LOCAL GOVERNMENT ENERGY AUDIT PROGRAM: ENERGY AUDIT REPORT

PREPARED FOR: **WINSLOW MIDDLE SCHOOL**
30 Cooper Folley Rd.
Atco, NJ 08004

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I. EXECUTIVE SUMMARY

This report presents the findings of the energy audit conducted for:

Winslow Township
Middle School
30 Cooper Folley Rd.
Atco, NJ 08004

Municipal and Facility Contact Person: Robert W. Austin

This audit is performed in connection with the New Jersey Clean Energy - Local Government Energy Audit Program. The energy audit is conducted to promote the mission of the office of Clean Energy, which is to use innovation and technology to solve energy and environmental problems in a way that improves the State's economy. This can be achieved through the wiser and more efficient use of energy.

The annual energy costs at this facility are as follows:

Electricity	$ 250,516
Natural Gas	$ 138,371
Total	$ 388,887

The potential annual energy cost savings for each energy conservation measure (ECM) and renewable energy measure (REM) are shown below in Table 1. Be aware that the ECM's and REM's are not additive because of the interrelation of some of the measures. This audit is consistent with an ASHRAE level 2 audit. The cost and savings for each measure is ± 20%. The evaluations are based on engineering estimations and industry standard calculation methods. More detailed analyses would require engineering simulation models, hard equipment specifications, and contractor bid pricing.

Table 1
Financial Summary Table

ENERGY CONSERVATION MEASURES (ECM's)					
ECM NO.	**DESCRIPTION**	**NET INSTALLATION COST[A]**	**ANNUAL SAVINGS[B]**	**SIMPLE PAYBACK (Yrs)**	**SIMPLE LIFETIME ROI**
ECM #1	Lighting Upgrade	$360	$450	0.8	900.7%
ECM #2	Replace Unit Ventilators	$91,000	$9,043	10.1	49.1%
ECM #3	Install DDC Controls	$110,250	$14,667	7.5	99.6%
ECM #4	NEMA High Effeciency Pump Motor Replacement	$14,533	$1,678	8.7	73.2%
ECM #5	Heating and Ventilation Unit Replacement	$64,455	$166	388.3	-96.1%
ECM #6	HVAC Split System HVAC Replacement	$2,970	$81	36.7	-59.1%

Notes: A. Cost takes into consideration applicable NJ Smart StartTM incentives.
B. Savings takes into consideration applicable maintenance savings.

The estimated demand and energy savings for each ECM is shown below in Table 2. The descriptions in this table correspond to the ECM's listed in Table 1.

Table 2
Estimated Energy Savings Summary Table

ENERGY CONSERVATION MEASURES (ECM's)				
ECM NO.	DESCRIPTION	ANNUAL UTILITY REDUCTION		
		ELECTRIC DEMAND (KW)	ELECTRIC CONSUMPTION (KWH)	NATURAL GAS (THERMS)
ECM #1	Lighting Upgrade	0.9	1.0	0.0
ECM #2	Replace Unit Ventilators	1.7	2085.0	5502.0
ECM #3	Install DDC Controls	0.0	42350.0	4026.0
ECM #4	NEMA High Effeciency Pump Motor Replacement	4.6	12070.0	0.0
ECM #5	Heating and Ventilation Unit Replacement	0.2	504.0	0.0
ECM #6	HVAC Split System HVAC Replacement	0.7	580.0	0.0

Concord Engineering Group (CEG) recommends proceeding with the implementation of all ECM's that provide a calculated simple payback at or under ten (10) years. The following Energy Conservation Measures are recommended for the facility:

- **ECM #1:** Lighting Upgrade
- **ECM #3:** Install DDC Controls
- **ECM #4:** NEMA High Efficiency Pump Motor Replacement

Although ECM #2 and #5 do not provide a payback less than 10 years, it is recommended to proceed with the installation of new unit ventilators in the original building classrooms and the heating and ventilating units since the existing units are original to the building, and have far surpassed their useful service life.

- **ECM #2:** Replace Unit Ventilators
- **ECM #5:** Replace Heating and Ventilating Units

In addition to the ECMs, there are maintenance and operational measures that can provide significant energy savings and provide immediate benefit. The ECMs listed above represent investments that can be made to the facility which are justified by the savings seen overtime. However, the maintenance items and small operational improvements below are typically achievable with on site staff or maintenance contractors and in turn have the potential to provide substantial operational savings compared to the costs associated. The following are recommendations which should be considered a priority in achieving an energy efficient building:

1. Chemically clean the condenser and evaporator coils periodically to optimize efficiency. Poorly maintained heat transfer surfaces can reduce efficiency 5-10%.
2. Maintain all weather stripping on entrance doors.
3. Clean all light fixtures to maximize light output.
4. Provide more frequent air filter changes to decrease overall system power usage and maintain better IAQ.
5. Confirm that outside air economizers on the rooftop units are functioning properly to take advantage of free cooling and avoid excess outside air during occupied periods.

II. INTRODUCTION

The comprehensive energy audit covers the 193,567 square foot Middle School, which includes the following spaces: The original school, formerly the high school, the addition built in 1990 and the modular classroom building.

Electrical and natural gas utility information is collected and analyzed for one full year's energy use of the building. The utility information allows for analysis of the building's operational characteristics; calculate energy benchmarks for comparison to industry averages, estimated savings potential, and baseline usage/cost to monitor the effectiveness of implemented measures. A computer spreadsheet is used to calculate benchmarks and to graph utility information (see the utility profiles below).

The Energy Use Index (EUI) is established for the building. Energy Use Index (EUI) is expressed in British Thermal Units/square foot/year (BTU/ft^2/yr), which is used to compare energy consumption to similar building types or to track consumption from year to year in the same building. The EUI is calculated by converting the annual consumption of all energy sources to BTU's and dividing by the area (gross square footage) of the building. Blueprints (where available) are utilized to verify the gross area of the facility. The EUI is a good indicator of the relative potential for energy savings. A low EUI indicates less potential for energy savings, while a high EUI indicates poor building performance therefore a high potential for energy savings.

Existing building architectural and engineering drawings (where available) are utilized for additional background information. The building envelope, lighting systems, HVAC equipment, and controls information gathered from building drawings allow for a more accurate and detailed review of the building. The information is compared to the energy usage profiles developed from utility data. Through the review of the architectural and engineering drawings a building profile can be defined that documents building age, type, usage, major energy consuming equipment or systems, etc.

The preliminary audit information is gathered in preparation for the site survey. The site survey provides critical information in deciphering where energy is spent and opportunities exist within a facility. The entire site is surveyed to inventory the following to gain an understanding of how each facility operates:

- Building envelope (roof, windows, etc.)
- Heating, ventilation, and air conditioning equipment (HVAC)
- Lighting systems and controls
- Facility-specific equipment

The building site visit is performed to survey all major building components and systems. The site visit includes detailed inspection of energy consuming components. Summary of building occupancy schedules, operating and maintenance practices, and energy management programs provided by the building manager are collected along with the system and components to determine a more accurate impact on energy consumption.

III. METHOD OF ANALYSIS

Post site visit work includes evaluation of the information gathered, researching possible conservation opportunities, organizing the audit into a comprehensive report, and making recommendations on HVAC, lighting and building envelope improvements. Data collected is processed using energy engineering calculations to anticipate energy usage for each of the proposed energy conservation measures (ECMs). The actual building's energy usage is entered directly from the utility bills provided by the owner. The anticipated energy usage is compared to the historical data to determine energy savings for the proposed ECMs.

It is pertinent to note, that the savings noted in this report are not additive. The savings for each recommendation is calculated as standalone energy conservation measures. Implementation of more than one ECM may in some cases affect the savings of each ECM. The savings may in some cases be relatively higher if an individual ECM is implemented in lieu of multiple recommended ECMs. For example implementing reduced operating schedules for inefficient lighting will result in a greater relative savings. Implementing reduced operating schedules for newly installed efficient lighting will result in a lower relative savings, because there is less energy to be saved. If multiple ECM's are recommended to be implemented, the combined savings is calculated and identified appropriately.

ECMs are determined by identifying the building's unique properties and deciphering the most beneficial energy saving measures available that meet the specific needs of the facility. The building construction type, function, operational schedule, existing conditions, and foreseen future plans are critical in the evaluation and final recommendations. Energy savings are calculated base on industry standard methods and engineering estimations. Energy consumption is calculated based on manufacturer's cataloged information when new equipment is proposed.

Cost savings are calculated based on the actual historical energy costs for the facility. Installation costs include labor and equipment costs to estimate the full up-front investment required to implement a change. Costs are derived from Means Cost Data, industry publications, and local contractors and equipment suppliers. The NJ Smart Start Building® program incentives savings (where applicable) are included for the appropriate ECM's and subtracted from the installed cost. Maintenance savings are calculated where applicable and added to the energy savings for each ECM. The life-time for each ECM is estimated based on the typical life of the equipment being replaced or altered. The costs and savings are applied and a simple payback, simple lifetime savings, and simple return on investment are calculated. See below for calculation methods:

ECM Calculation Equations:

$$Simple\ Payback = \left(\frac{Net\ Cost}{Yearly\ Savings} \right)$$

$$Simple\ Lifetime\ Savings = \left(Yearly\ Savings \times ECM\ Lifetime \right)$$

$$Simple\ Lifetime\ ROI = \frac{(Simple\ Lifetime\ Savings - Net\ Cost)}{Net\ Cost}$$

$$Lifetime\ Ma\,\mathrm{int}\,enance\ Savings = \left(Yearly\ Ma\,\mathrm{int}\,enance\ Savings \times ECM\ Lifetime \right)$$

$$Internal\ Rate\ of\ \mathrm{Re}\,turn = \sum_{n=0}^{N} \left(\frac{Cash\ Flow\ of\ Period}{(1 + IRR)^n} \right)$$

$$Net\ \mathrm{Pr}\,esent\ Value = \sum_{n=0}^{N} \left(\frac{Cash\ Flow\ of\ Period}{(1 + DR)^n} \right)$$

Net Present Value calculations based on Interest Rate of 3%.

IV. HISTORIC ENERGY CONSUMPTION/COST

A. Energy Usage / Tariffs

The energy usage for the facility has been tabulated and plotted in graph form as depicted within this section. Each energy source has been identified and monthly consumption and cost noted per the information provided by the Owner.

The electric usage profile represents the actual electrical usage for the facility. Atlantic City Electric provides electricity to the facility under their Annual General Service rate structure. The electric utility measures consumption in kilowatt-hours (KWH) and maximum demand in kilowatts (KW). One KWH usage is equivalent to 1000 watts running for one hour. One KW of electric demand is equivalent to 1000 watts running at any given time. The basic usage charges are shown as generation service and delivery charges along with several non-utility generation charges. Rates used in this report reflect the historical data received for the facility.

The gas usage profile shows the actual natural gas energy usage for the facility. South Jersey Gas provides natural gas to the facility under the Firm Transportation rate structure. The gas utility measures consumption in cubic feet x 100 (CCF), and converts the quantity into Therms of energy. One Therm is equivalent to 100,000 BTUs of energy.

The overall cost for utilities is calculated by dividing the total cost by the total usage. Based on the utility history provided, the average cost for utilities at this facility is as follows:

Description	Average
Electricity	13.9¢ / kWh
Natural Gas	$1.45 / Therm

*Note: Due to the absence of Gas bills for the Middle School, energy savings are calculated using the estimated gas usage and average billing rates obtained from the other schools in the district.

Table 3
Electricity Billing Data

ELECTRIC USAGE SUMMARY			
Utility Provider:	Atlantic City Electric		
Rate:			
Meter No:	104557373		
Customer ID No:	3138 6929 9948		
Third Party Utility	N/A		
TPS Meter / Acct No:	N/A		
MONTH OF USE	**CONSUMPTION KWH**	**DEMAND**	**TOTAL BILL**
May-08	131,712	470.0	$17,937
Jun-08	164,761	562.7	$25,422
Jul-08	182,932	429.8	$27,835
Aug-08	156,409	420.5	$23,969
Sep-08	178,408	562.0	$26,314
Oct-08	153,499	485.6	$21,080
Nov-08	138,792	450.1	$18,406
Dec-08	143,654	450.1	$19,373
Jan-09	135,047	450.1	$18,294
Feb-09	144,615	450.1	$19,387
Mar-09	142,109	450.1	$19,220
Apr-09	126,566	452.2	$13,281
Totals	**1,798,504**	**562.7 Max**	**$250,516**
		AVERAGE DEMAND	**469.4 KW average**
		AVERAGE RATE	**$0.139 $/kWh**

