV solar system at the East Camden Regional High School District buildings to generate a portion of the facility's electricity requirements. The system is designed to offset the electric purchased from the local utility and not as a backup or emergency source of power.

In order to determine the best location for the installation of the PV solar system, a satellite image analysis and site walkthrough of the school district buildings was performed on June 3rd and 4th. As per the Scope of Work, only the building roofs were considered for PV installation.

Also, as part of our assessment we investigated possible locations for electrical equipment that need to be installed such as combiner boxes, disconnect switches and DC to AC inverters. Consideration was also given to locations of interconnection between the solar system and building's electrical grid.

4.3.1.1 East Camden Regional High School

The roof of this building has a flat roof with a number of obstructions such as exhaust fans, rooftop HVAC units, and electrical and gas piping. There is a minimal amount of shading on the roof from adjacent foliage that would need to be addressed during the design phase of the project. The structural integrity of the roof was not confirmed although a visual inspection revealed no leaks or major defects. The structural integrity of the roof and the existence of a warranty shall be confirmed prior to the implementation of a PV system.

The Project Team conducted both a facility walkthrough and a satellite image analysis and based on the estimated total available area we calculated the installation of a system rated at approximately 2,656 kW (dc).

Electrical Service

The interconnection point for the solar arrays will require a modification of the service entrance equipment wherein connections will have to be made between the main circuit breaker and the CT section of the switch board. If there is no available space for the inverter to be installed within the electrical room, the inverter shall be installed

outside on a concrete pad. The inverter would be housed in a NEMA 3R enclosure. The AC wiring would run from the inverters into the connection point(s) at the switchboard. Any connection points would have to meet NEC and local utility requirements.

4.3.1.2 Basis for Design and Calculations

The most common roof mounted system is referred to as a (“fixed tilt”) system typically mounted to a metal rack that can be fixed at a specific angle. There are also (“tracking systems”) or movable along one or two axes to follow the position of the sun during the day. For a roof-mounted PV system, tracking systems are very rarely installed and are usually used for ground-mounted systems only, as they require more complex racks and higher maintenance costs. For the “fixed” system, the tilt is determined based on the following factors: geographical location, total targeted kWh production, seasonal electricity requirements and weather conditions such as wind. Ideally, the module tilt for Central New Jersey should be 25-35 degrees with an azimuth as close as possible to 180 (south); however, our experience has shown that PV systems are typically installed at a tilt of 20 degrees or lower in order to avoid any issues with wind and to maximize total system size



Fixed Tilt System

The type of PV panels and equipment used to mount the system shall be determined based on the wind conditions and structural integrity of the roof determined during the design phase of the project. In general, penetration/tie-down systems, non-penetrating ballasted type systems, or a combination of the two should be considered.

Calculation of PV System Yield

An industry accepted software package, PV Watts, was used to calculate projected annual electrical production of the crystalline silicon PV system in its first year , as summarized in Table 4.3-1. The assumptions we used in the calculations were as follows: solar array tilt angle of 10°, array azimuth of 170° and a de-rate factor of 0.8.

Table 4.3-1 System Summary

Site	Est. Area (ft ²)	kWh Production	kW dc	Annual Energy Savings	Est. Annual SREC
East Camden Regional HS	265,557	3,159,464	2,656	\$511,517	\$1,991,843

Total Costs

It should be noted that construction costs are only estimates based on historic data compiled from similar installations, and engineering opinion. Additional engineering and analysis is required to confirm the condition of the roofs, structural integrity of the roofs, the system type, sizing, costs and savings. Budget costs assume existing roofs are structurally sound, do not need to be replaced, and can accommodate a solar system. For illustration purposes, a draft financial analysis pro forma is attached outlining all project costs and revenues.

Table 4.3-2 Budget Installation Cost

Budget Installation Cost	\$23,900,130
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As stated above the estimated installation costs are based on significant experience with the pricing of solar installations in New Jersey, and are intended to provide the District with a realistic budget cost. A typical solar installation can vary in cost from \$7.00 - \$10.00 per watt depending on size, complexity of the system, labor rates, etc. Approximately 60-70% of that number is material costs while the balance is labor, engineering, etc. Like any installation, certain conditions can affect a price upward or downward. For purposes of this analysis the estimated installation cost does not include any roofing or structural work which may be required to maintain warranties or for additional structural support. We have included a budget of \$9/watt for the solar system installation with an additional estimated budget of \$100,000 for potential electric service work.

Refer to Section 7 for discussion on Solar Renewable Energy Certificates and other financing options for solar projects. The financial model in Appendix E provides an annual forecast illustration of project revenues and costs for 25 years.

4.3.2 Ground Source Heat Pumps

Ground source heat pumps utilize the relatively constant temperature of underground water sources to reject or supply heat to the interior space. Water is pumped through a loop that runs from the underground source to heat pumps at the building level. Depending on the time of year and building demand, these heat pumps then either capture heat from the ground source loop and use it to heat the space, or reject heat from the space and back into the ground source loop.

Typically, ground source heat pump systems are most efficient when used in spaces that have similar heating and cooling loads, as the same loop and heat pumps are used for both cooling and heating. While the entire high school is heated in the winter, only approximately 25% of the space is cooled in the summer. Additionally, because the building is only partially occupied during peak cooling season (June - August), the school's peak cooling load is much smaller than the heating demand.

Ground source heat pump systems are often very costly to install due to the high cost of test boring and drilling wells. Due to the largely unbalanced heating and cooling

demands at the school, CDM anticipates that installation of a ground source heat pump system would not prove cost-beneficial.

4.3.3 On-Site Wind Power Generation

On site wind power generation typically utilizes a form of turbine, which is rotated with the flow of wind across it. This rotational force powers a generator, producing DC electricity. The DC electricity is then converted into AC electricity, which can be used for commercial power, or can be fed back into the power grid, reducing the overall electric demand.

On-site wind power generation systems have a very high initial investment, including feasibility studies, material and labor costs, installation, and lifetime maintenance costs. The payback period for an on-site wind power system is calculated using the total sum of all the aforementioned costs, divided by the quantity of hours of electricity produced per year. CDM has researched several on-site wind power generation options, using turbine systems, and foresee that this type of wind generation system is not a cost effective solution, because this type of system would not be generating electricity a majority of the year. This can be attributed to the fact that a majority of turbine systems require a minimum maintained wind speed of 5 miles per hour (mph), and the East Camden area of New Jersey has an average maintained wind speed of less than 4.5 mph.

4.3.4 Cogeneration (Heat and Power)

Onsite power generation systems are increasingly attracting interest as a result of utility power outages, the increasing energy prices and grants and financial incentives being offered by the state of NJ. Cogeneration also known as Combined Heat and Power (CHP) produces both electricity and heat.

The sizing of a CHP facility is based on the maximum demand load for the high school of 1212 kW. For this application, CDM has assumed the use of an internal combustion engine, in lieu of micro-turbines or fuel cells. An attractive feature of internal combustion engines is that the engines can operate at near their full load efficiency down to 60 percent of their capacity. As internal combustion engines operate away from their full load capacity, the electrical and heat energy outputs vary linearly as a function of the operated load capacity.

For this analysis CDM has evaluated the use of two (2) General Electric Jenbacher 633 kW natural gas generators. At full load, each 633 kW engine generator has a fuel-to-electric efficiency of 38.1% of the fuel input. Thermal output of the engine generator is 47.3%, of the fuel input. A total engine generator efficiency of 85.4% is possible when heat recovery is added. At full load, each engine generator produces 2,685 MBtu/hour of heat recoverable to water.

As the school's electric and thermal loads vary hourly and seasonally, the engines will not be run full out 24 hours a day. It should be noted that for CHP to yield an

attractive payback, the electrical and thermal loads should coincide as many hours per year as possible. In this case, the high school has very little thermal load during the summer months to coincide with the maximum electrical load, which is as a result of cooling. This is illustrated in the eQuest model summaries represented in Appendix C. As such, the thermal energy created during the peak electrical energy generation period (summer) will have to be wasted and cannot be accrued as a savings. On the other hand, during the winter when the electrical demand decreases the amount of waste heat that can be recovered will off-set the boiler demand.

Table 4.3-3 provides a summary of the heat recovery analysis, which is based on meeting the average electrical consumption during the summer and winter. Refer to Appendix J for Cogeneration calculation data.

Table 4.3-3 Heat Recovery Summary

HEAT RECOVERY SUMMARY		
	Summer (Average Month)	Winter (Average Month)
Monthly Average Electric and Gas Consumption	395,000 kWh 350,000 BTU	340,000 kWh 45,000,000 BTU
Total Heat Recovered from Cogen	426,900,000 BTU	1,450,800,000 BTU
Total Heat Output Required from existing Boilers	0 MBH	23,019 MBH
Natural Gas Required for Generator (Therms/Month Average)	48,000	65,000
Estimated Natural Gas Costs (@ \$2.16/therm)	\$105,120/month	\$142,350/month
Estimated Electric Savings (@\$.1383/kWH)	\$54,630/month	\$47,000/month
Total Average Annual Savings:		(\$300,000)

The overall operating cost for the Cogen facility includes the cost of fuel and operation and maintenance costs. As indicated in the Table 4.3-4, the total annual cost to operate the Cogen facility is \$165,180.

Table 4.3-4 Summary of Annual Operating Costs

SUMMARY OF ANNUAL OPERATING COSTS		
Item	Fuel Input	Annual Cost
Natural Gas	Summer Avg: 48,107 therms/month Winter Avg: 41,709 therms/month	\$1,365,000
O&M ¹	NA	\$160,000
TOTAL:		\$1,525,000

1. O&M unit cost based on 10% of capital equipment cost.

The capital cost of each 633 kW engine generator is approximately \$468,000. Each engine generator requires an 8.5' X 17' concrete foundation. Each unit stands approximately 7.5 feet high. Each unit also has a heat exchanger used for heat recovery. A building to house the 2 units would be approximately 1600 square feet. The capital cost for the Cogenerating facility is \$1,612,800.

It should be noted that the available gas pressure should be confirmed with the utility, as the engine requires a minimum of 1.2 psi gas service. If this pressure is not available, a gas compressor will be required and this has not been accounted for in the probable construction cost estimate.

With a Cogen facility there are potential visual and noise impacts on the surrounding neighborhood. The building should be architecturally pleasing and designed with sound attenuating walls and doors to minimize noise impacts.

The operation of a Cogen facility will require obtaining or updating the facility's Title V permit. The Title 5 permit is an operating permit that includes emission limits and monitoring and reporting requirements. The District may also opt to connect with the grid, returning any excess electrical energy generated to the utility. This will require an interconnect permit. It should be noted that the GE Jenbacher engines come standard with synchronizing control and protection to run parallel with the grid.

Table 4.3-5 summarizes the simple payback analysis of a Cogenerating Facility.

Table 4.3-5 Payback Analysis

Payback Analysis	
Capital Cost	\$1,612,800
Annual O&M	\$1,525,000
Total Cost	\$3,137,800

Annual Energy Savings	(\$300,000)
Simple Payback	None
Return on Investment (ROI)	None

As the majority of the engine heat will be wasted during the summer, the District may consider the installation of a central chilled water system. A central chiller system would decrease the electrical demand and the engine heat could then be utilized to generate chilled water. This would work to generate coincidental electric and heat loads, but would increase the capital construction costs significantly.

At this time, CDM does not recommend that the application of CHP at East Camden High School be evaluated further.

4.4 Next Steps – Additional Measures

As discussed in Section 2, it may be possible to reduce the plug load of the high school even further with the implementation of smart strips and energy star appliances. Smart Strips save energy by electronically unplugging all of the devices that are plugged into the “Automatically Switched outlets” when the device plugged into the control outlet is turned off. It is important to note that CDM is not suggesting that computers be plugged into the automatically switched off outlets, as it is not recommended to shut computers off randomly mid-operation. There are a vast amount of computer peripherals that are typically left on after a computer is shut off, including monitors, scanners, printers and DSL/Cable modems. These peripherals can be plugged into the automatic outlets.

East Camden High School has at least three (3) classrooms with 25 to 30 computers each and two (2) media centers. A standard Smart Strip has one ‘control’ outlet, six (6) outlets that are automatically switched off when the control device is and three (3) outlets that are always hot. An example of how the District can implement the use of Smart Strips is to plug a computer into the control outlet, six monitors into the automatic outlets and three computers into the always hot outlets. An LCD monitor can use up to 34W; in standby mode the monitor utilizes 1 – 2W. A CRT monitor typically utilizes around 75W. The following table 4.4-1 summarizes the payback of a Smart Strip, assuming 6 LCD monitors are automatically powered down that would otherwise been left on 8 hours/day and in standby mode 16 hours/day, 5 days/week for 9 months.

Table 4.4-1: Simple Payback on a Smart Strip

Predicted Annual Savings – 6 LCD monitors (kWH)	363
Total Annual Savings	\$50.20
Initial Capital Cost	\$40
Simple Payback (months)	9.5
Return on Investment (ROI)	80%

Within East Camden, it is anticipated that the above referenced example can be applied up to six (6) times in five (5) computers rooms, which would result in an annual savings of \$1,506. This is again assuming LCD monitors, which utilize less energy than CRT monitors.

The following Table 4.4-2 summarizes other applications for the Smart Strip that may be applicable throughout the District:

Table 4.4-2 Applications for Smart Strips

Control Outlet	Switched Outlets
Computer	Monitors, printers, scanners, lamps
TV	VCR, DVD player, cable box
Lamp	Stereo, space heater

It was also noted that the District consider the implementation of Energy Star appliances. This is recommended on an ‘as-needed’ basis, because as it currently stands the high school’s major kitchen appliances are relatively energy efficient. For example, the high school utilizes convection ovens which are more energy efficient than conventional ovens, because the heated air is continuously circulated around the food being cooked, reducing the required temperature and cooking times. There is one (1) conventional gas oven with conventional burners with electric ignition. Depending on the school’s usage of the stove-tops, it may be considered that the conventional oven be replaced with convection ovens as it makes no real difference in energy usage whether the stove-top is separate from the oven or combined.

Some of the other kitchen appliances, such as the industrial Hobart dishwasher and walk-in refrigerator are necessary for the safe operation of the school.

During the site visit, a number of vending machines were accounted for, both within the student areas and teacher’s offices and lounges. CDM is aware of the NJ state law that vending machines are unplugged during normal school hours. However, it may be considered that the ‘Vending Misers’ be purchased and utilized for vending machines within the teachers areas. A ‘Vending Miser’ powers down a vending

machine when the surrounding area is unoccupied and automatically repowers when the area is occupied, utilizing an infrared sensor. Similarly to occupancy sensors on lighting fixtures; however, the vending miser also monitors the ambient temperature while the vending machine is powered down and uses this as sort of an internal thermostat to power up the machine and ensure that the drinks remain cold. The implementation of a 'Vending Miser' also reduces maintenance costs and extends the life of the machine, by reducing the number of compressor cycles. A 'Vending Miser' is a \$180 investment, but has been found to reduce power consumption of a cold drink vending machine by an average of 46%.

Section 5

Evaluation of Energy Purchasing and Procurement Strategies

5.1 Energy Deregulation

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, the deregulation of the market, allowed all consumers to shop for their electric supplier. The intent was to create a competitive market for electrical energy supply. As a result, utilities were allowed to charge Cost of Service and customers were given the ability to choose a third party supplier. Energy deregulation in New Jersey increased the energy buyers' options by separating the function of electricity distribution from that of electricity supply.

Public Service Electric and Gas Company (PSE&G) is currently the generator and supplier of electrical energy for the East Camden Regional School District. Energy deregulation creates the opportunity to choose your electric generation supplier. The benefit of this is the ability to choose a supplier based on what is important to you, for example, lowest rate or how the electric generation supply is produced.

To sell electric generation service in New Jersey, electric power suppliers must be licensed by the New Jersey Board of Public Utilities (NJ BPU). They must also be registered with the local public utility (JCP&L) to sell electric service in that utility's service areas. The following suppliers are licensed with the NJ BPU and are registered to sell electric service in the JCP&L service territory:

- Amerada Hess Corp
- BOC Energy Services
- Con Edison Solutions, Inc.
- Constellation New Energy, Inc.
- Direct Energy, LLC.
- First Energy Solutions Corp.
- Glacial Energy
- Integrys Energy Service
- Liberty Power
- Pepco Energy Services, Inc.
- PP&L Energy Plus, LLC.
- Reliant Energy Solutions East, LLC.
- Sempra Energy Solutions
- South Jersey Energy
- Strategic Energy LLC
- Suez Energy Resources NA, Inc
- UGI Energy Services

5.1.1 Alternate Third Party Electrical Energy Supplier

In evaluating the potential for an alternative third party supplier, CDM contacted and requested a proposal for electrical service to the high school from Glacial Energy. The objective of which was to get an overall idea of whether or not switching electric energy suppliers is an avenue that the District should pursue further to obtain electrical energy cost savings.

CDM received a proposal from Glacial Energy for two services at the high school. Glacial Energy's proposal is included in Appendix F.

Glacial Energy has proposed a flat rate retail cost per kWh over the next 12 month period for both service locations. It should be noted that Glacial Energy is proposing a flat rate charge for the two (2) high school service connections, as opposed to a peak/off-peak rate schedule. CDM concurs with Glacial Energy, that a flat rate structure would present cost savings for the District, as a school typically does not have major "off-peak" electrical usage.

As presented in Section 3, a peak / off-peak rate structure presents savings in consumption (kWh) charges, by allowing for heavy mechanical equipment to run during off-peak hours versus peak hours. For instance if the school had a chiller system, the chiller would be run at night (at the off-peak rate) to produce the ice that would allow for cool air to be produced during peak hours, without running the equipment and consuming energy at the peak rate per kWh. However from CDM's understanding, the high school does not currently have HVAC systems that would warrant being on a peak/off-peak operating and rate schedule. In evaluating the historical energy usage data, the off-peak energy consumption typical tends to be less than the peak usage if not extremely similar, contradicting the need for a peak/off-peak rate schedule. In addition, demand charges (/kW) and monthly customer charges are greater under a peak/off-peak rate schedule, than a flat rate schedule. It is recommended that the District evaluate the rate schedule for the two high school services further with a representative from PSE&G or another third party supplier, to ensure that there are not more cost effective options available.

The following table, Table 5.1-1, summarizes the annual cost savings available based on historical energy consumption. The retail rates used in this analysis represent the baseline generation rates from the two suppliers and do not include any applicable demand charges, societal benefits charges, transmission charges, energy charges, reconciliation charges, transitional assessment charges or system control charges that were included in the aggregate rates presented in Section 3. These baseline generation rates, are used for comparison purposes to identify any potential energy cost savings, as all other applicable charges cannot be avoided by switching suppliers.

Table 5.1-1: Potential Energy Cost Savings with an Alternate Third Party Supplier – Glacial Energy

Service Location	2008 Annual Consumption (kWH)	Projected Annual Cost with PSE&G	Proposed Annual Cost with Glacial Energy	Potential Annual Savings (\$)
Intermediate High School (Account # 61 525 955 17)	2,672,223	\$309,229 (@ \$0.11572/kWH)	\$268,719 (@ \$0.10056/kWH)	\$40,510
Senior High School (Account # 61 525 954 28)	1,746,953	\$202,157 (@ \$0.11572/kWH)	\$175,674 (@ \$0.10056/kWH)	\$26,483
Total Potential Annual Savings:				\$66,993

As energy cost savings are available by switching to a third party supplier, such as Glacial Energy, this is a recommended energy cost savings measure. The estimated annual cost savings available by switching to Glacial Energy is \$66,993 (a 13% savings). CDM recommends that the District investigate this opportunity further and compare proposals from alternate third party suppliers to obtain the lowest electrical energy rates available.

5.2 Demand Response Program

Demand Response is a program through which a business can make money on reducing their electricity use when wholesale electricity prices are high or when heavy demand causes instability on the electric grid, which can result in voltage fluctuations or grid failure. Demand Response is an energy management program that compensates the participant for reducing their energy consumption at critical times. Demand Response is a highly efficient and cost efficient means of reducing the potential for electrical grid failure and price volatility and is one of the best solutions to the Mid-Atlantic region’s current energy challenges.

The program provides at least 2 hours advance notice before curtailment is required. There is typically 1 event a year that lasts about 3 hours, and since this happens only in summer months, when demand for electricity is at its highest, it may better facilitate the District’s involvement. This as a result of summer occupancy requirements, although, energy curtailment in discretionary.

Participation in Demand Response is generally done through companies known as Curtailment Service Providers, or CSPs, who are members of PJM Interconnection. There is no cost to enroll in the program and participation is voluntary, for instance, you can choose when you want to participate. In most cases, there is no penalty for

declining to reduce your electricity use when you're asked to do so. The event is managed remotely by notifying your staff of the curtailment request and then enacting curtailment through your Building Management System. CSPs will share in a percentage of your savings, which may differ among various CSPs, since there may be costs associated with the hardware and /or software required for participation, so it is recommended that a number of CSPs be contacted to review their offers.

Section 6

Ranking of Energy Conservation and Retrofit Measures (ECRM)

6.1 ECRMs

The main objective of this energy audit is to identify potential Energy Conservation and Retrofit Measures and to determine whether or not the identified ECRM's are economically feasible to warrant the cost for planning and implementation of each measure. Economic feasibility of each identified measure was evaluated through a simple payback analysis. The simple payback analysis consists of establishing the Engineer's Opinion of Probable Construction Cost estimates, O&M cost savings estimates, projected annual energy savings estimates and the potential value of New Jersey Clean Energy rebates or Renewable Energy Credits, if applicable. The simple payback period is then determined as the amount of time (years) until the energy savings associated with each measure amounts to the capital investment cost.

As discussed in Section 3, aggregate unit costs for electrical energy delivery and usage and natural gas delivery and usage, which accounts for all demand and tariff charges at each facility, was determined and utilized in the simple payback analyses.

In general, ECRMs having a payback period of 20 years or less have been recommended and only those recommended ECRMs within Section 4 of the report have been ranked for possible implementation. The most attractive rankings are those with the lowest simple payback period.

Ranking of ECRMs has been broken down into the following categories:

- Lighting Systems
- HVAC Systems
- Solar Energy
- Miscellaneous Plug Loads

6.1.1 Lighting Systems

Table 6.1-1 includes the recommended ECRM (Options 1&2) to provide energy savings for all building lighting systems, which include the installation of energy-efficient lighting retrofit kits, electronic ballasts, reflectors, energy-efficient luminaires and occupancy sensors. Option 1 also includes parking lot and exterior lighting, presenting a greater annual savings. A detailed discussion on building lighting systems is presented in Section 4.1.

Table 6.1-1					
Ranking of Energy Savings Measures Summary – Lighting System Retrofits Option 1					
Site	Retrofit Cost	Incentives	Total Cost	Annual Fiscal Savings	Simple Payback (Years)
East Camden Regional HS Option 1	\$357,620	\$11,780	\$345,840	\$36,520	9.5
East Camden Regional HS Option 2	\$41,862	\$11,780	\$30,082	\$22,868	1.3

6.1.2 HVAC Systems

Table 6.1-2 includes the recommended ECRM to provide energy savings for building HVAC systems, which provide a simple payback of less than 20 years. A detailed discussion on building HVAC systems is presented in Section 4.2.

Table 6.1-2					
Ranking of Energy Savings Measures Summary – HVAC System Upgrade					
Building & Measure	Retrofit Cost	Incentives	Total Cost	Annual Fiscal Savings	Simple Payback (Years)
Boiler Upgrade	\$628,547	\$22,000	\$606,547	\$41,904	14.5

6.1.3 Solar Energy

Implementation of a new solar energy system has been evaluated to determine the economic feasibility for furnishing and installing such systems for the East Camden High School District. Based on the simple payback modeling performed, it would benefit the District to further investigate installing the solar energy systems at the high school. This is primarily based on the initial upfront capital investment required for a solar energy system installation and an acceptable payback period.

Two major factors influencing the project financial evaluation is the variance of the prevailing energy market conditions and Solar Renewable Energy Credit (SREC) rates, with the largest impact to the simple payback model being the SREC credit pricing.

Table 6.1-3, includes a summary of the solar energy ECRM for the high school.

Table 6.1-3				
Ranking of Energy Savings Measures – Solar Energy				
Building	Installation Cost	Annual SREC Credit	Annual Fiscal Savings	Payback Period (Years)
East Camden Regional High School	\$23,900,130	\$1,991,843	\$511,517	9.5

It should be noted that Federal and other tax incentives were not included in this simple payback model. Refer to Appendix E for more detailed solar energy models.

6.1.4 Miscellaneous Plug Loads

In an effort to reduce miscellaneous plug loads throughout the high school, it is recommended that Smart Strips be installed in computer classrooms and offices to provide energy savings on loads such as computer monitors, printers, scanners, copiers, radios, DVD players, etc. The following table 6.1-4 presents a summary of the potential energy savings available to the District assuming that thirty (30) smart strips are purchased and that LCD monitors are plugged into the automatic outlets. This table is presented to provide the District with a conservative payback period on what is considered to be a worthwhile investment. This is a conservative payback, as LCD monitors in standby mode were utilized in calculating the annual fiscal savings. CRT monitors, printers, scanners and other office peripherals utilize more energy and would thereby result in greater energy cost savings for the District when plugged into the automatic outlets on Smart Strips.

Table 6.1-4			
Ranking of Energy Savings Measures – Miscellaneous Plug Loads			
Building	Installation Cost	Annual Fiscal Savings	Payback Period (Months)
East Camden Regional High School – Implementation of Smart Strips	\$1,200	\$1,506	9.5

Section 7

Available Grants, Incentives and Funding Sources

7.1 Solar Energy Incentives and Financial Options

7.1.1 Solar Renewable Energy Certificates

As part of New Jersey's Renewable Portfolio Standards (RPS), electric suppliers are required to have an annually-increasing percentage of their retail sales generated by solar energy. Electric suppliers fulfill this obligation by purchasing SRECs from the owners of solar generating systems. One SREC is created for every 1,000 kWh (1 MWh) of solar electricity generated. Although solar systems generate electricity and SRECs in tandem, the two are independent commodities and sold separately. The RPS, and creation of SRECs, is intended to provide additional revenue flow and financial support for solar projects in New Jersey.

We have assumed what we believe to be a conservative estimate of the market value of SRECs over a 15 year period. Over the first 5 years, we have assumed that the SREC value would be at 80% of the NJBPU market forecast. For years 6 through 9, we have assumed that the SREC value would be at 75% of the NJBPU market forecast. Finally, for the balance of the term, we have assumed that the SREC value would be at a floor of \$350 per SREC. We believe these values to be conservative compared to recent market transactions. We know of recent transactions in excess of \$650 for 1 year, \$550 for 4 years and \$375 for 12 years. Should the winning developer have contracts in place, or a view of the market that SRECs will exceed our assumptions; the economics of the project will improve.

In addition, State law now requires that the utility must interconnect and net meter your photovoltaic system provided your system passes the local electrical inspection (National Electric Code) and meets the utility safety requirements as outlined in the law. Net metering is the term given which allows your utility meter to literally "spin backward" when the solar panels are producing more electricity than the building is using. However, given the high electrical demand of the facility at most times, this scenario is unlikely to happen.

7.1.2 Financing Options for Solar Projects

1. Direct Purchase - under this model, the District would fund the project directly, and receive all of the financial benefits of a PV system directly.
2. Power Purchase Agreement (PPA) - under this model, a private, third party would invest all of the capital necessary to build, own, operate, and maintain the PV system. The third party would claim all of the financial benefits of the project, including federal tax incentives and accelerated depreciation benefits that public sector entities are not entitled to. The District would enter into a 15 or 20 year

agreement to purchase power from the PV system at a rate guaranteed to be less than the cost of power from the utility. It should be noted that most PPAs require a minimum system size of approximately 300 kW on one building.

Additional Potential Financial Incentives:

Debt Service Aid - Based on the Education Facilities Construction and Financing Act signed into law in 2000, New Jersey Boards of Education are eligible for 40% debt service aid for eligible improvements to school facilities. It is anticipated that the installation of solar photovoltaic panels will be considered eligible improvements. Under this scenario the District would be required to go to referendum for voter approval to gain access to debt service aid.

Clean Renewable Energy Bonds - The federal government made available \$750 Million in federal income tax credit allotments in 2007-08 for local governments to support the installation of green energy generation systems including solar photovoltaic. Such allotments may provide for an interest-free loan for the issuer. The recent energy bill for 2008-09 did not include any provisions for this energy bond. However, industry experts expect some allotments will be included prior to execution of the final plan. Although there is no guarantee that the District will be awarded such allotments, we have included the calculation for illustration purposes. If the program is approved for 2008-09 an application will be submitted on behalf of the Point Pleasant Borough Board of Education.

7.2 New Jersey Clean Energy Program

7.2.1 Introduction

New Jersey's Clean Energy Program (NJCEP) promotes increased energy efficiency and the use of clean, renewable sources of energy including solar, wind, geothermal, and sustainable biomass. The results for New Jersey are a stronger economy, less pollution, lower costs, and reduced demand for electricity. NJCEP offers financial incentives, programs, and services for residential, commercial, and municipal customers.

NJCEP reduces the need to generate electricity and burn natural gas which eliminates the pollution that would have been caused by such electric generation or natural gas usage. The benefits of these programs continue for the life of the measures installed, which on average is about 15 years. Thus, the public receives substantial environmental and public health benefits from programs that also lower energy bills and benefit the economy.

7.2.2 New Jersey Smart Start Program

The New Jersey Smart Start Program offers rebate incentives for several qualifying equipment such as high efficient premium motors and lighting, and lighting controls.

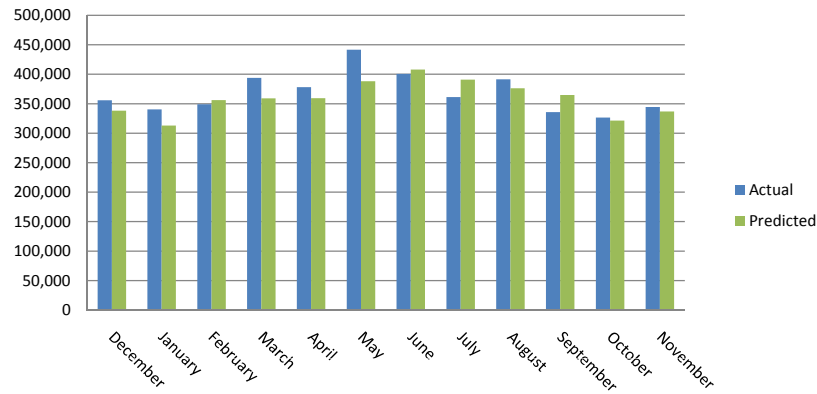
Incentive information and incentive calculation worksheets are provided for the various new equipment installation identified in this report and are included in Appendix G.

