

**Scotch Plains-Fanwood
School District**

February 1, 2010



Final Energy Audit Report



11 British American Boulevard, Suite 200
Latham, New York 12110
tel: 518-782-4500
fax: 518-786-3810

February 2, 2010

Mr. Michael Roman
Scotch Plains – Fanwood Board of Education
Park Ave. Middle School
580 Park Ave.
Scotch Plains NJ 07076

Subject: Energy Audit for the Scotch Plains – Fanwood Board of Education

Dear Mr. Roman:

Please find enclosed three hard copies of our final report detailing the findings and recommendations of CDM's energy audit for the Scotch Plains - Fanwood Board of Education Facilities. An electronic copy of this report has also been provided to TRC for their record.

Very truly yours,

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

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

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

Enclosures

Contents

Executive Summary

Section 1 Introduction

1.1	General	1-1
1.2	Background	1-1
1.3	Purpose and Scope	1-3

Section 2 Facility Description

2.1	Howard B. Brunner Elementary	2-1
2.1.1	Description of Building Envelope	2-1
2.1.2	Description of Building HVAC	2-2
2.1.3	Description of Building Lighting	2-2
2.2	Evergreen Elementary	2-2
2.2.1	Description of Building Envelope	2-2
2.2.2	Description of Building HVAC	2-3
2.2.3	Description of Building Lighting	2-4
2.3	J. Ackerman Coles Elementary	2-4
2.3.1	Description of Building Envelope	2-4
2.3.2	Description of Building HVAC	2-4
2.3.3	Description of Building Lighting	2-5
2.4	School One Elementary	2-5
2.4.1	Description of Building Envelope	2-5
2.4.2	Description of Building HVAC	2-5
2.4.3	Description of Building Lighting	2-6
2.5	William J. McGinn Elementary	2-6
2.5.1	Description of Building Envelope	2-6
2.5.2	Description of Building HVAC	2-6
2.5.3	Description of Building Lighting	2-7
2.6	Park Middle School	2-7
2.6.1	Description of Building Envelope	2-7
2.6.2	Description of Building HVAC	2-7
2.6.3	Description of Building Lighting	2-8
2.7	Terrill Middle School	2-8
2.7.1	Description of Building Envelope	2-8
2.7.2	Description of Building HVAC	2-8
2.7.3	Description of Building Lighting	2-9
2.8	Scotch Plains-Fanwood High School	2-9
2.8.1	Description of Building Envelope	2-9
2.8.2	Description of Building HVAC	2-9
2.8.3	Description of Building Lighting	2-10
2.9	Miscellaneous Equipment	2-10

Section 3	Baseline Energy Use	
3.1	Utility Data Analysis	3-1
3.1.1	Electrical Charges	3-1
3.1.2	Fuel Charges.....	3-2
3.2	Facility Results	3-2
3.2.1	Brunner Elementary	3-2
3.2.2	Evergreen Elementary	3-4
3.2.3	J. Ackerman Coles Elementary	3-6
3.2.4	School One Elementary	3-8
3.2.5	William J. McGinn Elementary.....	3-10
3.2.6	Park Middle School	3-12
3.2.7	Terrill Middle School	3-14
3.2.8	Scotch Plains-Fanwood High School	3-16
3.3	Aggregate Costs.....	3-18
3.4	Portfolio Manager.....	3-19
3.4.1	Portfolio Manager Overview	3-19
3.4.2	Energy Performance Rating.....	3-19
3.4.3	Portfolio Manager Account Information.....	3-19
Section 4	Energy Conservation and Retrofit Measures (ECRM)	
4.1	Building Lighting Systems	4-1
4.1.1	Howard B. Brunner Elementary	4-2
4.1.2	Evergreen Elementary	4-3
4.1.3	J. Ackerman Coles Elementary	4-4
4.1.4	School One	4-5
4.1.5	William J. McGinn Elementary.....	4-6
4.1.6	Park Middle School	4-7
4.1.7	Terrill Middle School	4-8
4.1.8	Scotch Plains-Fanwood High School	4-9
4.2	HVAC Systems	4-10
4.2.1	Howard B. Brunner Elementary.....	4-10
4.2.2	Evergreen Elementary	4-15
4.2.3	J. Ackerman Coles Elementary	4-20
4.2.4	School One.....	4-24
4.2.5	William J. McGinn Elementary.....	4-27
4.2.6	Park Middle School	4-32
4.2.7	Terrill Middle School	4-37
4.2.8	Scotch Plains-Fanwood High School	4-42
4.3	Alternative Energy Sources.....	4-46
4.3.1	Photovoltaic Solar Energy System - Overview	4-46
4.3.1.1	Brunner Elementary	4-48
4.3.1.2	Evergreen Elementary	4-49

4.3.1.3	J. Ackerman Coles Elementary	4-50
4.3.1.4	School One	4-50
4.3.1.5	William J. McGinn Elementary	4-51
4.3.1.6	Park Middle School	4-52
4.3.1.7	Terrill Middle School	4-52
4.3.1.8	Scotch Plains-Fanwood High School	4-53
4.3.1.9	Basis for Design and Calculations	4-54
4.3.2	Geothermal Energy	4-57
4.3.3	Wind Energy	4-58
4.3.4	Combined Heat and Power (COGEN)	4-58
4.3.5	Ground Source Heat Pumps	4-58
4.4	Next Steps – Additional Measures	4-59
Section 5	Evaluation of Energy Purchasing and Procurement Strategies	
5.1	Energy Deregulation	5-1
5.2	Demand Response Program	5-1
Section 6	Ranking of Energy Conservation and Retrofit Measures (ECRMs)	
6.1.	ECRMs	6-1
6.1.1	Lighting Systems	6-1
6.1.2	HVAC Systems	6-2
6.1.3	Solar Energy	6-3
Section 7	Available Grants, Incentives and Funding Sources	
7.1	Solar Energy Incentives and Financial Options	7-1
7.1.1	Solar Renewable Energy Certificates	7-1
7.1.2	Financing Options for Solar Projects	7-1
7.2	New Jersey Clean Energy Program	7-2
7.2.1	Introduction	7-2
7.2.2	New Jersey Smart Start Program	7-2
7.2.3	Pay for Performance Program	7-3
<i>Appendix A</i> Historical Data Analysis		
<i>Appendix B</i> Statement of Energy Performance Summary Sheets		
<i>Appendix C</i> eQuest Model Results		
<i>Appendix D</i> Lighting Spreadsheet		
<i>Appendix E</i> Solar Energy Financing Worksheet		
<i>Appendix F</i> New Jersey Smart Start & Pay for Performance Incentives		
<i>Appendix G</i> Engineers Opinion of Probable Construction Costs		
<i>Appendix H</i> Facility Data Forms		
<i>Appendix I</i> ECRM Lifetime Cost Savings Analysis		

Executive Summary

As part of an initiative to reduce energy cost and consumption, the Scotch Plains-Fanwood Board of Education has secured the services of Camp Dresser and McKee (CDM) to perform an energy audit for eight (8) buildings which are owned and operated by the District in an effort to develop comprehensive Energy Conservation and Retrofit Measures (ECRMs).

CDM's energy audit team visited the facilities on October 19th and 20th, 2009. As a result of the site visit and evaluation of the historical energy usage of the facilities, CDM was successful in identifying opportunities for energy savings measures.

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

The District is already taking advantage and realizing energy cost savings through the use of a third party electric and gas supplier, as discussed in Section 3. Additionally, there is potential for the District to make money by participation in a Demand Response Program, as discussed in Section 5.2.

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

Historical Energy Usage

The following table, Table ES-1, summarizes the historical energy usage at each of the District's buildings as presented in Section 3. These values can serve as a benchmarking tool, along with the building profile that has been established through the EPA's Portfolio Manager Program, to quantify the reduction in electrical energy and natural gas usage following the implementation of the recommended ECRMs.

Table ES-1: Summary of Annual Energy Usage & Cost						
	Electrical Energy Use (kWH)	Peak Summer Demand (kW)	Peak Winter Demand (kW)	Fuel Use for Entire Building (therms)	Cost for Electric Service	Cost for Fuel
Brunner E.S.	241,425	117	102	24,447	\$41,112	\$9,398
Evergreen E.S.	366,484	134	128	38,107	\$63,954	\$15,640
J. Ackerman Coles E.S.	299,028	109	106	20,410	\$50,361	\$8,389
School One E.S.	510,970	206	184	11,739	\$88,576	\$4,448
William J. McGinn E.S.	276,030	136	96	25,752	\$44,509	\$8,512
Park M.S.	723,805	284	250	51,888	\$105,337	\$21,909
Terrill M.S.	787,886	288	280	61,406	\$124,919	\$25,170
Scotch Plains-Fanwood H.S.	2,765,740	756	660	118,676	\$420,551	\$47,881

Recommended ECRMs

The following table, Table ES-2, presents the ranking of recommended ECRMs identified for the building lighting, HVAC systems and reduction of miscellaneous plug loads based on the simple payback analysis.

Additional ECRMs associated with the building envelope and other miscellaneous appliances were identified and evaluated, as discussed in Sections 2 and 4; however, were not recommended due to longer payback periods. This table includes the Engineer's Opinion of Probable Construction Cost, projected annual energy cost savings, projected annual energy usage savings, and total simple payback period for each recommended ECRM. The ECRMs are ranked based on payback period.

Table ES-2 summarizes the Total Engineer's Opinion of Probable Construction Cost, annual energy savings, projected annual energy and O&M cost savings and the payback period based on the implementation of all recommended ECRMs.

Table ES-2¹					
Ranking of Energy Savings Measures Summary					
Overall Ranking (Based on Simple Payback)	Site	Total Cost	Energy Savings	Annual Fiscal Savings	Simple Payback (Years)
1	Terrill Middle School – Lighting Retrofits	\$70,775	146,792 kWh	\$33,527	2.2
2	Evergreen – Lighting Retrofits	\$26,689	63,709 kWh	\$11,410	2.3
3	School One – Lighting Retrofits	\$24,065	37,434 kWh	\$7,483	3.2
4	J.A. Coles – Lighting Retrofits	\$35,060	53,607 kWh	\$10,662	3.3
5	William J. McGinn – Lighting Retrofits	\$27,401	47,523 kWh	\$7,879	3.5
6	Evergreen Elementary – Air Source Heat Pumps	\$11,730	18,260 kWh	\$3,270	3.6
7	Scotch Plains-Fanwood HS – Lighting Retrofits	\$135,698	231,402 kWh	\$35,913	3.8
8	Park Middle School – Lighting Retrofits	\$89,138	104,094 kWh	\$21,235	4.2
9	H.B Brunner – Lighting Retrofits	\$32,406	42,704 kWh	\$7,541	4.3
10	Terrill Middle School – Boiler Upgrade	\$220,563	17,400 Therms	\$21,750	10.2
11	William J. McGinn – Boiler Upgrade	\$110,282	6,120 Therms	\$8,935	12.3
12	Park Middle School – Boiler Upgrade	\$165,422	8,398 Therms	\$11,001	15.1
13	J.A. Coles – Boiler Upgrade	\$110,282	5,392 Therms	\$6,524	16.9
14	H.B. Brunner – Boiler Upgrade	\$110,282	3,592 Therms	\$4,885	22.6

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

Table ES-3: Recommended ECRM's¹			
Total Engineer's Opinion of Probable Construction Cost	Projected Annual Energy Savings (kWh or therms)	Projected Annual Energy Cost Savings	Simple Payback Period (years)
\$9,155,640	727,265 kWh	\$285,056	32

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

Renewable Energy Technologies

Solar Energy

Section 2 of the report provides for an economic evaluation of a solar energy system recommended to be installed at some of the District's facilities. The evaluation covered the economic feasibility of the District installing a solar energy system under a typical construction contract and to assume full responsibility of the operation of such a system.

Based on a simple payback model, summarized in Table ES-2, it would benefit the District to further investigate the installation of a solar energy system at eight (8) buildings. This is primarily based on the initial upfront capital investment required for a solar energy system installation and the 10 year payback period. This payback period may justify installing the solar energy system. Other options such as Power Purchase Agreements are potentially available as well to help finance the project. Solar technology is constantly changing and will most likely continue to lower in price.

Two major factors influencing the project financial evaluation is the variance of the prevailing energy market conditions and Solar Renewable Energy Credit (SREC) rates, with the largest impact to the payback model being the SREC credit pricing. For the payback model, conservative estimates of the SREC's market value over a 15 year period were assumed, as discussed in Section 2.

Table ES-2 includes a simple payback analysis for the installation of a solar energy system at the identified District buildings.

Table ES-2: Simple Payback Analysis for Solar Energy System

Parameter	Solar
Estimated Budgetary Project Cost	\$9,155,640
1 st Year Production	1,587,370 kWh
Annual Electric Savings	\$285,056
Annual Estimated SREC Revenue	\$625,133
Project Simple Payback	10

Section 1

Introduction

1.1 General

As part of an initiative to reduce energy cost and consumption, the Scotch Plains-Fanwood Board of Education has secured the services of Camp Dresser and McKee (CDM) to perform an energy audit at the eight (8) district school facilities in an effort to develop comprehensive energy conservation initiatives.

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

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

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

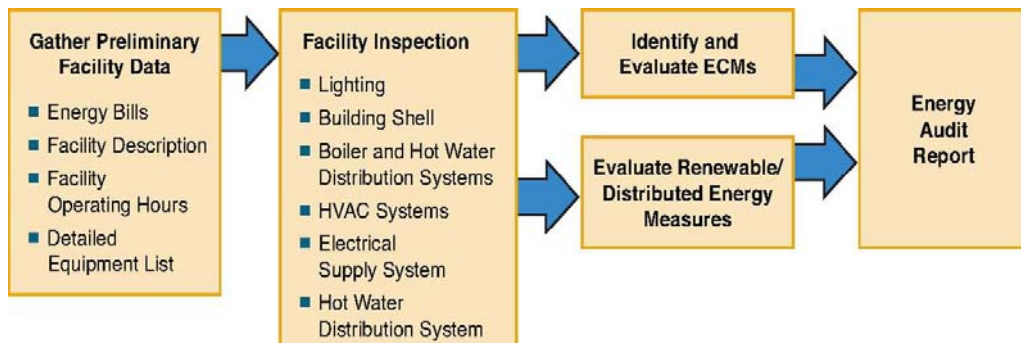


Figure 1-1: Energy Audit Phases

1.2 Background

The buildings that were included in the energy audit for the Scotch Plains-Fanwood Board of Education were the Howard B. Brunner School, J. Ackerman Coles School, Evergreen School, William J. McGinn School, School One School, Park Middle School, Terrill Middle School and the Scotch Plains-Fanwood High School.

The Howard B. Brunner School is a 50,580 ft² building that was originally built in 1960. The school is utilized for elementary school students grades Pre-K through 4, occupied by approximately 410 students and 68 faculty and staff members. The school

is occupied from 6:30 am to approximately 6:00 pm during the week, is open on the weekends and during the summer for summer school classes and camps.

The J. Ackerman Coles School is a 53,785 ft² building that was originally built in 1963, with extensions to provide additional classroom space built in 1972 and 2002. The school is utilized for elementary school students grades Pre-K through 4, occupied by 552 students and 66 faculty and staff members. The school is occupied from 6:30 am to approximately 6:00 pm during the week, is open on the weekends and during the summer for summer school classes and camps.

The Evergreen School is a 43,524 ft² building that was originally built in 1951, with extensions to provide additional classroom space built in 1998 and 2002. The school is utilized for elementary students grades K through 4, occupied by 417 students and 50 faculty and staff members. The school is occupied from 6:30 am to 6:00 pm during the week, is open on the weekends and during the summer for summer school classes and camps.

The William J. McGinn School is a 49,489 ft² building that was originally built in 1966 with a renovation in 2002. The school is utilized for elementary students grades K through 4, occupied by 494 students and 62 faculty and staff members. The school is occupied from 6:30 am to 6:00 pm during the week, is open on the weekends and during the summer for summer school classes and camps.

The School One School is a 46,205 ft² building that was originally built in 1973, with a renovation and additional classroom space completed in 2002. The school is utilized for elementary students grades K through 4, occupied by 394 students and 66 faculty and staff members. The school is occupied from 6:30 am to 6:00 pm during the week, is open on the weekends and during the summer for summer school classes and camps.

The Park Middle School is a 113,660 ft² building that was originally built in 1929 with renovations completed in 2002. The school is utilized for middle school students grades 5 through 8, occupied by 874 students and 113 faculty and staff members. The school is occupied from 6:30 am to 6:00 pm during the week, is open on the weekends and during the summer for summer school classes and camps.

The Terrill Middle School is a 93,577 ft² building that was originally built in 1963 with renovations completed in 2002. The school is utilized for middle school students grades 5 through 8, occupied by 859 students and 96 faculty and staff members. The school is occupied from 6:30 am to 6:00 pm during the week, is open on the weekends and during the summer for summer school classes and camps.

The Scotch Plains-Fanwood High School is a 230,595 ft² building that was originally built in the late 1950's. The school is occupied by 1,451 high school students and 178 faculty and staff members. The school is occupied from 6:30 am to 7:00 pm during the

week, is open on the weekends and during the summer for summer school classes and camps.

1.3 Purpose and Scope

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

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

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

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

Section 2

Facility Description

2.1 Howard B. Brunner Elementary

2.1.1 Description of Building Envelope

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



The walls of the Brunner Elementary School are composite cavity walls consisting of brick facade, cavity and concrete masonry CMU back-up blocks. The existing roofing system throughout the building consists of insulation and a ballasted asphalt roof over flat roof decks.

The windows throughout the building are single pane windows. Replacement of the single paned windows is

recommended, although it is anticipated that the replacement will only result in a savings of approximately 2,262 therms and 7,270 kWh per year, for a total savings of \$4,360 per year. While this is a significant savings, the anticipated payback would be well in excess of 20 years, as window replacements tend to be quite costly. An alternative may be to install storm windows either inside or outside. These will provide almost as much savings as a complete window replacement, at a fraction of the cost.

The exterior doors are FRP doors, glass and wood. FRP doors are highly recommended on an energy efficiency level. FRP doors are made out of a high strength, light weight material with energy saving insulation and good sealing ability, as the doors will not expand or contract with changing climate. It is recommended that any wooden exterior doors be replaced with FRP.

It was also noted that the Brunner Elementary School has a number of window AC units. It is recommended that the air conditioning sleeves be checked for a tight seal and if the AC units are left in place through the winter that AC covers be purchased and installed. An outdoor AC cover covers the top and sides of the unit to stop drafts. Window and through-wall AC covers are UV resistant, water repellent PVC vinyl

with elasticized corners and straps for a tight fit. Outdoor or indoor AC covers can also be customized to meet the District's needs. A standard outdoor AC cover can cost around \$15. The impact on the overall building heating load will be minimal; however, there will be a direct impact on the occupants comfort.

2.1.2 Description of Building HVAC

Heating at the Brunner Elementary School is primarily provided by a hot water system, fed by one (1) natural gas Superior firetube boiler, installed in 1960. This boiler has a rated capacity of 5,200 MBH (1 MBH = 1,000 Btu/Hr).

The building hot water system provides heat to unit ventilators and fin-tube radiators located within each classroom. Additionally, many of the classrooms have large ceiling fans to increase air circulation.

Cooling is provided to the administration offices, nurse's office, teacher's room, room 121, and room 205 with window air conditioning units. Rooms 120, 122, and 123 utilize a gas-fired Goodman rooftop packaged air conditioning unit for heating and cooling. The media center and its surrounding rooms utilize a Nesbitt unit for heating and cooling. This Nesbitt unit has hot water coils served by a gas-fired Lochinvar Copperfin II boiler, also located on the roof.

The school has a central building management system to monitor and control the operation of major HVAC equipment. This system is controlled remotely by a company called Energy for America.

Domestic hot water is created by a gas-fired water heater. Detailed information, such as location, make and model, on this water heater and other HVAC equipment may be found in Section 4.

2.1.3 Description of Building Lighting

The existing lighting system consists of 2X2 (2 and 4 lamp), 2X4 (2 and 3 lamp), 2-foot (2 lamp), 4-foot (1 and 2 lamp), 8-foot (4 lamp) linear fluorescent fixtures, along with compact fluorescent, metal halide, high pressure sodium, and incandescent fixtures. Almost all of the linear fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts.

2.2 Evergreen Elementary

2.2.1 Description of Building Envelope

The walls of the Evergreen Elementary School consist of brick facade and concrete masonry CMU back-up blocks. There are sections of the building where the brick



Example of an Outdoor AC Cover

facade has broken off, overall having a minimal effect on the thermal resistance of the building as the brick in this case offers more of an aesthetic value. The existing roofing system throughout the building consists of insulation and a ballasted asphalt roof over flat roof decks.



The windows throughout the building are insulating double pane windows. The majority of the exterior doors are FRP. There are a few window air conditioning units and if left in through the winter, it is recommended that air conditioning sleeves be installed to minimize the infiltration of ambient air.

It was determined that any modifications to the building envelope would not prove to be cost effective, from an energy savings stand-point.

2.2.2 Description of Building HVAC

Heating at Evergreen Elementary School is primarily provided by a steam system, fed by two (2), natural gas, Weil McLain cast-iron boilers, installed in 1974 and 1985 respectively. Each boiler has a gross-rated input capacity of 4,200 MBH. Additionally, a Lochinvar Copper Fin II watertube boiler with a capacity of 750 MBH was installed in a second mechanical room in 2008. This boiler serves the board office.

Steam serves unit ventilators in each classroom for heating. Additionally, there are several rooftop units that serve areas such as the multipurpose room and the gym and surrounding rooms. Rooms 132 and 131 utilize electric heat unit ventilators.

Cooling is provided to the administration offices, nurse's office, and faculty lounge by window air conditioning units. Space heating of these areas is provided by steam radiators. The rooftop units that serve the gym, room 133, and the multipurpose room also provide cooling to these areas and there is a rooftop condensing unit that provides cooling to room 113. The unit ventilators in rooms 132 and 131 are tied to outdoor condensing units to provide cooling to these rooms as well.

The school has a central building management system to monitor and control the operation of major HVAC equipment. This system is controlled remotely by Energy for America. All HVAC controls are pneumatic.

Domestic hot water is generated by gas-fired hot water heaters. Detailed information, such as location, make and model, on these water heaters and other HVAC equipment may be found in Section 4.

2.2.3 Description of Building Lighting

The existing lighting system consists of 2X2 (2 lamp), 1X4 (2 lamp), 2X4 (2, 3, and 4 lamp), 8-foot (4 lamp), 4-foot (1, 2, and 4 lamp), linear fluorescent fixtures, along with compact fluorescent, metal halide, high pressure sodium, and incandescent fixtures. A large portion of the linear fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However, there are a number of existing inefficient incandescent and fluorescent fixtures.

2.3 J. Ackerman Coles Elementary

2.3.1 Description of Building Envelope

The walls of the J. Ackerman Coles Elementary School are composite cavity walls consisting of brick façade, cavity and concrete masonry CMU back-up blocks. The existing roofing system throughout the majority of the building consists of insulation and a ballasted asphalt roof over flat roof decks. There are portions of the building that have EPDM membrane roofing. Minimal pooling was observed, as the school building has an adequate drainage system.

Most of the windows throughout the building are single pane windows. Replacement of the single paned windows is recommended, although it is anticipated that the replacement will only result in a savings of approximately 1,070 therms and 2,420 kWh per year, for a total savings of \$1,774 per year. With this estimated savings, the anticipated payback would be well in excess of 20 years, as window replacements tend to be quite costly. An alternative may be to install storm windows either inside or outside. These will provide almost as much savings as a complete window replacement, at a fraction of the cost.

The exterior doors are FRP.

2.3.2 Description of Building HVAC

Two HB Smith cast iron, hot water boilers heat the J Ackerman Coles Elementary School. These boilers were installed in 1963, and each has a rated capacity of 2,640 MBH. The boilers provide heating to the building hot water system, which serves unit ventilators in the classrooms.

While the hot water system heats the majority of the building space, some areas are heated through different means. When the 1972 area of the building was renovated in 2002 to partition the space, a large multizone Octagon unit was put in to condition the space. This unit incorporates a gas-fired furnace to provide heat to this area. Also of note, the unit ventilators in rooms 150 and 151 incorporate electric resistance coils for heating, in lieu of hot water.

In addition to unit ventilators, most of the classrooms also utilize large ceiling fans, installed approximately 15 years ago, to help circulate air. Cooling is provided to the administration and nurse's offices using window air conditioning units. Outdoor condensing units provide cooling through the unit ventilators to rooms 123, 124, 150,

151, 152, and 153. Additionally, rooftop units provide cooling to the gym and the area renovated in 2002.

The school has a central building management system to monitor and control the operation of major HVAC equipment. This system is controlled remotely by Energy for America.

Domestic hot water is created by gas-fired hot water heaters. Detailed information, such as location, make and model, on these water heaters and other HVAC equipment may be found in Section 4.

2.3.3 Description of Building Lighting

The existing lighting system consists of 2X2 (2 and 4 lamp), 1X4 (2 lamp), 2X4 (2, 3, and 4 lamp), 2-foot (2 lamp), 4-foot (1, 2, and 4 lamp), linear fluorescent fixtures, along with compact fluorescent, metal halide, high pressure sodium, and incandescent fixtures. All of the linear fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However there are a number of existing inefficient incandescent fixtures.

2.4 School One

2.4.1 Description of Building Envelope

The walls of School One Elementary School are brick construction consisting of insulation and sheetrock interior walls. The existing roofing system throughout the majority of the building consists of insulation and a ballasted asphalt roof over flat roof decks. At the time of the audit, minimal pooling was observed on the roof, there were no signs of interior leakage or cracks at the roof flashing.

The windows throughout the building are double pane windows. The exterior doors are FRP.

It was determined that the building envelope is in good condition and is currently providing a high level of insulation. As such, any modifications to the insulation system would not prove to be cost effective, from an energy savings stand-point.

2.4.2 Description of Building HVAC

Unlike the other schools in the district, School One does not utilize a boiler and hot water system. Heating is instead provided to most of the building by a series of gas-fired rooftop units. Rooms 130 and 131 utilize electric unit ventilators for heating.

With the exception of the gym, the entire building is air conditioned, also provided by the aforementioned rooftop units. There are outdoor condensing units that provide cooling to the unit ventilators in rooms 130 and 131 as well.

The school has a central building management system to monitor and control the operation of major HVAC equipment. This system is controlled remotely by Energy for America.

Domestic hot water is generated by a gas-fired hot water heater. Detailed information, such as location, make and model, on this water heater and other HVAC equipment may be found in Section 4.

2.4.3 Description of Building Lighting

The existing lighting system consists of 2X2 (2 lamp), 2X4 (2, 3, and 4 lamp), 2-foot (1 and 2 lamp), 4-foot (2 and 4 lamp), and linear fluorescent fixtures, along with compact fluorescent, metal halide, and incandescent fixtures. All of the fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However there are a small number of existing inefficient incandescent fixtures.

2.5 William J. McGinn Elementary

2.5.1 Description of Building Envelope

The walls of the William J. McGinn Elementary School are composite cavity walls consisting of brick façade, cavity and concrete masonry CMU back-up blocks. The existing roofing system throughout the majority of the building consists of insulation and a ballasted asphalt roof over flat roof decks. At the time of the audit, minimal pooling was observed on the roof, there were no signs of interior leakage or cracks at the roof flashing.

The windows throughout the building are insulating double paned windows. The exterior doors are FRP. There are a few window AC units, and as described previously, the use of AC covers is recommended if the AC units remain in place during the winter.

It was determined that the building envelope is in good condition and is currently providing a high level of insulation. As such, any modifications to the insulation system would not prove to be cost effective, from an energy savings stand-point.

2.5.2 Description of Building HVAC

The William J. McGinn Elementary School utilizes a boiler and hot water system for heating. There are two (2) HB Smith hot water, cast iron boilers, each capable of producing 2,220 MBH of heat. The majority of the classrooms utilize unit ventilators with hot water coils for heat. These classrooms also have large ceiling fans to aid in air circulation.

In addition to the building hot water system, there are several packaged air conditioning, gas-fired rooftop units which provide heating and cooling to larger common areas, such as the multi-purpose rooms and media center, as well as a number of the classrooms. Cooling is also provided to the conference and nurse's rooms through the use of window air conditioning units.

The school has a central building management system to monitor and control the operation of major HVAC equipment. This system is controlled remotely by Energy for America.

Domestic hot water is generated by a gas-fired hot water heater. Detailed information, such as location, make and model, on this water heater and other HVAC equipment may be found in Section 4.

2.5.3 Description of Building Lighting

The existing lighting system consists of 2X2 (2 and 4 lamp), 2X4 (2, 3, and 4 lamp), 2-foot (2 lamp), 4-foot (1 and 2 lamp), 8-foot (4 lamp) linear fluorescent fixtures, along with compact fluorescent, metal halide, high pressure sodium, and incandescent fixtures. Almost all of the linear fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However there are a small number of existing inefficient incandescent and fluorescent fixtures.

2.6 Park Middle School

2.6.1 Description of Building Envelope

The walls of the Park Middle School are composite cavity walls consisting of brick façade, cavity and concrete masonry CMU back-up blocks. The existing roofing system throughout the majority of the building consists of insulation and a ballasted asphalt roof over flat roof decks. At the time of the audit, minimal pooling was observed on the roof, there were no signs of interior leakage or cracks at the roof flashing.

The windows throughout the building are insulating double paned windows. The exterior doors are FRP. There are a few window AC units, and as described previously, the use of AC covers is recommended if the AC units remain in place during the winter.

It was determined that the building envelope is in good condition and is currently providing a high level of insulation. As such, any modifications to the insulation system would not prove to be cost effective, from an energy savings stand-point.

2.6.2 Description of Building HVAC

The Park Middle School uses a hot water system, served by three hot water boilers for much of the building's heating supply. There are two boiler rooms in this building. In the boiler room toward the rear of the school, there is a Superior hot water boiler, installed in 1959. The hot water heating capacity of this boiler was not available. In the other boiler room, there are two Weil McLain cast iron boilers, installed in 1972. Each of these boilers has an input capacity of 2,525 MBH. The hot water system serves individual unit ventilators and fin-tube radiators throughout the building.

In addition to the building hot water system, there are several gas-fired, packaged air conditioning rooftop units which provide heating and cooling to larger common

areas, such as the new gym, and media center, as well as a number of the classrooms and offices. Room 219 and the custodial office were found to have window air conditioning units, as well.

The school has a central building management system to monitor and control the operation of major HVAC equipment. This system is controlled remotely by Energy for America. HVAC controls are pneumatic.

Domestic hot water is generated by a gas-fired hot water heater. Detailed information, such as location, make and model, on this water heater and other HVAC equipment may be found in Section 4.

2.6.3 Description of Building Lighting

The existing lighting system consists of 2X2 (2 lamp), 2X4 (2, 3, and 4 lamp), 4X4 (4 lamp), 2-foot (1 lamp), 4-foot (1, 2, and 4 lamp), 8-foot (2 and 4 lamp) and linear fluorescent fixtures, along with compact fluorescent, metal halide, high pressure sodium, and incandescent fixtures. Most of the fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However there are a small number of existing inefficient incandescent and fluorescent fixtures.

2.7 Terrill Middle School

2.7.1 Description of Building Envelope

The walls of the Terrill Middle School are composite cavity walls consisting of brick façade, cavity and concrete masonry CMU back-up blocks. The existing roofing system consists of insulation and a ballasted asphalt roof or EPDM membrane over flat roof decks. At the time of the audit, minimal pooling was observed on the roof, there were no signs of interior leakage or cracks at the roof flashing.

The windows in the original section of the building are single pane windows. Replacement of the single paned windows is recommended, although it is anticipated that the replacement will only result in a savings of approximately 1,800 therms and 5,110 kWh per year, for a total savings of \$4,785 per year. With this estimated savings, the anticipated payback would be well in excess of 20 years, as window replacements tend to be quite costly. An alternative may be to install storm windows either inside or outside. These will provide almost as much savings as a complete window replacement, at a fraction of the cost.

The exterior doors are FRP. There are a few window AC units, and as described previously, the use of AC covers is recommended if the AC units remain in place during the winter.

2.7.2 Description of Building HVAC

The Terrill Middle School also uses a hot water system for the majority of the building's required heating. There are two (2) hot water HB Smith boilers, each capable of producing 6,800 MBH of heat. The hot water system serves unit ventilators

in most of the classrooms, as well as hot water coils in the rooftop unit serving the Media Center. The new gym (multipurpose room) and band room have gas-fired rooftop units which provide heating to these areas.

The 2002 additions of the building are fully air conditioned. Classrooms utilize DX coils in their respective unit ventilators, with split system condensing units located on the roof. Rooftop units serve to cool areas such as the new gym, band room, and media center.

The school has a central building management system to monitor and control the operation of major HVAC equipment. This system is controlled remotely by Energy for America. HVAC controls are pneumatic.

Domestic hot water is generated by both gas-fired and electric hot water heaters. Detailed information, such as location, make and model, on these water heaters and other HVAC equipment may be found in Section 4.

2.7.3 Description of Building Lighting

The existing lighting system consists of 2X2 (2 and 4 lamp), 1X4 (2 lamp), 2X4 (2, 3, and 4 lamp), 4-foot (2, 3, and 4 lamp), 8-foot (4 lamp) and linear fluorescent fixtures, along with compact fluorescent, metal halide, high pressure sodium, and incandescent fixtures. Almost all of the fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However there are a number of existing inefficient incandescent and fluorescent fixtures.

2.8 Scotch Plains-Fanwood High School

2.8.1 Description of Building Envelope

The walls of the Scotch Plains-Fanwood High School are brick construction consisting of insulation and sheetrock interior walls. The existing roofing system throughout the majority of the building consists of insulation and a ballasted asphalt roof over flat roof decks. At the time of the audit, minimal pooling was observed on the roof, there were no signs of interior leakage or cracks at the roof flashing.

The windows throughout the building are double pane windows. The exterior doors are FRP.

It was determined that the building envelope is in good condition and is currently providing a high level of insulation. As such, any modifications to the insulation system would not prove to be cost effective, from an energy savings stand-point.

2.8.2 Description of Building HVAC

The Scotch Plains-Fanwood High School utilizes a steam system for much of the building heat. Three (3) Rockmills boilers, installed in 1994, create 8,000 lbs/hr of steam, each. This steam system then serves unit ventilators in many of the perimeter classrooms. Additionally, gas-fired Nesbitt rooftop units heat much of the rear wing

of the building. There is also a large McQuay rooftop unit that provides heating and cooling to the auditorium and surrounding areas.

Areas served by the Nesbitt rooftop units also benefit from cooling provided by these units. The data processing room has dedicated cooling provided by two condensing units located on the ground just outside. Additionally, window air conditioning units were found in the special services room and school store.

The school has a central building management system to monitor and control the operation of major HVAC equipment. This system is controlled remotely by Energy for America.

Domestic hot water is primarily provided by both gas-fired water heater located in the boiler room. Detailed information, such as make and model, on this water heater and other HVAC equipment may be found in Section 4.

2.8.3 Description of Building Lighting

The existing lighting system consists of 2X2 (2 and 4 lamp), 1X4 (2 lamp), 2X4 (2, 3, and 4 lamp), 4-foot (1, 2, 3, and 4 lamp), 8-foot (1, 2, and 4 lamp) and linear fluorescent fixtures, along with compact fluorescent, metal halide, high pressure sodium, mercury vapor, and incandescent fixtures. Most of the fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However there are a number of existing inefficient incandescent and fluorescent fixtures.

2.9 Miscellaneous Equipment

On average, each classroom contains four (4) computers, a printer, TV, and overhead projector or smartboard. In addition, the schools also have tech centers with 30 to 40 computers each.

It is recommended that the District consider implementing the standardized use of Smart Strips. Computer peripherals, such as monitors, printers or scanners, continue to use energy even after they are shut off, which adds up over time. The Smart Strip power strips offer surge protection and the ability to monitor the current on a single 'control' outlet. When the computer that is plugged into that single outlet is shut down the Smart Strip shuts off all of the other peripherals on the power strip. This is discussed further in Section 4.4.

The schools also have office areas and nurse's offices that contain copiers, microwaves, refrigerators, vending machines, soda machines and coffee makers.

The school kitchens contain a number of appliances including convection ovens, refrigerators, electric warming tables and cabinets and walk-in refrigerators and freezers.

It is recommended that the District continue implementing the standardized use of Energy Star appliances, as the need arises. Energy Star refrigerators and freezers, for

example, use up to 40% less energy than models built in 2001. Energy Star appliances will not only reduce the District's utility bills, but will also outperform standard appliances, due to the improved design and advanced technologies.

Section 3

Baseline Energy Use

3.1 Utility Data Analysis

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

For this study, the monthly gas and electric bills per facility were analyzed and unit costs of energy were obtained. The unit cost of energy, as determined from the information provided by the District, was utilized in determining the feasibility of switching from one energy source to another or reducing the demand on that particular source of energy to create annual cost savings for the Scotch Plains-Fanwood School District.

3.1.1 Electric Charges

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

Electrical demand can be as much as 50 percent or more of the electric bill. The maximum demand (kW value) during the billing period is multiplied by the demand cost factor and the result is added to the electric bill. It is often possible to decrease the electric bill by 15 - 25 percent by reducing the demand, while still using the same amount of energy. The most attractive way to reduce demand (without replacing equipment) is to employ an operating scheme where not all equipment or electrical devices are energized at one time (turn off when not in use). Because demand is typically billed as the highest "current" or kW seen by the electrical meter over a 15 minute interval, staged equipment operation will reduce the average amount of kW seen at the meter in a given period, thus reducing the corresponding charges.

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

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

PSE&G is the current supplier and South Jersey Energy the current distributor of electric energy for the District.

3.1.2 Fuel Charges

Elizabethtown Gas is the current supplier and Pepco the current distributor of natural gas for the District. The District is charged for the cost of the natural gas, a delivery charge and a customer charge, which covers Gas administration charges.

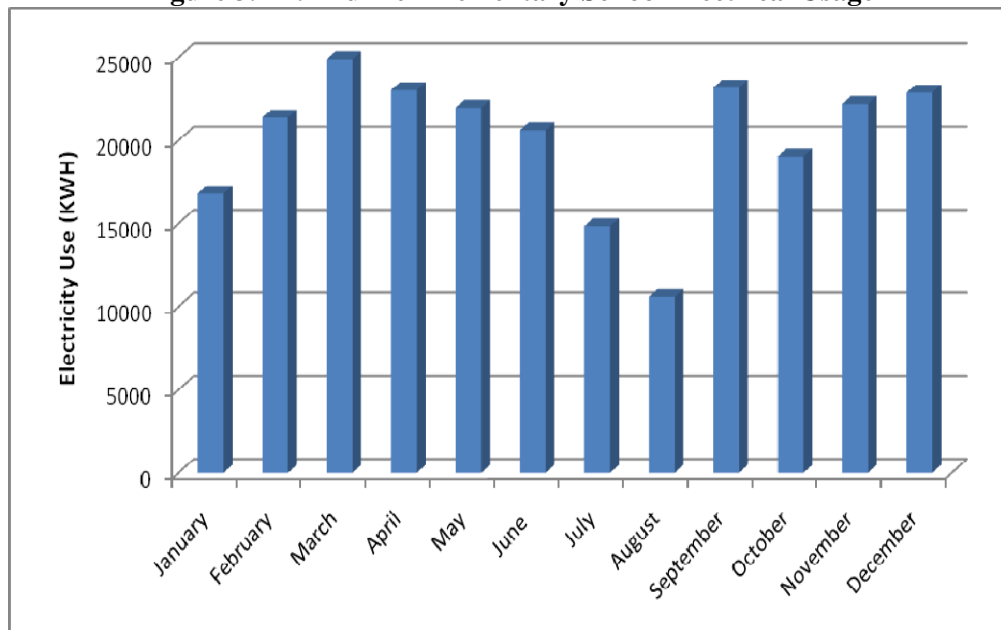
3.2 Facility Results

3.2.1 Howard B. Brunner Elementary

Electric power for the Howard B. Brunner Elementary School is fed from one General Secondary Service three phase line from PSE&G. Figure 3.2-1 illustrates the average monthly total energy consumption from July 2008 through June 2009. From this graph, it can be determined that the electrical baseline consumption for the Brunner Elementary School averages around 10,000 kWh / month.

Figure 3.2-2 illustrates the monthly demand load for the Brunner Elementary School from July 2008 through June 2009.

Figure 3.2-1: Brunner Elementary School Electrical Usage

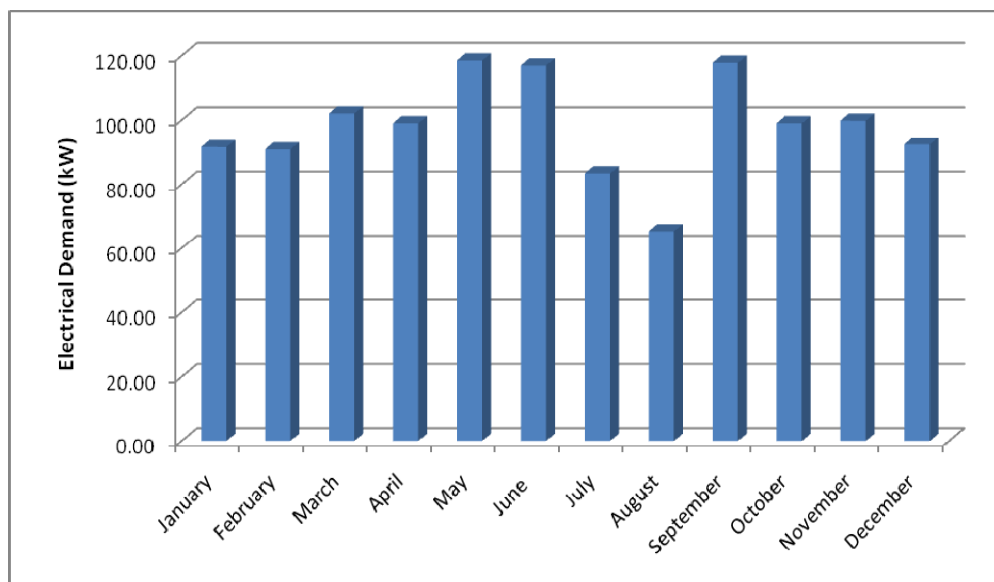


The most recent tariff rates available at the time of this audit for the electrical service from PSE&G are as follows:

	Acct #: 67 103 495 00
PSE&G Service Charge:	\$4.27
Securitization Transition Charges:	\$0.010353939/kWH
Societal Benefits Charges:	\$0.007507879/kWH
<u>Distribution Charges</u>	
Annual Demand:	\$3.920256410/kW
Summer Demand:	\$7.275470085/kW
kWH:	\$0.014458182/kWH

In addition to these tariffs applied for the distribution of the electrical energy from PSE&G, the District is also charged for supply by South Jersey Energy, which has been accounted for in the aggregate costs per kWH presented in Table 3.3-1. This is typical for each of the District's school buildings.