Figure 1
Electricity Usage Profile

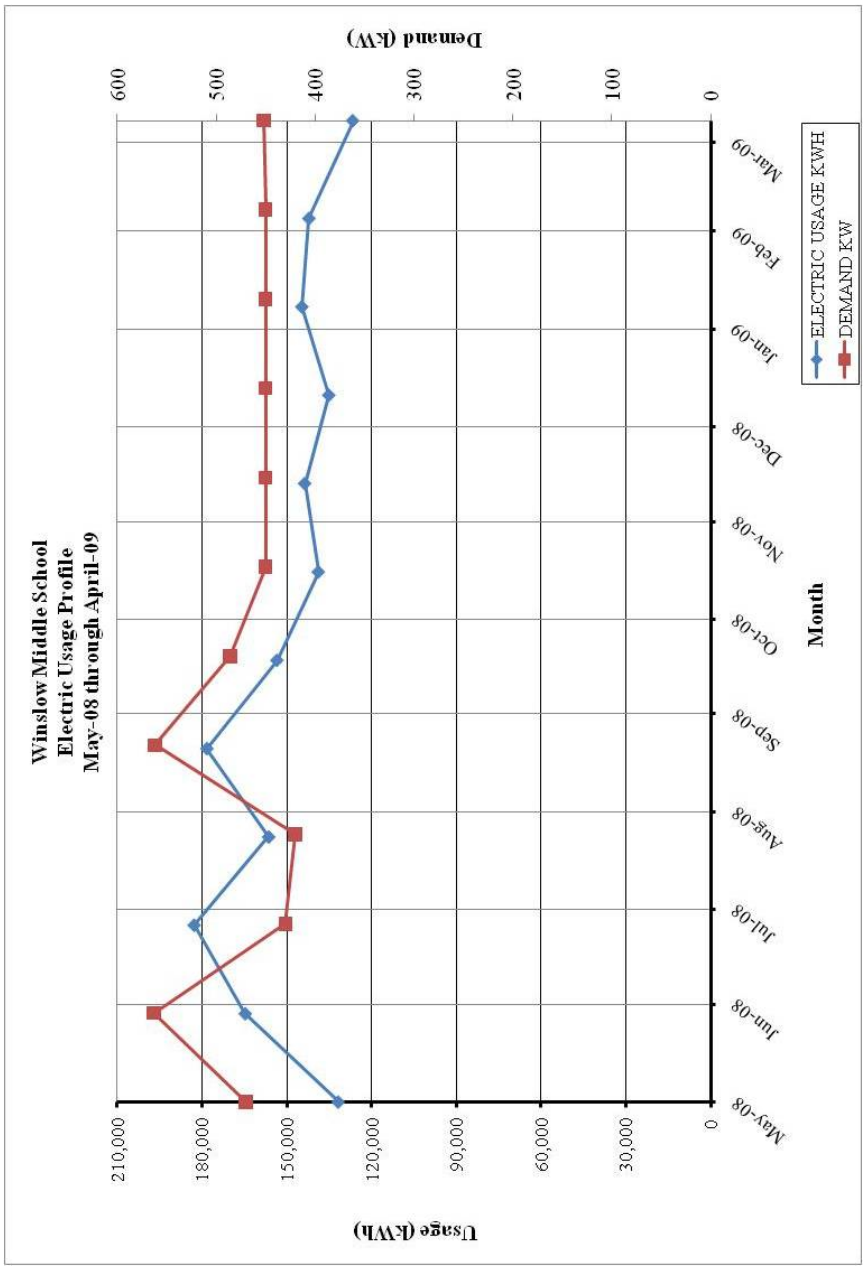
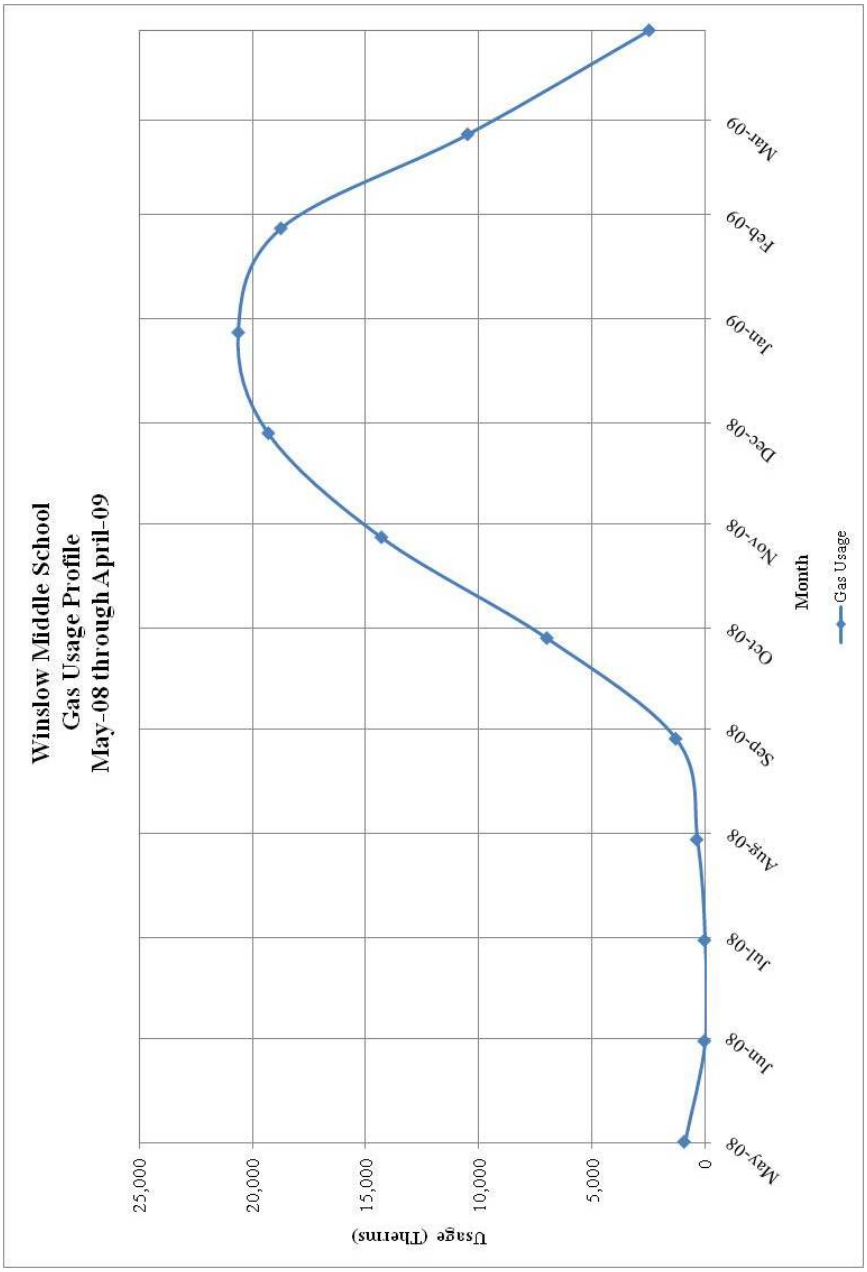


Table 4
Natural Gas Billing Data

NATURAL GAS USAGE SUMMARY		
Utility Provider:	South Jersey Gas	
Rate:	Firm Transportation	
Meter No:	0247108;0189707;0275058	
Point of Delivery ID:	21803054911;21903008106	
Third Party Utility Provider:	Pepco Energy Services	
TPS Meter No:	n/a	
MONTH OF USE	**CONSUMPTION (THERMS)**	**TOTAL BILL**
May-08	914.16	$3,404.41
Jun-08	20.74	$200.54
Jul-08	18.58	$96.41
Aug-08	356.72	$1,025.06
Sep-08	1,285.68	$2,341.53
Oct-08	6,983.54	$8,546.11
Nov-08	14,293.69	$20,308.52
Dec-08	19,294.35	$27,227.72
Jan-09	20,623.75	$28,940.51
Feb-09	18,740.09	$27,006.25
Mar-09	10,486.30	$15,274.06
Apr-09	2,465.77	$3,999.72
TOTALS	**95,483.37**	**$138,370.85**
AVERAGE RATE:	**$1.449**	**$/THERM**

Figure 2
Natural Gas Usage Profile



B. Energy Use Index (EUI)

Energy Use Index (EUI) is a measure of a building's annual energy utilization per square foot of building. This calculation is completed by converting all utility usage consumed by a building for one year, to British Thermal Units (BTU) and dividing this number by the building square footage. EUI is a good measure of a building's energy use and is utilized regularly for comparison of energy performance for similar building types. The Oak Ridge National Laboratory (ORNL) Buildings Technology Center under a contract with the U.S. Department of Energy maintains a Benchmarking Building Energy Performance Program. The ORNL website determines how a building's energy use compares with similar facilities throughout the U.S. and in a specific region or state.

Source use differs from site usage when comparing a building's energy consumption with the national average. Site energy use is the energy consumed by the building at the building site only. Source energy use includes the site energy use as well as all of the losses to create and distribute the energy to the building. Source energy represents the total amount of raw fuel that is required to operate the building. It incorporates all transmission, delivery, and production losses, which allows for a complete assessment of energy efficiency in a building. The type of utility purchased has a substantial impact on the source energy use of a building. The EPA has determined that source energy is the most comparable unit for evaluation purposes and overall global impact. Both the site and source EUI ratings for the building are provided to understand and compare the differences in energy use.

The site and source EUI for this facility is calculated as follows:

$$Building\ \ Site\ EUI = \frac{(Electric\ Usage\ in\ kBtu + Gas\ Usage\ in\ kBtu)}{Building\ \ Square\ \ Footage}$$

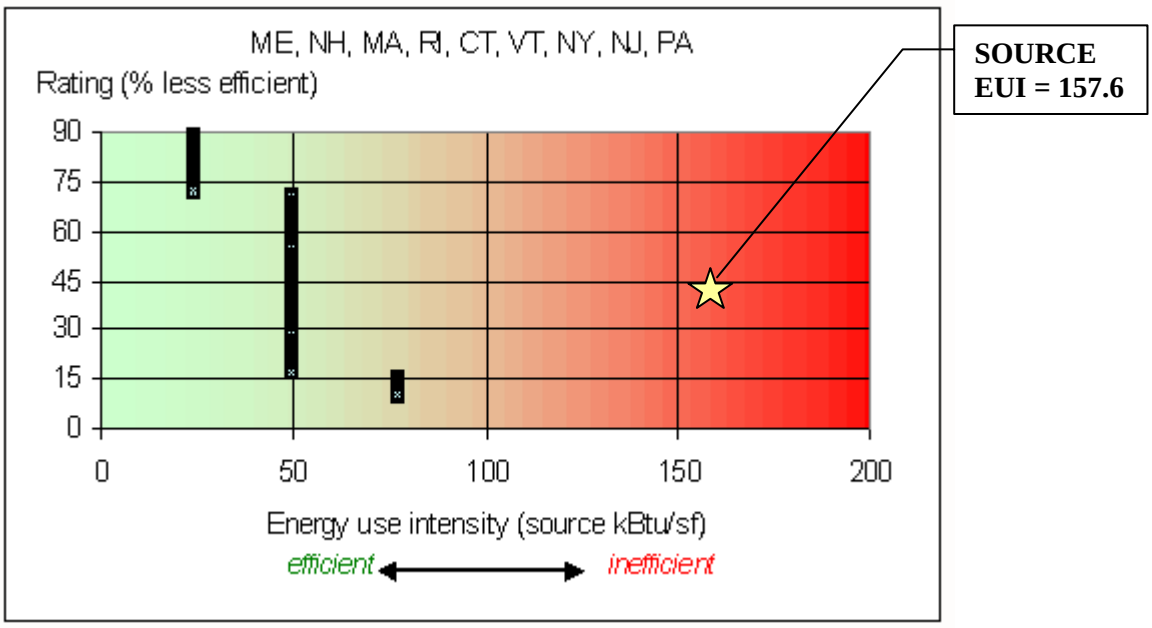
$$Building\ \ Source\ EUI = \frac{(Electric\ Usage\ in\ kBtu\ \ X\ \ SS\ \ Ratio + Gas\ Usage\ in\ kBtu\ \ X\ \ SS\ \ Ratio)}{Building\ \ Square\ \ Footage}$$

Table 5
Facility Energy Use Index (EUI) Calculation

ENERGY USE INTENSITY CALCULATION						
ENERGY TYPE	BUILDING USE			SITE ENERGY	SITE-SOURCE RATIO	SOURCE ENERGY
	kWh	Therms	Gallons	kBtu		kBtu
ELECTRIC	1798504.0			6,140,093	3.340	20,507,909
NATURAL GAS		95483.4		9,548,337	1.047	9,997,109
FUEL OIL			0.0	0	1.010	0
PROPANE			0.0	0	1.010	0
TOTAL				15,688,430		30,505,018
*Site - Source Ratio data is provided by the Energy Star Performance Rating Methodology for Incorporating Source Energy Use document issued Dec 2007.						
BUILDING AREA		193,567	SQUARE FEET			
BUILDING SITE EUI		*81.05*	kBtu/SF/YR			
BUILDING SOURCE EUI		*157.59*	kBtu/SF/YR			

Figure 3 below depicts a national EUI grading for the source use of *High Schools*

Figure 3
Source Energy Use Intensity Distributions: High Schools



C. EPA Energy Benchmarking System

The United States Environmental Protection Agency (EPA) in an effort to promote energy management has created a system for benchmarking energy use amongst various end users. The benchmarking tool utilized for this analysis is entitled Portfolio Manager. The Portfolio Manager tool allows tracking and assessment of energy consumption via the template forms located on the ENERGY STAR website (www.energystar.gov). The importance of benchmarking for local government municipalities is becoming more important as utility costs continue to increase and emphasis is being placed on carbon reduction, greenhouse gas emissions and other environmental impacts.

Based on information gathered from the ENERGY STAR website, Government agencies spend more than $10 billion a year on energy to provide public services and meet constituent needs. Furthermore, energy use in commercial buildings and industrial facilities is responsible for more than 50 percent of U.S. carbon dioxide emissions. It is vital that local government municipalities assess facility energy usage, benchmark energy usage utilizing Portfolio Manager, set priorities and goals to lessen energy usage and move forward with priorities and goals.

In accordance with the Local Government Energy Audit Program, CEG has created an ENERGY STAR account for the municipality to access and monitoring the facility's yearly energy usage as it compares to facilities of similar type. The login page for the account can be accessed at the following web address; the username and password are also listed below:

https://www.energystar.gov/istar/pmpam/index.cfm?fuseaction=login.login

User Name: winslowboe
Password: lgeaceg2009

Security Question: What city were you born in?
Security Answer: "winslow"

The utility bills and other information gathered during the energy audit process are entered into the Portfolio Manager. The following is a summary of the results for the facility:

Table 6
ENERGY STAR Performance Rating

ENERGY STAR PERFORMANCE RATING		
FACILITY DESCRIPTION	**ENERGY PERFORMANCE RATING**	**NATIONAL AVERAGE**
Middle School	7	50

Refer to **Statement of Energy Performance Appendix** for the detailed energy summary.