APPENDIX A

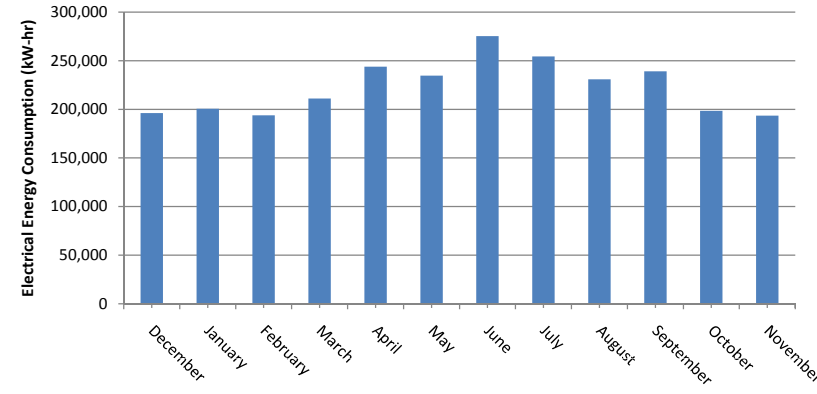
UTILITY BILL INFORMATION

Electric Bills												Electric Bills													
Eastern Regional High School (Intermediate School)												Eastern Regional High School (Senior High School)													
Date	Year	Total Electric Charges	On Peak (kWh)	Off Peak (kWh)	Total (kWh)	Overall Cost Per KWH	Measured Demand (kW)	Annual Demand Charge	Summer Demand Charge	Cost Per KW Demand (Annual)	Cost Per KW Demand (Summer)	Date	Year	Total Electric Charges	On Peak (kWh)	Off Peak (kWh)	Total (kWh)	Overall Cost Per KWH	Measured Demand	Annual Demand Charge	Summer Demand Charge	Cost Per KW Demand (Annual)	Cost Per KW Demand (Summer)		Total Building kWh
11/30-12/31	2007	\$22,901.83	91,484	104,690	196,174	\$0.11674	460.6	\$1,485.62		\$3.23		11/30-12/31	2007	\$17,748.05	73,095	75,250	148,345	\$0.11964	386.6	\$1,246.94		\$3.23		January	355,894
12/31-1/31	2008	\$24,594.91	105,213	95,350	200,563	\$0.12263	438.3	\$1,413.69		\$3.23		12/31-1/31	2008	\$18,609.40	84,906	70,425	155,331	\$0.11980	388.6	\$1,253.39		\$3.23		February	340,442
1/31-2/29	2008	\$23,599.07	99,046	94,865	193,911	\$0.12170	462.9	\$1,493.04		\$3.23		1/31-2/29	2008	\$18,128.63	78,236	68,295	146,531	\$0.12372	379.3	\$1,223.39		\$3.23		March	349,076
2/29-3/31	2008	\$24,728.79	100,896	110,205	211,101	\$0.11714	500.3	\$1,613.67		\$3.23		2/29-3/31	2008	\$16,585.91	68,021	69,954	137,975	\$0.12021	367.9	\$1,186.62		\$3.23		April	393,828
3/31-4/30	2008	\$28,135.73	127,733	116,218	243,951	\$0.11533	539.8	\$1,741.07		\$3.23		3/31-4/30	2008	\$17,976.60	83,658	66,219	149,877	\$0.11994	408.9	\$1,318.87		\$3.23		May	378,156
4/30-5/31	2008	\$27,451.87	118,311	116,286	234,597	\$0.11702	558.6	\$1,801.71		\$3.23		4/30-5/31	2008	\$17,598.25	80,003	63,556	143,559	\$0.12259	427.8	\$1,379.83		\$3.23		June	441,745
5/31-6/30	2008	\$44,638.25	128,167	147,216	275,383	\$0.16210	686.5	\$2,214.24	\$5,267.86	\$3.23	\$7.67	5/31-6/30	2008	\$28,932.60	85,501	80,861	166,362	\$0.17391	525.4	\$1,694.63	\$4,031.66	\$3.23	\$7.67	July	400,716
6/30-7/31	2008	\$40,624.31	120,175	134,278	254,453	\$0.15965	494.5	\$1,594.96	\$3,794.55	\$3.23	\$7.67	6/30-7/31	2008	\$24,431.88	75,333	70,930	146,263	\$0.16704	316.4	\$1,020.52	\$2,427.90	\$3.23	\$7.67	August	361,187
7/31-8/31	2008	\$38,293.14	102,056	128,908	230,964	\$0.16580	458.7	\$1,479.49	\$3,519.83	\$3.23	\$7.67	7/31-8/31	2008	\$23,018.20	63,197	67,026	130,223	\$0.17676	323.2	\$1,042.45	\$2,480.08	\$3.23	\$7.67	September	391,348
8/31-9/30	2008	\$40,165.94	125,516	113,668	239,184	\$0.16793	576.9	\$1,860.73	\$4,426.84	\$3.23	\$7.67	8/31-9/30	2008	\$27,275.34	87,618	64,546	152,164	\$0.17925	465	\$1,499.81	\$3,568.18	\$3.23	\$7.67	October	335,717
9/30-10/31	2008	\$26,492.08	107,612	90,806	198,418	\$0.13352	543.1	\$1,751.71		\$3.23		9/30-10/31	2008	\$18,576.13	79,175	58,124	137,299	\$0.13530	387.6	\$1,250.17		\$3.23	\$0.00	November	326,548
10/31-11/30	2008	\$24,973.80	93,591	99,933	193,524	\$0.12905	513.3	\$1,655.60		\$3.23		10/31-11/30	2008	\$17,560.19	70,075	62,949	133,024	\$0.13201	395.6	\$1,275.97		\$3.23	\$0.00	December	344,519

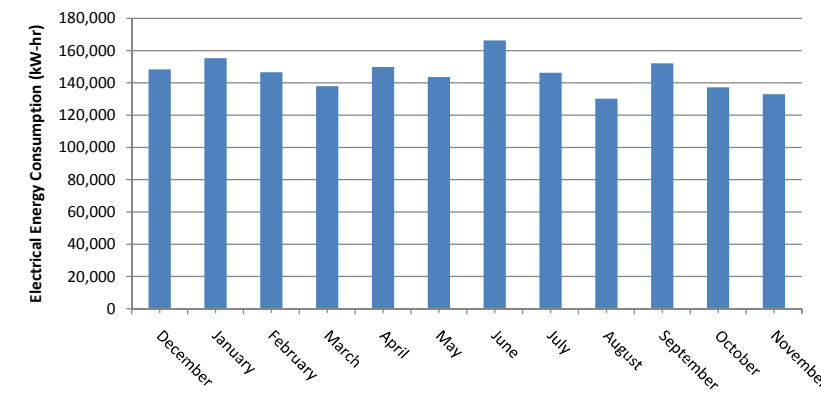
Entire High School



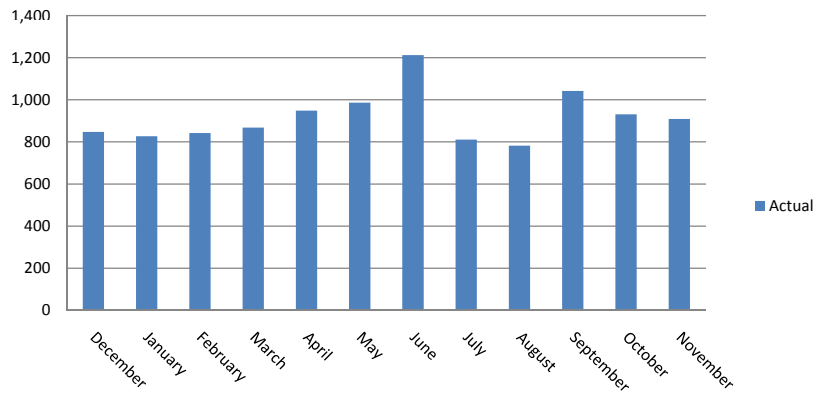
Intermediate High School



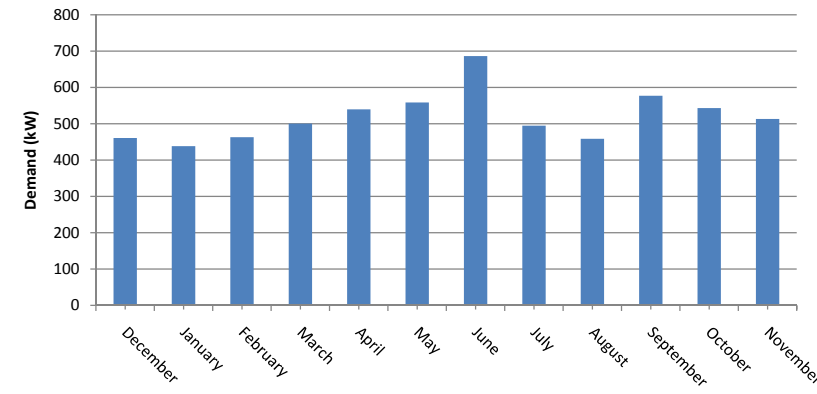
Senior High School



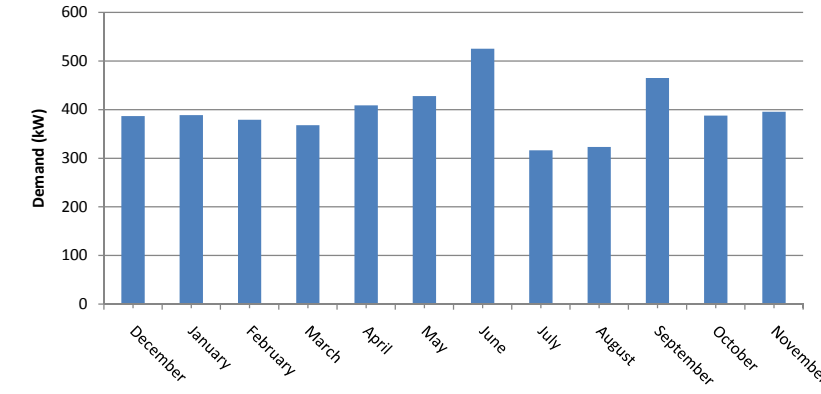
Entire High School



Intermediate High School - Demand

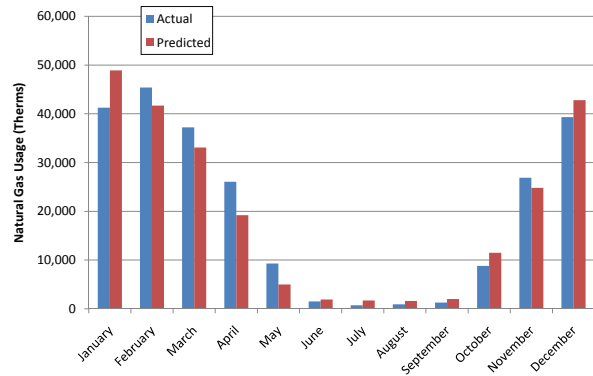


Senior High School - Demand



Natural Gas Bills						
SJ Gas Account #20704429909						
Date	Year	Therms	Total Charges	Price/Therm		Adjusted Therms (To account for billing cycle)
1/9-2/9	2004	51,133	\$52,438.82	\$1.03		
2/9-3/10	2004	44,006	\$45,232.94	\$1.03	February	46,382
3/10-4/9	2004	48,117	\$49,371.57	\$1.03	March	46,747
4/9-5/11	2004	53,539	\$54,892.14	\$1.03	April	51,732
5/11-6/10	2004	1,570	\$1,694.74	\$1.08	May	18,893
6/10-7/9	2004	1,084	\$1,172.85	\$1.08	June	1,246
7/9-8/10	2004	657	\$2,022.61	\$3.08	July	799
8/10-9/9	2004	872	\$2,138.62	\$2.45	August	800
9/9-10/11	2004	1,285	\$2,617.13	\$2.04	September	1,147
10/11-11/8	2004	13,247	\$32,707.30	\$2.47	October	9,260
11/8-12/8	2004	23,782	\$23,825.20	\$1.00	November	20,271
12/9-1/9	2004	38,170	\$37,576.11	\$0.98	December	33,374
1/10-2/8	2005	44,547	\$43,437.64	\$0.98	January	42,422
2/8-3/9	2005	42,837	\$41,818.99	\$0.98	February	43,407
3/9-4/8	2005	33,109	\$32,788.26	\$0.99	March	36,352
4/8-5/9	2005	13,466	\$14,158.40	\$1.05	April	20,014
5/9-6/8	2005	1,540	\$2,777.01	\$1.80	May	5,515
6/8-7/8	2005	1,170	\$2,438.10	\$2.08	June	1,293
7/8-8/9	2005	933	\$2,297.85	\$2.46	July	1,012
8/9-9/8	2005	912	\$2,189.90	\$2.40	August	919
9/8-10/6	2005	1,145	\$4,055.85	\$3.54	September	1,067
10/6-11/7	2005	12,297	\$25,744.14	\$2.09	October	8,580
11/7-12/8	2005	33,661	\$63,571.75	\$1.89	November	26,540
12/8-1/9	2005	45,078	\$74,680.42	\$1.66	December	41,272
1/9-2/7	2006	33,479	\$53,597.45	\$1.60	January	37,345
2/7-3/9	2006	41,680	\$53,820.50	\$1.29	February	38,946
3/9-4/7	2006	20,801	\$25,122.22	\$1.21	March	27,761
4/7-5/9	2006	13,984	\$17,345.91	\$1.24	April	16,256
5/9-6/9	2006	6,210	\$14,063.88	\$2.26	May	8,801
6/9-7/10	2006	468	\$1,520.74	\$3.25	June	2,382
7/10-8/8	2006	342	\$1,369.89	\$4.00	July	384
8/8-9/6	2006	843	\$2,226.60	\$2.64	August	676
9/6-10/6	2006	1,422	\$3,137.20	\$2.21	September	1,229
10/6-11/7	2006	12,973	\$30,755.00	\$2.37	October	9,122
11/7-12/8	2006	26,185	\$40,406.85	\$1.54	November	21,781
12/8-1/9	2006	34,059	\$51,996.18	\$1.53	December	31,434
1/9-2/6	2007	39,265	\$59,582.41	\$1.52	January	37,530
2/6-3/9	2007	47,555	\$72,044.10	\$1.51	February	44,792
3/9-4/9	2007	29,966	\$45,861.14	\$1.53	March	35,829
4/9-5/8	2007	17,130	\$26,672.73	\$1.56	April	21,409
5/8-6/8	2007	1,907	\$4,092.54	\$2.15	May	6,981
6/8-7/9	2007	1,083	\$2,865.82	\$2.65	June	1,357
7/9-8/7	2007	787	\$2,344.39	\$2.98	July	885
8/7-9/10	2007	1,150	\$3,086.94	\$2.68	August	1,029
9/10-10/10	2007	1,497	\$3,440.24	\$2.30	September	1,381
10/10-11/6	2007	9,772	\$15,659.98	\$1.60	October	7,014
11/6-12/7	2007	36,293	\$55,778.28	\$1.54	November	27,453
12/7-1/9	2007	44,078	\$64,491.97	\$1.46	December	41,483
1/9-2/8	2008	39,362	\$57,614.81	\$1.46	January	40,934
2/8-3/10	2008	41,900	\$61,289.30	\$1.46	February	41,054
3/10-4/9	2008	31,114	\$45,807.87	\$1.47	March	34,710
4/9-5/8	2008	15,794	\$23,850.43	\$1.51	April	20,901
5/8-6/9	2008	1,572	\$3,631.33	\$2.31	May	6,313
6/9-7/9	2008	1,008	\$2,737.79	\$2.72	June	1,196
7/9-8/7	2008	382	\$3,202.70	\$8.39	July	591
8/7-9/8	2008	1,547	\$3,595.49	\$2.32	August	1,159
9/8-10/8	2008	1,534	\$3,490.50	\$2.27	September	1,539
10/8-11/6	2008	14,216	\$21,620.12	\$1.52	October	9,989
11/6-12/8	2008	50,423	\$73,784.41	\$1.46	November	38,354
12/8-1/8	2008	48,412	\$74,053.78	\$1.53	December	49,083
1/8-2/8	2009	47,854	\$73,155.20	\$1.53	January	48,040
2/6-3/10	2009	62,731	\$65,512.50	\$1.04	February	57,772
3/10-4/8	2009	31,608	\$48,743.56	\$1.54	March	41,983
4/8-5/1	2009	19,792	\$30,763.59	\$1.55		
5/1-6/2	2009	1,720	\$3,982.72	\$2.32		
6/2-7/1	2009	1,332	\$3,266.36	\$2.45		

Month	Therms Used
January	41,254
February	45,392
March	37,230
April	26,062
May	9,301
June	1,495
July	734
August	917
September	1,273
October	8,793
November	26,880
December	39,329



APPENDIX B

STATEMENT OF ENERGY PERFORMANCE SUMMARY SHEETS

PORTFOLIO MANAGER REFERENCE GUIDE



STATEMENT OF ENERGY PERFORMANCE

Eastern Camden Regional High School

Building ID: 1809801

For 12-month Period Ending: November 30, 2008¹

Date SEP becomes ineligible: N/A

Date SEP Generated: August 12, 2009

Facility

Eastern Camden Regional High School
1401 Laurel Rd
Voorhees, NJ 08043

Facility Owner

Eastern Camden County Regional School
District
1202 Laurel Oak Road, P.O. Box 2500
Voorhees, NJ 08043

Primary Contact for this Facility

Fred Wright
1202 Laurel Oak Road, P.O. Box 2500
Voorhees, NJ 08043

Year Built: 1964

Gross Floor Area (ft²): 407,000

Energy Performance Rating² (1-100) 52

Site Energy Use Summary³

Natural Gas (kBtu) ⁴	23,864,534
Electricity (kBtu)	15,041,494
Total Energy (kBtu)	38,906,028

Energy Intensity⁵

Site (kBtu/ft ² /yr)	96
Source (kBtu/ft ² /yr)	185

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	3,560
---	-------

Electric Distribution Utility

PSE&G - Public Service Elec & Gas Co

National Average Comparison

National Average Site EUI	98
National Average Source EUI	189
% Difference from National Average Source EUI	-2%
Building Type	K-12 School

Meets Industry Standards⁶ for Indoor Environmental Conditions:

Ventilation for Acceptable Indoor Air Quality	N/A
Acceptable Thermal Environmental Conditions	N/A
Adequate Illumination	N/A

Stamp of Certifying Professional
Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate.

Certifying Professional

Matthew Goss
15 British American Blvd
Latham, NY 12110

Notes:

1. Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
2. The EPA Energy Performance Rating is based on total source energy. A rating of 75 is the minimum to be eligible for the ENERGY STAR.
3. Values represent energy consumption, annualized to a 12-month period.
4. Natural Gas values in units of volume (e.g. cubic feet) are converted to kBtu with adjustments made for elevation based on Facility zip code.
5. Values represent energy intensity, annualized to a 12-month period.
6. Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

ENERGY STAR® Data Checklist for Commercial Buildings

In order for a building to qualify for the ENERGY STAR, a Professional Engineer (PE) must validate the accuracy of the data underlying the building's energy performance rating. This checklist is designed to provide an at-a-glance summary of a property's physical and operating characteristics, as well as its total energy consumption, to assist the PE in double-checking the information that the building owner or operator has entered into Portfolio Manager.

Please complete and sign this checklist and include it with the stamped, signed Statement of Energy Performance.

NOTE: You must check each box to indicate that each value is correct, OR include a note.

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Building Name	Eastern Camden Regional High School	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		<input type="checkbox"/>
Type	K-12 School	Is this an accurate description of the space in question?		<input type="checkbox"/>
Location	1401 Laurel Rd, Voorhees, NJ 08043	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		<input type="checkbox"/>
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building		<input type="checkbox"/>

East Camden High School (K-12 School)

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Gross Floor Area	407,000 Sq. Ft.	Does this square footage include all supporting functions such as kitchens and break rooms used by staff, storage areas, administrative areas, elevators, stairwells, atria, vent shafts, etc. Also note that existing atriums should only include the base floor area that it occupies. Interstitial (plenum) space between floors should not be included in the total. Finally gross floor area is not the same as leasable space. Leasable space is a subset of gross floor area.		<input type="checkbox"/>
Open Weekends?	Yes	Is this building normally open at all on the weekends? This includes activities beyond the work conducted by maintenance, cleaning, and security personnel. Weekend activity could include any time when the space is used for classes, performances or other school or community activities. If the building is open on the weekend as part of the standard schedule during one or more seasons, the building should select ?yes? for open weekends. The ?yes? response should apply whether the building is open for one or both of the weekend days.		<input type="checkbox"/>
Number of PCs	950	Is this the number of personal computers in the K12 School?		<input type="checkbox"/>
Number of walk-in refrigeration/freezer units	1	Is this the total number of commercial walk-in type freezers and coolers? These units are typically found in storage and receiving areas.		<input type="checkbox"/>
Presence of cooking facilities	Yes	Does this school have a dedicated space in which food is prepared and served to students? If the school has space in which food for students is only kept warm and/or served to students, or has only a galley that is used by teachers and staff then the answer is "no".		<input type="checkbox"/>
Percent Cooled	30 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		<input type="checkbox"/>
Percent Heated	100 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		<input type="checkbox"/>

Months	12 (Optional)	Is this school in operation for at least 8 months of the year?	<input type="checkbox"/>
High School?	Yes	Is this building a high school (teaching grades 10, 11, and/or 12)? If the building teaches to high school students at all, the user should check 'yes' to 'high school'. For example, if the school teaches to grades K-12 (elementary/middle and high school), the user should check 'yes' to 'high school'.	<input type="checkbox"/>

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

Power Generation Plant or Distribution Utility: PSE&G - Public Service Elec & Gas Co

Fuel Type: Electricity		
Meter: Senior High School Electricity (kWh (thousand Watt-hours))		
Space(s): Entire Facility		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
10/31/2008	11/30/2008	133,024.00
09/30/2008	10/31/2008	137,299.00
08/31/2008	09/30/2008	152,164.00
07/31/2008	08/31/2008	130,223.00
06/30/2008	07/31/2008	146,263.00
05/31/2008	06/30/2008	166,362.00
04/30/2008	05/31/2008	143,559.00
03/31/2008	04/30/2008	149,877.00
02/29/2008	03/31/2008	137,975.00
01/31/2008	02/29/2008	146,531.00
12/31/2007	01/31/2008	155,331.00
11/30/2007	12/31/2007	148,345.00
Senior High School Electricity Consumption (kWh (thousand Watt-hours))		1,746,953.00
Senior High School Electricity Consumption (kBtu)		5,960,603.64
Meter: Intermediate School Electricity (kWh (thousand Watt-hours))		
Space(s): Entire Facility		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
10/31/2008	11/30/2008	193,524.00
09/30/2008	10/31/2008	198,418.00
08/31/2008	09/30/2008	239,184.00
07/31/2008	08/31/2008	230,964.00
06/30/2008	07/31/2008	254,453.00
05/31/2008	06/30/2008	275,383.00
04/30/2008	05/31/2008	234,597.00
03/31/2008	04/30/2008	243,951.00
02/29/2008	03/31/2008	211,101.00
01/31/2008	02/29/2008	193,911.00
12/31/2007	01/31/2008	200,563.00
11/30/2007	12/31/2007	196,174.00
Intermediate School Electricity Consumption (kWh (thousand Watt-hours))		2,672,223.00
Intermediate School Electricity Consumption (kBtu)		9,117,624.88

Total Electricity Consumption (kBtu)	15,078,228.51
Is this the total Electricity consumption at this building including all Electricity meters?	<input type="checkbox"/>

Fuel Type: Natural Gas		
Meter: Gas (therms)		
Space(s): Entire Facility		
Start Date	End Date	Energy Use (therms)
10/08/2008	11/06/2008	14,216.00
09/08/2008	10/08/2008	1,534.00
08/07/2008	09/08/2008	1,547.00
07/09/2008	08/07/2008	382.00
06/09/2008	07/09/2008	1,008.00
05/08/2008	06/09/2008	1,572.00
04/09/2008	05/08/2008	15,794.00
03/10/2008	04/09/2008	31,114.00
02/08/2008	03/10/2008	41,900.00
01/09/2008	02/08/2008	39,362.00
12/07/2007	01/09/2008	44,078.00
Gas Consumption (therms)		192,507.00
Gas Consumption (kBtu)		19,250,700.00
Total Natural Gas Consumption (kBtu)		19,250,700.00
Is this the total Natural Gas consumption at this building including all Natural Gas meters?		<input type="checkbox"/>

Additional Fuels	
Do the fuel consumption totals shown above represent the total energy use of this building? Please confirm there are no additional fuels (district energy, generator fuel oil) used in this facility.	<input type="checkbox"/>

Certifying Professional

(When applying for the ENERGY STAR, this must be the same PE that signed and stamped the SEP.)

Name: _____ Date: _____

Signature: _____

Signature is required when applying for the ENERGY STAR.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

Please keep this Facility Summary for your own records; do not submit it to EPA. Only the Statement of Energy Performance (SEP), Data Checklist and Letter of Agreement need to be submitted to EPA when applying for the ENERGY STAR.

Facility

Eastern Camden Regional High School
1401 Laurel Rd
Voorhees, NJ 08043

Facility Owner

Eastern Camden County Regional School District
1202 Laurel Oak Road, P.O. Box 2500
Voorhees, NJ 08043

Primary Contact for this Facility

Fred Wright
1202 Laurel Oak Road, P.O. Box 2500
Voorhees, NJ 08043

General Information

Eastern Camden Regional High School	
Gross Floor Area Excluding Parking: (ft ²)	407,000
Year Built	1964
For 12-month Evaluation Period Ending Date:	November 30, 2008

Facility Space Use Summary

East Camden High School	
Space Type	K-12 School
Gross Floor Area(ft ²)	407,000
Open Weekends?	Yes
Number of PCs	950
Number of walk-in refrigeration/freezer units	1
Presence of cooking facilities	Yes
Percent Cooled	30
Percent Heated	100
Months ^o	12
High School?	Yes
School District ^o	Eastern Camden County

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 11/30/2008)	Baseline (Ending Date 01/31/2005)	Rating of 75	Target	National Average
Energy Performance Rating	52	100	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	96	67	76	N/A	98
Source (kBtu/ft ²)	185	70	148	N/A	189
Energy Cost					
\$/year	\$ 971,201.68	\$ 299,853.90	\$ 776,941.02	N/A	\$ 993,553.85
\$/ft ² /year	\$ 2.39	\$ 0.74	\$ 1.91	N/A	\$ 2.45
Greenhouse Gas Emissions					
MtCO ₂ /year	3,560	1,454	2,848	N/A	3,642
kgCO ₂ e/ft ² /year	9	4	7	N/A	9

More than 50% of your building is defined as K-12 School. Please note that your rating accounts for all of the spaces listed. The National Average column presents energy performance data your building would have if your building had an average rating of 50.

Notes:

- o - This attribute is optional.
- d - A default value has been supplied by Portfolio Manager.

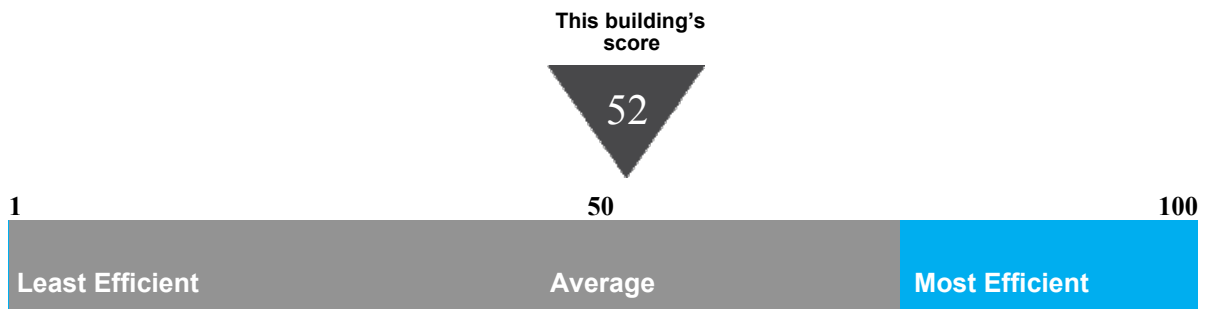
Statement of Energy Performance

2008

Eastern Camden Regional High School
1401 Laurel Rd
Voorhees, NJ 08043

Portfolio Manager Building ID: 1809801

The energy use of this building has been measured and compared to other similar buildings using the Environmental Protection Agency's (EPA's) Energy Performance Scale of 1–100, with 1 being the least energy efficient and 100 the most energy efficient. For more information, visit energystar.gov/benchmark.



This building uses 185 kBtu per square foot per year.*

*Based on source energy intensity for the 12 month period ending November 2008

Buildings with a score of 75 or higher may qualify for EPA's ENERGY STAR.

I certify that the information contained within this statement is accurate and in accordance with U.S. Environmental Protection Agency's measurement standards, found at energystar.gov

Date of certification



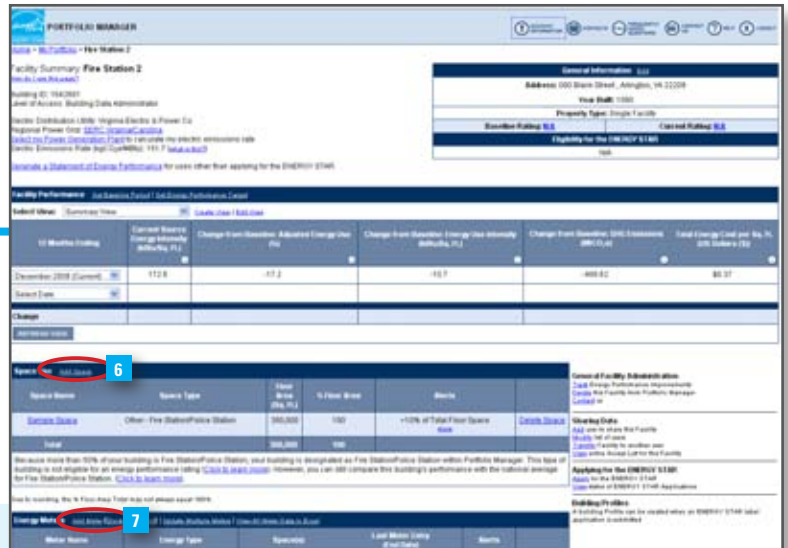


PORTFOLIO MANAGER QUICK REFERENCE GUIDE

Portfolio Manager is an interactive energy management tool that allows you to track and assess energy and water consumption across your entire portfolio of buildings in a secure online environment. Use this Quick Reference Guide to identify opportunities for energy efficiency improvements, track your progress over time, and verify results.

IDENTIFY ENERGY EFFICIENCY PROJECTS

Use Portfolio Manager to identify under-performing buildings to target for energy efficiency improvements and establish baselines for setting and measuring progress for energy efficiency improvement projects over time.



STEP	ACTIVITY	ACTION
1	Access Portfolio Manager. (step not shown)	Visit www.energystar.gov/benchmark . Scroll down to the Login section on the right-hand side in the middle of the page.
2	Access your account: (step not shown) • Create a new account. • Login to an existing account.	<ul style="list-style-type: none"> • Click REGISTER, and follow instructions. • Enter user name and password, and click LOGIN.
3	Review system updates and enter account. (step not shown)	Click ACCESS MY PORTFOLIO , located below Welcome to Portfolio Manager .
4	Add a new facility. (step not shown)	Click ADD a Property, located in the upper right portion of the screen.
5	Select property type and enter general facility information. (step not shown)	Select the option that most closely resembles your facility and click CONTINUE . Enter general data and click SAVE . For more information on facility space types, see: www.energystar.gov/index.cfm?c=eligibility.bus_portfoliomanager_space_types .
6	Enter space use data.	<p>From the Facility Summary page, shown above, go to the Space Use section, located half way down the page, and click ADD SPACE.</p> <ul style="list-style-type: none"> • Enter a facility name. In the Select a Space Type menu, select the appropriate space type(s) for your building. If your space is not listed, select Other. Click CONTINUE. • Enter building characteristics. Click SAVE. Information required for each space type is listed here: www.energystar.gov/index.cfm?c=eligibility.bus_portfoliomanager_space_types. • Repeat steps above to add all major spaces in your facility. <p>Use bulk import service to minimize manual data entry of large sets of facility data (10 or more facilities or campuses are required).</p> <ul style="list-style-type: none"> • Go back to My Portfolio by clicking on the link in the upper left portion of the page. • Click IMPORT Facility Data Using Templates, located below Add a Property.
7	Enter energy use data.	<p>From the Facility Summary page, go to the Energy Meters section, located below the Space Use section, and click ADD METER.</p> <ul style="list-style-type: none"> • Enter meter name, type, and units. Click SAVE. • Enter number of months and start date. Click CONTINUE. • Enter energy use and cost for each month. Click SAVE. • Repeat for all energy meters and fuel types.