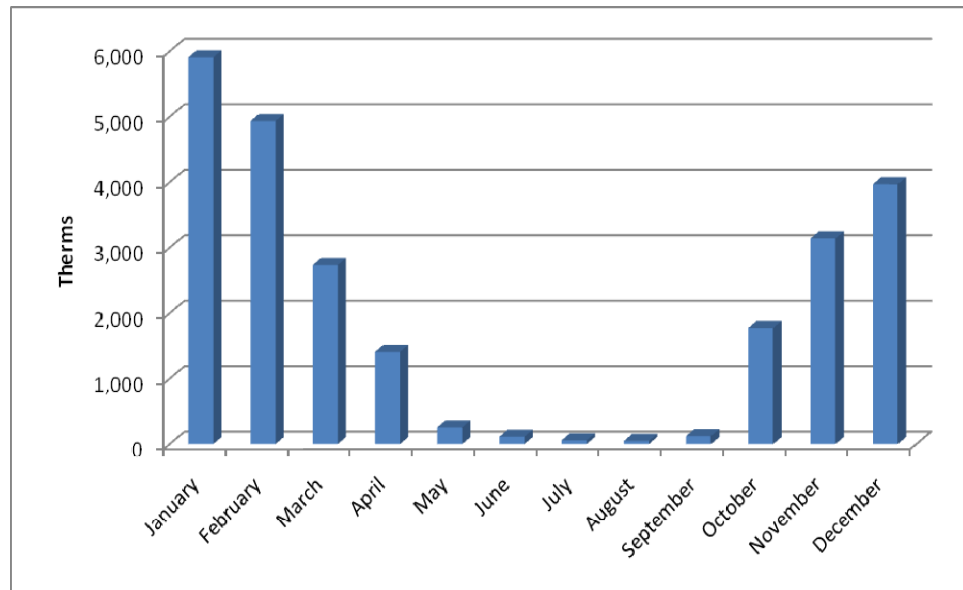
**Figure 3.2-2: Brunner Elementary School
Maximum Monthly Demand**



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

Figure 3.2 -3 illustrates the building's monthly average natural gas consumption from July 2008 through June 2009.

Figure 3.2-3: Brunner Elementary School Gas Usage



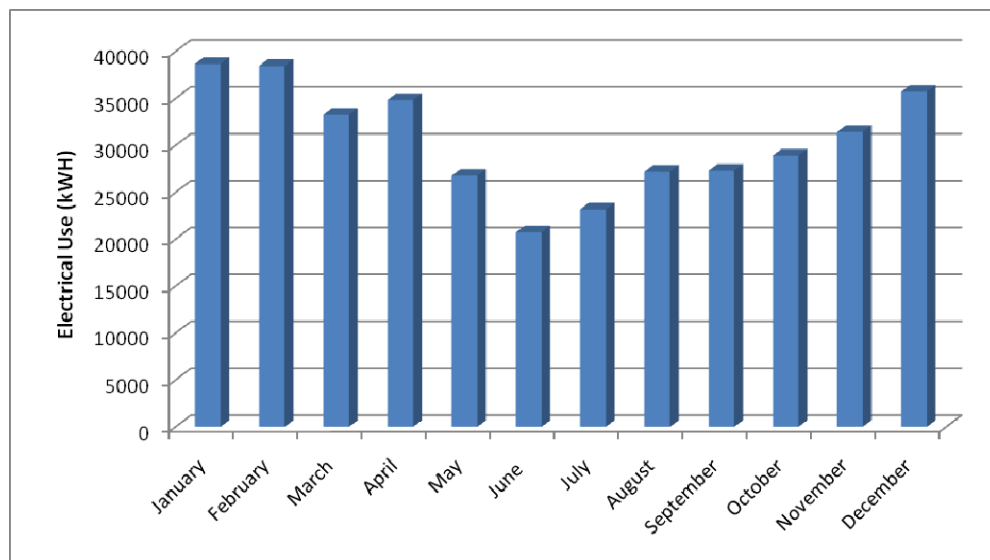
For more on the building gas usage, refer to Section 4.2.

3.2.2 Evergreen Elementary

Electric power for the Evergreen Elementary School is fed from two General Secondary Service three phase lines from PSE&G. Figure 3.2-4 illustrates the average monthly total energy consumption from July 2008 through June 2009. From this graph, it can be determined that the electrical baseline consumption for the Evergreen Elementary School averages around 20,000 kWh / month.

Figure 3.2-5 illustrates the monthly demand load for the Evergreen Elementary School from July 2008 through June 2009.

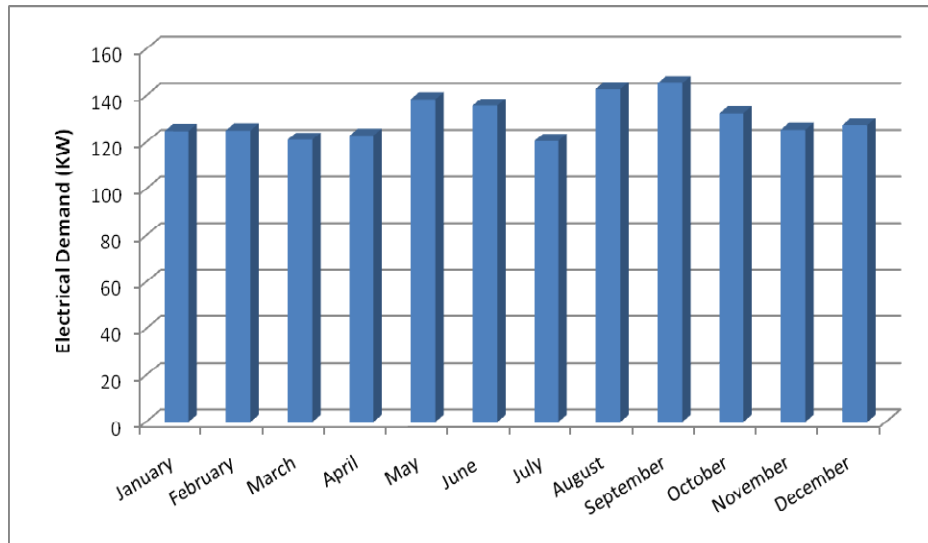
Figure 3.2-4: Evergreen Elementary School Electrical Usage



The most recent tariff rates available at the time of this audit for the Evergreen Elementary School service are as follows:

	Acct #: 66 323 181 18	Acct #: 42 008 566 03
PSE&G Service Charge:	\$4.27	\$374.60
Securitization Transition Charges:	\$0.010375940/kWH	\$0.010353846/kWH
Societal Benefits Charges:	\$0.007518797/kWH	\$0.007508013/kWH
<u>Distribution Charges</u>		
Annual Demand:	\$3.917647059/kW	\$3.247014925/kW
Summer Demand:	\$7.276470588/kW	\$7.725/kW
kWH:	\$0.014436090/kWH	\$0.004599153/kWH (peak)
		\$0.004598684/kWH (off-peak)

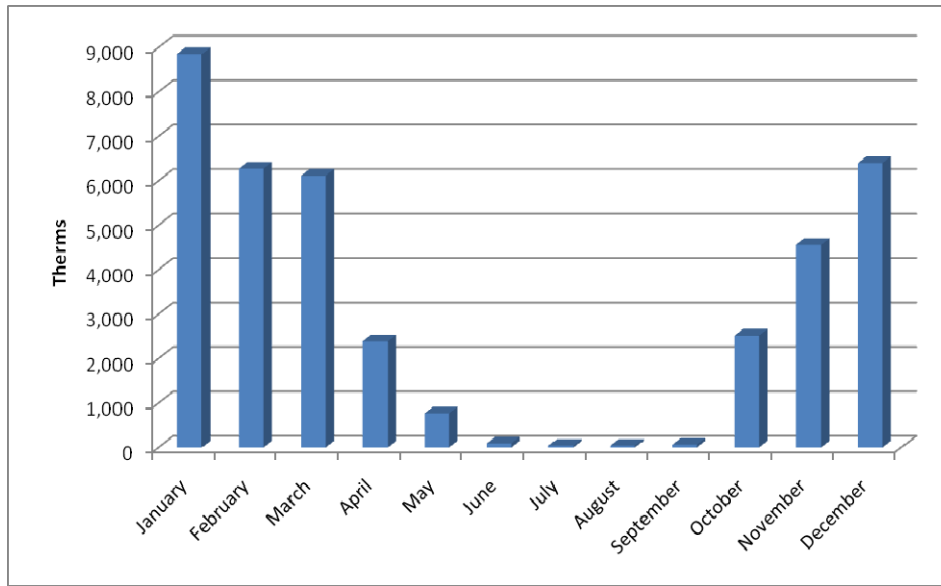
**Figure 3.2-5: Evergreen Elementary School
Maximum Monthly Demand**



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

Figure 3.2 -6 illustrates the building's monthly average natural gas consumption from July 2008 through June 2009.

Figure 3.2-6: Evergreen Elementary School Gas Usage



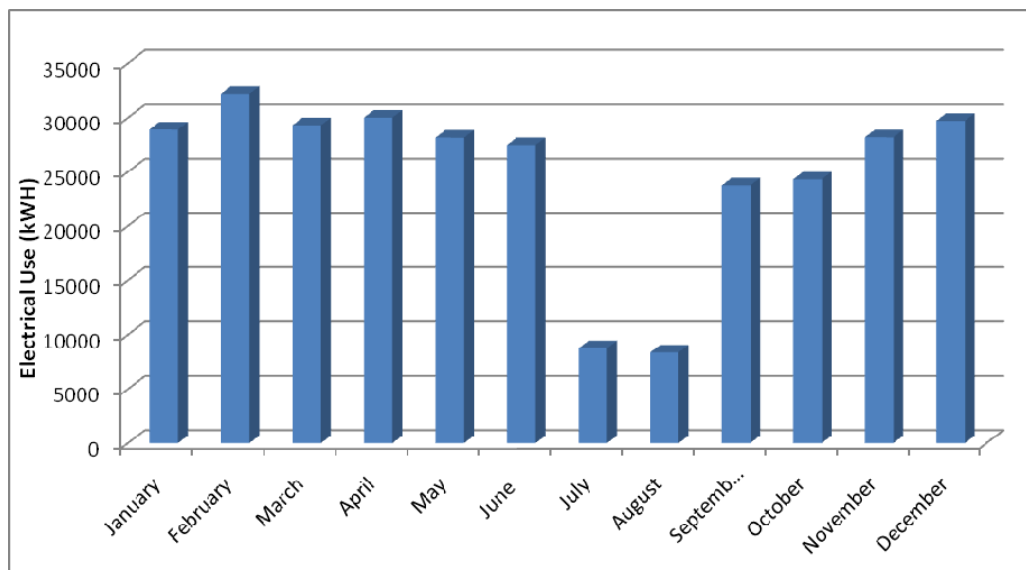
For more on the building gas usage, refer to Section 4.2.

3.2.3 J. Ackerman Coles Elementary

Electric power for the J. Ackerman Coles Elementary School is fed from three General Secondary Service three phase line from PSE&G. Figure 3.2-7 illustrates the average monthly total energy consumption from July 2008 through June 2009. From this graph, it can be determined that the electrical baseline consumption for the J. Ackerman Coles School averages around 8,300 kWh / month.

Figure 3.2-8 illustrates the monthly demand load for the Ackerman Coles School from July 2008 through June 2009.

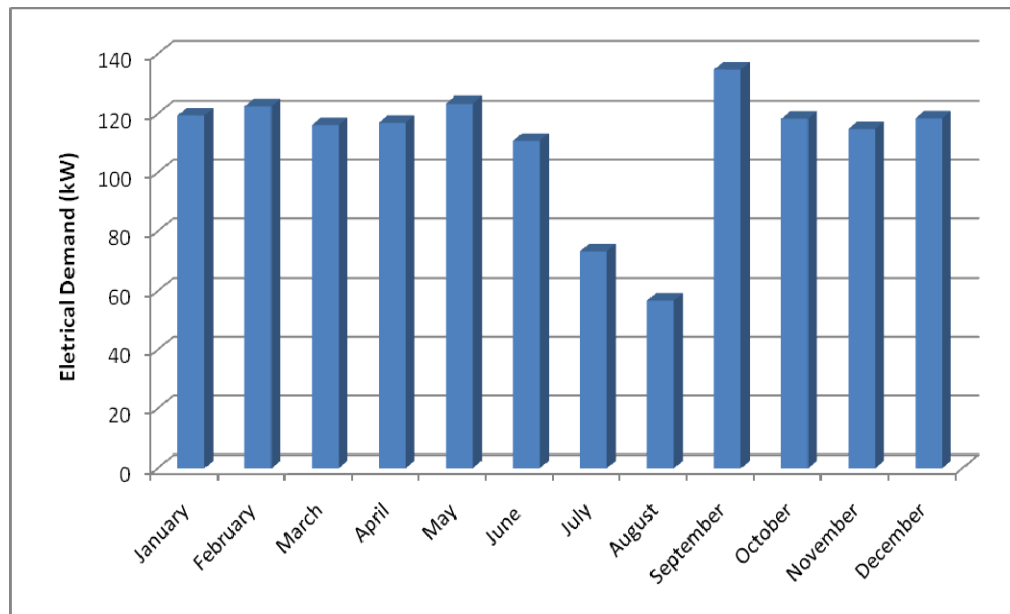
Figure 3.2-7: J. Ackerman Coles Elementary School Electrical Usage



The most recent tariff rates available at the time of this audit for the J. Ackerman Coles School service are as follows:

	Acct #: 67 027 114 09	Acct #: 66 323 162 04	Acct #: 66 724 689 00
PSE&G Service Charge:	\$4.27	\$4.27	Usage/Fixture Charge: \$27.84
Securitization Transition Charges:	\$0.010354545/kWH	\$0.010354023/kWH	NA
Societal Benefits Charges:	\$0.007509091/kWH	\$0.007508046/kWH	NA
<u>Distribution Charges</u>			
Annual Demand:	\$3.919685039/kW	\$3.920285423/kW	NA
Summer Demand:	\$7.275590551/kW	\$7.275535168/kW	NA
kWH:	\$0.014454545/WH	\$0.014457854/kW	\$0.027941000/kWH (up to 229 kWH) \$0.027851000/kWH (remaining use)

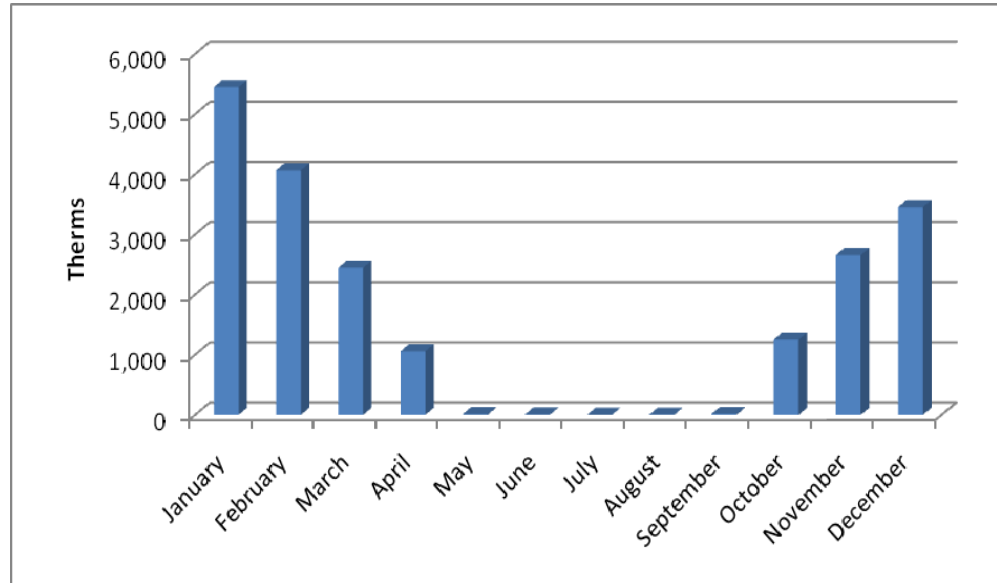
Figure 3.2-8: J. Ackerman Coles Elementary School
Maximum Monthly Demand



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

Figure 3.2 -9 illustrates the building’s monthly average natural gas consumption from July 2008 through June 2009.

Figure 3.2-9: J. Ackerman Coles Elementary School Gas Usage



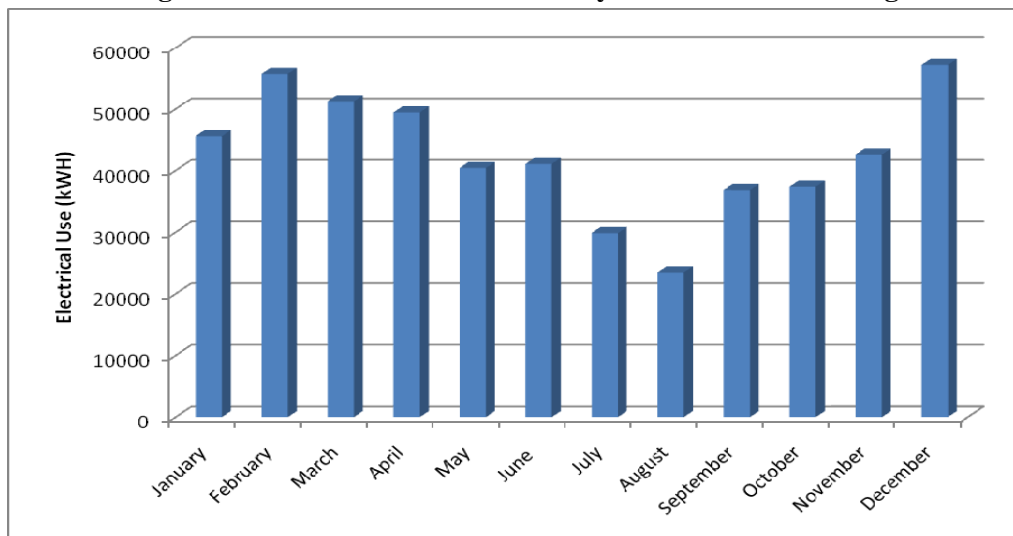
For more on the building gas usage, refer to Section 4.2.

3.2.4 School One Elementary

Electric power for the School One Elementary School is fed from two General Secondary Service three phase lines from PSE&G. Figure 3.2-10 illustrates the average monthly total energy consumption from July 2008 through June 2009. From this graph, it can be determined that the electrical baseline consumption for School One averages around 21,000 kWh / month.

Figure 3.2-11 illustrates the monthly demand load for School One from July 2008 through June 2009.

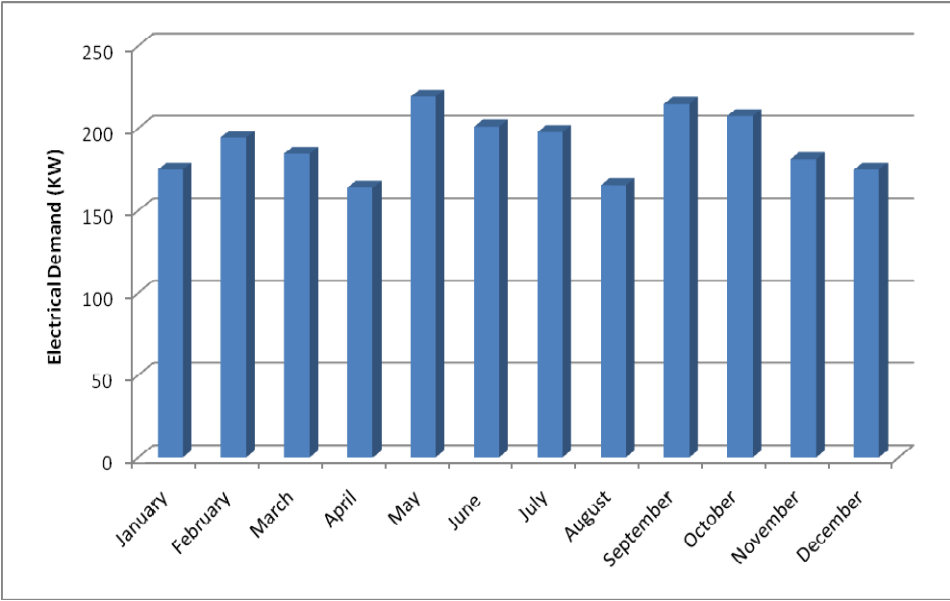
Figure 3.2-10: School One Elementary School Electrical Usage



The most recent tariff rates available at the time of this audit for the School One service are as follows:

	Acct #: 42 000 861 07	Acct #: 66 315 446 02
PSE&G Service Charge:	\$374.60	\$4.27
Securitization Transition Charges:	\$0.010354000/kWH	\$0.010351852/kWH
Societal Benefits Charges:	\$0.007508000/kWH	\$0.007509259/kWH
Distribution Charges		
Annual Demand:	\$3.247008547/kW	\$3.920289855/kW
Summer Demand:	\$7.725/kW	\$7.276086957/kW
kWH:	\$0.004599162/kWH (peak)	\$0.014453704/kWH
	\$0.004598592/kWH (off-peak)	

**Figure 3.2-11: School One Elementary School
Maximum Monthly Demand**



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

Figure 3.2 -12 illustrates the building's monthly average natural gas consumption from July 2008 through June 2009.

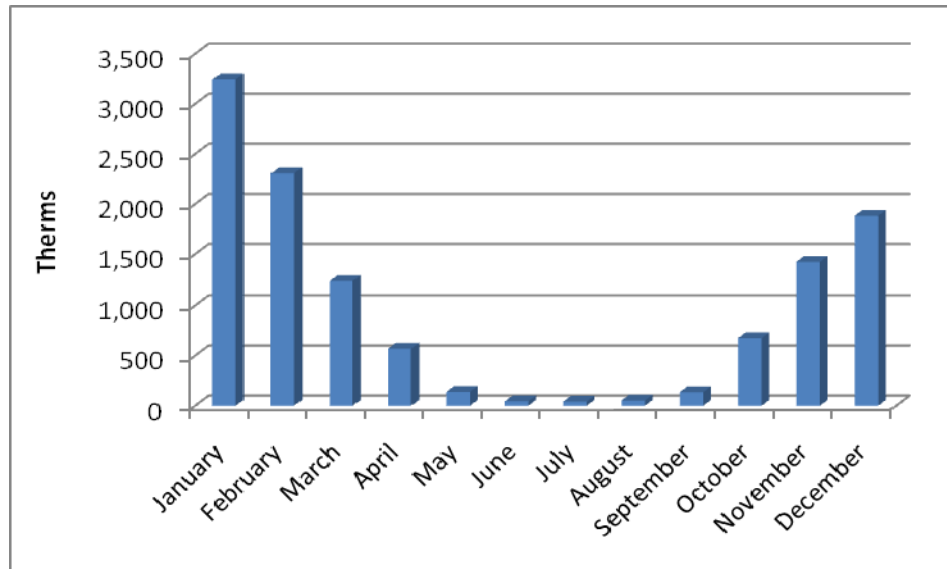


Figure 3.2-12: School One Elementary School Gas Usage

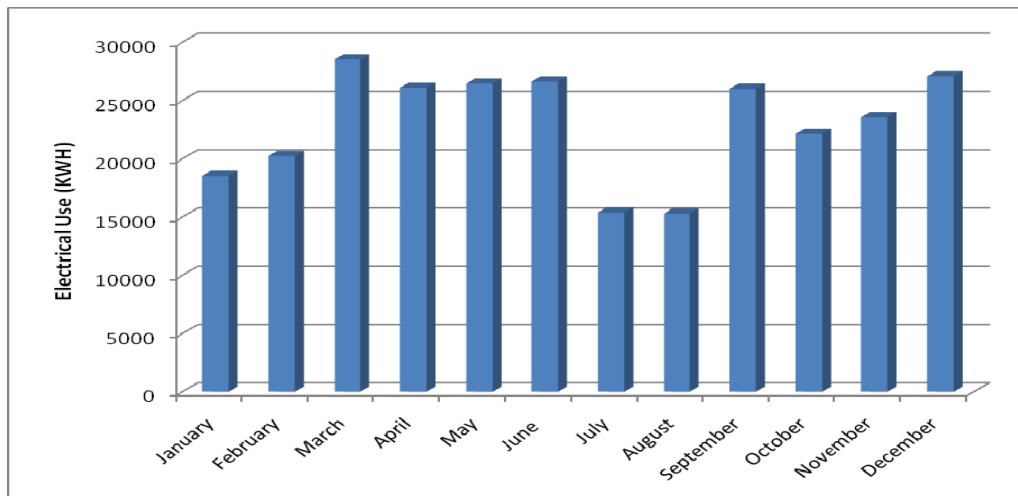
For more on the building gas usage, refer to Section 4.2.

3.2.5 William J. McGinn Elementary

Electric power for the McGinn Elementary School is fed from a General Secondary Service three phase line from PSE&G. Figure 3.2-13 illustrates the average monthly total energy consumption from July 2008 through June 2009. From this graph, it can be determined that the electrical baseline consumption for McGinn averages around 15,000 kWh / month.

Figure 3.2-14 illustrates the monthly demand load for School One from July 2008 through June 2009.

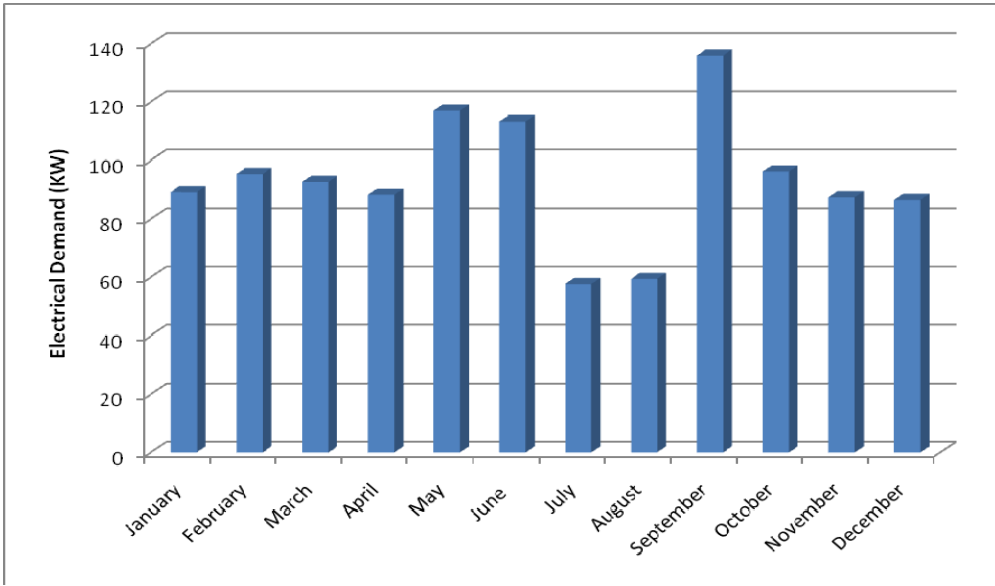
Figure 3.2-13: McGinn Elementary School Electrical Usage



The most recent tariff rates available at the time of this audit for the McGinn electrical service are as follows:

	Acct #: 65 198 651 09
PSE&G Service Charge:	\$4.27
Securitization Transition Charges:	\$0.010353979/kWH
Societal Benefits Charges:	\$0.007507883/kWH
<u>Distribution Charges:</u>	
Annual Demand:	\$3.920194004/kW
Summer Demand:	\$7.275485009/kW
kWH:	\$0.014457958/kWH

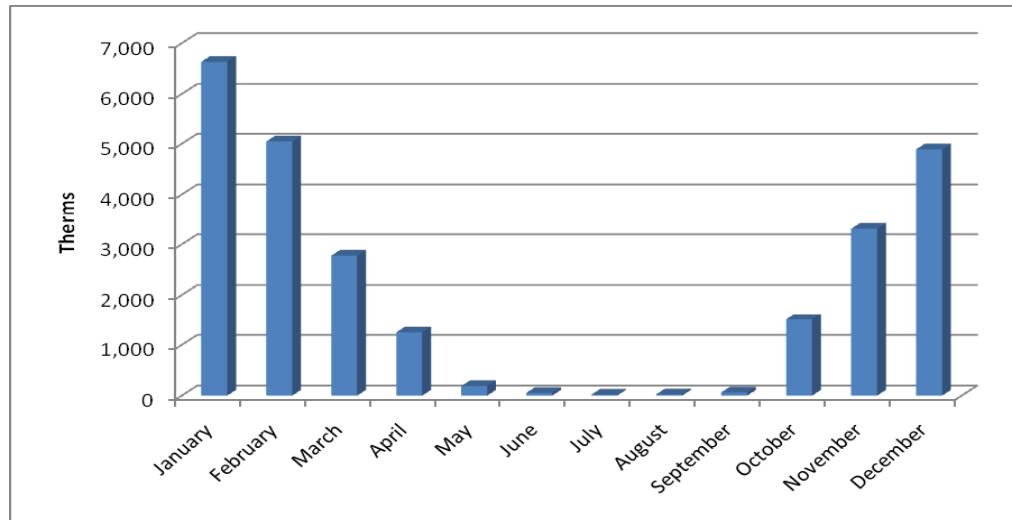
**Figure 3.2-14: McGinn Elementary School
Maximum Monthly Demand**



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

Figure 3.2 -15 illustrates the building’s monthly average natural gas consumption from July 2008 through June 2009.

Figure 3.2-15: McGinn Elementary School Gas Usage



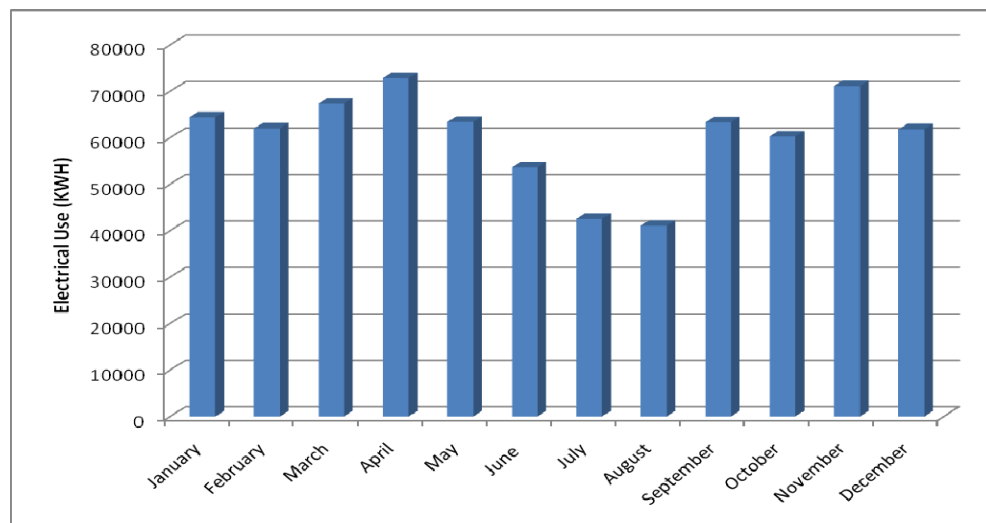
For more on the building gas usage, refer to Section 4.2.

3.2.6 Park Middle School

Electric power for the Park Middle School is fed from two General Secondary Service three phase lines from PSE&G. Figure 3.2-16 illustrates the monthly total energy consumption from May 2008 through April 2009. It should be noted that May and June electrical use only includes data from Account # 42 001 903 03, as information on the second account for these months was not provided. From this graph, it can be determined that the electrical baseline consumption for Park Middle averages around 40,000 kWh / month.

Figure 3.2-17 illustrates the monthly demand load for Park Middle from July 2008 through June 2009.

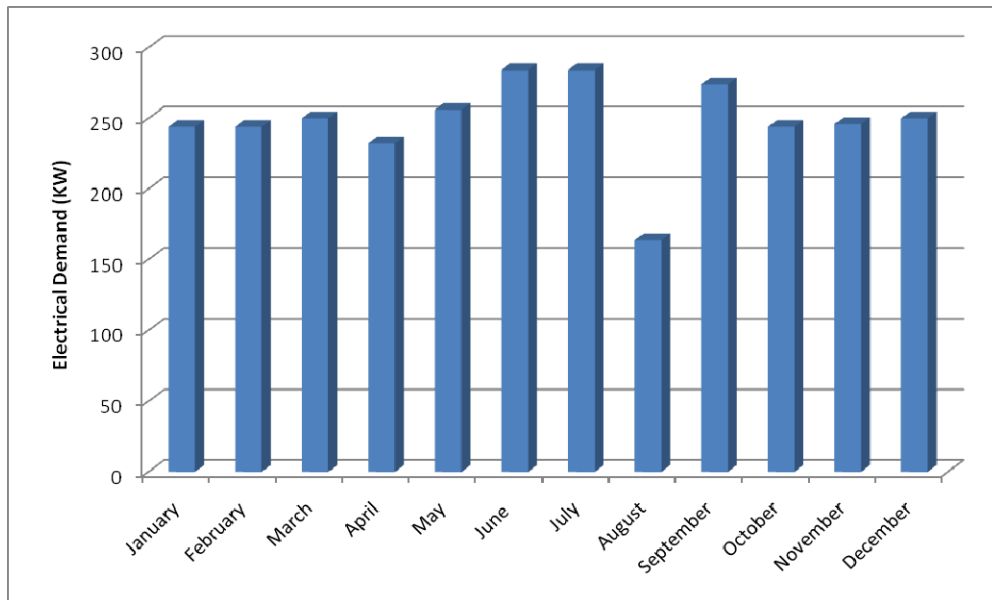
Figure 3.2-16: Park Middle School Electrical Usage



The most recent tariff rates available at the time of this audit for the Park Middle electrical service are as follows:

	Acct #: 42 001 903 03	Acct #: 65 957 562 18
PSE&G Service Charge:	\$327.11	Usage/fixture charge: \$123.54
Securitization Transition Charges:	\$0.010354039/kWH	NA
Societal Benefits Charges:	\$0.007507939/kWH	NA
Distribution Charges		
Annual Demand:	\$3.225387931/kW	NA
kWH:	\$0.004548954/kWH (peak)	\$0.027851/kWH (up to 171 kWH)
	\$0.004549167/kWH (off-peak)	\$0.027941/kWH (remaining kWH)

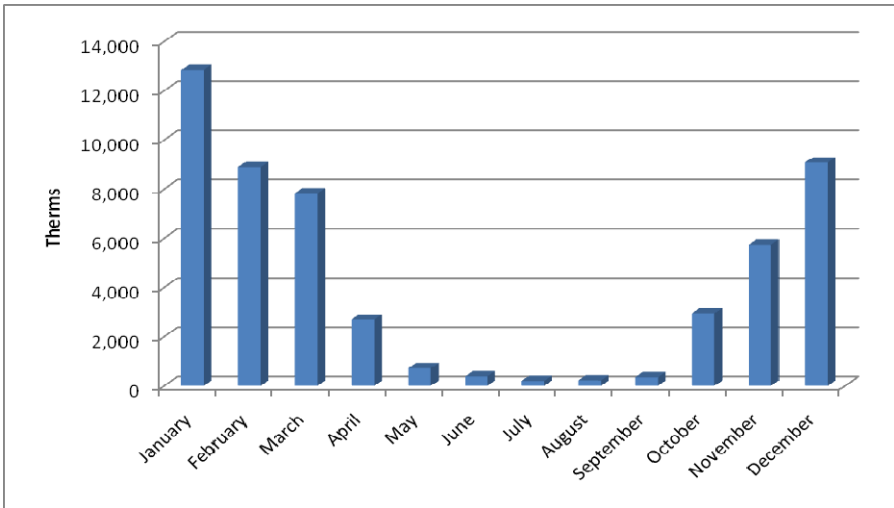
**Figure 3.2-17: Park Middle School
Maximum Monthly Demand**



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

Figure 3.2 -18 illustrates the building's monthly average natural gas consumption from July 2008 through June 2009.

Figure 3.2-18: Park Middle School Gas Usage



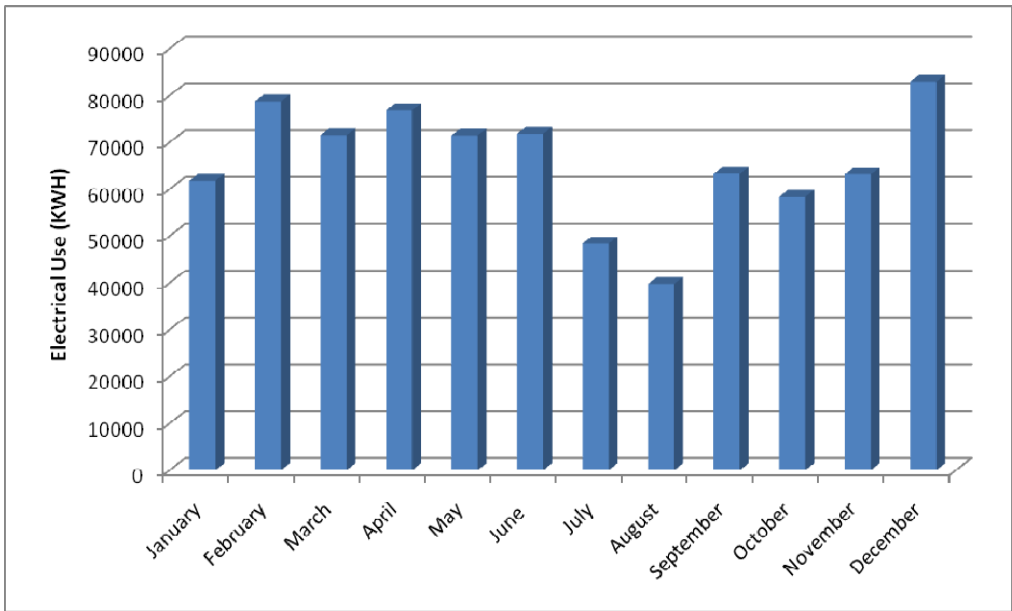
For more on the building gas usage, refer to Section 4.2.

3.2.7 Terrill Middle School

Electric power for the Terrill Middle School is fed from two General Secondary Service three phase lines from PSE&G. Figure 3.2-19 illustrates the monthly total energy consumption from May 2008 through April 2009. From this graph, it can be determined that the electrical baseline consumption for Terrill Middle averages around 39,000 kWh / month.

Figure 3.2-20 illustrates the monthly demand load for Terrill Middle from July 2008 through June 2009.

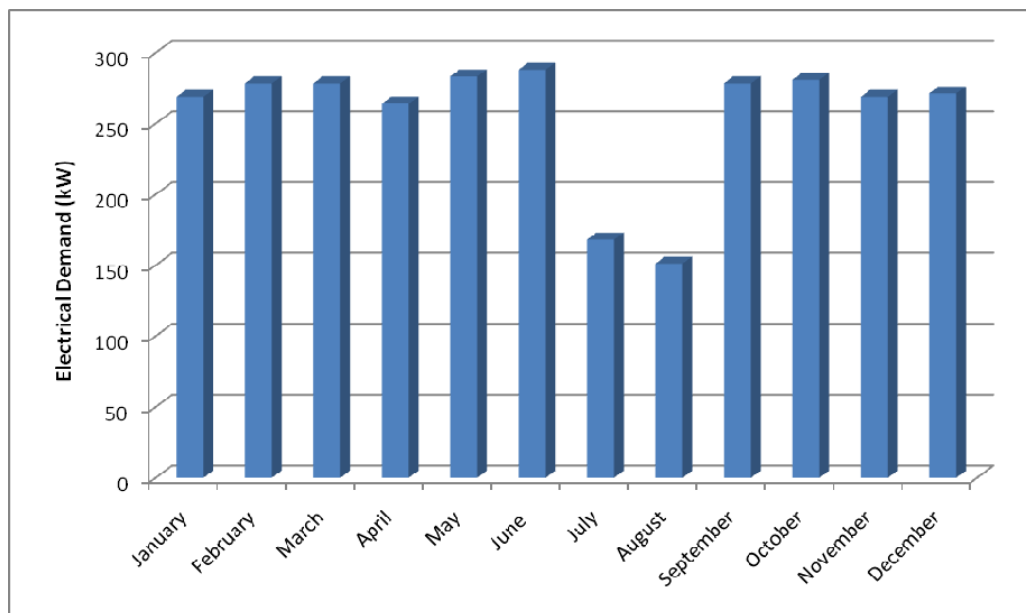
Figure 3.2-19: Terrill Middle School Electrical Usage



The most recent tariff rates available at the time of this audit for the Terrill Middle electrical service are as follows:

	Acct #: 42 004 005 02	Acct #: 67 684 704 18
PSE&G Service Charge:	\$374.60	Usage/fixture charge: \$83.52
Securitization Transition Charges:	\$0.010354026/kWH	NA
Societal Benefits Charges:	\$0.007508024/kWH	NA
Distribution Charges		
Annual Demand:	\$3.247013889/kW	NA
Summer Demand:	\$7.725/kW	NA
kWH:	\$0.004599008/kWH (peak)	\$0.027941/kWH (up to 688 kWH)
	\$0.004598837/kWH (off-peak)	\$0.027851/kWH (remaining kWH)

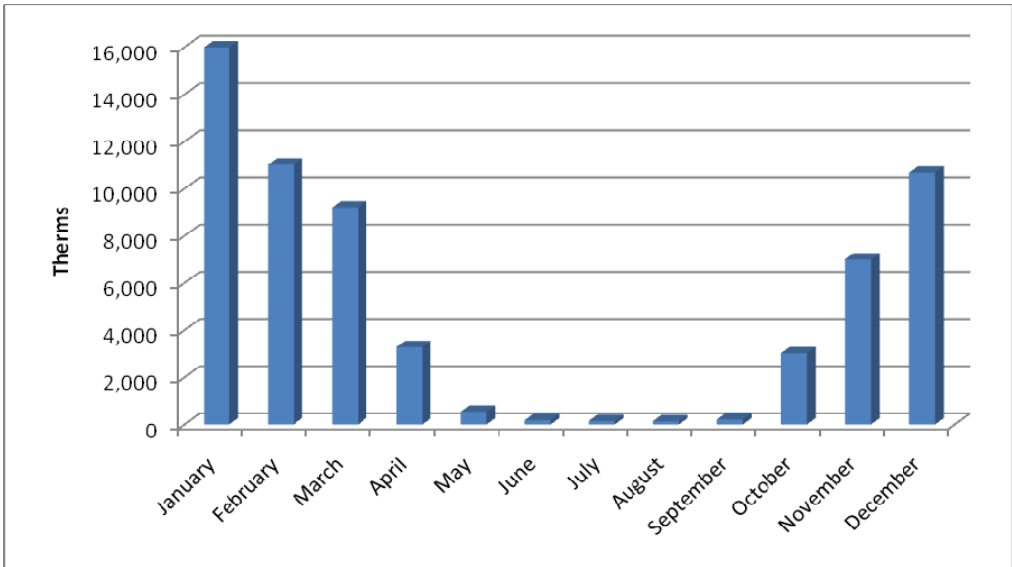
**Figure 3.2-20: Terill Middle School
Maximum Monthly Demand**



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

Figure 3.2 -21 illustrates the building's monthly average natural gas consumption from July 2008 through June 2009.