V. FACILITY DESCRIPTION

The 193,567 SF Middle School is a single story facility comprised of classrooms, administration offices, a multimedia center, gymnasium and cafeteria. The school hours are 7:15 am to 1:35 pm Monday through Friday, excluding holidays. Typical hours of operation would be 6:30 am to 2:30 pm Monday through Friday. In addition, School Board Meetings are held approximately twice a month in the multi-media center of the building. These meetings begin at 7:00 pm and continue until approximately 10:00 pm. Also, there are sporting events held in the gymnasium. These events are not on a regular schedule, but average one per week in the winter months (December through March) and generally begin at approximately 3:45pm and end at roughly 6:00 pm. The original building was constructed in approximately 1969. In 1973 an approximately 27,000 SF addition was built on to the South West end of the building. This addition consisted of classrooms. In 2000, an approximately 60,000 SF addition was built on the North end of the building. This addition consisted of a new cafeteria and staff lounge, new kitchen and additional classrooms. The existing kitchen and cafeteria were then converted to be the Library and multi-media center. In the summer of 2010, it is planned to renovate the roof over the older section of the building.

The existing exterior wall construction of the older sections of the building, not including the 2000 addition is as follows: areas of the wall not visible from the front, or main entrance of the school is 8" concrete block with no insulation on the interior or exterior. On the building façade that is visible from the front, or main entrance of the building, the exterior wall is a 4" face brick in front of 8" concrete block with no insulation. The walls of the new section added in 2000 are a 4" face brick with 1-1/2" rigid insulation and 8" CMU. The windows of the older sections of the building, not including the 2000 addition, are single pane 1/4" glass with aluminum window frames and sashes. The windows in the newest addition (2000) are double paned 1" insulated glass with insulated aluminum frames. Blinds are utilized throughout the facility per occupant comfort. The blinds are valuable because they help to reduce heat loss in the winter and reduce solar heat in the summer. The windows appear to be in good conditioned and well maintained. The roof construction of the original portions of the building, not including the 2000 addition, are built-up roofing with a light stone covering on a 1" layer of rigid insulation and 1-½" metal decking. This roof is scheduled to be replaced in the summer of 2010 with an SBS modified roofing membrane on felt plies and a tapered rigid insulation. The original 1-1/2" steel deck is to remain. The roof over the 2000 addition is modified bituminous roofing over a minimum of 4" of rigid insulation and a 1-1/2" metal deck.

HVAC Systems

The classrooms of the building, not including the 2000 addition, are conditioned by through the wall unit ventilators. These units are original to the building and provide heating via hot water coils and ventilation only. These classrooms are also heated by perimeter finned tube radiation. The unit ventilators and hot water finned tube radiation are controlled locally by pneumatic thermostats. Cooling is not provided to these classrooms. These unit ventilators are vintage Trane units of varying capacity based on individual room loads. The corridors of the older sections of the building are heated and ventilated by ceiling mounted cabinet heaters. These units are controlled by locally mounted pneumatic thermostats. It was noted during the time of

the survey that these units sometimes run 24 hours a day. This can cause moisture and condensation problems within the building because these units would be drawing in un-tempered, cool air with high relative humidity throughout the evening hours while the building is unoccupied. This could cause moisture to condense on the interior surfaces of the building, such as the walls, metal lockers and the floor.

The classrooms in the newest addition (2000) are conditioned by through the wall unit ventilators. These units provide heating via hot water coils and have D/X coils for cooling. These units are also fitted with "Green Wheels", or energy wheels. These wheels recover heat from exhaust and preheat outdoor air during heating season and remove excess heat from outdoor air to lower the air temperature during cooling season. This feature utilizes free cooling and heating allows the units heating and cooling sections to be sized at a lower capacity. These units are remotely controlled by the Building Automation System (BAS). Locally mounted temperature sensors provide limited control capabilities to the end user, with the BAS having override capability. The unit ventilators in this section are Marv-air units of varying capacity based on room loads.

The Library/Multi-media center is conditioned by two rooftop heating and air conditioning units. These units are scheduled to be replaced as part of the roof replacement project. These have hot water heating coils and D/X cooling coils. The units that are currently operating are replacement units and were installed circa 1989. These units are controlled by the BAS. Local temperature sensors provide limited control to the end user, with the BAS having override capability.

The original Gymnasium is served by four (4), ceiling mounted Heating and Ventilating units. These units are original to the building and are fitted with hot water heating coils and outdoor air intake; they currently do not provide cooling. These units are controlled by local thermostats that energize the units when occupied and open the hot water valve when the space temperature drops. The New Gymnasium, which was added during the 2000 building addition/renovation project, is served by two ceiling mounted air handling units. These units provide heating and ventilation. Heating is provided via hot water heating coils. These units do not provide cooling. These units are controlled by the BAS. Locally mounted temperature sensors provide limited control capabilities to the end user, with the BAS having override capability. The locker rooms and rest rooms adjacent to the gymnasiums are heated and ventilated through a combination of ceiling mounted H&V units and cabinet unit heaters. These units are locally controlled via thermostats.

The new cafeteria, science classrooms and band area, all part of the 2000 addition, are served by a multi-zone rooftop unit. This unit is a Seasons Four packaged rooftop unit with hot water coils for heating, D/X coils for cooling and an integral energy recovery wheel and economizer section. This unit is configured as a multi-zone unit with seven zones. Zone 1 serves classrooms B125 & B130, Zone 2 serves classrooms A124 & A125, Zones 3, 4 and 5 serve the Cafeteria, Zone 6 serves the kitchen area and Zone 7 Serves the Band room. Locally mounted temperature sensors control the activation of the heating/cooling cycles of the rooftop unit. The BAS has override capabilities of this unit as well.

The new administrative office area is served by a McQuay single zone packaged rooftop unit. This unit has a hot water heating coil, D/X cooling coil and economizer section. A locally

mounted temperature sensor provides limited control to the end user, with the BAS having override capability

The entrance and exit doorways are heated by ceiling mounted hot water cabinet unit heaters in the original and new sections of the building.

The building heating hot water is supplied from the main mechanical room. There are nine (9) Patterson Kelley modular boilers, model N2000-MFD. These boilers are new and were installed in 2008 and are in excellent condition. The main hot water loop is circulated by three (3) Taco model FE3010, base mounted pumps rated for 20 HP and 450 GPM at 100 feet of head. These pumps are set up in a lead/lag configuration. In addition to the main circulation a pump, each boiler has an integral inline circulation pump rated for 120 GPM. These boilers are controlled by hot water reset. This control function modulates the hot water supply temperature based on the outside air temperature. When the outside air temperature is at or below 0°F, the boilers run at full capacity, or 180 °F supply. When the outside air temperature is at 65°F, the hot water temperature shall be reset to 140°F. The boilers are staged so that as the hot water supply temperature begins to drop with demand, additional boilers shall be energized to maintain the appropriate hot water loop temperature. This control sequence optimizes the energy performance of the boilers, and ensures that the boilers aren't running unnecessarily at full capacity during periods of low heating demand.

Exhaust System

Ventilation air is circulated through the majority of the original section of the building via roof mounted exhaust fans. Several classrooms and all of the administrative offices are ventilated via exhaust fans. These fans are controlled by a combination of locally mounted on/off switches and thermostats. Air is exhausted from the toilet rooms through the roof exhaust fans, and some restrooms are provided with gravity ventilators. The toilet room exhaust fans are operated by locally mounted thermostats and on/off switches based on the facility occupancy schedule. All of the exhaust fans that serve the original sections of the building are being replaced with newer, high efficiency fans of equal capacity as part of the roof replacement project.

HVAC System Controls

The HVAC systems within the facility are controlled via two types of control systems. The original sections of the building are controlled mainly by pneumatic controllers (thermostats, actuators and valves). These devices are connected to a main control panel located in the boiler room. Compressed air is delivered to the control system by a 2 HP Quincy compressor. The original section of the building is divided into nine pneumatic control zones. These zone's have settings of occupied, unoccupied and auto mode. At the time of the survey, all of the zones were set to auto. The new section of the facility, in addition to the rooftop heating and cooling equipment on the older section, is controlled via a direct digital control (DDC) building management system (BMS). The BMS controls the air conditioning devices and the temperature set point limits.

Domestic Hot Water

Domestic hot water is supplied to the entire school via a single hot water generator located in the main mechanical room. This hot water generator is a gas fueled, direct-fired, Lochinvar model CFN651 hot water generator, rated for 650 MBH input. The domestic hot water system is also provided with a 500 Gallon ASME rated storage tank with a pre-insulated enamel steel jacket. This hot water generator/storage system is new and was installed in conjunction with the boiler replacement in 2008.

Lighting

The lighting in the Middle School is primarily made up of fluorescent fixtures with T-8 lamps with electronic ballasts. The track lighting in the lobby has incandescent lamps.

VI. MAJOR EQUIPMENT LIST

The equipment list contains major energy consuming equipment that through implementation of energy conservation measures could yield substantial energy savings. The list shows the major equipment in the facility and all pertinent information utilized in energy savings calculations. An approximate age was assigned to the equipment in some cases if a manufactures date was not shown on the equipment's nameplate. The ASHRAE service life for the equipment along with the remaining useful life is also shown in the Appendix.

Refer to the **Major Equipment List Appendix** for this facility.

VII. ENERGY CONSERVATION MEASURES

ECM #1: Lighting Upgrades

Description:

The lighting in the Middle School is primarily made up of fluorescent fixtures with T-8 lamps with electronic ballasts. The track lighting in the lobby has incandescent lamps.

This ECM includes replacement of all incandescent lamps to compact fluorescent lamps. The energy usage of an incandescent compared to a compact fluorescent approximately 3 to 4 times greater. In addition to the energy savings, compact fluorescent fixtures burn-hours are 8 to 15 times longer than incandescent fixtures ranging from 6,000 to 15,000 burn-hours compared to incandescent fixtures ranging from 750 to 1000 burn-hours.

Energy Savings Calculations:

The **Investment Grade Lighting Audit Appendix** outlines the proposed retrofits, costs, savings, and payback periods.

From the **Smart Start Incentive Appendix**, there is no incentive for replacing incandescent lamps with compact fluorescent lamps. The incentive is only available if the entire light fixture is replaced. In most cases, the existing fixtures can be re-lamped by the facility's staff to obtain the energy savings without the expense of a new fixture and the involvement of an electrician to install a new fixture.

Energy Savings Summary:

ECM #1 - ENERGY SAVINGS SUMMARY	
Installation Cost ($):	$360
NJ Smart Start Equipment Incentive ($):	$0
Net Installation Cost ($):	$360
Maintenance Savings ($/Yr):	$58
Energy Savings ($/Yr):	$392
Total Yearly Savings ($/Yr):	$450
Estimated ECM Lifetime (Yr):	8
Simple Payback	0.8
Simple Lifetime ROI	900.7%
Simple Lifetime Maintenance Savings	$464
Simple Lifetime Savings	$3,602
Internal Rate of Return (IRR)	125%
Net Present Value (NPV)	$2,801.04

ECM #2 - Replace Unit Ventilators

The original building classrooms of the Middle School are heated and ventilated by vintage unit ventilators that consist of hot water coils, fans, and pneumatic controls. These units are beyond their expected service life as outlined in Chapter 36 of the 2007 ASHRAE Applications Handbook. Due to escalating owning and maintenance costs, these unit ventilators should be replaced.

This ECM would replace the unit ventilators with high-efficiency units that feature a face and bypass damper to allow a variable portion of the mixed return and ventilation air to flow over the heating coil. This method of capacity control also allows for free cooling when the outdoor air is relatively cool and full-stream cooling is not necessary. These unit ventilators would be equipped with DDC controllers that would communicate with the room thermostats (changed to DDC) and other equipment such as the boilers indicating when to supply hot water for heating demand. To make this energy conservation measure viable, it would be necessary to convert the existing pneumatic controls in each classroom to DDC.

Estimated Energy Savings

The analysis is based on the following assumptions for a typical existing unit ventilator:

- Typical 1,000SF classroom (UA=210 Btuh/ºF)
- 21 person occupancy
- 0.97 watt per square foot lighting load
- Winlsow, NJ weather
- Classroom occupied 7 hours per day, 180 days per year
- Thermostat setting of 70ºF occupied and no night time setback
- 85% efficient gas-fired boiler
- $0.139/kWh for electrical cost
- $1.45 per therm of natural gas cost
- Ventilation rate of 15cfm per person
- Unit Ventilator total air supply rate = 1,000 cfm
- Unit ventilator fan static pressure = 0.25” w.g.
- Unit Ventilator fan/motor efficiency = 25%
- Classroom exhaust system flow rate = 310 cfm
- Classroom exhaust system static pressure = 0.5” w.g.
- Classroom exhaust fan efficiency = 30%
- Replacing a total of thirty-one (31) classroom unit ventilators

During the occupied hours of the classroom, internal heat gains from people, lights, and computer (9,500 Btu/hr) effectively lowers the heating requirements by 17ºF. When the thermostat is set to 70ºF, the classroom does not need heat until the outside temperature drops to 53ºF (assuming no gains from solar heating). During unoccupied hours, the thermostat should be

set to 55ºF, but there are no heat gains to lower the heating requirement, hence the classroom space needs heating whenever the outside temperature drops below 55ºF.

Using the assumptions listed above, the existing unit ventilator uses approximately 148 kWh/yr during occupied hours and 43 kWh/yr during unoccupied hours. This equates to a total unit ventilator electrical consumption of approximately 191 kWh/yr. In addition, the unit ventilator system requires an exhaust system to exhaust the classrooms. The electrical consumption for running the exhaust fan 1,260 hours per year is 78 kWh/yr. The total electrical cost for the unit ventilator and classroom exhaust is 269 kWh/yr, or $37.39/yr.

The existing unit ventilator also requires approximately 254 Therms of natural gas to produce the required heating hot water during the occupied period and approximately 456 Therms of natural gas to heat during the unoccupied period of the heating season for a total of 710 Therms per year to heat a typical classroom with the existing unit ventilators. This equates to a fuel cost of $1,028.79/yr per unit ventilator.

By installing a high-efficiency unit ventilator with a DDC controller, a digital thermostat and an unoccupied setpoint of 55ºF, it is estimated that the energy savings per unit ventilator would be approximately 25%.