Group Averages

Baseline Rating: 72 Facilities Included: 1	Current Rating: 80 Facilities Included: 1
Change from Baseline: Group Adjusted Percent Energy Use (%): -14.8% Facilities Included: 2	
Averages are weighted by Total Floor Space. More about Baseline More about Change from Baseline Adjusted Energy Use	

VIEW: Summary View (9a)

CREATE GROUP (8)

Download in Excel (9b)

Facility Name	Current Source Energy Intensity (kBtu/Sq. Ft.)	Change from Baseline: Adjusted Energy Use (%)	Change from Baseline: Energy Use Intensity (kBtu/Sq. Ft.)	Change from Baseline: GHG Emissions (MtCO ₂ e)	Total Energy Cost per Sq. Ft. (U.S. Dollars (\$))
Fire Station 1	160.1	-12.3	-6.1	-275.86	\$0.30
Fire Station 2	172.6	-17.2	-10.7	-488.62	\$0.37

STEP	ACTIVITY	ACTION
------	----------	--------

8 Create custom groups.

Organize facilities into groups (e.g., Fire Stations, Northwest Region). Groups are completely customizable, and each facility may belong to multiple groups.

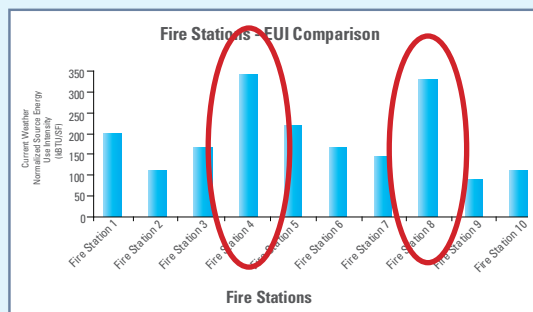
- From the **My Portfolio** page, click **CREATE GROUP**, located directly to the right of the **Group** drop-down menu.
- Follow instructions to select buildings and name your group.
- Once they have been saved, custom groups will be available in the **Group** drop-down menu.

9 View and interpret results.

Option 1: Go to **My Portfolio** and view all buildings to compare performance metrics.

Option 2: Export data to Microsoft® Excel.

- On the **My Portfolio** page, select the view, from the **View** drop-down menu that will display the data you wish to export. The **My Portfolio** page will update to display the selected view. (9a)
- Select the **DOWNLOAD IN EXCEL** link. A File Download dialog window will open. Follow the steps provided by Excel. (9b)
- Use Excel functionality to view building energy performance graphically. The example below shows a comparison of Energy Use Intensity for a portfolio of fire stations, identifying under-performing buildings to target for energy efficiency improvements.

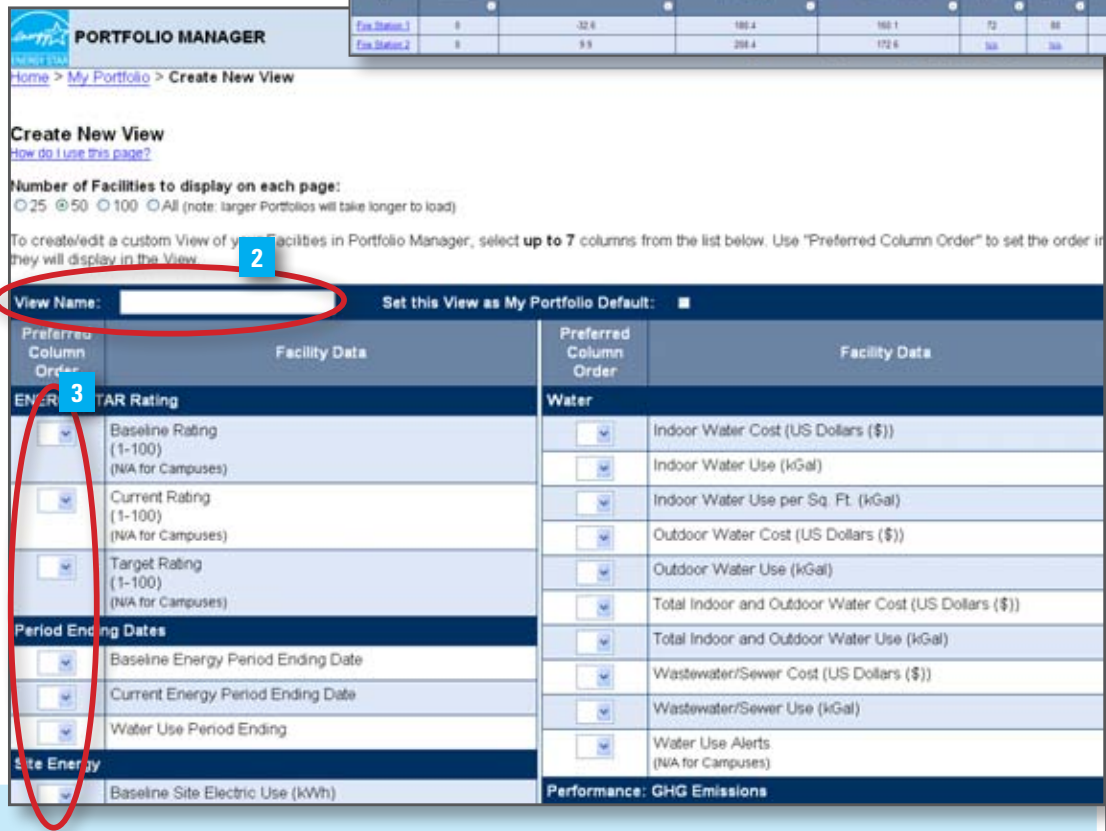
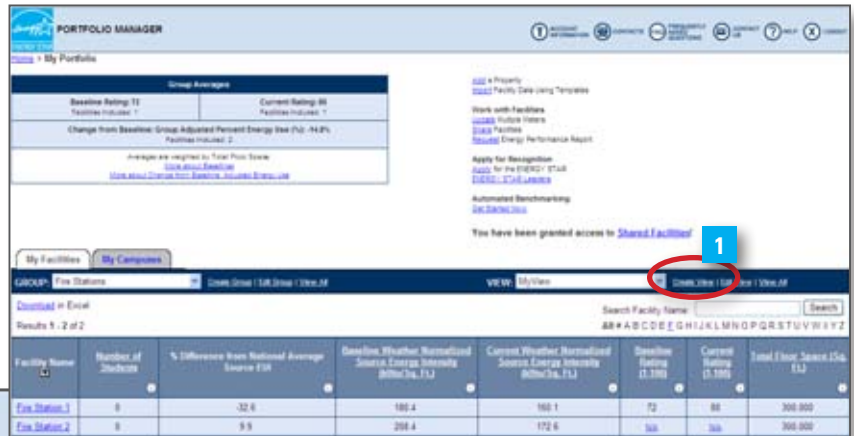


TRACK PROGRESS OVER TIME

Portfolio Manager comes pre-populated with nine standard summary views of facility data, which are displayed on the My Portfolio summary page. These standard views include:

- Summary: Energy Use
- Performance: Green House Gas Emissions
- Performance: Financial
- Performance: Water Use

Additionally, users can create and save custom downloadable views by choosing from more than 70 different metrics. The default view set by the user will display automatically after logging into Portfolio Manager, and data from all views can be exported to Microsoft® Excel.



CREATE A CUSTOM VIEW

STEP ACTION

- 1 From the **My Portfolio** page or the **Facility Summary** page, select the **Create View** link, located directly to the right of the **View** drop-down menu.
- 2 Enter a name for the view. To set as the default view, select the box labeled **Set this View as My Portfolio Default**, located directly to the right of **View Name**. You may include up to 7 (seven) columns in each view.
- 3 Choose each metric to be included in the view by selecting an order number from the **Preferred Column Order** drop-down menu to the left of the **Facility Data** column.
- 4 Click **SAVE** at the bottom of the page. You will be returned to the **My Portfolio** page, and your custom view will be available in the **View** drop-down menu. (step not shown)

VERIFY AND DOCUMENT RESULTS

Use Portfolio Manager to quickly and accurately document reductions in energy use, greenhouse gas emissions, water use, and energy costs for an individual building or an entire portfolio. This valuable information can be used to provide a level of transparency and accountability to help demonstrate strategic use of funding.

Generate a Statement of Energy Performance that includes valuable information about your building's performance, including:

- Normalized energy use intensity
- National average comparisons
- Greenhouse gas emissions
- Energy performance rating (if available)

In addition, you can also request an Energy Performance Report to see the change in performance over time for selected buildings or an entire portfolio. Available comparative metrics in this report include:

- Normalized energy use intensity
- Total electric use
- Total natural gas use
- Energy performance rating (if available)

OMB No. 2050-0347

STATEMENT OF ENERGY PERFORMANCE Fire Station 2

Building ID: 1642061
For 12-month Period Ending: December 31, 2009
Date SEP becomes ineligible: N/A
Date SEP Generated: March 05, 2009

Facility	Facility Owner	Primary Contact for this Facility
Fire Station 2 000 Blank Street Arlington, VA 22209	N/A	N/A
Year Built: 1990 Gross Floor Area (ft ²): 300,000		
Energy Performance Rating ¹ (1-100)		
Energy Intensity²		
Site (kBtu/ft ² /yr)		52
Source (kBtu/ft ² /yr)		173
Emissions (based on site energy use)		
Greenhouse Gas Emissions (MTCO ₂ e/year)		2,352
Site Energy Use Summary³		
Electricity (kBtu)	15,500,000	
Natural Gas (kBtu) ⁴		
Total Energy (kBtu)		
Energy Intensity²		
Site (kBtu/ft ² /yr)	52	
Source (kBtu/ft ² /yr)	173	
Emissions (based on site energy use)		
Greenhouse Gas Emissions (MTCO ₂ e/year)	2,352	
Electric Distribution Utility		
Virginia Electric & Power Co		
National Average Comparison		
National Average Site EUI	78	
National Average Source EUI	157	
% Difference from National Average Source EUI	10%	
Building Type	Fire Station/Police Station	
Meets Industry Standards⁵ for Indoor Environmental Conditions:		
Ventilation for Acceptable Indoor Air Quality	N/A	
Acceptable Thermal Environmental Conditions	N/A	
Adequate Illumination	N/A	
Stamp of Certifying Professional		
Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate.		
Certifying Professional		
N/A		

Notes:
1. Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Absent of the ENERGY STAR is not their self approval is required from EPA.
2. The EPA Energy Performance Rating is based on site source energy. A rating of 70 is the minimum to be eligible for the ENERGY STAR.
3. Values represent energy consumption, measured in a 12-month period.
4. Natural Gas values in units of million Btu are converted to kBtu with adjustments made for conversion based on facility use code.
5. Includes low-voltage lighting systems and lighting levels are converted to kBtu with adjustments made for conversion based on facility use code.
6. Includes and EPA Lighting Handbook for Lighting quality.

PORTFOLIO MANAGER

Home > My Portfolio > Fire Station 2

Facility Summary: **Fire Station 2**

Building ID: 1642061
Level of Access: Building Data Administrator

Electric Distribution Utility: Virginia Electric & Power Co
Regional Power Grid: SERC Virginia/Carolina
Select my Power Generation Plant to calculate my electric emissions rate
Electric Emissions Rate (lb CO₂/ft²/yr): 151.7 (what is this?)

1 Generate a Statement of Energy Performance for this building

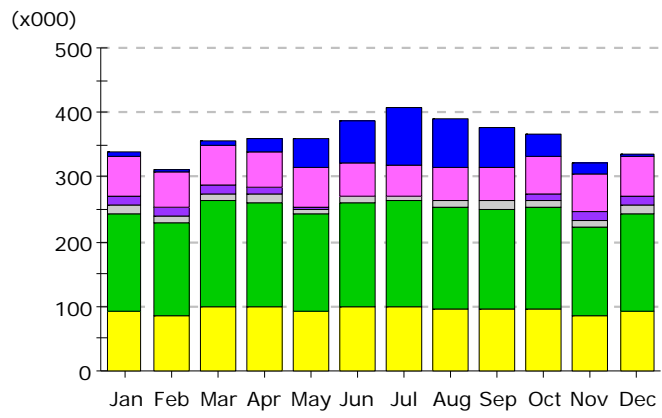
General information	
Address:	000 Blank Street, Arlington, VA 22209
Year Built:	1990
Property Type:	Single Facility
Baseline Rating:	N/A
Current Rating:	N/A
Eligibility for the ENERGY STAR	
N/A	

GENERATE A STATEMENT OF ENERGY PERFORMANCE AND AN ENERGY PERFORMANCE REPORT

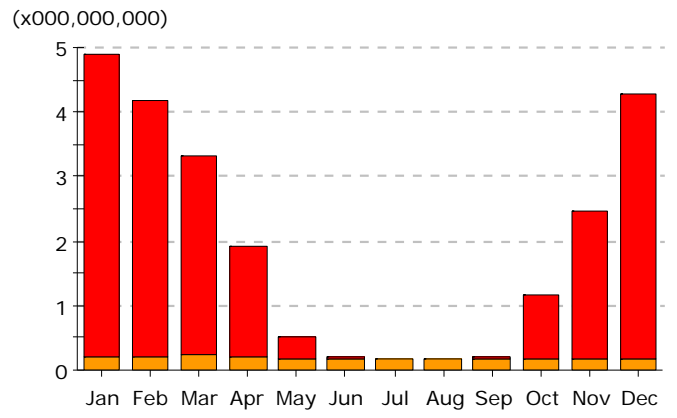
STEP	ACTION
1	From your selected building's Facility Summary page, click GENERATE A STATEMENT OF ENERGY PERFORMANCE .
2	On the next page, select a period ending date. (step not shown)
3	Click GENERATE REPORT , located in the bottom right corner of the screen. (step not shown)
4	Save the Statement of Energy Performance, accompanying Data Checklist, and Facility Summary that include information on energy use intensity and greenhouse gas emissions.
5	From the My Portfolio page, click REQUEST ENERGY PERFORMANCE REPORT , located under Work with Facilities , which shows reductions in key performance indicators over a user-specified time period. Specify the type of report, the facilities to be included, and the requested report columns. The report will be e-mailed to a user-specified address within one business day. (step not shown)

APPENDIX C
EQUEST MODEL RESULTS

Electric Consumption (kWh)



Gas Consumption (Btu)



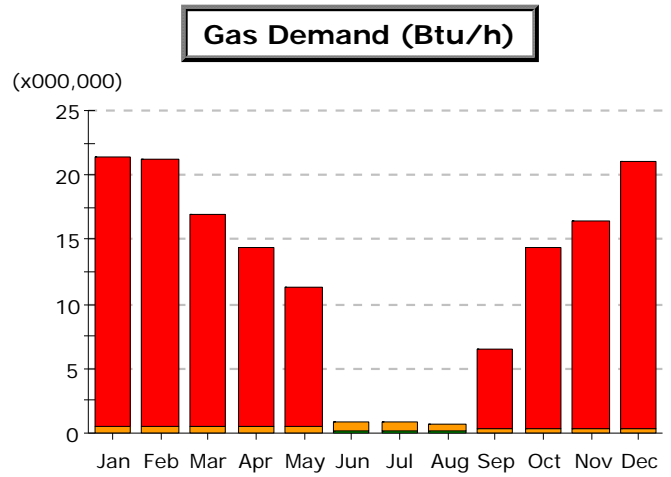
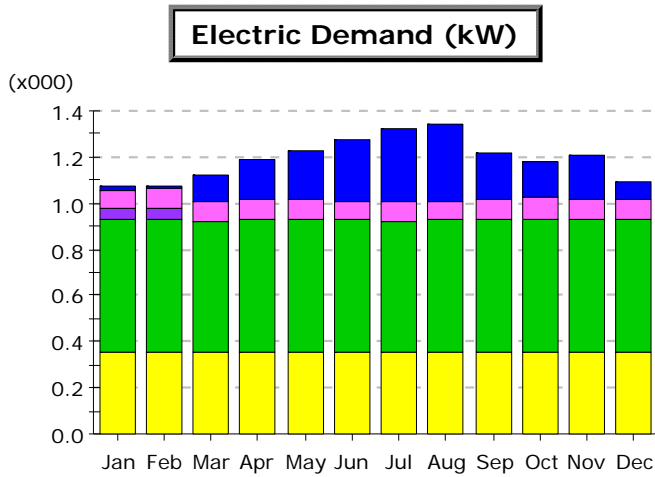
- Area Lighting
- Exterior Usage
- Water Heating
- Refrigeration
- Task Lighting
- Pumps & Aux.
- Ht Pump Supp.
- Heat Rejection
- Misc. Equipment
- Ventilation Fans
- Space Heating
- Space Cooling

Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	4.9	4.6	7.6	18.4	45.9	66.9	88.0	76.5	59.9	32.6	17.0	4.8	427.2
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	61.9	55.5	59.6	57.1	59.3	51.8	49.4	49.0	51.4	60.0	58.4	60.8	674.2
Pumps & Aux.	15.6	14.1	14.8	11.1	3.9	0.3	-	0.0	1.2	7.0	12.2	15.5	95.6
Ext. Usage	13.1	10.0	11.1	10.7	7.7	7.4	7.7	12.5	12.1	12.5	12.6	13.1	130.5
Misc. Equip.	150.2	141.5	162.7	161.9	150.2	161.9	162.7	156.5	155.6	156.4	136.9	150.2	1,846.7
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	92.5	87.2	100.3	99.8	92.5	99.8	100.3	96.4	95.9	96.4	84.3	92.5	1,137.9
Total	338.2	313.0	356.0	359.0	359.5	388.1	408.0	390.9	376.1	364.9	321.5	336.9	4,312.1

Gas Consumption (Btu x000,000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	4.69	3.98	3.09	1.70	0.31	0.00	-	-	0.04	0.98	2.32	4.09	21.19
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.19	0.18	0.21	0.21	0.18	0.18	0.16	0.15	0.15	0.16	0.15	0.18	2.08
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.13
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	4.89	4.17	3.31	1.92	0.50	0.19	0.17	0.16	0.20	1.15	2.48	4.28	23.41



- Area Lighting
- Exterior Usage
- Water Heating
- Refrigeration
- Task Lighting
- Pumps & Aux.
- Ht Pump Supp.
- Heat Rejection
- Misc. Equipment
- Ventilation Fans
- Space Heating
- Space Cooling

Electric Demand (kW x000)

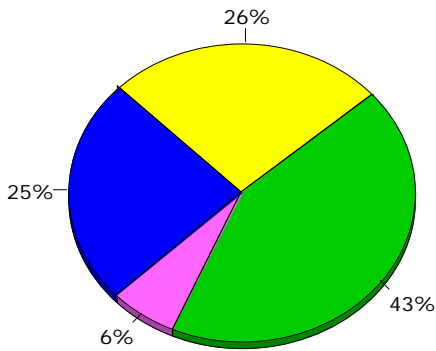
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	0.01	0.01	0.11	0.17	0.21	0.26	0.32	0.33	0.20	0.15	0.19	0.08	2.05
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	0.08	0.08	0.09	0.09	0.09	0.08	0.09	0.09	0.09	0.09	0.09	0.09	1.05
Pumps & Aux.	0.04	0.04	-	-	-	-	-	-	-	-	-	-	0.08
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	0.58	0.58	0.57	0.58	0.57	0.58	0.57	0.57	0.57	0.58	0.57	0.57	6.90
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	4.23
Total	1.07	1.07	1.12	1.19	1.22	1.28	1.33	1.34	1.22	1.18	1.21	1.09	14.31

Gas Demand (Btu/h x000,000)

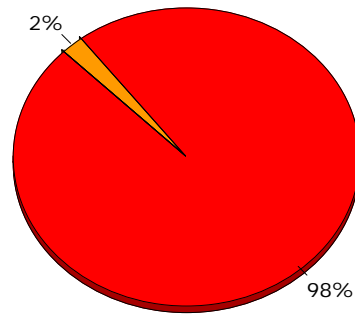
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	21.02	20.76	16.47	13.87	10.79	-	-	-	6.13	14.01	16.04	20.70	139.80
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.45	0.47	0.47	0.46	0.43	0.70	0.64	0.61	0.35	0.36	0.39	0.42	5.75
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	0.00	0.00	0.00	0.00	0.00	0.15	0.15	0.15	0.00	0.00	0.00	0.00	0.48
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	21.47	21.23	16.94	14.33	11.22	0.85	0.80	0.77	6.48	14.38	16.43	21.13	146.03

Annual Peak Demand by Enduse

	Electricity kW	Natural Gas Btu/h (x000)	Steam Btu/h	Chilled Water Btu/h
Space Cool	333.4	-	-	-
Heat Reject.	-	-	-	-
Refrigeration	-	-	-	-
Space Heat	-	21,019	-	-
HP Supp.	-	-	-	-
Hot Water	-	453	-	-
Vent. Fans	85.0	-	-	-
Pumps & Aux.	-	-	-	-
Ext. Usage	-	-	-	-
Misc. Equip.	573.1	2	-	-
Task Lights	-	-	-	-
Area Lights	352.5	-	-	-
Total	1,344.0	21,473	-	-



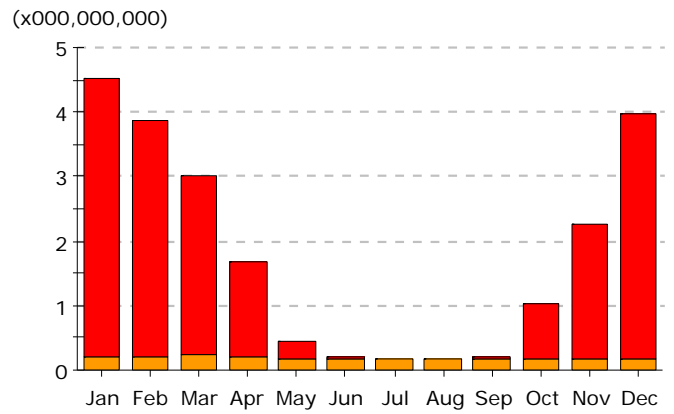
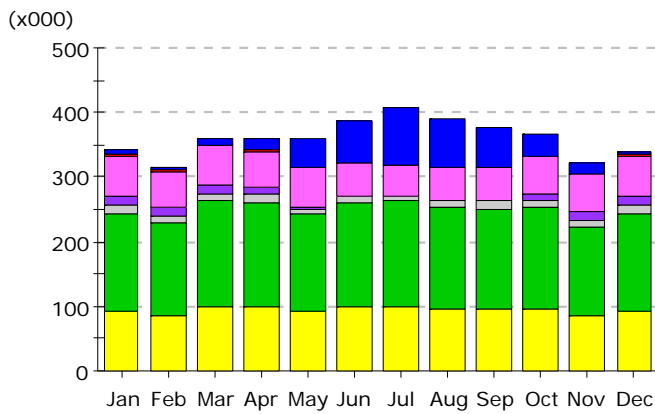
Electricity



Natural Gas

Electric Consumption (kWh)

Gas Consumption (Btu)



- Area Lighting
- Exterior Usage
- Water Heating
- Refrigeration
- Task Lighting
- Pumps & Aux.
- Ht Pump Supp.
- Heat Rejection
- Misc. Equipment
- Ventilation Fans
- Space Heating
- Space Cooling

Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	4.9	4.6	7.6	18.4	45.9	66.9	88.0	76.5	59.9	32.6	17.0	4.8	427.2
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	3.3	2.8	2.2	1.3	0.2	-	-	-	0.0	0.7	1.6	2.8	14.9
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	61.9	55.5	59.6	57.1	59.3	51.8	49.4	49.0	51.4	60.0	58.4	60.8	674.2
Pumps & Aux.	15.6	14.1	14.8	11.1	3.9	0.3	-	0.0	1.2	7.0	12.2	15.5	95.6
Ext. Usage	13.1	10.0	11.1	10.7	7.7	7.4	7.7	12.5	12.1	12.5	12.6	13.1	130.5
Misc. Equip.	150.2	141.5	162.7	161.9	150.2	161.9	162.7	156.5	155.6	156.4	136.9	150.2	1,846.7
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	92.5	87.2	100.3	99.8	92.5	99.8	100.3	96.4	95.9	96.4	84.3	92.5	1,137.9
Total	341.5	315.7	358.2	360.3	359.7	388.1	408.0	390.9	376.1	365.6	323.1	339.7	4,327.0

Gas Consumption (Btu x000,000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	4.33	3.68	2.80	1.47	0.26	0.00	-	-	0.03	0.84	2.09	3.78	19.27
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.19	0.18	0.21	0.21	0.18	0.18	0.16	0.15	0.15	0.16	0.15	0.18	2.08
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.13
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	4.53	3.87	3.02	1.69	0.44	0.19	0.17	0.16	0.19	1.01	2.24	3.97	21.49

APPENDIX D
LIGHTING SPREADSHEETS

OPTION 1 - LED

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Exp. Qty of Fixtures	Exist. Watts	Exist. kW Base	Oper. Hrs.	Exist. kWh	Annual Cost of Energy Existing	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh w/ Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor Qty	Total kWh Saved (Lighting Only)	kWh Saved Sensors Only	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total			
1	Eastern Camden Main School Building	010	30	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	19	2128.0	2.13	2,400	5,107		NONE PROPOSED	19	2128.0	2.13	2,400	5107	5107		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0		
2	Eastern Camden Main School Building	010	30	2X4 Troffers/2-T12 Lamps/Magnetic Ballasts	3	256.8	0.26	2,400	616		Replace T12 Lamps with T8 Lamps. Add Reflector Kit & Replace Magnetic Ballast(s) with Electronic Ballast(s).	3	152.1	0.15	2,400	365	365		0	251	-	-	0.10	251	\$ 50.26	55	10	40	0	0	105	315		
3	Eastern Camden Main School Building	010	30	65W Incandescent Fixture	8	520.0	0.52	2,400	1,248		Replace 65W Incandescent Fixture with 13W CFL	8	104.0	0.10	2,400	250	250		0	998	-	-	0.42	998	\$ 199.68	0	5	20	0	0	25	200		
4	Eastern Camden Main School Building	010	31	65W Incandescent Fixture	6	390.0	0.39	2,400	936		Replace 65W Incandescent Fixture with 13W CFL	6	78.0	0.08	2,400	187	187		0	749	-	-	0.31	749	\$ 149.76	0	5	20	0	0	25	150		
5	Eastern Camden Main School Building	010	32	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	16	1792.0	1.79	2,400	4,301		NONE PROPOSED	16	1792.0	1.79	2,400	4301	4301		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0		
6	Eastern Camden Main School Building	010	32	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	2	110.0	0.11	2,400	264		NONE PROPOSED	2	110.0	0.11	2,400	264	264		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0		
7	Eastern Camden Main School Building	010	35	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	15	1680.0	1.68	2,400	4,032		NONE PROPOSED	15	1680.0	1.68	2,400	4032	4032		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0		
8	Eastern Camden Main School Building	010	36	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
9	Eastern Camden Main School Building	010	40	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	7	784.0	0.78	2,400	1,882		NONE PROPOSED	7	784.0	0.78	2,400	1882	1882		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
10	Eastern Camden Main School Building	010	41	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	5	560.0	0.56	2,400	1,344		NONE PROPOSED	5	560.0	0.56	2,400	1344	1344		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
11	Eastern Camden Main School Building	010	41	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	2	110.0	0.11	2,400	264		NONE PROPOSED	2	110.0	0.11	2,400	264	264		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
12	Eastern Camden Main School Building	010	42	65W Incandescent Fixture	11	715.0	0.72	2,400	1,716		Replace 65W Incandescent Fixture with 13W CFL	11	143.0	0.14	2,400	343	343		0	1,373	-	-	0.57	1,373	\$ 274.56	0	5	20	0	0	25	275		
13	Eastern Camden Main School Building	010	42	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	12	1344.0	1.34	2,400	3,226		NONE PROPOSED	12	1344.0	1.34	2,400	3226	3226		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
14	Eastern Camden Main School Building	010	44	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
15	Eastern Camden Main School Building	010	45	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
16	Eastern Camden Main School Building	010	47	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
17	Eastern Camden Main School Building	010	49	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
18	Eastern Camden Main School Building	010	50	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	18	2016.0	2.02	2,400	4,838		NONE PROPOSED	18	2016.0	2.02	2,400	4838	4838		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
19	Eastern Camden Main School Building	010	53	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	18	2016.0	2.02	2,400	4,838		NONE PROPOSED	18	2016.0	2.02	2,400	4838	4838		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
20	Eastern Camden Main School Building	010	54	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	12	1344.0	1.34	2,400	3,226		NONE PROPOSED	12	1344.0	1.34	2,400	3226	3226		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
21	Eastern Camden Main School Building	010	56	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
22	Eastern Camden Main School Building	010	57	1X4 Suspended Fixtures/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2920	2920		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
23	Eastern Camden Main School Building	010	58	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	20	1014.0	1.01	2,400	2,434		NONE PROPOSED	20	1014.0	1.01	2,400	2434	2434		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
24	Eastern Camden Main School Building	010	60	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1075	1075		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
25	Eastern Camden Main School Building	010	61	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	8	896.0	0.90	2,400	2,150		NONE PROPOSED	8	896.0	0.90	2,400	2150	2150		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
26	Eastern Camden Main School Building	010	62	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	8	896.0	0.90	2,400	2,150		NONE PROPOSED	8	896.0	0.90	2,400	2150	2150		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
27	Eastern Camden Main School Building	010	63	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	8	896.0	0.90	2,400	2,150		NONE PROPOSED	8	896.0	0.90	2,400	2150	2150		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
28	Eastern Camden Main School Building	010	70	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
29	Eastern Camden Main School Building	010	71	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
30	Eastern Camden Main School Building	010	72	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
31	Eastern Camden Main School Building	010	73	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
32	Eastern Camden Main School Building	010	74	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
33	Eastern Camden Main School Building	010	75	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	10	1120.0	1.12	2,400	2,688		NONE PROPOSED	10	1120.0	1.12	2,400	2688	2688		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
34	Eastern Camden Main School Building	010	76	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
35	Eastern Camden Main School Building	010	76	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	13	1456.0	1.46	2,400	3,494		NONE PROPOSED	13	1456.0	1.46	2,400	3494	3494		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
36	Eastern Camden Main School Building	010	77	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
37	Eastern Camden Main School Building	010	78	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
38	Eastern Camden Main School Building	010	79	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
39	Eastern Camden Main School Building	010	80	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	12	1344.0	1.34	2,400	3,226		NONE PROPOSED	12	1344.0	1.34	2,400	3226	3226		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
40	Eastern Camden Main School Building	010	81	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	12	1344.0	1.34	2,400	3,226		NONE PROPOSED	12																						