Figure 3.2-21: Terill Middle School Gas Usage



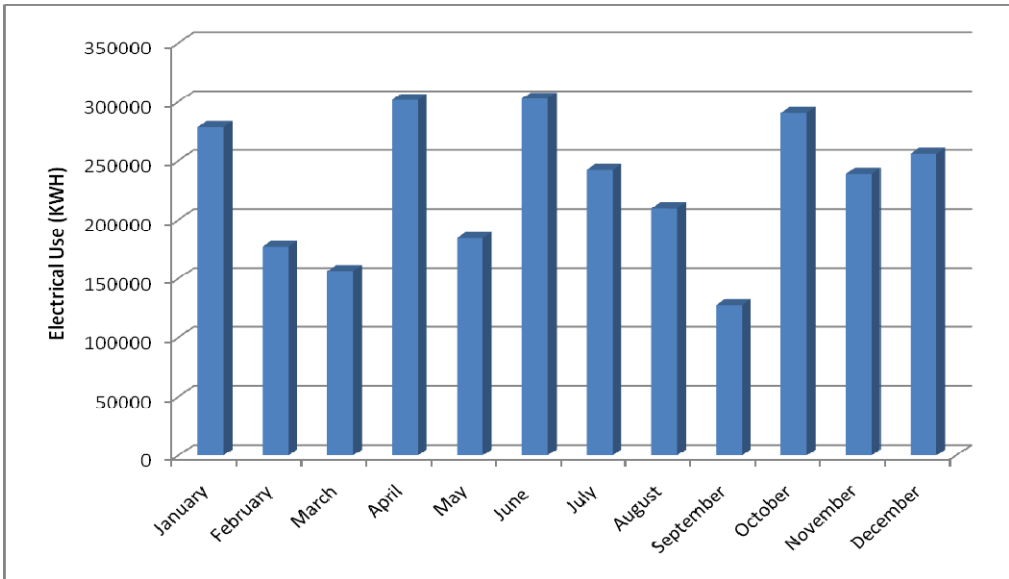
For more on the building gas usage, refer to Section 4.2.

3.2.8 Scotch Plains-Fan High School

Electric power for the High School is fed from three General Secondary Service three phase lines from PSE&G. Figure 3.2-22 illustrates the monthly total energy consumption from April 2008 through March 2009. From this graph, it can be determined that the electrical baseline consumption for High School averages around 39,000 kWh / month.

Figure 3.2-23 illustrates the monthly demand load for the High School from July 2008 through June 2009.

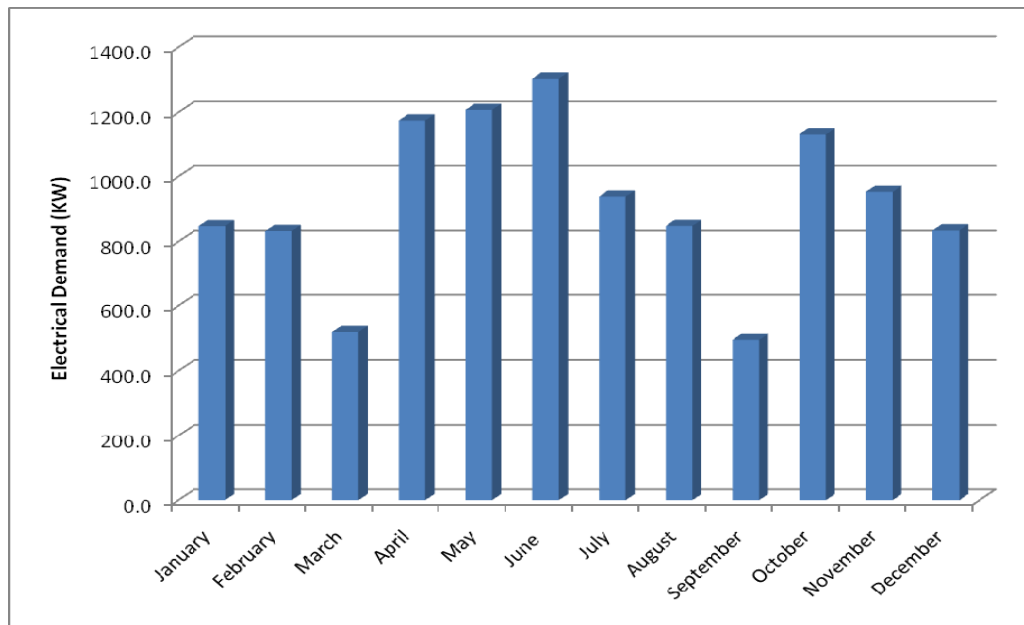
Figure 3.2-22: High School Electrical Usage



The most recent tariff rates available at the time of this audit for the High School electrical service are as follows:

	Acct#: 42 006 089 01	Acct#: 65 954 562 06
PSE&G Service Charge:	\$374.60	\$4.27
Securitization Transition Charges:	\$0.010354019/kWH	\$0.010625/kWH
Societal Benefits Charges:	\$0.007507986/kWH	\$0.0075/kWH
Distribution Charges		
Annual Demand:	\$3.2470076/kW	\$3.9333333/kW
Summer Demand:	-	\$7.2666666667/kW
kWH:	\$0.004598994/kWH (peak)	\$0.014375/kWH
	\$0.004599021/kWH (off-peak)	

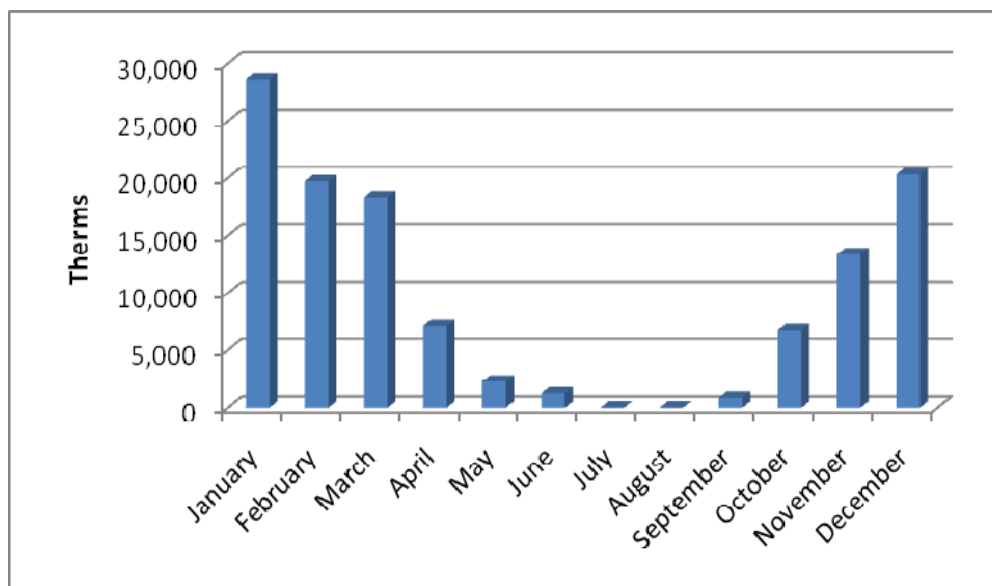
Figure 3.2-23: High School Maximum Monthly Demand



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

Figure 3.2 -24 illustrates the building's monthly average natural gas consumption from July 2008 through June 2009.

Figure 3.2-24: High School Gas Usage



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

3.3 Aggregate Costs

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

Table 3.3-1: Electrical Aggregate Unit Costs

Service Location	Aggregate \$ / kW-hr
Brunner E.S.	\$0.1766
Evergreen E.S.	\$0.1791
J. Ackerman Coles E.S.	\$0.1989
School One E.S.	\$0.1999
William J. McGinn E.S.	\$0.1658
Park M.S.	\$0.2040
Terrill M.S.	\$0.2284
Scotch Plains-Fanwood H.S.	\$0.1552

Table 3.3-2: Natural Gas Aggregate Unit Costs

Service Location	Aggregate \$ / therm
Brunner E.S.	\$1.36
Evergreen E.S.	\$1.62
J. Ackerman Coles E.S.	\$1.21
School One E.S.	\$0.95
William J. McGinn E.S.	\$1.46
Park M.S.	\$1.31
Terrill M.S.	\$1.25
Scotch Plains-Fanwood H.S.	\$0.68

3.4 Portfolio Manager

3.4.1 Portfolio Manager Overview

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

3.4.2 Energy Performance Rating

For many facilities, you can rate their energy performance on a scale of 1-100 relative to similar facilities nationwide. Your facility is *not* compared to the other facilities entered into Portfolio Manager to determine your ENERGY STAR rating. Instead, statistically representative models are used to compare your facility against similar facilities from a national survey conducted by the Department of Energy’s Energy Information Administration. This national survey, known as the Commercial Building Energy Consumption Survey (CBECS), is conducted every four years, and gathers data on building characteristics and energy use from thousands of facilities across the United States. Your facility’s peer group of comparison is those facilities in the CBECS survey that have similar facility and operating characteristics. A rating of 50 indicates that the facility, from an energy consumption standpoint, performs better than 50% of all similar facilities nationwide, while a rating of 75 indicates that the facility performs better than 75% of all similar facilities nationwide.

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

3.4.3 Portfolio Manager Account Information

A Portfolio Manager account has been established for the District, which includes a profile for each building. Information entered into this Portfolio Manager building

profile, including electrical energy consumption and natural gas consumption may be used to apply for an Energy Star rating with the USEPA.

At the time of this report, the buildings received the following ratings:

Brunner Elementary School - 80
Evergreen Elementary School - 20
J. Ackerman Coles Elementary School - 84
School One Elementary School - 65
William J. McGinn Elementary School - 76
Park Middle School - 74
Terrill Middle School - 45
High School - 59

A Statement of Energy Performance report was generated through Portfolio Manager and included in Appendix B for each of the school buildings, along with a Portfolio Manager Reference sheet.

The electric and natural gas consumption data utilized to develop these ratings was more than 120 days old, and in order to qualify for an energy star rating, utility data must be current. Therefore, as the District takes possession of this account, it is important to keep it updated with the latest utility bill data. Also, as a result of the District's commitment to implementing energy efficiency improvements, the ratings of the buildings that are not currently 75 or more may improve, warranting an Energy Star label.

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

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

USERNAME: ScotchPlains

PASSWORD: EnergyStar

Section 4

Energy Conservation and Retrofit Measures (ECRM)

4.1 Building Lighting Systems

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

Our lighting audit indicated that a significant portion of the lighting fixtures in all eight buildings had been previously retrofit using T8 lamps and electronic ballasts. Additionally, we tested light levels throughout all eight buildings and found that light levels were generally above New Jersey State Code (50 footcandles at the desk level in classrooms). As such, the lighting retrofit strategy involves replacing all of the existing 32-watt T8 lamps with new 28-watt T8 lamps and retrofitting or replacing other fixtures throughout the district that need to be upgraded to more energy efficient standards, as well as the installation of occupancy sensors.

Please note that the sensors are proposed on a per room basis. Each specific room/location has both lighting retrofit strategies and/or sensor strategies. The type of sensor also dictates whether the sensor will be on the wall as a switch, in the corner, or in the ceiling, thus effectively describing sensor location. It also needs to be noted that sensors cannot be put in every room or location. There are a number of factors that make sensors unfavorable to a room or location. The first and most common is line-of-sight obstruction. Many times the optimum location for the sensor is either blocked or obstructed by surrounding objects that make the installation of the sensor at that location less than ideal. Other locations are not considered due to possible low levels of use. If a location is used very rarely, installing a sensor would not be cost effective. And lastly, there are some locations that might be deemed unsafe if the sensor were to automatically turn off the lights. Therefore, one must take care to study the surroundings and location to see if installing a sensor is practical and cost effective.

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

4.1.1 Howard B. Brunner Elementary

Almost all of the linear fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However there are a small number of existing inefficient incandescent and fluorescent fixtures, which should be replaced. The current indoor HID fixtures throughout the facility are somewhat efficient by today's standards, but produce a poor quality of light, and in seeking the highest of efficiency standards, it is recommended that the Metal Halide HID fixtures be replaced with T5 linear fluorescent fixtures for an increase in quality of light, light output, a decrease in energy consumption, and the ability to have instant on/instant off capabilities instead of waiting 5-10 minutes for the HID fixtures to light up. Locations were also identified where the installation of occupancy sensors would increase overall energy savings.

The annual energy savings are estimated to be 18.38 kW, 42,704 kWh and \$7,541. Please refer to Appendix D for the Lighting Spreadsheets and energy savings calculations.

The following table, Table 4.1-1, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements at the Brunner Elementary School. Included in this simplified payback analysis summary table is the 'Annual Return on Investment' (AROI) values. This value is a performance measure used to evaluate the efficiency of an investment and is calculated using the following equation:

$$\text{AROI} = (\text{AECS} + \text{OCS}) / \text{NET ECM Cost} - 1 / \text{Lifetime}$$

Where OCS = Operating Cost Savings, and AECS = Annual Energy Cost Savings.

Also included in the table are net present values for each option. The NPV calculates the present value of an investment's future cash flows based on the time value of money, which is accounted for by a discount rate (DR) (assume bond rate of 3%). NPV is calculated using the following equation:

$$\text{NPV} = \sum_{n=0}^N \frac{C_n}{(1+\text{DR})^n}$$

Where C_n = Annual cash flow, and N = number of years.

The IRR expresses an annual rate that results in a break-even point for the investment. If the school district is currently experiencing a lower return on their capital than the IRR, the project is financially advantageous. This measure also allows the school district to compare ECM's against each other to determine the most appealing choices.

$$IRR \rightarrow 0 = \sum_{n=0}^N C_n / (1+IRR)^n$$

Where C_n =Annual cash flow, and N = number of years.

The lifetime energy savings represents the cumulative energy savings over the assumed life of the ECM.

Table 4.1-1 Brunner Elementary School Lighting System Improvements	
Retrofit Cost (Material and Labor)	\$36,246
New Jersey SmartStart Rebate	-\$3,840*
Total Cost	\$32,406
Annual Energy Savings	\$7,541
Simple Payback	4.3 years
Annual Return on Investment (AROI)	13.27%
Lifetime Energy Savings (10 years)**	\$86,449
Annual Maintenance Cost Savings (AMCS)	\$649
Internal Rate of Return (IRR)	19.28%
Net Present Value (NPV)	\$31,920

* Additional incentives are available through the New Jersey SmartStart Program, see Appendix F.

**3% yearly inflation on electricity costs

It should be noted that the Lighting Annual Savings assume the annual hours per year of operation as outlined under the column entitled “Hours Code” in Appendix D and the Operational & Maintenance (O&M) savings for the first three years are calculated by assuming the total avoidance of existing lamp & ballast maintenance costs by installing newer technologies. Years four (4) and five (5) are calculated using just the avoided existing ballasts costs based on the fact that the five-year warranty on the ballasts and the three-year warranty on the lamps has now expired. Years six (6) through ten (10) are calculated by using the difference between the cost to maintain the existing system and the cost to maintain the proposed system. These assumptions are typical for each school building lighting upgrade analysis.

4.1.2 Evergreen Elementary

A large portion of the linear fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However, there are a number of existing inefficient incandescent and fluorescent fixtures, which should be replaced. The current indoor HID fixtures throughout the facility are somewhat efficient by today’s standards, but produce a poor quality of light, and in seeking the highest of efficiency standards, it is recommended that the Metal Halide HID fixtures be replaced with T5 linear fluorescent fixtures for an increase in quality of light, light output, a decrease in

energy consumption, and the ability to have instant on/instant off capabilities instead of waiting 5-10 minutes for the HID fixtures to light up. CDM’s survey also identified select locations where the installation of occupancy sensors would increase overall energy savings.

The annual energy savings are estimated to be 25.2 kW, 63,709 kWh and \$11,410. In addition the project will generate annual maintenance savings from avoided costs related to changing lamps and ballasts. Please refer to Appendix D for the Lighting Spreadsheets and energy savings calculations.

The following table, Table 4.1-2, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements at the Evergreen Elementary School.

Table 4.1-2 Evergreen Elementary School Lighting System Improvements	
Retrofit Cost (Material and Labor)	\$30,869
New Jersey SmartStart Rebate	-\$4,180*
Total Cost	\$26,689
Annual Energy Savings	\$11,410
Simple Payback	2.3 years
Annual Return on Investment (ARO I)	32.75%
Lifetime Energy Savings (10 years)**	\$130,802
Annual Maintenance Cost Savings (AMCS)	\$617
Internal Rate of Return (IRR)	41.42%
Net Present Value (NPV)	\$70,640

* Additional incentives are available through the New Jersey SmartStart Program, see Appendix F.

**3% yearly inflation on electricity costs

4.1.3 J. Ackerman Coles Elementary

All of the linear fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However there are a number of existing inefficient incandescent fixtures, which should be replaced. The current indoor HID fixtures throughout the facility are somewhat efficient by today’s standards, but produce a poor quality of light, and in seeking the highest of efficiency standards, it is recommended that the Metal Halide HID fixtures be replaced with T5 linear fluorescent fixtures for an increase in quality of light, light output, a decrease in energy consumption, and the ability to have instant on/instant off capabilities instead of waiting 5-10 minutes for the HID fixtures to light up. CDM’s survey also identified select locations where the installation of occupancy sensors would increase overall energy savings.

The annual energy savings are estimated to be 21.86 kW, 53,607 kWh and \$10,662. In addition, the project will generate annual maintenance savings from avoided costs related to changing lamps and ballasts. Please refer to Appendix D for the Lighting Spreadsheets and energy savings calculations.

The following table, Table 4.1-3, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements at the J. Ackerman Coles Elementary School.

Table 4.1-3 J. Ackerman Coles Elementary School Lighting System Improvements	
Retrofit Cost (Material and Labor)	\$38,300
New Jersey SmartStart Rebate	-\$3,240*
Total Cost	\$35,060
Annual Energy Savings	\$10,662
Simple Payback	3.3 years
Annual Return on Investment (AROI)	20.41%
Lifetime Energy Savings (10 years)**	\$122,228
Annual Maintenance Cost Savings (AMCS)	\$689
Internal Rate of Return (IRR)	27.79%
Net Present Value (NPV)	\$55,889

* Additional incentives are available through the New Jersey SmartStart Program, see Appendix F.

**3% yearly inflation on electricity costs

4.1.4 School One

All of the fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However there are a small number of existing inefficient incandescent fixtures, which should be replaced. The current indoor HID fixtures throughout the facility are somewhat efficient by today's standards, but produce a poor quality of light, and in seeking the highest of efficiency standards, it is recommended that the Metal Halide HID fixtures be replaced with T5 linear fluorescent fixtures for an increase in quality of light, light output, a decrease in energy consumption, and the ability to have instant on/instant off capabilities instead of waiting 5-10 minutes for the HID fixtures to light up. CDM's survey also identified select locations where the installation of occupancy sensors would increase overall energy savings.

The annual energy savings are estimated to be 15.2 kW, 37,434 kWh and \$7,483. In addition the project will generate annual maintenance savings from avoided costs related to changing lamps and ballasts. Please refer to Appendix D for the Lighting Spreadsheets and energy savings calculations.

The following table, Table 4.1-4, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements at the School One Elementary School.

Table 4.1-4 School One Elementary School Lighting System Improvements	
Retrofit Cost (Material and Labor)	\$25,795
New Jersey SmartStart Rebate	-\$1,730*
Total Cost	\$24,065
Annual Energy Savings	\$7,483
Simple Payback	3.2 years
Annual Return on Investment (AROI)	21.09%
Lifetime Energy Savings (10 years)**	\$85,784
Annual Maintenance Cost Savings (AMCS)	\$540
Internal Rate of Return (IRR)	28.58%
Net Present Value (NPV)	\$39,766

* Additional incentives are available through the New Jersey SmartStart Program, see Appendix F.

**3% yearly inflation on electricity costs

4.1.5 William J. McGinn Elementary

Almost all of the linear fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However there are a small number of existing inefficient incandescent and fluorescent fixtures, which should be replaced. The current indoor HID fixtures throughout the facility are somewhat efficient by today's standards, but produce a poor quality of light, and in seeking the highest of efficiency standards, it is recommended that the Metal Halide HID fixtures be replaced with T5 linear fluorescent fixtures for an increase in quality of light, light output, a decrease in energy consumption, and the ability to have instant on/instant off capabilities instead of waiting 5-10 minutes for the HID fixtures to light up. CDM's survey also identified select locations where the installation of occupancy sensors would increase overall energy savings.

The annual energy savings are estimated to be 21.16 kW, 47,523 kWh and \$7,879. In addition the project will generate annual maintenance savings from avoided costs related to changing lamps and ballasts. Please refer to Appendix D for the Lighting Spreadsheets and energy savings calculations.

The following table, Table 4.1-5, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements at the William J. McGinn Elementary School.

Table 4.1-5 William J. McGinn Elementary School Lighting System Improvements	
Retrofit Cost (Material and Labor)	\$30,671
New Jersey SmartStart Rebate	-\$3,270*
Total Cost	\$27,410
Annual Energy Savings	\$7,879
Simple Payback	3.5 years
Annual Return on Investment (AROI)	18.74%
Lifetime Energy Savings (10 years)**	\$90,323
Annual Maintenance Cost Savings (AMCS)	\$566
Internal Rate of Return (IRR)	25.86%
Net Present Value (NPV)	\$39,799

* Additional incentives are available through the New Jersey SmartStart Program, see Appendix F.

**3% yearly inflation on electricity costs

4.1.6 Park Middle School

Most of the fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However there is a small number of existing inefficient incandescent and fluorescent fixtures, which should be replaced. The current indoor HID fixtures throughout the facility are somewhat efficient by today's standards, but produce a poor quality of light, and in seeking the highest of efficiency standards, it is recommended that the Metal Halide HID fixtures be replaced with T5 linear fluorescent fixtures for an increase in quality of light, light output, a decrease in energy consumption, and the ability to have instant on/instant off capabilities instead of waiting 5-10 minutes for the HID fixtures to light up. CDM's survey also identified select locations where the installation of occupancy sensors would increase overall energy savings.

The annual energy savings are estimated to be 36.27 kW, 104,094 kWh and \$21,235. In addition the project will generate annual maintenance savings from avoided costs related to changing lamps and ballasts. Please refer to Appendix D for the Lighting Spreadsheets and energy savings calculations.

The following table, Table 4.1-6, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements at the Park Middle School.

Table 4.1-6 Park Middle School Lighting System Improvements	
Retrofit Cost (Material and Labor)	\$98,033
New Jersey SmartStart Rebate	-\$8,895*
Total Cost	\$89,138
Annual Energy Savings	\$21,235
Simple Payback	4.2 years
Annual Return on Investment (AROI)	13.82%
Lifetime Energy Savings (10 years)**	\$243,435
Annual Maintenance Cost Savings (AMCS)	\$1,420
Internal Rate of Return (IRR)	19.96%
Net Present Value (NPV)	\$92,000

* Additional incentives are available through the New Jersey SmartStart Program, see Appendix F.

**3% yearly inflation on electricity costs

4.1.7 Terrill Middle School

Almost all of the fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However there are a number of existing inefficient incandescent and fluorescent fixtures, which should be replaced. The current indoor HID fixtures throughout the facility are somewhat efficient by today’s standards, but produce a poor quality of light, and in seeking the highest of efficiency standards, it is recommended that the Metal Halide HID fixtures be replaced with T5 linear fluorescent fixtures for an increase in quality of light, light output, a decrease in energy consumption, and the ability to have instant on/instant off capabilities instead of waiting 5-10 minutes for the HID fixtures to light up. CDM’s survey also identified select locations where the installation of occupancy sensors would increase overall energy savings.

The annual energy savings are estimated to be 51.93 kW, 146,792 kWh and \$33,527. In addition the project will generate annual maintenance savings from avoided costs related to changing lamps and ballasts. Please refer to Appendix D for the Lighting Spreadsheets and energy savings calculations.

The following table, Table 4.1-7, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements at the Terrill Middle School.

Table 4.1-7 Terrill Middle School Lighting System Improvements	
Retrofit Cost (Material and Labor)	\$77,605
New Jersey SmartStart Rebate	-\$6,830*
Total Cost	\$70,775
Annual Energy Savings	\$33,527
Simple Payback	2.2 years
Annual Return on Investment (AROI)	37.37%
Lifetime Energy Savings (10 years)**	\$384,527
Annual Maintenance Cost Savings (AMCS)	\$1,316
Internal Rate of Return (IRR)	46.32%
Net Present Value (NPV)	\$215,217

* Additional incentives are available through the New Jersey SmartStart Program, see Appendix F.

**3% yearly inflation on electricity costs

4.1.8 Scotch Plains-Fanwood High School

Most of the fluorescent fixtures at this facility already have energy efficient T-8 lamps with electronic ballasts. However there are a number of existing inefficient incandescent and fluorescent fixtures, which should be replaced. The current indoor HID fixtures throughout the facility are somewhat efficient by today's standards, but produce a poor quality of light, and in seeking the highest of efficiency standards, it is recommended that the Metal Halide HID fixtures be replaced with T5 linear fluorescent fixtures for an increase in quality of light, light output, a decrease in energy consumption, and the ability to have instant on/instant off capabilities instead of waiting 5-10 minutes for the HID fixtures to light up. CDM's survey also identified select locations where the installation of occupancy sensors would increase overall energy savings.

The annual energy savings are estimated to be 85.56 kW, 231,402 kWh and \$35,913. In addition the project will generate annual maintenance savings from avoided costs related to changing lamps and ballasts. Please refer to Appendix D for the Lighting Spreadsheets and energy savings calculations.

The following table, Table 4.1-8, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements at the High School.

Table 4.1-8 Scotch Plains-Fanwood High School Lighting System Improvements	
Retrofit Cost (Material and Labor)	\$152,498
New Jersey SmartStart Rebate	-\$16,800*
Total Cost	\$135,698
Annual Energy Savings	\$35,913
Simple Payback	3.8 years
Annual Return on Investment (AROI)	16.47%
Lifetime Energy Savings (10 years)**	\$411,703
Annual Maintenance Cost Savings (AMCS)	\$30,853
Internal Rate of Return (IRR)	23.17%
Net Present Value (NPV)	\$170,647

* Additional incentives are available through the New Jersey SmartStart Program, see Appendix F.

**3% yearly inflation on electricity costs

4.2 HVAC Systems

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

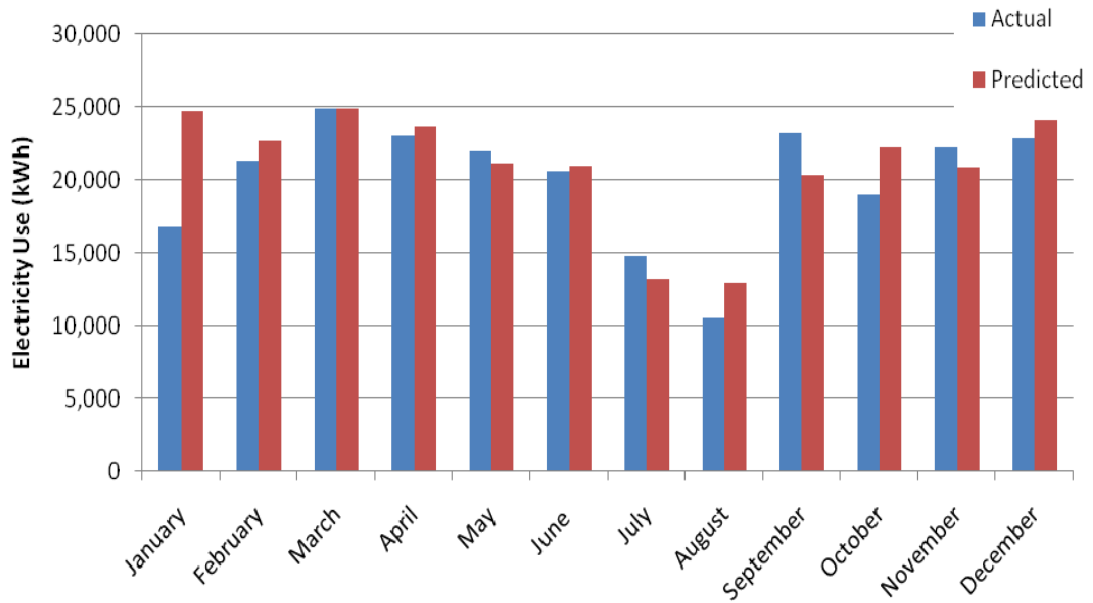
Each building is modeled using software called eQuest, a Department of Energy-sponsored energy modeling program, to establish a baseline space heating and cooling energy usage. Climate data from Plainfield, NJ was used for analysis. From this, the model may be calibrated, using historical utility bills,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

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

4.2.1 Howard B. Brunner Elementary

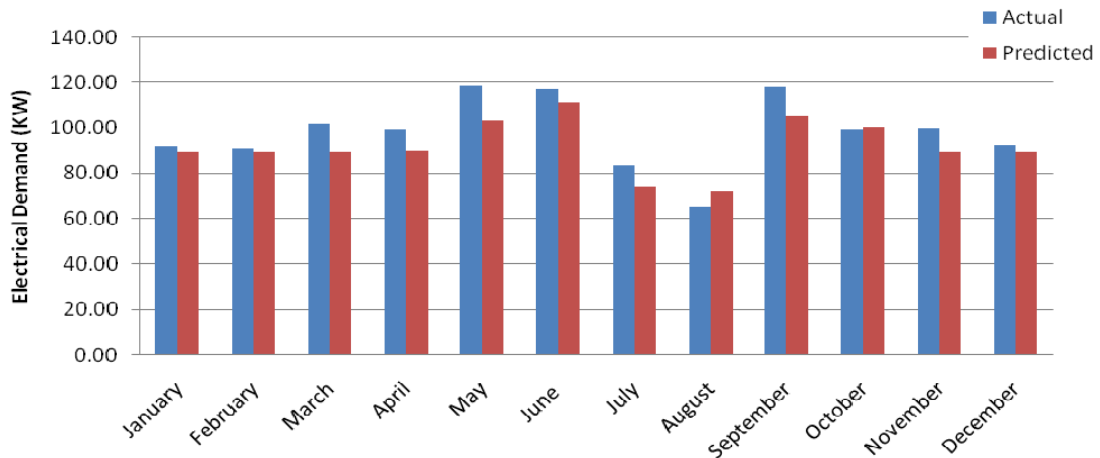
A model of the Howard B. Brunner Elementary School was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM used electricity bills from July, 2008 through June, 2009, and natural gas bills from July, 2008 through June, 2009. Figure 4.2-1 below compares actual monthly electricity usages, with those predicted by the eQuest model.

Figure 4.2-1: Howard B Brunner Elementary Electricity Usage



In Figure 4.2-1 it can be seen that electricity usage during the month of January was significantly different than modeled. As a matter of model verification, when months with outlying usage like this are encountered, CDM finds it important to also compare the modeled monthly electrical demand to the actual school’s monthly demand.

Figure 4.2-2: Howard B Brunner Elementary Electricity Demand



Here it can be seen that the modeled demand during the month of January was reasonably accurate when compared to the building’s actual demand. Since no areas of the building are heated using electric resistance coils and the demand is fairly consistent, CDM anticipates that the electricity usage in January should be similar to the usage during other winter months. CDM had access to only one year of electrical bills and is therefore uncertain why the usage in January, 2009 was so low. It is reasonable to assume that over the course of several years, the historical average

usage in the month of January would more closely reflect what was predicted by the model.

Once the eQuest model was calibrated, it could be used to predict approximate major usage categories, such as lighting, plug loads (miscellaneous), ventilation, and cooling. It should be noted that these are only estimated usages based on information gathered during CDM’s field audit. Figure 4.2-3 presents this information to help the Board visualize where CDM anticipates the electricity is ultimately being used.

Figure 4.2-3: Howard B Brunner Elementary Electricity Usage Breakdown

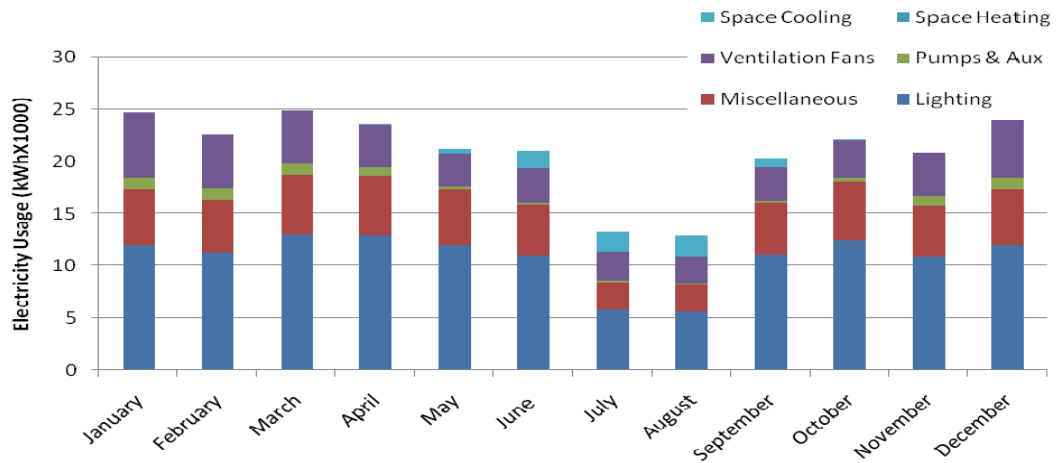
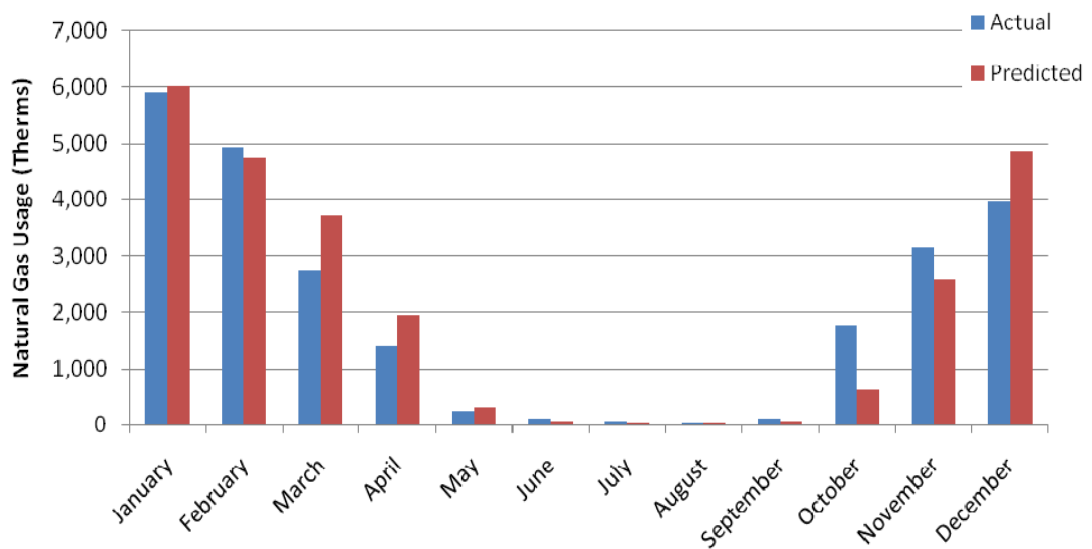


Figure 4.2-4 below compares actual natural gas usage to model-predicted natural gas use.

Figure 4.2-4: Howard B Brunner Elementary Natural Gas Usage



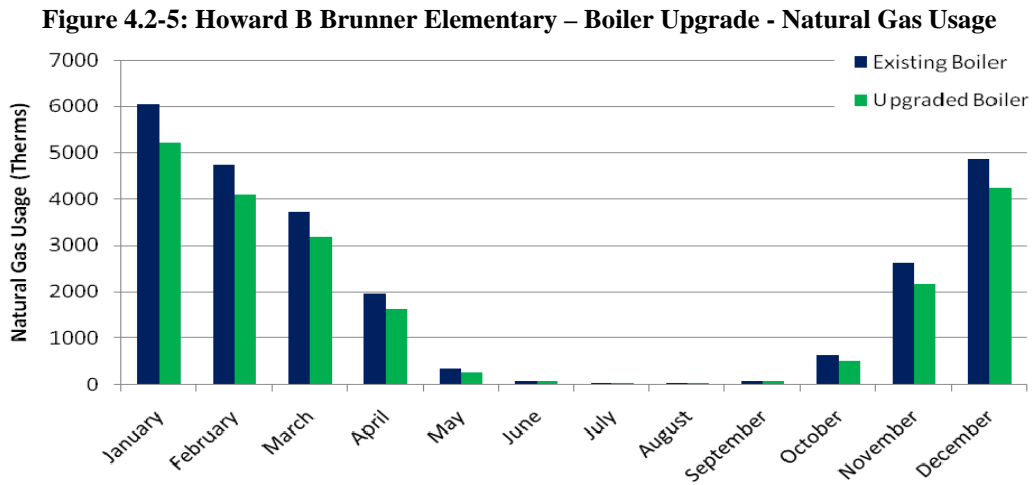
While some natural gas is used for domestic hot water heating and cooking, the boilers account for the majority of the natural gas usage at the school.

Currently, the school heating system utilizes one (1) Superior firetube boiler with an input-rated capacity of 5,200 MBH (1 MBH = 1,000 BTU/Hr). CDM conservatively estimates this boiler to be 80% efficient; due to its age of almost 50 years, this boiler’s efficiency is likely significantly less.

CDM recommends replacing this boiler with high-efficiency, condensing boilers.

The eQuest model was used to calculate a peak heating load for Brunner Elementary School. CDM calculates this load at approximately 3,080 MBH, or around 60 Btu/Hr per square foot. Based on this peak heat load, CDM anticipates that two 2,000 MBH high-efficiency condensing boilers should adequately heat the entire school.

Figure 4.2-5 compares current gas usage with predicted gas usage resulting from a switch to high-efficiency, condensing boilers. Condensing boilers are modeled with a full-load efficiency of ~90% and return water temperature of 100°F.



Fiscal savings from such an upgrade are then identified in Table 4.2-1 below. Lifetime savings calculations for all ECRM’s may be found in Appendix I. It’s important to note that these are estimates based on building models, and further investigation is warranted before pursuing boiler replacements.

Due to the improved automation and control within modern condensing boilers, their operation and maintenance costs tend to be less than those of firetube or cast iron boilers. CDM estimates a firetube boiler will typically cost around \$3,500 per year for regular preventative maintenance, whereas a condensing boiler would cost around \$2,000 per year. Therefore, replacing the existing boiler with two condensing boilers should result in an increased operation and maintenance cost of \$500 per year.

Table 4.2-1: Howard B Brunner Elementary Boiler Upgrade Payback	
Predicted Annual Savings (Therms)	3,592
Total Annual Savings	\$4,885
Initial Capital Cost of Upgrade	\$114,282
Incentives	\$4,000
Cost of Upgrade	\$110,282
Simple Payback	22.6
Lifetime Energy Savings (24 years)*	\$148,610
Annual Maintenance Cost Savings (AMCS)	(\$500)
Annual Return on Investment (AROI)	(0.19%)
Internal Rate of Return (IRR)	(0.37%)
Net Present Value (NPV)	(\$36,019)

*Assumes 2% yearly inflation on natural gas costs

Despite the relatively large predicted simple payback, and possible increase in maintenance costs, CDM recommends investigating an upgrade to condensing boilers at Howard Brunner Elementary.

Building HVAC systems at the Howard Brunner Elementary school are monitored and controlled remotely by a company called Energy for America. CDM found no need to upgrade or change this control scheme, as it is efficiently operated and the school staff had no complaints.

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

All major equipment noted during CDM’s on site audit is listed in Table 4.2-2 below, along with estimated current ages and ASHRAE-expected service lives. It should be noted that only equipment that was observed at the time of the audit is included. Where equipment ages were not found on the equipment tags, they have been estimated based on the unit appearance or approximate renovation dates. In some cases, service locations may have been estimated based on unit proximity. Additionally, in cases where a unit’s manufacturer and/or model could not be determined due to an unreadable, faded, destroyed, or lost tag, manufacturer and model number information has been represented as “unknown”.