Total energy savings = 25% x [$37.39/yr + $1,028.79/yr] = $266.55/yr per unit ventilator.

It is also assumed that the replacement of the old unit ventilators with newer, more efficient units will save approximately $780 per year in maintenance costs.

The installed cost of a 1,000 CFM high-efficiency unit ventilator = $3,500

Because these units are only heating and ventilating and have fractional horsepower fan motors, they do not qualify for the NJ Smart Start Rebate for Unitary HVAC Equipment.

Energy Savings Summary:

ECM #2 - ENERGY SAVINGS SUMMARY	
Installation Cost ($):	$91,000
NJ Smart Start Equipment Incentive ($):	$0
Net Installation Cost ($):	$91,000
Maintenance Savings ($/Yr):	$780
Energy Savings ($/Yr):	$8,263
Total Yearly Savings ($/Yr):	$9,043
Estimated ECM Lifetime (Yr):	15
Simple Payback	10.1
Simple Lifetime ROI	49.1%
Simple Lifetime Maintenance Savings	$11,700
Simple Lifetime Savings	$135,645
Internal Rate of Return (IRR)	5%
Net Present Value (NPV)	$16,954.75

ECM #3: Install DDC Controls

Description:

The original section of the Middle School is controlled by outdated ATC pneumatic controls for all of their HVAC equipment. The use of manual control of HVAC systems is inaccurate and can be neglected due to human error. Also, due to the age of the current system, the local controllers could be out of calibration or broken. The current setup with manual control does not allow for night time setback. In addition, the absence of controllers doesn't allow the building to maintain the temperature at set-point under changing load conditions.

The DDC system has the potential to realize substantial savings by controlling the HVAC systems as a whole and provide operating schedules and features such as space averaging, night set-back, temperature override control, etc. The U.S. Department of Energy sponsored a study to analyze energy savings achieved through various types of building system controls. The referenced savings is based on the "Advanced Sensors and Controls for Building Applications: Market Assessment and Potential R&D Pathways," document posted for public use April 2005. The study has found that commercial buildings have the potential to achieve significant energy savings through the use of building controls. The average energy savings are as follows based on the report:

- Energy Management and Control System Savings - 5%-15%.

Savings resulting from the implementation of this ECM for energy management controls are estimated to be 5% of the total energy cost for the facility. This is because the major mechanical components (boilers and rooftop units) are already controlled by the existing DDC system.

Energy Savings Calculations:

Studies have shown that the installation of a full DDC system could save an estimated 15% of the total energy costs for this facility. Since the new addition of the facility is currently controlled via DDC, we had to estimate the energy consumption of the original portion of the facility. It is estimated that the energy consumption of the original sections of the building is approximately 60% of the total building energy consumption, or $233,332.

Annual Savings = 5% x $235,460 = $11,667.

Assuming one-half of the total energy savings is natural gas and the other half is electric savings, this equates to 42,350 kWh and 4,026 Therms saved. We have also assumed a maintenance savings of $3,000 per year for the pneumatic devices.

The cost of a DDC system with new field devices, wiring, thermostats, controllers, engineering, etc. is approximately $3,150 per control zone based on recent project cost data and a control contractor's budget pricing. For the original section of the facility, the estimated cost of adding on the existing DDC system is approximately $110,250 (based on approximately 35 control zones).

Energy Savings Summary:

ECM #3 - ENERGY SAVINGS SUMMARY	
Installation Cost ($):	$110,250
NJ Smart Start Equipment Incentive ($):	$0
Net Installation Cost ($):	$110,250
Maintenance Savings ($/Yr):	$3,000
Energy Savings ($/Yr):	$11,667
Total Yearly Savings ($/Yr):	$14,667
Estimated ECM Lifetime (Yr):	15
Simple Payback	7.5
Simple Lifetime ROI	99.6%
Simple Lifetime Maintenance Savings	$45,000
Simple Lifetime Savings	$220,005
Internal Rate of Return (IRR)	10%
Net Present Value (NPV)	$64,843.69

ECM #4: Install NEMA Premium Efficient Pump Motor

Description:

Replacing the hot water circulation pump motors with new efficient motors is a simple change that can provide substantial savings.

The existing electric motors have an efficiency of 77.5%. These motors are all approaching their useful service life of 12 years and are good candidates for replacement. The improved efficiency of the NEMA premium efficient motors is primarily due to better designs with use of better materials to reduce losses. Surprisingly, the electricity used to power a motor represents 95 % of its total lifetime operating cost. Because many motors operate 40-80 hours per week, even small increases in efficiency can yield substantial energy and dollar savings.

This energy conservation measure would replace all motors with NEMA Premium® Efficient Motors. NEMA Premium® is the most efficient motor designation in the marketplace today.

Energy Savings Calculations:

Given:

Annual Hours of Operations = 2,600 (Average)
1 HP = 0.746 Watt
Load Factor = 75%
Cost of electricity = $0.139 / kWh

The following table outlines the NEMA Premium® Efficiency Motor replacement energy savings for this facility:

NEMA PREMIUM EFFICIENCY MOTOR REPLACEMENT					
MOTOR HP	**EXISTING EFFICIENCY**	**NEMA PREMIUM EFFICIENCY**	**KW SAVINGS**	**KWH SAVINGS**	**COST SAVINGS**
10	77.5%	91.7%	1.12	2,907	$404
10	77.5%	91.7%	1.12	2,907	$404
20	77.5%	93.0%	2.41	6,257	$870
			4.6	**12,070**	**$1,678**

The following table outlines the motor replacement plan for this facility:

MOTOR REPLACEMENT PLAN							
MOTOR HP	**QTY.**	**ENCL. TYPE**	**NO. OF POLES**	**INSTALLED COST ****	**TOTAL COST**	**TOTAL SAVINGS**	**SIMPLE PAYBACK**
10	2	ODP	4-Pole	$4,145	$8,290	$808.04	10.3
20	1	ODP	4-Pole	$6,243	$6,243	$869.69	7.2
				Totals:	*$14,533*	*$1,678*	*8.7*

**** Net Cost after the SmartStart Buildings® incentive is applied.**

Energy Savings Summary:

ECM #4 - ENERGY SAVINGS SUMMARY	
Installation Cost ($):	$14,826
NJ Smart Start Equipment Incentive ($):	$293
Net Installation Cost ($):	$14,533
Maintenance Savings ($/Yr):	$0
Energy Savings ($/Yr):	$1,678
Total Yearly Savings ($/Yr):	$1,678
Estimated ECM Lifetime (Yr):	15
Simple Payback	8.7
Simple Lifetime ROI	73.2%
Simple Lifetime Maintenance Savings	$0
Simple Lifetime Savings	$25,170
Internal Rate of Return (IRR)	8%
Net Present Value (NPV)	$5,498.86

ECM #5: Air Handling Unit Replacement

Description:

There are a total of nine (9) indoor heating and ventilating air handling units with hot water heating coils that have surpassed there expected service life of fifteen (15) years as outlined in Chapter 36 of the 2007 ASHRAE Applications Handbook. These units appear to be 1969 vintage units, and are excellent candidates for replacement. Due to escalating owning and maintenance costs, these units should be replaced. Each of these units contains a hot water heating section and savings can we yielded from year round operation. The units vary in capacity from 150 MBH up to 360 MBH and vary in airflow from 1200 CFM up to 5500 CFM.

This energy conservation measure would replace air handling units with new air handling units having NEMA Premium® Efficient Motors. NEMA Premium® is the most efficient motor designation in the marketplace today. The Trane M-series or equivalents were utilized as a basis of design. Because many units operate 40-80 hours per week, even small increases in efficiency can yield substantial energy and dollar savings.

Energy Savings Calculations:

Existing HV-1 and HV-3: the four (4) H&V Units total, serving the two computer classrooms and girls' and boy's locker rooms have fan motors with the following characteristics:

Existing Motor Efficiency = 78%
Existing motor HP = 1/2 HP
Annual Hours of Operations = 2,600 (Average)
1 HP = 0.746 Watt
Load Factor = 75%
Cost of electricity = $0.139 / kWh

Existing AHU Motor Operating Cost =
{0.746 Watt/HP x Motor HP x Load Factor x Hours of Operation x Cost of Electricity} ÷ Motor Efficiency
= {0.746 x 0.5 x 0.75 x 2,600 x 0.139} ÷ 0.78 = $130 / Year

New AHU with NEMA Premium Motor Efficiency = 86.5%

New AHU with NEMA Premium Efficiency Motor Operating Cost =
{0.746 x 0. 5 x 0.75 x 2,600 x 0.139} ÷ 0.865 = $117 / Year

Savings = $130 - $117 = $13 / Year

Installed Cost of a 1500 CFM AHU's with a ¾ HP NEMA Premium® Efficiency Motor = $4,500

Existing HV-2: H&V Unit serving the shop area of the original building has a fan motor with the following characteristics:

Existing Motor Efficiency = 78%
Existing motor HP = 1-1/2 HP
Annual Hours of Operations = 2,600 (Average)
1 HP = 0.746 Watt
Load Factor = 75%
Cost of electricity = $0.139 / kWh

Existing AHU Motor Operating Cost =
{0.746 Watt/HP x Motor HP x Load Factor x Hours of Operation x Cost of Electricity] ÷ Motor Efficiency
= {0.746 x 1.5 x 0.75 x 2,600 x 0.139} ÷ 0.78 = $389 / Year

New AHU with NEMA Premium Motor Efficiency = 86.5%

New AHU with NEMA Premium Efficiency Motor Operating Cost =
{0.746 x 1.5 x 0.75 x 2,600 x 0.139} ÷ 0.865 = $350 / Year

Savings = $389 - $350 = $39 / Year

Installed Cost of a 5,500 CFM AHU with a 1-1/2 HP NEMA Premium® Efficiency Motor = $16,500

Existing HV-4: Four (4) H&V units serving the old gymnasium have fan motors with the following characteristics:

Existing Motor Efficiency = 78%
Existing motor HP = 3/4 HP
Annual Hours of Operations = 2,600 (Average)
1 HP = 0.746 Watt
Load Factor = 75%
Cost of electricity = $0.139 / kWh

Existing AHU Motor Operating Cost =
{0.746 Watt/HP x Motor HP x Load Factor x Hours of Operation x Cost of Electricity] ÷ Motor Efficiency
= {0.746 x 0.75 x 0.75 x 2,600 x 0.139} ÷ 0.78 = $195 / Year

New AHU with NEMA Premium Motor Efficiency = 86.5%

New AHU with NEMA Premium Efficiency Motor Operating Cost =
{0.746 x 0.75 x 0.75 x 2,600 x 0.139} ÷ 0.865 = $175 / Year

Savings = $195 - $175 = $20 / Year

Installed Cost of a 2500 CFM AHU's with a ¾ HP NEMA Premium® Efficiency Motor = $7,500

The following table outlines the NEMA Premium® Efficiency Motor replacement energy savings for this facility:

NEMA PREMIUM EFFCIENCY FAN MOTOR REPLACEMENT							
MOTOR HP	**QTY**	**EXISTING EFFICIENCY**	**NEMA PREMIUM EFFICIENCY**	**KW SAVINGS**	**KWH SAVINGS**	**COST SAVINGS**	**TOTAL SAVINGS**
1/2	4	78.0%	86.5%	0.04	92	$13	$51
3/4	4	78.0%	86.5%	0.05	137	$19	$76
1 1/2	1	78.0%	86.5%	0.11	275	$38	$38
				0.2	**504.0**	**$70**	**$166**

Energy Savings Summary:

ECM #5 - ENERGY SAVINGS SUMMARY	
Installation Cost ($):	$64,500
NJ Smart Start Equipment Incentive ($):	$45
Net Installation Cost ($):	$64,455
Maintenance Savings ($/Yr):	$0
Energy Savings ($/Yr):	$166
Total Yearly Savings ($/Yr):	$166
Estimated ECM Lifetime (Yr):	15
Simple Payback	388.3
Simple Lifetime ROI	-96.1%
Simple Lifetime Maintenance Savings	$0
Simple Lifetime Savings	$2,490
Internal Rate of Return (IRR)	-27%
Net Present Value (NPV)	($62,473.30)

ECM #6: HVAC Split System Replacement

Description:

The Room D105 is conditioned by a 2.5 Ton split system HVAC unit. This unit is approaching its useful life of 15 years making it a prime target for replacement. This unit has an Energy Efficiency Rating (EER) of 9. Due to the age and wear, the estimated cooling efficiency is 8.5 EER today.

This ECM includes the replacement of the 2.5 ton split system condensing unit and DX cooling coil. The ECM calculations are based on a 7.5 ton Trane split system model TTA090 or equal with a cooling efficiency of 11.7 EER.

Cooling Season Full Load Cooling Hrs. = 800 hrs/yr.
Average Cost of Electricity = $0.139/kWh

Total Rated Cooling Capacity = 2.5 Tons
Existing System Efficiency = 9.0 EER
Proposed System Efficiency = 11.5 EER

Energy Savings Calculations:

Cooling Savings Calculation:

$$EnergySavings = \frac{Cooling(Tons) \times 12{,}000\left(\frac{Btu}{Ton\ hr}\right)}{1000\left(\frac{Wh}{kWh}\right)} \times \left(\frac{1}{EER_{OLD}} - \frac{1}{EER_{NEW}}\right) \times Full\ Load\ Hrs.$$

$$EnergySavings = \frac{2.5\,(Tons) \times 12{,}000\left(\frac{Btu}{Ton\ hr}\right)}{1000\left(\frac{Wh}{kWh}\right)} \times \left(\frac{1}{9.0\left(\frac{Btu}{W}\right)} - \frac{1}{11.5\left(\frac{Btu}{W}\right)}\right) \times 800\ hours$$

$$= 580\ kWh$$

$$Demand\ Savings = \frac{Energy\ Savings\,(kWh)}{Hrs\ of\ Cooling}$$

$$Demand\ Savings = \frac{580\,(kWh)}{800\ Hrs.} = 0.72\ KW$$

$$Cooling\ Cost\ Savings = 580\ (kWh) \times 0.139 \left(\frac{\$}{kWh} \right) = \$81$$

Installation cost for a 2.5 ton split systems is estimated at $3,200. Note that this estimate includes the demolition of the existing units.