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Exp. Qty of Fixtures	Exist. Watts	Exist. kW Base	Oper. Hrs.	Exist. kWh	Annual Cost of Energy Existing	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh w/ Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor Qty	Total kWh Saved (Lighting Only)	kWh Saved (Sensors Only)	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total
45	Eastern Camden Main School Building	010	86	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2,419	2,419	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
46	Eastern Camden Main School Building	010	87	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2,419	2,419	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
47	Eastern Camden Main School Building	010	88	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	7	784.0	0.78	2,400	1,882		NONE PROPOSED	7	784.0	0.78	2,400	1,882	1,882	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
48	Eastern Camden Main School Building	010	89	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	6	672.0	0.67	2,400	1,613		NONE PROPOSED	6	672.0	0.67	2,400	1,613	1,613	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
49	Eastern Camden Main School Building	010	90	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2,920	2,920	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
50	Eastern Camden Main School Building	010	91	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2,920	2,920	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
51	Eastern Camden Main School Building	010	92	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2,920	2,920	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
52	Eastern Camden Main School Building	010	93	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2,920	2,920	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
53	Eastern Camden Main School Building	010	94	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
54	Eastern Camden Main School Building	010	95	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
55	Eastern Camden Main School Building	010	97	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
56	Eastern Camden Main School Building	010	98	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
57	Eastern Camden Main School Building	010	99	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
58	Eastern Camden Main School Building	010	307	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2,419	2,419	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
59	Eastern Camden Main School Building	010	309	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	28	1419.6	1.42	2,400	3,407		NONE PROPOSED	28	1419.6	1.42	2,400	3,407	3,407	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
60	Eastern Camden Main School Building	010	309	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	3	152.1	0.15	2,400	365		NONE PROPOSED	3	152.1	0.15	2,400	365	365	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
61	Eastern Camden Main School Building	010	311	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	1	50.7	0.05	2,400	122		NONE PROPOSED	1	50.7	0.05	2,400	122	122	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
62	Eastern Camden Main School Building	010	311	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	1	55.0	0.06	2,400	132		NONE PROPOSED	1	55.0	0.06	2,400	132	132	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
63	Eastern Camden Main School Building	010	311	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	1	112.0	0.11	2,400	269		NONE PROPOSED	1	112.0	0.11	2,400	269	269	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
64	Eastern Camden Main School Building	010	10	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	12	1344.0	1.34	2,400	3,226		NONE PROPOSED	12	1344.0	1.34	2,400	3,226	3,226	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
65	Eastern Camden Main School Building	010	101	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
66	Eastern Camden Main School Building	010	101	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	21	1048.0	1.05	2,400	4,435		NONE PROPOSED	21	1048.0	1.05	2,400	4,435	4,435	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
67	Eastern Camden Main School Building	010	102	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2,534	2,534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
68	Eastern Camden Main School Building	010	103	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
69	Eastern Camden Main School Building	010	104	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2,920	2,920	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
70	Eastern Camden Main School Building	010	105	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2,920	2,920	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
71	Eastern Camden Main School Building	010	106	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
72	Eastern Camden Main School Building	010	107	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
73	Eastern Camden Main School Building	010	108	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	18	912.6	0.91	2,400	2,190		NONE PROPOSED	18	912.6	0.91	2,400	2,190	2,190	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
74	Eastern Camden Main School Building	010	109	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	18	912.6	0.91	2,400	2,190		NONE PROPOSED	18	912.6	0.91	2,400	2,190	2,190	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
75	Eastern Camden Main School Building	010	11	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	12	1344.0	1.34	2,400	3,226		NONE PROPOSED	12	1344.0	1.34	2,400	3,226	3,226	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
76	Eastern Camden Main School Building	010	14	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	30	3360.0	3.36	2,400	8,064		NONE PROPOSED	30	3360.0	3.36	2,400	8,064	8,064	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
77	Eastern Camden Main School Building	010	15	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	20	2240.0	2.24	2,400	5,376		NONE PROPOSED	20	2240.0	2.24	2,400	5,376	5,376	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
78	Eastern Camden Main School Building	010	16	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	20	2240.0	2.24	2,400	5,376		NONE PROPOSED	20	2240.0	2.24	2,400	5,376	5,376	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
79	Eastern Camden Main School Building	010	17	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	24	2688.0	2.69	2,400	6,451		NONE PROPOSED	24	2688.0	2.69	2,400	6,451	6,451	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
80	Eastern Camden Main School Building	010	18	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	24	2688.0	2.69	2,400	6,451		NONE PROPOSED	24	2688.0	2.69	2,400	6,451	6,451	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
81	Eastern Camden Main School Building	010	201	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2,534	2,534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
82	Eastern Camden Main School Building	010	201	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	2	224.0	0.22	2,400	538		NONE PROPOSED	2	224.0	0.22	2,400	538	538	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
83	Eastern Camden Main School Building	010	202	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
84	Eastern Camden Main School Building	010	203	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
85	Eastern Camden Main School Building	010	204	1X4 Fixtures/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2,534	2,534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
86	Eastern Camden Main School Building	010	204	1X4 Fixtures/1-T8 Lamps/Electronic Ballasts	12	304.8	0.30	2,400	732		NONE PROPOSED	12	304.8	0.30	2,400	732	732	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
87	Eastern Camden Main School Building	010	205	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
88	Eastern Camden Main School Building	010	206	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Exst. Qty of Fixtures	Exst. Watts	Exst. kW Base	Oppr. Hrs.	Exst. kWh	Annual Cost of Energy Exsting	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oppr. Hrs. w/ Sensors	Prop. kWh w/o Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor Qty	Total kWh Saved (Lighting Only)	kWh Saved Sensors Only	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total
89	Eastern Camden Main School Building	010	207	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	18	912.6	0.91	2,400	2,190		NONE PROPOSED	18	912.6	0.91	2,400	2,190	2,190	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
90	Eastern Camden Main School Building	010	208	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
91	Eastern Camden Main School Building	010	210	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
92	Eastern Camden Main School Building	010	301	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	8	896.0	0.90	2,400	2,150		NONE PROPOSED	8	896.0	0.90	2,400	2,150	2,150	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
93	Eastern Camden Main School Building	010	303	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
94	Eastern Camden Main School Building	010	305	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
95	Eastern Camden Main School Building	010	306	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	10	1120.0	1.12	2,400	2,688		NONE PROPOSED	10	1120.0	1.12	2,400	2,688	2,688	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
96	Eastern Camden Main School Building	010	307	42W CFL	1	42.0	0.04	2,400	101		NONE PROPOSED	1	42.0	0.04	2,400	101	101	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
97	Eastern Camden Main School Building	010	307	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	26	2912.0	2.91	2,400	6,989		NONE PROPOSED	26	2912.0	2.91	2,400	6,989	6,989	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
98	Eastern Camden Main School Building	010	307	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	8	405.6	0.41	2,400	973		NONE PROPOSED	8	405.6	0.41	2,400	973	973	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
99	Eastern Camden Main School Building	010	307	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	13	659.1	0.66	2,400	1,582		NONE PROPOSED	13	659.1	0.66	2,400	1,582	1,582	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
100	Eastern Camden Main School Building	010	308	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
101	Eastern Camden Main School Building	010	308	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
102	Eastern Camden Main School Building	010	309	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	1	55.0	0.06	2,400	132		NONE PROPOSED	1	55.0	0.06	2,400	132	132	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
103	Eastern Camden Main School Building	010	309	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	1	112.0	0.11	2,400	269		NONE PROPOSED	1	112.0	0.11	2,400	269	269	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
104	Eastern Camden Main School Building	010	311	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	15	1680.0	1.68	2,400	4,032		NONE PROPOSED	15	1680.0	1.68	2,400	4,032	4,032	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
105	Eastern Camden Main School Building	010	310	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
106	Eastern Camden Main School Building	010	312	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	12	608.4	0.61	2,400	1,460		NONE PROPOSED	12	608.4	0.61	2,400	1,460	1,460	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
107	Eastern Camden Main School Building	010	314	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
108	Eastern Camden Main School Building	010	314	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
109	Eastern Camden Main School Building	010	31A	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	4	202.8	0.20	2,400	487		NONE PROPOSED	4	202.8	0.20	2,400	487	487	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
110	Eastern Camden Main School Building	010	33	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	15	1680.0	1.68	2,400	4,032		NONE PROPOSED	15	1680.0	1.68	2,400	4,032	4,032	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
111	Eastern Camden Main School Building	010	34	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2,534	2,534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
112	Eastern Camden Main School Building	010	34	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	4	202.8	0.20	2,400	487		NONE PROPOSED	4	202.8	0.20	2,400	487	487	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
113	Eastern Camden Main School Building	010	401	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	27	1368.9	1.37	2,400	3,285		NONE PROPOSED	27	1368.9	1.37	2,400	3,285	3,285	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
114	Eastern Camden Main School Building	010	402	1X4 Fixtures/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2,534	2,534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
115	Eastern Camden Main School Building	010	402	1X4 Fixtures/1-T8 Lamps/Electronic Ballasts	12	304.8	0.30	2,400	732		NONE PROPOSED	12	304.8	0.30	2,400	732	732	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
116	Eastern Camden Main School Building	010	403	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
117	Eastern Camden Main School Building	010	404	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	12	608.4	0.61	2,400	1,460		NONE PROPOSED	12	608.4	0.61	2,400	1,460	1,460	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
118	Eastern Camden Main School Building	010	404	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	12	608.4	0.61	2,400	1,460		NONE PROPOSED	12	608.4	0.61	2,400	1,460	1,460	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
119	Eastern Camden Main School Building	010	405	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
120	Eastern Camden Main School Building	010	406	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	12	608.4	0.61	2,400	1,460		NONE PROPOSED	12	608.4	0.61	2,400	1,460	1,460	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
121	Eastern Camden Main School Building	010	407	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	20	1014.0	1.01	2,400	2,434		NONE PROPOSED	20	1014.0	1.01	2,400	2,434	2,434	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
122	Eastern Camden Main School Building	010	408	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	12	608.4	0.61	2,400	1,460		NONE PROPOSED	12	608.4	0.61	2,400	1,460	1,460	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
123	Eastern Camden Main School Building	010	409	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
124	Eastern Camden Main School Building	010	410	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
125	Eastern Camden Main School Building	010	411	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	8	405.6	0.41	2,400	973		NONE PROPOSED	8	405.6	0.41	2,400	973	973	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
126	Eastern Camden Main School Building	010	412	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	15	1680.0	1.68	2,400	4,032		NONE PROPOSED	15	1680.0	1.68	2,400	4,032	4,032	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
127	Eastern Camden Main School Building	010	42	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2,534	2,534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
128	Eastern Camden Main School Building	010	42	65W Incandescent Fixture	11	715.0	0.72	2,400	1,716		Replace 65W Incandescent Fixture with 13W CFL	11	143.0	0.14	2,400	343	343	NONE PROPOSED	0	1,373	-	0.57	1,373	\$ 274.56	0	5	20	0	25	275	
129	Eastern Camden Main School Building	010	43	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2,534	2,534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Exst. Qty of Fixtures	Exst. Watts	Exst. kW Base	Oper. Hrs.	Exst. kWh	Annual Cost of Energy Exsting	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh w/ Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor On/Off	Total kWh Saved (Lighting Only)	kWh Saved (Sensors Only)	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total		
133	Eastern Camden Main School Building	010	503	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	19	963.3	0.96	2,400	2,312		NONE PROPOSED	19	963.3	0.96	2,400	2312	2312	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
134	Eastern Camden Main School Building	010	505	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	30	1521.0	1.52	2,400	3,650		NONE PROPOSED	30	1521.0	1.52	2,400	3650	3650	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
135	Eastern Camden Main School Building	010	51	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2534	2534	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
136	Eastern Camden Main School Building	010	52	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2534	2534	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
137	Eastern Camden Main School Building	010	55	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2534	2534	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
138	Eastern Camden Main School Building	010	57A	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	8	896.0	0.90	2,400	2,150		NONE PROPOSED	8	896.0	0.90	2,400	2150	2150	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
139	Eastern Camden Main School Building	010	58	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	5	253.5	0.25	2,400	608		NONE PROPOSED	5	253.5	0.25	2,400	608	608	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
140	Eastern Camden Main School Building	010	603	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	33	1673.1	1.67	2,400	4,015	\$ 23.70	NONE PROPOSED	33	1673.1	1.67	2,400	4015	4015	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
141	Eastern Camden Main School Building	010	604	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	7	354.9	0.35	2,400	852		NONE PROPOSED	7	354.9	0.35	2,400	852	852	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
142	Eastern Camden Main School Building	010	604 Restroom	150W Incandescent Fixture	1	150.0	0.15	2,400	360		Replace 150W Incandescent Fixture with 25W CFL	1	25.0	0.03	2,400	60	60	NONE PROPOSED	0	300	-	0.13	300	\$ 60.00	0	7	20	0	0	27	27		
143	Eastern Camden Main School Building	010	604 Storage	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	1	50.7	0.05	2,400	122		NONE PROPOSED	1	50.7	0.05	2,400	122	122	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
144	Eastern Camden Main School Building	010	605	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
145	Eastern Camden Main School Building	010	607	1X4 Fixture/4-T8 Lamps/Electronic Ballasts	16	1792.0	1.79	2,400	4,301		NONE PROPOSED	16	1792.0	1.79	2,400	4301	4301	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
146	Eastern Camden Main School Building	010	609	1X4 Fixture/3-T8 Lamps/Electronic Ballasts	9	792.0	0.79	2,400	1,901		NONE PROPOSED	9	792.0	0.79	2,400	1901	1901	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
147	Eastern Camden Main School Building	010	700	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	10	507.0	0.51	2,400	1,217		NONE PROPOSED	10	507.0	0.51	2,400	1217	1217	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
148	Eastern Camden Main School Building	010	700	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	2	110.0	0.11	2,400	264		NONE PROPOSED	2	110.0	0.11	2,400	264	264	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
149	Eastern Camden Main School Building	010	700	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25		
150	Eastern Camden Main School Building	010	702	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
151	Eastern Camden Main School Building	010	703	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
152	Eastern Camden Main School Building	010	704	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
153	Eastern Camden Main School Building	010	705	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	18	912.6	0.91	2,400	2,190		NONE PROPOSED	18	912.6	0.91	2,400	2190	2190	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
154	Eastern Camden Main School Building	010	707	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
155	Eastern Camden Main School Building	010	708	1X4 Suspended Fixture/1-T8 Lamps/Electronic Ballasts	20	508.0	0.51	2,400	1,219		NONE PROPOSED	20	508.0	0.51	2,400	1219	1219	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
156	Eastern Camden Main School Building	010	708	1X4 Suspended Fixture/2-T8 Lamps/Electronic Ballasts	20	1014.0	1.01	2,400	2,434		NONE PROPOSED	20	1014.0	1.01	2,400	2434	2434	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
157	Eastern Camden Main School Building	010	709	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	18	912.6	0.91	2,400	2,190		NONE PROPOSED	18	912.6	0.91	2,400	2190	2190	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
158	Eastern Camden Main School Building	010	75	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	20	1014.0	1.01	2,400	2,434		NONE PROPOSED	20	1014.0	1.01	2,400	2434	2434	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
159	Eastern Camden Main School Building	010	801	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
160	Eastern Camden Main School Building	010	802	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
161	Eastern Camden Main School Building	010	803	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
162	Eastern Camden Main School Building	010	804	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
163	Eastern Camden Main School Building	010	805	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	2	110.0	0.11	2,400	264		NONE PROPOSED	2	110.0	0.11	2,400	264	264	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
164	Eastern Camden Main School Building	010	806	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	18	912.6	0.91	2,400	2,190		NONE PROPOSED	18	912.6	0.91	2,400	2190	2190	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
165	Eastern Camden Main School Building	010	808	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2555	2555	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
166	Eastern Camden Main School Building	010	810	1X4 Suspended Fixture/1-T8 Lamps/Electronic Ballasts	18	457.2	0.46	2,400	1,097		NONE PROPOSED	18	457.2	0.46	2,400	1097	1097	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
167	Eastern Camden Main School Building	010	810	1X4 Suspended Fixture/2-T8 Lamps/Electronic Ballasts	18	912.6	0.91	2,400	2,190		NONE PROPOSED	18	912.6	0.91	2,400	2190	2190	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
168	Eastern Camden Main School Building	010	88	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	1	50.7	0.05	2,400	122		NONE PROPOSED	1	50.7	0.05	2,400	122	122	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
169	Eastern Camden Main School Building	010	89	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
170	Eastern Camden Main School Building	010	901	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2920	2920	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
171	Eastern Camden Main School Building	010	902	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	42	2129.4	2.13	2,400	5,111		NONE PROPOSED	42	2129.4	2.13	2,400	5111	5111	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
172	Eastern Camden Main School Building	010	902	150W Incandescent Fixture	3	450.0	0.45	2,400	1,080		Replace 150W Incandescent Fixture with 25W CFL	3	75.0	0.08	2,400	180	180	NONE PROPOSED	0	900	-	0.38	900	\$ 180.00	0	7	20	0	0	27	81		
173	Eastern Camden Main School Building	010	903	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24																												

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Exst. Qty of Fixtures	Exst. Watts	Exst. kW Base	Oper. Hrs.	Exst. kWh	Annual Cost of Energy Exsting	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh w/ Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor Qty	Total kWh Saved (Lighting Only)	kWh Saved Sensors Only	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total
177	Eastern Camden Main School Building	010	904	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	24	2488.0	2.69	2,400	6,451		NONE PROPOSED	24	2488.0	2.69	2,400	6451	6451	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
178	Eastern Camden Main School Building	010	905	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	23	1166.1	1.17	2,400	2,779		NONE PROPOSED	23	1166.1	1.17	2,400	2779	2779	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
179	Eastern Camden Main School Building	010	905	2X4 Troffers/2-T12 Lamps/Magnetic Ballasts	2	171.2	0.17	2,400	411		Replace T12 Lamps with T8 Lamps, Add Reflector Kit & Replace Magnetic Ballast(s) with Electronic Ballast(s)	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	168	-	0.07	168	\$ 33.50	55	10	40	0	0	105	210
180	Eastern Camden Main School Building	010	906	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	48	2433.6	2.43	2,400	5,841		NONE PROPOSED	48	2433.6	2.43	2,400	5841	5841	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
181	Eastern Camden Main School Building	010	907	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	32	3584.0	3.58	2,400	8,602		NONE PROPOSED	32	3584.0	3.58	2,400	8602	8602	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
182	Eastern Camden Main School Building	010	907	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	5	253.5	0.25	2,400	608		NONE PROPOSED	5	253.5	0.25	2,400	608	608	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
183	Eastern Camden Main School Building	010	907	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	6	304.2	0.30	2,400	730		NONE PROPOSED	6	304.2	0.30	2,400	730	730	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
184	Eastern Camden Main School Building	010	90A	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	8	704.0	0.70	2,400	1,690		NONE PROPOSED	8	704.0	0.70	2,400	1690	1690	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
185	Eastern Camden Main School Building	010	91	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	6	304.2	0.30	2,400	730		NONE PROPOSED	6	304.2	0.30	2,400	730	730	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
186	Eastern Camden Main School Building	010	93A	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	8	704.0	0.70	2,400	1,690		NONE PROPOSED	8	704.0	0.70	2,400	1690	1690	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
187	Eastern Camden Main School Building	010	AA	42W CFL	5	210.0	0.21	2,400	504		NONE PROPOSED	5	210.0	0.21	2,400	504	504	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
188	Eastern Camden Main School Building	010	AA	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
189	Eastern Camden Main School Building	010	Attendance Office	2X4 Troffers/4-T12 Lamps/Magnetic Ballasts	6	1027.2	1.03	2,400	2,465		Replace T12 Lamps with T8 Lamps, Add Reflector Kit & Replace Magnetic Ballast(s) with Electronic Ballast(s)	6	608.4	0.61	2,400	1460	1460	NONE PROPOSED	0	1,005	-	0.42	1,005	\$ 201.02	110	20	40	0	0	170	1020
190	Eastern Camden Main School Building	010	Auditorium	42W CFL	4	168.0	0.17	2,400	403		NONE PROPOSED	4	168.0	0.17	2,400	403	403	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
191	Eastern Camden Main School Building	010	Auditorium	Undentifiable	60	0.0	0.00	2,400	0		NONE PROPOSED	60	0.0	0.00	2,400	0	0	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
192	Eastern Camden Main School Building	010	Auditorium	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
193	Eastern Camden Main School Building	010	Auditorium	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	2	110.0	0.11	2,400	264		NONE PROPOSED	2	110.0	0.11	2,400	264	264	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
194	Eastern Camden Main School Building	010	Back Stage	400W Metal Halide Fixtures	16	7328.0	7.33	2,400	17,587		Replace Metal Halide Fixtures with 6-Lamp Fluorescent Highbay Fixtures	16	3616.0	3.62	2,400	8678	8678	NONE PROPOSED	0	8,909	-	3.71	8,909	\$ 1,781.76	168	105	15	0	0	288	4608
195	Eastern Camden Main School Building	010	Back Stage	150W Incandescent Fixture	6	900.0	0.90	2,400	2,160		Replace 150W Incandescent Fixture with 25W CFL	6	150.0	0.15	2,400	360	360	NONE PROPOSED	0	1,800	-	0.75	1,800	\$ 360.00	0	7	20	0	0	27	162
196	Eastern Camden Main School Building	010	Blue Hall	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	18	990.0	0.99	2,400	2,376		NONE PROPOSED	18	990.0	0.99	2,400	2376	2376	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
197	Eastern Camden Main School Building	010	Blue Hall	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	28	1419.6	1.42	2,400	3,407		NONE PROPOSED	28	1419.6	1.42	2,400	3407	3407	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
198	Eastern Camden Main School Building	010	Boiler Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	8	405.6	0.41	2,400	973		NONE PROPOSED	8	405.6	0.41	2,400	973	973	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
199	Eastern Camden Main School Building	010	Boiler Room	60W Incandescent Fixture	1	60.0	0.06	2,400	144		Replace 60W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	113	-	0.05	113	\$ 22.56	0	5	20	0	0	25	25
200	Eastern Camden Main School Building	010	Boiler Room	1X4 Suspended Fixtures/1-T8 Lamps/Electronic Ballasts	9	228.6	0.23	2,400	549		NONE PROPOSED	9	228.6	0.23	2,400	549	549	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
201	Eastern Camden Main School Building	010	Boy's Locker Room	1X4 Fixtures/1-T8 Lamps/Electronic Ballasts	6	152.4	0.15	2,400	366		NONE PROPOSED	6	152.4	0.15	2,400	366	366	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
202	Eastern Camden Main School Building	010	Boy's Locker Room	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	19	2128.0	2.13	2,400	5,107		NONE PROPOSED	19	2128.0	2.13	2,400	5107	5107	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
203	Eastern Camden Main School Building	010	Boy's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	6	304.2	0.30	2,400	730		NONE PROPOSED	6	304.2	0.30	2,400	730	730	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
204	Eastern Camden Main School Building	010	Boy's Locker Room	42W CFL	3	126.0	0.13	2,400	302		NONE PROPOSED	3	126.0	0.13	2,400	302	302	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
205	Eastern Camden Main School Building	010	Boy's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
206	Eastern Camden Main School Building	010	Boy's Locker Room	2' 17W Fluorescent Fixture	2	30.0	0.03	2,400	72		NONE PROPOSED	2	30.0	0.03	2,400	72	72	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
207	Eastern Camden Main School Building	010	Boy's Locker Room	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	1	50.7	0.05	2,400	122		NONE PROPOSED	1	50.7	0.05	2,400	122	122	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
208	Eastern Camden Main School Building	010	Boy's Locker Room	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25
209	Eastern Camden Main School Building	010	Boy's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	32	1622.4	1.62	2,400	3,894		NONE PROPOSED	32	1622.4	1.62	2,400	3894	3894	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
210	Eastern Camden Main School Building	010	Boy's Locker Room	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	6	330.0	0.33	2,400	792		NONE PROPOSED	6	330.0	0.33	2,400	792	792	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
211	Eastern Camden Main School Building	010	Boy's Locker Room	42W CFL	11	462.0	0.46	2,400	1,109		NONE PROPOSED	11	462.0	0.46	2,400	1109	1109	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
212	Eastern Camden Main School Building	010	Boy's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	22	1115.4	1.12	2,400	2,677		NONE PROPOSED	22	1115.4	1.12	2,400	2677	2677	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
213	Eastern Camden Main School Building	010	Boy's Locker Room	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	1	55.0	0.06	2,400	132		NONE PROPOSED	1	55.0	0.06	2,400	132	132	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
214	Eastern Camden Main School Building	010	Boy's Locker Room	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25
215	Eastern Camden Main School Building	010	Cafeteria	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	44	4928.0	4.93	2,400	11,827		NONE PROPOSED	44	4928.0	4.93	2,400	11827	11827	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
216	Eastern Camden Main School Building	010	Cafeteria	42W CFL	21	882.0	0.88	2,400	2,117		NONE PROPOSED	21	882.0	0.88	2,400	2117	2117	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
217	Eastern Camden Main School Building	010	Cafeteria	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	58	2946.6	2.94	2,400	7,057		NONE PROPOSED	58	2946.6	2.94	2,400	7057	7057	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
218	Eastern Camden Main School Building	010</																													