Table 4.2-2 Howard B Brunner Elementary HVAC Equipment Service Lives							
Description	Unit Location	Service Location	Manufacturer	Model	Estimated Efficiency	Estimated Age (Years)	ASHRAE Expected Life (Years)
RTU	Roof	120,122,123	Goodman	PGB036050-1A	80% 10.3 EER	<10	15
RTU	Roof	Media Center	Nesbitt	Unknown	<80%	>15	15
Boiler	Roof	Nesbitt Unit (For Media Center)	Lochinvar	Copperfin II CHN751	80%	<10	25
Boiler	Boiler Room	Entire Building	Superior	Unknown	<80%	49	25

Many classrooms in the school utilize unit ventilators for heating. As facility personnel continue to service unit ventilators throughout the building, they should note the condition and approximate age of the units. Those that are older than 15 years should be considered for replacement, as they are likely operating significantly below the equipment-rated efficiency.

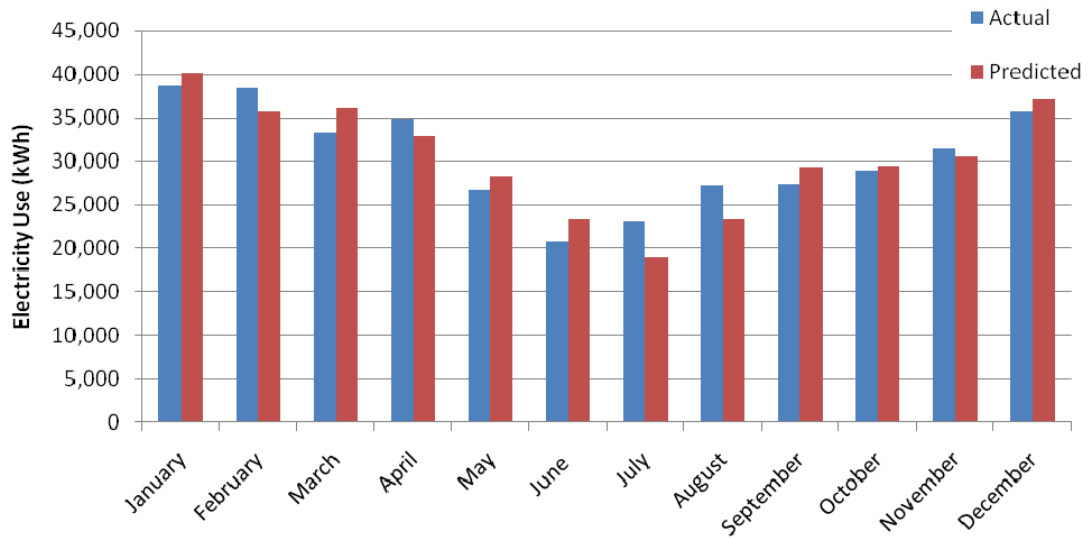
CDM also creates an inventory of observed domestic water heaters. This will attempt to inform the Board of any water heaters that are in need of replacement. Domestic water heaters observed to be in poor or aging condition would warrant replacement, as they are likely not operating at peak efficiency. This domestic water heater inventory may be seen as Table 4.2-3 below.

Table 4.2-3 Howard B Brunner Elementary Domestic Water Heaters					
Location	Make	Storage Capacity (Gallons)	Type	Heating Capacity	Observed Condition
Boiler Room	AO Smith	74.5	Gas	75 MBH	Good

4.2.2 Evergreen Elementary

A model of the Evergreen Elementary School was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM used electricity bills from July, 2008 through June, 2009, and natural gas bills from July, 2008 through June, 2009. Figure 4.2-6 below compares actual monthly electricity usages, with those predicted by the eQuest model.

Figure 4.2-6: Evergreen Elementary Electricity Usage



Again, the electricity usage has been broken down in Figure 4.2-7 to help the Board visualize where CDM anticipates the electricity is ultimately being used.

Figure 4.2-7: Evergreen Elementary Electricity Usage Breakdown

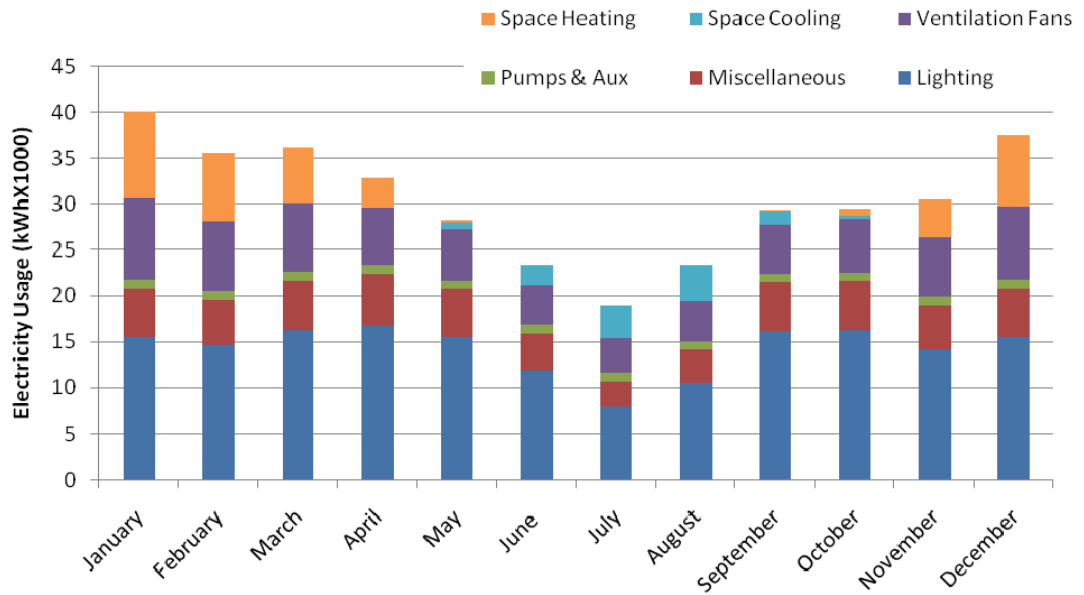
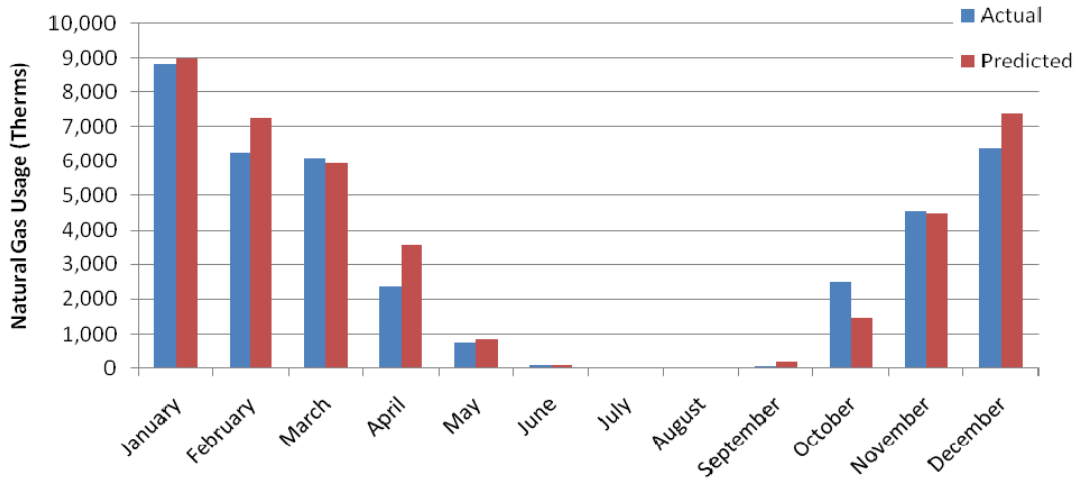


Figure 4.2-8 below compares actual natural gas usage to model-predicted natural gas use.

Figure 4.2-8: Evergreen Elementary Natural Gas Usage



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

Evergreen Elementary uses a steam boiler, which CDM estimates to be approximately 80% efficient. Unlike hot water systems, steam systems cannot capitalize on the extra efficiency offered by condensing boilers. Therefore, CDM has no recommendations for the heating system at this school. However, the importance of regular steam system and trap inspection and maintenance should be stressed. Regular maintenance on steam systems will help to ensure that energy is not being wasted through leaks in the system.

CDM recommends replacing the condensing units serving the electric unit ventilators in rooms 131 and 132 with air source heat pumps. Air source heat pumps can provide considerable energy savings in areas heated by electricity, by moving heat from outdoors during moderate weather. Figure 4.2-9 shows the predicted electricity usage savings from such a change.

Figure 4.2-9: Evergreen Elementary Air Source Heat Pumps – Electricity Usage

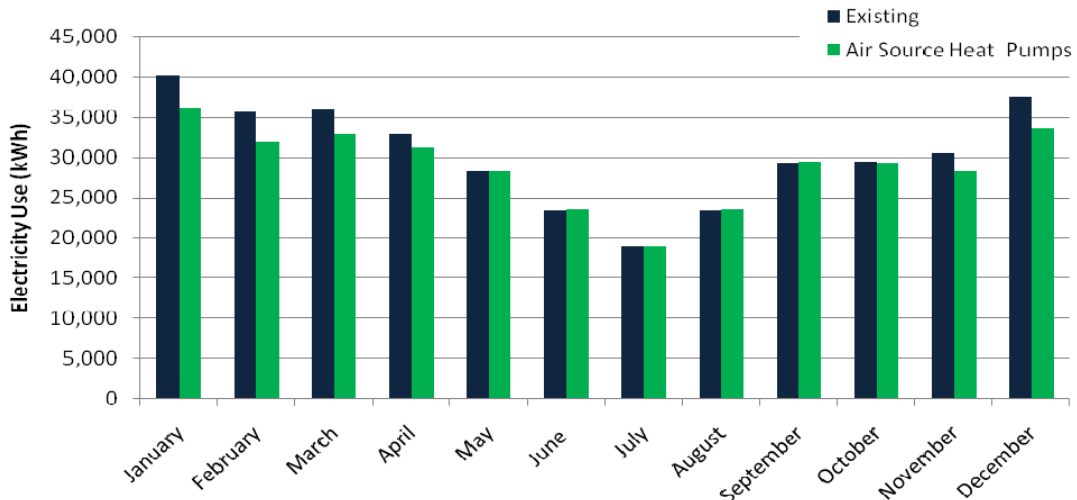


Figure 4.2-10 shows the predicted electricity usage breakdown, assuming the electric unit ventilators in rooms 131 and 132 are replaced with split system air source heat pumps. A significant reduction in space heating electricity usage is evident when compared to the existing electricity usage breakdown, shown in Figure 4.2-7.

Figure 4.2-10: Evergreen Elementary Air Source Heat Pumps – Electricity Usage Breakdown

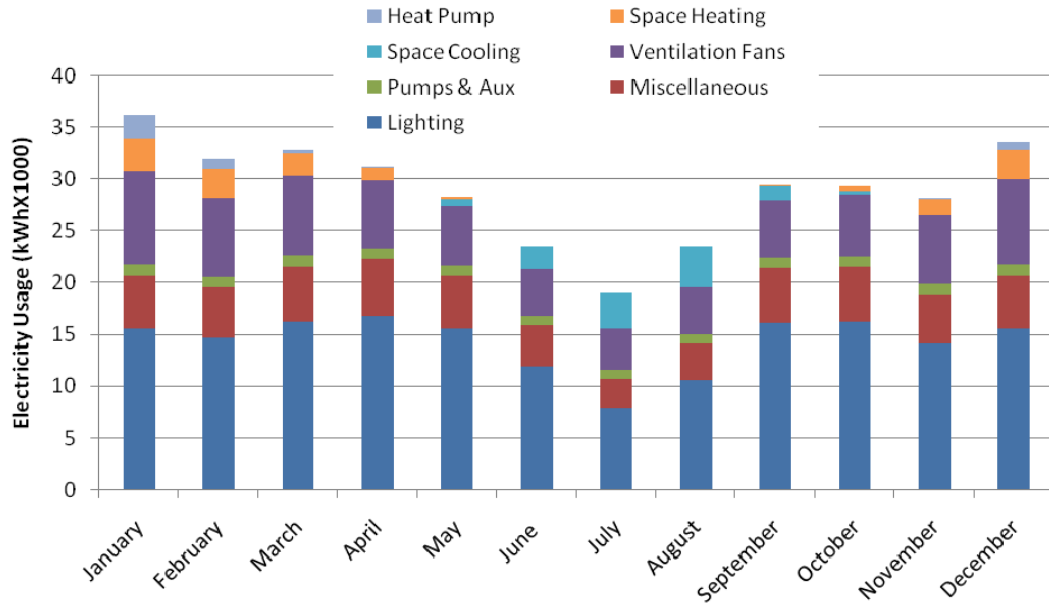


Table 4.2-4 indicates a predicted simple payback offered by a switch to air source heat pumps in these rooms.

Table 4.2-4: Evergreen Elementary – Air Source Heat Pump Payback	
Predicted Annual Savings (kWh)	18,260
Total Annual Savings	\$3,270
Initial Capital Cost of Upgrade	\$12,650
Incentives	\$920
Cost of Upgrade	\$11,730
Simple Payback	3.6
Lifetime Energy Savings (15 years)*	\$60,818
Annual Maintenance Cost Savings (AMCS)	(\$424)
Annual Return on Investment (AROI)	17.60%
Internal Rate of Return (IRR)	23.20%
Net Present Value (NPV)	\$22,245

*Assumes 3% yearly inflation on electricity costs

Building HVAC systems at the Evergreen Elementary school are monitored and controlled remotely by a company called Energy for America. CDM found no need to upgrade or change this control scheme, as it is efficiently operated and the school staff had no complaints.

Again, all major equipment noted during CDM’s on site audit is listed in Table 4.2-5 below, along with estimated current ages and ASHRAE-expected service lives.

Table 4.2-5 Evergreen Elementary HVAC Equipment Service Lives							
Description	Unit Location	Service Location	Manufacturer	Model	Estimated Efficiency	Estimated Age (Years)	ASHRAE Expected Life (Years)
Condensing Unit	Roof	113	Unknown	Unknown	Unknown	>20	20
RTU (RT-5)	Roof	130	Lennox	LGC0725H1Y	80% 10.1 EER	<15	15
RTU (RT-1)	Roof	Gym	Lennox	LGA048SS2Y	80% 11.3 EER	<15	15
RTU (RT-2)	Roof	Gym	Lennox	LGA048SS2Y	80% 11.3 EER	<15	15
RTU (RT-3)	Roof	Gym	Lennox	LGA048SS2Y	80% 11.3 EER	<15	15
RTU (RT-4)	Roof	Gym	Lennox	LGA048SS2Y	80% 11.3 EER	<15	15
Cond. Unit	Ground	131	Unknown	Unknown	Unknown	~15	20
Cond. Unit	Ground	132	Unknown	Unknown	Unknown	~15	20
Boiler	Mechanical Room	Board Office	Lochinvar	Copperfin II	80%	1	25
RTU	Board Office Roof	Board Office	Nesbitt	RMB40033N07FDM 00BBGG0CB0201	75%-80%	~15	15
Boiler	Boiler Room	Entire Building	Weil McLain	1394WF	<80%	~35	30
Boiler	Boiler Room	Entire Building	Weil McLain	1394WF	80%	~25	30

Many classrooms in the school utilize unit ventilators for heating. As facility personnel continue to service unit ventilators throughout the building, they should

note the condition and approximate age of the units. Those that are older than 15 years should be considered for replacement, as they are likely operating significantly below the equipment-rated efficiency.

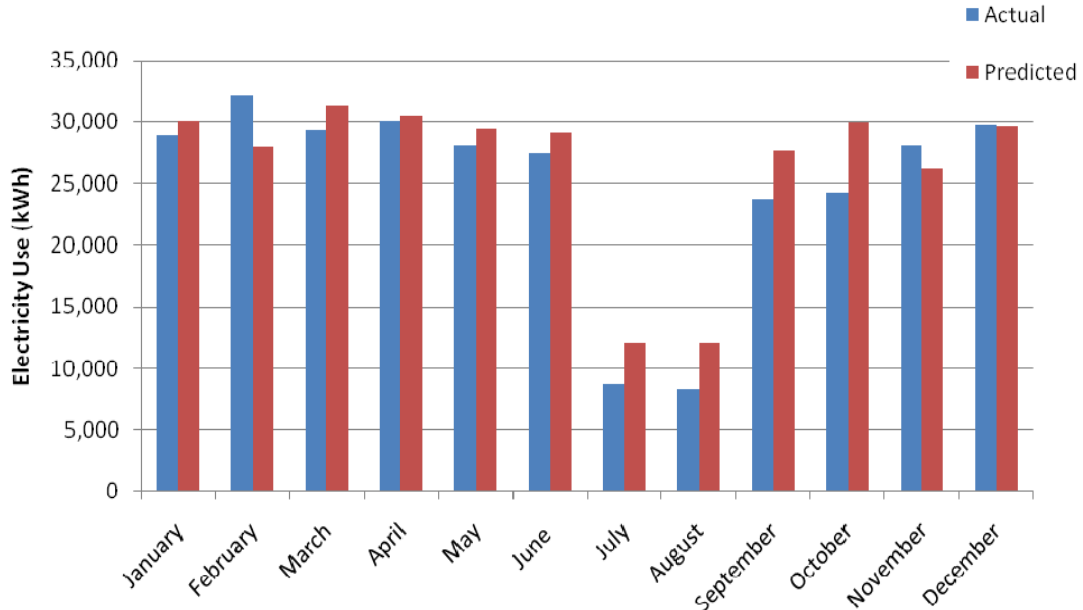
Again, CDM has created an inventory of observed domestic water heaters, in Table 4.2-6 below.

Table 4.2-6 Evergreen Elementary Domestic Water Heaters					
Location	Make	Storage Capacity (Gallons)	Type	Heating Capacity	Observed Condition
Boiler Room	AO Smith	230	Gas	75 MBH	Good
130	AO Smith	50	Gas	40 MBH	Good

4.2.3 J. Ackerman Coles Elementary

A model of the J. Ackerman Coles Elementary School was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM used electricity bills from July, 2008 through June, 2009, and natural gas bills from July, 2008 through June, 2009. Figure 4.2-11 below compares actual monthly electricity usages, with those predicted by the eQuest model.

Figure 4.2-11: J Ackerman Coles Elementary Electricity Usage



The electricity usage has been broken down in Figure 4.2-12 to help the Board visualize where CDM anticipates the electricity is ultimately being used.

Figure 4.2-12: J Ackerman Coles Elementary Electricity Usage Breakdown

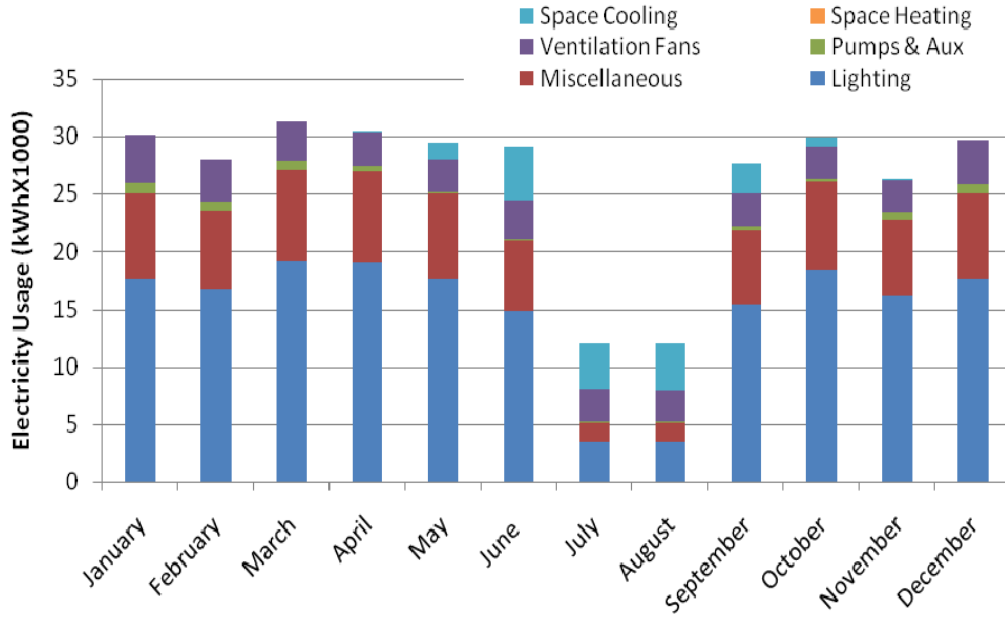
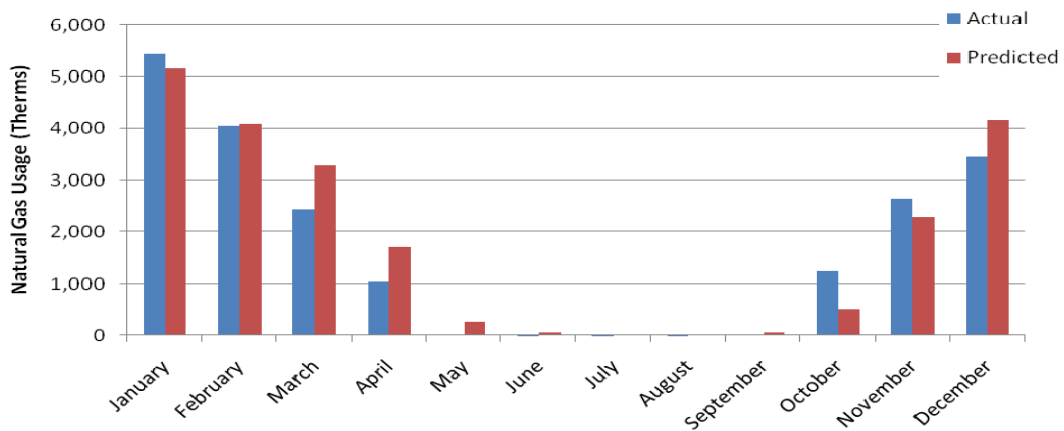


Figure 4.2-13 below compares actual natural gas usage to model-predicted natural gas use.

Figure 4.2-13: J Ackerman Coles Elementary Natural Gas Usage



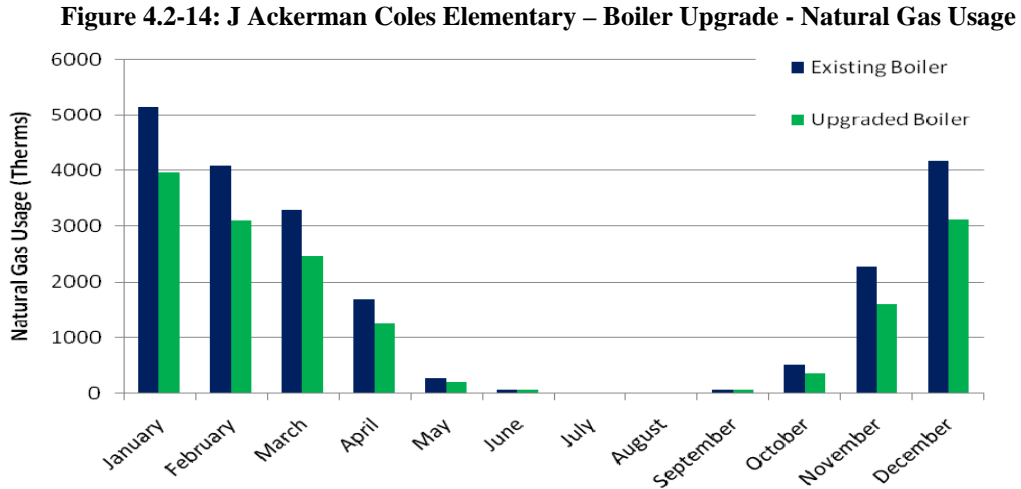
While some natural gas is used for domestic hot water heating and cooking, the boilers account for the majority of the natural gas usage at the school.

Currently, the school heating system utilizes two (2) HB Smith cast iron boilers, with input-rated capacities of 2,640 MBH each. CDM estimates these boilers to be 80% efficient.

CDM recommends replacing these boilers with high-efficiency, condensing boilers.

The eQuest model was used to calculate a peak heating load for Coles Elementary School. CDM calculates this load at approximately 2,381 MBH, or around 45 Btu/Hr per square foot. Based on this peak heat load, CDM anticipates that two 2,000 MBH high-efficiency condensing boilers should adequately heat the entire school.

Figure 4.2-14 compares current gas usage with predicted gas usage resulting from a switch to high-efficiency, condensing boilers.



Fiscal savings from such an upgrade are then identified in Table 4.2-7 below. Lifetime savings calculations for all ECRM’s may be found in Appendix I. It’s important to note that these are estimates based on building models, and further investigation is warranted before pursuing boiler replacements. CDM estimates a cast iron boiler will typically cost around \$3,500 per year for regular preventative maintenance, whereas a condensing boiler would cost around \$2,000 per year. Replacing both boilers should therefore yield an annual operation and maintenance savings of approximately \$3,000.

Table 4.2-7: J Ackerman Coles Elementary Boiler Upgrade Payback	
Predicted Annual Savings (Therms)	5,392
Total Annual Savings	\$6,524
Initial Capital Cost of Upgrade	\$114,282
Incentives	\$4,000
Cost of Upgrade	\$110,282
Simple Payback	16.9
Lifetime Energy Savings (24 years)*	\$198,472
Annual Maintenance Cost Savings (AMCS)	\$3,000
Annual Return on Investment (AROI)	4.47%
Internal Rate of Return (IRR)	6.89%

Table 4.2-7: J Ackerman Coles Elementary Boiler Upgrade Payback	
Net Present Value (NPV)	\$51,012

*Assumes 2% yearly inflation on natural gas costs

Building HVAC systems at the J. Ackerman Coles Elementary School are monitored and controlled remotely by a company called Energy for America. CDM found no need to upgrade or change this control scheme, as it is efficiently operated and the school staff had no complaints.

Again, all major equipment noted during CDM’s on site audit is listed in Table 4.2-8 below, along with estimated current ages and ASHRAE-expected service lives.

Table 4.2-8 J Ackerman Coles Elementary HVAC Equipment Service Lives							
Description	Unit Location	Service Location	Manufacturer	Model	Estimated Efficiency	Estimated Age (Years)	ASHRAE Expected Life (Years)
Cond. Unit	Ground	152	Lennox	HS29-036-9Y-OPT	EER ~10	<15	20
Cond. Unit	Ground	153	Lennox	HS29-036-9Y-OPT	EER ~10	<15	20
Cond. Unit	Ground	150	Unknown	Unknown	Unknown	~15	20
Cond. Unit	Ground	151	AO Smith	TCGD42S21S2A	Unknown	<15	20
RTU	Roof	Gym	Aaon	RK-20-2E0-000-HBOJGA00000MOB	80% EER ~13	<15	15
RTU	Roof	Media Center & Surrounding Rooms	Octagon	OAS-040T-13C-0600G-MZ	80%	>15	15
Boiler	Boiler Room	Entire Building	HB Smith	Unknown	<80%	46	30
Boiler	Boiler Room	Entire Building	HB Smith	Unknown	<80%	46	30

Many of the classrooms utilize unit ventilators for heating. As facility personnel continue to service unit ventilators throughout the building, they should note the condition and approximate age of the units. Those that are older than 15 years should be considered for replacement, as they are likely operating significantly below the equipment-rated efficiency.

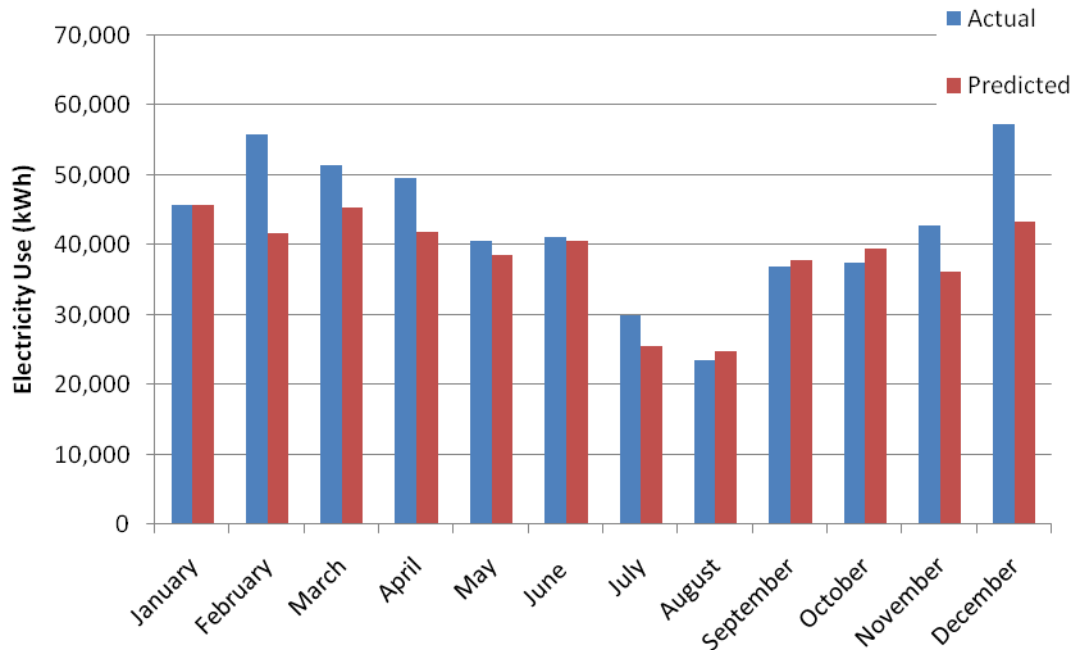
Again, CDM has created an inventory of observed domestic water heaters, in Table 4.2-9 below.

Table 4.2-9 J Ackerman Coles Elementary Domestic Water Heaters					
Location	Make	Storage Capacity (Gallons)	Type	Heating Capacity	Observed Condition
Boiler Room	Unknown	50	Gas	40 MBH	Aging
Gym Storage	AO Smith	40	Electric	4,500 Watts	Good

4.2.4 School One

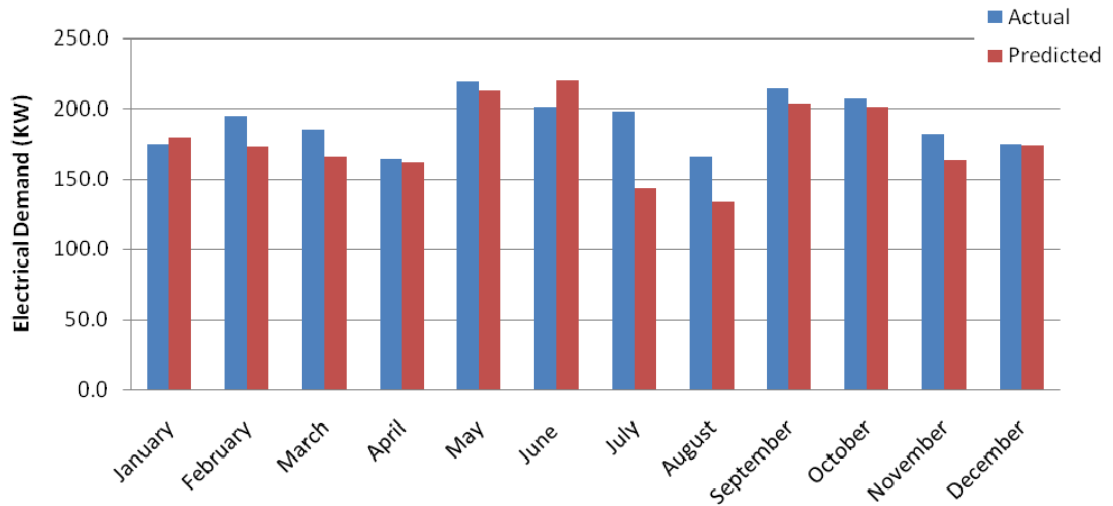
A model of School One was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM used electricity bills from July, 2008 through June, 2009, and natural gas bills from July, 2008 through June, 2009. Figure 4.2-15 below compares actual monthly electricity usages, with those predicted by the eQuest model.

Figure 4.2-15: School One Elementary Electricity Usage



Again, because the months of February and December had significantly higher usages than the rest of the year, the modeled demand of the school is demonstrated in Figure 4.2-16 below.

Figure 4.2-16: School One Elementary Electricity Demand



In this Figure it can be seen that the modeled demand is reasonably accurate for these months. CDM had access to only one year of electrical bills and is therefore uncertain why these usages are significantly different than usages of other months during the school year. However, due to the relative accuracy of both the modeled demand and usage patterns, it is reasonable to assume that over the course of several years, the historical average usage during these months would more closely reflect what was predicted by the model.

The electricity usage has been broken down in Figure 4.2-17 to help the Board visualize where CDM anticipates the electricity is ultimately being used.

Figure 4.2-17: School One Electricity Usage Breakdown

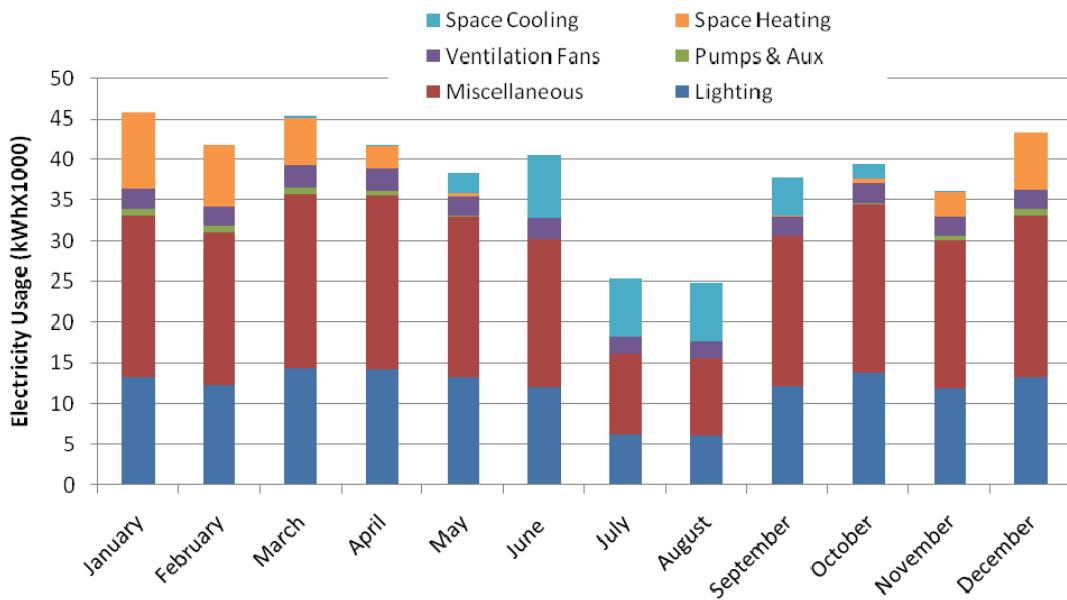
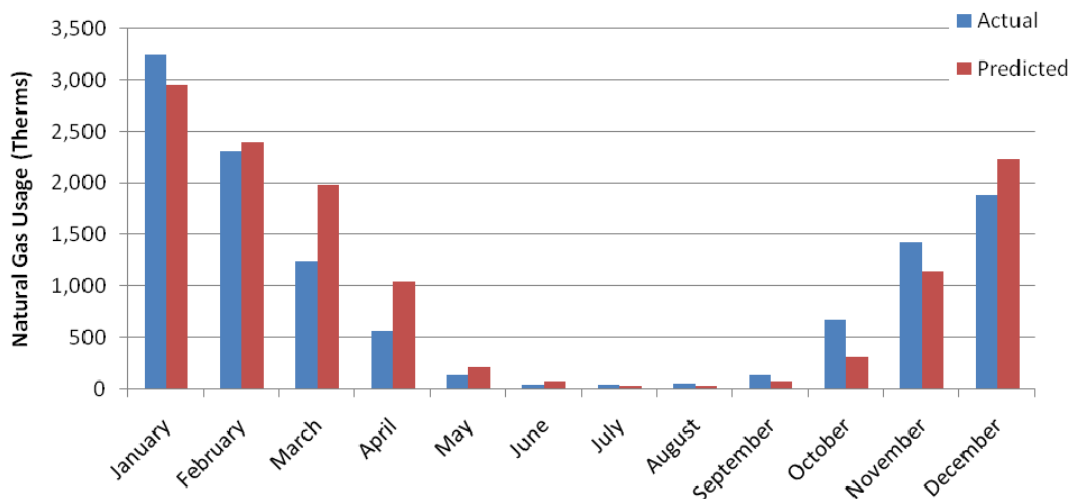


Figure 4.2-18 below compares actual natural gas usage to model-predicted natural gas use.

Figure 4.2-18: School One Natural Gas Usage



CDM had no HVAC-related recommendations for School One as most of the equipment is relatively new and efficient.

Building HVAC systems at the School One are monitored and controlled remotely by a company called Energy for America. CDM found no need to upgrade or change this control scheme, as it is efficiently operated and the school staff had no complaints.

All major equipment noted during CDM’s on site audit is listed in Table 4.2-10 below, along with estimated current ages and ASHRAE-expected service lives.

CDM was not able to determine which specific rooms are served by each unit at the time of the walkthrough. The unit service locations have therefore been estimated based on approximate unit location.

Table 4.2-10 School One HVAC Equipment Service Lives							
Description	Unit Location	Service Location	Manufacturer	Model	Estimated Efficiency	Estimated Age (Years)	ASHRAE Expected Life (Years)
RTU-1	Roof	Classrooms & Media Center Area	Lennox	LGA120SH1G	80% 11 EER	<15	15
RTU-2	Roof	Classrooms & Media Center Area	Lennox	LGA120SH1G	80% 11 EER	<15	15
RTU-3	Roof	Classrooms & Media Center Area	Lennox	LGA102SH1G	80% 11.2 EER	<15	15
RTU-4	Roof	Classrooms & Media Center Area	Lennox	LGA102SH1G	80% 11.2 EER	<15	15

Table 4.2-10 School One HVAC Equipment Service Lives							
RTU-5	Roof	Classrooms & Media Center Area	Lennox	LGA102SH1G	80% 11.2 EER	<15	15
RTU-6	Roof	MPR (122)	Lennox	LGA120SH1G	80% 11 EER	<15	15
RTU-7	Roof	MPR (122)	Lennox	LGA120SH1G	80% 11 EER	<15	15
RTU-10	Roof	Stage	Lennox	LGA072SH2G	80% 10.5% EER	<15	15
RTU-10	Roof	Classrooms & Media Center Area	Lennox	LGA102SH1G	80% 11.2 EER	<15	15
RTU	Roof	MPR (118)	Nesbitt	RMA50053N07F M000GL00B1Z0	80%	>15	15
Cond. Unit	Ground	130	Unknown	Unknown	Unknown	>20	20
Cond. Unit	Ground	131	Unknown	Unknown	Unknown	>20	20

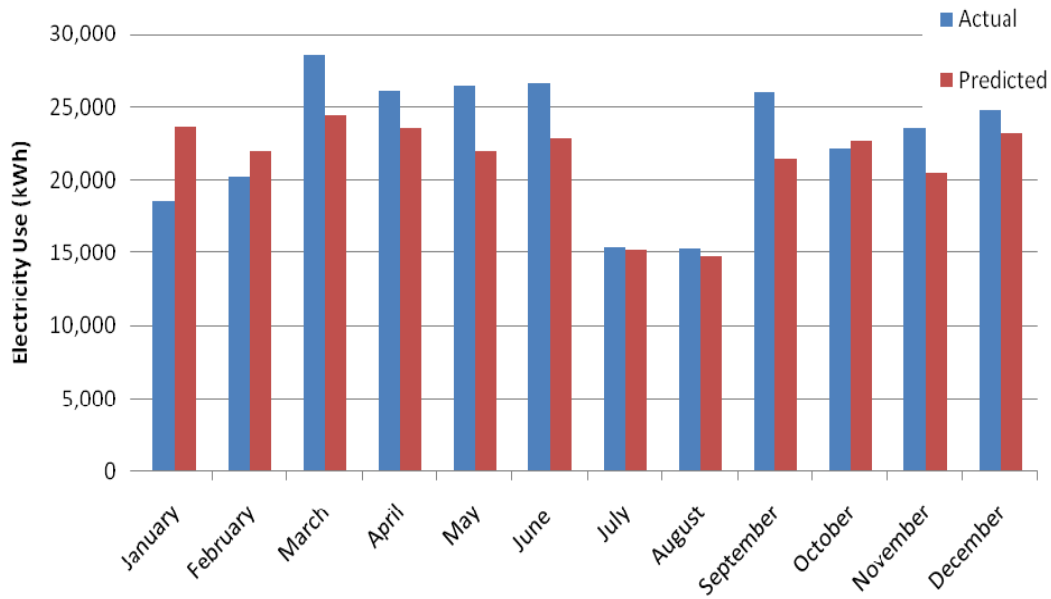
Again, CDM has created an inventory of observed domestic water heaters, in Table 4.2-11 below.