From the **NJ Smart Start® Program Appendix**, the rooftop unit replacement falls under the category "Central DX AC Systems" and warrants an incentive based on efficiency (EER) at a certain cooling tonnage. The program incentives are calculated as follows:

$$\text{Smart Start®}\ Incentive = (Cooling\ Tons \times\ \$/Ton\ Incentive)$$
$$= (2.5 Tons \times \$92/Ton) = \$230$$

Energy Savings Summary:

ECM #6 - ENERGY SAVINGS SUMMARY	
Installation Cost ($):	$3,200
NJ Smart Start Equipment Incentive ($):	$230
Net Installation Cost ($):	$2,970
Maintenance Savings ($/Yr):	$0
Energy Savings ($/Yr):	$81
Total Yearly Savings ($/Yr):	$81
Estimated ECM Lifetime (Yr):	15
Simple Payback	36.7
Simple Lifetime ROI	-59.1%
Simple Lifetime Maintenance Savings	0
Simple Lifetime Savings	$1,215
Internal Rate of Return (IRR)	-10%
Net Present Value (NPV)	($2,003.03)

VIII. RENEWABLE/DISTRIBUTED ENERGY MEASURES

Globally, renewable energy has become a priority affecting international and domestic energy policy. The State of New Jersey has taken a proactive approach, and has recently adopted in its Energy Master Plan a goal of 30% renewable energy by 2020. To help reach this goal New Jersey created the Office of Clean Energy under the direction of the Board of Public Utilities and instituted a Renewable Energy Incentive Program to provide additional funding to private and public entities for installing qualified renewable technologies. A renewable energy source can greatly reduce a building's operating expenses while producing clean environmentally friendly energy.

Solar energy produces clean energy and reduces a building's carbon footprint. This is accomplished via photovoltaic panels which will be mounted on all south and southwestern facades of the building. Flat roof, as well as sloped areas can be utilized; flat areas will have the panels turned to an optimum solar absorbing angle. (A structural survey of the roof would be necessary before the installation of PV panels is considered). The state of NJ has instituted a program in which one Solar Renewable Energy Certificate (SREC) is given to the Owner for every 1000 kWh of generation. SREC's can be sold anytime on the market at their current market value. The value of the credit varies upon the current need of the power companies. The average value per credit is around $350. This equates to $0.35 per kWh generated.

At the time that this report was created, the Winslow Township School District was under contract with an outside party to design and install a Solar PV Array on the roof of the Middle School. Because of this, a Solar Analysis was not performed on this building.

CEG conducted a review of the applicability of wind energy for the facility. Wind energy production is another option available through the Renewable Energy Incentive Program. Wind turbines of various types can be utilized to produce clean energy on a per building basis. Cash incentives are available per kWh of electric usage. Based on CEG's review of the applicability of wind energy for the facility, it was determined that the average wind speed is not adequate, and the kilowatt demand for the building is below the threshold (200 kW) for purchase of a commercial wind turbine. Therefore, wind energy is not a viable option to implement.

IX. ENERGY PURCHASING AND PROCUREMENT STRATEGY

Load Profile:

Load Profile analysis was performed to determine the seasonal energy usage of the facility. Irregularities in the load profile will indicate potential problems within the facility. Consequently based on the profile a recommendation will be made to remedy the irregularity in energy usage. For this report, the facility's energy consumption data was gathered in table format and plotted in graph form to create the load profile. Refer to the Electric and Natural Gas Usage Profiles included within this report to reference the respective electricity and natural gas usage load profiles.

Electricity:

The Electric Usage Profile is fairly consistent throughout the year dependent on season. Through the months where heating is the priority (Oct through Apr) the demand is very consistent as well as the consumption month-to-month. This similarity occurs between the months of June through August which are predominately cooling. There are two points along the profile that require further study. These points are the demand drop in November and the high demand/low consumption point in May. Looking at the facility as a whole, these two instances do not have a straight forward answer to their occurrence.

Natural Gas:

The Natural Gas Usage Profile demonstrates a very typical heating load profile, with increasing consumption in the winter months (October – March) and a dramatic drop in consumption in the summer months (May – September). The main central heating equipment and domestic hot water equipment for this facility consists entirely of gas-fired equipment hence the noted profile.

Tariff Analysis:

Electricity:

This facility receives electrical Delivery Service from Atlantic City Electric on an AGS Secondary (Annual General Service) utility rate and MGS (Monthly General Service) utility rate. The AGS rate is available at any point of Company's system where facilities of adequate character and capacity exist for the entire electric service requirements of any customer contracting for annual service delivered at one point and metered at or compensated to the voltage of delivery. This delivery service includes the following charges: Delivery Service Charges, Distribution Demand Charges, Reactive Demand Charges, Distribution Rates, Non-Utility Generation Charges, Societal Benefits Charges, Regulatory Assets Recovery Charges, Transition Bond Charges, Market Transition Charge Tax, Transmission Demand Charge, Regional Greenhouse Gas Initiative Recovery Charge, and Infrastructure Investment Surcharge.

The MGS rate is available at any point of Company's system where facilities of adequate character and capacity exist for the entire electric service requirements of any customer delivered

at one point and metered at or compensated to the voltage of delivery. This schedule is not available to residential customers. This service includes the following charges: Delivery Service Charges, Distribution Demand Charges, Reactive Demand Charges, Non-Utility Generation Charges, Societal Benefits Charges, Regulatory Assets Recovery Charges, Transition Bond Charges, Market Transition Charge Tax, Transmission Demand Charge, Regional Greenhouse Gas Initiative Recovery Charge, and Infrastructure Investment Surcharge.

Natural Gas:

This facility has natural gas serviced by South Jersey Gas Company (SJG) on its firm delivery rate, General Service Gas (GSG) from the utility and BGSS (Basic Generation Supply Service) commodity when not being served by a Third Party Supplier (TPS). Currently the Township is procuring natural gas from a Third Party Supplier (TPS), Woodruff Energy. This Delivery Rate has the following charges: Customer Charge, Delivery Charge, BSC Volume Charge and Commodity Charge under this rate structure. The BGSS Supply rates are designed to recover SJG's cost of gas applicable to customers who purchase gas from SJG. The company earns no profit from BGSS. BGSS consists of two (2) pricing mechanisms: Residential and Commercial customers that use less than 5,000 therms annually and Commercial and Industrial customers that consume at least 5,000 therms annually.

Imbalances occur when Third Party Suppliers (TPS) are used to supply natural gas and full-delivery is not made, and when a new supplier is contracted or the customer returns to the utility. Note: It is important when utilizing a Third Party Supplier, that an experienced regional supplier is used otherwise, imbalances can occur, jeopardizing economics and scheduling. If the supplier does not deliver they can be placed on a very costly rate. A customer can automatically be put on an alternative supply rate by the utility.

A "firm account" refers to the type of interstate pipeline service that the utility has subscribed for and delivered on behalf of the customer. Much like the telecom industry, the pipeline space (capacity) has been deregulated. The pipeline capacity is broken down into reliability of service. "Firm service" is the highest level of reliability and is the last, in pecking order, for interruption.

Recommendations:

CEG recommends a global approach that will be consistent with all facilities within the scope of this project. Therefore, CEG recommends aggregating all energy loads. CEG's observations are seen in both the electric and natural gas costs. The average "price to compare" per kWh (kilowatt hour) for all buildings is $.145/ kWh (kWh is the common unit of electric measure). The average "price to compare" per deca-therm for natural gas is $14.80 /dth (dth is the common unit of measure). These Weighted Average Prices are as supplied via current BOE utility suppliers.

Energy commodities are among the most volatile of all commodities, however at this point and time, energy is extremely competitive. The BOE could see significant savings if it were to take advantage of these current market prices quickly, before energy increases. Based on the study period's historical consumption (May 2008 to April 2009) and current electric rates, the BOE

could see an improvement of up to 15 % or up to $135,000 in its electric costs annually. (Note: Savings were calculated using an Average Annual Consumption of 6,217,580 kWh and an Average fixed one-year commodity contract). CEG recommends aggregating the entire electric load to gain the most optimal energy costs. CEG recommends that the BOE seek an energy advisor to maximize energy savings and to apply a "managed approach" to procuring energy.

CEG's secondary recommendation coincides with the BOE's natural gas costs. Based on the current market, (which is very competitive), the BOE could see a savings of over 20% or up to $156,000 annually in its natural gas expenditures. Again, CEG recommends the use of any energy advisor to review alternative energy sourcing strategies and to install a "managed approach" to energy procurement.

CEG also recommends that the BOE review their current energy supply contracts with their current suppliers in order to gain a better idea of the options. The BOE has procured natural gas commodity via Hess Corporation and has knowledge of the general procedures. However, CEG highly recommends the BOE utilize a consultant to ensure "best practice" is utilized when joining into a fixed term pricing contract for commodity. CEG further recommends that the BOE create an energy program through a "managed approach." The "managed approach" will take into account creating an "energy budget" that is in line with the BOE's budget year and risk tolerance. Risk tolerance is the appetite that a customer has for risk. Based on the reduced state and local government budgets and the general aversion for risk, the local government is required to manage this risk.

CEG recommends the BOE schedule a meeting with their current utility providers to review their utility charges and current tariff structures for electricity and natural gas. This meeting would provide insight regarding alternative procurement options that are currently available. Through its meeting with the Local Distribution Company (LDC), they will learn more about the competitive supply process. They can acquire a list of approved Third Party Suppliers from the New Jersey Board of Public Utilities website at www.nj.gov/bpu, and should also consider using a billing-auditing service to further analyze the utility invoices, manage the data and use the data to manage ongoing demand-side management projects. Furthermore, CEG recommends special attention given to credit mechanisms, imbalances, balancing charges and commodity charges when meeting with their utility representative. In addition, the BOE should also ask the utility representative about alternative billing options. Some utilities allow for consolidated billing options when utilizing the service of a Third Party Supplier.

Finally, if the BOE frequently changes its supplier for energy, CEG recommends it closely monitor balancing, particularly when the contract is close to termination.

X. INSTALLATION FUNDING OPTIONS

CEG has reviewed various funding options for the facility owner to utilize in subsidizing the costs for installing the energy conservation measures noted within this report. Below are a few alternative funding methods:

i. *Energy Savings Improvement Program (ESIP)* – Public Law 2009, Chapter 4 authorizes government entities to make energy related improvements to their facilities and par for the costs using the value of energy savings that result from the improvements. The "Energy Savings Improvement Program (ESIP)" law provides a flexible approach that can allow all government agencies in New Jersey to improve and reduce energy usage with minimal expenditure of new financial resources.

ii. *Municipal Bonds* – Municipal bonds are a bond issued by a city or other local government, or their agencies. Potential issuers of municipal bonds include cities, counties, redevelopment agencies, school districts, publicly owned airports and seaports, and any other governmental entity (or group of governments) below the state level. Municipal bonds may be general obligations of the issuer or secured by specified revenues. Interest income received by holders of municipal bonds is often exempt from the federal income tax and from the income tax of the state in which they are issued, although municipal bonds issued for certain purposes may not be tax exempt.

iii. *Power Purchase Agreement* – Public Law 2008, Chapter 3 authorizes contractor of up to fifteen (15) years for contracts commonly known as "power purchase agreements." These are programs where the contracting unit (Owner) procures a contract for, in most cases, a third party to install, maintain, and own a renewable energy system. These renewable energy systems are typically solar panels, windmills or other systems that create renewable energy. In exchange for the third party's work of installing, maintaining and owning the renewable energy system, the contracting unit (Owner) agrees to purchase the power generated by the renewable energy system from the third party at agreed upon energy rates.

iv. *Pay For Performance* – The New Jersey Smart Start Pay for Performance program includes incentives based on savings resulted from implemented ECMs. The program is available for all buildings with average demand loads above 200 KW. The facility's participation in the program is assisted by an approved program partner. An "Energy Reduction Plan" is created with the facility and approved partner to shown at least 15% reduction in the building's current energy use. Multiple energy conservation measures implemented together are applicable toward the total savings of at least 15%. No more than 50% of the total energy savings can result from lighting upgrades / changes.

Total incentive is capped at 50% of the project cost. The program savings is broken down into three benchmarks; Energy Reduction Plan, Project

Implementation, and Measurement and Verification. Each step provides additional incentives as the energy reduction project continues. The benchmark incentives are as follows:

1. Energy Reduction Plan – Upon completion of an energy reduction plan by an approved program partner, the incentive will grant $0.10 per square foot between $5,000 and $50,000, and not to exceed 50% of the facility's annual energy expense. (Benchmark #1 is not provided in addition to the local government energy audit program incentive.)

2. Project Implementation – Upon installation of the recommended measures along with the "Substantial Completion Construction Report," the incentive will grant savings per KWH or Therm based on the program's rates. Minimum saving must be 15%. (Example $0.11 / kWh for 15% savings, $0.12/ kWh for 17% savings, … and $1.10 / Therm for 15% savings, $1.20 / Therm for 17% saving, …) Increased incentives result from projected savings above 15%.

3. Measurement and Verification – Upon verification 12 months after implementation of all recommended measures, that actual savings have been achieved, based on a completed verification report, the incentive will grant additional savings per kWh or Therm based on the program's rates. Minimum savings must be 15%. (Example $0.07 / kWh for 15% savings, $0.08/ kWh for 17% savings, … and $0.70 / Therm for 15% savings, $0.80 / Therm for 17% saving, …) Increased incentives result from verified savings above 15%.

v. *Direct Install Program* – The New Jersey Clean Energy's Direct Install Program is a state funded program that targets small commercial and industrial facilities with peak demand of less than 200 kW. This turnkey program is aimed at providing owners a seamless, comprehensive process for analysis, equipment replacement and financial incentives to reduce consumption, lower utility costs and improve profitability. The program covers up to 80% of the cost for eligible upgrades including lighting, lighting controls, refrigeration, HVAC, motors, variable speed drives, natural gas and food service. Participating contractors (refer to www.njcleanenergy.com) conduct energy assessments in addition to your standard local government energy audit and install the cost-effective measures.

