JACKSON TOWNSHIP BOARD OF EDUCATION
LIBERTY HIGH SCHOOL

125 NORTH HOPE CHAPEL ROAD
JACKSON, NJ 08527

FACILITY ENERGY REPORT

TABLE OF CONTENTS

I. HISTORIC ENERGY CONSUMPTION/COST

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.

Electric Utility Provider:	Jersey Central Power & Light
Electric Utility Rate Structure:	General Service Primary (GP)
Third Party Supplier:	Direct Energy

Natural Gas Utility Provider:	New Jersey Natural
Utility Rate Structure:	General Service Large (GSL)
Third Party Supplier:	None

The electric usage profile represents the actual electrical usage for the facility. 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 within each facility report shows the actual natural gas energy usage for the facility. 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.

Table 1
Electricity Billing Data

ELECTRIC USAGE SUMMARY			
Utility Provider: Jersey Central Power & Lighting			
Rate: GP			
Meter No: G21136362			
Account # 10-00-70-7752-73			
Third Party Utility Provider: Direct Energy			
TPS Meter / Acct No:			
MONTH OF USE	**CONSUMPTION KWH**	**DEMAND**	**TOTAL BILL**
Sep-09	349,438	1034.6	$43,843
Oct-09	332,704	1140.5	$43,800
Nov-09	313,721	829.4	$39,828
Dec-09	383,325	962.3	$49,600
Jan-10	416,807	1163.2	$62,430
Feb-10	414,905	1163.2	$56,085
Mar-10	378,880	1004.4	$48,451
Apr-10	331,342	882.9	$42,763
May-10	297,785	981.7	$42,186
Jun-10	337,829	1093.5	$49,404
Jul-10	371,772	1095.1	$66,057
Aug-10	344,320	941.2	$59,489
Totals	**4,272,828**	**1163.2 Max**	**$603,936**
AVERAGE DEMAND		**1024.3 KW average**	
AVERAGE RATE		**$0.141 $/kWh**	

Figure 1
Electricity Usage Profile

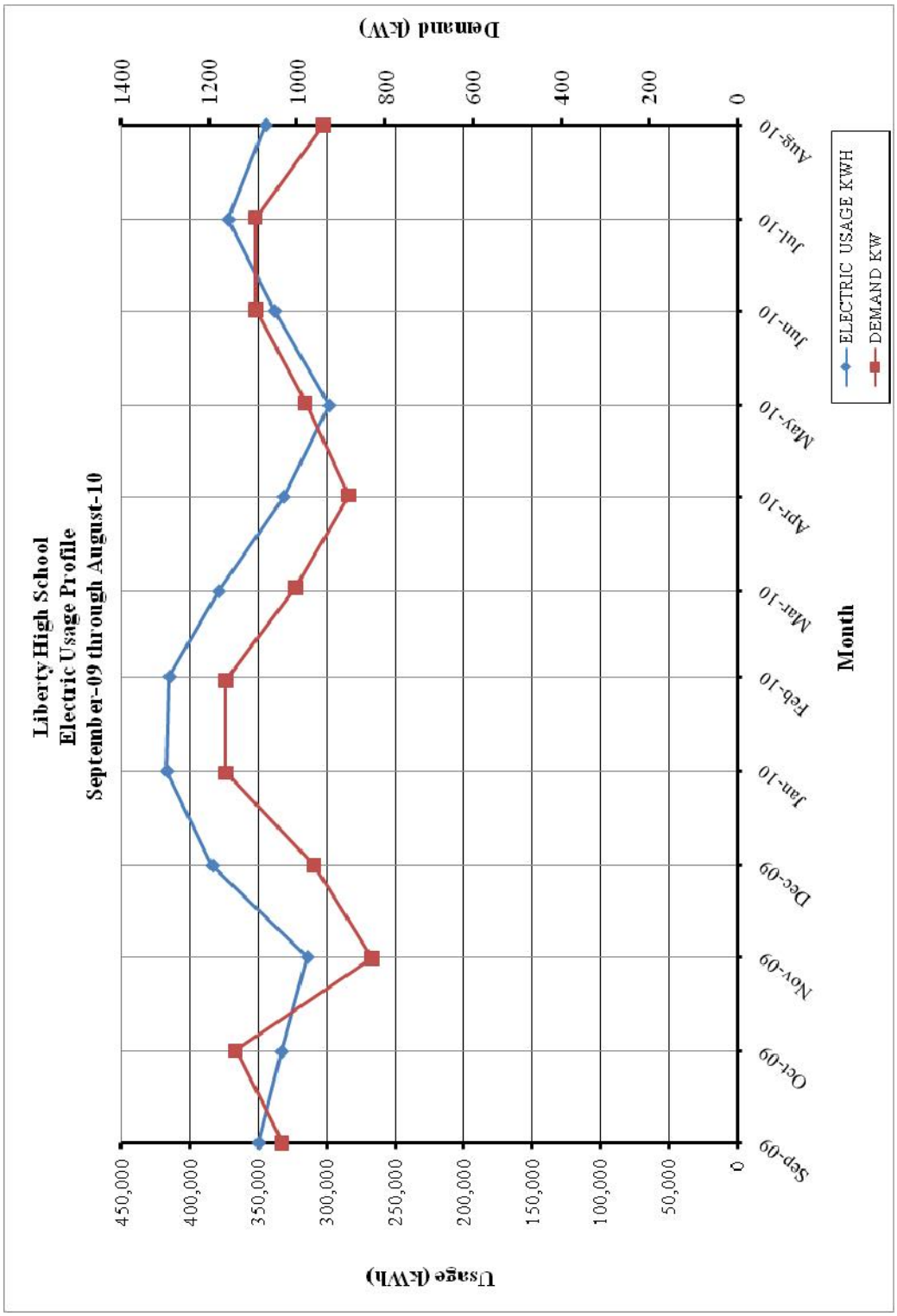
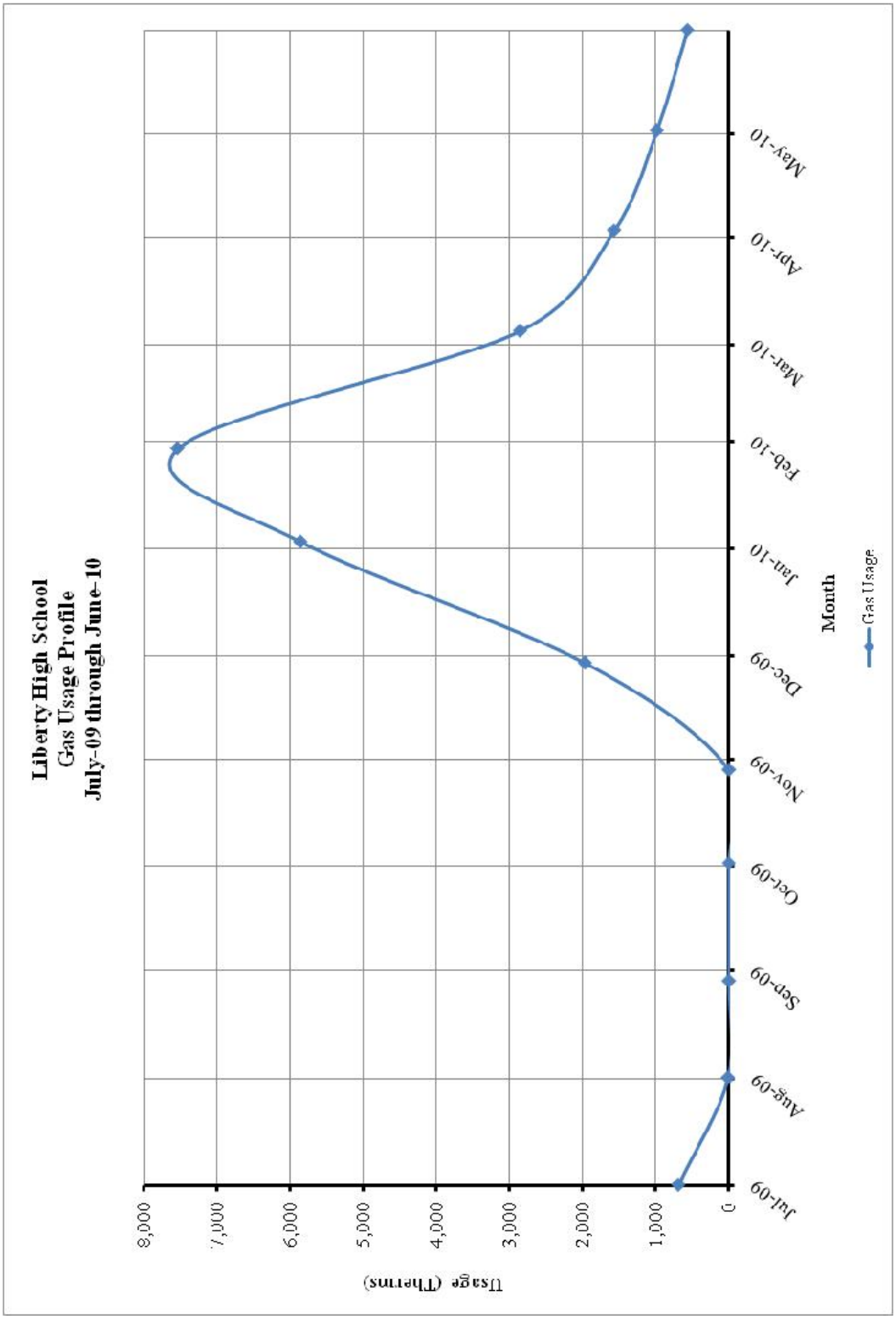


Table 4
Natural Gas Billing Data

NATURAL GAS USAGE SUMMARY		
Utility Provider: New Jersey Natural		
Rate: GSL		
Meter No: 00546260		
Point of Delivery ID: 22-0009-8372-37		
Third Party Utility Provider:		
TPS Meter No:		
MONTH OF USE	**CONSUMPTION (THERMS)**	**TOTAL BILL**
Jul-09	692.18	$1,070.92
Aug-09	12.37	$410.90
Sep-09	0.00	$399.46
Oct-09	0.00	$319.57
Nov-09	0.00	$399.46
Dec-09	1,967.62	$2,492.45
Jan-10	5,855.42	$7,295.39
Feb-10	7,535.00	$8,847.56
Mar-10	2,853.25	$3,495.51
Apr-10	1,570.14	$2,025.22
May-10	985.03	$1,310.09
Jun-10	566.00	$1,180.33
TOTALS	**22,037.01**	**$29,246.86**
AVERAGE RATE:	**$1.33**	**$/THERM**

Figure 2
Natural Gas Usage Profile



II. FACILITY DESCRIPTION

The 289,809 SF Jackson Liberty High School is a two story facility comprised of classrooms, gymnasium, cafeteria, kitchens, offices, media center, corridors, and restrooms. The typical hours of operation for this facility are between 7:00 am and 4:30 pm. Exterior walls are brick construction with insulation typical of the time period. The windows throughout the facility are in good condition and appear to be maintained. Typical windows throughout the facility are double pane, ¼" clear glass with aluminum frames. The 1st level roofing has built-up rubber with a fine rock overlay while the 2nd level roofing has a portion which built-up with a large stone overlay. The building was built in 2005 and has had no substantial additions since.

HVAC Systems

The first floor, second floor classrooms and offices are conditioned via Florida Heat Pump (FHP) horizontal ground source heat pumps located in the ceiling. Outdoor air is provided to these units through dedicated ventilation units on the roof that are fitted with energy recovery. The energy recovery units do not have heating or cooling coils and only utilize the wheel to precondition outdoor air.

The Gymnasium is conditioned via two 90 ton Trane Intellipak rooftop units with natural gas heat exchangers.

The Auditorium is conditioned via two 35 ton Trane Intellipak rooftop units with natural gas heat exchangers.

The Auxiliary Gymnasium is conditioned via two 35 ton Trane Precedent rooftop units with natural gas heat exchangers.

The ground source loop is circulated from the bore field to the building systems via three 75 horsepower pumps which run in a lead-lag setup and also have the thirst pump as a secondary backup.

Stairs, vestibules, and storage areas are heated only with small electric cabinet heaters. Each has on unit mounted controls with a fixed set point.

Exhaust System

Air is exhausted from the toilet rooms through the roof exhausters. Art rooms, 1st floor science rooms, concessions and kitchens all utilize Greenheck indirect gas fired heating and ventilating units one exhaust hood attached to a Greenheck combined fresh air/exhaust air system; the hood is operated only while the kitchen is in use from approximately 8:30 A.M. o 2:00 P.M. and is shut down while the cooking equipment is not being utilized.

HVAC System Controls

The HVAC systems within the facility are controlled via Johnson Controls Metasys front end. Each heat pump has a thermostat that allows the occupant to alter the set point by 1.5 degrees

Fahrenheit cooler or warmer. The school operates in occupied mode from 6 A.M. till 10 P.M. with a cooling set point of 72°F and 74°F, and heating set point of 70 °F and 68 °F

Domestic Hot Water

Domestic hot water for the building is provided by one Lochinvar Power-fin hot water heating boiler rated at 1,000,000 Btu/h and has a recovery rating of 1,057 gallons/ hour.

Lighting

Typical lighting throughout building is fluorescent tube lay-in fixtures with T-8 lamps and electronic ballasts. Storage rooms and closets lit with compact fluorescent lamps.