Table 4.2-11 School One Domestic Water Heaters					
Location	Make	Storage Capacity (Gallons)	Type	Heating Capacity	Observed Condition
Mechanical Room	AO Smith	100	Gas	80 MBH	Good

4.2.5 William J. McGinn Elementary

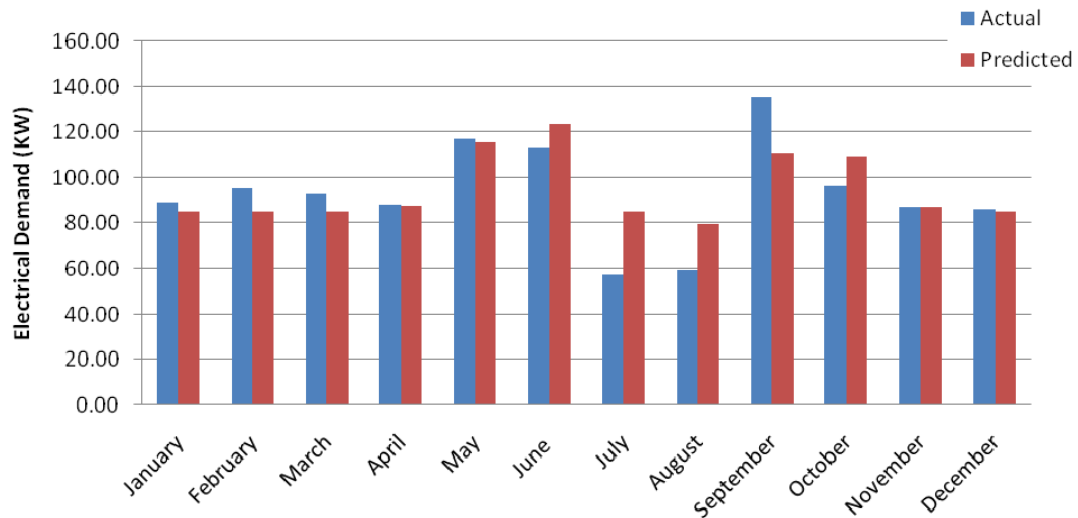
A model of the William J. McGinn Elementary School was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM used electricity bills from July, 2008 through June, 2009, and natural gas bills from July, 2008 through June, 2009. Figure 4.2-19 below compares actual monthly electricity usages, with those predicted by the eQuest model.

Figure 4.2-19: William J McGinn Elementary Electricity Usage



Here it can be seen that during the school year analyzed, the McGinn Elementary School had an odd electricity usage pattern, with significantly less usage in January and February. Therefore, to further demonstrate accuracy of the model, the model's predicted monthly demand has been compared to actual monthly peak demand in Figure 4.2-20 below.

Figure 4.2-20: William J McGinn Elementary Electricity Demand



By comparing the model's demand to the actual building demand, it can be seen that the model is reasonably accurate. CDM had access to only one year of electrical bills and is therefore uncertain why the usages in January and February, 2009 were relatively low. However, based on the model's calibration to within 10% of annual usage and the accuracy of the demand pattern predicted by the model, it is reasonable to assume that over the course of several years, the historical monthly usage pattern would more closely reflect what was predicted by the model.

The electricity usage has been broken down in Figure 4.2-21 to help the Board visualize where CDM anticipates the electricity is ultimately being used.

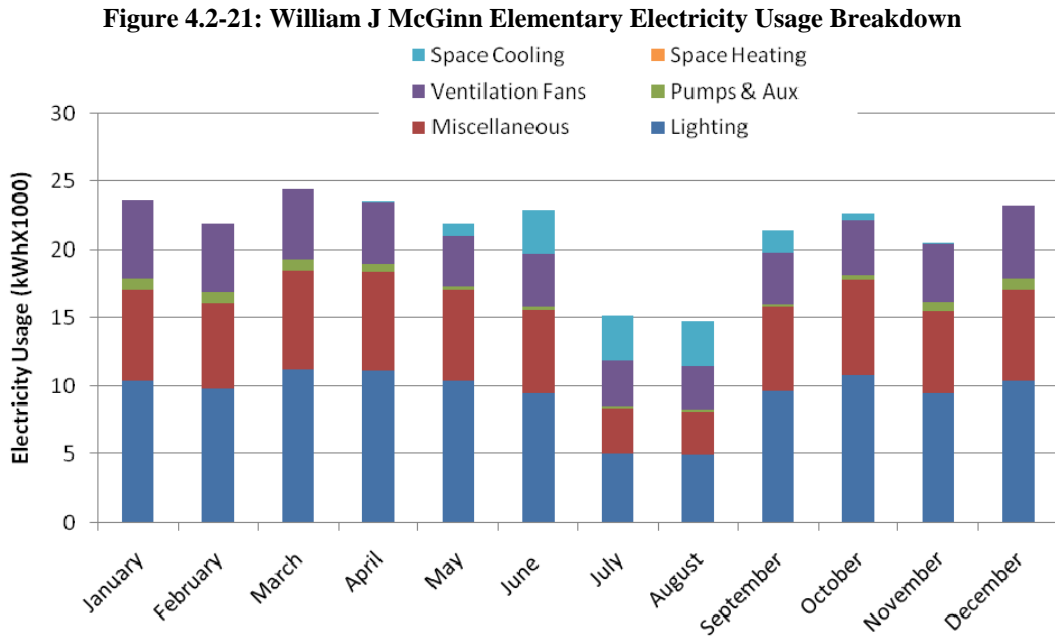
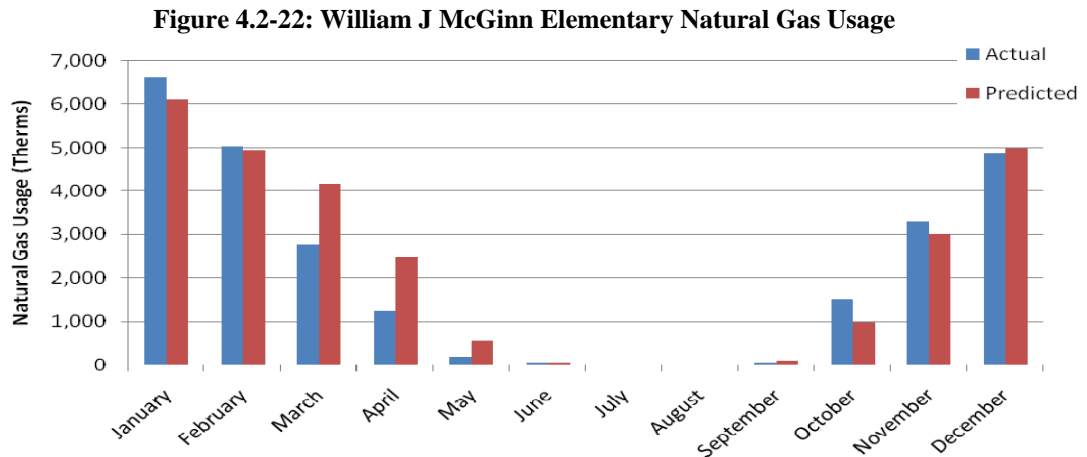


Figure 4.2-22 below compares actual natural gas usage to model-predicted natural gas use.



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

Currently, the school heating system utilizes two (2) HB Smith cast iron boilers, with net I=B=R hot water rated capacities of 1,723 MBH each. CDM estimates these boilers to be 80% efficient.

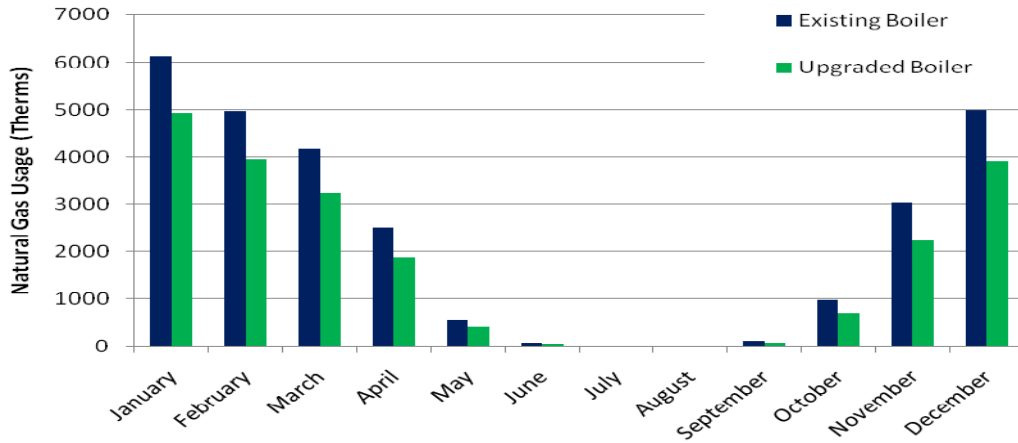
CDM recommends replacing these boilers with high-efficiency, condensing boilers.

The eQuest model was used to calculate a peak heating load for McGinn Elementary School. CDM calculates this load at approximately 2,795 MBH, or around 56.4 Btu/Hr

per square foot. Based on this peak heat load, CDM anticipates that two 2,000 MBH high-efficiency condensing boilers should adequately heat the entire school.

Figure 4.2-23 compares current gas usage with predicted gas usage resulting from a switch to high-efficiency, condensing boilers.

Figure 4.2-23: William J McGinn – Boiler Upgrade - Natural Gas Usage



Fiscal savings from such an upgrade are then identified in Table 4.2-12 below. Lifetime savings calculations for all ECRM's may be found in Appendix I. It's important to note that these are estimates based on building models, and further investigation is warranted before pursuing boiler replacements. CDM estimates a cast iron boiler will typically cost around \$3,500 per year for regular preventative maintenance, whereas a condensing boiler would cost around \$2,000 per year. Replacing both boilers should therefore yield an annual operation and maintenance savings of approximately \$3,000.

Table 4.2-12: William J McGinn Elementary Boiler Upgrade Payback	
Predicted Annual Savings (Therms)	6,120
Total Annual Savings	\$8,935
Initial Capital Cost of Upgrade	\$114,282
Incentives	\$4,000
Cost of Upgrade	\$110,282
Simple Payback	12.3
Lifetime Energy Savings (24 years)*	\$271,819
Annual Maintenance Cost Savings (AMCS)	\$3,000
Annual Return on Investment (AROI)	6.66%
Internal Rate of Return (IRR)	9.63%
Net Present Value (NPV)	\$91,843

*Assumes 2% yearly inflation on natural gas costs

Building HVAC systems at the William J McGinn Elementary School are monitored and controlled remotely by a company called Energy for America. CDM found no need to upgrade or change this control scheme, as it is efficiently operated and the school staff had no complaints.

Again, all major equipment noted during CDM’s on site audit is listed in Table 4.2-13 below, along with estimated current ages and ASHRAE-expected service lives.

Table 4.2-13 William J McGinn Elementary HVAC Equipment Service Lives							
Description	Unit Location	Service Location	Manufacturer	Model	Estimated Efficiency	Estimated Age (Years)	ASHRAE Expected Life (Years)
RTU-1	Roof	MPR B	Lennox	LGA048SH2Y	80% 11.3 EER	<15	15
RTU-2	Roof	MPR B	Lennox	LGA048SH2Y	80% 11.3 EER	<15	15
RTU-3	Roof	MPR B	Lennox	LGA048SH2Y	80% 11.3 EER	<15	15
RTU-4	Roof	MPR B	Lennox	LGA048SH2Y	80% 11.3 EER	<15	15
RTU-5	Roof	Lobby Area	Lennox	LGC072SH1Y	80% 10.1 EER	<15	15
RTU-6	Roof	MPR	Lennox	LGC072SH1Y	80% 10.1 EER	<15	15
RTU-7	Roof	MPR	Lennox	LGC300SH1Y	80% 9.5 EER	<15	15
RTU-8	Roof	Media Center	Lennox	LGC102SH1Y	80% 10.3 EER	<15	15
RTU-9	Roof	Media Center	Lennox	LGC102SH1Y	80% 10.3 EER	<15	15
RTU-10	Roof	Media Center	Lennox	LGC120SH1Y	80% 10.3 EER	<15	15
RTU (No Number)	Roof	Media Center	Lennox	LGA036SS2Y	80% 11.2 EER	<15	15
Boiler	Boiler Room	Entire Building	HB Smith	Unknown	<80%	43	30
Boiler	Boiler Room	Entire Building	HB Smith	Unknown	<80%	43	30

Many of the classrooms utilize unit ventilators for heating. As facility personnel continue to service unit ventilators throughout the building, they should note the condition and approximate age of the units. Those that are older than 15 years should be considered for replacement, as they are likely operating significantly below the equipment-rated efficiency.

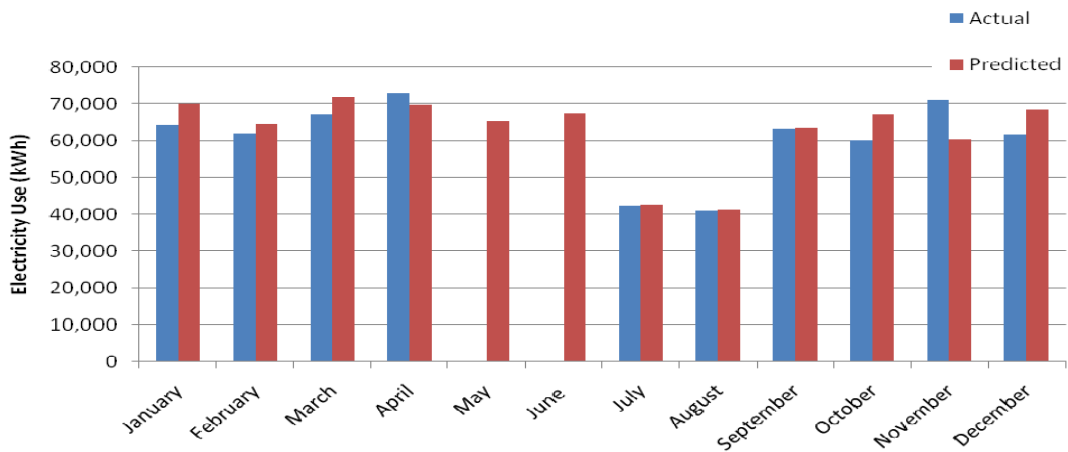
Again, CDM has created an inventory of observed domestic water heaters, in Table 4.2-14 below.

Table 4.2-14 William J McGinn Elementary Domestic Water Heaters					
Location	Make	Storage Capacity (Gallons)	Type	Heating Capacity	Observed Condition
Boiler Room	Rheem	50	Gas	38 MBH	Good

4.2.6 Park Middle School

A model of Park Middle School was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM used electricity bills from July, 2008 through June, 2009, and natural gas bills from July, 2008 through June, 2009. However, CDM was unable to obtain electric utility bills for some of the months between July, 2008 and June, 2009. Therefore, the model has been calibrated to the months that CDM did have on file. Figure 4.2-24 below compares actual monthly electricity usages, with those predicted by the eQuest model. Months that CDM did not have are not included in the “Actual” usage.

Figure 4.2-24: Park Middle School Electricity Usage



The electricity usage has been broken down in Figure 4.2-25 to help the Board visualize where CDM anticipates the electricity is ultimately being used.

Figure 4.2-25: Park Middle School Electricity Usage Breakdown

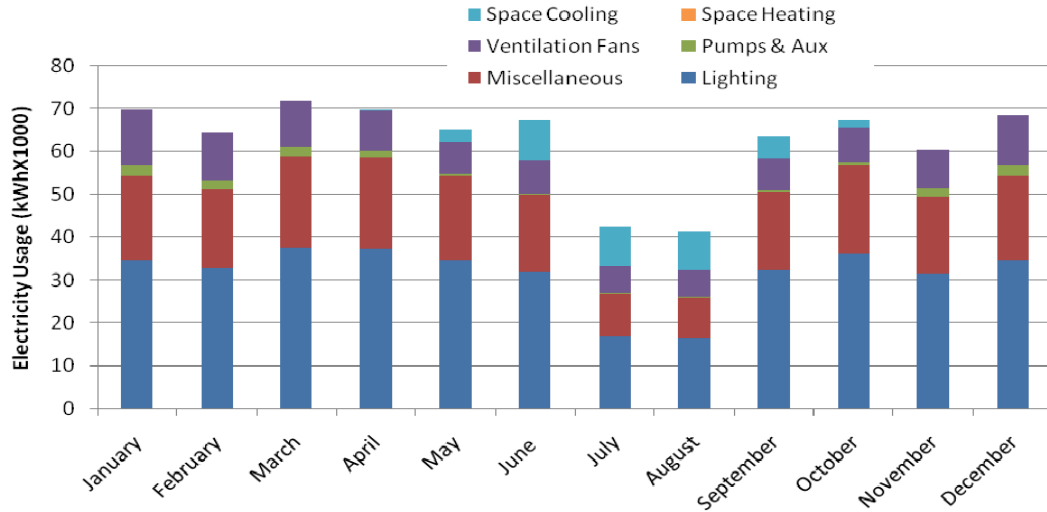
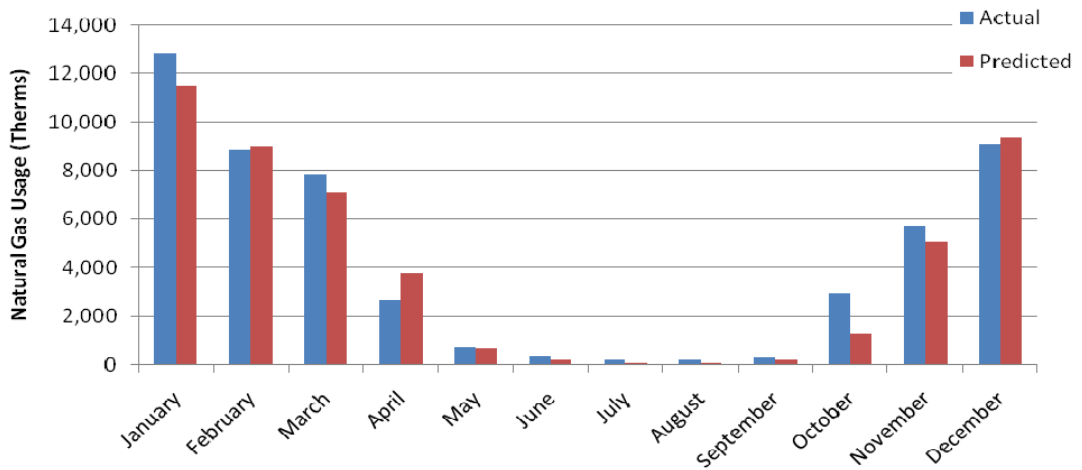


Figure 4.2-26 below compares actual natural gas usage to model-predicted natural gas use.

Figure 4.2-26: Park Middle School Natural Gas Usage



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

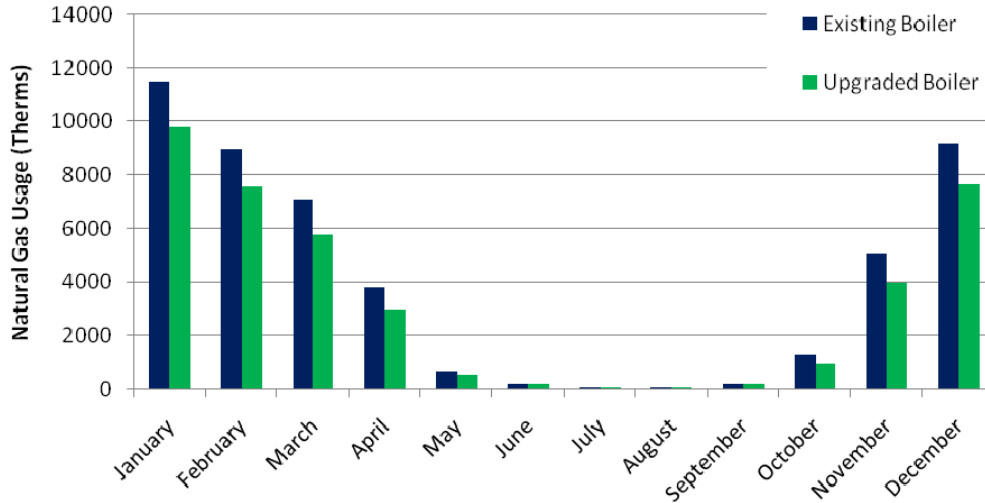
Currently, the school heating system utilizes one (1) Superior firetube boiler, with an unknown heating capacity, and two (2) Weil McLain boilers, with input rated capacities of 2,525 MBH each. CDM estimates these boilers to be 80% efficient.

CDM recommends replacing these boilers with high-efficiency, condensing boilers.

The eQuest model was used to calculate a peak heating load for Park Middle School. CDM calculates this load at approximately 4,839 MBH, or around 42.6 Btu/Hr per square foot. Based on this peak heat load, CDM anticipates that three 2,000 MBH high-efficiency condensing boilers should adequately heat the entire school.

Figure 4.2-27 compares current gas usage with predicted gas usage resulting from a switch to high-efficiency, condensing boilers.

Figure 4.2-27: Park Middle School – Boiler Upgrade - Natural Gas Usage



Fiscal savings from such an upgrade are then identified in Table 4.2-15 below. Lifetime savings calculations for all ECRM's may be found in Appendix I. It's important to note that these are estimates based on building models, and further investigation is warranted before pursuing boiler replacements. The three existing boilers are estimated to cost approximately \$3,500 each for regular preventative maintenance, whereas the condensing boilers should cost approximately \$2,000 each. Therefore, replacing the three boilers with condensing boilers should yield an annual operation and maintenance cost savings of approximately \$4,500.

Table 4.2-15: Park Middle School Boiler Upgrade Payback	
Predicted Annual Savings (Therms)	8,398
Total Annual Savings	\$11,001
Initial Capital Cost of Upgrade	\$171,422
Incentives	\$6,000
Cost of Upgrade	\$165,422
Simple Payback	15.1
Lifetime Energy Savings (24 years)*	\$334,670
Annual Maintenance Cost Savings (AMCS)	\$4,500
Annual Return on Investment (AROI)	5.20%
Internal Rate of Return (IRR)	7.84%
Net Present Value (NPV)	\$97,095

*Assumes 2% yearly inflation on natural gas costs

Building HVAC systems at Park Middle School are monitored and controlled remotely by a company called Energy for America. CDM found no need to upgrade or change this control scheme, as it is efficiently operated and the school staff had no complaints.

Again, all major equipment noted during CDM’s on site audit is listed in Table 4.2-16 below, along with estimated current ages and ASHRAE-expected service lives.

Table 4.2-16 Park Middle School HVAC Equipment Service Lives							
Description	Unit Location	Service Location	Manufacturer	Model	Estimated Efficiency	Estimated Age (Years)	ASHRAE Expected Life (Years)
Cond. Unit	1 st Floor Roof	Nurse	Lennox	HS29-036-9Y	EER ~10	<20	20
Cond. Unit	1 st Floor Roof	Main Gym Locker Rooms	Lennox	HS29-060-9Y	EER ~10	<20	20
Cond. Unit	1 st Floor Roof	Cafeteria	Rheem	RAKB-060AS	EER ~10	5	20
Cond. Unit	1 st Floor Roof	Unknown	Carrier	38CKC048---S21	EER ~10	<20	20
Cond. Unit	1 st Floor Roof	Band Room	Unknown	CE25-EA	Unknown	<20	20
RTU	1 st Floor Roof	New Gym	Lennox	LGA036SS2Y	80% EER 11.2	<15	15
RTU	1 st Floor Roof	Kitchen	Lennox	LGA036SS2Y	80% EER 11.2	<15	15
RTU	1 st Floor Roof	New Gym/Locker Rooms/Coach’s Office	Lennox	LGA072SH2Y	80% EER 10.5	<15	15
RTU	1 st Floor Roof	New Gym/Locker Rooms/Coach’s Office	Lennox	LGA072SH2Y	80% EER 10.5	<15	15
RTU	1 st Floor Roof	New Gym/Locker Rooms/Coach’s Office	Lennox	LGA072SH2Y	80% EER 10.5	<15	15
RTU	1 st Floor Roof	New Gym/Locker Rooms/Coach’s Office	Lennox	LGA072SH2Y	80% EER 10.5	<15	15
RTU	2 nd Floor Roof	Auditorium	Lennox	HS29-240-2Y	EER 10	<15	15

Table 4.2-16 Park Middle School HVAC Equipment Service Lives							
RTU-12	3 rd Floor Roof	Auditorium	Lennox	HS29-120-2Y	EER 10.4	<15	15
RTU-13	Media Center Roof	Media Center	Lennox	LGA120SH1Y	80% EER 11	<15	15
RTU-14	Media Center Roof	Media Center	Lennox	LGA120SH1Y	80% EER 11	<15	15
RTU-15	Media Center Roof	Media Center	Lennox	LGA120SH1Y	80% EER 11	<15	15
RTU-16	Media Center Roof	Classrooms Near Media Center	Lennox	LGA072SH2Y	80% EER 10.5	<15	15
RTU	Roof next to Media Center	118	Lennox	LGA042SS2Y	80% EER 11.3	<15	15
RTU	Roof next to Media Center	120	Lennox	LGA042SS2Y	80% EER 11.3	<15	15
RTU	Roof	Boys Locker Room	Lennox	LGA036SS2Y	80% EER 11.2	<15	15
Boiler	Boiler Room 1	Entire Building	Superior	CC4RS200	<80%	50	25
Boiler	Boiler Room 2	Entire Building	Weil McLain	Unknown	<80%	37	30
Boiler	Boiler Room 2	Entire Building	Weil McLain	Unknown	<80%	37	30

Many of the classrooms utilize unit ventilators for heating. As facility personnel continue to service unit ventilators throughout the building, they should note the condition and approximate age of the units. Those that are older than 15 years should be considered for replacement, as they are likely operating significantly below the equipment-rated efficiency.

Again, CDM has created an inventory of observed domestic water heaters, in Table 4.2-17 below.

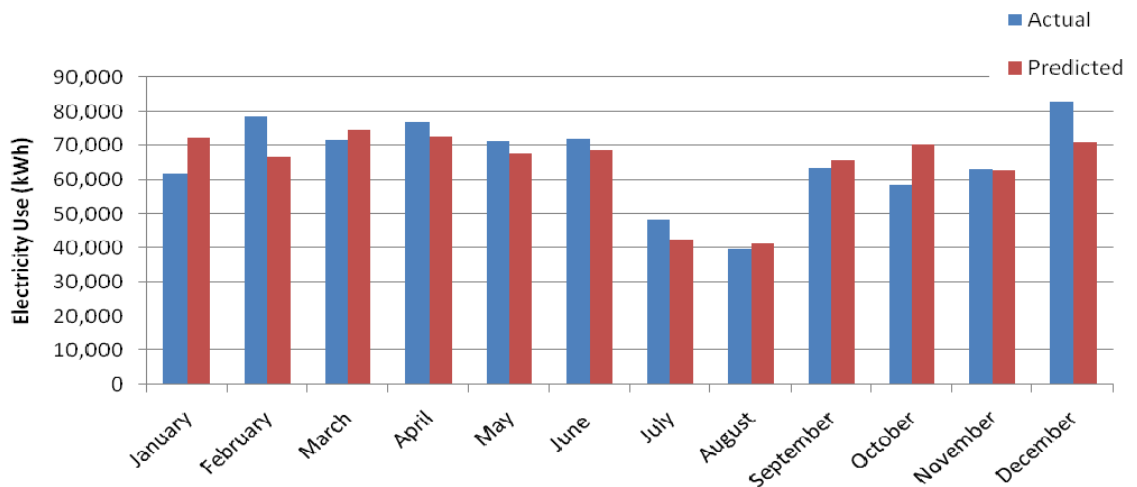
Table 4.2-17 Park Middle School Domestic Water Heaters					
Location	Make	Storage Capacity (Gallons)	Type	Heating Capacity	Observed Condition
Boiler Room 1	Rheem	100	Gas	75 MBH	Good

Table 4.2-17 Park Middle School Domestic Water Heaters					
Boiler Room 1	Rheem	100	Gas	75 MBH	Good
Boiler Room 2	AO Smith	100	Gas	80 MBH	Good

4.2.7 Terrill Middle School

A model of the Terrill Middle School was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM used electricity bills from July, 2008 through June, 2009, and natural gas bills from July, 2008 through June, 2009. Figure 4.2-28 below compares actual monthly electricity usages, with those predicted by the eQuest model.

Figure 4.2-28: Terrill Middle School Electricity Usage



The electricity usage has been broken down in Figure 4.2-29 to help the Board visualize where CDM anticipates the electricity is ultimately being used.

Figure 4.2-29: Terrill Middle School Electricity Usage Breakdown

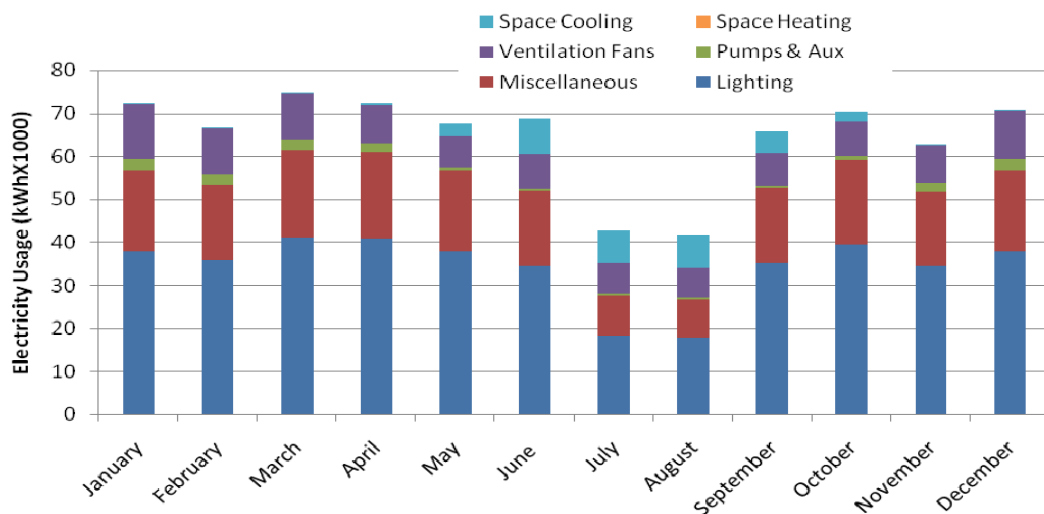
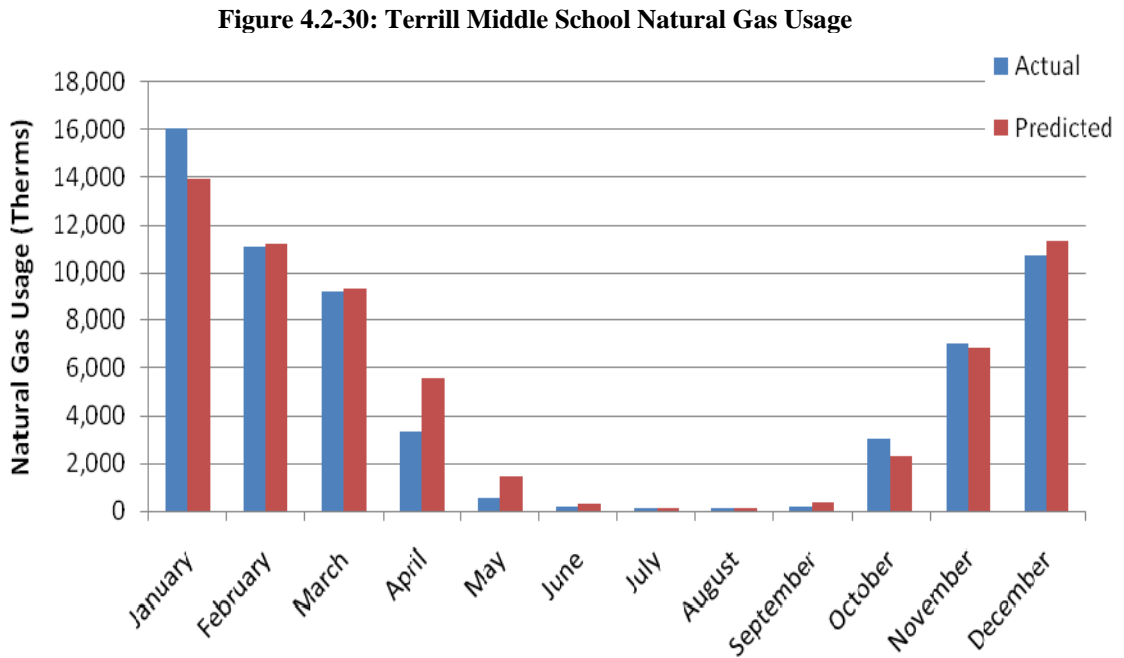


Figure 4.2-30 below compares actual natural gas usage to model-predicted natural gas use.



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

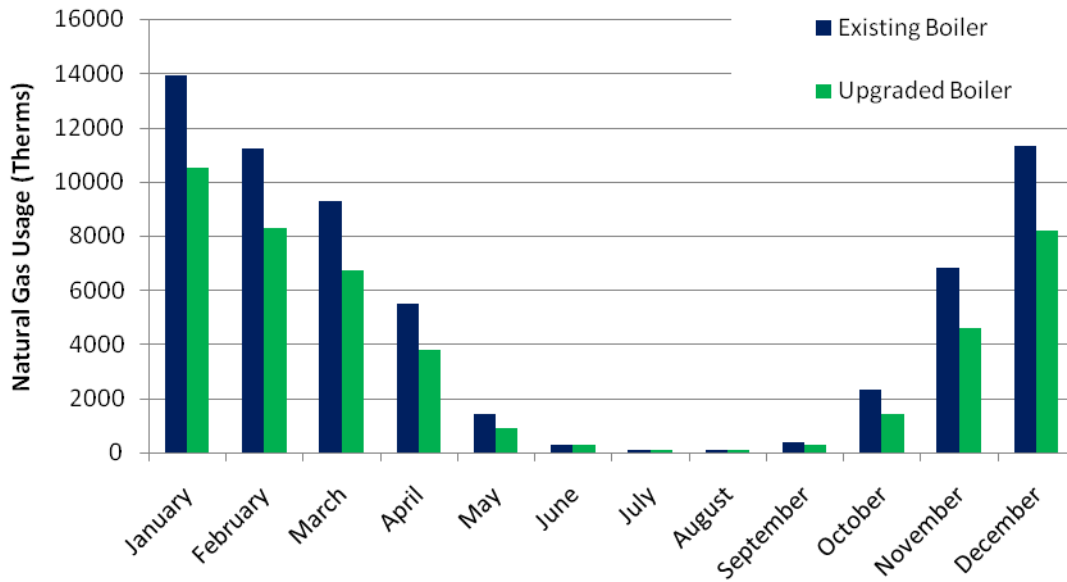
Currently, the school heating system utilizes two (2) HB Smith cast iron boilers, with input rated capacities of 6,800 MBH each. CDM estimates these boilers to be 80% efficient.

CDM recommends replacing these boilers with high-efficiency, condensing boilers.

The eQuest model was used to calculate a peak heating load for Terrill Middle School. CDM calculates this load at approximately 6,820 MBH, or around 72.8 Btu/Hr per square foot. Based on this peak heat load, CDM anticipates that four 2,000 MBH high-efficiency condensing boilers should adequately heat the entire school.

Figure 4.2-31 compares current gas usage with predicted gas usage resulting from a switch to high-efficiency, condensing boilers.

Figure 4.2-31: Terrill Middle School – Boiler Upgrade - Natural Gas Usage



Fiscal savings from such an upgrade are then identified in Table 4.2-18 below. Lifetime savings calculations for all ECRM’s may be found in Appendix I. It’s important to note that these are estimates based on building models, and further investigation is warranted before pursuing boiler replacements. CDM estimates a cast iron boiler will typically cost around \$3,500 per year for regular preventative maintenance, whereas a condensing boiler would cost around \$2,000 per year. Replacing both boilers with four condensing boilers should therefore yield an additional annual operation and maintenance cost of approximately \$1,000.

Table 4.2-18: Terrill Middle School Boiler Upgrade Payback	
Predicted Annual Savings (Therms)	17,400
Total Annual Savings	\$21,750
Initial Capital Cost of Upgrade	\$228,563
Incentives	\$8,000
Cost of Upgrade	\$220,563
Simple Payback	10.2
Lifetime Energy Savings (24 years)*	\$661,675
Annual Maintenance Cost Savings (AMCS)	(\$1000)
Annual Return on Investment (AROI)	5.24%
Internal Rate of Return (IRR)	7.89%
Net Present Value (NPV)	\$130,849

*Assumes 2% yearly inflation on natural gas costs

Building HVAC systems at the Terrill Middle School are monitored and controlled remotely by a company called Energy for America. CDM found no need to upgrade or change this control scheme, as it is efficiently operated and the school staff had no complaints.

All major equipment noted during CDM's on site audit is listed in Table 4.2-19 below, along with estimated current ages and ASHRAE-expected service lives.

Table 4.2-19 Terrill Middle School HVAC Equipment Service Lives							
Description	Unit Location	Service Location	Manufacturer	Model	Estimated Efficiency	Estimated Age (Years)	ASHRAE Expected Life (Years)
Cond. Unit	Roof	Main Office	Unknown	Unknown	Unknown	>20	20
RTU	Roof	Media Center	Aaon	RK-10-2-E0-750-HADTCA0B000M0X	80% EER ~13	>15	15
RTU	Roof	Media Center	Aaon	RK-10-2-E0-750-HADTCA0B000M0X	80% EER ~13	>15	15
Cond. Unit	Roof	2 nd Floor Copy Room	Unknown	DAPB-F024AB	Unknown	>20	20
Cond. Unit	Roof	36	Philco	JS5BD-030KD	Unknown	<10	20
Cond. Unit	Roof	38	Arcoaire	NAC036AKA1	EER ~10	<10	20
Cond. Unit	Roof	Bathrooms	Arcoaire	NAC018AKB1	EER ~10	<10	20
Cond. Unit	Roof	Hallways	Arcoaire	NAC018AKB1	EER ~10	<10	20
Cond. Unit	Roof	40	Arcoaire	NAC036AKA4	EER ~10	<10	20
Cond. Unit	Roof	39	Arcoaire	NAC036AKA4	EER ~10	<10	20
Cond. Unit	Roof	37	Arcoaire	NAC036AKA4	EER ~10	<10	20
Cond. Unit	Roof	35	Arcoaire	NAC036AKA4	EER ~10	<10	20
RTU	Roof	New Gym	Aaon	RK-16-2-E0-227:HADTCAOBH00MB	80% EER ~13	>15	15
RTU	Roof	New Gym	Aaon	RK-16-2-E0-227:HADTCAOBH00MB	80% EER ~13	>15	15

Table 4.2-19 Terrill Middle School HVAC Equipment Service Lives							
RTU	Roof	Band Room	Trane	YSC102A3RHA0G0100	81% EER 11.3	7	15
Cond. Unit	Ground	23	Arcoaire	NAC036AKA1	EER ~10	<10	20
Cond. Unit	Ground	22	Arcoaire	NAC036AKA4	EER ~10	<10	20
Cond. Unit	Ground	21	Arcoaire	NAC036AKA4	EER ~10	<10	20
Cond. Unit	Ground	19	Ruud	UAN0036AZ	EER ~10	<10	20
PTAC	Trailer Wall	Trailer	Bard	24WA6-A10N	EER 9.0	>15	15
PTAC	Trailer Wall	Trailer	Bard	24WA6-A10N	EER 9.0	>15	15
PTAC	Trailer Wall	Trailer	Bard	24WA6-A10N	EER 9.0	>15	15
PTAC	Trailer Wall	Trailer	Bard	24WA6-A10N	EER 9.0	>15	15
PTAC	Trailer Wall	Trailer	Unknown	Unknown	Unknown	<15	15
PTAC	Trailer Wall	Trailer	Unknown	Unknown	Unknown	<15	15
PTAC	Trailer Wall	Trailer	Unknown	Unknown	Unknown	<15	15
PTAC	Trailer Wall	Trailer	Unknown	Unknown	Unknown	<15	15
Boiler	Boiler Room	Entire Building	HB Smith	Unknown	<80%	45	30
Boiler	Boiler Room	Entire Building	HB Smith	Unknown	<80%	45	30

Many of the classrooms utilize unit ventilators for heating. As facility personnel continue to service unit ventilators throughout the building, they should note the condition and approximate age of the units. Those that are older than 15 years should be considered for replacement, as they are likely operating significantly below the equipment-rated efficiency.

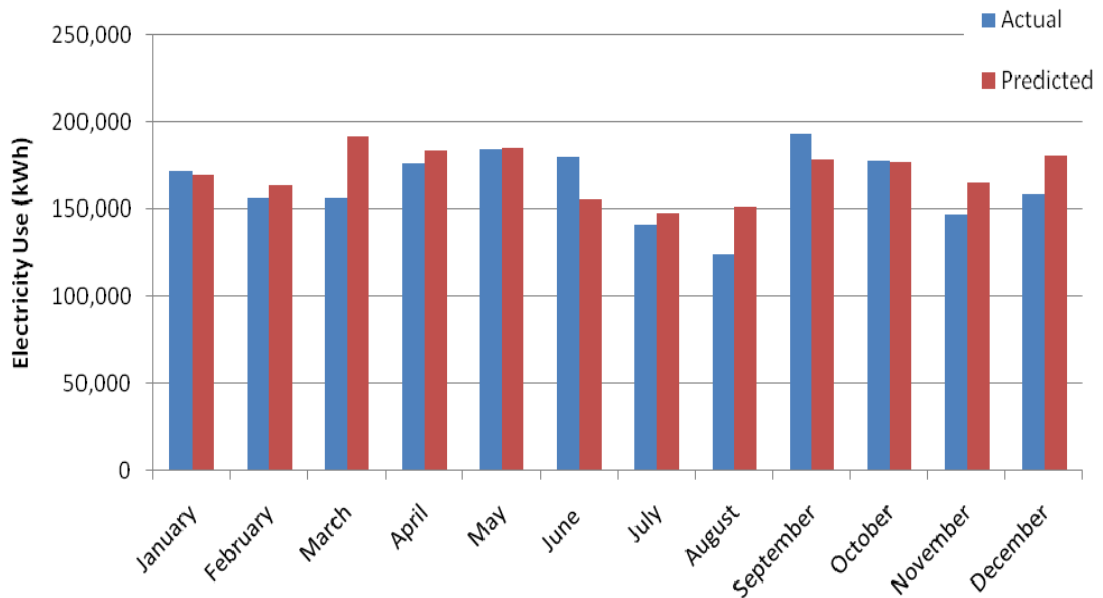
Again, CDM has created an inventory of observed domestic water heaters, in Table 4.2-20 below.