CEG recommends the Owner review the use of the above-listed funding options in addition to utilizing their standard method of financing for facilities upgrades in order to fund the proposed energy conservation measures.

XI. ADDITIONAL RECOMMENDATIONS

The following recommendations include no cost/low cost measures, Operation & Maintenance (O&M) items, and water conservation measures with attractive paybacks. These measures are not eligible for the Smart Start Buildings incentives from the office of Clean Energy but save energy none the less.

A. Chemically clean the condenser and evaporator coils periodically to optimize efficiency. Poorly maintained heat transfer surfaces can reduce efficiency 5-10%.

B. Maintain all weather stripping on windows and doors.

C. Clean all light fixtures to maximize light output.

D. Provide more frequent air filter changes to decrease overall system power usage and maintain better IAQ.

E. Confirm that outside air economizers on the rooftop units are functioning properly to take advantage of free cooling and avoid excess outside air during occupied periods.

ECM COST & SAVINGS BREAKDOWN

CONCORD ENGINEERING GROUP

Winslow Township Middle School

ECM ENERGY AND FINANCIAL COSTS AND SAVINGS SUMMARY

ECM NO.	DESCRIPTION	INSTALLATION COST				YEARLY SAVINGS			ECM LIFETIME	LIFETIME ENERGY SAVINGS	LIFETIME MAINTENANCE SAVINGS	LIFETIME ROI	SIMPLE PAYBACK	INTERNAL RATE OF RETURN (IRR)	NET PRESENT VALUE (NPV)
		MATERIAL	LABOR	REBATES, INCENTIVES	NET INSTALLATION COST	ENERGY	MAINT. / SREC	TOTAL		(Yearly Saving * ECM Lifetime)	(Yearly Maint Svaing * ECM Lifetime)	(Lifetime Savings - Net Cost) / (Net Cost)	(Net cost / Yearly Savings)	$\sum_{n=0}^{N} \frac{C_n}{(1+IRR)^n}$	$\sum_{n=0}^{N} \frac{C_n}{(1+DR)^n}$
		($)	($)	($)	($)	($/Yr)	($/Yr)	($/Yr)	(Yr)	($)	($)	(%)	(Yr)	($)	($)
ECM #1	Lighting Upgrade	$360	$0	$0	$360	$392	$58	$450	8	$3,602	$464	900.7%	0.8	124.89%	$2,801.04
ECM #2	Replace Unit Ventilators	$91,000	$0	$0	$91,000	$8,263	$780	$9,043	15	$135,645	$11,700	49.1%	10.1	5.46%	$16,954.75
ECM #3	Install DDC Controls	$110,250	$0	$0	$110,250	$11,667	$3,000	$14,667	15	$220,005	$45,000	99.6%	7.5	10.21%	$64,843.69
ECM #4	NEMA High Effeciency Pump Motor Replacement	$14,826	$0	$293	$14,533	$1,678	$0	$1,678	15	$25,170	$0	73.2%	8.7	7.81%	$5,498.86
ECM #5	Heating and Ventilation Unit Replacement	$64,500	$0	$45	$64,455	$166	$0	$166	15	$2,490	$0	-96.1%	388.3	-26.65%	($62,473.30)
ECM #6	HVAC Split System HVAC Replacement	$3,200	$0	$230	$2,970	$81	$0	$81	15	$1,215	$0	-59.1%	36.7	-9.54%	($2,003.03)

Notes: 1) The variable Cn in the formulas for Internal Rate of Return and Net Present Value stands for the cash flow during each period.
2) The variable DR in the NPV equation stands for Discount Rate
3) For NPV and IRR calculations: From n=0 to N periods where N is the *lifetime of ECM* and Cn is the *cash flow during each period* .

Concord Engineering Group, Inc.

520 BURNT MILL ROAD
VOORHEES, NEW JERSEY 08043
PHONE: (856) 427-0200
FAX: (856) 427-6508

SmartStart Building Incentives

The NJ SmartStart Buildings Program offers financial incentives on a wide variety of building system equipment. The incentives were developed to help offset the initial cost of energy-efficient equipment. The following tables show the current available incentives as of February, 2010:

Electric Chillers

Water-Cooled Chillers	$12 - $170 per ton
Air-Cooled Chillers	$8 - $52 per ton

Energy Efficiency must comply with ASHRAE 90.1-2004

Gas Cooling

Gas Absorption Chillers	$185 - $400 per ton
Gas Engine-Driven Chillers	Calculated through custom measure path)

Desiccant Systems

$1.00 per cfm – gas or electric

Electric Unitary HVAC

Unitary AC and Split Systems	$73 - $93 per ton
Air-to-Air Heat Pumps	$73 - $92 per ton
Water-Source Heat Pumps	$81 per ton
Packaged Terminal AC & HP	$65 per ton
Central DX AC Systems	$40- $72 per ton
Dual Enthalpy Economizer Controls	$250
Occupancy Controlled Thermostat (Hospitality & Institutional Facility)	$75 per thermostat

Energy Efficiency must comply with ASHRAE 90.1-2004

Ground Source Heat Pumps

Closed Loop & Open Loop	$450 per ton, EER ≥ 16 $600 per ton, EER ≥ 18 $750 per ton, EER ≥ 20

Energy Efficiency must comply with ASHRAE 90.1-2004

Gas Heating

Gas Fired Boilers < 300 MBH	$300 per unit
Gas Fired Boilers ≥ 300 - 1500 MBH	$1.75 per MBH
Gas Fired Boilers ≥1500 - ≤ 4000 MBH	$1.00 per MBH
Gas Fired Boilers > 4000 MBH	(Calculated through Custom Measure Path)
Gas Furnaces	$300 - $400 per unit, AFUE ≥ 92%

Variable Frequency Drives

Variable Air Volume	$65 - $155 per hp
Chilled-Water Pumps	$60 per hp
Compressors	$5,250 to $12,500 per drive

Natural Gas Water Heating

Gas Water Heaters ≤ 50 gallons	$50 per unit
Gas-Fired Water Heaters > 50 gallons	$1.00 - $2.00 per MBH
Gas-Fired Booster Water Heaters	$17 - $35 per MBH
Gas Fired Tankless Water Heaters	$300 per unit

Premium Motors

Three-Phase Motors	$45 - $700 per motor
Fractional HP Motors Electronic Communicated Motors (replacing shaded pole motors in refrigerator/freezer cases)	$40 per electronic communicated motor

Prescriptive Lighting

T-5 and T-8 Lamps w/Electronic Ballast in Existing Facilities	$15 per fixture (1-4 lamps)
T-8 reduced Wattage (28w/25w 4', 1-4 lamps) Lamp & ballast replacement	$10 per fixture
Hard-Wired Compact Fluorescent	$25 - $30 per fixture
Metal Halide w/Pulse Start	$25 per fixture
LED Exit Signs	$10 - $20 per fixture
T-5 and T-8 High Bay Fixtures	$16 - $284 per fixture
HID ≥ 100w Retrofit with induction lamp, power coupler and generator (must be 30% less watts/fixture than HID system)	$50 per fixture
HID ≥ 100w Replacement with new HID ≥ 100w	$70 per fixture
LED Refrigerator/Freezer case lighting replacement of fluorescent in medium and low temperature display case	$42 per 5 foot $65 per 6 foot

Lighting Controls – Occupancy Sensors

Wall Mounted	$20 per control
Remote Mounted	$35 per control
Daylight Dimmers	$25 per fixture
Occupancy Controlled hi-low Fluorescent Controls	$25 per fixture controlled

Lighting Controls – HID or Fluorescent Hi-Bay Controls

Occupancy hi-low	$75 per fixture controlled
Daylight Dimming	$75 per fixture controlled
Daylight Dimming - office	$50 per fixture controlled

Other Equipment Incentives

Performance Lighting	$1.00 per watt per SF below program incentive threshold, currently 5% more energy efficient than ASHRAE 90.1-2004 for New Construction and Complete Renovation
Custom Electric and Gas Equipment Incentives	not prescriptive
Custom Measures	$0.16 KWh and $1.60/Therm of 1st year savings, or a buy down to a 1 year payback on estimated savings. Minimum required savings of 75,000 KWh or 1,500 Therms and a IRR of at least 10%.
Multi Measures Bonus	15%

STATEMENT OF ENERGY PERFORMANCE
Middle School

Building ID: 2052710
For 12-month Period Ending: April 30, 2009[1]
Date SEP becomes ineligible: N/A
Date SEP Generated: February 18, 2010

Facility
Middle School
30 Cooper Folly Road
Atco, NJ 08004

Facility Owner
Winslow Board Of Education
20 Coopers Folly Road
Atco, NJ 08004

Primary Contact for this Facility
Robert Austin
20 Coopers Folly Road
Atco, NJ 08004

Year Built: 1969
Gross Floor Area (ft²): 193,567

Energy Performance Rating[2] (1-100) 7

Site Energy Use Summary[3]

Electricity - Grid Purchase(kBtu)	6,136,496
Natural Gas (kBtu)[4]	9,548,337
Total Energy (kBtu)	15,684,833

Energy Intensity[5]

Site (kBtu/ft²/yr)	81
Source (kBtu/ft²/yr)	158

Emissions (based on site energy use)

Greenhouse Gas Emissions ($MtCO_2e$/year)	1,442

Electric Distribution Utility
Pepco - Atlantic City Electric Co

National Average Comparison

National Average Site EUI	50
National Average Source EUI	97
% Difference from National Average Source EUI	62%
Building Type	K-12 School

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.

Meets Industry Standards[6] **for Indoor Environmental Conditions:**

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

Certifying Professional
Michael Fischette
520 South Burnt Mill Road
Voorhees, NJ 08043

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	☑
Building Name	Middle School	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		☐
Type	K-12 School	Is this an accurate description of the space in question?		☐
Location	30 Cooper Folly Road, Atco, NJ 08004	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		☐
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		☐
Middle School (K-12 School)				
CRITERION	**VALUE AS ENTERED IN PORTFOLIO MANAGER**	**VERIFICATION QUESTIONS**	**NOTES**	☑
Gross Floor Area	193,567 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.		☐
Open Weekends?	No	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.		☐
Number of PCs	339 (Default)	Is this the number of personal computers in the K12 School?		☐
Number of walk-in refrigeration/freezer units	2	Is this the total number of commercial walk-in type freezers and coolers? These units are typically found in storage and receiving areas.		☐
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".		☐
Percent Cooled	50 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		☐
Percent Heated	80 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		☐
Months	10(Optional)	Is this school in operation for at least 8 months of the year?		☐

High School?	No	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'.		☐

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

Power Generation Plant or Distribution Utility: Pepco - Atlantic City Electric Co

Fuel Type: Electricity		
Meter: Middle School Electric (kWh (thousand Watt-hours)) **Space(s):** Entire Facility **Generation Method:** Grid Purchase		
Start Date	**End Date**	**Energy Use (kWh (thousand Watt-hours))**
04/01/2009	04/30/2009	126,566.00
03/01/2009	03/31/2009	142,109.00
02/01/2009	02/28/2009	144,615.00
01/01/2009	01/31/2009	135,047.00
12/01/2008	12/31/2008	143,654.00
11/01/2008	11/30/2008	138,792.00
10/01/2008	10/31/2008	153,499.00
09/01/2008	09/30/2008	178,408.00
08/01/2008	08/31/2008	156,409.00
07/01/2008	07/31/2008	182,932.00
06/01/2008	06/30/2008	164,761.00
05/01/2008	05/31/2008	131,712.00
Middle School Electric Consumption (kWh (thousand Watt-hours))		**1,798,504.00**
Middle School Electric Consumption (kBtu (thousand Btu))		**6,136,495.65**
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		**6,136,495.65**
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		☐

Fuel Type: Natural Gas		
Meter: Middle School Gas (therms) **Space(s):** Entire Facility		
Start Date	**End Date**	**Energy Use (therms)**
04/01/2009	04/30/2009	914.16
03/01/2009	03/31/2009	20.74
02/01/2009	02/28/2009	18.58
01/01/2009	01/31/2009	356.72
12/01/2008	12/31/2008	1,285.68
11/01/2008	11/30/2008	6,983.54
10/01/2008	10/31/2008	14,293.69
09/01/2008	09/30/2008	19,294.35
08/01/2008	08/31/2008	20,623.75
07/01/2008	07/31/2008	18,740.09

06/01/2008	06/30/2008	10,486.30
05/01/2008	05/31/2008	2,465.77
Middle School Gas Consumption (therms)		**95,483.37**
Middle School Gas Consumption (kBtu (thousand Btu))		**9,548,337.00**
Total Natural Gas Consumption (kBtu (thousand Btu))		**9,548,337.00**
Is this the total Natural Gas consumption at this building including all Natural Gas meters?		☐

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.	☐

On-Site Solar and Wind Energy	
Do the fuel consumption totals shown above include all on-site solar and/or wind power located at your facility? Please confirm that no on-site solar or wind installations have been omitted from this list. All on-site systems must be reported.	☐

Certifying Professional

(When applying for the ENERGY STAR, the Certifying Professional must be the same as the 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
Middle School
30 Cooper Folly Road
Atco, NJ 08004

Facility Owner
Winslow Board Of Education
20 Coopers Folly Road
Atco, NJ 08004

Primary Contact for this Facility
Robert Austin
20 Coopers Folly Road
Atco, NJ 08004

General Information

Middle School	
Gross Floor Area Excluding Parking: (ft^2)	193,567
Year Built	1969
For 12-month Evaluation Period Ending Date:	April 30, 2009

Facility Space Use Summary

Middle School	
Space Type	K-12 School
Gross Floor Area(ft^2)	193,567
Open Weekends?	No
Number of PCs[d]	339
Number of walk-in refrigeration/freezer units	2
Presence of cooking facilities	Yes
Percent Cooled	50
Percent Heated	80
Months[o]	10
High School?	No
School District[o]	Winslow

Energy Performance Comparison

	Evaluation Periods		Comparisons		
Performance Metrics	**Current** (Ending Date 04/30/2009)	**Baseline** (Ending Date 04/30/2009)	**Rating of 75**	**Target**	**National Average**
Energy Performance Rating	7	7	75	N/A	50
Energy Intensity					
Site (kBtu/ft^2)	81	81	39	N/A	50
Source (kBtu/ft^2)	158	158	76	N/A	97
Energy Cost					
$/year	$ 388,888.84	$ 388,888.84	$ 187,749.37	N/A	$ 240,061.95
$/$ft^2$/year	$ 2.01	$ 2.01	$ 0.97	N/A	$ 1.24
Greenhouse Gas Emissions					
$MtCO_2e$/year	1,442	1,442	696	N/A	890
$kgCO_2e/ft^2$/year	7	7	3	N/A	4

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.