III. 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.

IV. ENERGY CONSERVATION MEASURES

Energy Conservation Measures are developed specifically for this facility. The energy savings and calculations are highly dependent on the information received from the site survey and interviews with operations personnel. The assumptions and calculations should be reviewed by the owner to ensure accurate representation of this facility. The following ECMs were analyzed:

Table 1
ECM Financial Summary

ENERGY CONSERVATION MEASURES (ECM's)					
ECM NO.	**DESCRIPTION**	**NET INSTALLATION COST[A]**	**ANNUAL SAVINGS[B]**	**SIMPLE PAYBACK (Yrs)**	**SIMPLE LIFETIME ROI**
ECM #1	Lighting Controls	$3,370	$357	9.4	58.9%
ECM #2	Vending Miser Controls	$1,674	$1,690	1.0	1414.3%
ECM #3	Refrigeration/Freezer Controls	$5,967	$667	8.9	67.7%
RENEWABLE ENERGY MEASURES (REM's)					
ECM NO.	**DESCRIPTION**	**NET INSTALLATION COST**	**ANNUAL SAVINGS**	**SIMPLE PAYBACK (Yrs)**	**SIMPLE LIFETIME ROI**
REM #1	1.7 MW Solar System	$9,891,025	$1,059,118	9.3	60.6%
Notes:	A. Cost takes into consideration applicable NJ Smart StartTM incentives.				
	B. Savings takes into consideration applicable maintenance savings.				

Table 2
ECM Energy Summary

ENERGY CONSERVATION MEASURES (ECM's)				
ECM NO.	DESCRIPTION	ANNUAL UTILITY REDUCTION		
		ELECTRIC DEMAND (KW)	ELECTRIC CONSUMPTION (KWH)	NATURAL GAS (THERMS)
ECM #1	Lighting Controls	1.4	2531.0	0.0
ECM #2	Vending Miser Controls	0.0	11990.0	0.0
ECM #3	Refrigeration/Freezer Controls	0.0	4080.0	0.0
RENEWABLE ENERGY MEASURES (REM's)				
ECM NO.	DESCRIPTION	ANNUAL UTILITY REDUCTION		
		ELECTRIC DEMAND (KW)	ELECTRIC CONSUMPTION (KWH)	NATURAL GAS (THERMS)
REM #1	1.7 MW Solar System	1778.7	2011217.0	0.0

Table 3
Facility Project Summary

ENERGY SAVINGS IMPROVEMENT PROGRAM - POTENTIAL PROJECT					
ENERGY CONSERVATION MEASURES	**ANNUAL ENERGY SAVINGS ($)**	**PROJECT COST ($)**	**SMART START INCENTIVES**	**CUSTOMER COST**	**SIMPLE PAYBACK**
Lighting Controls	$357	$3,750	$380	$3,370	9.4
Vending Miser Controls	$1,690	$1,674	$0	$1,674	1.0
Refrigeration/Freezer Controls	$667	$5,967	$0	$5,967	8.9
Design / Construction Extras (15%)		*$1,709*		*$1,709*	
Total Project	**$2,714**	**$13,100**	**$380**	**$12,720**	**4.7**

Design / Construction Extras is shown as an additional cost for the facility project summary. This cost is included to estimate the costs associated with construction management fees for a larger combined project.

ECM #1: Lighting Controls Upgrade – Occupancy Sensors

Description:

Some of the lights in the Liberty High School are left on unnecessarily. In many cases the lights are left on because of the inconvenience to manually switch lights off when a room is left or on when a room is first occupied. This is common in rooms that are occupied for only short periods and only a few times per day. In some instances lights are left on due to the misconception that it is better to keep the lights on rather than to continuously switch lights on and off. Although increased switching reduces lamp life, the energy savings outweigh the lamp replacement costs. The payback timeframe for when to turn the lights off is approximately two minutes. If the lights are expected to be off for at least a two minute interval, then it pays to shut them off.

Lighting controls come in many forms. Sometimes an additional switch is adequate to provide reduced lighting levels when full light output is not needed. Occupancy sensors detect motion and will switch the lights on when the room is occupied. Occupancy sensors can either be mounted in place of a current wall switch, or on the ceiling to cover large areas.

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:

- Occupancy Sensors for Lighting Control 20% - 28% energy savings.

Savings resulting from the implementation of this ECM for energy management controls are estimated to be 20% of the total light energy controlled by occupancy sensors and daylight sensors (The majority of the savings is expected to be after school hours when rooms are left with lights on)

This ECM includes installation of ceiling or switch mount sensors for individual offices, classrooms, large bathrooms, and libraries. Sensors shall be manufactured by Sensorswitch, Watt Stopper or equivalent. The **Investment Grade Lighting Audit Appendix** of this report includes the summary of lighting controls implemented in this ECM and outlines the proposed controls, costs, savings, and payback periods. The calculations adjust the lighting power usage by the applicable percent savings for each area that includes lighting controls.

Energy Savings Calculations:

$$\text{Energy Savings} = (\%\ \text{Savings} \times \text{Controlled Light Energy}\ (\text{kWh/Yr}))$$

$$\text{Savings.} = \text{Energy Savings}\,(\text{kWh}) \times \text{Ave Elec Cost}\left(\frac{\$}{\text{kWh}}\right)$$

Cost and Incentives:

Installation cost per dual-technology sensors (Basis: Sensor switch or equivalent) are as follows:

Dual Tech. Occupancy Sensor - Switch Mnt. $125 per installation

Cost includes material and labor.

From the **NJ Smart Start® Program Incentives Appendix**, the installation of a lighting control device warrants the following incentive:

Occupancy Sensor Fixture Mounted (existing facility only) = $20 per sensor
Occupancy Sensor Remote Mounted (existing facility only) = $35 per sensor

$$\text{Smart Start® Incentive} = (\#\text{ of wall mount} \times \$\,20) + (\#\text{of ceiling mount} \times \$35)$$
$$\text{Smart Start® Incentive} = (19\text{ wall mount} \times \$\,20) + (0\,\text{ceiling mount} \times \$35) = \$380$$

Energy Savings Summary:

ECM #1 - ENERGY SAVINGS SUMMARY	
Installation Cost ($):	$3,750
NJ Smart Start Equipment Incentive ($):	$380
Net Installation Cost ($):	$3,370
Maintenance Savings ($/Yr):	$0
Energy Savings ($/Yr):	$357
Total Yearly Savings ($/Yr):	$357
Estimated ECM Lifetime (Yr):	15
Simple Payback	9.4
Simple Lifetime ROI	58.9%
Simple Lifetime Maintenance Savings	$0
Simple Lifetime Savings	$5,355
Internal Rate of Return (IRR)	6%
Net Present Value (NPV)	$891.84

ECM #2: Vending Miser Controls

Description:

The Jackson Liberty High School currently utilizes vending machines in select areas within the building. Vending machines are common within cafeteria's and faculty rooms which can be in use for a limited time during the day. The installation of the Vending Miser system will help reduce the operating hours of vending machines.

Cold beverage machines regularly operate inefficiently trying to maintain a constant cool temperature within the machine. The VendingMiser® system incorporates innovative energy-saving technology into a small plug-and-play device that in conjunction with a passive infrared sensor regulate the operation of the cold beverage machines based on occupancy and room temperature. This ECM approximates the installation of six (6) of these control systems for the cold beverage machines.

Energy Savings Calculations:

See **Vending Miser Appendix** for calculation methods and analysis.

Energy Savings Summary:

ECM #2 - ENERGY SAVINGS SUMMARY	
Installation Cost ($):	$1,674
NJ Smart Start Equipment Incentive ($):	$0
Net Installation Cost ($):	$1,674
Maintenance Savings ($/Yr):	$0
Energy Savings ($/Yr):	$1,690
Total Yearly Savings ($/Yr):	$1,690
Estimated ECM Lifetime (Yr):	15
Simple Payback	1.0
Simple Lifetime ROI	1414.3%
Simple Lifetime Maintenance Savings	$0
Simple Lifetime Savings	$25,350
Internal Rate of Return (IRR)	101%
Net Present Value (NPV)	$18,501.11

ECM #3: Walk-in Cooler/Freezer Controls

Description:

The one (1) refrigerated walk-in cooler/freezer has a bank of evaporator fans that circulate the cold air over and under the food. These banks of evaporator fans (1/15 HP motors) run continuously and give off heat that must be removed by the refrigeration.

This measure would install an evaporator fan controller that features two-speed operation of the evaporator fans – high speed during cooling, and low speed when not cooling manufactured by Frigitek or equivalent. The estimated energy savings assumes that the cooler is not opened for 10 hours per day.

Energy Savings Calculations:

Installing a controllers on each of the four (4) evaporator fan motors in the two (2) walk-in cooler/freezer would save approximately 340 kWh/month x 12 months = 4,080 kWh/Year.

Annual Energy Cost Savings = 4,080 kWh x $0.141/kWh = $667.13/Year

Energy Savings Summary:

ECM #3 - ENERGY SAVINGS SUMMARY	
Installation Cost ($):	$5,967
NJ Smart Start Equipment Incentive ($):	$0
Net Installation Cost ($):	$5,967
Maintenance Savings ($/Yr):	$0
Energy Savings ($/Yr):	$667
Total Yearly Savings ($/Yr):	$667
Estimated ECM Lifetime (Yr):	15
Simple Payback	8.9
Simple Lifetime ROI	67.7%
Simple Lifetime Maintenance Savings	$0
Simple Lifetime Savings	$10,007
Internal Rate of Return (IRR)	7%
Net Present Value (NPV)	$1,997.19

REM #1: 1.7 MW Solar System

Description:

The Liberty School has available land and parking lot space that could accommodate a significant amount of solar generation. Based on the available areas a 1,778.72 kilowatt solar array could be installed, assuming the ground space is available for development of the system. The array will produce approximately 2,011,217 kilowatt-hours annually that will reduce the overall electric usage of the facility by 47.1%.

Energy Savings Calculations:

See **Renewable / Distributed Energy Measures Calculations Appendix** for detailed financial summary and proposed solar layout areas. Financial results in table below are based on 100% financing of the system over a fifteen year period.

Energy Savings Summary:

REM #1 - ENERGY SAVINGS SUMMARY	
System Size (KW_{DC}):	1,778.72
Electric Generation (KWH/Yr):	2,011,217
Installation Cost ($):	$9,891,025
SREC Revenue ($/Yr):	$775,536
Energy Savings ($/Yr):	$283,582
Total Yearly Savings ($/Yr):	$1,059,117
ECM Analysis Period (Yr):	15
Simple Payback (Yrs):	9.3
Analysis Period Electric Savings ($):	$5,274,310
Analysis Period SREC Revenue ($):	$11,234,570
Net Present Value (NPV)	$1,211,568.31

V. 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. Turn off computers when not in use. Ensure computers are not running in screen saver mode which saves the monitor screen not energy.

F. Ensure outside air dampers are functioning properly and only open during occupied mode.

G. Educate staff and students on awareness of wasteful energy practices such as leaving lights on unnecessarily, leaving on of non-essential computer and/or equipment at the end of the day, leaving of outside doors/windows open as a means to control room temperature, etc

APPENDIX A

ECM COST & SAVINGS BREAKDOWN

CONCORD ENGINEERING GROUP

Jackson Township Public Schools - Liberty High 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 Controls	$3,000	$750	$380	$3,370	$357	$0	$357	15	$5,355	$0	58.9%	9.4	6.44%	$891.84
ECM #2	Vending Miser Controls	$1,074	$600	$0	$1,674	$1,690	$0	$1,690	15	$25,350	$0	1414.3%	1.0	100.95%	$18,501.11
ECM #3	Refrigeration/Freezer Controls	$5,967	$0	$0	$5,967	$667	$0	$667	15	$10,007	$0	67.7%	8.9	7.29%	$1,997.19
REM RENEWABLE ENERGY AND FINANCIAL COSTS AND SAVINGS SUMMARY															
REM #1	1.7 MW Solar System	$9,891,025	$0	$0	$9,891,025	$283,582	$775,536	$1,059,118	15	$15,886,770	$11,633,040	60.6%	9.3	6.61%	$2,752,656.93

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* .