Table 4.2-20 Terrill Middle School Domestic Water Heaters					
Location	Make	Storage Capacity (Gallons)	Type	Heating Capacity	Observed Condition
Boiler Room	Rheem	100	Gas	199 MBH	Good
New Gym Storage	AO Smith	40	Electric	4500 W	Good

4.2.8 Scotch Plains-Fanwood High School

A model of Scotch Plains-Fanwood High School was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM used electricity bills from July, 2008 through June, 2009, and natural gas bills from July, 2008 through June, 2009. Figure 4.2-32 below compares actual monthly electricity usages, with those predicted by the eQuest model.

Figure 4.2-32: High School Electricity Usage



The electricity usage has been broken down in Figure 4.2-33 to help the Board visualize where CDM anticipates the electricity is ultimately being used.

Figure 4.2-33: High School Electricity Usage Breakdown

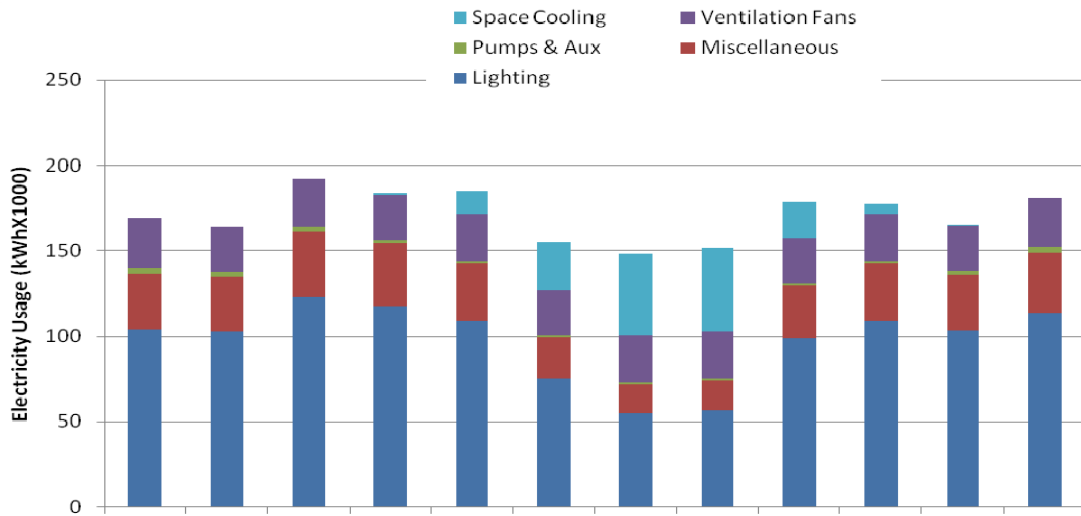
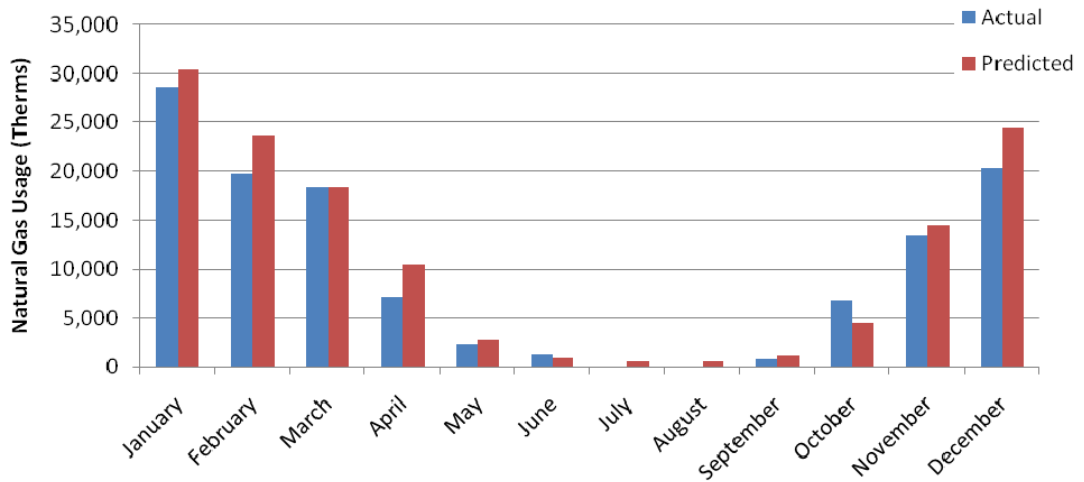


Figure 4.2-34 below compares actual natural gas usage to model-predicted natural gas use.

Figure 4.2-34: High School Natural Gas Usage



Like Evergreen Elementary School, the High School utilizes a steam system with boilers estimated to be approximately 80% efficient. Unlike hot water systems, steam systems cannot capitalize on the extra efficiency offered by condensing boilers. Therefore, CDM has no recommendations for the heating system at this school. However, the importance of regular steam system and trap inspection and maintenance should be stressed. Regular maintenance on steam systems will help to ensure that energy is not being wasted through leaks in the system. If a trap survey

has not been completed within the last 5 years CDM strongly recommends it be initiated.

Building HVAC systems at the High School are monitored and controlled remotely by a company called Energy for America. CDM found no need to upgrade or change this control scheme, as it is efficiently operated and the school staff had no complaints.

All major equipment noted during CDM’s on site audit is listed in Table 4.2-21 below, along with estimated current ages and ASHRAE-expected service lives. In the High School, the Nesbitt packaged gas-fired rooftop units appeared to be significantly older than 15 years. Efficiency tends to drop noticeably as units exceed their ASHRAE expected lives. Because these units heat and cool a large portion of the building, they should be considered for immediate replacement in an effort to maintain peak system efficiency.

Table 4.2-21 High School HVAC Equipment Service Lives							
Description	Unit Location	Service Location	Manufacturer	Model	Estimated Efficiency	Estimated Age (Years)	ASHRAE Expected Life (Years)
RTU (AC-1)	Roof	202, 205, Writing Lab, Eng. Super.	Unknown	Unknown	Unknown	>15	15
AC-2	Roof	Main Office, Counseling	Unknown	Unknown	Unknown	>15	15
AC-3	Roof	Upper Media Center	Unknown	Unknown	Unknown	>15	15
AC-4	Roof	223, 224, 228, 231, TV Area	Unknown	Unknown	Unknown	>15	15
AC-5	Roof	121,122, Faculty Dining	Unknown	Unknown	Unknown	>15	15
AC-6	Roof	246, 247, 232, 233	Nesbitt	RMA100NG4C22H 7BB07A250000BC51	~80% EER Unknown	>15	15
AC-7	Roof	128, 129, 131	Nesbitt	RMA100NG3C22H 5CB04A250000BC51	~80% EER Unknown	>15	15
AC-8	Roof	243, 245, 234, 235, Corridor	Nesbitt	RMA100NG3C22H 5BB07A250000BC51	~80% EER Unknown	>15	15
AC-9	Roof	130, 133, 136	Nesbitt	RMA100NG3C24H 7CB05A250000BC51	~80% EER Unknown	>15	15

Table 4.2-21 High School HVAC Equipment Service Lives							
AC-10	Roof	140, 141, 142	Nesbitt	RMA100NG5C22H 5CB03A250000BC51	~80% EER Unknown	>15	15
AC-11	Roof	137, 138, 139, 135	Nesbitt	Unknown	~80% EER Unknown	>15	15
AC-12	Roof	240, 241, 242, 233, 237, 239	Nesbitt	Unknown	~80% EER Unknown	>15	15
AC-15	Roof	K-12 Super., 214, Eng. Teach., Writing Lab	Nesbitt	RMA100NG3C24H 3AB09A250000BC51	~80% EER Unknown	>15	15
AC-16	Roof	210, 211, 212, 216, Corridor	Nesbitt	Unknown	~80% EER Unknown	>15	15
AC-17	Roof	Multipurpose Room	Unknown – No Tag	Unknown	Unknown	>15	15
Cond. Unit	Ground	Choral	Trane	Unknown	Unknown	~20	20
RTU	Roof	Weight Room	Trane	BTC100G300DA	Unknown	22	15
Cond. Unit	Roof	149	Trane	ATA030C300A0	Unknown	17	20
Cond. Unit	Ground	Data Processing Room	Unknown	AC036X122G	Unknown	<20	20
Cond. Unit	Ground	Data Processing Room	Unknown	AC036X122G	Unknown	<20	20
RTU	Roof	Stage/Auditorium	McQuay	079SHA (Furnace) RFR030CLA (Chiller) RCS030CYY	EER ~11	<10	15
HV-1	Mechanical Room (Near Gym)	Gym	Unknown	Unknown	N/A	~25	25
HV-2	Mechanical Room (Near Gym)	Gym	Unknown	Unknown	N/A	~25	25
Boiler	Boiler Room	Entire Building	Rockmills	MP200	~80%	15	25

Table 4.2-21 High School HVAC Equipment Service Lives							
Boiler	Boiler Room	Entire Building	Rockmills	MP200	~80%	15	25
Boiler	Boiler Room	Entire Building	Rockmills	MP200	~80%	15	25

Many of the classrooms utilize unit ventilators for heating. As facility personnel continue to service unit ventilators throughout the building, they should note the condition and approximate age of the units. Those that are older than 15 years should be considered for replacement, as they are likely operating significantly below the equipment-rated efficiency.

Again, CDM has created an inventory of observed domestic water heaters, in Table 4.2-22 below.

Table 4.2-22 High School Domestic Water Heaters					
Location	Make	Storage Capacity (Gallons)	Type	Heating Capacity	Observed Condition
Boiler Room	Patterson Kelley	Unknown	Gas (Boiler)	2,060 MBH (Input)	Good

4.3 Alternative Energy Sources

4.3.1 Photovoltaic Solar Energy System Overview

Provided in Appendix E is a summary of the project economics for the implementation of a PV Solar system at each site. Note that construction costs are labor and material estimates based on CDM’s experience and knowledge of data compiled from similar installations. Budget costs are not reduced by available rebates as all Office of Clean Energy rebate estimates, if applicable, are provided separately. Additional engineering will be required prior to preparing a bid specification for this project, and the final scope of work and budget cost estimates will need to be confirmed prior to the coordination of financing.

Overview

PV cells convert energy in sunlight directly into electrical energy through the use of semi conductors, diodes and collection grids. Several PV Cells are then linked together in a single frame of module to become a solar panel.

This conversion is done so without any moving parts and without generating any noise or pollution. Solar panels must be mounted in a non-shaded location. Rooftops, carports and ground-mounted arrays are common mounting locations. The angle of inclination of the PV panels, the amount of sunlight available, the orientation of the panels, the amount of physical space available and the efficiency of the individual panels are all factors that affect the amount of electricity that is generated.

Under full sun, each panel produces direct current (DC) electricity (about 12-18% efficiency), although this efficiency depends on the type of collector, the tilt and azimuth of the collector, the temperature and the level of sunlight. An inverter is required to convert the DC to alternating current (AC) of the desired voltage compatible with building and utility power systems. The balance of the system consists of conductors/conduit, switches, disconnects and fuses. Grid-connected PV systems feed power into the facility electrical system and do not include batteries.

Installing a PV system at any or all of the sites will enable the District to create energy savings and promote clean, renewable energy while helping the State of New Jersey achieve the goals outlined in the Governor's Energy Master Plan, which targeted having 30% of the state's electricity produced through wind and solar, by the year 2020.

The following is a preliminary study on the feasibility of installing PV solar systems to generate a portion of the facilities' electricity requirements. The systems outlined in this report are designed to provide power directly to the grid displacing wholesale power and relative rate structures.

Based on the estimated cumulative total available roof area for all eight buildings, calculations indicate that the installation of a system rated at approximately 1,408.56 kW (dc) will be appropriate for the eight buildings. The total for all of the buildings would generate an annual production of approximately 1,587,370 kWh (ac).

Our engineers have performed a preliminary engineering feasibility study of the sites outlined above to support solar generation facilities. Tasks undertaken by our engineers consisted of the following:

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

During our analysis our engineers looked at the total unobstructed available area of each section of the roof with adequate southern exposure. It is important to note the following:

1. The ages of the roofs vary greatly, even at specific schools because of additions. Ages are provided in the report where possible. The structural integrity of the roofs was not confirmed during our site visit. The schools may require some degree of roofing work prior to the implementation of a solar system. Both need to be addressed prior to the implementation of a PV system.

2. Our site visits did identify schools with potential issues related to the existing electric service and the need for certain modifications to accommodate a PV system while being compliant with the National Electrical Code. CDM noted these sites below and included language addressing schools requiring potential electric service modifications as part of the project.
3. In the case of the flat areas, the PV system sizing and kWh production was calculated assuming the installation of a crystalline module facing south direction and tilted approximately 10 degrees. Please note that the kWh production as well as system size may differ based on final panel tilt selected during the RFP and design phase.
4. Blended electric rates were used based on actual utility bills and were applied for each facility.

The following is a preliminary study on the feasibility of installing PV solar systems at the eight schools surveyed to generate a portion of the facility's electricity requirements. The system is designed to offset the electric purchased from the local utility and not as a backup or emergency source of power.

4.3.1.1 Brunner Elementary

The building is flat with a few different levels of roofs. The roof of the original building was last done in 1993 with a 15 year warranty that expired last year. Furthermore, there is a new addition that was built in 2003 that has a BUR roof system type with a 20 year warranty. The roofs are all BUR type and a visual inspection revealed them to be in fair condition. The structural integrity of the roof areas was not determined, and no leaks or major defects were found. The issue of warranties and structural integrity will need to be addressed prior to the implementation of a PV system.

It should be noted that 4.60 kW of the system is located solely on the roof that was redone in 2002.

Based on the facility walkthrough and satellite image analysis, the total available area, we calculated the installation of a system rated at approximately 68.08 kW (dc).

Please refer to Appendix E for the financial analysis and a preliminary solar overlay of the areas identified for placement of solar panels.

Electrical Service

The building's service is rated at 1600 amperes, 120/208 volt, three-phase, four-wire with no ground-fault protection for equipment. There is no main circuit breaker as permitted under NEC Article 230.71. There are four individual circuit breakers serving various sub-panels. Under NEC rules, a load side connection would be permitted on this service. However, there is no spare or space to install a switch. It would be necessary to modify the switchgear to accommodate a load-side connection. This might be cost prohibitive. The PV system output would be done through a line-

side connection between the CT section and the circuit breakers. This method might be more cost-effective. This would have to be determined during the final design phase for the school.

There is no space in the electrical equipment room to install the inverter(s). The inverter(s) will be installed outside on concrete pads. The inverter(s) would be housed in NEMA 3R enclosures. The AC output wiring from the inverter(s) would then be run into the electrical equipment room and be connected at the main distribution panel for the building. PV system interconnection points will meet NEC and local utility requirements.

4.3.1.2 Evergreen Elementary

The roof of the school is entirely flat with a lot of open area. In addition, the Administration Building is attached to the northern end of the school. The original part of the building's roof was last done in 1993 with a 15 year warranty that expired in 2008. Furthermore, it is known that one wing and a gym was installed in 2002 with a 20 year warranty. The roof areas are relatively unobstructed and are of BUR type. All of the roof areas appeared to be in good condition. While no verification of the structural integrity of the roofs was made, a visual inspection revealed no leaks or major defects. These items will need to be addressed prior to the implementation of a PV system.

It should be noted that 41.40 kW of the system is located solely on the roof that was redone in 2002.

Based on the facility walkthrough and satellite image analysis, the total available area, we calculated the installation of a system rated at approximately 152.95 kW (dc).

Please refer to Appendix E for the financial analysis and a preliminary solar overlay of the areas identified for placement of solar panels.

Electrical Service

The building's electrical service is located in the Board of Education Offices. It is 1600-ampere 120/208 volts, three-phase, four-wire with no ground-fault protection for equipment. Overcurrent protection for the service consists of one 1600-ampere main circuit breaker. The main distribution board feeds various loads, including a backfeed for the old service located in the school building. The interconnection of the PV system output will be line-side connection between the CT section of the switchgear and the line side of the 1600-ampere main circuit breaker.

There is no space in the electrical equipment room for the inverter. The inverter will be installed outside on a concrete pad. The inverter will be housed in a NEMA 3R enclosure. The AC output from the inverter would run into the electrical equipment room for connection to the building's switchgear. PV system interconnection points will meet NEC code and local utility requirements

4.3.1.3 J. Ackerman Coles Elementary

The roof of the original school was last done in 1991 with a 10 year warranty. There is an addition that was added in 2002 with a 20 year warranty. The new addition (a flat membrane type roof) and the library (a BUR type roof) support most of the HVAC units. There is one pitched roof area with a modified bitumen design. Another pitched roof in addition to a few more sections utilizes a BUR roof system type. There are a few scattered roofs that use an EPDM roof system including the new addition. While no study of the structural integrity of any of the roofs was made, there appeared to be no leaks or major defects. These items will need to be addressed prior to the implementation of a PV system.

Based on the facility walkthrough and satellite image analysis, the total available area, we calculated the installation of a system rated at approximately 135.70 kW (dc).

Please refer to Appendix E for the financial analysis and a preliminary solar overlay of the areas identified for placement of solar panels.

Electrical Service

The service for the school is rated at 1200 amperes, 120/208 volts, three-phase, four-wire with no ground-fault protection for equipment. Overcurrent protection for the service is provided by a 1600-ampere main circuit breaker. The interconnect point for the PV system output will be a line-side connection between the CT section of the switchgear and the line side of the 1600-ampere main circuit breaker.

There is no space in the electrical equipment room for the inverter. The inverter will be installed outside on a concrete pad. The AC output wiring from the inverter will then be run into the electrical equipment room and connected to the main distribution panel as previously discussed. PV system interconnection points will meet NEC and local utility requirements.

4.3.1.4 School One

The school is composed of a lower and upper level. Both levels have a great deal of HVAC equipment installed on it. Furthermore, shading played a role in sizing the system as well. The other areas have less roof-mounted equipment and are good areas for the installation of PV panels. The roofs are primarily of BUR type and they all appear to be in good condition. The roof of the building was last done in 1994 with a 15 year warranty that expired in August of this year. The structural integrity of the roof areas was not confirmed although a visual inspection revealed no leaks or major defects.

Based on the facility walkthrough and satellite image analysis, the total available area, we calculated the installation of a system rated at approximately 46.46 kW (dc).

Please refer to Appendix E for the financial analysis and a preliminary solar overlay of the areas identified for placement of solar panels.

Electrical Service

The building's service is rated at 2000 amperes 480/277 volts three-phase, four-wire with ground-fault protection for equipment. Overcurrent protection is provided by a 2000-ampere main circuit breaker. As stated earlier, NEC rules will not permit a load-side connection on services with ground-fault protection. Therefore, a line-side connection will have to be made for any proposed PV system. This interconnection point will be between the CT cabinet and the line side of the 2000 ampere main circuit breaker. There is no available space in the electrical equipment room for the inverter(s). The inverter(s) will be installed outside on a concrete pad, housed in a NEMA 3R enclosure. The AC output from the inverter(s) would then be run into the electrical equipment room and connected at the building's service entrance equipment. PV interconnection points will meet NEC and local utility requirements.

CDM conducted a facility walkthrough and satellite image analysis and based on the total available roof area, believe that a PV system rated at approximately 46.46 kW (dc) can be installed.

4.3.1.5 William J. McGinn Elementary

The roof of this building has multiple slightly pitched and flat roofs with a minimal amount of obstructions such as exhaust fans, rooftop HVAC units, and electrical and gas piping. The roof on the original section was last done in 1990. There is no warranty information on any new additions available at this time. A visual inspection revealed no leaks or major defects on any of the roof areas. The structural integrity of the roof areas was not confirmed. Warranty issues and structural integrity will have to be addressed prior to the implementation of a PV system.

Based on the facility walkthrough and satellite image analysis, the total available area, we calculated the installation of a system rated at 206.54 kW (dc).

Please refer to Appendix E for the financial analysis and a preliminary solar overlay of the areas identified for placement of solar panels.

Electrical Service

The school has a 1600-ampere service rated at 120/208 volts, three-phase, four-wire with no ground-fault protection for equipment. Overcurrent protection for the service consists of one 1600-ampere main circuit breaker. The interconnection point for the PV system output will be made between the CT section of the switchgear and the line side of the 1600-ampere main circuit breaker. Some modification may be necessary to the buss bars in order to accommodate the AC output from the inverter.

There is no space in the electrical equipment room for the inverter(s). The inverter(s) will be installed outside on a concrete pad. The inverter(s) would be housed in NEMA 3R enclosures. The AC output from the inverter(s) will run into the switchgear and be connected as previously discussed. PV interconnection points will meet NEC and local utility requirements.

4.3.1.6 Park Middle School

This building has roofs of different levels. The roof of the entire structure uses a BUR system type. The roof areas appear to be in good condition. There are some HVAC units and exhaust fans installed at various points on the roof. The roof was last done in 1993 and the gymnasium was added on in 2002. There is no warranty information currently available for the old and new roofs. The structural integrity of the roof was not confirmed and a visual inspection revealed no leaks or major defects. It is unknown how old the roof is or if there are any existing warranties in place. These issues, if any, will need to be addressed prior to the implementation of a PV system.

It was noted that 10.35 kW of the system is located solely on the roof that was redone in 2002.

Based on the facility walkthrough and satellite image analysis, the total available area we calculated the installation of a system rated at approximately 77.05 kW (dc).

Please refer to Appendix E for the financial analysis and a preliminary solar overlay of the areas identified for placement of solar panels.

Electrical Service

This building's service is rated at 3000 amperes 120/208 volts three-phase, four-wire. There is no main circuit breaker as permitted under NEC rule 230.71 and no ground-fault protection for equipment. There are three separate fused switches in the gear all rated at 1200 amperes, with two being fused at 1000 amperes. There is no space for installing a load-side connection and the age of the switchgear suggests that modifications would be cost-prohibitive. Therefore, the PV system output will be connected on the line side between the CT section and the first 1200 ampere switch. There is no space in the electrical equipment room to place the inverter(s). The inverter(s) will be installed outside on a concrete pad and housed in a NEMA 3R enclosure. The AC output wiring from the inverter would then be run into the electrical equipment room and connected as discussed previously. PV interconnection points will meet NEC and local utility requirements.

4.3.1.7 Terrill Middle School

The roof of this building has a flat roof with a number of obstructions such as exhaust fans, rooftop HVAC units, and electrical and gas piping. There is a minimal amount of shading on the roof from adjacent foliage that would need to be addressed during the design phase of the project and which should be vetted out upon completion of a shading analysis. The roof system used is a mixture of BUR and EPDM (membrane). The roof was redone in 1992 with a 15 year warranty that has already expired. The structural integrity of the roof was not confirmed although a visual inspection revealed no leaks or major defects. As stated earlier, the issues regarding structure and warranty need to be addressed prior to the implementation of a PV system.

Please note 20.74 kW was sized to go on the southern half of the gym using a thin-film application rather than a poly-crystalline panel based on the dome shape of the structure and its roof system type.

Based on the facility walkthrough and a satellite image analysis, the estimated total available area we calculated the installation of a system rated at approximately 207.50 kW (dc).

Please refer to Appendix E for the financial analysis and a preliminary solar overlay of the areas identified for placement of solar panels.

Electrical Service

This school is served by a 3,000 ampere-rated service, three-phase four-wire 120/208 volts with no main circuit breaker and no ground-fault protection for equipment. There are three 1200 ampere circuit breakers feeding various sub-panels throughout the building. The interconnection point for the PV system output will be a line-side connection between the CT section and the first 1200 ampere circuit breaker. It was not possible to open the switchgear, but the possibility exists that the CT section may be connected after the circuit breakers. If this is the case, it will be necessary to relocate the CT section of the switchgear so that it is before the circuit breakers. If this were not done, the utility meters would actually record the PV electricity generated as utility generated. There is no available space for the inverter to be installed within the electrical equipment room. The inverter will be installed outside on a concrete pad surrounded by a chain link fence. The inverter would be housed in a NEMA 3R enclosure. The AC wiring will run from the inverters into the interconnection point at the switchgear. PV interconnection points will meet NEC and local utility requirements.

4.3.1.8 Scotch Plains-Fanwood High School

The school is comprised of three sections (middle and two outside sections) in which the two outside wings have been added over time as student enrollment has increased. The roofs of the buildings are flat, with the exception of two sloped sections over the auditorium and a gymnasium. CDM identified areas that would be suitable for a solar panel installation taking into consideration the number of rooftop units and the amount of gas and electrical piping in these areas. There appeared to be little to no shading from adjacent foliage in those areas deemed suitable for a solar installation.

The age of the middle section is from 1993 (warranty expired in 2008) and the two outside wings were completed in 2002 (warranty expires in 2022). Overall, the roof of the entire building appears to be in good condition. Built-up roof (BUR) is the roof system type used throughout the entire structure. The structural integrity of each roof section was not confirmed. The overall situation with warranties and structural issues will need to be addressed prior to the implementation of a PV system. Because solar panels have the same useful life as a standard roof, the solar panels should be installed following a roof replacement if deemed necessary based on the ages of the existing roofs and any warranties that may still apply.

It was noted that 359.26 kW of the system is located solely on sections of the roof that were redone in 2002.

Based on the facility walkthrough and a satellite image analysis, the estimated total available roof area. Based on our surveys, we calculated the installation of a system rated at approximately 514.28 kW (dc).

Please refer to Appendix E for the financial analysis and a preliminary solar overlay of the areas identified for placement of solar panels.

Electrical Service

The building has a four-section rain tight enclosure located outside, adjacent to the PSE&G 1500 kVA transformer. The service is rated at 3000 amperes, 480/277 volt three-phase four-wire with ground-fault protection for equipment. This outdoor enclosure consists of the Current Transformer (metering section) with a 3000 ampere main circuit breaker, and two disconnect switches, one rated at 1200 amperes that feeds an outdoor transformer for the newer addition, and one rated at 1600 amperes that feeds the original building. NEC requirements mandate that no PV system can be connected on the load side of a service overcurrent device that has ground-fault protection. The PV system interconnect point will be made between the CT section and the 3000 ampere main breaker. While the back of the switchgear could not be opened during the inspection, it is likely that a line-side connection can be made. This might involve modification of the bussbars to some extent in order to accommodate the interconnection point, such as the addition of lugs fastened to the buss in order terminate the AC output conductors from the inverters.

Space limitations dictate that the inverters for the PV arrays will be located outside on concrete pads enclosed by a chain-link fence. It is possible that the inverters and primary disconnect switches could be installed adjacent to the existing service entrance switchgear. The inverters would be housed in NEMA 3R enclosures, and the AC wiring would run from the inverters into the connection point(s) at the service entrance switchgear. PV interconnection points will meet NEC and local utility requirements.

4.3.1.9 Basis for Design and Calculations

The proposed Photovoltaic (PV) Power systems outlined above for each school are comprised of the PV arrays, inverter(s), combiner boxes, disconnect switches, and all of the necessary wiring and interconnection equipment. The solar panels will be mounted onto the roof. The array outputs will feed power into the DC to AC inverters. AC outputs will then be connected at each building's electrical service as outlined above. Pending further engineering analysis of the roofs, it is yet to be determined if the solar arrays will be installed using a self-ballasting system, or roof penetration system, or a combination of both.

Glass panels

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



Fixed Tilt System

Thin-film panels

A flexible thin film application for the gym at Terrill Middle School is recommended. The Uni-Solar thin-film panel is rated at 144 watts dc at an 18 foot length. Thin-film panels will be adhered directly to the surfaces of the roofs.



Thin-film panels

Flexible thin-film panels are typically mounted directly on the roof membrane without the need for a rack system. Another benefit is that these panels are more effective in converting low-light energy (early and late in the day and during cloudy weather) into electricity. On the other hand they require significantly more space due to a relatively low watts/square footage ratio.

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

PV System Sizing

CDM investigated the installation of a south facing, non-tracking, fixed tilt system for each building. The total size is estimated at approximately 1,408.56 kW dc. The calculations were based on a poly-crystalline panel such as Sharp ND-U230C1 (rated at 230 watts dc) utilizing a 10-degree panel tilt. The azimuth ranges from 138 to 219 degrees.

Thin-film panels generate more kWh per kW installed than crystalline panels. However, standard production simulation software used to determine annual kWh production does not necessarily provide accurate production estimates for thin-film panels. CDM estimated the annual kWh production on existing thin-film systems of similar size. Energy production of the thin-film panels at Terrill Middle School is based on a 20.74 kW system and is estimated at approximately 24,883 kWh per year out of the schools total system size. Again, a similar de-rate factor is used to account for various losses such as inverter loss, soiling, panel miss-match, wiring losses etc.

Calculation of PV System Yield

An industry accepted software package, PV Watts, was used to calculate projected annual electrical production of the crystalline silicon PV system in its first year (please see Table below). The assumptions we used in the calculations were as follows: solar array tilt angle of 10°, array azimuth of 138° to 219° and a de-rate factor of 0.8. The energy savings generated by the installation of approximately 1,408.56 kW dc of photovoltaic power is estimated to be 1,587,370 kWh ac.

The following table, Table 4.3-1, summarizes economic analyses of the recommended solar energy systems..

Table 4.3-1: Solar Energy Systems Summary

Site	1 st Year kWh Production	Estimated Installed Cost	Est. Annual SREC	Annual Energy Savings	Lifetime Energy Savings (25 Years)*	Annual Return On Investment (AROI)	Net Present Value (NPV)	Internal Rate of Return (IRR)
H.B. Brunner ES	76,042	\$442,520	\$29,947	\$13,429	\$489,611	5.8%	\$148,826	6.6%
Evergreen ES	171,012	\$994,175	\$67,347	\$30,628	\$1,116,674	5.6%	\$343,139	6.7%
J.A. Coles ES	154,636	\$882,050	\$60,898	\$30,757	\$1,121,377	6.4%	\$380,522	7.5%

Site	1 st Year kWh Production	Estimated Installed Cost	Est. Annual SREC	Annual Energy Savings	Lifetime Energy Savings (25 Years)*	Annual Return On Investment (AROI)	Net Present Value (NPV)	Internal Rate of Return (IRR)
School One	51,945	\$301,990	\$20,457	\$10,384	\$378,593	6.2%	\$123,042	7.2%
William J. McGinn ES	234,662	\$1,342,510	\$92,414	\$38,907	\$1,418,520	5.8%	\$438,216	6.5%
Park MS	85,994	\$500,825	\$33,866	\$17,543	\$639,604	6.3%	\$208,943	7.3%
Terrill MS	235,220	\$1,348,750	\$92,634	\$53,724	\$1,958,737	6.9%	\$692,612	8.2%
Scotch Plains-Fanwood	577,859	\$3,342,820	\$227,571	\$89,684	\$3,269,812	5.5%	\$935,589	6.1%
Totals	1,587,370	\$9,155,640	\$625,133	\$253,979	\$9,392,928	-	-	-

Total Costs

Construction costs are only estimates based on historic data compiled from similar installations, and engineering opinion. Additional engineering and analysis is required to confirm the condition of the roofs, structural integrity of the roofs, the system type, sizing, costs and savings. Budget costs assume existing roofs are structurally sound, do not need to be replaced, and can accommodate a solar system.

The total cost for the installation of a 1,408.56 kW dc PV glass panel solar system as outlined above is estimated at \$6.50 per watt totaling \$9,155,640. As stated above the estimated installation costs are based on significant experience with the pricing of solar installations in New Jersey, and are intended to provide the District with a realistic budget cost. A typical solar installation can vary in cost from \$4.50 - \$9.00 per watt depending on size, complexity of the system, labor rates, etc. Approximately 60-70% of that number is material costs while the balance is labor, engineering, etc. Like any installation, certain conditions can affect a price upward or downward. For purposes of this analysis the estimated installation cost does not include any roofing or structural work which may be required to maintain warranties or for additional structural support. We have included a budget cost for the solar system installation, which includes soft costs and should cover some electrical modification work.

Please refer to Appendix E for the complete financial analysis. The current design of solar panels can result in gradual decline of output efficiency. Although many systems show negligible decline after years of operation, this financial analysis assumes a 0.5% annual degradation in electric output.

4.3.2 Geothermal Energy

Geothermal systems utilize the constant temperature of the earth throughout the year (at depths from 5 ft. to 1,000 ft. the earth temperature remains at 53 deg. F) as the

primary source of energy for the heating/cooling and domestic hot water production. Additionally, since the earth is maintained at a constant temperature from heat absorbed from the sun this energy is considered a “renewable resource,” and therefore is not as reliant on existing supplies of fossil fuels

Even though this application requires significantly higher up-front costs, it has several advantages over conventional HVAC systems such as substantially lower operating and maintenance costs. The life span of the system is longer than conventional heating and cooling systems. Most loop fields are warranted for 25 to 50 years and are expected to last at least 50 to 100 years. However it is important to note that geothermal systems are more difficult to install in existing facilities and require higher capital cost due to having to complete significant infrastructure changes. Therefore, installation of a geothermal system is not recommended at any of the SPFSD’s facilities at this point.

4.3.3 Wind Energy

To get a general idea if your region has good wind resources, CDM looked at the New Jersey Wind Resource Map. The maps indicate if wind speeds are strong enough to further investigate the wind resource. Based on the approximate location of the SPFSD’s sites, it appears as though they fall in the area which would present a relatively low opportunity for wind (5 mph or less). In addition, since the value of the Renewable Energy Credits is not as established as the market for Solar Renewable Energy Credits, and the District would not be eligible for any of the financial incentives that a private developer would be entitled to (i.e. the 30% Federal Tax Credit) the payback for a potential project would be excessively long and therefore the installation of a wind turbine is not recommended

4.3.4 Combined Heat and Power (COGEN)

CDM considered a potential cogeneration installation at these facilities. The cogeneration installation would generate electricity to supplement the power purchased from the local electric utility (PSE&G), and would produce heat in the form of hot water to supplement some of the heating and domestic hot water produced by the existing system. The cogeneration system would operate in parallel with PSE&G in supplying power to the building. However, schools are not typically good applications for cogeneration due to the variable needs for heat and hot water use in the summer months, which dramatically decreases the economic viability of the system.

Upon our technical and economical analysis of such a system, CDM does not recommend installing cogeneration in any of the District’s buildings.

4.3.5 Ground Source Heat Pumps

Ground source heat pumps utilize the relatively constant temperature of underground water sources to reject or supply heat to the interior space. Water is

pumped through a loop that runs from the underground source to heat pumps at the building level. Depending on the time of year and building demand, these heat pumps use the ground source loop as a heat source or a heat sink.

Typically, ground source heat pump systems are most efficient when used in spaces that have similar heating and cooling loads, as the same loop and heat pumps are used for both cooling and heating. While all the schools are entirely heated in the winter, only a fraction of the schools' interior spaces are cooled in the summer. Additionally, because the buildings are only partially occupied during peak cooling season (June – August), the schools' peak cooling loads are much smaller than their heating demands.

Ground source heat pump systems are often very costly to install due to the high cost of test boring and drilling wells. Due to this, and the largely unbalanced heating and cooling demands at the schools, CDM anticipates that installation of ground source heat pump systems would not prove cost-beneficial.

4.4 Next Steps – Additional Measures

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

It was noted that the classrooms have an average of four (4) computers. The school buildings also have technology centers with 30 to 40 computers. A standard Smart Strip has one 'control' outlet, six (6) outlets that are automatically switched off when the control device is and three (3) outlets that are always hot. An example of how the District can implement the use of Smart Strips within the classrooms is to plug a computer into the control outlet, the four (4) monitors, a personal printer (8 W in standby mode) and another electric appliance into the automatic outlets and three (3) computers into the always hot outlets. An LCD monitor can use up to 34W; in standby mode the monitor utilizes 1 – 2W. A CRT monitor typically utilizes around 75W. The following table 4.4-1 summarizes the payback of a Smart Strip, assuming 4 LCD monitors and 1 printer are automatically powered down that would otherwise been left on 8 hours/day and in standby mode 16 hours/day, 5 days/week for 9 months.

Table 4.4-1: Simple Payback

Smart Strip Classroom Application Example	
Predicted Annual Savings – 4 LCD monitors, 1 printer (kWH)	772
Total Annual Savings	\$124
Initial Capital Cost	\$40
Simple Payback (months)	3.8
Lifetime Energy Savings (15 years)	\$2,306
Net Present Value (NPV)	\$1,440

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

Table 4.4-2 Applications for Smart Strips

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

In was also noted that the District consider the implementation of Energy Star appliances throughout the school buildings. This is recommended on an ‘as-needed’ basis.

In addition to replacing old appliances with Energy Star appliances, the following two maintenance procedures can work to save the energy consumed by the District’s refrigerators. One is cleaning dirty condenser coils, twice a year. A refrigerator’s condenser coils and cooling fins are located either under the unit behind a grille in the front or on the back of the appliance. The coils can be cleaned with a brush or vacuum cleaner hose. The second source of wasted energy associated with a refrigerator is the door seal. Realigning the door or replacing a no longer airtight door seal will work to improve energy efficiency.

It may also be considered that the ‘Vending Misers’ be purchased and utilized for vending machines throughout the school buildings. A ‘Vending Miser’ powers down a vending machine when the surrounding area is unoccupied and automatically repowers when the area is occupied, utilizing an infrared sensor. Similarly to occupancy sensors on lighting fixtures; however, the vending miser also monitors the ambient temperature while the vending machine is powered down and uses this as sort of an internal thermostat to power up the machine and ensure that the drinks remain cold. The implementation of a ‘Vending Miser’ also reduces maintenance costs and extends the life of the machine, by reducing the number of compressor cycles. A

'Vending Miser' is a \$180 investment, but has been found to reduce power consumption of a cold drink vending machine by an average of 46%.

Section 5

Evaluation of Energy Purchasing and Procurement Strategies

5.1 Energy Deregulation

In 1999, New Jersey State Legislature passed the Electric Discount & Energy Competition Act (EDECA) to restructure the electric power industry in New Jersey. This law and the deregulation of the market allowed all consumers to shop for their electric supplier. The intent was to create a competitive market for electrical energy supply. As a result, utilities were allowed to charge Cost of Service and customers were given the ability to choose a third party supplier. Energy deregulation in New Jersey increased the energy buyers' options by separating the function of electricity distribution from that of electricity supply.

As noted in Section 3, the District is currently benefiting from the deregulation of the market and is utilizing Pepco Energy Services and South Jersey Energy as their third party suppliers.

5.2 Demand Response Program

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

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

Participation in Demand Response is generally done through companies known as Curtailment Service Providers, or CSPs, who are members of Pennsylvania New Jersey Maryland (PJM) Interconnection. There is no cost to enroll in the program and participation is voluntary, for instance, you can choose when you want to participate. In most cases, there is no penalty for declining to reduce your electricity use when you're asked to do so. The event is managed remotely by notifying your staff of the curtailment request and then enacting curtailment through your Building Management System.

CSPs will share in a percentage of your savings, which may differ among various CSPs, since there may be costs associated with the hardware and /or software required for participation, so it is recommended that a number of CSPs be contacted to review their offers.

Section 6

Ranking of Energy Conservation and Retrofit Measures (ECRM)

6.1 ECRMs

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

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

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

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

- Lighting Systems
- HVAC Systems
- Solar Energy

6.1.1 Lighting Systems

Table 6.1-1 includes a ranking of the recommended lighting system retrofits for each of the buildings. A detailed discussion on building lighting systems is presented in Section 4.1

Table 6.1-1					
Ranking of Energy Savings Measures Summary – Lighting System Retrofits					
Site	Retrofit Cost	NJ SmartStart Incentives	Total Cost	Annual Fiscal Savings	Simple Payback (Years)
Terrill Middle School	\$77,605	-\$6,830	\$70,775	\$33,527	2.2
Evergreen	\$30,869	- \$4,180	\$26,689	\$11,410	2.3

Table 6.1-1					
Ranking of Energy Savings Measures Summary – Lighting System Retrofits					
Site	Retrofit Cost	NJ SmartStart Incentives	Total Cost	Annual Fiscal Savings	Simple Payback (Years)
School One	\$25,795	- \$1,730	\$24,065	\$7,483	3.2
J.A. Coles	\$38,300	- \$3,240	\$35,060	\$10,662	3.3
William J. McGinn	\$30,671	- \$3,270	\$27,401	\$7,879	3.5
Scotch Plains-Fanwood HS	\$152,498	- \$16,800	\$135,698	\$35,913	3.8
Park Middle School	\$98,033	- \$8,895	\$89,138	\$21,235	4.2
H.B Brunner	\$36,246	- \$3,840	\$32,406	\$7,541	4.3
Project Totals	\$490,017	- \$48,785	\$441,232	\$135,650	

6.1.2 HVAC Systems

Table 6.1-2 includes a ranking of the recommended HVAC system retrofits for each of the buildings. A detailed discussion on building HVAC systems is presented in Section 4.2.

Table 6.1-2					
Ranking of Energy Savings Measures Summary – HVAC System Retrofits					
Site	Retrofit Cost	NJ SmartStart Incentives	Total Cost	Annual Fiscal Savings	Simple Payback (Years)
Evergreen Elementary – Air Source Heat Pumps	\$12,650	\$-920	\$11,730	\$3,270	3.6
Terrill Middle School – Boiler Upgrade	\$228,563	\$-8,000	\$220,563	\$21,750	10.2
William J. McGinn – Boiler Upgrade	\$114,282	\$-4,000	\$110,282	\$8,935	12.3
Park Middle School – Boiler Upgrade	\$171,422	\$-6,000	\$165,422	\$11,001	15.1
J.A. Coles – Boiler Upgrade	\$114,282	\$-4,000	\$110,282	\$6,524	16.9
H.B. Brunner – Boiler Upgrade	\$114,282	\$-4,000	\$110,282	\$4,885	22.6
Project Totals	\$755,481	\$26,920	\$728,561	\$69,589	

6.1.3 Solar Energy

Implementation of a new solar energy system has been evaluated to determine the economic feasibility for furnishing and installing such systems for the District. Based on the simple payback modeling performed, it would benefit the District to further investigate installing the solar energy systems at eight (8) buildings. This is primarily based on the initial upfront capital investment required for a solar energy system installation and an acceptable payback period.