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Exst. Qty. of Fixtures	Exst. Watts	Exst. kW Base	Oper. Hrs.	Exst. kWh	Annual Cost of Energy Exsting	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh w/o Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor Qty	Total kWh Saved (Lighting Only)	kWh Saved Sensors Only	Total kW Saved	Total kWh Saved	Energy Cost Savings	Bulbs/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total
221	Eastern Camden Main School Building	010	Dressing Room 2	Inaccessible	0	0.0	0.00	2,400	0		NONE PROPOSED	0	0.0	0.00	2,400	0	0	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
222	Eastern Camden Main School Building	010	Elec. Room	40W Incandescent Fixture	2	80.0	0.08	2,400	192		Replace 40W Incandescent Fixture with 13W CFL	2	26.0	0.03	2,400	62	62	NONE PROPOSED	0	130	-	0.05	130	\$ 25.92	0	5	20	0	0	25	50
223	Eastern Camden Main School Building	010	Elec. Room	150W Incandescent Fixture	4	600.0	0.60	2,400	1,440		Replace 150W Incandescent Fixture with 25W CFL	4	100.0	0.10	2,400	240	240	NONE PROPOSED	0	1,200	-	0.50	1,200	\$ 240.00	0	7	20	0	0	27	108
224	Eastern Camden Main School Building	010	Electrical Room	100W Incandescent Fixture	3	300.0	0.30	2,400	720		Replace 100W Incandescent Fixture with 25W CFL	3	75.0	0.08	2,400	180	180	NONE PROPOSED	0	540	-	0.23	540	\$ 108.00	0	7	20	0	0	27	81
225	Eastern Camden Main School Building	010	Electrical Room	40W Incandescent Fixture	2	80.0	0.08	2,400	192		Replace 40W Incandescent Fixture with 13W CFL	2	26.0	0.03	2,400	62	62	NONE PROPOSED	0	130	-	0.05	130	\$ 25.92	0	5	20	0	0	25	50
226	Eastern Camden Main School Building	010	Exterior	Pole Mounted Lights (Assume 400W MH)	48	31144.0	31.14	4,000	124,576		Replace 400W MH fixture with LED Area Light	48	15776.0	15.78	4,000	63104	63104	NONE PROPOSED	0	61,472	-	15.37	61,472	\$ 12,294.40	1175	2000	671	0	0	3846	261528
227	Eastern Camden Main School Building	010	Exterior	Exterior Wall Packs (Assume 70w)	55	4950.0	4.95	4,000	19,800		Replace 70W Wall Pack fixture with LED Area Light	55	3025.0	3.03	4,000	12100	12100	NONE PROPOSED	0	7,700	-	1.93	7,700	\$ 1,540.00	0	800	186	0	0	986	54230
228	Eastern Camden Main School Building	010	Exterior	150W Incandescent Fixture	34	5100.0	5.10	4,000	20,400		Replace 150W Incandescent Fixture with 25W CFL	34	850.0	0.85	4,000	3400	3400	NONE PROPOSED	0	17,000	-	4.25	17,000	\$ 3,400.00	0	7	20	0	0	27	918
229	Eastern Camden Main School Building	010	Girls Bathroom	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	5	253.5	0.25	2,400	608		NONE PROPOSED	5	253.5	0.25	2,400	608	608	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
230	Eastern Camden Main School Building	010	Girls Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2555	2555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
231	Eastern Camden Main School Building	010	Girl's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
232	Eastern Camden Main School Building	010	Girl's Locker Room	2' 17W Fluorescent Fixture	2	30.0	0.03	2,400	72		NONE PROPOSED	2	30.0	0.03	2,400	72	72	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
233	Eastern Camden Main School Building	010	Girl's Locker Room	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	1	50.7	0.05	2,400	122		NONE PROPOSED	1	50.7	0.05	2,400	122	122	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
234	Eastern Camden Main School Building	010	Girl's Locker Room	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25
235	Eastern Camden Main School Building	010	Girl's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	32	1622.4	1.62	2,400	3,894		NONE PROPOSED	32	1622.4	1.62	2,400	3894	3894	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
236	Eastern Camden Main School Building	010	Girl's Locker Room	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	6	330.0	0.33	2,400	792		NONE PROPOSED	6	330.0	0.33	2,400	792	792	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
237	Eastern Camden Main School Building	010	Girl's Locker Room	42W CFL	11	462.0	0.46	2,400	1,109		NONE PROPOSED	11	462.0	0.46	2,400	1109	1109	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
238	Eastern Camden Main School Building	010	Girl's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	22	1115.4	1.12	2,400	2,677		NONE PROPOSED	22	1115.4	1.12	2,400	2677	2677	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
239	Eastern Camden Main School Building	010	Girl's Locker Room	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	1	55.0	0.06	2,400	132		NONE PROPOSED	1	55.0	0.06	2,400	132	132	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
240	Eastern Camden Main School Building	010	Girl's Locker Room	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25
241	Eastern Camden Main School Building	010	Guidance Office	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	30	2640.0	2.64	2,400	6,336		NONE PROPOSED	30	2640.0	2.64	2,400	6336	6336	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
242	Eastern Camden Main School Building	010	Gym 1	400W Metal Halide Fixtures	26	12824.0	12.82	2,400	30,778		Replace Metal Halide Fixtures with 6-Lamp Fluorescent Highway Fixtures	26	6328.0	6.33	2,400	15167	15167	NONE PROPOSED	0	15,590	-	6.50	15,590	\$ 3,110.08	168	105	15	0	0	288	8064
243	Eastern Camden Main School Building	010	Gym 1	Unidentifiable	12	0.0	0.00	2,400	0		NONE PROPOSED	12	0.0	0.00	2,400	0	0	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
244	Eastern Camden Main School Building	010	Gym 2	400W Metal Halide Fixtures	21	9618.0	9.62	2,400	23,083		Replace Metal Halide Fixtures with 6-Lamp Fluorescent Highway Fixtures	21	4746.0	4.75	2,400	11390	11390	NONE PROPOSED	0	11,693	-	4.87	11,693	\$ 2,338.56	168	105	15	0	0	288	6048
245	Eastern Camden Main School Building	010	Gym 2	42W CFL	15	630.0	0.63	2,400	1,512		NONE PROPOSED	15	630.0	0.63	2,400	1512	1512	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
246	Eastern Camden Main School Building	010	Gym 3	400W Metal Halide Fixtures	14	6412.0	6.41	2,400	15,389		Replace Metal Halide Fixtures with 6-Lamp Fluorescent Highway Fixtures	14	3164.0	3.16	2,400	7594	7594	NONE PROPOSED	0	7,795	-	3.25	7,795	\$ 1,559.04	168	105	15	0	0	288	4032
247	Eastern Camden Main School Building	010	Gym 3	100W Incandescent Fixture	6	600.0	0.60	2,400	1,440		Replace 100W Incandescent Fixture with 25W CFL	6	150.0	0.15	2,400	360	360	NONE PROPOSED	0	1,080	-	0.45	1,080	\$ 216.00	0	7	20	0	0	27	162
248	Eastern Camden Main School Building	010	Gym 4	400W Metal Halide Fixtures	46	21068.0	21.07	2,400	50,563		Replace Metal Halide Fixtures with 6-Lamp Fluorescent Highway Fixtures	46	10396.0	10.40	2,400	24950	24950	NONE PROPOSED	0	25,613	-	10.67	25,613	\$ 5,122.56	168	105	15	0	0	288	13248
249	Eastern Camden Main School Building	010	Hallway	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	42	2129.4	2.13	2,400	5,111		NONE PROPOSED	42	2129.4	2.13	2,400	5111	5111	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
250	Eastern Camden Main School Building	010	Hallway	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	47	2585.0	2.59	2,400	6,204		NONE PROPOSED	47	2585.0	2.59	2,400	6204	6204	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
251	Eastern Camden Main School Building	010	Hallway	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	158	17696.0	17.70	2,400	42,470		NONE PROPOSED	158	17696.0	17.70	2,400	42470	42470	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
252	Eastern Camden Main School Building	010	Hallway	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	124	6286.8	6.29	2,400	15,088		NONE PROPOSED	124	6286.8	6.29	2,400	15088	15088	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
253	Eastern Camden Main School Building	010	Hallway	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	105	5775.0	5.78	2,400	13,860		NONE PROPOSED	105	5775.0	5.78	2,400	13860	13860	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
254	Eastern Camden Main School Building	010	Hallway	1X4 Fixtures/1-T8 Lamps/Electronic Ballasts	58	1473.2	1.47	2,400	3,536		NONE PROPOSED	58	1473.2	1.47	2,400	3536	3536	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
255	Eastern Camden Main School Building	010	Hallway	250W Metal Halide	15	4455.0	4.46	2,400	10,692		NONE PROPOSED	15	4455.0	4.46	2,400	10692	10692	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
256	Eastern Camden Main School Building	010	Hallway	42W CFL	36	1512.0	1.51	2,400	3,629		NONE PROPOSED	36	1512.0	1.51	2,400	3629	3629	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
257	Eastern Camden Main School Building	010	Hallway	40W Incandescent Fixture	10	400.0	0.40	2,400	960		Replace 40W Incandescent Fixture with 13W CFL	10	130.0	0.13	2,400	312	312	NONE PROPOSED	0	648	-	0.27	648	\$ 129.60	0	5	20	0	0	25	250
258	Eastern Camden Main School Building	010	Health	1X4 Suspended Fixtures/1-T8 Lamps/Electronic Ballasts	20	508.0	0.51	2,400	1,219		NONE PROPOSED	20	508.0	0.51	2,400	1219	1219	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
259	Eastern Camden Main School Building	010	Health	1X4 Suspended Fixtures/2-T8 Lamps/Electronic Ballasts	20	1014.0	1.01	2,400	2,434		NONE PROPOSED	20	1014.0	1.01	2,400	2434	2434	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
260	Eastern Camden Main School Building	010	IHS Principles Office	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	33	3696.0	3.70	2,400	8,870		NONE PROPOSED	33	3696.0	3.70	2,400	8870	8870	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Exp. Qty of Fixtures	Exist. Watts	Exist. kW Base	Oper. Hrs.	Exist. kWh	Annual Cost of Energy Existing	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh w/ Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor Qty	Total kWh Saved (Lighting Only)	kWh Saved (Sensors Only)	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total	
265	Eastern Camden Main School Building	010	Kitchen	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	12	660.0	0.66	2,400	1,584		NONE PROPOSED	12	660.0	0.66	2,400	1,584	1,584	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
266	Eastern Camden Main School Building	010	Kitchen	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	5	253.5	0.25	2,400	608		NONE PROPOSED	5	253.5	0.25	2,400	608	608	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
267	Eastern Camden Main School Building	010	Maintenance Office	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	20	2240.0	2.24	2,400	5,376		NONE PROPOSED	20	2240.0	2.24	2,400	5,376	5,376	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
268	Eastern Camden Main School Building	010	Maintenance Office	150W Incandescent Fixture	4	600.0	0.60	2,400	1,440		Replace 150W Incandescent Fixture with 25W CFL	4	100.0	0.10	2,400	240	240	NONE PROPOSED	0	1,200	-	0.50	1,200	\$ 240.00	0	7	20	0	0	27	108	
269	Eastern Camden Main School Building	010	Media Center	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	36	4032.0	4.03	2,400	9,677		NONE PROPOSED	36	4032.0	4.03	2,400	9,677	9,677	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
270	Eastern Camden Main School Building	010	Media Center	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	41	4592.0	4.59	2,400	11,021		NONE PROPOSED	41	4592.0	4.59	2,400	11,021	11,021	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
271	Eastern Camden Main School Building	010	Media Center	42W CFL	44	1848.0	1.85	2,400	4,435		NONE PROPOSED	44	1848.0	1.85	2,400	4,435	4,435	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
272	Eastern Camden Main School Building	010	Men's Faculty Restroom	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	3	165.0	0.17	2,400	396		NONE PROPOSED	3	165.0	0.17	2,400	396	396	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
273	Eastern Camden Main School Building	010	Men's Faculty Restroom	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
274	Eastern Camden Main School Building	010	Men's Faculty Restroom	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25	
275	Eastern Camden Main School Building	010	Mens Restroom	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
276	Eastern Camden Main School Building	010	Mens Restroom	150W Incandescent Fixture	1	150.0	0.15	2,400	360		Replace 150W Incandescent Fixture with 25W CFL	1	25.0	0.03	2,400	60	60	NONE PROPOSED	0	300	-	0.13	300	\$ 60.00	0	7	20	0	0	27	27	
277	Eastern Camden Main School Building	010	Mens Restroom	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	2	110.0	0.11	2,400	264		NONE PROPOSED	2	110.0	0.11	2,400	264	264	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
278	Eastern Camden Main School Building	010	Men's Restroom	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
279	Eastern Camden Main School Building	010	Men's Restroom	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25	
280	Eastern Camden Main School Building	010	Men's Restroom	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	2	2240.0	2.24	2,400	538		NONE PROPOSED	2	2240.0	2.24	2,400	538	538	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
281	Eastern Camden Main School Building	010	Men's Restroom	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	4480.0	4.48	2,400	1,075		NONE PROPOSED	4	4480.0	4.48	2,400	1,075	1,075	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
282	Eastern Camden Main School Building	010	Men's Restroom	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	3	152.1	0.15	2,400	365		NONE PROPOSED	3	152.1	0.15	2,400	365	365	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
283	Eastern Camden Main School Building	010	Men's Restroom	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	4	202.8	0.20	2,400	487		NONE PROPOSED	4	202.8	0.20	2,400	487	487	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
284	Eastern Camden Main School Building	010	Men's Restroom	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	5	560.0	0.56	2,400	1,344		NONE PROPOSED	5	560.0	0.56	2,400	1,344	1,344	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
285	Eastern Camden Main School Building	010	Nurse	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	7	784.0	0.78	2,400	1,882		NONE PROPOSED	7	784.0	0.78	2,400	1,882	1,882	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
286	Eastern Camden Main School Building	010	PE Office in Boy's LR	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	6	528.0	0.53	2,400	1,267		NONE PROPOSED	6	528.0	0.53	2,400	1,267	1,267	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
287	Eastern Camden Main School Building	010	PE Office in Women's LR	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	6	528.0	0.53	2,400	1,267		NONE PROPOSED	6	528.0	0.53	2,400	1,267	1,267	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
288	Eastern Camden Main School Building	010	Red Hallway	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	26	1430.0	1.43	2,400	3,432		NONE PROPOSED	26	1430.0	1.43	2,400	3,432	3,432	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
289	Eastern Camden Main School Building	010	Red Hallway	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	26	1318.2	1.32	2,400	3,164		NONE PROPOSED	26	1318.2	1.32	2,400	3,164	3,164	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
290	Eastern Camden Main School Building	010	Red Hallway	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	13	659.1	0.66	2,400	1,582		NONE PROPOSED	13	659.1	0.66	2,400	1,582	1,582	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
291	Eastern Camden Main School Building	010	Resource Office	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1,075	1,075	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
292	Eastern Camden Main School Building	010	S-1	1X4 Fixture/1-T8 Lamps/Electronic Ballasts	11	279.4	0.28	2,400	671		NONE PROPOSED	11	279.4	0.28	2,400	671	671	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
293	Eastern Camden Main School Building	010	Senior Media	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	108	12096.0	12.10	2,400	29,030		NONE PROPOSED	108	12096.0	12.10	2,400	29,030	29,030	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
294	Eastern Camden Main School Building	010	Senior Media	1X4 Fixture/1-T8 Lamps/Electronic Ballasts	2	50.8	0.05	2,400	122		NONE PROPOSED	2	50.8	0.05	2,400	122	122	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
295	Eastern Camden Main School Building	010	SHS Principles Office	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	27	3024.0	3.02	2,400	7,258		NONE PROPOSED	27	3024.0	3.02	2,400	7,258	7,258	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
296	Eastern Camden Main School Building	010	SHS Principles Office	150W Incandescent Fixture	1	150.0	0.15	2,400	360		Replace 150W Incandescent Fixture with 25W CFL	1	25.0	0.03	2,400	60	60	NONE PROPOSED	0	300	-	0.13	300	\$ 60.00	0	7	20	0	0	27	27	
297	Eastern Camden Main School Building	010	Special Services	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	28	3136.0	3.14	2,400	7,526		NONE PROPOSED	28	3136.0	3.14	2,400	7,526	7,526	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
298	Eastern Camden Main School Building	010	Sprinkler Room	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1,075	1,075	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
299	Eastern Camden Main School Building	010	Storage	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	4	202.8	0.20	500	101		NONE PROPOSED	4	202.8	0.20	325	101	66	Automatic: Wall Switch Occupancy Sensor	1	-	35.49	-	35	\$ 7.10	0	0	0	103	73.5	0	0	0
300	Eastern Camden Main School Building	010	Storage	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	500	51		NONE PROPOSED	2	101.4	0.10	325	51	33	Automatic: Wall Switch Occupancy Sensor	1	-	17.75	-	18	\$ 3.55	0	0	0	103	73.5	0	0	0
301	Eastern Camden Main School Building	010	Storage	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	6	304.2	0.30	500	152		NONE PROPOSED	6	304.2	0.30	325	152	99	Automatic: Wall Switch Occupancy Sensor	1	-	53.24	-	53	\$ 10.65	0	0	0	103	73.5	0	0	0
302	Eastern Camden Main School Building	010	Storage	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	6	304.2	0.30	500	152		NONE PROPOSED	6	304.2	0.30	325	152	99	Automatic: Wall Switch Occupancy Sensor	1	-	53.24	-	53	\$ 10.65	0	0	0	103	73.5	0	0	0
303	Eastern Camden Main School Building	010	Storage	40W Incandescent Fixture	1	40.0	0.04	500	20		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	325	7	4	Automatic: Wall Switch Occupancy Sensor	1	14	2.28	0.03	16	\$ 3.16	0	5	20	103	73.5	25	25	
304	Eastern Camden Main School Building	010	Storage	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	4	202.8	0.20	500	101		NONE PROPOSED	4	202.8	0.20	325	101	66	Automatic: Wall Switch Occupancy Sensor	1	-	35.49	-	35	\$ 7.10	0	0	0	103	73.5	0	0	0
3																																

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty. Qty of Fixtures	Exist. Watts	Exist. kW Base	Oper. Hrs.	Exist. kWh	Annual Cost of Energy Existing	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh w/ Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor Qty	Total kWh Saved (Lighting Only)	kWh Saved Sensors Only	Total kW Saved	Total kWh Saved	Energy Cost Savings	Balasts/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total									
309	Eastern Camden Main School Building	010	Storage	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	8	405.6	0.41	500	203		NONE PROPOSED	8	405.6	0.41	325	203	132	Automatic Wall Switch Occupancy Sensor	1	-	70.98	-	71	\$ 14.20	0	0	0	103	73.5	0	0									
310	Eastern Camden Main School Building	010	Student Store	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1,075	1,075	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0								
311	Eastern Camden Main School Building	010	Teachers Cafeteria	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1,075	1,075	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0								
312	Eastern Camden Main School Building	010	Teachers Cafeteria	300W Incandescent Fixture	10	3000.0	3.00	2,400	7,200		Replace 300W Incandescent Fixture with 60W CFL	10	650.0	0.65	2,400	1560	1560	NONE PROPOSED	0	5,640	-	2.35	5,640	\$ 1,128.00	0	25	20	0	0	45	450									
313	Eastern Camden Main School Building	010	Teachers Cafeteria	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	13	659.1	0.66	2,400	1,582		NONE PROPOSED	13	659.1	0.66	2,400	1582	1582	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0								
314	Eastern Camden Main School Building	010	Teachers Prep Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	20	1014.0	1.01	2,400	2,434		NONE PROPOSED	20	1014.0	1.01	2,400	2434	2434	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0								
315	Eastern Camden Main School Building	010	Teachers Prep Room	30W Incandescent Fixture	2	60.0	0.06	2,400	144		NONE PROPOSED	2	60.0	0.06	2,400	144	144	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0								
316	Eastern Camden Main School Building	010	Teachers Prep Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	4	202.8	0.20	2,400	487		NONE PROPOSED	4	202.8	0.20	2,400	487	487	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
317	Eastern Camden Main School Building	010	Teachers Prep Room	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	1	55.0	0.06	2,400	132		NONE PROPOSED	1	55.0	0.06	2,400	132	132	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
318	Eastern Camden Main School Building	010	Teachers Prep Room	1X4 Suspended Fixtures/1-T8 Lamps/Electronic Ballasts	1	25.4	0.03	2,400	61		NONE PROPOSED	1	25.4	0.03	2,400	61	61	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
319	Eastern Camden Main School Building	010	Teachers Prep Room	65W Incandescent Fixture	1	65.0	0.07	2,400	156		Replace 65W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	125	-	0.05	125	\$ 24.96	0	5	20	0	0	25	25									
320	Eastern Camden Main School Building	010	Teachers Prep Room	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	21	2352.0	2.35	2,400	5,645		NONE PROPOSED	21	2352.0	2.35	2,400	5645	5645	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
321	Eastern Camden Main School Building	010	Teachers Room	1X4 Suspended Fixtures/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2534	2534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
322	Eastern Camden Main School Building	010	Trainers Room	1X4 Suspended Fixtures/3-T8 Lamps/Electronic Ballasts	20	1760.0	1.76	2,400	4,224		NONE PROPOSED	20	1760.0	1.76	2,400	4224	4224	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
323	Eastern Camden Main School Building	010	Training	1X4 Suspended Fixtures/2-T8 Lamps/Electronic Ballasts	25	1267.5	1.27	2,400	3,042		NONE PROPOSED	25	1267.5	1.27	2,400	3042	3042	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
324	Eastern Camden Main School Building	010	Training	1X4 Suspended Fixtures/1-T8 Lamps/Electronic Ballasts	25	635.0	0.64	2,400	1,524		NONE PROPOSED	25	635.0	0.64	2,400	1524	1524	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
325	Eastern Camden Main School Building	010	TV Control Room	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1,075	1,075	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
326	Eastern Camden Main School Building	010	Weight Room	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	25	2800.0	2.80	2,400	6,720		NONE PROPOSED	25	2800.0	2.80	2,400	6720	6720	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
327	Eastern Camden Main School Building	010	Women's Faculty Restroom	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	3	165.0	0.17	2,400	396		NONE PROPOSED	3	165.0	0.17	2,400	396	396	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
328	Eastern Camden Main School Building	010	Women's Faculty Restroom	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
329	Eastern Camden Main School Building	010	Women's Faculty Restroom	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25									
330	Eastern Camden Main School Building	010	Women's Restroom	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
331	Eastern Camden Main School Building	010	Women's Restroom	150W Incandescent Fixture	1	150.0	0.15	2,400	360	\$ 530.41	Replace 150W Incandescent Fixture with 25W CFL	1	25.0	0.03	2,400	60	60	NONE PROPOSED	0	300	-	0.13	300	\$ 60.00	0	7	20	0	0	27	27									
332	Eastern Camden Main School Building	010	Women's Restroom	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	2	110.0	0.11	2,400	264		NONE PROPOSED	2	110.0	0.11	2,400	264	264	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
333	Eastern Camden Main School Building	010	Women's Restroom	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
334	Eastern Camden Main School Building	010	Women's Restroom	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25									
335	Eastern Camden Main School Building	010	Women's Restroom	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	2	224.0	0.22	2,400	538		NONE PROPOSED	2	224.0	0.22	2,400	538	538	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
336	Eastern Camden Main School Building	010	Women's Restroom	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1,075	1,075	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
337	Eastern Camden Main School Building	010	Women's Restroom	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	3	152.1	0.15	2,400	365		NONE PROPOSED	3	152.1	0.15	2,400	365	365	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
338	Eastern Camden Main School Building	010	Women's Restroom	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	8	405.6	0.41	2,400	973		NONE PROPOSED	8	405.6	0.41	2,400	973	973	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
339	Eastern Camden Main School Building	010	Women's Restroom	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	5	560.0	0.56	2,400	1,344		NONE PROPOSED	5	560.0	0.56	2,400	1344	1344	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
340	Eastern Camden Main School Building	010	Women's Locker Room	1X4 Fixtures/1-T8 Lamps/Electronic Ballasts	6	152.4	0.15	2,400	366		NONE PROPOSED	6	152.4	0.15	2,400	366	366	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
341	Eastern Camden Main School Building	010	Women's Locker Room	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	19	2128.0	2.13	2,400	5,107		NONE PROPOSED	19	2128.0	2.13	2,400	5107	5107	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
342	Eastern Camden Main School Building	010	Women's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	6	304.2	0.30	2,400	730		NONE PROPOSED	6	304.2	0.30	2,400	730	730	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
343	Eastern Camden Main School Building	010	Women's Locker Room	42W CFL	3	126.0	0.13	2,400	302		NONE PROPOSED	3	126.0	0.13	2,400	302	302	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0							
					4,929		630.36		1,094.793							4,929		368.77		357620		912,365		182,229		61.59		182,602		\$36,520		\$2,290		\$3,591		\$1,772		\$7,662		\$357,620

OPTION 2 – NO LED

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Exp. Qty of Fixtures	Exist. Watts	Exist. kW Base	Oper. Hrs.	Exist. kWh	Annual Cost of Energy Existing	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh w/ Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor Qty	Total kWh Saved (Lighting Only)	kWh Saved Sensors Only	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total	
1	Eastern Camden Main School Building	010	30	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	19	2128.0	2.13	2,400	5,107		NONE PROPOSED	19	2128.0	2.13	2,400	5107	5107		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
2	Eastern Camden Main School Building	010	30	2X4 Troffers/2-T12 Lamps/Magnetic Ballasts	3	256.8	0.26	2,400	616		Replace T12 Lamps with T8 Lamps. Add Reflector Kit & Replace Magnetic Ballast(s) with Electronic Ballast(s).	3	152.1	0.15	2,400	365	365		0	251	-	-	0.10	251	\$ 50.26	55	10	40	0	0	105	315
3	Eastern Camden Main School Building	010	30	65W Incandescent Fixture	8	520.0	0.52	2,400	1,248		Replace 65W Incandescent Fixture with 13W CFL	8	104.0	0.10	2,400	250	250		0	998	-	-	0.42	998	\$ 199.68	0	5	20	0	0	25	200
4	Eastern Camden Main School Building	010	31	65W Incandescent Fixture	6	390.0	0.39	2,400	936		Replace 65W Incandescent Fixture with 13W CFL	6	78.0	0.08	2,400	187	187		0	749	-	-	0.31	749	\$ 149.76	0	5	20	0	0	25	150
5	Eastern Camden Main School Building	010	32	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	16	1792.0	1.79	2,400	4,301		NONE PROPOSED	16	1792.0	1.79	2,400	4301	4301		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
6	Eastern Camden Main School Building	010	32	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	2	110.0	0.11	2,400	264		NONE PROPOSED	2	110.0	0.11	2,400	264	264		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
7	Eastern Camden Main School Building	010	35	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	15	1680.0	1.68	2,400	4,032		NONE PROPOSED	15	1680.0	1.68	2,400	4032	4032		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
8	Eastern Camden Main School Building	010	36	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
9	Eastern Camden Main School Building	010	40	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	7	784.0	0.78	2,400	1,882		NONE PROPOSED	7	784.0	0.78	2,400	1882	1882		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
10	Eastern Camden Main School Building	010	41	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	5	560.0	0.56	2,400	1,344		NONE PROPOSED	5	560.0	0.56	2,400	1344	1344		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
11	Eastern Camden Main School Building	010	41	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	2	110.0	0.11	2,400	264		NONE PROPOSED	2	110.0	0.11	2,400	264	264		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
12	Eastern Camden Main School Building	010	42	65W Incandescent Fixture	11	715.0	0.72	2,400	1,716		Replace 65W Incandescent Fixture with 13W CFL	11	143.0	0.14	2,400	343	343		0	1,373	-	-	0.87	1,373	\$ 274.56	0	5	20	0	0	25	275
13	Eastern Camden Main School Building	010	42	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	12	1344.0	1.34	2,400	3,226		NONE PROPOSED	12	1344.0	1.34	2,400	3226	3226		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
14	Eastern Camden Main School Building	010	44	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
15	Eastern Camden Main School Building	010	45	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
16	Eastern Camden Main School Building	010	47	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
17	Eastern Camden Main School Building	010	49	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
18	Eastern Camden Main School Building	010	50	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	18	2016.0	2.02	2,400	4,838		NONE PROPOSED	18	2016.0	2.02	2,400	4838	4838		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
19	Eastern Camden Main School Building	010	53	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	18	2016.0	2.02	2,400	4,838		NONE PROPOSED	18	2016.0	2.02	2,400	4838	4838		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
20	Eastern Camden Main School Building	010	54	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	12	1344.0	1.34	2,400	3,226		NONE PROPOSED	12	1344.0	1.34	2,400	3226	3226		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
21	Eastern Camden Main School Building	010	56	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
22	Eastern Camden Main School Building	010	57	1X4 Suspended Fixtures/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2920	2920		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
23	Eastern Camden Main School Building	010	58	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	20	1014.0	1.01	2,400	2,434		NONE PROPOSED	20	1014.0	1.01	2,400	2434	2434		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
24	Eastern Camden Main School Building	010	60	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1075	1075		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
25	Eastern Camden Main School Building	010	61	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	8	896.0	0.90	2,400	2,150		NONE PROPOSED	8	896.0	0.90	2,400	2150	2150		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
26	Eastern Camden Main School Building	010	62	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	8	896.0	0.90	2,400	2,150		NONE PROPOSED	8	896.0	0.90	2,400	2150	2150		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
27	Eastern Camden Main School Building	010	63	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	8	896.0	0.90	2,400	2,150		NONE PROPOSED	8	896.0	0.90	2,400	2150	2150		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
28	Eastern Camden Main School Building	010	70	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
29	Eastern Camden Main School Building	010	71	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
30	Eastern Camden Main School Building	010	72	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
31	Eastern Camden Main School Building	010	73	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
32	Eastern Camden Main School Building	010	74	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
33	Eastern Camden Main School Building	010	75	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	10	1120.0	1.12	2,400	2,688		NONE PROPOSED	10	1120.0	1.12	2,400	2688	2688		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
34	Eastern Camden Main School Building	010	76	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
35	Eastern Camden Main School Building	010	76	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	13	1456.0	1.46	2,400	3,494		NONE PROPOSED	13	1456.0	1.46	2,400	3494	3494		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
36	Eastern Camden Main School Building	010	77	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
37	Eastern Camden Main School Building	010	78	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
38	Eastern Camden Main School Building	010	79	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
39	Eastern Camden Main School Building	010	80	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	12	1344.0	1.34	2,400	3,226		NONE PROPOSED	12	1344.0	1.34	2,400	3226	3226		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
40	Eastern Camden Main School Building	010	81	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	12	1344.0	1.34	2,400	3,226		NONE PROPOSED	12	1344.0	1.34	2,400	3226	3226		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
41	Eastern Camden Main School Building	010	82	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0	-	-	-	-	\$ -	0	0	0	0	0	0	0	
42	Eastern Camden Main School Building	010	83	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419		0</													

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Exp. Qty of Fixtures	Exist. Watts	Exist. kW Base	Oper. Hrs.	Exist. kWh	Annual Cost of Energy Existing	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh w/ Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor Qty	Total kWh Saved (Lighting Only)	kWh Saved (Sensors Only)	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total
45	Eastern Camden Main School Building	010	86	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2,419	2,419	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
46	Eastern Camden Main School Building	010	87	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2,419	2,419	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
47	Eastern Camden Main School Building	010	88	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	7	784.0	0.78	2,400	1,882		NONE PROPOSED	7	784.0	0.78	2,400	1,882	1,882	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
48	Eastern Camden Main School Building	010	89	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	6	672.0	0.67	2,400	1,613		NONE PROPOSED	6	672.0	0.67	2,400	1,613	1,613	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
49	Eastern Camden Main School Building	010	90	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2,920	2,920	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
50	Eastern Camden Main School Building	010	91	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2,920	2,920	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
51	Eastern Camden Main School Building	010	92	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2,920	2,920	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
52	Eastern Camden Main School Building	010	93	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2,920	2,920	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
53	Eastern Camden Main School Building	010	94	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
54	Eastern Camden Main School Building	010	95	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
55	Eastern Camden Main School Building	010	97	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
56	Eastern Camden Main School Building	010	98	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
57	Eastern Camden Main School Building	010	99	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
58	Eastern Camden Main School Building	010	307	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2,419	2,419	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
59	Eastern Camden Main School Building	010	309	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	28	1419.6	1.42	2,400	3,407		NONE PROPOSED	28	1419.6	1.42	2,400	3,407	3,407	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
60	Eastern Camden Main School Building	010	309	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	3	152.1	0.15	2,400	365		NONE PROPOSED	3	152.1	0.15	2,400	365	365	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
61	Eastern Camden Main School Building	010	311	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	1	50.7	0.05	2,400	122		NONE PROPOSED	1	50.7	0.05	2,400	122	122	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
62	Eastern Camden Main School Building	010	311	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	1	55.0	0.06	2,400	132		NONE PROPOSED	1	55.0	0.06	2,400	132	132	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
63	Eastern Camden Main School Building	010	311	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	1	112.0	0.11	2,400	269		NONE PROPOSED	1	112.0	0.11	2,400	269	269	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
64	Eastern Camden Main School Building	010	10	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	12	1344.0	1.34	2,400	3,226		NONE PROPOSED	12	1344.0	1.34	2,400	3,226	3,226	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
65	Eastern Camden Main School Building	010	101	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
66	Eastern Camden Main School Building	010	101	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	21	1048.0	1.05	2,400	4,435		NONE PROPOSED	21	1048.0	1.05	2,400	4,435	4,435	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
67	Eastern Camden Main School Building	010	102	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2,534	2,534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
68	Eastern Camden Main School Building	010	103	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
69	Eastern Camden Main School Building	010	104	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2,920	2,920	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
70	Eastern Camden Main School Building	010	105	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2,920	2,920	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
71	Eastern Camden Main School Building	010	106	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
72	Eastern Camden Main School Building	010	107	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
73	Eastern Camden Main School Building	010	108	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	18	912.6	0.91	2,400	2,190		NONE PROPOSED	18	912.6	0.91	2,400	2,190	2,190	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
74	Eastern Camden Main School Building	010	109	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	18	912.6	0.91	2,400	2,190		NONE PROPOSED	18	912.6	0.91	2,400	2,190	2,190	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
75	Eastern Camden Main School Building	010	11	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	12	1344.0	1.34	2,400	3,226		NONE PROPOSED	12	1344.0	1.34	2,400	3,226	3,226	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
76	Eastern Camden Main School Building	010	14	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	30	3360.0	3.36	2,400	8,064		NONE PROPOSED	30	3360.0	3.36	2,400	8,064	8,064	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
77	Eastern Camden Main School Building	010	15	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	20	2240.0	2.24	2,400	5,376		NONE PROPOSED	20	2240.0	2.24	2,400	5,376	5,376	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
78	Eastern Camden Main School Building	010	16	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	20	2240.0	2.24	2,400	5,376		NONE PROPOSED	20	2240.0	2.24	2,400	5,376	5,376	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
79	Eastern Camden Main School Building	010	17	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	24	2688.0	2.69	2,400	6,451		NONE PROPOSED	24	2688.0	2.69	2,400	6,451	6,451	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
80	Eastern Camden Main School Building	010	18	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	24	2688.0	2.69	2,400	6,451		NONE PROPOSED	24	2688.0	2.69	2,400	6,451	6,451	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
81	Eastern Camden Main School Building	010	201	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2,534	2,534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
82	Eastern Camden Main School Building	010	201	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	2	224.0	0.22	2,400	538		NONE PROPOSED	2	224.0	0.22	2,400	538	538	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
83	Eastern Camden Main School Building	010	202	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
84	Eastern Camden Main School Building	010	203	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
85	Eastern Camden Main School Building	010	204	1X4 Fixtures/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2,534	2,534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
86	Eastern Camden Main School Building	010	204	1X4 Fixtures/1-T8 Lamps/Electronic Ballasts	12	304.8	0.30	2,400	732		NONE PROPOSED	12	304.8	0.30	2,400	732	732	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
87	Eastern Camden Main School Building	010	205	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
88	Eastern Camden Main School Building	010	206	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Exst. Qty of Fixtures	Exst. Watts	Exst. kW Base	Oppr. Hrs.	Exst. kWh	Annual Cost of Energy Existing	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oppr. Hrs. w/ Sensors	Prop. kWh w/o Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor Qty	Total kWh Saved (Lighting Only)	kWh Saved Sensors Only	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total		
89	Eastern Camden Main School Building	010	207	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	18	912.6	0.91	2,400	2,190		NONE PROPOSED	18	912.6	0.91	2,400	2,190	2,190	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
90	Eastern Camden Main School Building	010	208	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
91	Eastern Camden Main School Building	010	210	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
92	Eastern Camden Main School Building	010	301	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	8	896.0	0.90	2,400	2,150		NONE PROPOSED	8	896.0	0.90	2,400	2,150	2,150	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
93	Eastern Camden Main School Building	010	303	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
94	Eastern Camden Main School Building	010	305	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
95	Eastern Camden Main School Building	010	306	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	10	1120.0	1.12	2,400	2,688		NONE PROPOSED	10	1120.0	1.12	2,400	2,688	2,688	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
96	Eastern Camden Main School Building	010	307	42W CFL	1	42.0	0.04	2,400	101		NONE PROPOSED	1	42.0	0.04	2,400	101	101	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
97	Eastern Camden Main School Building	010	307	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	26	2912.0	2.91	2,400	6,989		NONE PROPOSED	26	2912.0	2.91	2,400	6,989	6,989	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
98	Eastern Camden Main School Building	010	307	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	8	405.6	0.41	2,400	973		NONE PROPOSED	8	405.6	0.41	2,400	973	973	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
99	Eastern Camden Main School Building	010	307	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	13	659.1	0.66	2,400	1,582		NONE PROPOSED	13	659.1	0.66	2,400	1,582	1,582	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
100	Eastern Camden Main School Building	010	308	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
101	Eastern Camden Main School Building	010	308	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
102	Eastern Camden Main School Building	010	309	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	1	55.0	0.06	2,400	132		NONE PROPOSED	1	55.0	0.06	2,400	132	132	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
103	Eastern Camden Main School Building	010	309	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	1	112.0	0.11	2,400	269		NONE PROPOSED	1	112.0	0.11	2,400	269	269	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
104	Eastern Camden Main School Building	010	311	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	15	1680.0	1.68	2,400	4,032		NONE PROPOSED	15	1680.0	1.68	2,400	4,032	4,032	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
105	Eastern Camden Main School Building	010	310	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
106	Eastern Camden Main School Building	010	312	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	12	608.4	0.61	2,400	1,460		NONE PROPOSED	12	608.4	0.61	2,400	1,460	1,460	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
107	Eastern Camden Main School Building	010	314	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
108	Eastern Camden Main School Building	010	314	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
109	Eastern Camden Main School Building	010	31A	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	4	202.8	0.20	2,400	487		NONE PROPOSED	4	202.8	0.20	2,400	487	487	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
110	Eastern Camden Main School Building	010	33	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	15	1680.0	1.68	2,400	4,032		NONE PROPOSED	15	1680.0	1.68	2,400	4,032	4,032	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
111	Eastern Camden Main School Building	010	34	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2,534	2,534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
112	Eastern Camden Main School Building	010	34	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	4	202.8	0.20	2,400	487		NONE PROPOSED	4	202.8	0.20	2,400	487	487	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
113	Eastern Camden Main School Building	010	401	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	27	1368.9	1.37	2,400	3,285		NONE PROPOSED	27	1368.9	1.37	2,400	3,285	3,285	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
114	Eastern Camden Main School Building	010	402	1X4 Fixtures/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2,534	2,534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
115	Eastern Camden Main School Building	010	402	1X4 Fixtures/1-T8 Lamps/Electronic Ballasts	12	304.8	0.30	2,400	732		NONE PROPOSED	12	304.8	0.30	2,400	732	732	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
116	Eastern Camden Main School Building	010	403	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
117	Eastern Camden Main School Building	010	404	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	12	608.4	0.61	2,400	1,460		NONE PROPOSED	12	608.4	0.61	2,400	1,460	1,460	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
118	Eastern Camden Main School Building	010	404	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	12	608.4	0.61	2,400	1,460		NONE PROPOSED	12	608.4	0.61	2,400	1,460	1,460	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
119	Eastern Camden Main School Building	010	405	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
120	Eastern Camden Main School Building	010	406	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	12	608.4	0.61	2,400	1,460		NONE PROPOSED	12	608.4	0.61	2,400	1,460	1,460	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
121	Eastern Camden Main School Building	010	407	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	20	1014.0	1.01	2,400	2,434		NONE PROPOSED	20	1014.0	1.01	2,400	2,434	2,434	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
122	Eastern Camden Main School Building	010	408	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	12	608.4	0.61	2,400	1,460		NONE PROPOSED	12	608.4	0.61	2,400	1,460	1,460	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
123	Eastern Camden Main School Building	010	409	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
124	Eastern Camden Main School Building	010	410	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
125	Eastern Camden Main School Building	010	411	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	8	405.6	0.41	2,400	973		NONE PROPOSED	8	405.6	0.41	2,400	973	973	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
126	Eastern Camden Main School Building	010	412	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	15	1680.0	1.68	2,400	4,032		NONE PROPOSED	15	1680.0	1.68	2,400	4,032	4,032	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
127	Eastern Camden Main School Building	010	42	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2,534	2,534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
128	Eastern Camden Main School Building	010	42	65W Incandescent Fixture	11	715.0	0.72	2,400	1,716		Replace 65W Incandescent Fixture with 1																						