APPENDIX B

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 15, 2011:

Electric Chillers

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

Energy Efficiency must comply with ASHRAE 90.1-2007

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 - $92 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 90.1-2007

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%

Ground Source Heat Pumps

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

Energy Efficiency must comply with ASHRAE 90.1-2007

Variable Frequency Drives

Variable Air Volume	$65 - $155 per hp
Chilled-Water Pumps	$60 per VFD rated hp
Compressors	$5,250 to $12,500 per drive
Cooling Towers ≥ 10 hp	$60 per VFD rated hp

Natural Gas Water Heating

Gas Water Heaters ≤ 50 gallons, 0.67 energy factor or better	$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

Prescriptive Lighting

Retro fit of T12 to T-5 or T-8 Lamps w/Electronic Ballast in Existing Facilities	$10 per fixture (1-4 lamps)
Replacement of T12 with new T-5 or T-8 Lamps w/Electronic Ballast in Existing Facilities	$25 per fixture (1-4 lamps)
Replacement of incandescent with screw-in PAR 38 or PAR 30 (CFL) bulb	$7 per bulb
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 Including Parking Lot	$25 per fixture
T-5 and T-8 High Bay Fixtures	$16 - $200 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

Prescriptive Lighting - LED

LED New Exit Sign Fixture Existing Facility < 75 kw Existing Facility > 75 kw	 $20 per fixture $10 per fixture
LED Display Case Lighting	$30 per display case
LED Shelf-Mtd. Display & Task Lights	$15 per linear foot
LED Portable Desk Lamp	$20 per fixture
LED Wall-wash Lights	$30 per fixture
LED Recessed Down Lights	$35 per fixture
LED Outdoor Pole/Arm-Mounted Area and Roadway Luminaries	$175 per fixture
LED Outdoor Pole/Arm-Mounted Decorative Luminaries	$175 per fixture
LED Outdoor Wall-Mounted Area Luminaries	$100 per fixture
LED Parking Garage Luminaries	$100 per fixture
LED Track or Mono-Point Directional Lighting Fixtures	$50 per fixture
LED High-Bay and Low-Bay Fixtures for Commercial & Industrial Bldgs.	$150 per fixture
LED High-Bay-Aisle Lighting	$150 per fixture
LED Bollard Fixtures	$50 per fixture
LED Linear Panels (2x2 Troffers only)	$100 per fixture
LED Fuel Pump Canopy	$100 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

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

Other Equipment Incentives

Performance Lighting	$1.00 per watt per SF below program incentive threshold, currently 5% more energy efficient than ASHRAE 90.1-2007 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%

APPENDIX C

STATEMENT OF ENERGY PERFORMANCE
Jackson Twp BOE - Liberty High School

Building ID: 2704308
For 12-month Period Ending: June 30, 2010[1]
Date SEP becomes ineligible: N/A

Date SEP Generated: June 29, 2011

Facility
Jackson Twp BOE - Liberty High School
125 North Hope Chapel Road
Jackson, NJ 08527

Facility Owner
Concord Engineering
520 South Burnt Mill Road
Voorhees, NJ 08043

Primary Contact for this Facility
N/A

Year Built: 2005
Gross Floor Area (ft²): 289,809

Energy Performance Rating[2] (1-100) 29

Site Energy Use Summary[3]

Electricity - Grid Purchase(kBtu)	14,486,857
Natural Gas (kBtu)[4]	2,203,699
Total Energy (kBtu)	16,690,556

Energy Intensity[5]

Site (kBtu/ft²/yr)	58
Source (kBtu/ft²/yr)	175

Emissions (based on site energy use)

Greenhouse Gas Emissions ($MtCO_2e$/year)	2,169

Electric Distribution Utility
Jersey Central Power & Light Co [FirstEnergy Corp]

National Average Comparison

National Average Site EUI	48
National Average Source EUI	145
% Difference from National Average Source EUI	21%
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.

Certifying Professional
N/A

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**

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. Values represent energy intensity, annualized to a 12-month period.
5. 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) or a Registered Architect (RA) 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 or RA 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	Jackson Twp BOE - Liberty High 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	125 North Hope Chapel Road, Jackson, NJ 08527	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		☐
Jackson Twp BOE - Liberty High School (K-12 School)				
CRITERION	**VALUE AS ENTERED IN PORTFOLIO MANAGER**	**VERIFICATION QUESTIONS**	**NOTES**	☑
Gross Floor Area	289,809 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	300	Is this the number of personal computers in the K12 School?		☐
Number of walk-in refrigeration/freezer units	3	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	100 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		☐
Percent Heated	100 %	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?	Yes	Is this building a high school (teaching grades 10, 11, and/or 12)? If the building teaches to high school students at all, the user should check 'yes' to 'high school'. For example, if the school teaches to grades K-12 (elementary/middle and high school), the user should check 'yes' to 'high school'.		☐

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

Power Generation Plant or Distribution Utility: Jersey Central Power & Light Co [FirstEnergy Corp]

Fuel Type: Electricity

Meter: Electric (kWh (thousand Watt-hours))
Space(s): Entire Facility
Generation Method: Grid Purchase

Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
06/01/2010	06/30/2010	337,829.00
05/01/2010	05/31/2010	297,785.00
04/01/2010	04/30/2010	331,342.00
03/01/2010	03/31/2010	378,880.00
02/01/2010	02/28/2010	414,905.00
01/01/2010	01/31/2010	416,807.00
12/01/2009	12/31/2009	383,325.00
11/01/2009	11/30/2009	313,721.00
10/01/2009	10/31/2009	332,704.00
09/01/2009	09/30/2009	349,438.00
08/01/2009	08/31/2009	360,196.00
07/01/2009	07/31/2009	328,923.00

Electric Consumption (kWh (thousand Watt-hours))	**4,245,855.00**
Electric Consumption (kBtu (thousand Btu))	**14,486,857.26**
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))	**14,486,857.26**
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?	☐

Fuel Type: Natural Gas

Meter: Gas (therms)
Space(s): Entire Facility

Start Date	End Date	Energy Use (therms)
06/01/2010	06/30/2010	566.00
05/01/2010	05/31/2010	985.00
04/01/2010	04/30/2010	1,570.10
03/01/2010	03/31/2010	2,853.30
02/01/2010	02/28/2010	7,535.00
01/01/2010	01/31/2010	5,855.42
12/01/2009	12/31/2009	1,967.62
11/01/2009	11/30/2009	0.00
10/01/2009	10/31/2009	0.00
09/01/2009	09/30/2009	0.00

08/01/2009	08/31/2009	12.37
07/01/2009	07/31/2009	692.18
Gas Consumption (therms)		**22,036.99**
Gas Consumption (kBtu (thousand Btu))		**2,203,699.00**
Total Natural Gas Consumption (kBtu (thousand Btu))		**2,203,699.00**
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 PE or RA 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
Jackson Twp BOE - Liberty High School
125 North Hope Chapel Road
Jackson, NJ 08527

Facility Owner
Concord Engineering
520 South Burnt Mill Road
Voorhees, NJ 08043

Primary Contact for this Facility
N/A

General Information

Jackson Twp BOE - Liberty High School	
Gross Floor Area Excluding Parking: (ft^2)	289,809
Year Built	2005
For 12-month Evaluation Period Ending Date:	June 30, 2010

Facility Space Use Summary

Jackson Twp BOE - Liberty High School	
Space Type	K-12 School
Gross Floor Area(ft^2)	289,809
Open Weekends?	No
Number of PCs	300
Number of walk-in refrigeration/freezer units	3
Presence of cooking facilities	Yes
Percent Cooled	100
Percent Heated	100
Months[o]	10
High School?	Yes
School District[o]	N/A

Energy Performance Comparison

	Evaluation Periods		Comparisons		
Performance Metrics	**Current** (Ending Date 06/30/2010)	**Baseline** (Ending Date 05/31/2010)	**Rating of 75**	**Target**	**National Average**
Energy Performance Rating	29	25	75	N/A	50
Energy Intensity					
Site (kBtu/ft^2)	58	58	37	N/A	48
Source (kBtu/ft^2)	175	176	113	N/A	145
Energy Cost					
$/year	N/A	N/A	N/A	N/A	N/A
$/$ft^2$/year	N/A	N/A	N/A	N/A	N/A
Greenhouse Gas Emissions					
$MtCO_2e$/year	2,169	2,182	1,403	N/A	1,794
$kgCO_2e/ft^2$/year	7	8	5	N/A	6

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.

APPENDIX D

MAJOR EQUIPMENT LIST

Concord Engineering Group

Jackson Township BOE - Jackson Liberty High School

Rooftop / AC Units

Tag	HR-1,2,3,7,12	HR-5,6,8,9,23	HR-4,10,14
Unit Type	Ducted Heat Recovery Ventilator	Ducted Heat Recovery Ventilator	Ducted Heat Recovery Ventilator
Qty	5	5	3
Location	Roof	Roof	Roof
Area Served	Various Classrooms	Various Classrooms	Various Classrooms
Manufacturer	Venmar	Venmar	Venmar
Model #	ERV500E	E3E	ERV1500E
Serial #	-	-	-
Cooling Type	N/A	N/A	N/A
Cooling Capacity (Tons)	N/A	N/A	N/A
Cooling Efficiency (SEER/EER)	76% Cooling Effectiveness	65% Cooling Effectiveness	73% Cooling Effectiveness
Heating Type	N/A	N/A	N/A
Heating Input (MBH)	N/A	N/A	N/A
Efficiency	78% Heating Effectiveness	70% Heating Effectiveness	70% Heating Effectiveness
Fuel	Energy Wheel	Energy Wheel	Energy Wheel
Approx Age	7	7	7
ASHRAE Service Life	15	15	15
Remaining Life	8	8	8
Comments	Supply: 1/4 HP Exhaust: 3/4 HP	Supply: 2 HP Exhaust: 3 HP	Supply: .75 HP Exhaust: 1.50 HP

Rooftop / AC Units

Tag	MUA-3,5,6	HR-11,20,21	HR-10
Unit Type	Make Up Air Unit	Ducted Heat Recovery Ventilator	Ducted Heat Recovery Ventilator
Qty	3	3	1
Location	Roof	Roof	Roof
Area Served	Kitchen 174/ Concessions 335	Various Classrooms	Various Classrooms
Manufacturer	Greenheck	Venmar	Venmar
Model #	IGX-112-H22-DB	E3E	ERV1500E
Serial #	04J23776	-	-
Cooling Type	N/A	N/A	N/A
Cooling Capacity (Tons)	N/A	N/A	N/A
Cooling Efficiency (SEER/EER)	N/A	65% Cooling Effectiveness	73% Cooling Effectiveness
Heating Type	Gas Fired	N/A	N/A
Heating Input (MBH)	300 MBH	N/A	N/A
Efficiency	80%	70% Heating Effectiveness	70% Heating Effectiveness
Fuel	Nat Gas	Energy Wheel	Energy Wheel
Approx Age	7	7	7
ASHRAE Service Life	15	15	15
Remaining Life	8	8	8
Comments		Supply: 1.5 HP Exhaust: 1.5 HP	Supply: .5 HP Exhaust: .5 HP

Rooftop / AC Units

Tag	HR-13,16,17,18	HR-19,24	HR-27,31,32
Unit Type	Ducted Heat Recovery Ventilator	Ducted Heat Recovery Ventilator	Ducted Heat Recovery Ventilator
Qty	4	2	3
Location	Roof	Roof	Roof
Area Served	Various Classrooms	Various Classrooms	Various Classrooms
Manufacturer	Venmar	Venmar	Venmar
Model #	ERV1500E	ERV1500E	E3E
Serial #	-	-	-
Cooling Type	N/A	N/A	N/A
Cooling Capacity (Tons)	N/A	N/A	N/A
Cooling Efficiency (SEER/EER)	73% Cooling Effectiveness	73% Cooling Effectiveness	65% Cooling Effectiveness
Heating Type	N/A	N/A	N/A
Heating Input (MBH)	N/A	N/A	N/A
Efficiency	70% Heating Effectiveness	70% Heating Effectiveness	70% Heating Effectiveness
Fuel	Energy Wheel	Energy Wheel	Energy Wheel
Approx Age	7	7	7
ASHRAE Service Life	15	15	15
Remaining Life	8	8	8
Comments	Supply: 1.0 HP Exhaust: 1.5 HP	Supply: 1.5 HP Exhaust: 2.0 HP	Supply: 1.5 HP Exhaust: 2.0 HP

Rooftop / AC Units

Tag	MUA-7	CU-1	MUA-1
Unit Type	Make Up Air Unit	Refrigeratino Unit	Make Up Air Unit
Qty	1	1	1
Location	Roof	Roof	Roof
Area Served	Kitchen 195	B Kitchen	Art rooms
Manufacturer	Greenheck	Bally	Greenheck
Model #	IGX-110-H12-DBC	BESA008H2-HT3A-B	IGX-108-H12-DB
Serial #	04J22392	50101584	04J22391
Cooling Type	N/A	Air Cooled	N/A
Cooling Capacity (Tons)	N/A	4/5 HP	N/A
Cooling Efficiency (SEER/EER)	N/A	-	N/A
Heating Type	Gas Fired	N/A	Gas Fired
Heating Input (MBH)	200 MBH	N/A	200 MBH
Efficiency	80%	N/A	80%
Fuel	Nat Gas	R-22	Nat Gas
Approx Age	7	7	7
ASHRAE Service Life	15	15	15
Remaining Life	8	8	8
Comments	PVF-200		PVF-200

Rooftop / AC Units

Tag	CU-2	HR-15	MUA-4
Unit Type	Refrigeration Unit	Ducted Heat Recovery Ventilator	Make Up Air Unit
Qty	1	1	1
Location	Roof	Roof	Roof
Area Served	C Kitchen	Various Classrooms	Art Rooms
Manufacturer	Bally	Venmar	Greenheck
Model #	BEHA030L6-HT3A-F	ERV1500E	IGX-108-H12-DB
Serial #	50101574	-	04J22393
Cooling Type	Air Cooled	N/A	N/A
Cooling Capacity (Tons)	3.0 HP	N/A	N/A
Cooling Efficiency (SEER/EER)	-	73% Cooling Effectiveness	N/A
Heating Type	N/A	N/A	Gas Fired
Heating Input (MBH)	N/A	N/A	100 MBH
Efficiency	N/A	70% Heating Effectiveness	80%
Fuel	R-22	Energy Wheel	Nat Gas
Approx Age	7	7	7
ASHRAE Service Life	15	15	15
Remaining Life	8	8	8
Comments		Supply: 1.5 HP Exhaust: 1.5 HP	PVF-100

Rooftop / AC Units

Tag	CU-3	HR-29,33	HR-25,30
Unit Type	Refrigeration Unit	Ducted Heat Recovery Ventilator	Ducted Heat Recovery Ventilator
Qty	1	2	2
Location	Roof	Roof	Roof
Area Served	C Kitchen	Various Classrooms	Various Classrooms
Manufacturer	Bally	Venmar	Venmar
Model #	BEHA015H2-HT3A-B	E3E	E3E
Serial #	50202991	-	-
Cooling Type	Air Cooled	N/A	N/A
Cooling Capacity (Tons)	1.5 HP	N/A	N/A
Cooling Efficiency (SEER/EER)	-	65% Cooling Effectiveness	65% Cooling Effectiveness
Heating Type	N/A	N/A	N/A
Heating Input (MBH)	N/A	N/A	N/A
Efficiency	N/A	70% Heating Effectiveness	70% Heating Effectiveness
Fuel	R-22	Energy Wheel	Energy Wheel
Approx Age	7	7	7
ASHRAE Service Life	15	15	15
Remaining Life	8	8	8
Comments		Supply: 1.0 HP Exhaust: 1.5 HP	Supply: 3.0 HP Exhaust: 3.0 HP