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

Table 6.1-3, includes a ranking of the solar energy ECRMs for the District.

Table 6.1-3				
Ranking of Energy Savings Measures Summary –PV Solar Projects				
Site	Installation Cost	Annual SREC Credit	Annual Fiscal Savings	Payback Period (Years)
Terrill Middle School	\$1,348,750	\$92,634	\$53,724	9.2
J.A. Coles	\$882,050	\$60,898	\$30,757	9.6
School One	\$301,990	\$20,457	\$10,384	9.8
Park Middle School	\$500,825	\$33,866	\$17,543	9.8
H.B. Brunner	\$442,520	\$29,947	\$13,429	10.2
William J. McGinn	\$1,342,510	\$92,414	\$38,907	10.2
Evergreen	\$994,175	\$67,347	\$30,628	10.2
Scotch Plains-Fanwood HS	\$3,342,820	\$227,571	\$89,684	10.5
Project Totals	\$9,155,640	\$625,133	\$285,056	

Section 7

Available Grants, Incentives and Funding Sources

7.1 Solar Energy Incentives and Financial Options

7.1.1 Solar Renewable Energy Certificates

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

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

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

7.1.2 Financing Options for Solar Projects

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

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

Additional Potential Financial Incentives:

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

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

7.2 New Jersey Clean Energy Program

7.2.1 Introduction

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

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

7.2.2 New Jersey Smart Start Program

The New Jersey Smart Start Program offers rebate incentives for several qualifying equipment such as high efficient premium motors and lighting, and lighting controls. Specific lighting and lighting controls incentives exist for: fixture upgrades and replacement, the installation of occupancy sensors, high-low lighting controls and

daylight/dimming controls. Incentive information and incentive calculation worksheets are provided for the various new equipment installation identified in this report and are included in Appendix F.

7.2.3 Pay for Performance Program

Another program offered through the New Jersey Smart Start Program, is the Pay for Performance Program. Commercial, industrial and institutional buildings with an average annual peak demand over 200 kW are eligible for participation. In addition, local government agencies, which do not meet the 200 kW demand requirement and are not receiving Energy Efficiency and Conservation Block Grants are eligible.

Based on last year’s average annual peak demand, the Park Middle School (248 kW), Terrill Middle School (257 kW) and the High School (400 & 600 kW) are eligible for this program.

Incentives are available for buildings that are able to present an Energy Reduction Plan that reduces the building’s current energy consumption by 15% or more, in addition to incentives for installing the recommended measures and incentives for presenting the energy savings in a post-construction benchmarking report. No more than 50% of the total energy savings may be derived from lighting retrofits. In addition, the total energy savings of 15% may not come from the implementation of one energy savings measure. The incentive structure is provided in Appendix F.

The following table, Table 7.2-1, summarizes the energy savings presented in this energy report, warranting possible eligibility of the three (3) school buildings in the Pay for Performance Program.

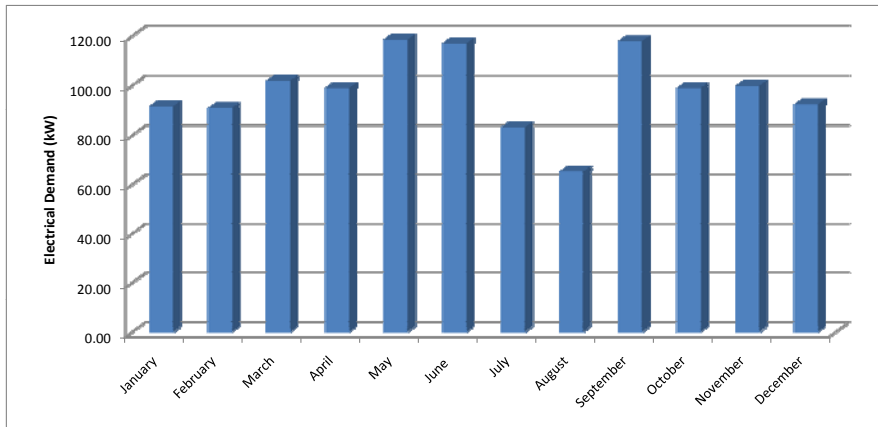
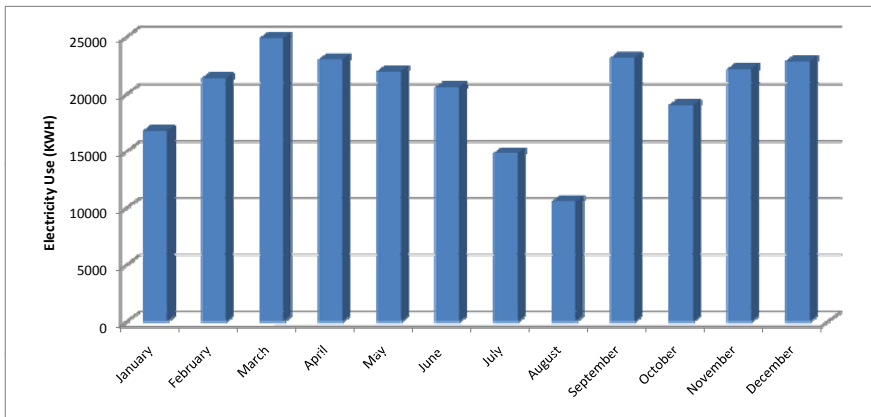
Table 7.2-1: Pay for Performance Eligibility

Facility	Annual Electrical Use (kWh)	Annual Gas Use (therms)	Recommended ECRM Reduction (kWh and therms)	Reduction in Current Energy Consumption (%)
Park Middle School	723,805	51,888	104,094 kWh 8,398 Therms	14% (lighting retrofits) 16% (HVAC retrofits)
Terrill Middle School	787,886	61,406	146,792 kWh 17,400 Therms	19% (lighting retrofits) 28% (HVAC retrofits)
Scotch Plains-Fanwood High School	2,765,740	118,676	231,402 kWh	8% (lighting retrofits)

APPENDIX A

UTILITY BILL INFORMATION

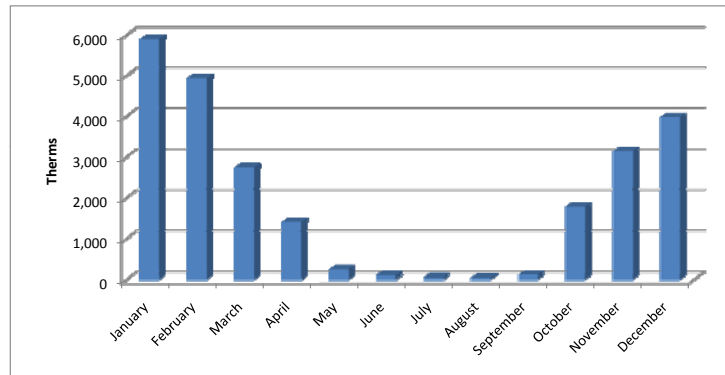
Electric Bills - Brunner												
			Account #									
			67 103 495 00		51 678 399 04							
Comments	Month	Year	PSE & G Electric Charges Meter #: 278007454	South Jersey Energy	PSE & G Electric Charges Meter #: 278007454	BGS Supply Charges	Total Electric Charges	Total KWH	Cost Per KWH	Measured Demand	Demand Charge	Overall Cost Per kW Demand
	July	2008			\$1,361.88	\$2,240.96	\$3,602.84	14,850	\$0.24	83.3	\$324.38	\$3.89
	August	2008			\$1,037.54	\$1,812.41	\$2,849.95	10,575	\$0.27	65.3	\$254.28	\$3.89
	September	2008			\$1,987.30	\$3,217.75	\$5,205.05	23,175	\$0.22	117.8	\$458.72	\$3.89
	October	2008			\$828.57	\$2,398.91	\$3,227.48	19,050	\$0.17	99.0	\$385.52	\$3.89
	November	2008			\$919.27	\$2,541.57	\$3,460.84	22,200	\$0.16	99.8	\$388.63	\$3.89
	December	2008			\$928.21	\$2,536.91	\$3,465.12	22,875	\$0.15	92.3	\$359.43	\$3.89
	January	2009			\$799.95	\$2,027.98	\$2,827.93	16,800	\$0.17	91.5	\$356.31	\$3.89
	February	2009			\$919.52	\$2,534.60	\$3,454.12	21,375	\$0.16	90.8	\$353.58	\$3.89
	March	2009			\$1,055.80	\$2,889.21	\$3,945.01	24,900	\$0.16	102.0	\$397.20	\$3.89
Switchover	April	2009	\$994.83			\$2,644.55	\$3,639.38	23,025	\$0.16	99.0	\$385.52	\$3.89
Switchover	May	2009	\$1,077.11			\$158.71	\$1,235.82	21,975	\$0.06	118.5	\$494.17	\$4.17
	June	2009	\$1,980.77	\$2,217.60			\$4,198.37	20,625	\$0.20	117.0	\$458.67	\$3.92



Natural Gas Bills

Elizabethtown Gas Account # 5484146700 : Brunner

Date	Year	Meter 09139789	Gas Usage Charge	Demand (Therms)	Demand Charge	Total Charge	Pepco Energy Gas Charge	Elizabethtown Gas Charge	Total Gas Charge	Cost/Ther m
Jul 7 - Aug 6	2006							\$271.56	\$271.56	
Aug 7 - Sep 6	2006							\$293.06	\$293.06	
Sep 7 - Oct 6	2006							\$416.46	\$416.46	
Oct 7 - Nov 6	2006							\$1,483.95	\$1,483.95	
Nov 7 - Dec 6	2006							\$3,251.96	\$3,251.96	
Dec 7 - Jan 6	2006							\$4,840.54	\$4,840.54	
Jan 7 - Mar 6	2007							\$6,284.81	\$6,284.81	
Feb 7 - Mar 6	2007							\$8,152.35	\$8,152.35	
Mar 7 - Apr 6	2007							\$4,873.49	\$4,873.49	
Apr 7 - May 6	2007							\$2,193.38	\$2,193.38	
May 7 - Jun 6	2007							\$460.90	\$460.90	
Jun 7 - Jul 6	2007							\$293.90	\$293.90	
Jul 7 - Aug 6	2007							\$257.63	\$257.63	
Aug 7 - Sep 6	2007							\$280.87	\$280.87	
Sep 7 - Oct 6	2007						\$51.93	\$219.87	\$271.80	
Oct 7 - Nov 6	2007						\$779.32	\$425.06	\$1,204.38	
Nov 7 - Dec 6	2007						\$4,048.51	\$1,316.46	\$5,364.97	
Dec 7 - Jan 6	2007						\$5,310.04	\$1,674.29	\$6,984.33	
Jan 7 - Mar 6	2008						\$4,845.91	\$1,550.07	\$6,395.98	
Feb 7 - Mar 6	2008						\$5,499.75	\$1,606.36	\$7,106.11	
Mar 7 - Apr 6	2008						\$3,895.03	\$1,100.46	\$4,995.49	
Apr 7 - May 6	2008						\$1,610.74	\$535.18	\$2,145.92	
May 7 - Jun 6	2008						\$845.61	\$354.38	\$1,199.99	
Jun 7 - Jul 6	2008						\$90.80	\$217.29	\$308.09	
July	2008	55.9	\$30.70	229	\$185.49	\$216.19				\$3.87
August	2008	45.8	\$27.92	229	\$185.49	\$213.41				\$4.66
September	2008	119.5	\$47.01	229	\$185.49	\$232.50				\$1.95
October	2008	1776.4	\$492.09	238	\$192.78	\$684.87				\$0.39
November	2008	3138.1	\$913.01	238	\$192.78	\$1,105.79				\$0.35
December	2008	3967.8	\$1,150.14	238	\$192.78	\$1,342.92				\$0.34
January	2009	5908.8	\$1,704.88	238	\$192.78	\$1,897.66				\$0.32
February	2009	4935.1	\$1,426.60	238	\$192.78	\$1,619.38				\$0.33
March	2009	2739.1	\$790.30	238	\$192.78	\$983.08				\$0.36
April	2009	1400.7	\$393.38	238	\$192.78	\$586.16				\$0.42
May	2009	250.1	\$84.29	238	\$192.78	\$277.07				\$1.11
June	2009	109.6	\$46.01	238	\$192.78	\$238.79				\$2.18

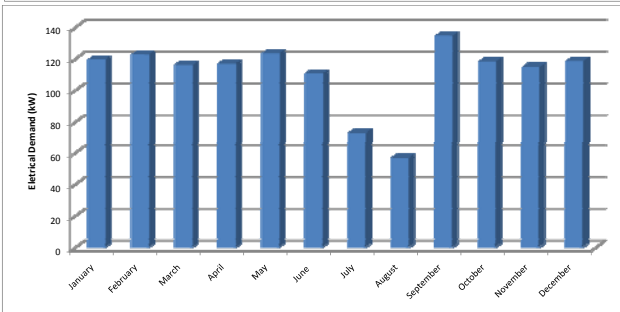
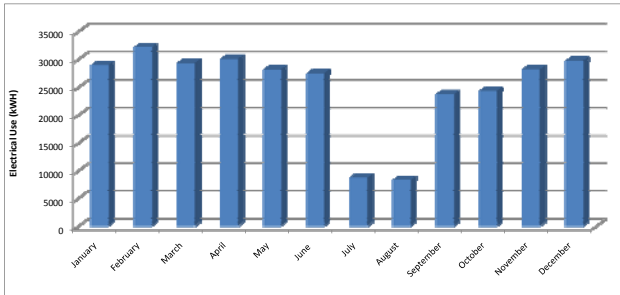


Electric Bills - Coles												
			Account #									
			67 027 114 09		51 679 245 05							
Comments	Month	Year	PSE & G Electric Charges Meter #: 626022352	South Jersey Energy	PSE & G Electric Charges Meter #: 62602252	BGS Supply Charges	Total Electric Charges	Total KWH	Cost Per KWH	Measured Demand	Demand Charge	Overall Cost Per KW Demand
	July	2008	\$65.47		\$62.36		\$127.83	270	\$0.47	4.8	\$18.69	\$3.89
	August	2008	\$64.39		\$68.65		\$133.04	310	\$0.43	4.6	\$17.91	\$3.89
	September	2008	\$148.98		\$177.89		\$326.87	1,270	\$0.26	9.7	\$37.77	\$3.89
	October	2008	\$85.37		\$173.39		\$258.76	1,460	\$0.18	12.2	\$47.51	\$3.89
	November	2008	\$124.55		\$265.73		\$390.28	2,610	\$0.15	15.0	\$58.41	\$3.89
	December	2008	\$161.92		\$368.50		\$530.42	3,880	\$0.14	15.9	\$61.92	\$3.89
	January	2009	\$150.08		\$302.40		\$452.48	3,060	\$0.15	16.9	\$65.81	\$3.89
	February	2009	\$173.40		\$381.25		\$554.65	3,740	\$0.15	18.2	\$70.87	\$3.89
	March	2009	\$145.49		\$145.49		\$311.90	2,960	\$0.15	16.3	\$63.47	\$3.89
Switchover	April	2009	\$131.89			\$289.42	\$401.31	2,590	\$0.15	15.3	\$59.58	\$3.89
Switchover	May	2009	\$115.01			\$12.19	\$127.20	1,900	\$0.07	14.5	\$60.46	\$4.17
	June	2009	\$182.00	\$118.27			\$300.27	1,100	\$0.27	12.7	\$49.78	\$3.92

Month	Combined (KWH)	Combined Demand (KW)
January	28898	119.50
February	32157	122.60
March	29306	116.20
April	30022	117.00
May	28141	123.40
June	27456	110.80
July	8758	73.20
August	8361	56.80
September	23734	134.80
October	24307	118.40
November	28167	114.90
December	29722	118.50

Electric Bills - Coles												
			Account #									
			66 323 162 04		51 678 359 09							
Comments	Month	Year	PSE & G Electric Charges Meter #: 278006435	South Jersey Energy	PSE & G Electric Charges Meter #: 278006435	BGS Supply Charges	Total Electric Charges	Total KWH	Cost Per KWH	Measured Demand	Demand Charge	Overall Cost per KW Demand
	July	2008	\$1,008.00		\$1,441.58		\$2,449.58	8,370	\$0.29	68.4	\$266.36	\$3.89
	August	2008	\$814.76		\$1,434.36		\$2,249.12	7,920	\$0.28	52.2	\$203.27	\$3.89
	September	2008	\$2,043.67		\$3,058.67		\$5,102.34	22,330	\$0.23	125.1	\$487.15	\$3.89
	October	2008	\$940.22		\$2,690.08		\$3,630.30	22,680	\$0.16	106.2	\$413.55	\$3.89
	November	2008	\$995.07		\$2,765.53		\$3,760.60	25,380	\$0.15	99.9	\$389.02	\$3.89
	December	2008	\$1,143.43		\$3,091.53		\$4,234.96	25,650	\$0.17	102.6	\$399.53	\$3.89
	January	2009	\$961.65		\$2,375.25		\$3,336.90	25,650	\$0.13	102.6	\$399.53	\$3.89
	February	2009	\$1,153.43		\$3,127.65		\$4,281.08	28,260	\$0.15	104.4	\$406.54	\$3.89
	March	2009			\$1,081.50		\$2,963.37	26,190	\$0.15	99.9	\$389.02	\$3.89
Switchover	April	2009	\$1,116.89			\$2,984.09	\$4,100.98	27,270	\$0.15	101.7	\$396.03	\$3.89
Switchover	May	2009	\$1,117.01			\$2,846.33	\$3,963.34	26,100	\$0.15	108.9	\$425.76	\$3.91
	June	2009	\$1,946.13	\$2,806.27			\$4,752.40	26,100	\$0.18	98.1	\$384.58	\$3.92

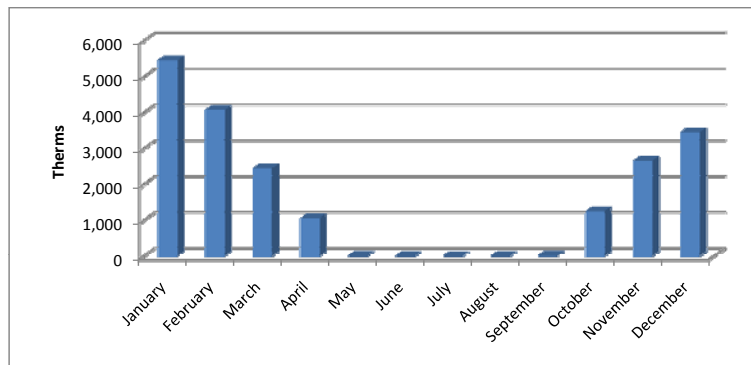
Electric Bills - Coles											
			Account #								
			66 724 689 00		52 970 598 01						
Comments	Month	Year	PSE & G Electric Charges Unmetered	South Jersey Energy	PSE & G Electric Charges Unmetered	BGS Supply Charges	Total Electric Charges	Total KWH	Cost Per KWH		
	July	2008	\$16.84		\$10.45		\$27.29	118	\$0.23		
	August	2008	\$17.16		\$12.36		\$29.52	131	\$0.23		
	September	2008	\$17.47		\$12.59		\$30.06	144	\$0.21		
	October	2008	\$18.05		\$13.26		\$31.31	167	\$0.19		
	November	2008	\$18.40		\$13.52		\$31.92	177	\$0.18		
	December	2008	\$19.08		\$14.13		\$33.21	192	\$0.17		
	January	2009	\$19.14		\$14.40		\$33.54	188	\$0.18		
	February	2009	\$18.29		\$12.99		\$31.28	157	\$0.20		
	March	2009			\$18.27		\$30.87	156	\$0.20		
Switchover	April	2009	\$18.43			\$12.76	\$31.19	162	\$0.19		
Switchover	May	2009	\$17.86			\$10.93	\$28.79	141	\$0.20		
	June	2009	\$34.99	\$19.84			\$54.83	256	\$0.21		



Natural Gas Bills

Elizabethtown Gas Account # 5877607750 : Coles

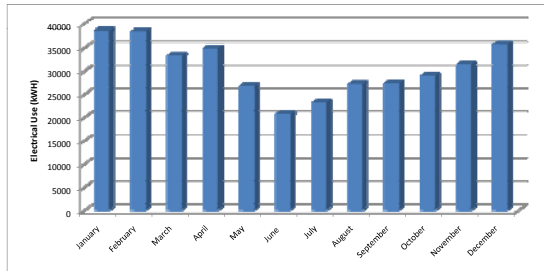
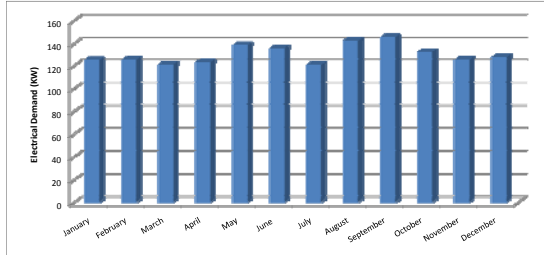
Date	Year	Meter 09218902	Gas Usage Charge	Demand (Therms)	Demand Charge	Total Charge	Pepco Gas Charge	Elizabethtown Gas Charge	Total Charge	Cost/Ther m
Jul 7 - Aug 6	2006							\$211.35	\$211.35	
Aug 7 - Sep 6	2006							\$434.83	\$434.83	
Sep 7 - Oct 6	2006							\$217.03	\$217.03	
Oct 7 - Nov 6	2006							\$1,608.60	\$1,608.60	
Nov 7 - Dec 6	2006							\$2,649.66	\$2,649.66	
Dec 7 - Jan 6	2006							\$4,720.08	\$4,720.08	
Jan 7 - Mar 6	2007							\$6,022.19	\$6,022.19	
Feb 7 - Mar 6	2007							\$7,206.95	\$7,206.95	
Mar 7 - Apr 6	2007							\$5,547.70	\$5,547.70	
Apr 7 - May 6	2007							\$1,871.77	\$1,871.77	
May 7 - Jun 6	2007							\$405.61	\$405.61	
Jun 7 - Jul 6	2007							\$230.85	\$230.85	
Jul 7 - Aug 6	2007							\$217.03	\$217.03	
Aug 7 - Sep 6	2007							\$219.41	\$219.41	
Sep 7 - Oct 6	2007						\$4.17	\$218.48	\$222.65	
Oct 7 - Nov 6	2007						\$416.63	\$336.47	\$753.10	
Nov 7 - Dec 6	2007						\$3,472.73	\$1,173.31	\$4,646.04	
Dec 7 - Jan 6	2007						\$4,087.35	\$1,350.60	\$5,437.95	
Jan 7 - Mar 6	2008						\$4,440.42	\$1,452.64	\$5,893.06	
Feb 7 - Mar 6	2008						\$4,229.70	\$1,297.36	\$5,527.06	
Mar 7 - Apr 6	2008						\$2,861.08	\$887.80	\$3,748.88	
Apr 7 - May 6	2008						\$1,408.59	\$508.71	\$1,917.30	
May 7 - Jun 6	2008						\$519.52	\$310.87	\$830.39	
Jun 7 - Jul 6	2008						\$23.50	\$221.07	\$244.57	
July	2008	1.1	\$16.44	248	\$200.88	\$217.32				
August	2008	3.4	\$17.02	248	\$200.88	\$217.90				\$5.01
September	2008	14.5	\$19.89	248	\$200.88	\$220.77				\$1.37
October	2008	1251.2	\$351.36	248	\$200.88	\$552.24				\$0.28
November	2008	2656.5	\$775.39	248	\$200.88	\$976.27				\$0.29
December	2008	3452.1	\$1,002.76	248	\$200.88	\$1,203.64				\$0.29
January	2009	5447.6	\$1,573.06	248	\$200.88	\$1,773.94				\$0.29
February	2009	4065.3	\$1,178.02	248	\$200.88	\$1,378.90				\$0.29
March	2009	2444.8	\$707.12	248	\$200.88	\$908.00				\$0.29
April	2009	1056.9	\$300.80	248	\$200.88	\$501.68				\$0.28
May	2009	11.1	\$19.18	248	\$200.88	\$220.06				\$1.73
June	2009	5.5	\$17.65	248	\$200.88	\$218.53				\$3.21



Electric Bills - Evergreen												
Account #												
66 323 181 18												
51 678 401 04												
Comments	Month	Year	PSE & G Electric Charges Meter #: 626051821	South Jersey Energy	PSE & G Electric Charges Meter #: 626051821	BGS Supply Charges	Total Electric Charges	Total KWH	Cost Per KWH	Measured Demand	Demand Charge	Overall Cost Per kW Demand
	July	2008			\$16.19	\$29.47	\$45.66	182	\$0.25	0.6	\$2.34	\$3.90
	August	2008			\$18.78	\$31.92	\$50.70	194	\$0.26	0.8	\$3.12	\$3.90
	September	2008			\$50.92	\$43.86	\$94.78	305	\$0.31	3.4	\$13.24	\$3.89
	October	2008			\$33.68	\$59.02	\$92.70	518	\$0.18	4.5	\$17.52	\$3.89
	November	2008			\$53.88	\$118.40	\$172.28	1,223	\$0.14	5.3	\$20.64	\$3.89
	December	2008			\$65.02	\$122.54	\$187.56	1,311	\$0.14	7.3	\$28.43	\$3.89
	January	2009			\$52.39	\$107.80	\$160.19	1,127	\$0.14	4.8	\$18.69	\$3.89
	February	2009			\$76.85	\$196.48	\$273.33	2,022	\$0.14	5.0	\$19.47	\$3.89
	March	2009			\$73.41	\$184.92	\$258.33	1,876	\$0.14	5.1	\$19.86	\$3.89
Switchover	April	2009	\$100.45		\$248.87	\$349.32	\$269	50.13	\$0.13	6.9	\$26.87	\$3.89
Switchover	May	2009	\$40.83		\$4.27	\$45.10	\$66	50.07	\$0.07	4.5	\$18.77	\$4.17
Switchover	June	2009	\$27.60	\$14.30		\$41.90	\$133	50.32	\$0.17	1.7	\$6.66	\$3.92

Month	Combined (KWH)	Combined Demand (KW)
January	38677	124.80
February	38472	125.00
March	33276	121.10
April	34839	122.90
May	26762	138.50
June	20725	135.70
July	23182	120.60
August	27194	142.80
September	27305	145.40
October	28918	132.50
November	31423	125.30
December	35711	127.30

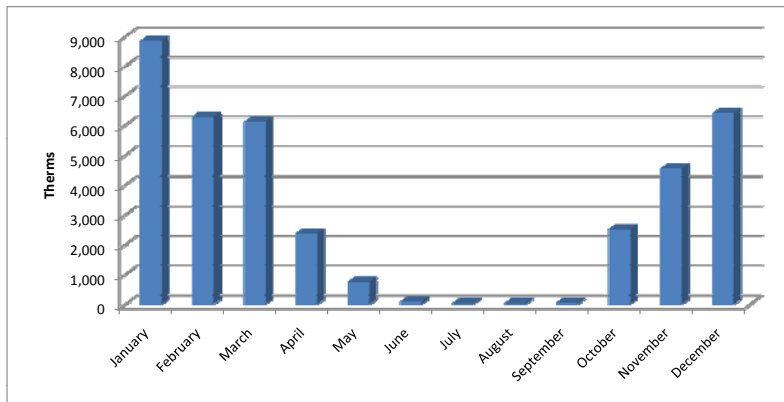
Electric Bills - Evergreen														
Account #														
42 008 566 03														
51 678 400 07														
Comments	Month	Year	PSE & G Electric Charges Meter #: 778012708	South Jersey Energy	PSE & G Electric Charges Meter #: 778012708	BGS Supply Charges	Total Electric Charges	On Peak KWH	Off Peak KWH	Total KWH	Cost Per KWH	Measured Demand	Demand Charge	Overall Cost Per kW Demand
	July	2008			\$2,122.55	\$3,535.80	\$5,658.35	15,800	7,200	23,000	\$0.25	120.0	\$387.05	\$3.23
	August/September	2008			\$4,878.59	\$8,364.97	\$13,243.56	39,400	14,600	54,000	\$0.25	142.0	\$916.01	\$6.45
	October	2008			\$1,329.31	\$3,730.70	\$5,060.01	21,000	7,400	28,400	\$0.18	128.0	\$412.85	\$3.23
	November	2008			\$1,358.44	\$3,648.04	\$5,006.48	21,600	8,600	30,200	\$0.17	120.0	\$387.05	\$3.23
	December	2008			\$1,475.09	\$3,873.44	\$5,348.53	22,400	12,000	34,400	\$0.16	120.0	\$387.05	\$3.23
	January	2009			\$1,312.35	\$3,087.90	\$4,400.25	16,000	9,400	25,400	\$0.17	116.0	\$374.15	\$3.23
	February	2009			\$2,050.79	\$5,747.56	\$7,798.35	31,600	17,000	48,600	\$0.16	120.0	\$490.26	\$4.09
	March	2009			\$734.16	\$1,854.57	\$2,588.73	9,800	5,200	15,000	\$0.17	116.0	\$399.54	\$1.72
Switchover	April	2009	\$1,481.34		\$3,953.39	\$5,434.73	\$23,000	9,800	32,800	\$0.17	116.0	\$374.15	\$3.23	
Switchover	May	2009	\$1,570.49		\$230.11	\$1,800.60	\$2,200	19,400	31,600	\$0.06	134.0	\$462.84	\$3.45	
Switchover	June	2009	\$2,545.63	\$3,301.27		\$5,846.90	\$23,600	7,600	\$1,200	\$0.19	134.0	\$435.10	\$3.25	



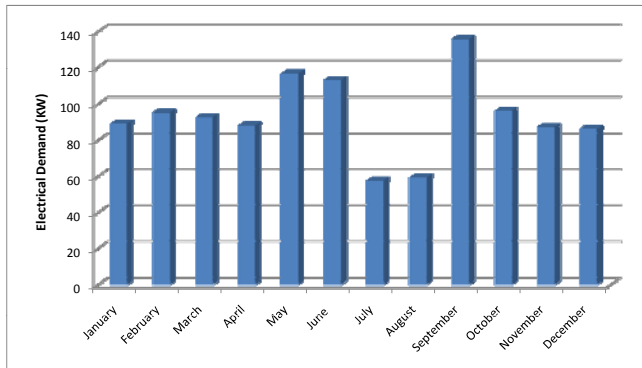
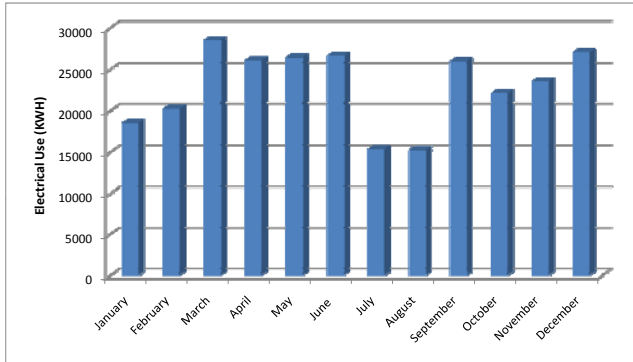
Natural Gas Bills

Elizabethtown Gas Account # 8630862750 : Evergreen

Date	Year	Meter 09004423	Gas Usage	Demand (Therms)	Demand Charge	Total Charge	Pepco Energy Charge	Elizabethtown Gas Charge	Total Charge	Cost/Therm
Jul 7 - Aug 6	2006							\$587.74	\$587.74	
Aug 7 - Sep 6	2006							\$504.97	\$504.97	
Sep 7 - Oct 6	2006							\$689.81	\$689.81	
Oct 7 - Nov 6	2006							\$3,042.42	\$3,042.42	
Nov 7 - Dec 6	2006							\$4,046.95	\$4,046.95	
Dec 7 - Jan 6	2006							\$6,826.38	\$6,826.38	
Jan 7 - Mar 6	2007							\$8,734.75	\$8,734.75	
Feb 7 - Mar 6	2007							\$10,435.05	\$10,435.05	
Mar 7 - Apr 6	2007							\$5,566.64	\$5,566.64	
Apr 7 - May 6	2007							\$3,590.61	\$3,590.61	
May 7 - Jun 6	2007							\$800.83	\$800.83	
Jun 7 - Jul 6	2007							\$569.54	\$569.54	
Jul 7 - Aug 6	2007							\$0.00	\$0.00	
Aug 7 - Sep 6	2007							\$0.00	\$0.00	
Sep 7 - Oct 6	2007						\$91.36	\$498.62	\$589.98	
Oct 7 - Nov 6	2007						\$889.98	\$720.02	\$1,610.00	
Nov 7 - Dec 6	2007						\$4,812.33	\$1,710.27	\$6,522.60	
Dec 7 - Jan 6	2007						\$6,593.25	\$2,183.34	\$8,776.59	
Jan 7 - Mar 6	2008						\$8,201.71	\$2,608.58	\$10,810.29	
Feb 7 - Mar 6	2008						\$7,695.53	\$2,311.34	\$10,006.87	
Mar 7 - Apr 6	2008						\$4,975.93	\$1,556.39	\$6,532.32	
Apr 7 - May 6	2008						\$2,718.51	\$1,029.46	\$3,747.97	
May 7 - Jun 6	2008						\$1,172.72	\$678.32	\$1,851.04	
Jun 7 - Jul 6	2008						\$78.97	\$490.30	\$569.27	
July	2008	39.1	\$26.34	556	\$450.36	\$476.70				
August	2008	39.1	\$26.20	556	\$450.36	\$476.56				
September	2008	62.6	\$32.24	556	\$450.36	\$482.60				7.709265176
October	2008	2516.5	\$682.81	530	\$429.30	\$1,112.11				0.44192728
November	2008	4561.3	\$1,241.78	530	\$429.30	\$1,671.08				0.366360467
December	2008	6400.8	\$1,736.05	530	\$429.30	\$2,165.35				0.338293651
January	2009	8850.9	\$2,394.38	530	\$429.30	\$2,823.68				0.319027444
February	2009	6274.6	\$1,702.13	530	\$429.30	\$2,131.43				0.339691773
March	2009	6115.3	\$1,659.33	530	\$429.30	\$2,088.63				0.341541707
April	2009	2388.7	\$657.98	530	\$429.30	\$1,087.28				0.455176456
May	2009	765.7	\$224.74	530	\$429.30	\$654.04				0.854172652
June	2009	92.9	\$41.45	530	\$429.30	\$470.75				5.067276642



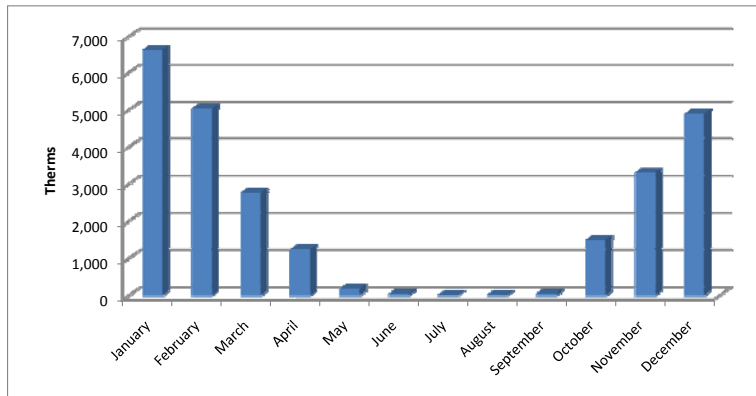
Electric Bills - McGinn												
			Account #									
			65 198 651 09		51 678 388 00							
Comments	Month	Year	PSE & G Electric Charges Meter #: 678004697	South Jersey Energy	PSE & G Electric Charges Meter #: 678004697	BGS Supply Charges	Total Electric Charges	Total KWH	Cost Per KWH	Measured Demand	Demand Charge	Overall Cost Per kW Demand
	July	2008			\$1,091.73	\$2,291.83	\$3,383.56	15,390	\$0.22	57.6	\$224.30	\$3.89
	August	2008			\$1,109.14	\$2,366.75	\$3,475.89	15,300	\$0.23	59.4	\$231.31	\$3.89
	September	2008			\$2,270.93	\$3,533.68	\$5,804.61	26,010	\$0.22	135.9	\$529.21	\$3.89
	October	2008			\$889.24	\$2,687.89	\$3,577.13	22,140	\$0.16	96.3	\$375.00	\$3.89
	November	2008			\$903.31	\$2,654.49	\$3,557.80	23,580	\$0.15	87.3	\$339.95	\$3.89
	December	2008			\$1,009.25	\$2,891.90	\$3,901.15	27,090	\$0.14	86.4	\$336.45	\$3.89
	January	2009			\$836.11	\$2,173.70	\$3,009.81	18,540	\$0.16	89.1	\$346.96	\$3.89
	February	2009			\$907.88	\$2,424.02	\$3,331.90	20,250	\$0.16	95.4	\$371.50	\$3.89
	March	2009			\$1,031.42	\$3,112.56	\$4,143.98	28,530	\$0.15	92.7	\$649.77	\$7.01
Switchover	April	2009	\$1,033.58			\$2,918.78	\$3,952.36	26,100	\$0.15	88.2	\$343.46	\$3.89
Switchover	May	2009	\$1,188.91			\$182.76	\$1,371.67	26,460	\$0.05	117.0	\$487.92	\$4.17
	June	2009	\$2,134.86	\$2,864.33			\$4,999.19	26,640	\$0.19	113.4	\$444.55	\$3.92



Natural Gas Bills

Elizabethtown Gas Account # 2020775760 : McGinn

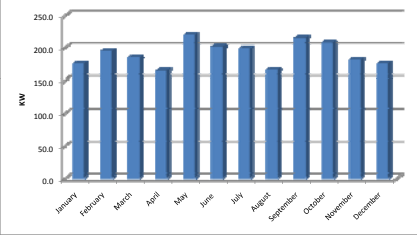
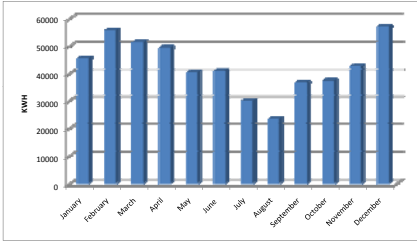
Date	Year	Meter 00006599	Gas Usage Charge	Demand (Therms)	Demand Charge	Total Charge	Pepco Energy Gas Charge	Elizabethtown Gas Charge	Total Gas Charge	Cost/Ther m
Jul 7 - Aug 6	2006							\$206.74	\$206.74	
Aug 7 - Sep 6	2006							\$207.31	\$207.31	
Sep 7 - Oct 6	2006								\$0.00	
Oct 7 - Nov 6	2006								\$0.00	
Nov 7 - Dec 6	2006								\$0.00	
Dec 7 - Jan 6	2006								\$0.00	
Jan 7 - Mar 6	2007								\$0.00	
Feb 7 - Mar 6	2007								\$0.00	
Mar 7 - Apr 6	2007							\$2,391.94	\$2,391.94	
Apr 7 - May 6	2007								\$0.00	
May 7 - Jun 6	2007								\$0.00	
Jun 7 - Jul 6	2007							\$125.98	\$125.98	
Jul 7 - Aug 6	2007							\$111.64	\$111.64	
Aug 7 - Sep 6	2007							\$119.18	\$119.18	
Sep 7 - Oct 6	2007						\$21.76	\$108.86	\$130.62	
Oct 7 - Nov 6	2007						\$694.02	\$300.18	\$994.20	
Nov 7 - Dec 6	2007						\$3,868.54	\$1,166.46	\$5,035.00	
Dec 7 - Jan 6	2007						\$5,324.39	\$1,577.83	\$6,902.22	
Jan 7 - Mar 6	2008						\$5,079.72	\$1,508.48	\$6,588.20	
Feb 7 - Mar 6	2008						\$5,664.88	\$1,548.09	\$7,212.97	
Mar 7 - Apr 6	2008						\$4,056.97	\$1,037.89	\$5,094.86	
Apr 7 - May 6	2008						\$1,510.30	\$413.95	\$1,924.25	
May 7 - Jun 6	2008						\$690.52	\$225.92	\$916.44	
Jun 7 - Jul 6	2008						\$58.81	\$111.34	\$170.15	
July	2008	16.8	\$20.53	\$105.00	\$85.05	\$105.58				\$6.28
August	2008	25.7	\$22.76	\$105.00	\$85.05	\$107.81				\$4.19
September	2008	62.5	\$32.28	\$105.00	\$85.05	\$117.33				\$1.88
October	2008	1505.4	\$419.49	\$105.00	\$85.05	\$504.54				\$0.34
November	2008	3307.5	\$961.43	\$105.00	\$85.05	\$1,046.48				\$0.32
December	2008	4890.9	\$1,413.97	\$105.00	\$85.05	\$1,499.02				\$0.31
January	2009	6633.8	\$1,912.08	\$105.00	\$85.05	\$1,997.13				\$0.30
February	2009	5044.8	\$1,457.95	\$105.00	\$85.05	\$1,543.00				\$0.31
March	2009	2776.7	\$800.94	\$105.00	\$85.05	\$885.99				\$0.32
April	2009	1247.1	\$352.02	\$105.00	\$85.05	\$437.07				\$0.35
May	2009	188.1	\$67.38	\$105.00	\$85.05	\$152.43				\$0.81
June	2009	53.1	\$30.62	\$105.00	\$85.05	\$115.67				\$2.18