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Exst. Qty of Fixtures	Exst. Watts	Exst. kW Base	Oper. Hrs.	Exst. kWh	Annual Cost of Energy Existing	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh w/ Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor On/Off	Total kWh Saved (Lighting Only)	kWh Saved (Sensors Only)	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total		
133	Eastern Camden Main School Building	010	503	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	19	963.3	0.96	2,400	2,312		NONE PROPOSED	19	963.3	0.96	2,400	2312	2312	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
134	Eastern Camden Main School Building	010	505	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	30	1521.0	1.52	2,400	3,650		NONE PROPOSED	30	1521.0	1.52	2,400	3650	3650	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
135	Eastern Camden Main School Building	010	51	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2534	2534	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
136	Eastern Camden Main School Building	010	52	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2534	2534	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
137	Eastern Camden Main School Building	010	55	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2534	2534	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
138	Eastern Camden Main School Building	010	57A	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	8	896.0	0.90	2,400	2,150		NONE PROPOSED	8	896.0	0.90	2,400	2150	2150	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
139	Eastern Camden Main School Building	010	58	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	5	253.5	0.25	2,400	608		NONE PROPOSED	5	253.5	0.25	2,400	608	608	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
140	Eastern Camden Main School Building	010	603	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	33	1673.1	1.67	2,400	4,015	\$ 23.70	NONE PROPOSED	33	1673.1	1.67	2,400	4015	4015	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0		
141	Eastern Camden Main School Building	010	604	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	7	354.9	0.35	2,400	852		NONE PROPOSED	7	354.9	0.35	2,400	852	852	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
142	Eastern Camden Main School Building	010	604 Restroom	150W Incandescent Fixture	1	150.0	0.15	2,400	360		Replace 150W Incandescent Fixture with 25W CFL	1	25.0	0.03	2,400	60	60	NONE PROPOSED	0	300	-	0.13	300	\$ 60.00	0	7	20	0	0	27	27		
143	Eastern Camden Main School Building	010	604 Storage	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	1	50.7	0.05	2,400	122		NONE PROPOSED	1	50.7	0.05	2,400	122	122	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
144	Eastern Camden Main School Building	010	605	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
145	Eastern Camden Main School Building	010	607	1X4 Fixture/4-T8 Lamps/Electronic Ballasts	16	1792.0	1.79	2,400	4,301		NONE PROPOSED	16	1792.0	1.79	2,400	4301	4301	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
146	Eastern Camden Main School Building	010	609	1X4 Fixture/3-T8 Lamps/Electronic Ballasts	9	792.0	0.79	2,400	1,901		NONE PROPOSED	9	792.0	0.79	2,400	1901	1901	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
147	Eastern Camden Main School Building	010	700	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	10	507.0	0.51	2,400	1,217		NONE PROPOSED	10	507.0	0.51	2,400	1217	1217	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
148	Eastern Camden Main School Building	010	700	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	2	110.0	0.11	2,400	264		NONE PROPOSED	2	110.0	0.11	2,400	264	264	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
149	Eastern Camden Main School Building	010	700	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25		
150	Eastern Camden Main School Building	010	702	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
151	Eastern Camden Main School Building	010	703	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
152	Eastern Camden Main School Building	010	704	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
153	Eastern Camden Main School Building	010	705	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	18	912.6	0.91	2,400	2,190		NONE PROPOSED	18	912.6	0.91	2,400	2190	2190	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
154	Eastern Camden Main School Building	010	707	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
155	Eastern Camden Main School Building	010	708	1X4 Suspended Fixture/1-T8 Lamps/Electronic Ballasts	20	508.0	0.51	2,400	1,219		NONE PROPOSED	20	508.0	0.51	2,400	1219	1219	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
156	Eastern Camden Main School Building	010	708	1X4 Suspended Fixture/2-T8 Lamps/Electronic Ballasts	20	1014.0	1.01	2,400	2,434		NONE PROPOSED	20	1014.0	1.01	2,400	2434	2434	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
157	Eastern Camden Main School Building	010	709	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	18	912.6	0.91	2,400	2,190		NONE PROPOSED	18	912.6	0.91	2,400	2190	2190	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
158	Eastern Camden Main School Building	010	75	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	20	1014.0	1.01	2,400	2,434		NONE PROPOSED	20	1014.0	1.01	2,400	2434	2434	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
159	Eastern Camden Main School Building	010	801	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
160	Eastern Camden Main School Building	010	802	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
161	Eastern Camden Main School Building	010	803	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
162	Eastern Camden Main School Building	010	804	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
163	Eastern Camden Main School Building	010	805	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	2	110.0	0.11	2,400	264		NONE PROPOSED	2	110.0	0.11	2,400	264	264	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
164	Eastern Camden Main School Building	010	806	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	18	912.6	0.91	2,400	2,190		NONE PROPOSED	18	912.6	0.91	2,400	2190	2190	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
165	Eastern Camden Main School Building	010	808	1X4 Fixture/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2555	2555	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
166	Eastern Camden Main School Building	010	810	1X4 Suspended Fixture/1-T8 Lamps/Electronic Ballasts	18	457.2	0.46	2,400	1,097		NONE PROPOSED	18	457.2	0.46	2,400	1097	1097	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
167	Eastern Camden Main School Building	010	810	1X4 Suspended Fixture/2-T8 Lamps/Electronic Ballasts	18	912.6	0.91	2,400	2,190		NONE PROPOSED	18	912.6	0.91	2,400	2190	2190	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	0
168	Eastern Camden Main School Building	010	88	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	1	50.7	0.05	2,400	122		NONE PROPOSED	1	50.7	0.05	2,400	122	122	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
169	Eastern Camden Main School Building	010	89	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
170	Eastern Camden Main School Building	010	901	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24	1216.8	1.22	2,400	2,920		NONE PROPOSED	24	1216.8	1.22	2,400	2920	2920	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
171	Eastern Camden Main School Building	010	902	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	42	2129.4	2.13	2,400	5,111		NONE PROPOSED	42	2129.4	2.13	2,400	5111	5111	NONE PROPOSED	0	-	-	-	\$ -	0	0	0	0	0	0	0	0	0	
172	Eastern Camden Main School Building	010	902	150W Incandescent Fixture	3	450.0	0.45	2,400	1,080		Replace 150W Incandescent Fixture with 25W CFL	3	75.0	0.08	2,400	180	180	NONE PROPOSED	0	900	-	0.38	900	\$ 180.00	0	7	20	0	0	27	81		
173	Eastern Camden Main School Building	010	903	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	24																												

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Exst. Qty of Fixtures	Exst. Watts	Exst. kW Base	Oper. Hrs.	Exst. kWh	Annual Cost of Energy Exsting	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh w/ Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor Qty	Total kWh Saved (Lighting Only)	kWh Saved Sensors Only	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total
177	Eastern Camden Main School Building	010	904	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	24	2488.0	2.69	2,400	6,451		NONE PROPOSED	24	2488.0	2.69	2,400	6451	6451	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
178	Eastern Camden Main School Building	010	905	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	23	1166.1	1.17	2,400	2,779		NONE PROPOSED	23	1166.1	1.17	2,400	2779	2779	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
179	Eastern Camden Main School Building	010	905	2X4 Troffers/2-T12 Lamps/Magnetic Ballasts	2	171.2	0.17	2,400	411		Replace T12 Lamps with T8 Lamps, Add Reflector Kit & Replace Magnetic Ballast(s) with Electronic Ballast(s)	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	168	-	0.07	168	\$ 33.50	55	10	40	0	0	105	210
180	Eastern Camden Main School Building	010	906	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	48	2433.6	2.43	2,400	5,841		NONE PROPOSED	48	2433.6	2.43	2,400	5841	5841	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
181	Eastern Camden Main School Building	010	907	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	32	3584.0	3.58	2,400	8,602		NONE PROPOSED	32	3584.0	3.58	2,400	8602	8602	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
182	Eastern Camden Main School Building	010	907	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	5	253.5	0.25	2,400	608		NONE PROPOSED	5	253.5	0.25	2,400	608	608	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
183	Eastern Camden Main School Building	010	907	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	6	304.2	0.30	2,400	730		NONE PROPOSED	6	304.2	0.30	2,400	730	730	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
184	Eastern Camden Main School Building	010	90A	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	8	704.0	0.70	2,400	1,690		NONE PROPOSED	8	704.0	0.70	2,400	1690	1690	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
185	Eastern Camden Main School Building	010	91	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	6	304.2	0.30	2,400	730		NONE PROPOSED	6	304.2	0.30	2,400	730	730	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
186	Eastern Camden Main School Building	010	93A	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	8	704.0	0.70	2,400	1,690		NONE PROPOSED	8	704.0	0.70	2,400	1690	1690	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
187	Eastern Camden Main School Building	010	AA	42W CFL	5	210.0	0.21	2,400	504		NONE PROPOSED	5	210.0	0.21	2,400	504	504	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
188	Eastern Camden Main School Building	010	AA	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	9	1008.0	1.01	2,400	2,419		NONE PROPOSED	9	1008.0	1.01	2,400	2419	2419	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
189	Eastern Camden Main School Building	010	Attendance Office	2X4 Troffers/4-T12 Lamps/Magnetic Ballasts	6	1027.2	1.03	2,400	2,465		Replace T12 Lamps with T8 Lamps, Add Reflector Kit & Replace Magnetic Ballast(s) with Electronic Ballast(s)	6	608.4	0.61	2,400	1460	1460	NONE PROPOSED	0	1,005	-	0.42	1,005	\$ 201.02	110	20	40	0	0	170	1020
190	Eastern Camden Main School Building	010	Auditorium	42W CFL	4	168.0	0.17	2,400	403		NONE PROPOSED	4	168.0	0.17	2,400	403	403	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
191	Eastern Camden Main School Building	010	Auditorium	Undentifiable	60	0.0	0.00	2,400	0		NONE PROPOSED	60	0.0	0.00	2,400	0	0	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
192	Eastern Camden Main School Building	010	Auditorium	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
193	Eastern Camden Main School Building	010	Auditorium	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	2	110.0	0.11	2,400	264		NONE PROPOSED	2	110.0	0.11	2,400	264	264	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
194	Eastern Camden Main School Building	010	Back Stage	400W Metal Halide Fixtures	16	7328.0	7.33	2,400	17,587		Replace Metal Halide Fixtures with 6-Lamp Fluorescent Highbay Fixtures	16	3616.0	3.62	2,400	8678	8678	NONE PROPOSED	0	8,909	-	3.71	8,909	\$ 1,781.76	168	105	15	0	0	288	4608
195	Eastern Camden Main School Building	010	Back Stage	150W Incandescent Fixture	6	900.0	0.90	2,400	2,160		Replace 150W Incandescent Fixture with 25W CFL	6	150.0	0.15	2,400	360	360	NONE PROPOSED	0	1,800	-	0.75	1,800	\$ 360.00	0	7	20	0	0	27	162
196	Eastern Camden Main School Building	010	Blue Hall	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	18	990.0	0.99	2,400	2,376		NONE PROPOSED	18	990.0	0.99	2,400	2376	2376	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
197	Eastern Camden Main School Building	010	Blue Hall	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	28	1419.6	1.42	2,400	3,407		NONE PROPOSED	28	1419.6	1.42	2,400	3407	3407	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
198	Eastern Camden Main School Building	010	Boiler Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	8	405.6	0.41	2,400	973		NONE PROPOSED	8	405.6	0.41	2,400	973	973	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
199	Eastern Camden Main School Building	010	Boiler Room	60W Incandescent Fixture	1	60.0	0.06	2,400	144		Replace 60W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	113	-	0.05	113	\$ 22.56	0	5	20	0	0	25	25
200	Eastern Camden Main School Building	010	Boiler Room	1X4 Suspended Fixtures/1-T8 Lamps/Electronic Ballasts	9	228.6	0.23	2,400	549		NONE PROPOSED	9	228.6	0.23	2,400	549	549	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
201	Eastern Camden Main School Building	010	Boy's Locker Room	1X4 Fixtures/1-T8 Lamps/Electronic Ballasts	6	152.4	0.15	2,400	366		NONE PROPOSED	6	152.4	0.15	2,400	366	366	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
202	Eastern Camden Main School Building	010	Boy's Locker Room	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	19	2128.0	2.13	2,400	5,107		NONE PROPOSED	19	2128.0	2.13	2,400	5107	5107	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
203	Eastern Camden Main School Building	010	Boy's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	6	304.2	0.30	2,400	730		NONE PROPOSED	6	304.2	0.30	2,400	730	730	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
204	Eastern Camden Main School Building	010	Boy's Locker Room	42W CFL	3	126.0	0.13	2,400	302		NONE PROPOSED	3	126.0	0.13	2,400	302	302	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
205	Eastern Camden Main School Building	010	Boy's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1825	1825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
206	Eastern Camden Main School Building	010	Boy's Locker Room	2' 17W Fluorescent Fixture	2	30.0	0.03	2,400	72		NONE PROPOSED	2	30.0	0.03	2,400	72	72	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
207	Eastern Camden Main School Building	010	Boy's Locker Room	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	1	50.7	0.05	2,400	122		NONE PROPOSED	1	50.7	0.05	2,400	122	122	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
208	Eastern Camden Main School Building	010	Boy's Locker Room	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25
209	Eastern Camden Main School Building	010	Boy's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	32	1622.4	1.62	2,400	3,894		NONE PROPOSED	32	1622.4	1.62	2,400	3894	3894	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
210	Eastern Camden Main School Building	010	Boy's Locker Room	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	6	330.0	0.33	2,400	792		NONE PROPOSED	6	330.0	0.33	2,400	792	792	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
211	Eastern Camden Main School Building	010	Boy's Locker Room	42W CFL	11	462.0	0.46	2,400	1,109		NONE PROPOSED	11	462.0	0.46	2,400	1109	1109	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
212	Eastern Camden Main School Building	010	Boy's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	22	1115.4	1.12	2,400	2,677		NONE PROPOSED	22	1115.4	1.12	2,400	2677	2677	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
213	Eastern Camden Main School Building	010	Boy's Locker Room	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	1	55.0	0.06	2,400	132		NONE PROPOSED	1	55.0	0.06	2,400	132	132	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
214	Eastern Camden Main School Building	010	Boy's Locker Room	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25
215	Eastern Camden Main School Building	010	Cafeteria	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	44	4928.0	4.93	2,400	11,827		NONE PROPOSED	44	4928.0	4.93	2,400	11827	11827	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
216	Eastern Camden Main School Building	010	Cafeteria	42W CFL	21	882.0	0.88	2,400	2,117		NONE PROPOSED	21	882.0	0.88	2,400	2117	2117	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
217	Eastern Camden Main School Building	010	Cafeteria	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	58	2946.6	2.94	2,400	7,057		NONE PROPOSED	58	2946.6	2.94	2,400	7057	7057	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0
218	Eastern Camden Main School Building	010</																													

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Prop. Qty of Fixtures	Exist. Watts	Exist. kW Base	Oper. Hrs.	Exist. kWh	Annual Cost of Energy Existing	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh w/o Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor Qty	Total kWh Saved (Lighting Only)	kWh Saved (Sensors Only)	Total kW Saved	Total kWh Saved	Energy Cost Savings	Bulbs/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total		
221	Eastern Camden Main School Building	010	Dressing Room 2	Inaccessible	0	0.0	0.00	2,400	0		NONE PROPOSED	0	0.0	0.00	2,400	0	0	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0		
222	Eastern Camden Main School Building	010	Elec. Room	40W Incandescent Fixture	2	80.0	0.08	2,400	192		Replace 40W Incandescent Fixture with 13W CFL	2	26.0	0.03	2,400	62	62	NONE PROPOSED	0	130	-	0.05	130	\$ 25.92	0	5	20	0	0	25	50		
223	Eastern Camden Main School Building	010	Elec. Room	150W Incandescent Fixture	4	600.0	0.60	2,400	1,440		Replace 150W Incandescent Fixture with 25W CFL	4	100.0	0.10	2,400	240	240	NONE PROPOSED	0	1,200	-	0.50	1,200	\$ 240.00	0	7	20	0	0	27	108		
224	Eastern Camden Main School Building	010	Electrical Room	100W Incandescent Fixture	3	300.0	0.30	2,400	720		Replace 100W Incandescent Fixture with 25W CFL	3	75.0	0.08	2,400	180	180	NONE PROPOSED	0	540	-	0.23	540	\$ 108.00	0	7	20	0	0	27	81		
225	Eastern Camden Main School Building	010	Electrical Room	40W Incandescent Fixture	2	80.0	0.08	2,400	192		Replace 40W Incandescent Fixture with 13W CFL	2	26.0	0.03	2,400	62	62	NONE PROPOSED	0	130	-	0.05	130	\$ 25.92	0	5	20	0	0	25	50		
226	Eastern Camden Main School Building	010	Exterior	Pole Mounted Lights	48	31144.0	31.14	4,000	124,576		NONE PROPOSED	48	31144.0	31.14	4,000	124,576	124,576	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0		
227	Eastern Camden Main School Building	010	Exterior	Exterior Wall Packs	55	4950.0	4.95	4,000	19,800		NONE PROPOSED	55	4950.0	4.95	4,000	19,800	19,800	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
228	Eastern Camden Main School Building	010	Exterior	150W Incandescent Fixture	34	5100.0	5.10	4,000	20,400		Replace 150W Incandescent Fixture with 25W CFL	34	850.0	0.85	4,000	3400	3400	NONE PROPOSED	0	17,000	-	4.25	17,000	\$ 3,400.00	0	7	20	0	0	27	918		
229	Eastern Camden Main School Building	010	Girls Bathroom	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	5	253.5	0.25	2,400	608		NONE PROPOSED	5	253.5	0.25	2,400	608	608	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
230	Eastern Camden Main School Building	010	Girls Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	21	1064.7	1.06	2,400	2,555		NONE PROPOSED	21	1064.7	1.06	2,400	2,555	2,555	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
231	Eastern Camden Main School Building	010	Girl's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	15	760.5	0.76	2,400	1,825		NONE PROPOSED	15	760.5	0.76	2,400	1,825	1,825	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
232	Eastern Camden Main School Building	010	Girl's Locker Room	2' 17W Fluorescent Fixture	2	30.0	0.03	2,400	72		NONE PROPOSED	2	30.0	0.03	2,400	72	72	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
233	Eastern Camden Main School Building	010	Girl's Locker Room	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	1	50.7	0.05	2,400	122		NONE PROPOSED	1	50.7	0.05	2,400	122	122	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
234	Eastern Camden Main School Building	010	Girl's Locker Room	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25		
235	Eastern Camden Main School Building	010	Girl's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	32	1622.4	1.62	2,400	3,894		NONE PROPOSED	32	1622.4	1.62	2,400	3,894	3,894	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
236	Eastern Camden Main School Building	010	Girl's Locker Room	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	6	330.0	0.33	2,400	792		NONE PROPOSED	6	330.0	0.33	2,400	792	792	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
237	Eastern Camden Main School Building	010	Girl's Locker Room	42W CFL	11	462.0	0.46	2,400	1,109		NONE PROPOSED	11	462.0	0.46	2,400	1,109	1,109	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
238	Eastern Camden Main School Building	010	Girl's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	22	1115.4	1.12	2,400	2,677		NONE PROPOSED	22	1115.4	1.12	2,400	2,677	2,677	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
239	Eastern Camden Main School Building	010	Girl's Locker Room	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	1	55.0	0.06	2,400	132		NONE PROPOSED	1	55.0	0.06	2,400	132	132	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
240	Eastern Camden Main School Building	010	Girl's Locker Room	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25		
241	Eastern Camden Main School Building	010	Guidance Office	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	30	2640.0	2.64	2,400	6,336		NONE PROPOSED	30	2640.0	2.64	2,400	6,336	6,336	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
242	Eastern Camden Main School Building	010	Gym 1	400W Metal Halide Fixtures	26	12824.0	12.82	2,400	30,778		Replace Metal Halide Fixtures with 6-Lamp Fluorescent Highway Fixtures	26	6328.0	6.33	2,400	15,167	15,167	NONE PROPOSED	0	15,590	-	6.50	15,590	\$ 3,310.08	168	105	15	0	0	288	8064		
243	Eastern Camden Main School Building	010	Gym 1	Unidentifiable	12	0.0	0.00	2,400	0		NONE PROPOSED	12	0.0	0.00	2,400	0	0	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
244	Eastern Camden Main School Building	010	Gym 2	400W Metal Halide Fixtures	21	9618.0	9.62	2,400	23,083		Replace Metal Halide Fixtures with 6-Lamp Fluorescent Highway Fixtures	21	4746.0	4.75	2,400	11,390	11,390	NONE PROPOSED	0	11,693	-	4.87	11,693	\$ 2,338.56	168	105	15	0	0	288	6048		
245	Eastern Camden Main School Building	010	Gym 2	42W CFL	15	630.0	0.63	2,400	1,512		NONE PROPOSED	15	630.0	0.63	2,400	1,512	1,512	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
246	Eastern Camden Main School Building	010	Gym 3	400W Metal Halide Fixtures	14	6412.0	6.41	2,400	15,389		Replace Metal Halide Fixtures with 6-Lamp Fluorescent Highway Fixtures	14	3164.0	3.16	2,400	7,594	7,594	NONE PROPOSED	0	7,795	-	3.25	7,795	\$ 1,559.04	168	105	15	0	0	288	4032		
247	Eastern Camden Main School Building	010	Gym 3	100W Incandescent Fixture	6	600.0	0.60	2,400	1,440		Replace 100W Incandescent Fixture with 25W CFL	6	150.0	0.15	2,400	360	360	NONE PROPOSED	0	1,080	-	0.45	1,080	\$ 216.00	0	7	20	0	0	27	162		
248	Eastern Camden Main School Building	010	Gym 4	400W Metal Halide Fixtures	46	21068.0	21.07	2,400	50,563		Replace Metal Halide Fixtures with 6-Lamp Fluorescent Highway Fixtures	46	10396.0	10.40	2,400	24,950	24,950	NONE PROPOSED	0	25,613	-	10.67	25,613	\$ 5,122.56	168	105	15	0	0	288	13248		
249	Eastern Camden Main School Building	010	Hallway	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	42	2129.4	2.13	2,400	5,111		NONE PROPOSED	42	2129.4	2.13	2,400	5,111	5,111	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
250	Eastern Camden Main School Building	010	Hallway	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	47	2585.0	2.59	2,400	6,204		NONE PROPOSED	47	2585.0	2.59	2,400	6,204	6,204	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
251	Eastern Camden Main School Building	010	Hallway	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	158	17696.0	17.70	2,400	42,470		NONE PROPOSED	158	17696.0	17.70	2,400	42,470	42,470	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
252	Eastern Camden Main School Building	010	Hallway	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	124	6286.8	6.29	2,400	15,088		NONE PROPOSED	124	6286.8	6.29	2,400	15,088	15,088	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
253	Eastern Camden Main School Building	010	Hallway	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	105	5775.0	5.78	2,400	13,860		NONE PROPOSED	105	5775.0	5.78	2,400	13,860	13,860	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
254	Eastern Camden Main School Building	010	Hallway	1X4 Fixtures/1-T8 Lamps/Electronic Ballasts	58	1473.2	1.47	2,400	3,536		NONE PROPOSED	58	1473.2	1.47	2,400	3,536	3,536	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
255	Eastern Camden Main School Building	010	Hallway	250W Metal Halide	15	4455.0	4.46	2,400	10,692		NONE PROPOSED	15	4455.0	4.46	2,400	10,692	10,692	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
256	Eastern Camden Main School Building	010	Hallway	42W CFL	36	1512.0	1.51	2,400	3,629		NONE PROPOSED	36	1512.0	1.51	2,400	3,629	3,629	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
257	Eastern Camden Main School Building	010	Hallway	40W Incandescent Fixture	10	400.0	0.40	2,400	960		Replace 40W Incandescent Fixture with 13W CFL	10	130.0	0.13	2,400	312	312	NONE PROPOSED	0	648	-	0.27	648	\$ 129.60	0	5	20	0	0	25	250		
258	Eastern Camden Main School Building	010	Health	1X4 Suspended Fixtures/1-T8 Lamps/Electronic Ballasts	20	508.0	0.51	2,400	1,219		NONE PROPOSED	20	508.0	0.51	2,400	1,219	1,219	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
259	Eastern Camden Main School Building	010	Health	1X4 Suspended Fixtures/2-T8 Lamps/Electronic Ballasts	20	1014.0	1.01	2,400	2,434		NONE PROPOSED	20	1014.0	1.01	2,400	2,434	2,434	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
260	Eastern Camden Main School Building	010	IHS Principles Office	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	33	3696.0	3.70	2,400	8,870		NONE PROPOSED	33	3696.0	3.70																			

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Exp. Qty of Fixtures	Exist. Watts	Exist. kW Base	Oper. Hrs.	Exist. kWh	Annual Cost of Energy Existing	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh w/ Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor Qty	Total kWh Saved (Lighting Only)	kWh Saved (Sensors Only)	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total	
265	Eastern Camden Main School Building	010	Kitchen	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	12	660.0	0.66	2,400	1,584		NONE PROPOSED	12	660.0	0.66	2,400	1,584	1,584	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
266	Eastern Camden Main School Building	010	Kitchen	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	5	253.5	0.25	2,400	608		NONE PROPOSED	5	253.5	0.25	2,400	608	608	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
267	Eastern Camden Main School Building	010	Maintenance Office	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	20	2240.0	2.24	2,400	5,376		NONE PROPOSED	20	2240.0	2.24	2,400	5,376	5,376	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
268	Eastern Camden Main School Building	010	Maintenance Office	150W Incandescent Fixture	4	600.0	0.60	2,400	1,440		Replace 150W Incandescent Fixture with 25W CFL	4	100.0	0.10	2,400	240	240	NONE PROPOSED	0	1,200	-	0.50	1,200	\$ 240.00	0	7	20	0	0	27	108	
269	Eastern Camden Main School Building	010	Media Center	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	36	4032.0	4.03	2,400	9,677		NONE PROPOSED	36	4032.0	4.03	2,400	9,677	9,677	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
270	Eastern Camden Main School Building	010	Media Center	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	41	4592.0	4.59	2,400	11,021		NONE PROPOSED	41	4592.0	4.59	2,400	11,021	11,021	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
271	Eastern Camden Main School Building	010	Media Center	42W CFL	44	1848.0	1.85	2,400	4,435		NONE PROPOSED	44	1848.0	1.85	2,400	4,435	4,435	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
272	Eastern Camden Main School Building	010	Men's Faculty Restroom	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	3	165.0	0.17	2,400	396		NONE PROPOSED	3	165.0	0.17	2,400	396	396	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
273	Eastern Camden Main School Building	010	Men's Faculty Restroom	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
274	Eastern Camden Main School Building	010	Men's Faculty Restroom	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25	
275	Eastern Camden Main School Building	010	Mens Restroom	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
276	Eastern Camden Main School Building	010	Mens Restroom	150W Incandescent Fixture	1	150.0	0.15	2,400	360		Replace 150W Incandescent Fixture with 25W CFL	1	25.0	0.03	2,400	60	60	NONE PROPOSED	0	300	-	0.13	300	\$ 60.00	0	7	20	0	0	27	27	
277	Eastern Camden Main School Building	010	Mens Restroom	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	2	110.0	0.11	2,400	264		NONE PROPOSED	2	110.0	0.11	2,400	264	264	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
278	Eastern Camden Main School Building	010	Men's Restroom	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
279	Eastern Camden Main School Building	010	Men's Restroom	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25	
280	Eastern Camden Main School Building	010	Men's Restroom	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	2	224.0	0.22	2,400	538		NONE PROPOSED	2	224.0	0.22	2,400	538	538	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
281	Eastern Camden Main School Building	010	Men's Restroom	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1,075	1,075	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
282	Eastern Camden Main School Building	010	Men's Restroom	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	3	152.1	0.15	2,400	365		NONE PROPOSED	3	152.1	0.15	2,400	365	365	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
283	Eastern Camden Main School Building	010	Men's Restroom	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	4	202.8	0.20	2,400	487		NONE PROPOSED	4	202.8	0.20	2,400	487	487	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
284	Eastern Camden Main School Building	010	Men's Restroom	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	5	560.0	0.56	2,400	1,344		NONE PROPOSED	5	560.0	0.56	2,400	1,344	1,344	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
285	Eastern Camden Main School Building	010	Nurse	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	7	784.0	0.78	2,400	1,882		NONE PROPOSED	7	784.0	0.78	2,400	1,882	1,882	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
286	Eastern Camden Main School Building	010	PE Office in Boy's LR	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	6	528.0	0.53	2,400	1,267		NONE PROPOSED	6	528.0	0.53	2,400	1,267	1,267	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
287	Eastern Camden Main School Building	010	PE Office in Women's LR	2X4 Troffers/3-T8 Lamps/Electronic Ballasts	6	528.0	0.53	2,400	1,267		NONE PROPOSED	6	528.0	0.53	2,400	1,267	1,267	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
288	Eastern Camden Main School Building	010	Red Hallway	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	26	1430.0	1.43	2,400	3,432		NONE PROPOSED	26	1430.0	1.43	2,400	3,432	3,432	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
289	Eastern Camden Main School Building	010	Red Hallway	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	26	1318.2	1.32	2,400	3,164		NONE PROPOSED	26	1318.2	1.32	2,400	3,164	3,164	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
290	Eastern Camden Main School Building	010	Red Hallway	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	13	659.1	0.66	2,400	1,582		NONE PROPOSED	13	659.1	0.66	2,400	1,582	1,582	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
291	Eastern Camden Main School Building	010	Resource Office	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1,075	1,075	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
292	Eastern Camden Main School Building	010	S-1	1X4 Fixtures/1-T8 Lamps/Electronic Ballasts	11	279.4	0.28	2,400	671		NONE PROPOSED	11	279.4	0.28	2,400	671	671	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
293	Eastern Camden Main School Building	010	Senior Media	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	108	12096.0	12.10	2,400	29,030		NONE PROPOSED	108	12096.0	12.10	2,400	29,030	29,030	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
294	Eastern Camden Main School Building	010	Senior Media	1X4 Fixtures/1-T8 Lamps/Electronic Ballasts	2	50.8	0.05	2,400	122		NONE PROPOSED	2	50.8	0.05	2,400	122	122	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
295	Eastern Camden Main School Building	010	SHS Principles Office	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	27	3024.0	3.02	2,400	7,258		NONE PROPOSED	27	3024.0	3.02	2,400	7,258	7,258	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
296	Eastern Camden Main School Building	010	SHS Principles Office	150W Incandescent Fixture	1	150.0	0.15	2,400	360		Replace 150W Incandescent Fixture with 25W CFL	1	25.0	0.03	2,400	60	60	NONE PROPOSED	0	300	-	0.13	300	\$ 60.00	0	7	20	0	0	27	27	
297	Eastern Camden Main School Building	010	Special Services	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	28	3136.0	3.14	2,400	7,526		NONE PROPOSED	28	3136.0	3.14	2,400	7,526	7,526	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
298	Eastern Camden Main School Building	010	Sprinkler Room	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1,075	1,075	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0
299	Eastern Camden Main School Building	010	Storage	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	4	202.8	0.20	500	101		NONE PROPOSED	4	202.8	0.20	325	101	66	Automatic: Wall Switch Occupancy Sensor	1	-	35.49	-	35	\$ 7.10	0	0	0	103	73.5	0	0	0
300	Eastern Camden Main School Building	010	Storage	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	500	51		NONE PROPOSED	2	101.4	0.10	325	51	33	Automatic: Wall Switch Occupancy Sensor	1	-	17.75	-	18	\$ 3.55	0	0	0	103	73.5	0	0	0
301	Eastern Camden Main School Building	010	Storage	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	6	304.2	0.30	500	152		NONE PROPOSED	6	304.2	0.30	325	152	99	Automatic: Wall Switch Occupancy Sensor	1	-	53.24	-	53	\$ 10.65	0	0	0	103	73.5	0	0	0
302	Eastern Camden Main School Building	010	Storage	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	6	304.2	0.30	500	152		NONE PROPOSED	6	304.2	0.30	325	152	99	Automatic: Wall Switch Occupancy Sensor	1	-	53.24	-	53	\$ 10.65	0	0	0	103	73.5	0	0	0
303	Eastern Camden Main School Building	010	Storage	40W Incandescent Fixture	1	40.0	0.04	500	20		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	325	7	4	Automatic: Wall Switch Occupancy Sensor	1	14	2.28	0.03	16	\$ 3.16	0	5	20	103	73.5	25	25	
304	Eastern Camden Main School Building	010	Storage	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	4	202.8	0.20	500	101		NONE PROPOSED	4	202.8	0.20	325	101	66	Automatic: Wall Switch Occupancy Sensor	1	-	35.49	-	35	\$ 7.10	0	0	0	103	73.5	0	0	0