Rooftop / AC Units

Tag	CU-4	HR-22,28	MUA-2
Unit Type	Split System Condensing Unit	Ducted Heat Recovery Ventilator	Make Up Air Unit
Qty	1	2	1
Location	Roof	Roof	Roof
Area Served	Gym Storage	Various Classrooms	1st floor science rooms
Manufacturer	Mitsubishi	Venmar	Greenheck
Model #	Out - MUM18NW In - MS09NW x 2	E3E	DG-112-H20-HZ
Serial #	-	-	04J23762
Cooling Type	DX, R-22	N/A	N/A
Cooling Capacity (Tons)	1.5 Tons	N/A	N/A
Cooling Efficiency (SEER/EER)		65% Cooling Effectiveness	N/A
Heating Type	N/A	N/A	Gas Fired
Heating Input (MBH)	N/A	N/A	258.5 MBH
Efficiency	N/A	70% Heating Effectiveness	80%
Fuel	N/A	Energy Wheel	Nat Gas
Approx Age	7	7	7
ASHRAE Service Life	15	15	15
Remaining Life	8	8	8
Comments		Supply: 5 HP Exhaust: 7.5 HP	PVF-100

Rooftop / AC Units

Tag	HR-26	RT-1,2	RTU-3,4
Unit Type	Ducted Heat Recovery Ventilator	Packaged Rooftop Unit	Packaged Rooftop Unit
Qty	1	2	2
Location	Roof	Roof	Roof
Area Served	Various Classrooms	Gymnasium	Auxilary Gym
Manufacturer	Venmar	Trane Intellipak	Trane Precedent
Model #	E3E	SFHGC904JZ00ACAD 1D01A0C00G0L00RT	YHC120
Serial #	-	C04M10551	505100995L
Cooling Type	N/A	DX, R-22	DX, R-22
Cooling Capacity (Tons)	N/A	90 Tons	10 Tons
Cooling Efficiency (SEER/EER)	65% Cooling Effectiveness	9 EER	12.5 EER
Heating Type	N/A	NG HX	NG HX
Heating Input (MBH)	N/A	1,000 MBH	200 MBH
Efficiency	70% Heating Effectiveness	82%	70%
Fuel	Energy Wheel	Nat Gas	Nat Gas
Approx Age	7	7	7
ASHRAE Service Life	15	15	15
Remaining Life	8	8	8
Comments	Supply: 3.0 HP Exhaust: 5.0 HP		

Rooftop / AC Units

Tag	RT-5,6	HP-1-17	
Unit Type	Packaged Rooftop Unit	Ground Source Heat Pumps	
Qty	2	17	
Location	Roof	Ceilings	
Area Served	Auditorium	Liberty HS	
Manufacturer	Trane Voyager	Florida Heat Pump	
Model #	YCH420	EM007-EM120	
Serial #	C04M10530	-	
Cooling Type	DX, R-22	Geothermal	
Cooling Capacity (Tons)	35 Tons	7.5 - 123 MBH	
Cooling Efficiency (SEER/EER)	9 EER	12.2 - 16.2 EER	
Heating Type	NG HX	Geothermal	
Heating Input (MBH)	600 MBH	5.9 - 93.8 MBH	
Efficiency	81%	2.7 - 3.7 COP	
Fuel	Nat Gas	HW	
Approx Age	7	7	
ASHRAE Service Life	15	15	
Remaining Life	8	8	
Comments			

MAJOR EQUIPMENT LIST

Concord Engineering Group

Jackson Township BOE - Jackson Liberty High School

Domestic Water Heaters

Tag	HWH-1		
Unit Type	High Efficiency Hot Water Heater		
Qty	1		
Location	Mechanical Room		
Area Served	Liberty HS		
Manufacturer	Lochinvar		
Model #	PFN1000PM		
Serial #	E04H00164368		
Size (Gallons)	-		
Input Capacity (MBH/KW)	1,000 MBH		
Recovery (Gal/Hr)	1,057 Gal/hr		
Efficiency %	85%		
Fuel	Nat Gas		
Approx Age	7		
ASHRAE Service Life	12		
Remaining Life	5		
Comments			

MAJOR EQUIPMENT LIST

Concord Engineering Group

Jackson Township BOE - Jackson Liberty High School

Pumps

Tag	HP-1,2,3		
Unit Type	End Suction		
Qty	3		
Location	Mechanical Room		
Area Served	Heat Pumps		
Manufacturer	Taco		
Model #	FI3009E2PAJ1LAA		
Serial #	EC05827/27		
Horse Power	75 HP		
Flow	810 GPM @ 250 FT HD		
Motor Info	Baldor Super-E		
Electrical Power	230/460/3/60		
RPM	3540 RPM		
Motor Efficiency %	94.5%		
Approx Age	7		
ASHRAE Service Life	20		
Remaining Life	13		
Comments	Badlor Model: EM24549T, SN:Z0301170052		

MAJOR EQUIPMENT LIST

Concord Engineering Group

Jackson Township BOE - Jackson Liberty High School

Unit Heaters

Tag			
Unit Type	Electric Unit Heater		
Qty	3		
Location	Mechancial Room		
Area Served	Mechancial Room		
Manufacturer	Indeeco		
Model #	239-U105N-6		
Serial #	-		
Heating Type	Electric		
Heating Capacity (MBH/KW)	5.00 KW		
CFM	-		
RPM/HP	-		
GPM	-		
Approx Age	7		
Ashrae Service Life	20		
Remaining Life	13		
Comments			

APPENDIX E

CEG Job #: 9C11003
Project: Jackson Township Liberty High School
Address: 125 North Hope Chapel Road
Jackson, NJ 08527
Building SF: 289,809