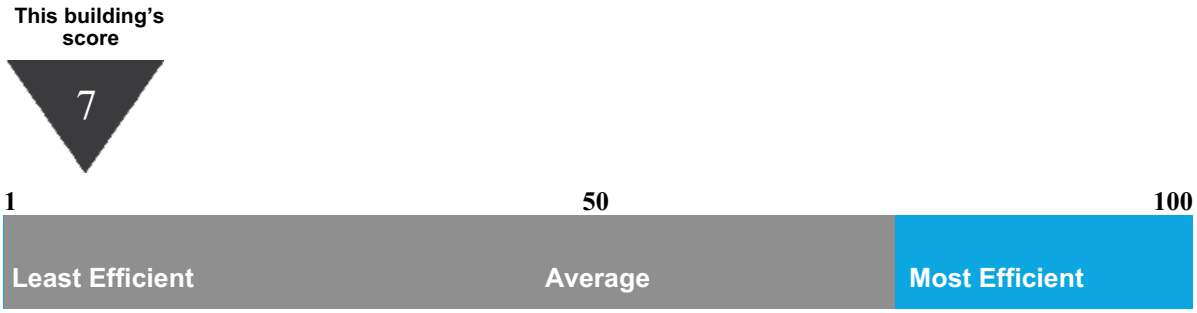
Statement of Energy Performance

2009

Middle School
30 Cooper Folly Road
Atco, NJ 08004

Portfolio Manager Building ID: 2052710

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 158 kBtu per square foot per year.*

*Based on source energy intensity for the 12 month period ending April 2009

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

EPA United States Environmental Protection Agency

Date Generated: 02/18/2010

MAJOR EQUIPMENT LIST

Concord Engineering Group

WINSLOW TOWNSHIP BOE MIDDLE SCHOOL

Boiler

Tag	Location	Area Served	Manufacturer	Qty.	Model #	Serial #	Input (MBh)	Output (MBh)	Efficiency (%)	Fuel	Approx. Age	ASHRAE Service Life	Remaining Life	Notes
	Mechanical Rm	Whole Building	Patterson Kelly	9	N2000-MFD	FY26-08-32556	2000	1700	85	Nat. Gas	1	30	29	

Boiler - Pumps

Tag	Location	Area Served	Manufacturer	Qty.	Model #	Serial #	HP	RPM	GPM	Ft. Hd	Frame Size	Volts / Phase	Approx. Age	ASHRAE Service Life	Remaining Life	
	Mechanical Rm	Hot water loop	Taco	1	FE3010E2H1		20	1725	450	100		480-3	9	12	3	
	Mechanical Rm	Hot water loop	Taco	1	FE3010E2H1		10	1725	550	60		480-3	9	12	3	
	Mechanical Rm	Hot water loop	Taco	1	FE3010E2H1		10	1725	550	60		480-3	9	12	3	

Domestic Hot Water Heater

Tag	Location	Area Served	Manufacturer	Qty	Model #	Serial #	Input (MBh)	Recovery (gal/h)	Capacity (gal)	Efficiency (%)	Fuel	Approx. Age	ASHRAE Service Life	Remaining Life	Notes
	Mechanical Rm	Restrooms/kitchen	Lochnivar	1	CFM651-PM	H08H00211821	650	670	500		Natural Gas	1	12	11	
															hot water generator with separate storage tank

DHW - Pumps

Tag	Location	Area Served	Manufacturer	Qty.	Model #	Serial #	HP	Volts / Phase	Amps	Approx. Age	ASHRAE Service Life	Remaining Life	Notes
	Mechanical Rm	Dom. HW	Armstrong	1		116638-061	1/4	115-1		1	12	11	

Air Handling Units

Tag	Location	Area Served	Manufacturer	Qty	Model #	Serial #	Cooling Coil	Cooling Eff. (EER)	Cooling Capacity (MBH)	Heating Type	Input (MBh)	Output (MBh)	Heating Eff. (%)	Fuel	Volts / Phase	Amps	Approx. Age	ASHRAE Service Life	Remaining Life	Notes
RTU-1	Roof	Board Offices	York	1			D/X		62	None					460-3		19	15	(-4)	RTU's 1 through 5 are being replaced as part of the roof replacement project, anticipated for summer 2010
RTU-2	Roof	Board Offices	York	1			D/X		87.2	None					460-3		19	15	(-4)	
RTU-3	Roof	Board Offices	York	1			D/X		124	None					460-3		19	15	(-4)	
RTU-4	Roof	Multimedia Rm		1			D/X		225	None					460-3		21	15	(-6)	
RTU-5	Roof	Multimedia Rm		1			D/X		225	None					460-3		21	15	(-6)	
RTU-6	Roof	Café, Band, Science	Seasons Four	1	3SRP63		D/X		923	Hot Water		325			480-3		9	15	6	
RTU-7	Roof	Block A1	McQuay	1	RDS708B		D/X		66.5	Hot Water		65.5			480-3		9	15	6	
RTU-8	Roof	Admin Offices	Lennox	1	GCS16-048	5601G 01029	D/X		36	None					480-3		9	15	6	

Split Systems and AC Condensers

Tag	Location	Area Served	Manufacturer	Qty.	Model #	Serial #	Cooling Capacity	Eff.	Refrigerant	Volts / Phase	Amps	Approx. Age	ASHRAE Service Life	Remaining Life	Notes
	Roof	RM D105	Carrier	1	38ED03030		2-1/2 Tons	9	R-22	460-3	25	11	15	4	

Air Compressor

Tag	Location	Area Served	Manufacturer	Qty.	Model #	Serial #	HP	Pressure	Capacity	Volts / Phase	FLA	Approx. Age	ASHRAE Service Life	Remaining Life	Notes
	Mechanical Rm	Controls	Quincy	1	F041A		2		60 Gal	208-3		10	20	10	

Heating and Ventilation Units

Tag	Location	Area Served	Manufacturer	Qty.	Model #	Serial #	Heating Coil	Capacity (Btu/h)	Fan HP	Fan RPM	Volts / Phase	CFM	Approx. Age	ASHRAE Service Life	Remaining Life	Notes
MUA-1	Above ceiling	Science Labs	McQuay	1	CAH008 FDAC		Hot Water	250000	5	1088	480/3		9	15	6	
MUA-2	Above ceiling	Kitchen	McQuay	1	CAH010 FHAC		Hot Water	402000	10	1088	480/3		9	15	6	
AHU-1	Ceiling	Gymnasium	McQuay	1	CAH010 FHAC		Hot Water	232000	7.5	1088	480/3		9	15	6	
AHU-2	Ceiling	Gymnasium	McQuay	1	CAH010 FHAC		Hot Water	232000	7.5	1088	480/3		9	15	6	
HV-1	Ceiling	Classrooms	N/A	2	N/A		Hot Water	149000	1/2		480/3	1250	41	15	(-26)	
HV-2	Ceiling	Shop	N/A	1	N/A		Hot Water	360000	1-1/2		480/3	5500	41	15	(-26)	
HV-3	Ceiling	Locker Rooms	N/A	2	N/A		Hot Water	187000	1/2		480/3	1750	41	15	(-26)	
HV-4	Ceiling	Old Gymnasium	N/A	4	N/A		Hot Water	208000	3/4		480/3	2500	41	15	(-26)	

Kitchen Hood

Tag	Location	Area Served	Manufacturer	Qty.	Model #	Serial #	Fan HP	Fan RPM	Volts/Phase	Amps	Approx. Age	ASHRAE Service Life	Remaining Life	Notes
	Kitchen	Range	Ventmaster	1	H-CM-B		5	1075	480/3		9	20	11	

Unit Vents

Tag	Location	Area Served	Manufacturer	Qty.	Model #	Serial #	Cooling Capacity	Heating Capacity - HW	Fan HP	Volts/Phase	Amps	Approx. Age	ASHRAE Service Life	Remaining Life	Notes
A	Old Section	Classrooms	Trane	17	TW1000		N/A	55.2	1/12	115/1		41	20	(-21)	
B	Old Section	Classrooms	Trane	1	TE1000		N/A	60.2	1/12	115/1		41	20	(-21)	
C	Old Section	Classrooms	Trane	4	TE1250		N/A	90.4	1/8	115/1		41	20	(-21)	
D	Old Section	Classrooms	Trane	4	TW1500		N/A	102	1/4	115/1		41	20	(-21)	
UV-1	New Section	Classrooms	Marv-Aire	6	MVP-24		17.8	26	1/10	480/3		9	20	11	
UV-2	New Section	Classrooms	Marv-Aire	24	MVP-48		31	44	1/10	480/3		9	20	11	

CEG Job #: 9C09026
Project: Winslow Township Middle School
Address: 30 Coopers Folly Road
Atco, NJ 08004

"Winslow Township Middle School"

KWH COST: $0.139

Building SF: 193,567

ECM #1: Lighting Upgrade - General

EXISTING LIGHTINC											PROPOSED LIGHTING									SAVINGS			
CEG Type	Room No.	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Lamps	Retro-Unit Description	Watts Used	Total kW	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
6.11	E107	Boy's Locker Room	1880	3	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	0.08	157.9	$21.95	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11			1880	23	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	1.33	2,507.9	$348.60	23	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
5.11		Boy's Gym Office	2200	2	4	1x4 4 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	109	0.22	479.6	$66.66	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Gym Corridor	3200	5	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.41	1,312.0	$182.37	5	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
6.11			3200	4	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	0.11	358.4	$49.82	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
6.11	E117	Girl's Gym Locker Room	1880	3	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	0.08	157.9	$21.95	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11			1880	23	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	1.33	2,507.9	$348.60	23	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
5.11		Girl's Gym Office	2200	2	4	1x4 4 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	109	0.22	479.6	$66.66	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
7		Gym	1880	32	3	2x4 4 Lamp, 54w T5, Elect. Ballast, Pendant Mnt., No Lens	182	5.82	10,949.1	$1,521.93	32	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11			1880	2	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.12	218.1	$30.31	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11	A101	Wrestling Room	1880	30	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	1.74	3,271.2	$454.70	30	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Gym Office	2200	2	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.16	360.8	$50.15	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
8.21		Gym Rear Hall	3200	4	2	2x2 2 Lamp, 32w T8 Utube, Elect. Ballast, Recessed, Prismatic	58	0.23	742.4	$103.19	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
9		Rear Gym	1880	16	6	2x4 6 Lamp, 54w T5, Elect. Ballast, Pendant Mnt., No Lens	346	5.54	10,407.7	$1,446.67	16	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
10		Gym Electrical Room	500	6	1	1x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., No Lens	28	0.17	84.0	$11.68	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
10		Gym Storage	500	6	1	1x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., No Lens	28	0.17	84.0	$11.68	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11			500	4	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.23	116.0	$16.12	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00

8.21		Gym Rear Hall/Entrance	3200	9	2	2x2 2 Lamp, 32w T8 Utube, Elect. Ballast, Recessed, Prismatic	58	0.52	1,670.4	$232.19	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
8.21		Janitor's Closet	500	1	2	2x2 2 Lamp, 32w T8 Utube, Elect. Ballast, Recessed, Prismatic	58	0.06	29.0	$4.03	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.21		Girl's Lav.	3200	3	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	58	0.17	556.8	$77.40	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.21		Boy's Lav.	3200	2	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	58	0.12	371.2	$51.60	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21		Guidance Center	1880	29	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	3.16	5,942.7	$826.03	29	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
6.11			1880	37	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	1.04	1,947.7	$270.73	37	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	F100	Conf. Room	1880	4	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.23	436.2	$60.63	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31		Break Room	2200	4	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.23	510.4	$70.95	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
11	A127	Men's Faculty Restroom	500	1	2	Wall Mnt., (2) 13w CLF	26	0.03	13.0	$1.81	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11	A125	Boy's Lav.	3200	3	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.17	556.8	$77.40	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11	A129	A129 Custodial Closet	500	1	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.06	29.0	$4.03	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
11		Women's Restroom	3200	1	2	Wall Mnt., (2) 13w CLF	26	0.03	83.2	$11.56	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
10		Electrical Closet	500	2	1	1x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., No Lens	28	0.06	28.0	$3.89	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11	H103	Classroom	1880	28	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	1.62	3,053.1	$424.38	28	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	H100	Music Room	1880	36	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	2.09	3,925.4	$545.64	36	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	F108	Keyboards	1880	6	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.49	925.0	$128.57	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11	F105	Office	2200	4	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.23	510.4	$70.95	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11	F106	Office	2200	2	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.12	255.2	$35.47	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	H105	Classroom	1880	36	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	2.09	3,925.4	$545.64	36	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11	H107	Classroom	1880	30	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	1.74	3,271.2	$454.70	30	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	H109	Classroom	1880	15	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.87	1,635.6	$227.35	15	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	H111	Classroom	1880	15	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.87	1,635.6	$227.35	15	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00