ATTACHMENT A
Lighting Spreadsheets

Seq. #	Building	Floor #	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty. Qty of Fixtures	Exist. Watts	Exist. kW Base	Oper. Hrs.	Exist. kWh	Annual Cost of Energy Existing	Proposed Replacement Solution	Prop. Qty of Fixtures	Prop. Watts	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh w/ Sensors	Prop. kWh w/ Sensors	Proposed Occupancy Sensor	Sensor Qty	Total kWh Saved (Lighting Only)	kWh Saved Sensors Only	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector	Bulb	Labor	OS Cost	OS Labor	Subtotal	Total		
309	Eastern Camden Main School Building	010	Storage	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	8	405.6	0.41	500	203		NONE PROPOSED	8	405.6	0.41	325	203	132	Automatic Wall Switch Occupancy Sensor	1	-	70.98	-	71	\$ 14.20	0	0	0	103	73.5	0	0		
310	Eastern Camden Main School Building	010	Student Store	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1,075	1,075	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
311	Eastern Camden Main School Building	010	Teachers Cafeteria	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1,075	1,075	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
312	Eastern Camden Main School Building	010	Teachers Cafeteria	300W Incandescent Fixture	10	3000.0	3.00	2,400	7,200		Replace 300W Incandescent Fixture with 60W CFL	10	650.0	0.65	2,400	1560	1560	NONE PROPOSED	0	5,640	-	2.35	5,640	\$ 1,128.00	0	25	20	0	0	45	450		
313	Eastern Camden Main School Building	010	Teachers Cafeteria	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	13	659.1	0.66	2,400	1,582		NONE PROPOSED	13	659.1	0.66	2,400	1582	1582	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
314	Eastern Camden Main School Building	010	Teachers Prep Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	20	1014.0	1.01	2,400	2,434		NONE PROPOSED	20	1014.0	1.01	2,400	2434	2434	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
315	Eastern Camden Main School Building	010	Teachers Prep Room	30W Incandescent Fixture	2	60.0	0.06	2,400	144		NONE PROPOSED	2	60.0	0.06	2,400	144	144	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	
316	Eastern Camden Main School Building	010	Teachers Prep Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	4	202.8	0.20	2,400	487		NONE PROPOSED	4	202.8	0.20	2,400	487	487	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
317	Eastern Camden Main School Building	010	Teachers Prep Room	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	1	55.0	0.06	2,400	132		NONE PROPOSED	1	55.0	0.06	2,400	132	132	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
318	Eastern Camden Main School Building	010	Teachers Prep Room	1X4 Suspended Fixtures/1-T8 Lamps/Electronic Ballasts	1	25.4	0.03	2,400	61		NONE PROPOSED	1	25.4	0.03	2,400	61	61	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
319	Eastern Camden Main School Building	010	Teachers Prep Room	65W Incandescent Fixture	1	65.0	0.07	2,400	156		Replace 65W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	125	-	0.05	125	\$ 24.96	0	5	20	0	0	25	25		
320	Eastern Camden Main School Building	010	Teachers Prep Room	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	21	2352.0	2.35	2,400	5,645		NONE PROPOSED	21	2352.0	2.35	2,400	5645	5645	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
321	Eastern Camden Main School Building	010	Teachers Room	1X4 Suspended Fixtures/3-T8 Lamps/Electronic Ballasts	12	1056.0	1.06	2,400	2,534		NONE PROPOSED	12	1056.0	1.06	2,400	2534	2534	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
322	Eastern Camden Main School Building	010	Trainers Room	1X4 Suspended Fixtures/3-T8 Lamps/Electronic Ballasts	20	1760.0	1.76	2,400	4,224		NONE PROPOSED	20	1760.0	1.76	2,400	4224	4224	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
323	Eastern Camden Main School Building	010	Training	1X4 Suspended Fixtures/2-T8 Lamps/Electronic Ballasts	25	1267.5	1.27	2,400	3,042		NONE PROPOSED	25	1267.5	1.27	2,400	3042	3042	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
324	Eastern Camden Main School Building	010	Training	1X4 Suspended Fixtures/1-T8 Lamps/Electronic Ballasts	25	635.0	0.64	2,400	1,524		NONE PROPOSED	25	635.0	0.64	2,400	1524	1524	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
325	Eastern Camden Main School Building	010	TV Control Room	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1,075	1,075	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
326	Eastern Camden Main School Building	010	Weight Room	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	25	2800.0	2.80	2,400	6,720		NONE PROPOSED	25	2800.0	2.80	2,400	6720	6720	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
327	Eastern Camden Main School Building	010	Women's Faculty Restroom	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	3	165.0	0.17	2,400	396		NONE PROPOSED	3	165.0	0.17	2,400	396	396	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
328	Eastern Camden Main School Building	010	Women's Faculty Restroom	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
329	Eastern Camden Main School Building	010	Women's Faculty Restroom	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25		
330	Eastern Camden Main School Building	010	Women's Restroom	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
331	Eastern Camden Main School Building	010	Women's Restroom	150W Incandescent Fixture	1	150.0	0.15	2,400	360	\$ 530.41	Replace 150W Incandescent Fixture with 25W CFL	1	25.0	0.03	2,400	60	60	NONE PROPOSED	0	300	-	0.13	300	\$ 60.00	0	7	20	0	0	27	27		
332	Eastern Camden Main School Building	010	Women's Restroom	2X2 Troffers/2-T8 Lamps/Electronic Ballasts	2	110.0	0.11	2,400	264		NONE PROPOSED	2	110.0	0.11	2,400	264	264	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
333	Eastern Camden Main School Building	010	Women's Restroom	1X4 Fixtures/2-T8 Lamps/Electronic Ballasts	2	101.4	0.10	2,400	243		NONE PROPOSED	2	101.4	0.10	2,400	243	243	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
334	Eastern Camden Main School Building	010	Women's Restroom	40W Incandescent Fixture	1	40.0	0.04	2,400	96		Replace 40W Incandescent Fixture with 13W CFL	1	13.0	0.01	2,400	31	31	NONE PROPOSED	0	65	-	0.03	65	\$ 12.96	0	5	20	0	0	25	25		
335	Eastern Camden Main School Building	010	Women's Restroom	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	2	224.0	0.22	2,400	538		NONE PROPOSED	2	224.0	0.22	2,400	538	538	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
336	Eastern Camden Main School Building	010	Women's Restroom	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	4	448.0	0.45	2,400	1,075		NONE PROPOSED	4	448.0	0.45	2,400	1,075	1,075	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
337	Eastern Camden Main School Building	010	Women's Restroom	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	3	152.1	0.15	2,400	365		NONE PROPOSED	3	152.1	0.15	2,400	365	365	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
338	Eastern Camden Main School Building	010	Women's Restroom	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	8	405.6	0.41	2,400	973		NONE PROPOSED	8	405.6	0.41	2,400	973	973	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
339	Eastern Camden Main School Building	010	Women's Restroom	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	5	560.0	0.56	2,400	1,344		NONE PROPOSED	5	560.0	0.56	2,400	1344	1344	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
340	Eastern Camden Main School Building	010	Women's Locker Room	1X4 Fixtures/1-T8 Lamps/Electronic Ballasts	6	152.4	0.15	2,400	366		NONE PROPOSED	6	152.4	0.15	2,400	366	366	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
341	Eastern Camden Main School Building	010	Women's Locker Room	2X4 Troffers/4-T8 Lamps/Electronic Ballasts	19	2128.0	2.13	2,400	5,107		NONE PROPOSED	19	2128.0	2.13	2,400	5107	5107	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
342	Eastern Camden Main School Building	010	Women's Locker Room	2X4 Troffers/2-T8 Lamps/Electronic Ballasts	6	304.2	0.30	2,400	730		NONE PROPOSED	6	304.2	0.30	2,400	730	730	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
343	Eastern Camden Main School Building	010	Women's Locker Room	42W CFL	3	126.0	0.13	2,400	302		NONE PROPOSED	3	126.0	0.13	2,400	302	302	NONE PROPOSED	0	-	-	-	-	\$ -	0	0	0	0	0	0	0	0	0
					4,929	630.36	1,094.793						4,929	386.06	41862	981,727						112,067	44.30	113,430	\$22,688	\$1,115	\$791	\$915		\$2,821	\$41,862		

APPENDIX E

SOLAR ENERGY FINANCING WORKSHEET

East Camden Regional High School Solar Estimate

Design Goal: Provide 80% of average annual electricity

Solar Rating (Zip Code: 08826) 4.48 kWh/sq-m/day
 Solar Capacity Required 2,656 kW
 Roof Space Needed 265,557 sq-ft
 Annual kWh 3,159,464
 Gross System Installation Cost \$23,900,130
 Federal Tax Credit \$7,170,039
 NJ Renewable Energy Incentive \$50,000
 Net System Installation Cost \$16,680,091

Assumptions

Annual System Degradation 0.50%
 Annual Utility Inflation 3.78%
 Federal Tax % 28.00%
 State Tax % 7.80%
 Annual Maintenance Costs 2%

Year	Utility Price	Solar kWh	Utility Savings	SRECS	Maintenance Costs	Annual Cash Flow	Cummulative Cash Flow	15 year G.O. Bond	Remaining Cash Flow	Plus DSA	Remaining Cash Flow
Install											
1	0.1619	3159464.0	\$511,517.2	\$1,991,843	(\$63,189)	\$2,440,170.9	\$2,440,170.9	(\$1,582,861.2)	\$857,309.7	\$633,144.5	\$1,490,454.2
2	0.1680	3143666.7	\$528,198.3	\$1,932,337	(\$62,873)	\$2,397,661.7	\$4,837,832.6	(\$1,582,861.2)	\$3,254,971.4	\$633,144.5	\$3,888,115.9
3	0.1744	3127948.3	\$545,423.4	\$1,874,031	(\$62,559)	\$2,356,895.7	\$7,194,728.4	(\$1,582,861.2)	\$5,611,867.2	\$633,144.5	\$6,245,011.6
4	0.1810	3112308.6	\$563,210.2	\$1,808,721	(\$62,246)	\$2,309,685.4	\$9,504,413.7	(\$1,582,861.2)	\$7,921,552.5	\$633,144.5	\$8,554,697.0
5	0.1878	3096747.1	\$581,577.0	\$1,745,687	(\$61,935)	\$2,265,329.5	\$11,769,743.2	(\$1,582,861.2)	\$10,186,882.0	\$633,144.5	\$10,820,026.5
6	0.1949	3081263.3	\$600,542.8	\$1,684,850	(\$61,625)	\$2,223,767.8	\$13,993,511.0	(\$1,582,861.2)	\$12,410,649.8	\$633,144.5	\$13,043,794.2
7	0.2023	3065857.0	\$620,127.1	\$1,626,133	(\$61,317)	\$2,184,943.2	\$16,178,454.1	(\$1,582,861.2)	\$14,595,592.9	\$633,144.5	\$15,228,737.4
8	0.2099	3050527.7	\$640,350.1	\$1,569,462	(\$61,011)	\$2,148,802.0	\$18,327,256.1	(\$1,582,861.2)	\$16,744,394.9	\$633,144.5	\$17,377,539.4
9	0.2178	3035275.1	\$661,232.6	\$1,514,767	(\$60,706)	\$2,115,293.7	\$20,442,549.8	(\$1,582,861.2)	\$18,859,688.6	\$633,144.5	\$19,492,833.1
10	0.2261	3020098.7	\$682,796.0	\$1,461,977	(\$60,402)	\$2,084,371.1	\$22,526,920.9	(\$1,582,861.2)	\$20,944,059.7	\$633,144.5	\$21,577,204.2
11	0.2346	3004998.2	\$705,062.7	\$1,411,027	(\$60,100)	\$2,055,989.9	\$24,582,910.8	(\$1,582,861.2)	\$23,000,049.6	\$633,144.5	\$23,633,194.1
12	0.2435	2989973.2	\$728,055.5	\$1,361,853	(\$59,799)	\$2,030,108.9	\$26,613,019.7	(\$1,582,861.2)	\$25,030,158.5	\$633,144.5	\$25,663,302.9
13	0.2527	2975023.4	\$751,798.1	\$1,314,392	(\$59,500)	\$2,006,689.9	\$28,619,709.6	(\$1,582,861.2)	\$27,036,848.4	\$633,144.5	\$27,669,992.8
14	0.2623	2960148.2	\$776,315.0	\$1,268,586	(\$59,203)	\$1,985,697.7	\$30,605,407.3	(\$1,582,861.2)	\$29,022,546.1	\$633,144.5	\$29,655,690.6
15	0.2722	2945347.5	\$801,631.4	\$1,224,375	(\$58,907)	\$1,967,099.9	\$32,572,507.2	(\$1,582,861.2)	\$30,989,646.0	\$633,144.5	\$31,622,790.5
16	0.2825	2930620.8	\$827,773.4	0	(\$58,612)	\$769,161.0	\$33,341,668.2		\$33,341,668.2		\$33,341,668.2
17	0.2931	2915967.7	\$854,767.9	0	(\$58,319)	\$796,448.6	\$34,138,116.8		\$34,138,116.8		\$34,138,116.8
18	0.3042	2901387.8	\$882,642.8	0	(\$58,028)	\$824,615.0	\$34,962,731.8		\$34,962,731.8		\$34,962,731.8
19	0.3157	2886880.9	\$911,426.6	0	(\$57,738)	\$853,689.0	\$35,816,420.8		\$35,816,420.8		\$35,816,420.8
20	0.3276	2872446.5	\$941,149.2	0	(\$57,449)	\$883,700.2	\$36,700,121.0		\$36,700,121.0		\$36,700,121.0
21	0.3400	2858084.2	\$971,841.0	0	(\$57,162)	\$914,679.3	\$37,614,800.3		\$37,614,800.3		\$37,614,800.3
22	0.3529	2843793.8	\$1,003,533.7	0	(\$56,876)	\$946,657.8	\$38,561,458.1		\$38,561,458.1		\$38,561,458.1
23	0.3662	2829574.9	\$1,036,259.9	0	(\$56,591)	\$979,668.4	\$39,541,126.5		\$39,541,126.5		\$39,541,126.5
24	0.3801	2815427.0	\$1,070,053.4	0	(\$56,309)	\$1,013,744.8	\$40,554,871.3		\$40,554,871.3		\$40,554,871.3
25	0.3944	2801349.8	\$1,104,948.9	0	(\$56,027)	\$1,048,921.9	\$41,603,793.2		\$41,603,793.2		\$41,603,793.2

APPENDIX F

GLACIAL ENERGY - ALTERNATIVE ELECTRIC SUPPLIER QUOTE

Savings Analysis Proposal - PSE&G

Glacial Energy



This proposal illustrates how you can maximize your energy cost savings by choosing Glacial Energy as your preferred electricity supplier. This proposal is based on your organization's estimated usage (kwh) and demand (kw) over the coming year.

Secure your savings today!

Contract Summary - Forecasted Price Comparison

Company Name: Eastern Camden Regional High Schools
Billing Address: Intermediate School, 1401 Laurel Oak Rd, Voorhees, NJ 08043

Start Month: Sep-09
Number of LDC Accounts: 2
Retail Margin Adder: N/A

Forecasted Customer Usage Data Summary

Usage (kwh): 4,215,895
Avg Monthly Usage (kwh): 351,325
Peak Monthly kw: 1042
Peak Load Factor: 46%
Capacity PLC: 875
Transmission PLC: 788

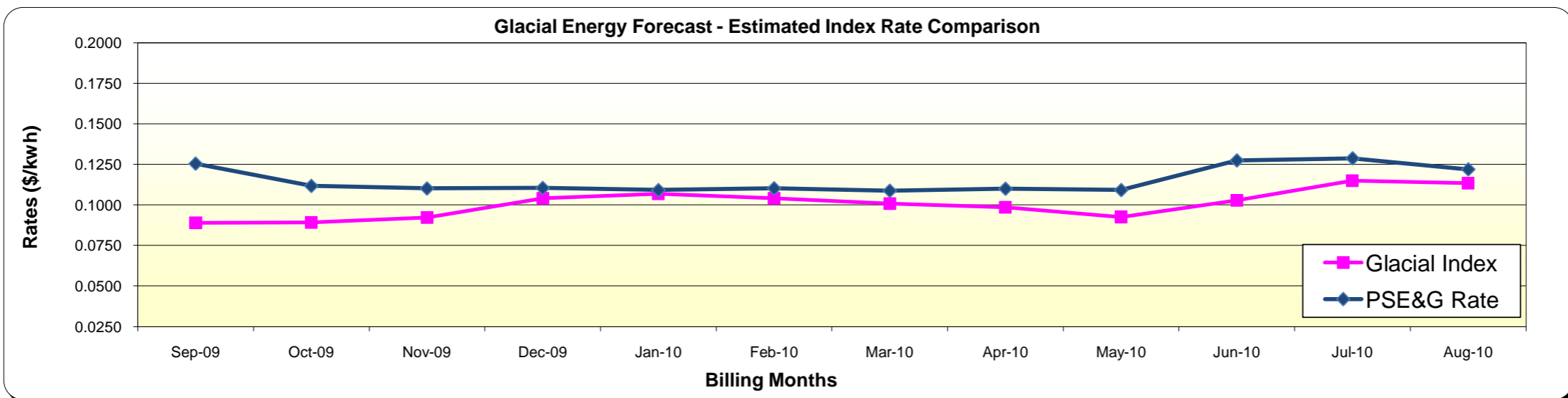
Estimated Rate over the next 12 months

Avg Rate (\$/kwh)*: \$ 0.11527
Annual Utility Charges: \$ 485,975

Glacial Energy Index: \$ 0.10056
Glacial Charges: \$ 423,950

Savings Summary

Estimated Savings vs. Utility \$ 62,025
Savings (Glacial vs. Utility) 13%

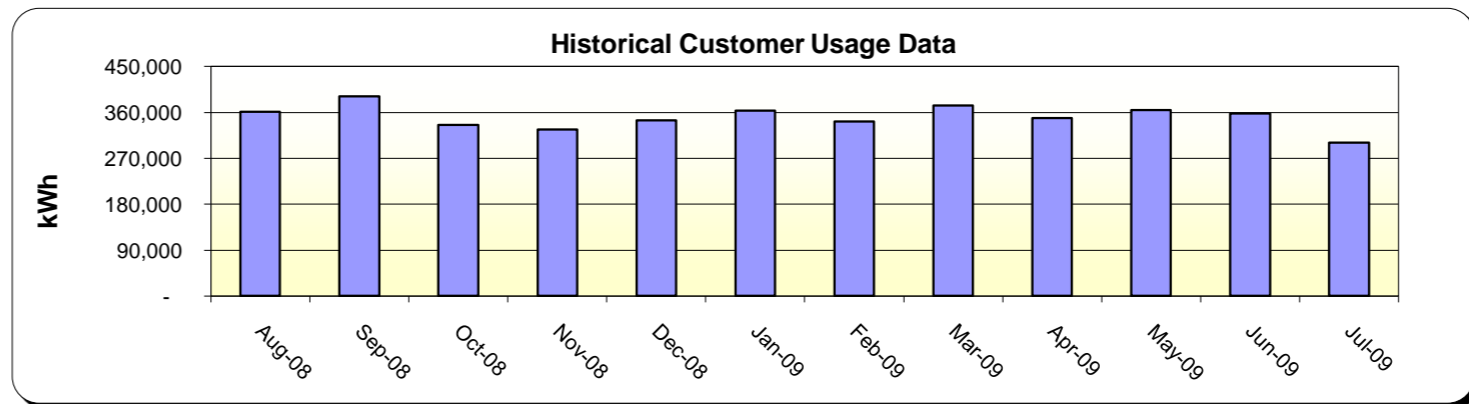


Glacial Index Includes:

- a. Estimated weighted average Wholesale Energy price
- b. Ancillary Services & requirements
- c. Zonal Congestion
- d. Market Scheduling and Forecasting Fees
- e. PJM ISO Fees
- f. Transmission Losses & Charges
- g. Capacity Charges
- h. NJ SUT

Glacial Index Excludes:

- a. Any charges from the LDC companies - Wires
- b. Non NJ SUT Taxes (SUT rates & charges noted above)



LDC Account No:	Physical Address:
1 PE000009002581826948	Intermediate School, 1401 Laurel Oak Rd, Voorhees, NJ 08043
2 PE000010705820826960	Senior HS 1401 Laurel Oak Rd, Voorhees, NJ 08043

1. The Glacial Index price is based in large part on forecasted ISO charges and estimated future zonal energy prices.
 2. The forward tariff rates are based on the latest, pending or estimated utility rates (inclusive of NJ SUT), applicable for this rate schedule(s).
 Rate Listed is an average over the next 12 months. Your current average utility rate for September 2009 is \$0.12548/kwh.
 The graph above beyond 9/30/2009, reflect published rate changes and/or rate estimations.

Savings Analysis Proposal - PSE&G

Glacial Energy



This proposal illustrates how you can maximize your energy cost savings by choosing Glacial Energy as your preferred electricity supplier. This proposal is based on your organization's estimated usage (kwh) and demand (kw) over the coming year.

Contract Summary - Historical Utility Charges

Company Name: Eastern Camden Regional High Schools
Billing Address: Intermediate School, 1401 Laurel Oak Rd, Voorhees, NJ 08043

Historical Timeframe (mo.): 6
Start Month: Feb-09
Number of LDC Accounts: 2

6 month Period Summary

Usage (kwh): 2,087,002
Avg Monthly Usage (kwh): 347,834
Peak Monthly kw: 1,042
Peak Load Factor: 46%
Capacity PLC: 875
Transmission PLC: 788

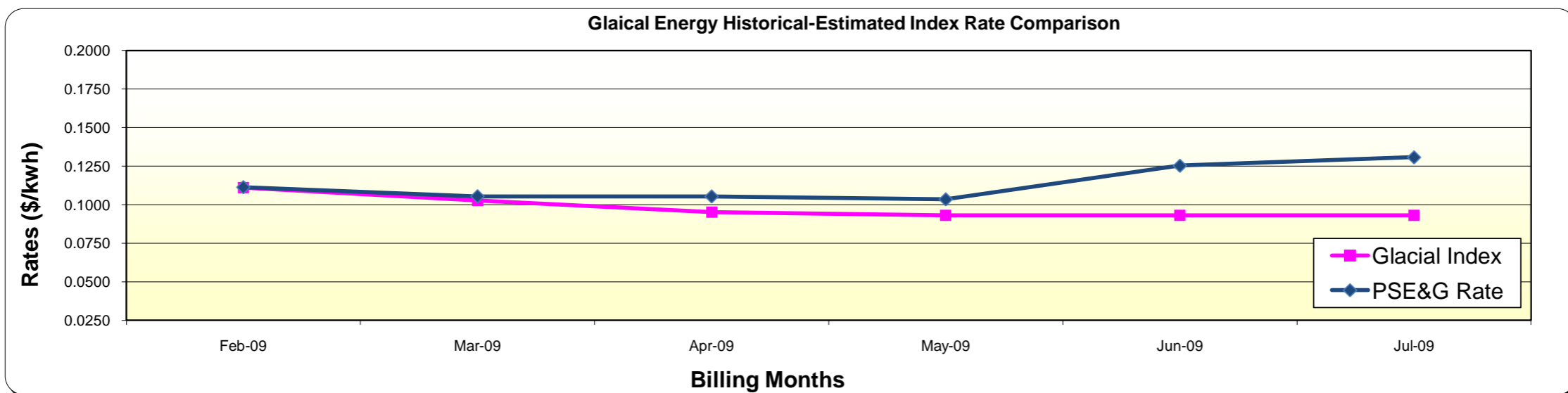
Estimated Historical Utility Charges

Avg Rate (\$/kwh): \$ 0.11309
Annual Utility Charges: \$ 236,023

Historical Glacial Index: \$ 0.09811
Historical Glacial Charges: \$ 204,750

Savings Summary

Historical Savings vs. Utility	\$ 31,274
Historical Savings (Glacial vs. Utility)	13%



Glacial Index Includes:

- a. Estimated Weighted average Wholesale Energy price
- b. Ancillary Services & requirements
- c. Zonal Congestion
- d. Market Scheduling and Forecasting Fees
- e. PJM ISO Fees
- f. Transmission Losses & Charges
- g. Capacity Charges
- h. NJ SUT

Glacial Index Excludes:

- a. Any charges from the LDC companies - Wires
- b. Non NJ SUT Taxes

1. The historic tariff rate comparison is based on historical usage and current, pending or estimated utility rates (inclusive of NJ SUT) for the appropriate rate schedule(s).

APPENDIX G

NJ SMARTSTART INCENTIVES INFORMATION AND WORKSHEETS



2009 Prescriptive Lighting Application

Customer Information				
Company	Electric Utility Serving Applicant	Electric Account No.	Installation Date	
Facility Address	City	State	Zip	
Type of Project <input type="checkbox"/> New Construction <input type="checkbox"/> Renovation <input type="checkbox"/> Equipment Replacement <input type="checkbox"/> School			Size of Building	
Company Mailing Address	City	State	Zip	
Contact Person (Name/Title)	Telephone No. ()	Fax No. ()		
Incorporated? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Exempt	Federal Tax ID# or SSN	Email Address		
Incentive Payment to <input type="checkbox"/> Customer <input type="checkbox"/> Contractor <input type="checkbox"/> Other	Please assign payment to contractor/vendor/other indicated below Customer Signature			

Payee Information (Must submit W-9 form with application)				Email Address
Company	Contact Name	Incorporated? <input type="checkbox"/> Yes <input type="checkbox"/> No	Federal Tax ID#	
Street Address	City	State	Zip	Telephone No. ()

Contractor/Vendor Information (if different from Payee)				Email Address
Company	Contact Name	Incorporated? <input type="checkbox"/> Yes <input type="checkbox"/> No	Federal Tax ID#	
Street Address	City	State	Zip	Telephone No. ()

Prescriptive Lighting Information
Total Incentives (per attached Worksheet calculations):
\$ _____
Note: Prescriptive Lighting Worksheet must accompany this application.

Specific Program Requirements* These requirements are in addition to the Program Terms and Conditions.

1. Please refer to the program guide for additional applicable technical requirements.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Market Manager.
3. Incentives for T-5 and T-8 lamps with electronic ballasts are available only for fixtures with a Total Harmonic Distortion of $\leq 20\%$.
4. All eligible lighting devices must be UL listed.
5. Requirements for CFL fixtures (must meet all requirements):
 - Fixtures must be new and Energy Star qualified
 - Fixtures must have replaceable electronic ballasts
 - Total Harmonic Distortion (THD) must not exceed 33%
 - Power factor of the ballast must be no less than 90%
 - The manufacturer must warrant all fixtures for a minimum of 3 years. Warranty does not pertain to lamps or photocells not physically part of the fixture.
 - The installer must warrant installation of fixtures for a minimum of 1 year.
6. Pulse Start Metal Halide (including pole-mounted parking lot lighting) must have a 12% minimum wattage reduction.
7. T-5 or T-8 Fixtures replacing incandescent or T-12 fluorescent fixtures greater than 250 watt or High Intensity Discharge shall comply as follows:
 - 7.1 T-5 fixtures replacing T-12 fluorescent or incandescent fixtures 250 watts or greater, or HID fixtures shall have a ballast factor greater than or equal to 1.0; have reflectivity greater than or equal to 91%; have a minimum 2 lamps; and be designated as F54T5 HO.
 - 7.2 T-8 fixtures replacing T-12 fluorescent or incandescent fixtures 250 watts or greater, or HID fixtures shall have a ballast factor greater than or equal to 1.14; have reflectivity greater than or equal to 91%; have a minimum of 4 lamps; and be designated as F32T8, minimum 32 watts.
 - 7.3 T-8 to T-8 replacement requires delamping and new reflectors resulting in a more efficient light system with maintained light levels.

ACKNOWLEDGEMENT

<p>_____</p> <p>CUSTOMER'S SIGNATURE</p> <p>By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).</p>
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Prescriptive Lighting Measures and Incentives*

Type of Fixture		Incentive	
Recessed and Surface-Mounted Compact Fluorescents (New Fixtures Replacing Incandescent Fixtures Only): Only available for hard-wired, electronically ballasted new fixtures with rare earth phosphor lamps and 4-pin based tubes (including: twin tube, quad tube, triple tube, 2D or circline lamps), THD<33% and BF>0.9		\$25 per 1-lamp fixture \$30 per 2-lamp or more fixture	
High-Efficiency Fluorescent Fixtures:			
For retrofit of T-12 fixtures to T-5 or T-8 with electronic ballasts		\$10 per fixture (1 & 2 lamps retrofit) \$20 per fixture (3 & 4 lamps retrofit)	
For replacement of fixtures with new T-5 or T-8 fixtures			
Type of Old Fixture	Wattage of Old Fixture	Type of New Fixture	Incentive Per Fixture Removed
HID, T-12, Incandescent	≥ 1000 Watts	T-5, T-8	\$284
HID, T-12, Incandescent	400-999 Watt	T-5, T-8	\$100
HID, T-12, Incandescent	250-399 Watt	T-5, T-8	\$50
HID only	175-249 Watt	T-5, T-8	\$43
HID only	100-174 Watt	T-5, T-8	\$30
HID only	75-99 Watt	T-5, T-8	\$16
T-12 only	<250 Watt	T-5, T-8 (1 & 2 lamp)	\$25
T-12 only	<250 Watt	T-5, T-8 (3 & 4 lamp)	\$30
For retrofit of T-8 fixtures by permanent delamping & new reflectors			\$20 per fixture
New Construction & Complete Renovation			Performance based only
LED Exit Signs (new fixtures only): For existing facilities with connected load ≤ 75 kW			\$20 per fixture
For existing facilities with connected load ≥ 75 kW			\$10 per fixture
Pulse Start Metal Halide (for fixtures ≥ 150 watts)			\$25 per fixture (includes parking lot lighting)
Parking lot low bay - LED			\$43 per fixture
T-12 to T-8 fixtures by permanent delamping & new reflectors			\$30 per fixture

Mail or fax your application package DIRECTLY to the Commercial/Industrial Market Manager.