KWH COST: $0.141

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.22	A102	1800	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.52	928.8	$130.96	6	0	No Change	86	0.52	0%	928.8	$130.96	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	A104	1800	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.52	928.8	$130.96	6	0	No Change	86	0.52	0%	928.8	$130.96	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	A104	1800	5	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.34	612	$86.29	5	0	No Change	68	0.34	0%	612	$86.29	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	A104A	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.21	20%	371.52	$52.38	$125.00	$125.00	0.05	92.88	$13.10	9.54
232.22	A104B	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	619.2	$87.31	4	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.28	20%	495.36	$69.85	$125.00	$125.00	0.07	123.84	$17.46	7.16
232.22	A104C	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.21	20%	371.52	$52.38	$125.00	$125.00	0.05	92.88	$13.10	9.54
232.22	A104D	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.21	20%	371.52	$52.38	$125.00	$125.00	0.05	92.88	$13.10	9.54
232.22	A104E	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.21	20%	371.52	$52.38	$125.00	$125.00	0.05	92.88	$13.10	9.54
232.22	A104F	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.14	20%	247.68	$34.92	$125.00	$125.00	0.03	61.92	$8.73	14.32
222.21	A104 LAV	1000	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	62	$8.74	1	0	No Change	62	0.06	0%	62	$8.74	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	A104G	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.21	20%	371.52	$52.38	$125.00	$125.00	0.05	92.88	$13.10	9.54
232.22	A104H	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	A104I	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	619.2	$87.31	4	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.28	20%	495.36	$69.85	$125.00	$125.00	0.07	123.84	$17.46	7.16
232.22	A106	1800	11	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.95	1702.8	$240.09	11	0	No Change	86	0.95	0%	1702.8	$240.09	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	A108	1800	10	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.86	1548	$218.27	10	0	No Change	86	0.86	0%	1548	$218.27	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.22	A108A	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.21	20%	371.52	$52.38	$125.00	$125.00	0.05	92.88	$13.10	9.54
232.22	A108B	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.21	20%	371.52	$52.38	$125.00	$125.00	0.05	92.88	$13.10	9.54
232.21	A108 LAV	1000	1	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.09	86	$12.13	1	0	No Change	86	0.09	0%	86	$12.13	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	A108D	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	619.2	$87.31	4	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.28	20%	495.36	$69.85	$125.00	$125.00	0.07	123.84	$17.46	7.16
232.22	A108E	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	619.2	$87.31	4	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.28	20%	495.36	$69.85	$125.00	$125.00	0.07	123.84	$17.46	7.16
232.22	A108F	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	0	No Change	86	0.26	0%	464.4	$65.48	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	A108G	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.21	20%	371.52	$52.38	$125.00	$125.00	0.05	92.88	$13.10	9.54
232.22	A108H	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.21	20%	371.52	$52.38	$125.00	$125.00	0.05	92.88	$13.10	9.54
232.22	A108I	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.21	20%	371.52	$52.38	$125.00	$125.00	0.05	92.88	$13.10	9.54
232.23	A110	1800	17	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.46	2631.6	$371.06	17	0	No Change	86	1.46	0%	2631.6	$371.06	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	A110A	500	2	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.12	62	$8.74	2	0	No Change	62	0.12	0%	62	$8.74	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	A101	1800	26	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	1.33	2386.8	$336.54	26	0	No Change	51	1.33	0%	2386.8	$336.54	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	A101 WORK RM	1800	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.52	928.8	$130.96	6	0	No Change	86	0.52	0%	928.8	$130.96	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	A101C	1800	2	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.10	183.6	$25.89	2	0	No Change	51	0.10	0%	183.6	$25.89	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	A101 LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	A101D	1800	5	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.43	774	$109.13	5	0	No Change	86	0.43	0%	774	$109.13	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS										SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.23	A101 CONF	1800	3	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	0.26	464.4	$65.48	3	0	No Change	86	0.26	0%	464.4	$65.48	$0.00	$0.00	0.00	0	$0.00	0.00
34	A101 CONF	1800	8	1	Recessed Down Light, 26w Quad Lamp	26	0.21	374.4	$52.79	8	0	No Change	26	0.21	0%	374.4	$52.79	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	A101 OFFICE	1800	4	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.20	367.2	$51.78	4	1	Dual Technology Occupancy Sensor - Switch Mnt.	51	0.16	20%	293.76	$41.42	$125.00	$125.00	0.04	73.44	$10.36	12.07
237.22	A101 OFFICE	1800	4	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.20	367.2	$51.78	4	1	Dual Technology Occupancy Sensor - Switch Mnt.	51	0.16	20%	293.76	$41.42	$125.00	$125.00	0.04	73.44	$10.36	12.07
222.21	A101 STORAGE	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	IDF	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	A105	1800	13	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.66	1193.4	$168.27	13	0	No Change	51	0.66	0%	1193.4	$168.27	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	A105 OFFICE	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.14	20%	247.68	$34.92	$125.00	$125.00	0.03	61.92	$8.73	14.32
232.22	A105 OFFICE	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.14	20%	247.68	$34.92	$125.00	$125.00	0.03	61.92	$8.73	14.32
232.22	A105 OFFICE	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.14	20%	247.68	$34.92	$125.00	$125.00	0.03	61.92	$8.73	14.32
232.22	A105 OFFICE	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.14	20%	247.68	$34.92	$125.00	$125.00	0.03	61.92	$8.73	14.32
232.22	A105 OFFICE	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.14	20%	247.68	$34.92	$125.00	$125.00	0.03	61.92	$8.73	14.32
232.22	A105 OFFICE	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.14	20%	247.68	$34.92	$125.00	$125.00	0.03	61.92	$8.73	14.32
232.22	A105 OFFICE	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.21	20%	371.52	$52.38	$125.00	$125.00	0.05	92.88	$13.10	9.54
232.22	A105 WORK RM	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	A105 CONF RM	1800	4	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.20	367.2	$51.78	4	0	No Change	51	0.20	0%	367.2	$51.78	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
222.21	A105 LAV	1000	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	62	$8.74	1	0	No Change	62	0.06	0%	62	$8.74	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	BOYS LAV	3000	4	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.27	816	$115.06	4	0	No Change	68	0.27	0%	816	$115.06	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	GIRLS LAV	3000	4	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.27	816	$115.06	4	0	No Change	68	0.27	0%	816	$115.06	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	A107	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B101	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B103	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B105	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B107	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B109	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B111	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B113	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	B115	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	B117	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	B119	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	B121	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	B123	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.22	B125	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B127	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	B100C2	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	BOYS LAV	3000	3	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.20	612	$86.29	3	0	No Change	68	0.20	0%	612	$86.29	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	GIRLS LAV	3000	3	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.20	612	$86.29	3	0	No Change	68	0.20	0%	612	$86.29	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	FAC LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	FAC LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
35	B102	3000	48	2	Recessed Down Light, 2 Lamp, 42w	84	4.03	12096	$1,705.54	48	0	No Change	84	4.03	0%	12096	$1,705.54	$0.00	$0.00	0.00	0	$0.00	0.00
36	B102	3000	25	1	Pendant Down Light, 1 Lamp, 26w	26	0.65	1950	$274.95	25	0	No Change	26	0.65	0%	1950	$274.95	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	B102B	1800	15	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.29	2322	$327.40	15	0	No Change	86	1.29	0%	2322	$327.40	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	B102 STOR	500	3	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.19	93	$13.11	3	0	No Change	62	0.19	0%	93	$13.11	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	B102 CUST	500	1	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.06	29	$4.09	1	0	No Change	58	0.06	0%	29	$4.09	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	B110	1800	12	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.03	1857.6	$261.92	12	0	No Change	86	1.03	0%	1857.6	$261.92	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	B110	1800	2	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.12	223.2	$31.47	2	0	No Change	62	0.12	0%	223.2	$31.47	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	B110 STOR	1800	3	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.19	334.8	$47.21	3	0	No Change	62	0.19	0%	334.8	$47.21	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B110 OFFICE	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
222.21	B110 LOCKER	1800	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	111.6	$15.74	1	0	No Change	62	0.06	0%	111.6	$15.74	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	B110 LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B112	1800	12	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	1.03	1857.6	$261.92	12	0	No Change	86	1.03	0%	1857.6	$261.92	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B112A	1800	12	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	1.03	1857.6	$261.92	12	0	No Change	86	1.03	0%	1857.6	$261.92	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	B114	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	B116	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	B118	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	B120	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	B122	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B124	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B126	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	B128	1800	4	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.25	446.4	$62.94	4	0	No Change	62	0.25	0%	446.4	$62.94	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	ELEV MACH RM	500	2	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.12	58	$8.18	2	0	No Change	58	0.12	0%	58	$8.18	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	C BOYS LAV	3000	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	1032	$145.51	4	0	No Change	86	0.34	0%	1032	$145.51	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	C GIRLS LAV	3000	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	1032	$145.51	4	0	No Change	86	0.34	0%	1032	$145.51	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	C101	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS										SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.22	C103	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	C103A	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	C103B	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C105	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C107	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C109	1800	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.52	928.8	$130.96	6	0	No Change	86	0.52	0%	928.8	$130.96	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C111	1800	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.52	928.8	$130.96	6	0	No Change	86	0.52	0%	928.8	$130.96	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	C113	1800	12	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.61	1101.6	$155.33	12	0	No Change	51	0.61	0%	1101.6	$155.33	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C113A	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.14	20%	247.68	$34.92	$125.00	$125.00	0.03	61.92	$8.73	14.32
232.22	C113B	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.14	20%	247.68	$34.92	$125.00	$125.00	0.03	61.92	$8.73	14.32
237.22	C113 CONF	1800	9	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.46	826.2	$116.49	9	0	No Change	51	0.46	0%	826.2	$116.49	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C113 VP	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.21	20%	371.52	$52.38	$125.00	$125.00	0.05	92.88	$13.10	9.54
222.21	C113 LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C115	1800	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.52	928.8	$130.96	6	0	No Change	86	0.52	0%	928.8	$130.96	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C117	1800	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.52	928.8	$130.96	6	0	No Change	86	0.52	0%	928.8	$130.96	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C119	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.22	C121	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C123	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C123A	1000	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	172	$24.25	2	0	No Change	86	0.17	0%	172	$24.25	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	C123B	1000	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	172	$24.25	2	0	No Change	86	0.17	0%	172	$24.25	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	C125	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	ELEC RM	500	3	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.17	87	$12.27	3	0	No Change	58	0.17	0%	87	$12.27	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C102	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	C102	1800	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	111.6	$15.74	1	0	No Change	62	0.06	0%	111.6	$15.74	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C104	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C106	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C108	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C110	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C112	1800	8	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.69	1238.4	$174.61	8	0	No Change	86	0.69	0%	1238.4	$174.61	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	C112	1800	1	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.05	91.8	$12.94	1	0	No Change	51	0.05	0%	91.8	$12.94	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	C112 LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	BOYS LAV	3000	4	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.27	816	$115.06	4	0	No Change	68	0.27	0%	816	$115.06	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS										SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
222.21	CUST CLOS	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	FAC LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	GIRLS LAV	3000	4	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.27	816	$115.06	4	0	No Change	68	0.27	0%	816	$115.06	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	CUST CLOS	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	FAC LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C114	1800	8	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.69	1238.4	$174.61	8	0	No Change	86	0.69	0%	1238.4	$174.61	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	C114	1800	1	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.05	91.8	$12.94	1	0	No Change	51	0.05	0%	91.8	$12.94	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	C114 LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	C116	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	309.6	$43.65	2	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.14	20%	247.68	$34.92	$125.00	$125.00	0.03	61.92	$8.73	14.32
232.22	C118	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C120	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C122	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C124	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
221.22	C124	1800	1	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	58	0.06	104.4	$14.72	1	0	No Change	58	0.06	0%	104.4	$14.72	$0.00	$0.00	0.00	0	$0.00	0.00
35	C126	3000	46	2	Recessed Down Light, 2 Lamp, 42w	84	3.86	11592	$1,634.47	46	0	No Change	84	3.86	0%	11592	$1,634.47	$0.00	$0.00	0.00	0	$0.00	0.00
36	C126	3000	20	1	Pendant Down Light, 1 Lamp, 26w	26	0.52	1560	$219.96	20	0	No Change	26	0.52	0%	1560	$219.96	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS										SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.21	C128	1800	15	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.29	2322	$327.40	15	0	No Change	86	1.29	0%	2322	$327.40	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	C128	1800	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.52	928.8	$130.96	6	0	No Change	86	0.52	0%	928.8	$130.96	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	C128 STOR	1800	1	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.09	154.8	$21.83	1	0	No Change	86	0.09	0%	154.8	$21.83	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	C128 PASS	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
222.14	C100E	500	4	2	2x4, 2 Lamp, 32w 700 Series T8, Elect. Ballast, Surface Mnt., Prismatic Lens	62	0.25	124	$17.48	4	0	No Change	62	0.25	0%	124	$17.48	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	BOYS LAV	3000	4	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.27	816	$115.06	4	0	No Change	68	0.27	0%	816	$115.06	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	GIRLS LAV	3000	4	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.27	816	$115.06	4	0	No Change	68	0.27	0%	816	$115.06	$0.00	$0.00	0.00	0	$0.00	0.00
221.15	D101	1800	27	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Lensed	58	1.57	2818.8	$397.45	27	0	No Change	58	1.57	0%	2818.8	$397.45	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	D101 STOR	500	3	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.19	93	$13.11	3	0	No Change	62	0.19	0%	93	$13.11	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	D101 STOR	500	3	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.19	93	$13.11	3	0	No Change	62	0.19	0%	93	$13.11	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	D103	1800	20	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	1.72	3096	$436.54	20	0	No Change	86	1.72	0%	3096	$436.54	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	D105 FRONT	1800	11	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.95	1702.8	$240.09	11	0	No Change	86	0.95	0%	1702.8	$240.09	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	D105 REAR	1800	8	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.46	835.2	$117.76	8	0	No Change	58	0.46	0%	835.2	$117.76	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	D105 CTRL RM	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
242.22	D105 RM	500	1	4	2x4, 4 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	104	0.10	52	$7.33	1	0	No Change	104	0.10	0%	52	$7.33	$0.00	$0.00	0.00	0	$0.00	0.00
242.22	D105 RM	500	1	4	2x4, 4 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	104	0.10	52	$7.33	1	0	No Change	104	0.10	0%	52	$7.33	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS										SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
242.22	D105 RM	500	1	4	2x4, 4 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	104	0.10	52	$7.33	1	0	No Change	104	0.10	0%	52	$7.33	$0.00	$0.00	0.00	0	$0.00	0.00
242.22	D105 RM	500	1	4	2x4, 4 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	104	0.10	52	$7.33	1	0	No Change	104	0.10	0%	52	$7.33	$0.00	$0.00	0.00	0	$0.00	0.00
242.22	D105 STOR	500	1	4	2x4, 4 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	104	0.10	52	$7.33	1	0	No Change	104	0.10	0%	52	$7.33	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	D107	500	2	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.12	62	$8.74	2	0	No Change	62	0.12	0%	62	$8.74	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	D109	1800	12	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	1.03	1857.6	$261.92	12	0	No Change	86	1.03	0%	1857.6	$261.92	$0.00	$0.00	0.00	0	$0.00	0.00
37	D109	1800	4	4	Track Lighting, 4 100w Incand.	400	1.60	2880	$406.08	4	0	No Change	400	1.60	0%	2880	$406.08	$0.00	$0.00	0.00	0	$0.00	0.00
30	D109	1800	4	2	Recessed Down Light, (2) 26w PL Lamp	54	0.22	388.8	$54.82	4	0	No Change	54	0.22	0%	388.8	$54.82	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	D109B	1800	3	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.19	334.8	$47.21	3	0	No Change	62	0.19	0%	334.8	$47.21	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	KILN ROOM	1000	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	172	$24.25	2	0	No Change	86	0.17	0%	172	$24.25	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	D111	1800	13	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	1.12	2012.4	$283.75	13	0	No Change	86	1.12	0%	2012.4	$283.75	$0.00	$0.00	0.00	0	$0.00	0.00
37	D111	1800	4	4	Track Lighting, 4 100w Incand.	400	1.60	2880	$406.08	4	0	No Change	400	1.60	0%	2880	$406.08	$0.00	$0.00	0.00	0	$0.00	0.00
30	D111	1800	4	2	Recessed Down Light, (2) 26w PL Lamp	54	0.22	388.8	$54.82	4	0	No Change	54	0.22	0%	388.8	$54.82	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	D111	1800	2	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.10	183.6	$25.89	2	0	No Change	51	0.10	0%	183.6	$25.89	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	D111 STOR	500	2	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.12	62	$8.74	2	0	No Change	62	0.12	0%	62	$8.74	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	D113	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	0	No Change	86	0.26	0%	464.4	$65.48	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	D115	1800	13	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	1.12	2012.4	$283.75	13	0	No Change	86	1.12	0%	2012.4	$283.75	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS										SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
37	D115	1800	4	4	Track Lighting, 4 100w Incand.	400	1.60	2880	$406.08	4	0	No Change	400	1.60	0%	2880	$406.08	$0.00	$0.00	0.00	0	$0.00	0.00
30	D115	1800	4	2	Recessed Down Light, (2) 26w PL Lamp	54	0.22	388.8	$54.82	4	0	No Change	54	0.22	0%	388.8	$54.82	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	D115	1800	2	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.10	183.6	$25.89	2	0	No Change	51	0.10	0%	183.6	$25.89	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	D115 STOR	500	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	86	$12.13	2	0	No Change	86	0.17	0%	86	$12.13	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	D117	500	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	86	$12.13	2	0	No Change	86	0.17	0%	86	$12.13	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	D119	1800	15	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	1.29	2322	$327.40	15	0	No Change	86	1.29	0%	2322	$327.40	$0.00	$0.00	0.00	0	$0.00	0.00
37	D119	1800	4	4	Track Lighting, 4 100w Incand.	400	1.60	2880	$406.08	4	0	No Change	400	1.60	0%	2880	$406.08	$0.00	$0.00	0.00	0	$0.00	0.00
30	D119	1800	4	2	Recessed Down Light, (2) 26w PL Lamp	54	0.22	388.8	$54.82	4	0	No Change	54	0.22	0%	388.8	$54.82	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	D119 LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	D119 OBSERV	1800	1	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.09	154.8	$21.83	1	0	No Change	86	0.09	0%	154.8	$21.83	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	D102	1800	20	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	1.72	3096	$436.54	20	0	No Change	86	1.72	0%	3096	$436.54	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	D102 STOR	500	2	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.12	62	$8.74	2	0	No Change	62	0.12	0%	62	$8.74	$0.00	$0.00	0.00	0	$0.00	0.00
221.15	D104	500	3	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Lensed	58	0.17	87	$12.27	3	0	No Change	58	0.17	0%	87	$12.27	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	D106	1800	15	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	1.29	2322	$327.40	15	0	No Change	86	1.29	0%	2322	$327.40	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	D108	1800	15	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	1.29	2322	$327.40	15	0	No Change	86	1.29	0%	2322	$327.40	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	D108 STOR	500	2	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.12	62	$8.74	2	0	No Change	62	0.12	0%	62	$8.74	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
222.21	D108 ROOM	500	3	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.19	93	$13.11	3	0	No Change	62	0.19	0%	93	$13.11	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	D110	1800	12	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	1.03	1857.6	$261.92	12	0	No Change	86	1.03	0%	1857.6	$261.92	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	D110 SM RM	500	1	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.07	34	$4.79	1	0	No Change	68	0.07	0%	34	$4.79	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	D110 SM RM	500	1	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.07	34	$4.79	1	0	No Change	68	0.07	0%	34	$4.79	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	D110 LRG STOR	500	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.26	129	$18.19	3	0	No Change	86	0.26	0%	129	$18.19	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	D112	1800	12	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.82	1468.8	$207.10	12	0	No Change	68	0.82	0%	1468.8	$207.10	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	D114	1800	16	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	1.38	2476.8	$349.23	16	0	No Change	86	1.38	0%	2476.8	$349.23	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	D116	1800	2	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.12	223.2	$31.47	2	0	No Change	62	0.12	0%	223.2	$31.47	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	D116A	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	D118	1800	4	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.25	446.4	$62.94	4	0	No Change	62	0.25	0%	446.4	$62.94	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	E101	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	E101A	500	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	86	$12.13	2	0	No Change	86	0.17	0%	86	$12.13	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	E101B	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	E103	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	E105	1800	16	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.38	2476.8	$349.23	16	0	No Change	86	1.38	0%	2476.8	$349.23	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	E107	1800	16	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.38	2476.8	$349.23	16	0	No Change	86	1.38	0%	2476.8	$349.23	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.21	E109	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.26	464.4	$65.48	3	0	No Change	86	0.26	0%	464.4	$65.48	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	E111	1800	16	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.38	2476.8	$349.23	16	0	No Change	86	1.38	0%	2476.8	$349.23	$0.00	$0.00	0.00	0	$0.00	0.00
2.1	E102 MED CTR	1800	60	3	2x2 3 Lamp 40w Biax Lamp	132	7.92	14256	$2,010.10	60	0	No Change	132	7.92	0%	14256	$2,010.10	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	E102 MED CTR	1800	25	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	1.28	2295	$323.60	25	0	No Change	51	1.28	0%	2295	$323.60	$0.00	$0.00	0.00	0	$0.00	0.00
35	E102 MED CTR	1800	110	2	Recessed Down Light, 2 Lamp, 42w	84	9.24	16632	$2,345.11	110	0	No Change	84	9.24	0%	16632	$2,345.11	$0.00	$0.00	0.00	0	$0.00	0.00
30	E102 MED CTR	1800	4	2	Recessed Down Light, (2) 26w PL Lamp	54	0.22	388.8	$54.82	4	0	No Change	54	0.22	0%	388.8	$54.82	$0.00	$0.00	0.00	0	$0.00	0.00
38	E102 MED CTR	1800	15	1	Wall Sconce, 26w CFL	26	0.39	702	$98.98	15	0	No Change	26	0.39	0%	702	$98.98	$0.00	$0.00	0.00	0	$0.00	0.00
30	E102 MED CTR	1800	20	2	Recessed Down Light, (2) 26w PL Lamp	54	1.08	1944	$274.10	20	0	No Change	54	1.08	0%	1944	$274.10	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	E102 CIRC DESK	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	0	No Change	86	0.26	0%	464.4	$65.48	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	E102 CIRC DESK	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	0	No Change	86	0.26	0%	464.4	$65.48	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	E102 REAR ENT	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	E102 REAR ENT	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	E102 COMP	1800	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.52	928.8	$130.96	6	0	No Change	86	0.52	0%	928.8	$130.96	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	E102A	1800	7	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.60	1083.6	$152.79	7	0	No Change	86	0.60	0%	1083.6	$152.79	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	E102A WK RM	1800	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.52	928.8	$130.96	6	0	No Change	86	0.52	0%	928.8	$130.96	$0.00	$0.00	0.00	0	$0.00	0.00
242.22	E102A STOR	500	4	4	2x4, 4 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	104	0.42	208	$29.33	4	0	No Change	104	0.42	0%	208	$29.33	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.21	E102 STOR	500	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.26	129	$18.19	3	0	No Change	86	0.26	0%	129	$18.19	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	E102 FAC REF	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
34	E102 FAC REF ST	500	1	1	Recessed Down Light, 26w Quad Lamp	26	0.03	13	$1.83	1	0	No Change	26	0.03	0%	13	$1.83	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	E102 PER STOR	500	2	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.12	62	$8.74	2	0	No Change	62	0.12	0%	62	$8.74	$0.00	$0.00	0.00	0	$0.00	0.00
237.23	E102 PER STOR	500	1	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	51	0.05	25.5	$3.60	1	0	No Change	51	0.05	0%	25.5	$3.60	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	E102 STOR	500	2	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.12	62	$8.74	2	0	No Change	62	0.12	0%	62	$8.74	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	CUST CLOS	500	1	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.07	34	$4.79	1	0	No Change	68	0.07	0%	34	$4.79	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	FAC LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
237.23	F101 PASS FR R	1800	6	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	51	0.31	550.8	$77.66	6	0	No Change	51	0.31	0%	550.8	$77.66	$0.00	$0.00	0.00	0	$0.00	0.00
237.23	F101 PASS FR L	1800	4	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	51	0.20	367.2	$51.78	4	0	No Change	51	0.20	0%	367.2	$51.78	$0.00	$0.00	0.00	0	$0.00	0.00
242.34	F101 LRG STOR	500	6	4	1x8, 4 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Industrial	104	0.62	312	$43.99	6	0	No Change	104	0.62	0%	312	$43.99	$0.00	$0.00	0.00	0	$0.00	0.00
237.23	F101 RAMP/PASS	1800	7	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	51	0.36	642.6	$90.61	7	0	No Change	51	0.36	0%	642.6	$90.61	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	F101 ELEV MR	500	1	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.06	29	$4.09	1	0	No Change	58	0.06	0%	29	$4.09	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	F101 SM STOR	500	2	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.12	58	$8.18	2	0	No Change	58	0.12	0%	58	$8.18	$0.00	$0.00	0.00	0	$0.00	0.00
34	F101 SPLT PLTF	500	2	1	Recessed Down Light, 26w Quad Lamp	26	0.05	26	$3.67	2	0	No Change	26	0.05	0%	26	$3.67	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	F101 PRJ BOOTH	500	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	172	$24.25	4	0	No Change	86	0.34	0%	172	$24.25	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS										SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
34	F101 PRJ BOOTH	500	1	1	Recessed Down Light, 26w Quad Lamp	26	0.03	13	$1.83	1	0	No Change	26	0.03	0%	13	$1.83	$0.00	$0.00	0.00	0	$0.00	0.00
237.23	GIRLS LAV	3000	8	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	51	0.41	1224	$172.58	8	0	No Change	51	0.41	0%	1224	$172.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	GIRLS LAV	3000	1	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.09	258	$36.38	1	0	No Change	86	0.09	0%	258	$36.38	$0.00	$0.00	0.00	0	$0.00	0.00
237.23	BOYS LAV	3000	8	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	51	0.41	1224	$172.58	8	0	No Change	51	0.41	0%	1224	$172.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	BOYS LAV	3000	1	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.09	258	$36.38	1	0	No Change	86	0.09	0%	258	$36.38	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	CUST CLOS	500	2	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.12	58	$8.18	2	0	No Change	58	0.12	0%	58	$8.18	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	F101 STG MAN	1800	4	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.25	446.4	$62.94	4	0	No Change	62	0.25	0%	446.4	$62.94	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	F105	1800	12	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	1.03	1857.6	$261.92	12	0	No Change	86	1.03	0%	1857.6	$261.92	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	F107	1800	24	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	1.39	2505.6	$353.29	24	0	No Change	58	1.39	0%	2505.6	$353.29	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	F109	1800	15	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.87	1566	$220.81	15	0	No Change	58	0.87	0%	1566	$220.81	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	F104	1800	25	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	2.15	3870	$545.67	25	0	No Change	86	2.15	0%	3870	$545.67	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	F104 ENTRY	1800	2	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.12	223.2	$31.47	2	0	No Change	62	0.12	0%	223.2	$31.47	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	F104B	1800	4	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.25	446.4	$62.94	4	0	No Change	62	0.25	0%	446.4	$62.94	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	F104A	1800	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	111.6	$15.74	1	0	No Change	62	0.06	0%	111.6	$15.74	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	F104E	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	F104D	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.21	F104F	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	ELEC	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	STOR	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	IDF	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	F105	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	F106	1800	32	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	2.75	4953.6	$698.46	32	0	No Change	86	2.75	0%	4953.6	$698.46	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	F106A	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	F106B	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	F106C	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	F106D	1800	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.52	928.8	$130.96	6	0	No Change	86	0.52	0%	928.8	$130.96	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	F106E	1800	6	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.37	669.6	$94.41	6	0	No Change	62	0.37	0%	669.6	$94.41	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	F108	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
227.211	BOYS LAV	3000	4	2	2x2, 2 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	34	0.14	408	$57.53	4	0	No Change	34	0.14	0%	408	$57.53	$0.00	$0.00	0.00	0	$0.00	0.00
227.211	GIRLS LAV	3000	4	2	2x2, 2 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	34	0.14	408	$57.53	4	0	No Change	34	0.14	0%	408	$57.53	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	F110	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	0	No Change	86	0.26	0%	464.4	$65.48	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	F112	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS										SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
656	G101	3000	40	8	Hi-Bay, Pendant Mount, (8) 42w CFL	336	13.44	40320	$5,685.12	40	0	No Change	336	13.44	0%	40320	$5,685.12	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	G101 ENTRY RR	3000	3	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.19	558	$78.68	3	0	No Change	62	0.19	0%	558	$78.68	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	G101 ENTRY RL	3000	3	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.19	558	$78.68	3	0	No Change	62	0.19	0%	558	$78.68	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	G101 ENTRY R	3000	3	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.19	558	$78.68	3	0	No Change	62	0.19	0%	558	$78.68	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	G101 ENTRY L	3000	3	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.19	558	$78.68	3	0	No Change	62	0.19	0%	558	$78.68	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	G101 ELEC	500	6	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.35	174	$24.53	6	0	No Change	58	0.35	0%	174	$24.53	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	G101 STOR	500	6	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.35	174	$24.53	6	0	No Change	58	0.35	0%	174	$24.53	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	G100A	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	G100A WK RM	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	G100A OFF	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	G100A CONF RM	1800	4	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.20	367.2	$51.78	4	0	No Change	51	0.20	0%	367.2	$51.78	$0.00	$0.00	0.00	0	$0.00	0.00
35	G100A CONF RM	1800	7	2	Recessed Down Light, 2 Lamp, 42w	84	0.59	1058.4	$149.23	7	0	No Change	84	0.59	0%	1058.4	$149.23	$0.00	$0.00	0.00	0	$0.00	0.00
242.34	G107 B LOCK RM	3000	18	4	1x8, 4 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Industrial	104	1.87	5616	$791.86	18	0	No Change	104	1.87	0%	5616	$791.86	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	G107 B LOCK RM	3000	5	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.29	870	$122.67	5	0	No Change	58	0.29	0%	870	$122.67	$0.00	$0.00	0.00	0	$0.00	0.00
242.34	G107D	3000	6	4	1x8, 4 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Industrial	104	0.62	1872	$263.95	6	0	No Change	104	0.62	0%	1872	$263.95	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	G107D	3000	2	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.12	348	$49.07	2	0	No Change	58	0.12	0%	348	$49.07	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS										SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
247.211	G107 LAV	3000	5	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.34	1020	$143.82	5	0	No Change	68	0.34	0%	1020	$143.82	$0.00	$0.00	0.00	0	$0.00	0.00
30	G107 SHOWER	3000	4	2	Recessed Down Light, (2) 26w PL Lamp	54	0.22	648	$91.37	4	0	No Change	54	0.22	0%	648	$91.37	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	G107 OFF	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	G107 OFF	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	G107 OFF LAV	500	1	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.09	43	$6.06	1	0	No Change	86	0.09	0%	43	$6.06	$0.00	$0.00	0.00	0	$0.00	0.00
242.34	G102 G LOCK RM	3000	18	4	1x8, 4 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Industrial	104	1.87	5616	$791.86	18	0	No Change	104	1.87	0%	5616	$791.86	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	G102 G LOCK RM	3000	5	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.29	870	$122.67	5	0	No Change	58	0.29	0%	870	$122.67	$0.00	$0.00	0.00	0	$0.00	0.00
242.34	G102D	3000	6	4	1x8, 4 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Industrial	104	0.62	1872	$263.95	6	0	No Change	104	0.62	0%	1872	$263.95	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	G102D	3000	2	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.12	348	$49.07	2	0	No Change	58	0.12	0%	348	$49.07	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	G102 LAV	3000	5	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.34	1020	$143.82	5	0	No Change	68	0.34	0%	1020	$143.82	$0.00	$0.00	0.00	0	$0.00	0.00
30	G102 SHOWER	3000	4	2	Recessed Down Light, (2) 26w PL Lamp	54	0.22	648	$91.37	4	0	No Change	54	0.22	0%	648	$91.37	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	G102 OFF	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	G102 OFF	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	G102 OFF LAV	500	1	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.09	43	$6.06	1	0	No Change	86	0.09	0%	43	$6.06	$0.00	$0.00	0.00	0	$0.00	0.00
656	G104	3000	12	8	Hi-Bay, Pendant Mount, (8) 42w CFL	336	4.03	12096	$1,705.54	12	0	No Change	336	4.03	0%	12096	$1,705.54	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	G106	1800	11	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.95	1702.8	$240.09	11	0	No Change	86	0.95	0%	1702.8	$240.09	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.21	G106 STOR	500	1	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.09	43	$6.06	1	0	No Change	86	0.09	0%	43	$6.06	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	G106 STOR	500	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	86	$12.13	2	0	No Change	86	0.17	0%	86	$12.13	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	G106 OFF	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	G106 EXAM	500	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	86	$12.13	2	0	No Change	86	0.17	0%	86	$12.13	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	G106 LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	G106 LAV	500	1	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.07	34	$4.79	1	0	No Change	68	0.07	0%	34	$4.79	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	G101 LG STOR	500	15	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.87	435	$61.34	15	0	No Change	58	0.87	0%	435	$61.34	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	G105	3000	8	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.69	2064	$291.02	8	0	No Change	86	0.69	0%	2064	$291.02	$0.00	$0.00	0.00	0	$0.00	0.00
656	G108	3000	15	8	Hi-Bay, Pendant Mount, (8) 42w CFL	336	5.04	15120	$2,131.92	15	0	No Change	336	5.04	0%	15120	$2,131.92	$0.00	$0.00	0.00	0	$0.00	0.00
242.34	G108 STOR	500	4	4	1x8, 4 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Industrial	104	0.42	208	$29.33	4	0	No Change	104	0.42	0%	208	$29.33	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	EXTER STOR	500	6	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.35	174	$24.53	6	0	No Change	58	0.35	0%	174	$24.53	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	H101	1800	7	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.60	1083.6	$152.79	7	0	No Change	86	0.60	0%	1083.6	$152.79	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	H101 LOCK	1800	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	111.6	$15.74	1	0	No Change	62	0.06	0%	111.6	$15.74	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	H101 LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	H103	1800	12	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.70	1252.8	$176.64	12	0	No Change	58	0.70	0%	1252.8	$176.64	$0.00	$0.00	0.00	0	$0.00	0.00
242.34	H102	1800	10	4	1x8, 4 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Industrial	104	1.04	1872	$263.95	10	0	No Change	104	1.04	0%	1872	$263.95	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS										SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
221.14	H102	1800	8	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.46	835.2	$117.76	8	0	No Change	58	0.46	0%	835.2	$117.76	$0.00	$0.00	0.00	0	$0.00	0.00
242.34	H102 STOR	500	2	4	1x8, 4 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Industrial	104	0.21	104	$14.66	2	0	No Change	104	0.21	0%	104	$14.66	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	H102A	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
242.34	H104	1000	6	4	1x8, 4 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Industrial	104	0.62	624	$87.98	6	0	No Change	104	0.62	0%	624	$87.98	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	H104	1000	1	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.06	58	$8.18	1	0	No Change	58	0.06	0%	58	$8.18	$0.00	$0.00	0.00	0	$0.00	0.00
242.34	H105	1000	8	4	1x8, 4 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Industrial	104	0.83	832	$117.31	8	0	No Change	104	0.83	0%	832	$117.31	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	H105	1000	3	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.17	174	$24.53	3	0	No Change	58	0.17	0%	174	$24.53	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	N101 TRTMT	1800	10	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.86	1548	$218.27	10	0	No Change	86	0.86	0%	1548	$218.27	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	N101 TRTMT	1800	4	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.27	489.6	$69.03	4	0	No Change	68	0.27	0%	489.6	$69.03	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	N101 TRTMT	1800	5	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.31	558	$78.68	5	0	No Change	62	0.31	0%	558	$78.68	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	N101 STOR	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	N101 EXAM	500	2	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.12	62	$8.74	2	0	No Change	62	0.12	0%	62	$8.74	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	N101 EXAM	500	2	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.12	62	$8.74	2	0	No Change	62	0.12	0%	62	$8.74	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	N101 LAV	500	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	86	$12.13	2	0	No Change	86	0.17	0%	86	$12.13	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	N101 WAIT	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	N101 OFFICE	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.21	N101 OFF LAV	500	1	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.09	43	$6.06	1	0	No Change	86	0.09	0%	43	$6.06	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	CONCESSIONS	500	8	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.69	344	$48.50	8	0	No Change	86	0.69	0%	344	$48.50	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B201	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B203	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B205	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B207	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B209	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B211	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B213	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	B215	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	B217	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	B219	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	B221	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	B223	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B225	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B227	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS										SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.21	BOYS LAV	3000	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	1032	$145.51	4	0	No Change	86	0.34	0%	1032	$145.51	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	B229	500	3	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.19	93	$13.11	3	0	No Change	62	0.19	0%	93	$13.11	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	GIRLS LAV	3000	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	1032	$145.51	4	0	No Change	86	0.34	0%	1032	$145.51	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	BOYS LAV	3000	4	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.27	816	$115.06	4	0	No Change	68	0.27	0%	816	$115.06	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	FAC LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	B200T1	500	1	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.09	43	$6.06	1	0	No Change	86	0.09	0%	43	$6.06	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	B200C1	500	1	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.06	29	$4.09	1	0	No Change	58	0.06	0%	29	$4.09	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	FAC LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	GIRLS LAV	3000	4	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.27	816	$115.06	4	0	No Change	68	0.27	0%	816	$115.06	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B210	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B212	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	B214	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	B216	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	B218	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	B220	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	B222	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.22	B224	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
221.22	B224	1800	1	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	58	0.06	104.4	$14.72	1	0	No Change	58	0.06	0%	104.4	$14.72	$0.00	$0.00	0.00	0	$0.00	0.00
200	B226	500	6	2	1x2, 2 Lamp, 17w T8, Elect. Ballast, Surface Mnt., Prismatic Lens	34	0.20	102	$14.38	6	0	No Change	34	0.20	0%	102	$14.38	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	B228	1800	7	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.60	1083.6	$152.79	7	0	No Change	86	0.60	0%	1083.6	$152.79	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	FAC LAV	500	1	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.09	43	$6.06	1	0	No Change	86	0.09	0%	43	$6.06	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	C201	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C203	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
221.22	C203	1800	1	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	58	0.06	104.4	$14.72	1	0	No Change	58	0.06	0%	104.4	$14.72	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C205	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C207	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C209	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C211	1800	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.52	928.8	$130.96	6	0	No Change	86	0.52	0%	928.8	$130.96	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C213	1800	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.52	928.8	$130.96	6	0	No Change	86	0.52	0%	928.8	$130.96	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	C215	1800	12	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.61	1101.6	$155.33	12	0	No Change	51	0.61	0%	1101.6	$155.33	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C215 OFF	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.14	20%	247.68	$34.92	$125.00	$125.00	0.03	61.92	$8.73	14.32
232.22	C215 OFF	1800	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.26	464.4	$65.48	3	1	Dual Technology Occupancy Sensor - Switch Mnt.	86	0.21	20%	371.52	$52.38	$125.00	$125.00	0.05	92.88	$13.10	9.54