1.31	H113	Classroom	1880	15	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.87	1,635.6	$227.35	15	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	H115	Classroom	1880	15	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.87	1,635.6	$227.35	15	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	H117	Classroom	1880	15	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.87	1,635.6	$227.35	15	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
11		Women's Restroom	3200	1	2	Wall Mnt., (2) 13w CLF	26	0.03	83.2	$11.56	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
10		Electrical Closet	500	1	1	1x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., No Lens	28	0.03	14.0	$1.95	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.21		6th Grade Guidance	1880	12	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	58	0.70	1,308.5	$181.88	12	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11		Men's Faculty Restroom	500	3	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.17	87.0	$12.09	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	J111	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	J106	Classroom	1880	15	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.87	1,635.6	$227.35	15	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	J109	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	J107	Classroom	1880	15	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.87	1,635.6	$227.35	15	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	J104	Classroom	1880	15	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.87	1,635.6	$227.35	15	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	J102	Classroom	1880	24	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	1.39	2,617.0	$363.76	24	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	J105	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	J100	Data/Computer	1880	28	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	1.62	3,053.1	$424.38	28	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	J103	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	J101	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	L111	Classroom	1880	24	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	1.39	2,617.0	$363.76	24	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	L104	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	L109	Classroom	1880	24	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	1.39	2,617.0	$363.76	24	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	L107	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00

1.11		Custodial Closet	500	1	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.06	29.0	$4.03	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
6.11		Men's Faculty Restroom	500	5	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	0.14	70.0	$9.73	5	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	L105	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	L103	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	L101	Classroom	1880	6	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.65	1,229.5	$170.90	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11		Electrical Closet	500	1	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.06	29.0	$4.03	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	K101	Classroom	1880	24	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	1.39	2,617.0	$363.76	24	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.22	K100	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	K102	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	K104	Classroom	18880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	18,521.3	$2,574.46	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	K103	Classroom	1880	24	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	1.39	2,617.0	$363.76	24	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	K106	Classroom	1880	8	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.87	1,639.4	$227.87	8	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	K108	Classroom	1880	15	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.87	1,635.6	$227.35	15	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	K105	Classroom	1880	15	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.87	1,635.6	$227.35	15	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
10		Storage Closet	500	2	1	1x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., No Lens	28	0.06	28.0	$3.89	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
6.11	C106	Women's Restroom	500	3	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	0.08	42.0	$5.84	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11		Custodial Closet	500	1	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.06	29.0	$4.03	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11	C104	Girl's Lav.	3200	3	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.17	556.8	$77.40	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.22	L102	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	L100	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.22	MC2	Computer Lab	1880	17	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	82	1.39	2,620.7	$364.28	17	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00

3.22		Media Center	1880	58	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	82	4.76	8,941.3	$1,242.84	58	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
12			1880	4	2	Wall Sconce Uplight, (2) 18w CFL	36	0.14	270.7	$37.63	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.21		ISSP	1880	3	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	58	0.17	327.1	$45.47	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.22		Copy Room	2200	10	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	82	0.82	1,804.0	$250.76	10	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.21		Library Storage	500	4	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	58	0.23	116.0	$16.12	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.22		Media Center Tech. Lab.	1880	17	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	82	1.39	2,620.7	$364.28	17	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21		Library Office	2200	6	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.65	1,438.8	$199.99	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.21		Nurse	1880	10	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	58	0.58	1,090.4	$151.57	10	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	B100	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	B102	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	B101	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	B103	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
6.11	B106	Women's Restroom	500	5	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	0.14	70.0	$9.73	5	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11		Custodial Closet	500	1	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.06	29.0	$4.03	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11		Girl's Lav.	3200	3	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.17	556.8	$77.40	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
6.11	B108	Men's Faculty Restroom	500	5	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	0.14	70.0	$9.73	5	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11		Custodial Closet	500	1	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.06	29.0	$4.03	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11	B110	Boy's Lav.	3200	3	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.17	556.8	$77.40	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	B105	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	B104	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	B107	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00

4.21	B109	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	B111	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	B113	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	C101	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	C100	Computer Lab	1880	24	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	1.39	2,617.0	$363.76	24	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	C103	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
6.11	C102	Storage Closet	500	5	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	0.14	70.0	$9.73	5	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	C104	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21	C105	Classroom	1880	9	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	0.98	1,844.3	$256.35	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	C106	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	C107	Classroom	1880	6	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.49	925.0	$128.57	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	C109	Classroom	1880	6	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.49	925.0	$128.57	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	C111	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	C113	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	C108	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	C115	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	C110	Classroom	1880	6	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.49	925.0	$128.57	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	C112	Classroom	1880	6	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.49	925.0	$128.57	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	C117	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	C119	Classroom	1880	6	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.49	925.0	$128.57	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	C114	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00

3.21	C116	Classroom	1880	12	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.98	1,849.9	$257.14	12	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	C121	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	F103	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	F101	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	F105	Classroom	1880	6	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.49	925.0	$128.57	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	F107	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
8.21		Electrical Closet	500	1	2	2x2 2 Lamp, 32w T8 Utube, Elect. Ballast, Recessed, Prismatic	58	0.06	29.0	$4.03	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
8.21		Data/Computer	1880	1	2	2x2 2 Lamp, 32w T8 Utube, Elect. Ballast, Recessed, Prismatic	58	0.06	109.0	$15.16	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	F109	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	F111	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Boy's Lav.	3200	2	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.16	524.8	$72.95	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
8.21		Janitor's Closet	500	1	2	2x2 2 Lamp, 32w T8 Utube, Elect. Ballast, Recessed, Prismatic	58	0.06	29.0	$4.03	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Girl's Lav.	3200	2	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.16	524.8	$72.95	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		8th Grade House Offices	1880	18	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	1.48	2,774.9	$385.71	18	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Restroom	500	1	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.08	41.0	$5.70	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	D115	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	D113	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	D111	Classroom	1880	6	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.49	925.0	$128.57	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	D109	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21		Cafetorium	1880	35	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	3.82	7,172.2	$996.94	35	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
14		Stage	500	18	3	1x4 3 Lamp, Pendant Mnt., Dir/Indir	82	1.48	738.0	$102.58	18	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00

8.21		Kitchen Serving Area	1880	5	2	2x2 2 Lamp, 32w T8 Utube, Elect. Ballast, Recessed, Prismatic	58	0.29	545.2	$75.78	5	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.21			1880	5	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	58	0.29	545.2	$75.78	5	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Kitchen	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
8.21			1880	8	2	2x2 2 Lamp, 32w T8 Utube, Elect. Ballast, Recessed, Prismatic	58	0.46	872.3	$121.25	8	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Kitchen Restroom	500	1	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.08	41.0	$5.70	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	E101	Band	1880	30	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	1.74	3,271.2	$454.70	30	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Band Office	2200	2	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.16	360.8	$50.15	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Band Storage	500	4	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.33	164.0	$22.80	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	M100	Classroom	1880	18	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	1.04	1,962.7	$272.82	18	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	M102	Classroom	1880	25	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	1.45	2,726.0	$378.91	25	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
15		M102 Storage	500	1	1	Industrial Pendant, (1) 46w CFL	46	0.05	23.0	$3.20	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31			500	3	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.17	87.0	$12.09	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	A144	Data/Computer	1880	2	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.12	218.1	$30.31	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	A146	Boy's Lav.	3200	3	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.17	556.8	$77.40	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
6.11	A143	Custodial Closet	500	1	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	0.03	14.0	$1.95	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	A145	Girl's Lav.	3200	3	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.17	556.8	$77.40	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
11	A141	Women's Restroom	500	2	2	Wall Mnt., (2) 13w CLF	26	0.05	26.0	$3.61	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
4.21		Teacher's Lounge	2200	12	4	2x4 4 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	109	1.31	2,877.6	$399.99	12	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
10		Closet	500	2	1	1x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., No Lens	28	0.06	28.0	$3.89	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31	M101	Classroom	1880	32	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	1.86	3,489.3	$485.01	32	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	E106	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	E104	Classroom	1880	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.74	1,387.4	$192.85	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00

3.21		Girl's Lav.	3200	2	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.16	524.8	$72.95	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Janitor's Closet	500	1	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.08	41.0	$5.70	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Boy's Lav.	3200	2	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.16	524.8	$72.95	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	D102	Classroom	1880	12	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.98	1,849.9	$257.14	12	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	D100	Classroom	1880	12	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.98	1,849.9	$257.14	12	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	D101	Classroom	1880	8	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.66	1,233.3	$171.43	8	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	D103	Classroom	1880	4	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.33	616.6	$85.71	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	D105	Classroom	1880	4	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.33	616.6	$85.71	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	D107	Classroom	1880	8	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.66	1,233.3	$171.43	8	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	E102	Classroom	1880	12	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.98	1,849.9	$257.14	12	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		102/100 Storage	1880	4	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.33	616.6	$85.71	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	E100	Classroom	1880	12	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.98	1,849.9	$257.14	12	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Faculty Restroom	500	2	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.16	82.0	$11.40	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.22		Assist. Principal Reception	2200	4	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	58	0.23	510.4	$70.95	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.22	A165	Break Room	2200	2	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	58	0.12	255.2	$35.47	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.22	A168	Office	2200	6	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	58	0.35	765.6	$106.42	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.22	A161	Office	2200	4	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	58	0.23	510.4	$70.95	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.22	A167	Office	2200	4	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	58	0.23	510.4	$70.95	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.22	A160	Office	2200	4	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	58	0.23	510.4	$70.95	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
11	A159	Restroom	500	1	2	Wall Mnt., (2) 13w CLF	26	0.03	13.0	$1.81	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.22	A159	Office	2200	4	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	58	0.23	510.4	$70.95	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00

10	A158	Storage Closet	500	1	1	1x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., No Lens	28	0.03	14.0	$1.95	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.22	A166	Office	2200	2	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	58	0.12	255.2	$35.47	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
6.11		Hall	2200	5	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	0.14	308.0	$42.81	5	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.22		Main Office	2200	9	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	82	0.74	1,623.6	$225.68	9	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11	A106	Break Room	2200	6	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.35	765.6	$106.42	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.22	A107	Conf. Room	2200	2	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	58	0.12	255.2	$35.47	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.22	A108	Office	2200	3	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	58	0.17	382.8	$53.21	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
6.11		Hall	2200	3	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	0.08	184.8	$25.69	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21	G123	Office	2200	4	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.33	721.6	$100.30	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11			2200	8	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.46	1,020.8	$141.89	8	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11	A119	Office	2200	8	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.46	1,020.8	$141.89	8	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
11	A118	Closet	500	1	2	Wall Mnt., (2) 13w CLF	26	0.03	13.0	$1.81	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
11		Teacher's Restroom	500	2	2	Wall Mnt., (2) 13w CLF	26	0.05	26.0	$3.61	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.34	A140	Boiler Room	8700	12	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., No lens	58	0.70	6,055.2	$841.67	12	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.11	A136	Closet	500	1	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	58	0.06	29.0	$4.03	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
11	A137	Bathroom	500	1	2	Wall Mnt., (2) 13w CLF	26	0.03	13.0	$1.81	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
10	A134	Custodial Closet	500	1	1	1x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., No Lens	28	0.03	14.0	$1.95	1	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.34		Custofial Storage	500	8	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., No lens	58	0.46	232.0	$32.25	8	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
1.31		Custodial Lockers/Electrical Room	3200	8	2	1x4 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Prismatic	58	0.46	1,484.8	$206.39	8	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
6.11		Custodial Hall	3200	2	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	0.06	179.2	$24.91	2	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
10	A138	Storage	500	10	1	1x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., No Lens	28	0.28	140.0	$19.46	10	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
16		Lobby	3200	18	1	Round Back Track Head, (1) 60w A19 Lamp	60	1.08	3,456.0	$480.38	18	1	11w R20 CFL Flood Lamp	11	0.20	633.6	$88.07	$20.00	$360.00	0.88	0.882	$392.31	0.92

2.22		Lobby	3200	4	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	58	0.23	742.4	$103.19	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Corridors L,K, J,H	3200	44	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	3.61	11,545.6	$1,604.84	44	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
6.11			3200	10	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	0.28	896.0	$124.54	10	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
2.22		Circle Corridor	3200	20	2	2x4 2 Lamp, 32w T8, Elect. Ballast, Recessed, Parabolic	58	1.16	3,712.0	$515.97	20	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Corridor B	3200	12	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.98	3,148.8	$437.68	12	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Corridor C	3200	3	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.25	787.2	$109.42	3	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
6.11			3200	6	1	6"x4 1 Lamp, 32w T8, Elect. Ballast, Surface Mnt., Prismatic	28	0.17	537.6	$74.73	6	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
8.21			3200	17	2	2x2 2 Lamp, 32w T8 Utube, Elect. Ballast, Recessed, Prismatic	58	0.99	3,155.2	$438.57	17	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
8.21		Corridor D	3200	8	2	2x2 2 Lamp, 32w T8 Utube, Elect. Ballast, Recessed, Prismatic	58	0.46	1,484.8	$206.39	8	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21			3200	11	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.90	2,886.4	$401.21	11	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
8.21		Corridor E	3200	28	2	2x2 2 Lamp, 32w T8 Utube, Elect. Ballast, Recessed, Prismatic	58	1.62	5,196.8	$722.36	28	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
8.21		Corridor F	3200	19	2	2x2 2 Lamp, 32w T8 Utube, Elect. Ballast, Recessed, Prismatic	58	1.10	3,526.4	$490.17	19	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
13			3200	4	1	Recessed Down Light, (1) 26w CFL	26	0.10	332.8	$46.26	4	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
3.21		Corridor M	3200	8	3	2x4 3 Lamp, 32w T8, Elect. Ballast, Recessed, Prismatic	82	0.66	2,099.2	$291.79	8	0	No Change	0	0.00	0	$0.00	$0.00	$0.00	0.00	0	$0.00	0.00
		Totals		2063	556			154.83	330,219	$45,900.51	2063	1			0.20	634	$88.07		$360.00	0.88	1	$392.31	0.92

NOTES: 1. Simple Payback noted in this spreadsheet does not include Maintenance Savings and NJ Smart Start Incentives.
2. Lamp totals only include T-12 tube replacment calculations