New Jersey's Clean Energy Program
 c/o TRC Energy Services
 900 Route 9 North, Suite 104 · Woodbridge, NJ 07095
 Phone: 866-657-6278 · Fax: 732-855-0422

Visit our web site: www.NJCleanEnergy.com



Program Terms and Conditions

Definitions:

Design Incentives – Incentives that may be offered to design professionals by the Program.

Design Services – Services that may be offered to design professionals under the Program.

Energy-Efficient Measures – Any device eligible to receive a Program Incentive payment through the NJ Clean Energy Commercial and Industrial Program (New Jersey SmartStart Buildings).

New Jersey Utilities – The regulated electric and/or gas utilities in the State of New Jersey. They are: Atlantic City Electric, Jersey Central Power & Light, Rockland Electric Company, New Jersey Natural Gas, Elizabethtown Gas, PSE&G, and South Jersey Gas.

Administrator – New Jersey Board of Public Utilities, Office of Clean Energy

Participating Customers – Those non-residential electric and/or gas service customers of the New Jersey Utilities who participate in this Program.

Product Installation or Equipment Installation – Installation of the Energy-Efficient Measures.

Market Manager – TRC Energy Services (see below). The NJ Board of Public Utilities has transferred responsibility for the NJ SmartStart Buildings Program from the NJ Utilities to TRC.

Program – The Commercial and Industrial Energy-Efficient Construction Program (New Jersey SmartStart Buildings) offered herein by the New Jersey Board of Public Utilities, Office of Clean Energy pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, NJSA 48:3-49, et seq.

Program Incentives – Refers to the amount or level of incentive that the Program provides to participating customers pursuant to the Program offered herein (see description below under “Incentive Amount” heading).

Program Offer – Program Incentives are available to non-residential retail electric and/or gas service customers of the New Jersey Utilities identified above. Program Incentives for new construction are available only for projects in areas designated for growth in the State Plan. Public school (K-12) new construction projects are exempted from this restriction and are eligible for new Program incentives throughout the State. Customers, or their trade allies, can determine if a location is in a designated growth area by referring to the Smart Growth Locator available from the HMFA website or contact the Market Manager if you are uncertain about project eligibility.

Application and Eligibility Process – The Program pays incentives after the installation of qualified energy efficient measures that were pre-approved (for exceptions to this condition, please refer to “exceptions for approval”.) In order to be eligible for Program Incentives, a Customer, or an agent (contractor/vendor) authorized by a Customer, must submit a properly completed application package. The package must include an application signed by the customer; a complete (current) utility bill; and technology worksheet and manufacturer’s cut sheets (where appropriate). This information must be submitted to the Market Manager before equipment is installed. Applications for measures that are self installed by customers must be submitted by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentives to the sales vendor. This application package must be received by the Market Manager on or before December 31, 2009 in order to be eligible for 2009 incentives. The Market Manager will review the application package to determine if the project is eligible for a Program Incentive. If eligible, the Customer will receive an approval letter with the estimated authorized incentive amount and the date by which the equipment must be installed in order for the approval to remain in effect. Upon receipt of an approval letter, the Customer may then proceed to install the equipment listed on the approved application. Equipment installed prior to the date of the Market Manager’s approval letter is not eligible for an incentive. The Market Manager reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the approval letter. All equipment must be purchased within 12 months of date of application. **Any Customer and/or Agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Exceptions for Approval – The Application and Eligibility Process pertains to all projects except for those involving either Unitary HVAC or Motors having an incentive amount less than \$5,000. These measures, at this incentive level, may be installed without prior approval. In addition, but at the sole discretion of the Market Manager, emergency replacement of equipment may not require a prior approval determination and letter. **In such cases, please notify the Market Manager of such emergencies as early as possible, that an application will soon be sent in that was not pre-approved.**

Post Installation Approval – After installation is completed, the Customer, or an agent authorized by the Customer, must finalize and submit an invoice for the purchase of the equipment (material cost must be broken out from labor costs), and any other required documentation as specified on the equipment application or in the Market Manager’s initial approval letter.

Please refer to the Program Guide on the NJCleanEnergy.com/ssb website for the complete Application and Eligibility Process.

The Market Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing product or equipment (if applicable) and the Energy-Efficient Measures installed under this Program, either prior to issuing incentives or at a later time.

Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. (Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.)

Equipment procured by Participating Customers through another program offered by New Jersey's Clean Energy Program or the New Jersey Utilities, as applicable, is not eligible for incentives through this program. Customers who have not contributed to the Societal Benefits Charge of the applicable New Jersey Utility are not eligible for incentives offered through this program.

Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Market Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Market Manager regarding any questions.

Tax Liability – The Market Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their Federal Tax Identification number or social security number to the Market Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (Business Assistance or Incentive Clearance Certificate) that is dated within 90 days of equipment installation

Endorsement – The Market Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE MARKET MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Market Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Market Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Market Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Market Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Market Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.

Specific Program Requirements* These requirements are in addition to the Program Terms and Conditions.

1. Please refer to the program guide for additional applicable technical requirements.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Market Manager.
3. Incentives for T-5 and T-8 lamps with electronic ballasts are available only for fixtures with a Total Harmonic Distortion of $\leq 20\%$.
4. All eligible lighting devices must be UL listed.
5. Requirements for CFL fixtures (must meet all requirements):
 - Fixtures must be new and Energy Star qualified
 - Fixtures must have replaceable electronic ballasts
 - Total Harmonic Distortion (THD) must not exceed 33%
 - Power factor of the ballast must be no less than 90%
 - The manufacturer must warrant all fixtures for a minimum of 3 years. Warranty does not pertain to lamps or photocells not physically part of the fixture.
 - The installer must warrant installation of fixtures for a minimum of 1 year.
6. Pulse Start Metal Halide (including pole-mounted parking lot lighting) must have a 12% minimum wattage reduction.
7. T-5 or T-8 Fixtures replacing incandescent or T-12 fluorescent fixtures greater than 250 watt or High Intensity Discharge shall comply as follows:
 - 7.1 T-5 fixtures replacing T-12 fluorescent or incandescent fixtures 250 watts or greater, or HID fixtures shall have a ballast factor greater than or equal to 1.0; have reflectivity greater than or equal to 91%; have a minimum 2 lamps; and be designated as F54T5 HO.
 - 7.2 T-8 fixtures replacing T-12 fluorescent or incandescent fixtures 250 watts or greater, or HID fixtures shall have a ballast factor greater than or equal to 1.14; have reflectivity greater than or equal to 91%; have a minimum of 4 lamps; and be designated as F32T8, minimum 32 watts.
 - 7.3 T-8 to T-8 replacement requires delamping and new reflectors resulting in a more efficient light system with maintained light levels.

ACKNOWLEDGEMENT

<p>_____</p> <p>CUSTOMER'S SIGNATURE</p> <p>By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).</p>
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Prescriptive Lighting Measures and Incentives*

Type of Fixture		Incentive	
Recessed and Surface-Mounted Compact Fluorescents (New Fixtures Replacing Incandescent Fixtures Only): Only available for hard-wired, electronically ballasted new fixtures with rare earth phosphor lamps and 4-pin based tubes (including: twin tube, quad tube, triple tube, 2D or circline lamps), THD<33% and BF>0.9		\$25 per 1-lamp fixture \$30 per 2-lamp or more fixture	
High-Efficiency Fluorescent Fixtures:			
For retrofit of T-12 fixtures to T-5 or T-8 with electronic ballasts		\$10 per fixture (1 & 2 lamps retrofit) \$20 per fixture (3 & 4 lamps retrofit)	
For replacement of fixtures with new T-5 or T-8 fixtures			
Type of Old Fixture	Wattage of Old Fixture	Type of New Fixture	Incentive Per Fixture Removed
HID, T-12, Incandescent	≥ 1000 Watts	T-5, T-8	\$284
HID, T-12, Incandescent	400-999 Watt	T-5, T-8	\$100
HID, T-12, Incandescent	250-399 Watt	T-5, T-8	\$50
HID only	175-249 Watt	T-5, T-8	\$43
HID only	100-174 Watt	T-5, T-8	\$30
HID only	75-99 Watt	T-5, T-8	\$16
T-12 only	<250 Watt	T-5, T-8 (1 & 2 lamp)	\$25
T-12 only	<250 Watt	T-5, T-8 (3 & 4 lamp)	\$30
For retrofit of T-8 fixtures by permanent delamping & new reflectors			\$20 per fixture
New Construction & Complete Renovation			Performance based only
LED Exit Signs (new fixtures only): For existing facilities with connected load ≤ 75 kW			\$20 per fixture
For existing facilities with connected load ≥ 75 kW			\$10 per fixture
Pulse Start Metal Halide (for fixtures ≥ 150 watts)			\$25 per fixture (includes parking lot lighting)
Parking lot low bay - LED			\$43 per fixture
T-12 to T-8 fixtures by permanent delamping & new reflectors			\$30 per fixture

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Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. (Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.)

Equipment procured by Participating Customers through another program offered by New Jersey's Clean Energy Program or the New Jersey Utilities, as applicable, is not eligible for incentives through this program. Customers who have not contributed to the Societal Benefits Charge of the applicable New Jersey Utility are not eligible for incentives offered through this program.

Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Market Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Market Manager regarding any questions.

Tax Liability – The Market Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their Federal Tax Identification number or social security number to the Market Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (Business Assistance or Incentive Clearance Certificate) that is dated within 90 days of equipment installation

Endorsement – The Market Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE MARKET MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Market Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Market Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Market Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Market Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Market Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.



2009 Lighting Controls Application

Customer Information

Company	Electric Utility Serving Applicant	Electric Account No.	Installation Date
Facility Address	City	State	Zip
Type of Project <input type="checkbox"/> New Construction <input type="checkbox"/> Renovation <input type="checkbox"/> Equipment Replacement <input type="checkbox"/> School	Size of Building		
Company Mailing Address	City	State	Zip
Contact Person (Name/Title)	Telephone No. ()	Fax No. ()	
Incorporated? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Exempt	Federal Tax ID# or SSN	Email Address	
Incentive Payment to <input type="checkbox"/> Customer <input type="checkbox"/> Contractor <input type="checkbox"/> Other	Please assign payment to contractor/vendor/other indicated below Customer Signature		

Payee Information (Must submit W-9 form with application)

Company	Contact Name	Incorporated? <input type="checkbox"/> Yes <input type="checkbox"/> No	Email Address
Street Address	City	State	Federal Tax ID#
		Zip	Telephone No. ()

Contractor/Vendor Information (if different from Payee)

Company	Contact Name	Incorporated? <input type="checkbox"/> Yes <input type="checkbox"/> No	Email Address
Street Address	City	State	Federal Tax ID#
		Zip	Telephone No. ()

Lighting Control Information

Total Incentives (per attached Worksheet calculations):

\$ _____

Use Lighting Controls Incentive Worksheet.

Specific Program Requirements* These requirements are in addition to the Program Terms and Conditions.

1. Please refer to the program guide for additional applicable technical requirements, including special requirements for lighting controls.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Market Manager.
3. All lighting controls eligible for incentives must be UL listed.
4. Lighting control incentives are only available for control of eligible energy efficient lighting fixtures.
5. If more than one eligible lighting control device is associated with the same eligible fixture, the incentive paid will be for the lighting control device that yields the largest incentive only.
6. Occupancy Sensor Controls (Existing Facilities Only):
 - There is no incentive available for occupancy sensors installed in a space where they are prohibited by state or local building or safety code. Additionally, no incentive is eligible for occupancy sensors in the following specific spaces in all cases: stairways, restrooms (remote mounted only allowed), elevators, corridors/hallways, lobbies, and closets/storage areas.
 - Incentives will only be paid for eligible occupancy sensors (OSW & OSR) controlling at least 2 eligible lighting fixtures and, for OSR installations, a minimum total connected load of 180 watts.
 - Incentives will only be paid for eligible OSRH occupancy sensors controlling eligible fixtures when the controlled wattage is greater than 180 watts.
 - Occupancy sensors with manual override to the "ON" position are ineligible for incentive.
7. High-Low Controls (OHLF and OHLH):
 - Incentives will not be paid for high-low controls on eligible fluorescent fixtures where daylight dimming controls can be effectively employed.
 - Incentives will not be paid for spaces where the bottom of the fixture does not comply with the appropriate Prescriptive Lighting 2008 incentives, nor in spaces smaller than 250 square feet.
 - Incentives available only when "low level" is no more than 60% of "high level."
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 - OHLF will control fixtures that have a ballast factor less than 1.0 for T-5s and 1.14 for T-8s.
 - OHLH will control fixtures that have a ballast factor greater than or equal to 1.0 for T-5s and 1.14 for T-8s.
8. Daylight Dimming Controls for Eligible Fixtures:
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 - Dimming shall be continuous or stepped at 4 or more levels.
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 - DLD will control fixtures that have a ballast factor less than 1.0 for T-5s and 1.14 for T-8s.
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ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE

By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).

Lighting Control Prescriptive Incentives*

Control Device Type	Incentive per Unit
OSW – Occupancy Sensor Wall Mounted (Existing facilities only)	\$20 per control
OSR – Occupancy Sensor Remote Mounted (Existing facilities only)	\$35 per control
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Application and Eligibility Process – The Program pays incentives after the installation of qualified energy efficient measures that were pre-approved (for exceptions to this condition, please refer to “exceptions for approval”.) In order to be eligible for Program Incentives, a Customer, or an agent (contractor/vendor) authorized by a Customer, must submit a properly completed application package. The package must include an application signed by the customer; a complete (current) utility bill; and technology worksheet and manufacturer’s cut sheets (where appropriate). This information must be submitted to the Market Manager before equipment is installed. Applications for measures that are self installed by customers must be submitted by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentives to the sales vendor. This application package must be received by the Market Manager on or before December 31, 2009 in order to be eligible for 2009 incentives. The Market Manager will review the application package to determine if the project is eligible for a Program Incentive. If eligible, the Customer will receive an approval letter with the estimated authorized incentive amount and the date by which the equipment must be installed in order for the approval to remain in effect. Upon receipt of an approval letter, the Customer may then proceed to install the equipment listed on the approved application. Equipment installed prior to the date of the Market Manager’s approval letter is not eligible for an incentive. The Market Manager reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the approval letter. All equipment must be purchased within 12 months of date of application. **Any Customer and/or Agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Exceptions for Approval – The Application and Eligibility Process pertains to all projects except for those involving either Unitary HVAC or Motors having an incentive amount less than \$5,000. These measures, at this incentive level, may be installed without prior approval. In addition, but at the sole discretion of the Market Manager, emergency replacement of equipment may not require a prior approval determination and letter. **In such cases, please notify the Market Manager of such emergencies as early as possible, that an application will soon be sent in that was not pre-approved.**

Post Installation Approval – After installation is completed, the Customer, or an agent authorized by the Customer, must finalize and submit an invoice for the purchase of the equipment (material cost must be broken out from labor costs), and any other required documentation as specified on the equipment application or in the Market Manager’s initial approval letter.

Please refer to the Program Guide on the NJCleanEnergy.com/ssb website for the complete Application and Eligibility Process.

The Market Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing product or equipment (if applicable) and the Energy-Efficient Measures installed under this Program, either prior to issuing incentives or at a later time.

Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. (Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.)

Equipment procured by Participating Customers through another program offered by New Jersey's Clean Energy Program or the New Jersey Utilities, as applicable, is not eligible for incentives through this program. Customers who have not contributed to the Societal Benefits Charge of the applicable New Jersey Utility are not eligible for incentives offered through this program.

Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Market Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Market Manager regarding any questions.

Tax Liability – The Market Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their Federal Tax Identification number or social security number to the Market Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (Business Assistance or Incentive Clearance Certificate) that is dated within 90 days of equipment installation

Endorsement – The Market Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE MARKET MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Market Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Market Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Market Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Market Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Market Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.

New Jersey Clean Energy Program

Technical Worksheet – Solar Electric Equipment Information

Please carefully read all of the following information. With the help of your Installation Contractor, fully complete Sections A through D, as applicable, of the attached Technical Worksheet for Solar Electric Equipment, as well as the New Jersey Clean Energy Program Rebate Application Form.

GENERAL TERMS AND CONDITIONS

Rebates will be processed based on the date the New Jersey Clean Energy Program (NJCEP) approves the Final Application Form, not on the purchase date of the equipment. Program procedures and rebates are subject to change or cancellation without notice.

To qualify for a rebate, Applicant must comply with all Program Eligibility Requirements, Terms and Conditions, and Installation Requirements, and submit a completed Pre-Installation Application Form. For more information about the New Jersey Clean Energy Program, or for assistance in completing applications or forms, please see www.njcleanenergy.com or call 866-NJSMART

INSTALLATION REQUIREMENTS

Equipment installation must meet the following minimum requirements in order to qualify for payment under the provisions of the New Jersey Clean Energy Program; proposed changes to the requirements will be considered, but they must be documented by the Applicant or Installation Contractor and approved by the NJCEP. These requirements are not all-encompassing and are intended only to address certain minimum safety and efficiency standards.

A: Code Requirements

1. The installation must comply with the provisions of the National Electrical Code and all other applicable local, state and federal codes or practices.
2. All required permits must be properly obtained and posted.
3. The NJCEP Inspection must be performed before the local Building Code Enforcement Office. If not, this may delay the processing of the rebate
4. All required inspections must be performed (i.e., Electrical/NEC, Local Building Codes Enforcement Office, etc.). Note: In order to ensure compliance with provisions of the NEC, an inspection by a state-licensed electrical inspector is mandatory.

B: Solar Electric Module Array

1. Modules must be UL Listed and must be properly installed according to manufacturer's instructions.
2. The maximum amount of sunlight available year-round on a daily basis should not be obstructed. All applications must include documentation of the impact from any obstruction on the annual performance of the solar electric array. This analysis can be performed by using the New Jersey Clean Power Estimator on the program website www.njcep.com.
3. In order to qualify for program incentives, the solar electric system must adhere to a minimum design threshold, relative to the estimated system production using PVWATTS:
 - Solar electric array orientations require that the calculated system output must be at least 80% of the default output calculated by PVWatts. Additionally, all individual series strings of modules output must be at least 70% of the default output calculated by PVWatts.
 - For building integrated solar electric systems (i.e., part of the building envelope materials are comprised of solar electric components), the estimated system output must be 40% of the default output estimated by PVWATTS.
4. System wiring must be installed in accordance with the provisions of the NEC.
5. All modules installed in a series string must be installed in the same plane.

C: Inverter and Controls

1. The inverter and controls must be properly installed according to manufacturer's instructions.
2. The inverter must be certified as compliant with the requirements of IEEE 929 for small photovoltaic systems and with UL 1741.
3. The system should be equipped with the following visual indicators and/or controls:
 - On/off switch • Operating mode setting indicator • AC/DC over current protection • Operating status indicator
4. Warning labels must be posted on the control panels and junction boxes indicating that the circuits are energized by an alternate power source independent of utility-provided power.
5. Operating instructions must be posted on or near the system, or on file with facilities operation and maintenance documents.
6. Systems must have monitoring capability that is readily accessible to the owner. This monitor (meter or display) must at minimum display instantaneous and cumulative production. All projects greater than 10kW must have an output meter that meets ANSI C.12 standards

D: Control Panel to Solar Electric Array Wire Runs

1. Areas where wiring passes through ceilings, walls or other areas of the building must be properly restored, booted and sealed.
2. All interconnecting wires must be copper. (Some provisions may be made for aluminum wiring; approval must be received from utility engineering departments prior to acceptance.)
3. Thermal insulation in areas where wiring is installed must be replaced to "as found or better condition." Access doors to these areas must be properly sealed and gasketed.
4. Wiring connections must be properly made, insulated and weather-protected.
5. All wiring must be attached to the system components by the use of strain relief's or cable clamps, unless enclosed in conduit.
6. All outside wiring must be rated for wet conditions and/or encased in liquid-tight conduit.
7. Insulation on any wiring located in areas with potential high ambient temperature must be rated at 90° C or higher.
8. All wiring splices must be contained in UL-approved workboxes.

E: Batteries (If Applicable)

1. The batteries must be installed according to the manufacturer's instructions.
2. Battery terminals must be adequately protected from accidental contact.
3. DC-rated over current protection must be provided in accordance with the provisions of the NEC.

New Jersey Clean Energy Program

Technical Worksheet – Solar Electric Equipment Information

Original Application Date: _____	Revised Application Date: _____
Customer Name: _____ (Corresponding to Rebate Application Form)	Application Number: _____ (Assigned by the NJBPU)

A: EQUIPMENT INFORMATION

1. Solar Electric Module Manufacturer: _____ Module Model Number: _____

2. Power Rating per Module: _____ DC Watts (Refer to STC conditions) Number of Modules: _____

3. Total Array Output: _____ DC Watts (No. of Modules x Power Rating)

4. Inverter Manufacturer: _____ Inverter Model Number: _____

5. Inverter's Continuous AC Rating: _____ AC Watts Number of Inverters: _____

6. Total Inverter Output: _____ AC Watts (Inverter Continuous AC Rating x Number of Inverters)

7. Inverter's Peak Efficiency: _____ (Refer to manufacturer's peak efficiency rating)

B: PROPOSED INSTALLATION/INTERCONNECTION INFORMATION

1. Solar Electric Array Location: Rooftop Pole Mount or Ground Mount Location: _____

2. Solar Electric Module Orientation: _____ degrees (e.g., 180 degrees magnetic south)
Note: in Central New Jersey, magnetic south compass reading is 10 degrees east of true south.

3. Solar Electric Module Tilt: _____ degrees (e.g., flat mount = 0 degrees; vertical mount = 90 degrees)

4. Solar Electric Module Tracking: Fixed Single-axis Double-axis

5. Inverter Location: Indoor Outdoor Location: _____

6. Utility-Accessible AC Disconnect Switch Location: _____

7. System Type and Mode of Operation:
 Utility interactive (parallel/capable of back feeding the meter) (with battery backup)
 Dedicated circuit, utility power as backup (transfer switch) (with battery charging)
 Stand-alone (system confined to an independent circuit, no utility backup) (with battery charging)

C: INCENTIVE REQUEST CALCULATION

1. System rated output (Section A, line 3 above): _____ DC Watts

2. Incentive Calculation (Calculate appropriate incentive based on System Rated Output):

Residential Applicants that perform Energy Efficiency Audit	Commercial, Farm, Public and Non-Profit
a. 0 to 10,000 Watts x \$1.75/Watt = \$ _____ +	0 to 50,000 Watts x \$1.00/Watt = \$ _____ +
Residential Applicants that <u>do not</u> perform Energy Efficiency Audit	
b. 0 to 10,000 Watts x \$1.55/Watt = \$ _____ +	
	Large PV Project Applications
	> 50,000 Watts = \$ _____ Not eligible for rebates _____
d. Total Rebate Calculation: \$ _____	Total Rebate Calculation: \$ _____

3. School Applicants: Maximum Annual School Rebate: \$ _____
(For Public School applicants, enter the lesser value from no. 6 on the School Application form or \$50,000)

4. Total Installed System Cost: \$ _____
(Eligible installed system cost includes all equipment, installation, and applicable interconnection costs before the New Jersey Clean Energy Program incentive.)

5. Requested Incentive (Enter the appropriate value from C2. b or c): \$ _____

D: WARRANTY INFORMATION

1. Module: _____ Years at _____ Percent of Rated Power Output 2. Inverter: _____ Years 3. Installation: _____ Years

Revised January 2009

APPENDIX H

PROJECT CONSTRUCTION COST ESTIMATES

CDM

15 British American Blvd
 Latham, NY 12110
 Phone (518) 782-4500
 Fax (518) 786-3810

PROJECT CONSTRUCTION COST ESTIMATE

Location: East Camden Regional SD
 Estimate by: RKA
 Checked by: MG

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	East Camden High School Boiler, Gas-Fired, Condensing High Efficiency 2,000 MBH	11	ea.		\$ 374,000.00	11	ea.	\$ 5,750.00	\$ 63,250.00	\$ 437,250.00
	Subtotal				374,000.00				63,250.00	

SUBTOTAL = \$ 437,250.00
 MARKUP % = \$ 0.15
 MARKUP = \$ 65,587.50
 SUB-TOTAL w/ OH & P = \$ 502,837.50
 CONTINGENCY % = 0.25
 CONTINGENCY = \$ 125,709.38
 BUDGET COST ESTIMATE = \$ 628,546.88

CDM

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PROJECT CONSTRUCTION COST ESTIMATE

Location: East Camden Regional SD
 Estimate by: RG
 Checked by: JM

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	East Camden High School Lighting Upgrades - Option 1	1	ls.	\$ 299,856.00	\$ 299,856.00	1	ls..	\$ 57,764.00	\$ 57,764.00	\$ 357,620.00
	Subtotal				299,856.00				57,764.00	

SUBTOTAL = \$ 357,620.00
 MARKUP % = \$ 0.43
 MARKUP = \$ 153,776.60
 BUDGET COST ESTIMATE = \$ 511,396.60

CDM

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 Latham, NY 12110
 Phone (518) 782-4500
 Fax (518) 786-3810

PROJECT CONSTRUCTION COST ESTIMATE

Location: East Camden Regional SD
 Estimate by: RG
 Checked by: JM

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	East Camden High School Lighting Upgrades - Option 2	1	ls.	\$ 36,427.00	\$ 36,427.00	1	ea.	\$ 5,435.00	\$ 5,435.00	\$ 41,862.00
	Subtotal				36,427.00				5,435.00	

SUBTOTAL = \$ 41,862.00
 MARKUP % = \$ 0.43
 MARKUP = \$ 18,000.66
 BUDGET COST ESTIMATE = \$ 59,862.66

CDM

15 British American Blvd
 Latham, NY 12110
 Phone (518) 782-4500
 Fax (518) 786-3810

PROJECT CONSTRUCTION COST ESTIMATE

Location: East Camden Regional SD
 Estimate by: RG
 Checked by: JM

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	East Camden High School Solar System	1	ls.	\$ 15,934,216.67	\$ 15,934,216.67	1	ea.	\$ 7,965,913.33	\$ 7,965,913.33	\$ 23,900,130.00
	Subtotal				15,934,216.67				7,965,913.33	

SUBTOTAL = \$ 23,900,130.00
 MARKUP % = \$ 0.15
 MARKUP = \$ 3,585,019.50
 BUDGET COST ESTIMATE = \$ 27,485,149.50

APPENDIX I
FACILITY DATA FORMS



APPENDIX C - FACILITY DATA FORM

Complete one Facility Data Form for each building. If you are seeking to energy audit multiple buildings, complete one Facility Data Form for each.

FACILITY INFORMATION

Please complete the information below for this specific facility that is seeking enrollment in the Program.

Facility Name <u>East Camden Regional High School</u>			
Street Address <u>1401 Laurel Oak Rd</u>		County	
City <u> Voorhees</u>	State <u> NJ</u>	Zip <u> 08043</u>	
Facility's Description <u> High School</u>			
Total Sq Ft <u> 407,000</u>	Year Built <u> 1964</u>	Hours/Week Occupied <u> 100+</u>	Number of Employees <u> 250 staff; 2150 students</u>
Building Type (Check only one of the following):			
<input type="checkbox"/> Emergency Services	<input type="checkbox"/> Garage		
<input type="checkbox"/> Center/Meeting Hall/Library	<input type="checkbox"/> Offices		
<input type="checkbox"/> Recreation/Entertainment/Parks	<input type="checkbox"/> Religious		
<input checked="" type="checkbox"/> School	<input type="checkbox"/> School: College		
<input type="checkbox"/> Water Treatment/Pumping	<input type="checkbox"/> Other: _____		

ENERGY DATA

Please complete the energy information below for the most recent 12 month period available. In order to gain a complete picture of the facility's energy use, be sure to include all types of energy used by the facility. Do not include vehicle fuel.

The Data Below is for the 12 Month Period: <u> 12/1/07 to 12/1/08</u>



ELECTRICITY

Electric Utility Name & Account Number(s) PSE + G : 61525 954 + 61525 955	
Annual kWh Use 4,419,176	Annual Electricity Cost \$ 613,041
Max Summer kW 687	Max Winter kW 543

NATURAL GAS

Natural Gas Utility Name & Account Number(s) South Jersey Gas : 20704429909	
Annual Use in Therms 327,637	Annual Natural Gas Cost \$ 494,949

FUEL OIL

Fuel Oil Utility Name & Account Number(s) NA	
Annual Use in Gallons	Annual Fuel Oil Cost

PROPANE

Propane Utility Name & Account Number(s) NA	
Annual Use in Gallons	Annual Propane Cost

OTHER

In this section please indicate any other fuel type that the facility uses, such as: solar energy, wind energy, bio-fuel, cogeneration, fuel cells.

Other Fuel Type: NA	
Annual Energy Use (indicate units)	Annual Energy Cost

STAFF USE ONLY

Date Received: _____	Project No.: _____
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APPENDIX J

COGENERATION (HEAT AND POWER) SPREADSHEET

Cogen Analysis for East Camden High School

	kWH	BTUX1000 - Billed	BTUX1000 (80% of Billed) Diversity	Full Load Generator kW	Qty Generators	Generator Full-Load Hours (Both)	Gas to run Engine (MBH/ea)	Run Hours/Month (Total 2 Engines)	Therms /month to run Engines	Heat Recovered (BTUX1000)	Boiler Demand (BTUX1000)	Therms/month to run boiler	Total Gas Cost (@\$2.16/therm)	Natural Gas Cost Savings (@\$2.16/therm)	Electric Cost Savings (@\$0.1383/kWH)
Jan	355894	3936200	3148960	1266	2	281.12	5768	562	32430	1509597.773	1639362.227	16393.62227	\$105,458.26	\$32,607.31	\$49,220.14
Feb	340442	4190000	3352000	1266	2	268.91	5768	538	31022	1444054.929	1907945.071	19079.45071	\$108,218.34	\$31,191.59	\$47,083.13
Mar	349076	3111400	2489120	1266	2	275.73	5768	551	31808	1480677.82	1008442.18	10084.4218	\$90,488.45	\$31,982.64	\$48,277.21
Apr	393828	1579400	1263520	1266	2	311.08	5768	622	35886	1670502.654	-406982.654		\$77,514.31		\$54,466.41
May	378156	157200	125760	1266	2	298.70	5768	597	34458	1604026.635	-1478266.635		\$74,429.70		\$52,298.97
June	441745	100800	80640	1266	2	348.93	5768	698	40253	1873752.488	-1793112.488		\$86,945.47		\$61,093.33
July	400716	38200	30560	1266	2	316.52	5768	633	36514	1699719.526	-1669159.526		\$78,870.02		\$55,419.02
August	361187	154700	123760	1266	2	285.30	5768	571	32912	1532049.123	-1408289.123		\$71,089.82		\$49,952.16
September	391348	153400	122720	1266	2	309.12	5768	618	35660	1659983.223	-1537263.223		\$77,026.19		\$54,123.43
October	335717	1421600	1137280	1266	2	265.18	5768	530	30591	1424012.867	-286732.8673		\$66,076.74		\$46,429.66
November	326548	5042300	4033840	1266	2	257.94	5768	516	29756	1385120.664	2648719.336	26487.19336	\$121,484.41	\$29,918.61	\$45,161.59
December	344519	4814800	3851840	1266	2	272.13	5768	544	31393	1461348.365	2390491.635	23904.91635	\$119,443.80	\$31,565.12	\$47,646.98
TOTAL:													\$1,077,045.51	\$157,265.27	\$611,172.04
TOTAL ANNUAL SAVINGS:													-\$308,608.20		
Avg Winter	342033	3752717	3002173				5768	540	41709	1450802.07	1551371.264	15514	\$123,601.46	\$31,337.32	\$47,303.12
Avg Summer	394497	363950	291160				5768	623	48107	426903.9758	-135743.9758	0	\$103,910.92	\$9,221.13	\$54,558.89
TOTAL:													\$1,365,074.28	\$243,350.70	\$611,172.04
TOTAL AVERAGE ANNUAL SAVINGS:													-\$510,551.54		