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.22	C215 WK RM	1800	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.17	309.6	$43.65	2	0	No Change	86	0.17	0%	309.6	$43.65	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	C215 CONF	1800	9	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.46	826.2	$116.49	9	0	No Change	51	0.46	0%	826.2	$116.49	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	C215 LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C217	1800	5	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.43	774	$109.13	5	0	No Change	86	0.43	0%	774	$109.13	$0.00	$0.00	0.00	0	$0.00	0.00
221.22	C217	1800	1	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	58	0.06	104.4	$14.72	1	0	No Change	58	0.06	0%	104.4	$14.72	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C219	1800	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.52	928.8	$130.96	6	0	No Change	86	0.52	0%	928.8	$130.96	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C221	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C223	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C225	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C227	1800	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.34	619.2	$87.31	4	0	No Change	86	0.34	0%	619.2	$87.31	$0.00	$0.00	0.00	0	$0.00	0.00
232.23	C229	1800	14	3	1x4, 3 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Direct/Indirect	86	1.20	2167.2	$305.58	14	0	No Change	86	1.20	0%	2167.2	$305.58	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	C200E	500	3	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.17	87	$12.27	3	0	No Change	58	0.17	0%	87	$12.27	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C202	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
221.22	C202	1800	1	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	58	0.06	104.4	$14.72	1	0	No Change	58	0.06	0%	104.4	$14.72	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C204	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C206	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.22	C208	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	C210	1800	2	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.12	223.2	$31.47	2	0	No Change	62	0.12	0%	223.2	$31.47	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C212	1800	8	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.69	1238.4	$174.61	8	0	No Change	86	0.69	0%	1238.4	$174.61	$0.00	$0.00	0.00	0	$0.00	0.00
237.22	C212	1800	1	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	51	0.05	91.8	$12.94	1	0	No Change	51	0.05	0%	91.8	$12.94	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	C212 LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	BOYS LAV	3000	6	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.41	1224	$172.58	6	0	No Change	68	0.41	0%	1224	$172.58	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	FAC LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	GIRLS LAV	3000	6	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.41	1224	$172.58	6	0	No Change	68	0.41	0%	1224	$172.58	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	FAC LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	C200T	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C214	1800	8	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.69	1238.4	$174.61	8	0	No Change	86	0.69	0%	1238.4	$174.61	$0.00	$0.00	0.00	0	$0.00	0.00
221.22	C214	1800	1	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	58	0.06	104.4	$14.72	1	0	No Change	58	0.06	0%	104.4	$14.72	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	C214 LAV	500	1	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.06	31	$4.37	1	0	No Change	62	0.06	0%	31	$4.37	$0.00	$0.00	0.00	0	$0.00	0.00
222.21	C216	1800	2	2	2x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	62	0.12	223.2	$31.47	2	0	No Change	62	0.12	0%	223.2	$31.47	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C218	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C220	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.22	C222	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
232.22	C224	1800	9	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	86	0.77	1393.2	$196.44	9	0	No Change	86	0.77	0%	1393.2	$196.44	$0.00	$0.00	0.00	0	$0.00	0.00
221.22	C224	1800	1	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Parabolic Lens	58	0.06	104.4	$14.72	1	0	No Change	58	0.06	0%	104.4	$14.72	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	CORR A WING	3000	75	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	5.10	15300	$2,157.30	75	0	No Change	68	5.10	0%	15300	$2,157.30	$0.00	$0.00	0.00	0	$0.00	0.00
30	CORR A WING	3000	70	2	Recessed Down Light, (2) 26w PL Lamp	54	3.78	11340	$1,598.94	70	0	No Change	54	3.78	0%	11340	$1,598.94	$0.00	$0.00	0.00	0	$0.00	0.00
242.35	CORR A WING	3000	30	4	1x8, 4 Lamp, 32w T8, Elect. Ballast, Wall Mnt., Direct/Indirect	104	3.12	9360	$1,319.76	30	0	No Change	104	3.12	0%	9360	$1,319.76	$0.00	$0.00	0.00	0	$0.00	0.00
222.32	CORR A WING	3000	8	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Wall Mnt., Direct/Indirect	58	0.46	1392	$196.27	8	0	No Change	58	0.46	0%	1392	$196.27	$0.00	$0.00	0.00	0	$0.00	0.00
200	STR 1 - B WING	3000	4	2	1x2, 2 Lamp, 17w T8, Elect. Ballast, Surface Mnt., Prismatic Lens	34	0.14	408	$57.53	4	0	No Change	34	0.14	0%	408	$57.53	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	STR 1 - B WING	3000	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	1032	$145.51	4	0	No Change	86	0.34	0%	1032	$145.51	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	STR 1 CORR - 1	3000	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	516	$72.76	2	0	No Change	86	0.17	0%	516	$72.76	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	STR 1 CORR - 2	3000	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	516	$72.76	2	0	No Change	86	0.17	0%	516	$72.76	$0.00	$0.00	0.00	0	$0.00	0.00
237.23	CORR B WING - 1	3000	4	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	51	0.20	612	$86.29	4	0	No Change	51	0.20	0%	612	$86.29	$0.00	$0.00	0.00	0	$0.00	0.00
30	CORR B WING - 1	3000	4	2	Recessed Down Light, (2) 26w PL Lamp	54	0.22	648	$91.37	4	0	No Change	54	0.22	0%	648	$91.37	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR B WING - 1	3000	14	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.20	3612	$509.29	14	0	No Change	86	1.20	0%	3612	$509.29	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR B WING - 1	3000	17	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.46	4386	$618.43	17	0	No Change	86	1.46	0%	4386	$618.43	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR B WING - 1	3000	7	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.60	1806	$254.65	7	0	No Change	86	0.60	0%	1806	$254.65	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
200	STR 2 - B WING	3000	4	2	1x2, 2 Lamp, 17w T8, Elect. Ballast, Surface Mnt., Prismatic Lens	34	0.14	408	$57.53	4	0	No Change	34	0.14	0%	408	$57.53	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	STR 2 - B WING	3000	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	1032	$145.51	4	0	No Change	86	0.34	0%	1032	$145.51	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	CORR B-C WING - 1	3000	17	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	1.16	3468	$488.99	17	0	No Change	68	1.16	0%	3468	$488.99	$0.00	$0.00	0.00	0	$0.00	0.00
30	CORR B-C WING - 1	3000	2	2	Recessed Down Light, (2) 26w PL Lamp	54	0.11	324	$45.68	2	0	No Change	54	0.11	0%	324	$45.68	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	VEST B-C WING	3000	3	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.20	612	$86.29	3	0	No Change	68	0.20	0%	612	$86.29	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR C WING - 1	3000	15	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.29	3870	$545.67	15	0	No Change	86	1.29	0%	3870	$545.67	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	CORR C WING - 1 OPEN AREA	3000	20	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	1.36	4080	$575.28	20	0	No Change	68	1.36	0%	4080	$575.28	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR C WING - 1 OPEN AREA	3000	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	516	$72.76	2	0	No Change	86	0.17	0%	516	$72.76	$0.00	$0.00	0.00	0	$0.00	0.00
30	CORR C WING - 1 OPEN AREA	3000	10	2	Recessed Down Light, (2) 26w PL Lamp	54	0.54	1620	$228.42	10	0	No Change	54	0.54	0%	1620	$228.42	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR C WING - 1	3000	14	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.20	3612	$509.29	14	0	No Change	86	1.20	0%	3612	$509.29	$0.00	$0.00	0.00	0	$0.00	0.00
200	STR 3 - C WING	3000	4	2	1x2, 2 Lamp, 17w T8, Elect. Ballast, Surface Mnt., Prismatic Lens	34	0.14	408	$57.53	4	0	No Change	34	0.14	0%	408	$57.53	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	STR 3 - C WING	3000	4	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.34	1032	$145.51	4	0	No Change	86	0.34	0%	1032	$145.51	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR C WING - 1	3000	10	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.86	2580	$363.78	10	0	No Change	86	0.86	0%	2580	$363.78	$0.00	$0.00	0.00	0	$0.00	0.00
237.23	CORR C WING - 1	3000	4	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	51	0.20	612	$86.29	4	0	No Change	51	0.20	0%	612	$86.29	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR D WING - 1	3000	19	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.63	4902	$691.18	19	0	No Change	86	1.63	0%	4902	$691.18	$0.00	$0.00	0.00	0	$0.00	0.00
237.23	CORR D WING - 1	3000	5	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	51	0.26	765	$107.87	5	0	No Change	51	0.26	0%	765	$107.87	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

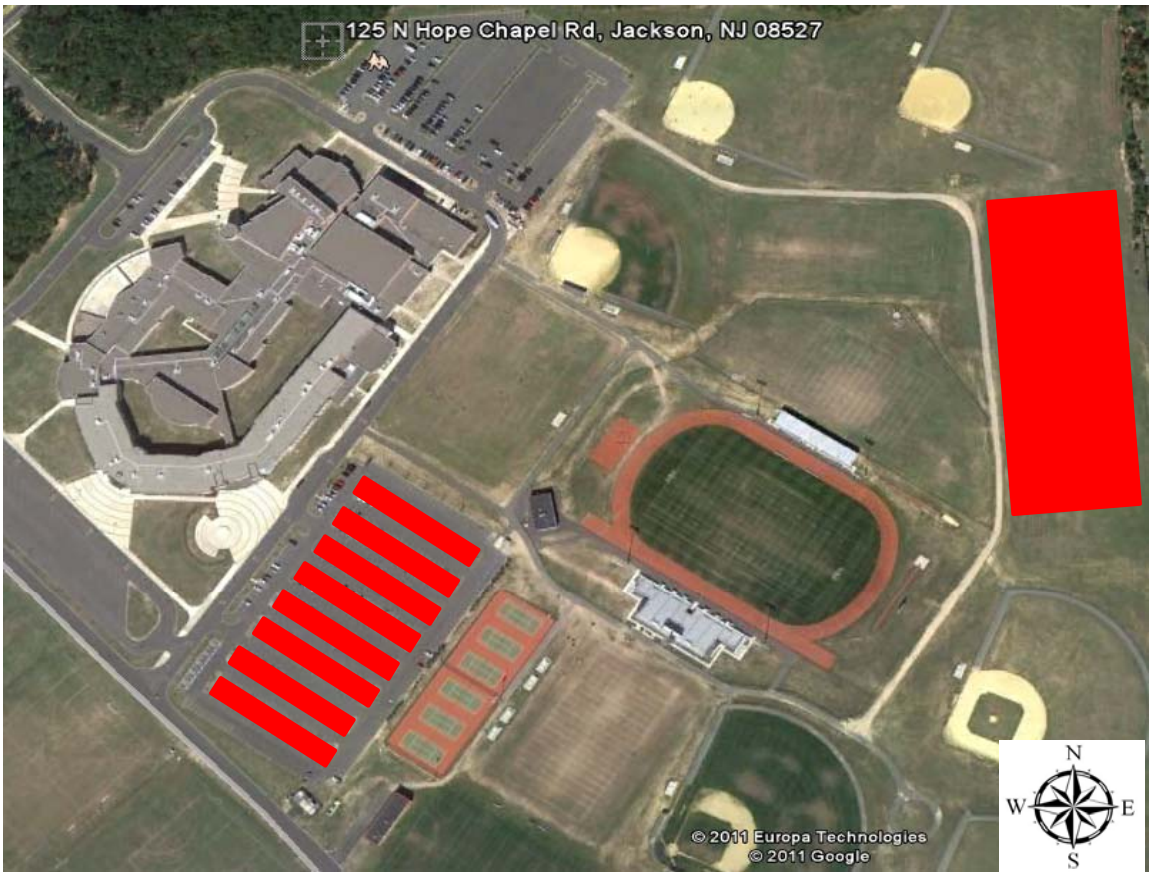
EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS											SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
232.21	CORR D WING - 1	3000	3	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.26	774	$109.13	3	0	No Change	86	0.26	0%	774	$109.13	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR D WING - 1	3000	13	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.12	3354	$472.91	13	0	No Change	86	1.12	0%	3354	$472.91	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR D WING - 1	3000	2	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.17	516	$72.76	2	0	No Change	86	0.17	0%	516	$72.76	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR E WING - 1	3000	14	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.20	3612	$509.29	14	0	No Change	86	1.20	0%	3612	$509.29	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR E WING - 1	3000	6	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.52	1548	$218.27	6	0	No Change	86	0.52	0%	1548	$218.27	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR E WING - 1	3000	7	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.60	1806	$254.65	7	0	No Change	86	0.60	0%	1806	$254.65	$0.00	$0.00	0.00	0	$0.00	0.00
30	CORR E WING - 1	3000	6	2	Recessed Down Light, (2) 26w PL Lamp	54	0.32	972	$137.05	6	0	No Change	54	0.32	0%	972	$137.05	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	CORR E WING - 1 - MEDIA CTR ENTR	3000	18	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	1.22	3672	$517.75	18	0	No Change	68	1.22	0%	3672	$517.75	$0.00	$0.00	0.00	0	$0.00	0.00
30	CORR E WING - 1 - MEDIA CTR ENTR	3000	13	2	Recessed Down Light, (2) 26w PL Lamp	54	0.70	2106	$296.95	13	0	No Change	54	0.70	0%	2106	$296.95	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR E WING - 1	3000	14	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.20	3612	$509.29	14	0	No Change	86	1.20	0%	3612	$509.29	$0.00	$0.00	0.00	0	$0.00	0.00
30	CORR E WING - 1	3000	6	2	Recessed Down Light, (2) 26w PL Lamp	54	0.32	972	$137.05	6	0	No Change	54	0.32	0%	972	$137.05	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	CORR E WING - 1	3000	2	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	0.14	408	$57.53	2	0	No Change	68	0.14	0%	408	$57.53	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR F WING - 1	3000	20	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.72	5160	$727.56	20	0	No Change	86	1.72	0%	5160	$727.56	$0.00	$0.00	0.00	0	$0.00	0.00
211.11	CORR F WING - 1 - DISPLAY CASES	3000	8	1	1x4, 1 Lamp, 32w T8, Elect. Ballast, Display Case	30	0.24	720	$101.52	8	0	No Change	30	0.24	0%	720	$101.52	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR F WING - 1	3000	8	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	0.69	2064	$291.02	8	0	No Change	86	0.69	0%	2064	$291.02	$0.00	$0.00	0.00	0	$0.00	0.00
237.23	CORR F WING - 1	3000	1	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	51	0.05	153	$21.57	1	0	No Change	51	0.05	0%	153	$21.57	$0.00	$0.00	0.00	0	$0.00	0.00

ECM #1: Lighting Controls

EXISTING LIGHTING										PROPOSED LIGHTING CONTROLS										SAVINGS			
CEG Type	Fixture Location	Yearly Usage	No. Fixts	No. Lamps	Fixture Type	Fixt Watts	Total kW	kWh/Yr Fixtures	Yearly $ Cost	No. Fixts	No. Cont.	Controls Description	Watts Used	Total kW	Reduction (%)	kWh/Yr Fixtures	Yearly $ Cost	Unit Cost (INSTALLED)	Total Cost	kW Savings	kWh/Yr Savings	Yearly $ Savings	Yearly Simple Payback
200	STR 5 - G WING	3000	3	2	1x2, 2 Lamp, 17w T8, Elect. Ballast, Surface Mnt., Prismatic Lens	34	0.10	306	$43.15	3	0	No Change	34	0.10	0%	306	$43.15	$0.00	$0.00	0.00	0	$0.00	0.00
242.34	STR 5 - UPPER STORAGE	500	8	4	1x8, 4 Lamp, 32w T8, Elect. Ballast, Pendant Mnt., Industrial	104	0.83	416	$58.66	8	0	No Change	104	0.83	0%	416	$58.66	$0.00	$0.00	0.00	0	$0.00	0.00
221.14	STR 5 - UPPER STORAGE	500	4	2	1x4, 2 Lamp, 32w T8, Elect. Ballast, Industrial	58	0.23	116	$16.36	4	0	No Change	58	0.23	0%	116	$16.36	$0.00	$0.00	0.00	0	$0.00	0.00
237.23	CORR G WING - 1	3000	35	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	51	1.79	5355	$755.06	35	0	No Change	51	1.79	0%	5355	$755.06	$0.00	$0.00	0.00	0	$0.00	0.00
30	CORR G WING - 1	3000	20	2	Recessed Down Light, (2) 26w PL Lamp	54	1.08	3240	$456.84	20	0	No Change	54	1.08	0%	3240	$456.84	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR G WING - 1	3000	18	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.55	4644	$654.80	18	0	No Change	86	1.55	0%	4644	$654.80	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR B-G WING - 2	3000	18	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.55	4644	$654.80	18	0	No Change	86	1.55	0%	4644	$654.80	$0.00	$0.00	0.00	0	$0.00	0.00
237.23	MAIN ENT VEST	3000	8	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	51	0.41	1224	$172.58	8	0	No Change	51	0.41	0%	1224	$172.58	$0.00	$0.00	0.00	0	$0.00	0.00
237.23	MAIN ENT CORR	3000	70	3	2x2, 3 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	51	3.57	10710	$1,510.11	70	0	No Change	51	3.57	0%	10710	$1,510.11	$0.00	$0.00	0.00	0	$0.00	0.00
30	MAIN ENT CORR	3000	64	2	Recessed Down Light, (2) 26w PL Lamp	54	3.46	10368	$1,461.89	64	0	No Change	54	3.46	0%	10368	$1,461.89	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR B WING - 2	3000	13	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	1.12	3354	$472.91	13	0	No Change	86	1.12	0%	3354	$472.91	$0.00	$0.00	0.00	0	$0.00	0.00
232.21	CORR B WING - 2	3000	24	3	2x4, 3 Lamp, 32w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	86	2.06	6192	$873.07	24	0	No Change	86	2.06	0%	6192	$873.07	$0.00	$0.00	0.00	0	$0.00	0.00
247.211	CORR B-C WING - 2 OPEN AREA	3000	24	4	2x2, 4 Lamp, 17w T8, Elect. Ballast, Recessed Mnt., Prismatic Lens	68	1.63	4896	$690.34	24	0	No Change	68	1.63	0%	4896	$690.34	$0.00	$0.00	0.00	0	$0.00	0.00
30	CORR B-C WING - 2 OPEN AREA	3000	7	2	Recessed Down Light, (2) 26w PL Lamp	54	0.38	1134	$159.89	7	0	No Change	54	0.38	0%	1134	$159.89	$0.00	$0.00	0.00	0	$0.00	0.00
	Totals		3,529	1349			292.9	629,458.5	$88,754	3,529	30			291.5		626,927.7	$88,396.81		$3,750	1.41	2,531	$357	10.51

APPENDIX F

Location Description	Area (Sq FT)	Panel	Qty	Panel Sq Ft	Panel Total Sq Ft	Total KW_{DC}	Total Annual kWh	Total KW_{AC}	Panel Weight (41.9 lbs)	W/SQFT
Liberty High School	192600	SHARP NU-U235F2	7569	17.5	132,766	1,778.72	2,011,217	1,369.6	317,141	13.40



.= Proposed PV Layout

Notes:

1. Estimated kWH based on the National Renewable Energy Laboratory PVWatts Version 1 Calculator Program.

Project Name: **LGEA Solar PV Project - Liberty HS**
Location: **Jackson, NJ**
Description: **Photovoltaic System 100% Financing - 15 year**

Simple Payback Analysis

	Photovoltaic System 100% Financing - 15 year
Total Construction Cost	$9,891,025
Annual kWh Production	2,011,217
Annual Energy Cost Reduction	$283,582
Average Annual SREC Revenue	$775,536

Simple Payback: **9.34** Years

Life Cycle Cost Analysis

Analysis Period (years): 15
Discount Rate: 3%
Average Energy Cost ($/kWh) **$0.141**
Financing Rate: 6.00%
Financing %: 100%
Maintenance Escalation Rate: 3.0%
Energy Cost Escalation Rate: 3.0%
Average SREC Value ($/kWh) $0.386

Period	Additional Cash Outlay	Energy kWh Production	Energy Cost Savings	Additional Maint Costs	SREC Revenue	Interest Expense	Loan Principal	Net Cash Flow	Cumulative Cash Flow
0	$0	0	0	0	$0	0	0	0	0
1	$0	2,011,217	$283,582	$0	$1,106,169	$582,049	$419,544	$388,158	$388,158
2	$0	2,001,161	$292,089	$0	$1,100,639	$556,172	$445,421	$391,134	$779,292
3	$0	1,991,155	$300,852	$0	$995,578	$528,700	$472,894	$294,836	$1,074,129
4	$0	1,981,199	$309,877	$0	$891,540	$499,532	$502,061	$199,824	$1,273,952
5	$0	1,971,293	$319,174	$20,304	$887,082	$468,566	$533,027	$184,358	$1,458,311
6	$0	1,961,437	$328,749	$20,203	$882,647	$435,691	$565,902	$189,600	$1,647,910
7	$0	1,951,630	$338,611	$20,102	$780,652	$400,787	$600,806	$97,568	$1,745,478
8	$0	1,941,872	$348,770	$20,001	$776,749	$363,731	$637,863	$103,924	$1,849,402
9	$0	1,932,162	$359,233	$19,901	$676,257	$324,389	$677,204	$13,995	$1,863,397
10	$0	1,922,501	$370,010	$19,802	$672,875	$282,620	$718,973	$21,490	$1,884,888
11	$0	1,912,889	$381,110	$19,703	$573,867	$238,275	$763,318	($66,319)	$1,818,568
12	$0	1,903,324	$392,543	$19,604	$570,997	$191,196	$810,397	($57,657)	$1,760,912
13	$0	1,893,808	$404,320	$19,506	$473,452	$141,212	$860,381	($143,328)	$1,617,584
14	$0	1,884,339	$416,449	$19,409	$471,085	$88,146	$913,447	($133,468)	$1,484,116
15	$0	1,874,917	$428,943	$19,312	$374,983	$31,806	$969,787	($216,979)	$1,267,137
	Totals:	29,134,904	$5,274,310	$217,847	$11,234,570	$5,132,871	$9,891,025	$1,267,137	$21,913,235

Net Present Value (NPV) **$1,211,568**