Electric Bills - School One														
Account #														
42 000 861 07														
51 678 388 00														
Comments	Month	Year	PSE & G Electric Charges Meter #:	South Jersey Energy	PSE & G Electric Charges Meter #:	BGS Supply Charges	Total Electric Charges	On Peak KWH	Off Peak KWH	Total KWH	PSE & G Cost Per KWH	Measured Demand	Demand Charge	Overall Cost Per KW Demand
	July	2008			\$2,987.08	\$4,707.37	\$7,694.45	20,640	8,320	28,960	\$0.27	188.8	\$608.96	\$3.23
	August	2008			\$2,536.74	\$3,894.34	\$6,523.08	14,560	8,320	22,880	\$0.29	158.4	\$510.90	\$3.23
	September	2008			\$3,311.28	\$5,616.40	\$8,927.68	25,920	9,920	35,840	\$0.25	206.4	\$665.72	\$3.23
	October	2008			\$1,655.59	\$4,865.34	\$6,520.93	24,960	11,040	36,000	\$0.18	184.0	\$593.47	\$3.23
	November	2008			\$1,650.96	\$4,869.77	\$6,520.73	25,120	14,880	40,000	\$0.16	150.4	\$485.10	\$3.23
	December	2008			\$1,895.48	\$5,602.90	\$7,498.38	28,320	22,560	50,880	\$0.15	144.0	\$464.46	\$3.23
	January	2009			\$1,713.76	\$4,636.82	\$6,350.58	21,440	17,920	39,360	\$0.16	144.0	\$464.46	\$3.23
	February	2009			\$2,006.52	\$5,780.56	\$7,787.08	27,200	22,240	49,440	\$0.16	163.2	\$526.39	\$3.23
	March	2009			\$1,889.47	\$5,472.83	\$7,362.30	25,120	20,480	45,600	\$0.16	153.6	\$495.42	\$3.23
Switchover	April	2009	\$1,821.94			\$5,371.63	\$7,193.57	27,040	18,080	45,120	\$0.16	136.0	\$438.65	\$3.23
	May	2009	\$1,930.61	\$394.62			\$2,225.23	26,560	12,160	38,720	\$0.06	192.0	\$653.20	\$3.45
	June	2009	\$3,327.00	\$4,249.33			\$7,576.33	28,640	13,360	40,000	\$0.19	187.2	\$607.84	\$3.25

Month	Combined (KWH)	Demand (KW)
January	45643	174.9
February	55724	194.3
March	51300	184.5
April	49440	164.0
May	40410	219.2
June	41080	201.0
July	29850	197.7
August	23400	165.6
September	36870	214.8
October	37420	207.3
November	42670	181.1
December	57163	174.9

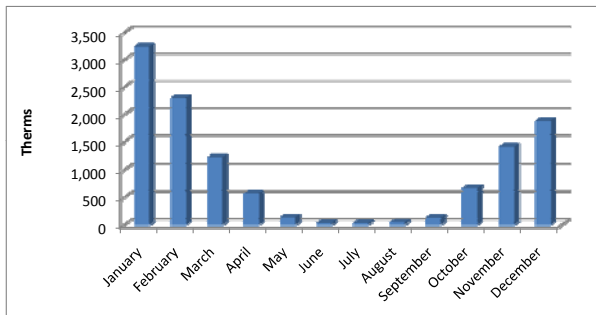
Electric Bills - School One													
Account #													
66 315 446 02													
51 678 379 28													
Comments	Month	Year	PSE & G Electric Charges Meter #:	South Jersey Energy	PSE & G Electric Charges Meter #:	BGS Supply Charges	Total Electric Charges	Total KWH	PSE & G Cost Per KWH	Measured Demand	Demand Charge	Overall Cost per KW Demand	
	July	2008			\$129.05	\$166.43	\$295.48	890.00	\$0.33	8.9	\$34.66	\$3.89	
	August	2008			\$89.41	\$127.14	\$226.55	520.00	\$0.44	7.2	\$28.04	\$3.89	
	September	2008			\$127.58	\$183.63	\$311.21	1,030.00	\$0.30	8.4	\$32.71	\$3.89	
	October	2008			\$127.67	\$203.08	\$330.75	1,420.00	\$0.23	23.3	\$90.73	\$3.89	
	November	2008			\$187.09	\$304.74	\$491.83	2,670.00	\$0.18	30.7	\$119.55	\$3.89	
averaged	December	2008			\$312.48	\$711.03	\$898.00	6,283.00	\$0.14	30.9	\$124.61	\$4.03	
averaged	January	2009			\$272.18	\$465.81	\$898.00	6,283.00	\$0.14	30.9	\$85.67	\$2.77	
averaged	February	2009			\$310.35	\$684.33	\$900.18	6,284.00	\$0.14	31.1	\$130.06	\$4.18	
	March	2009			\$600.19	\$874.56	\$1,474.75	5,700.00	\$0.26	30.9	\$120.33	\$3.89	
Switchover	April	2009	\$226.79			\$457.57	\$684.36	4,320.00	\$0.16	28.0	\$109.03	\$3.89	
Switchover	May	2009	\$162.44			\$13.33	\$175.77	1,690.00	\$0.10	27.2	\$113.43	\$4.17	
	June	2009	\$193.68	\$116.12			\$309.80	1,080.00	\$0.29	13.8	\$54.10	\$3.92	



Natural Gas Bills

Elizabethtown Gas Account # 2918261740 : School One

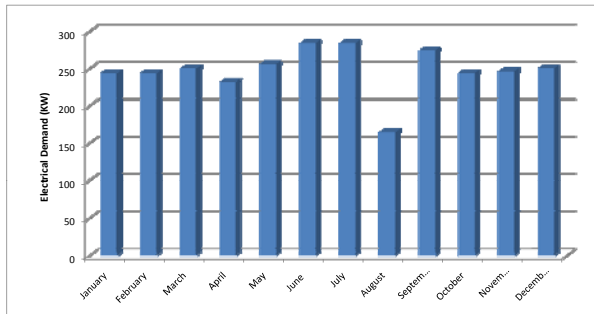
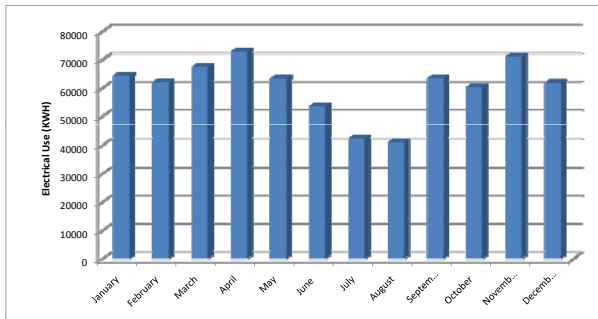
Date	Year	Meter 00338299	Gas Usage	Demand (Therms)	Demand Charge	Total Charge	Pepco Energy Gas Charge	Elizabethtown Gas Charge	Total Gas Charge	Cost/Therm
Jul 7 - Aug 6	2006							\$115.82	\$115.82	
Aug 7 - Sep 6	2006							\$132.16	\$132.16	
Sep 7 - Oct 6	2006							\$163.70	\$163.70	
Oct 7 - Nov 6	2006							\$599.44	\$599.44	
Nov 7 - Dec 6	2006							\$1,080.83	\$1,080.83	
Dec 7 - Jan 6	2006							\$1,765.95	\$1,765.95	
Jan 7 - Mar 6	2007							\$2,760.43	\$2,760.43	
Feb 7 - Mar 6	2007							\$3,340.39	\$3,340.39	
Mar 7 - Apr 6	2007							\$1,863.79	\$1,863.79	
Apr 7 - May 6	2007							\$791.85	\$791.85	
May 7 - Jun 6	2007							\$265.02	\$265.02	
Jun 7 - Jul 6	2007							\$173.01	\$173.01	
Jul 7 - Aug 6	2007							\$137.81	\$137.81	
Aug 7 - Sep 6	2007							\$151.75	\$151.75	
Sep 7 - Oct 6	2007						\$61.49	\$108.23	\$169.72	
Oct 7 - Nov 6	2007						\$341.54	\$184.54	\$526.08	
Nov 7 - Dec 6	2007						\$1,468.70	\$491.06	\$1,959.76	
Dec 7 - Jan 6	2007						\$2,325.61	\$731.60	\$3,057.21	
Jan 7 - Mar 6	2008						\$2,306.20	\$728.36	\$3,034.56	
Feb 7 - Mar 6	2008						\$2,314.92	\$677.89	\$2,992.81	
Mar 7 - Apr 6	2008						\$1,501.35	\$432.41	\$1,933.76	
Apr 7 - May 6	2008						\$600.76	\$211.02	\$811.78	
May 7 - Jun 6	2008						\$406.39	\$160.02	\$566.41	
Jun 7 - Jul 6	2008						\$98.38	\$103.58	\$201.96	
July	2008	39.2	\$26.35	87	\$70.47	\$96.82				\$2.47
August	2008	51.1	\$29.29	87	\$70.47	\$99.76				\$1.95
September	2008	134.2	\$50.79	87	\$70.47	\$121.26				\$0.90
October	2008	673.7	\$196.65	99	\$80.19	\$276.84				\$0.41
November	2008	1422.9	\$422.81	99	\$80.19	\$503.00				\$0.35
December	2008	1883.6	\$554.47	99	\$80.19	\$634.66				\$0.34
January	2009	3243.9	\$943.26	99	\$80.19	\$1,023.45				\$0.32
February	2009	2307.6	\$675.65	99	\$80.19	\$755.84				\$0.33
March	2009	1233.2	\$364.69	99	\$80.19	\$444.88				\$0.36
April	2009	569.2	\$169.44	99	\$80.19	\$249.63				\$0.44
May	2009	137.7	\$53.67	99	\$80.19	\$133.86				\$0.97
June	2009	42.4	\$27.71	99	\$80.19	\$107.90				\$2.54



Electric Bills - Park													
			Account #										
			42 001 903 03	51 963 033 16									
Comments	Month	Year	PSE & G Electric Charges Meter #: 778015879	PSE & G Electric Charges Meter #: 778015879	BGS Supply Charges	Total Electric Charges	On Peak KWH	Off Peak KWH	Total KWH	Cost Per KWH	Measured Demand	Demand Charge	Overall Cost Per kW Demand
	March & April	2008	\$4,619.50	\$11,675.86	\$16,295.36	\$16,295.36	82300	36800	119,600	\$0.14	244	\$1,574.00	\$6.45
	May	2008	\$2,417.77	\$6,478.33	\$8,896.10	\$8,896.10	44800	18600	63,400	\$0.14	256	\$825.70	\$3.23
	June	2008	\$4,498.77	\$7,669.86	\$12,168.63	\$12,168.63	37200	16400	53,600	\$0.23	284	\$3,095.28	\$10.90
	July	2008	\$4,271.70	\$6,199.87	\$10,471.57	\$10,471.57	26,400	15,400	41,800	\$0.25	284.0	\$916.01	\$3.23
	August	2008	\$2,933.07	\$6,170.86	\$9,103.93	\$9,103.93	24,200	16,000	40,200	\$0.23	164.0	\$528.97	\$3.23
	September	2008	\$4,559.11	\$8,901.40	\$13,460.51	\$13,460.51	45,600	16,800	62,400	\$0.22	274.0	\$883.76	\$3.23
	October	2008	\$2,302.53	\$7,039.53	\$9,342.06	\$9,342.06	42,000	17,200	59,200	\$0.16	244.0	\$787.00	\$3.23
	November	2008	\$2,556.39	\$7,741.33	\$10,297.72	\$10,297.72	45,800	24,200	70,000	\$0.15	246.0	\$793.45	\$3.23
	December	2008	\$2,484.08	\$6,676.06	\$9,160.14	\$9,160.14	38,800	21,800	60,600	\$0.15	250.0	\$806.35	\$3.23
	January	2009	\$2,573.72	\$7,112.04	\$9,685.76	\$9,685.76	39,200	24,000	63,200	\$0.15	244.0	\$787.00	\$3.23
	February	2009	\$2,526.19	\$7,399.58	\$9,925.77	\$9,925.77	41,000	20,000	61,000	\$0.16	244.0	\$787.00	\$3.23
	March	2009	\$2,666.54	\$7,775.26	\$10,441.80	\$10,441.80	44,000	22,400	66,400	\$0.16	250.0	\$806.35	\$3.23
Switchover	April	2009	\$2,729.51	\$8,166.90	\$10,896.41	\$10,896.41	47,800	24,000	71,800	\$0.15	232.0	\$748.29	\$3.23

Month	Combined (KWH)	Combined Demand (KW)
January	64404	244.0
February	62007	244.0
March	67402	250.0
April	72839	232.0
May	63400	256.0
June	53600	284.0
July	42557	164.0
August	41040	164.0
September	63324	274.0
October	60269	244.0
November	71134	246.0
December	61828	250.0

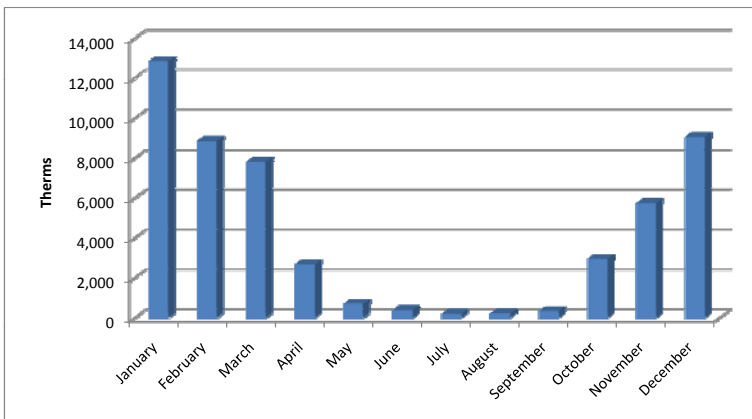
Electric Bills - Park								
			Account #					
			65 957 562 18	5197150807				
Comments	Month	Year	PSE & G Electric Charges Unmetered	PSE & G Electric Charges Unmetered	BGS Supply Charges	Total Electric Charges	Total KWH	Cost Per KWH
	July	2008	\$142.23	\$67.10	\$209.33	\$209.33	757	\$0.28
	August	2008	\$144.27	\$79.28	\$223.55	\$223.55	840	\$0.27
	September	2008	\$146.34	\$80.81	\$227.15	\$227.15	924	\$0.25
	October	2008	\$150.01	\$85.01	\$235.02	\$235.02	1,069	\$0.22
	November	2008	\$152.24	\$86.69	\$238.93	\$238.93	1,134	\$0.21
	December	2008	\$156.68	\$90.56	\$247.24	\$247.24	1,228	\$0.20
	January	2009	\$157.05	\$92.36	\$249.41	\$249.41	1,204	\$0.21
	February	2009	\$151.58	\$83.39	\$234.97	\$234.97	1,007	\$0.23
	March	2009	\$151.44	\$80.84	\$232.28	\$232.28	1,002	\$0.23
Switchover	April	2009	\$152.48	\$81.83	\$234.31	\$234.31	1,039	\$0.23
Switchover	May	2009	\$148.86	\$70.30	\$219.16	\$219.16	907	\$0.24



Natural Gas Bills

Elizabethtown Gas Account # 7855243521 : Park Middle

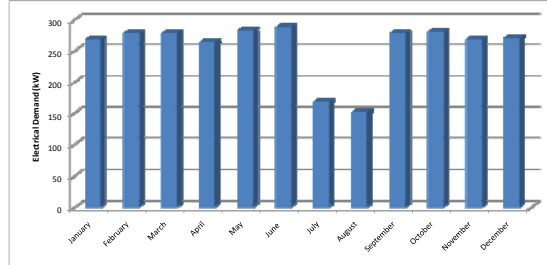
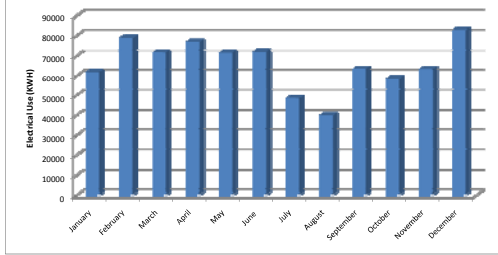
Date	Year	Meter 09716130	Gas Usage Charge	Demand (Therms)	Demand Charge	Total Charge	Pepco Energy Gas Charge	Elizabethtown Gas Charge	Total Gas Charge	Cost/Therm
Jul 7 - Aug 6	2006							\$887.00	\$887.00	
Aug 7 - Sep 6	2006							\$946.25	\$946.25	
Sep 7 - Oct 6	2006							\$1,241.12	\$1,241.12	
Oct 7 - Nov 6	2006							\$3,689.55	\$3,689.55	
Nov 7 - Dec 6	2006							\$5,424.25	\$5,424.25	
Dec 7 - Jan 6	2006							\$8,007.06	\$8,007.06	
Jan 7 - Mar 6	2007							\$12,994.30	\$12,994.30	
Feb 7 - Mar 6	2007							\$15,197.52	\$15,197.52	
Mar 7 - Apr 6	2007							\$7,100.79	\$7,100.79	
Apr 7 - May 6	2007							\$4,180.13	\$4,180.13	
May 7 - Jun 6	2007							\$1,220.14	\$1,220.14	
Jun 7 - Jul 6	2007							\$996.67	\$996.67	
Jul 7 - Aug 6	2007							\$932.64	\$932.64	
Aug 7 - Sep 6	2007							\$971.69	\$971.69	
Sep 7 - Oct 6	2007						\$211.91	\$801.01	\$1,012.92	
Oct 7 - Nov 6	2007							\$1,726.89	\$1,726.89	
Nov 7 - Dec 6	2007						\$6,205.30		\$6,205.30	
Dec 7 - Jan 6	2007						\$8,225.50	\$2,863.66	\$11,089.16	
Jan 7 - Mar 6	2008						\$10,779.54	\$3,541.87	\$14,321.41	
Feb 7 - Mar 6	2008						\$10,727.66	\$3,298.24	\$14,025.90	
Mar 7 - Apr 6	2008						\$7,542.22	\$2,380.63	\$9,922.85	
Apr 7 - May 6	2008						\$4,087.86	\$1,573.04	\$5,660.90	
May 7 - Jun 6	2008						\$1,765.15	\$1,045.35	\$2,810.50	
Jun 7 - Jul 6	2008						\$409.12	\$812.74	\$1,221.86	
July	2008	198.9	\$68.06	887	\$710.37	\$778.43				\$3.91
August	2008	219.9	\$72.69	887	\$710.37	\$783.06				\$3.56
September	2008	345.2	\$104.89	887	\$710.37	\$815.26				\$2.36
October	2008	2954.5	\$798.83	776	\$628.56	\$1,427.39				\$0.48
November	2008	5747.5	\$1,560.50	776	\$628.56	\$2,189.06				\$0.38
December	2008	9075.4	\$2,454.71	776	\$628.56	\$3,083.27				\$0.34
January	2009	12850.4	\$3,469.06	776	\$628.56	\$4,097.62				\$0.32
February	2009	8885.3	\$2,403.63	776	\$628.56	\$3,032.19				\$0.34
March	2009	7821.8	\$2,117.86	776	\$628.56	\$2,746.42				\$0.35
April	2009	2691	\$739.22	776	\$628.56	\$1,367.78				\$0.51
May	2009	714.8	\$210.86	776	\$628.56	\$839.42				\$1.17
June	2009	383.3	\$120.57	776	\$628.56	\$749.13				\$1.95



Electric Bills - Terrill														
Account #														
42 004 005 02														
51 678 360 18														
Comments	Month	Year	PSE & G Electric Charges Meter #: 778015884	South Jersey Energy	PSE & G Electric Charges Meter #: 778015884	BGS Supply Charges	Total Electric Charges	On Peak KWH	Off Peak KWH	Total KWH	Cost Per KWH	Measured Demand	Demand Charge	Overall Cost Per kW Demand
	July	2008			\$3,126.74	\$6,890.00	\$10,016.74	28,800	19,200	48,000	\$0.21	168.0	\$541.87	\$3.23
	August	2008			\$2,777.39	\$6,015.86	\$8,793.25	22,080	17,280	39,360	\$0.22	151.2	\$487.68	\$3.23
	September	2008			\$4,616.31	\$8,959.53	\$13,575.84	42,240	20,640	62,880	\$0.22	278.4	\$897.95	\$3.23
	October	2008			\$2,386.40	\$7,284.29	\$9,670.69	40,080	17,760	57,840	\$0.17	280.8	\$905.69	\$3.23
	November	2008			\$2,482.11	\$7,244.49	\$9,726.60	42,240	20,400	62,640	\$0.16	268.8	\$866.99	\$3.23
	December	2008			\$2,960.07	\$8,631.53	\$11,591.60	48,960	33,360	82,320	\$0.14	271.2	\$874.73	\$3.23
	January	2009			\$2,603.04	\$6,827.97	\$9,431.01	36,000	25,200	61,200	\$0.15	266.8	\$866.99	\$3.23
	February	2009			\$3,023.51	\$8,779.19	\$11,802.70	47,040	31,200	78,240	\$0.15	278.4	\$897.95	\$3.23
	March	2009			\$2,862.12	\$8,180.21	\$11,042.33	42,960	28,080	71,040	\$0.16	278.4	\$897.95	\$3.23
Switchover	April	2009	\$2,934.03			\$8,588.02	\$11,522.05	49,680	26,640	76,320	\$0.15	264.0	\$851.51	\$3.23
Switchover	May	2009	\$2,970.91			\$465.57	\$3,436.48	49,680	21,360	71,040	\$0.05	283.2	\$978.21	\$3.45
Switchover	June	2009	\$5,130.17	\$7,465.95			\$12,596.12	50,400	20,640	71,040	\$0.18	288.0	\$935.14	\$3.25

Month	Combined Use (KWH)	Combined Demand (KW)
January	61763	268.80
February	78711	278.40
March	73509	278.40
April	76806	264.00
May	71464	283.20
June	71808	288.00
July	48354	158.00
August	39753	151.20
September	63312	278.40
October	58340	280.80
November	63170	268.80
December	82895	271.20

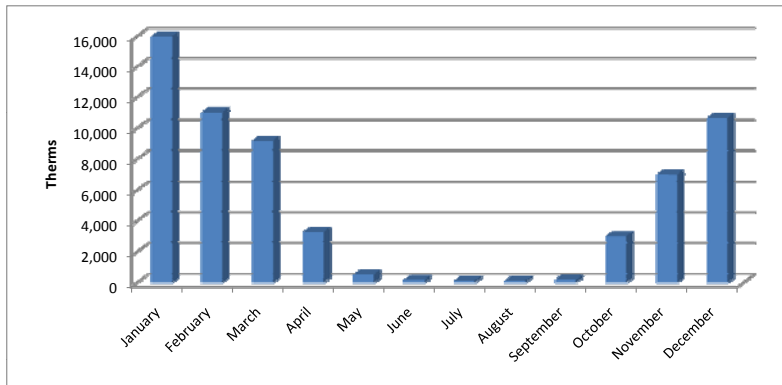
Electric Bills - Terrill												
Account #												
67 684 704 18												
52 970 597 04												
Comments	Month	Year	PSE & G Electric Charges Unmetered	South Jersey Energy	PSE & G Electric Charges Unmetered	BGS Supply Charges	Total Electric Charges	Total KWH	Cost Per KWH			
	July	2008			\$98.14	\$31.37	\$129.51	354	\$0.37			
	August	2008			\$99.10	\$37.09	\$136.19	393	\$0.35			
	September	2008			\$100.07	\$37.79	\$137.86	422	\$0.32			
	October	2008			\$101.78	\$39.78	\$141.56	500	\$0.28			
	November	2008			\$102.83	\$40.55	\$143.38	530	\$0.27			
	December	2008			\$104.90	\$42.38	\$147.28	575	\$0.26			
	January	2009			\$105.08	\$43.21	\$148.29	563	\$0.26			
	February	2009			\$102.53	\$38.99	\$141.52	471	\$0.30			
	March	2009			\$102.46	\$140.27	\$242.73	469	\$0.52			
Switchover	April	2009	\$55.30			\$38.28	\$93.58	486	\$0.19			
Switchover	May	2009	\$53.60			\$32.86	\$86.46	424	\$0.20			
Switchover	June	2009	\$104.87	\$59.54			\$164.41	768	\$0.21			



Natural Gas Bills

Elizabethtown Gas Account # 2350507730 : Terrill Middle

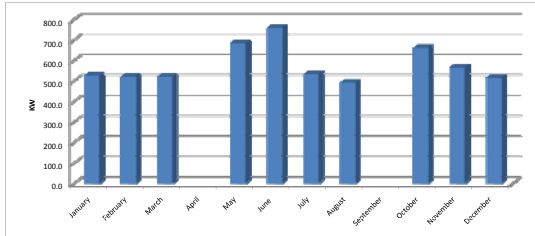
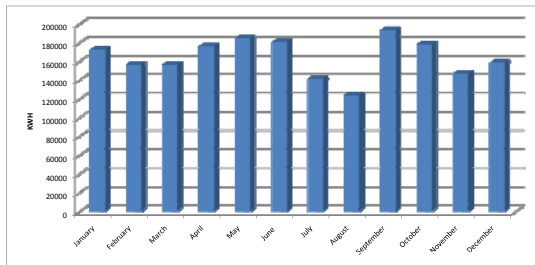
Date	Year	Meter 09854386	Gas Usage Charge	Demand (Therms)	Demand Charge	Total Charge	Pepco Energy Gas Charge	Elizabethtown Gas Charge	Total Gas Charge	Cost/Therm
Jul 7 - Aug 6	2006							\$898.59	\$898.59	
Aug 7 - Sep 6	2006							\$96.36	\$96.36	
Sep 7 - Oct 6	2006							\$1,218.64	\$1,218.64	
Oct 7 - Nov 6	2006							\$3,797.07	\$3,797.07	
Nov 7 - Dec 6	2006							\$6,058.07	\$6,058.07	
Dec 7 - Jan 6	2006							\$10,204.59	\$10,204.59	
Jan 7 - Mar 6	2007							\$16,717.99	\$16,717.99	
Feb 7 - Mar 6	2007							\$20,496.14	\$20,496.14	
Mar 7 - Apr 6	2007							\$10,659.15	\$10,659.15	
Apr 7 - May 6	2007							\$5,537.62	\$5,537.62	
May 7 - Jun 6	2007							\$1,019.46	\$1,019.46	
Jun 7 - Jul 6	2007							\$965.65	\$965.65	
Jul 7 - Aug 6	2007							\$0.00	\$0.00	
Aug 7 - Sep 6	2007							\$0.00	\$0.00	
Sep 7 - Oct 6	2007						\$125.55	\$829.79	\$955.34	
Oct 7 - Nov 6	2007						\$1,303.30	\$1,156.90	\$2,460.20	
Nov 7 - Dec 6	2007						\$6,912.91	\$2,572.33	\$9,485.24	
Dec 7 - Jan 6	2007						\$10,151.88	\$3,428.47	\$13,580.35	
Jan 7 - Mar 6	2008						\$12,989.40	\$4,184.39	\$17,173.79	
Feb 7 - Mar 6	2008						\$13,528.17	\$4,022.49	\$17,550.66	
Mar 7 - Apr 6	2008						\$9,602.45	\$2,889.67	\$12,492.12	
Apr 7 - May 6	2008						\$3,918.01	\$1,596.98	\$5,514.99	
May 7 - Jun 6	2008						\$1,585.61	\$1,072.04	\$2,657.65	
Jun 7 - Jul 6	2008						\$236.01	\$842.41	\$1,078.42	
July	2008	146.6	\$54.41	950	\$769.50	\$823.91				\$5.62
August	2008	136.1	\$51.14	950	\$769.50	\$820.64				\$6.03
September	2008	209.2	\$69.93	950	\$769.50	\$839.43				\$4.01
October	2008	3017.2	\$815.46	848	\$686.88	\$1,502.34				\$0.50
November	2008	7001.5	\$1,897.45	848	\$686.88	\$2,584.33				\$0.37
December	2008	10670.8	\$2,883.40	848	\$686.88	\$3,570.28				\$0.33
January	2009	15995.6	\$4,314.16	848	\$686.88	\$5,001.04				\$0.31
February	2009	11023.6	\$2,978.18	848	\$686.88	\$3,665.06				\$0.33
March	2009	9210	\$2,490.88	848	\$686.88	\$3,177.76				\$0.35
April	2009	3281	\$897.77	848	\$686.88	\$1,584.65				\$0.48
May	2009	538.7	\$162.39	848	\$686.88	\$849.27				\$1.58
June	2009	176.1	\$64.11	848	\$686.88	\$750.99				\$4.26



Electric Bills - High School														
Account #														
62 006 089 01 \$1 666 955 18														
Comments	Month	Year	PSE & G Electric Charges Meter #: 778017723	South Jersey Energy	PSE & G Electric Charges Meter #: 778017723	BGS Supply Charges	Total Electric Charges	On Peak KWH	Off Peak KWH	Total KWH	PSE & G Cost Per KWH	Measured Demand	Demand Charge	Overall Cost Per kW Demand
	April	2008	\$6,000.28		\$16,082.57		\$22,082.85	113694	65604	179,298	\$0.03	675.2	\$2,178.11	\$1.23
	May	2008	\$6,119.65		\$16,854.08		\$22,973.73	118,546	65,715	184,261	\$0.03	682.7	\$2,201.98	\$1.23
	June	2008	\$12,081.71		\$21,972.11		\$34,053.82	116,198	63,970	180,168	\$0.07	756.3	\$0.00	\$0.00
	July	2008	\$8,890.53		\$17,718.43		\$26,608.96	89,984	51,554	141,538	\$0.06	531.7	\$0.00	\$0.00
	August	2008	\$8,099.73		\$16,007.20		\$24,106.93	71,564	52,496	124,060	\$0.07	490.0	\$0.00	\$0.00
	September	2008	\$5,943.61		\$18,044.40		\$23,988.01	117,860	60,244	178,104	\$0.03	660.0	\$2,128.76	\$3.23
	October	2008	\$5,115.92		\$14,367.13		\$19,483.05	89,917	57,185	147,102	\$0.03	564.6	\$1,821.06	\$3.23
	November	2008	\$6,436.39		\$15,008.56		\$20,444.95	98,245	60,219	158,464	\$0.03	515.1	\$1,661.40	\$3.23
	December	2008	\$6,918.63		\$16,626.01		\$23,544.64	102,334	69,543	171,877	\$0.03	524.0	\$1,680.11	\$3.23
	January	2009	\$5,554.96		\$16,676.15		\$22,231.11	96,919	59,593	156,512	\$0.04	519.4	\$1,675.27	\$3.23
	February	2009												
	March	2009												
Switchover	April	2009			\$6,656.23		\$18,625.95	105,347	70,685	176,032	\$0.04	725.2	\$2,339.06	
	May	2009												
	June	2009					\$7,199.70			212,559				

Month	Combined (KWH)	Demand (KW)
January	172090	524.1
February	156523	519.4
March	156525	519.4
April	176040	
May	184281	683.0
June	180184	756.6
July	141552	531.8
August	124074	490.3
September	193426	
October	178117	660.0
November	147116	564.6
December	158479	515.1

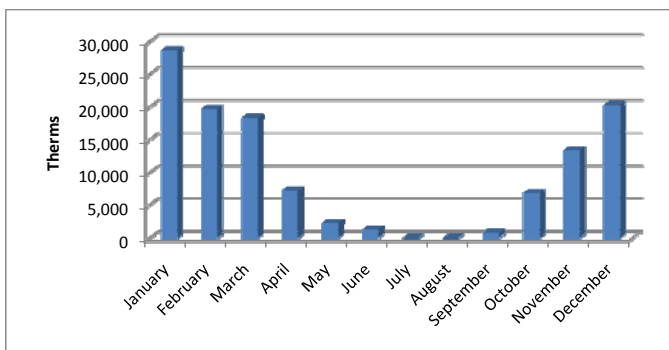
Electric Bills - High School												
Account #												
65 954 562 06 \$1 662 334 09												
Comments	Month	Year	PSE & G Electric Charges Meter #: 626047500	South Jersey Energy	PSE & G Electric Charges Meter #: 626047500	BGS Supply Charges	Total Electric Charges	Total KWH	PSE & G Cost Per KWH	Measured Demand	Demand Charge	Overall Cost Per kW Demand
	July	2008	\$5.75		\$1.79		\$7.54	14	\$0.41	0.1	\$0.39	\$3.90
	August	2008	\$7.88		\$1.87		\$9.85	14	\$0.57	0.3	\$1.17	\$3.90
	September	2008	\$4.64		\$1.81		\$6.45	14	\$0.33	0.0	\$0.14	\$4.67
	October	2008	\$4.54		\$1.48		\$6.02	13	\$0.35	0.0	\$0.14	\$4.67
	November	2008	\$4.57		\$1.46		\$6.03	14	\$0.33	0.0	\$0.14	\$4.67
	December	2008	\$5.00		\$1.51		\$6.51	15	\$0.33	0.0	\$0.14	\$4.67
	January	2009	\$4.98		\$1.43		\$6.39	13	\$0.38	0.1	\$0.39	\$3.90
	February	2009	\$4.52		\$1.37		\$5.89	11	\$0.41	0.0	\$0.14	\$4.67
	March	2009			\$1.56		\$6.13	13	\$0.35	0.0	\$0.14	\$4.67
Switchover	April	2009	\$5.91				\$7.98	8	\$0.74	0.3	\$1.17	\$3.90
	May	2009	\$5.96	\$2.15			\$8.11	20	\$0.30	0.3	\$1.17	\$3.90
	June	2009	\$8.15	\$1.72			\$9.87	16	\$0.51	0.3	\$1.18	\$3.93



Natural Gas Bills

Elizabethtown Gas Account # 2004446700 : High School

Date	Year	Meter 08453277	Gas Usage Charge	Demand (Therms)	Demand Charge	Total Charge	Pepco Energy Gas Charge	Elizabethtown Gas Charge	Cost/Therm
Jul 7 - Aug 6	2006							\$1,835.69	
Aug 7 - Sep 6	2006							\$2,132.26	
Sep 7 - Oct 6	2006							\$2,925.51	
Oct 7 - Nov 6	2006							\$9,409.83	
Nov 7 - Dec 6	2006							\$1,531.01	
Dec 7 - Jan 6	2006							\$19,057.70	
Jan 7 - Mar 6	2007								
Feb 7 - Mar 6	2007								
Mar 7 - Apr 6	2007							\$17,781.88	
Apr 7 - May 6	2007							\$8,921.77	
May 7 - Jun 6	2007							\$2,560.36	
Jun 7 - Jul 6	2007							\$2,035.59	
Jul 7 - Aug 6	2007								
Aug 7 - Sep 6	2007								
Sep 7 - Oct 6	2007						\$470.83	\$1,686.63	
Oct 7 - Nov 6	2007						\$2,568.46	\$2,252.74	
Nov 7 - Dec 6	2007						\$13,616.34	\$5,040.32	
Dec 7 - Jan 6	2007						\$18,425.57	\$6,316.47	
Jan 7 - Mar 6	2008						\$23,032.38	\$7,536.62	
Feb 7 - Mar 6	2008						\$21,907.01	\$6,772.85	
Mar 7 - Apr 6	2008						\$16,001.93	\$5,023.34	
Apr 7 - May 6	2008						\$8,489.03	\$3,279.02	
May 7 - Jun 6	2008						\$4,038.97	\$2,250.62	
Jun 7 - Jul 6	2008						\$1,101.39	\$1,744.74	
July	2008	0	\$16.15	1858	\$1,504.98	\$1,521.13			
August	2008	0	\$16.15	1858	\$1,504.98	\$1,521.13			
September	2008	836.8	\$231.28	1858	\$1,504.98	\$1,736.26			\$2.07
October	2008	6786	\$1,813.86	1551	\$1,256.31	\$3,070.17			\$0.45
November	2008	13376	\$3,610.28	1551	\$1,256.31	\$4,866.59			\$0.36
December	2008	20305.6	\$5,472.26	1551	\$1,256.31	\$6,728.57			\$0.33
January	2009	28648.8	\$7,714.09	1551	\$1,256.31	\$8,970.40			\$0.31
February	2009	19722	\$5,315.46	1551	\$1,256.31	\$6,571.77			\$0.33
March	2009	18337.2	\$4,943.36	1551	\$1,256.31	\$6,199.67			\$0.34
April	2009	7141.5	\$1,935.07	1551	\$1,256.31	\$3,191.38			\$0.45
May	2009	2279.2	\$637.00	1551	\$1,256.31	\$1,893.31			\$0.83
June	2009	1243.2	\$354.79	1551	\$1,256.31	\$1,611.10			\$1.30



APPENDIX B

STATEMENT OF ENERGY PERFORMANCE SUMMARY SHEETS

PORTFOLIO MANAGER REFERENCE GUIDE



STATEMENT OF ENERGY PERFORMANCE

Howard B. Brunner School

Building ID: 1941096
 For 12-month Period Ending: June 30, 2009¹
 Date SEP becomes ineligible: N/A

Date SEP Generated: November 29, 2009

Facility

Howard B. Brunner School
 721 Westfield Rd
 Scotch Plains, NJ 07076

Facility Owner

Scotch Plains-Fanwood Board of
 Education
 2280 Evergreen Ave
 Scotch Plains, NJ 07076

Primary Contact for this Facility

Mike Roman
 580 Park Ave.
 Scotch Plains, NJ 07076

Year Built: 1960

Gross Floor Area (ft²): 50,580

Energy Performance Rating² (1-100) 80

Site Energy Use Summary³

Electricity - Grid Purchase(kBtu)	823,200
Natural Gas (kBtu) ⁴	2,483,320
Total Energy (kBtu)	3,306,520

Energy Intensity⁵

Site (kBtu/ft ² /yr)	65
Source (kBtu/ft ² /yr)	106

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	257
---	-----

Electric Distribution Utility

PSE&G - Public Service Elec & Gas Co

National Average Comparison

National Average Site EUI	90
National Average Source EUI	145
% Difference from National Average Source EUI	-27%
Building Type	K-12 School

Meets Industry Standards⁶ for Indoor Environmental Conditions:

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

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

Certifying Professional

Matthew Goss
 15 British American Blvd
 Latham, NY 12110

Notes:

- 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.
- 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.
- Values represent energy consumption, annualized to a 12-month period.
- Natural Gas values in units of volume (e.g. cubic feet) are converted to kBtu with adjustments made for elevation based on Facility zip code.
- Values represent energy intensity, annualized to a 12-month period.
- Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

ENERGY STAR[®] Data Checklist for Commercial Buildings

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

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

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

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Building Name	Howard B. Brunner School	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		<input type="checkbox"/>
Type	K-12 School	Is this an accurate description of the space in question?		<input type="checkbox"/>
Location	721 Westfield Rd, Scotch Plains, NJ 07076	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		<input type="checkbox"/>
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building		<input type="checkbox"/>
Brunner School (K-12 School)				
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Gross Floor Area	50,580 Sq. Ft.	Does this square footage include all supporting functions such as kitchens and break rooms used by staff, storage areas, administrative areas, elevators, stairwells, atria, vent shafts, etc. Also note that existing atriums should only include the base floor area that it occupies. Interstitial (plenum) space between floors should not be included in the total. Finally gross floor area is not the same as leasable space. Leasable space is a subset of gross floor area.		<input type="checkbox"/>
Open Weekends?	Yes	Is this building normally open at all on the weekends? This includes activities beyond the work conducted by maintenance, cleaning, and security personnel. Weekend activity could include any time when the space is used for classes, performances or other school or community activities. If the building is open on the weekend as part of the standard schedule during one or more seasons, the building should select "yes" for open weekends. The "yes" response should apply whether the building is open for one or both of the weekend days.		<input type="checkbox"/>
Number of PCs	180	Is this the number of personal computers in the K12 School?		<input type="checkbox"/>
Number of walk-in refrigeration/freezer units	0	Is this the total number of commercial walk-in type freezers and coolers? These units are typically found in storage and receiving areas.		<input type="checkbox"/>
Presence of cooking facilities	Yes	Does this school have a dedicated space in which food is prepared and served to students? If the school has space in which food for students is only kept warm and/or served to students, or has only a galley that is used by teachers and staff then the answer is "no".		<input type="checkbox"/>
Percent Cooled	20 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		<input type="checkbox"/>
Percent Heated	90 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		<input type="checkbox"/>
Months	12 (Optional)	Is this school in operation for at least 8 months of the year?		<input type="checkbox"/>

High School?	No	Is this building a high school (teaching grades 10, 11, and/or 12)? If the building teaches to high school students at all, the user should check 'yes' to 'high school'. For example, if the school teaches to grades K-12 (elementary/middle and high school), the user should check 'yes' to 'high school'.		<input type="checkbox"/>
---------------------	----	--	--	--------------------------

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

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

Fuel Type: Electricity		
Meter: 278007454 (kWh (thousand Watt-hours)) Space(s): Entire Facility Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
05/07/2009	06/06/2009	21,975.00
04/07/2009	05/06/2009	23,025.00
03/07/2009	04/06/2009	24,900.00
02/07/2009	03/06/2009	21,375.00
01/07/2009	02/06/2009	16,800.00
12/07/2008	01/06/2009	22,875.00
11/07/2008	12/06/2008	22,200.00
10/07/2008	11/06/2008	19,050.00
09/07/2008	10/06/2008	23,175.00
08/07/2008	09/06/2008	10,575.00
07/07/2008	08/06/2008	14,850.00
278007454 Consumption (kWh (thousand Watt-hours))		220,800.00
278007454 Consumption (kBtu (thousand Btu))		753,369.60
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		753,369.60
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		<input type="checkbox"/>
Fuel Type: Natural Gas		
Meter: 09139789 (therms) Space(s): Entire Facility		
Start Date	End Date	Energy Use (therms)
05/07/2009	06/06/2009	250.10
04/07/2009	05/06/2009	1,400.70
03/07/2009	04/06/2009	2,739.10
02/07/2009	03/06/2009	4,935.10
01/07/2009	02/06/2009	5,908.80
12/07/2008	01/06/2009	3,967.80
11/07/2008	12/06/2008	3,138.10
10/07/2008	11/06/2008	1,776.40
09/07/2008	10/06/2008	119.50
08/07/2008	09/06/2008	45.80
07/07/2008	08/06/2008	55.90

09139789 Consumption (therms)	24,337.30
09139789 Consumption (kBtu (thousand Btu))	2,433,730.00
Total Natural Gas Consumption (kBtu (thousand Btu))	2,433,730.00
Is this the total Natural Gas consumption at this building including all Natural Gas meters?	<input type="checkbox"/>

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

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.	<input type="checkbox"/>

Certifying Professional

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

Name: _____ Date: _____

Signature: _____

Signature is required when applying for the ENERGY STAR.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

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

Facility

Howard B. Brunner School
721 Westfield Rd
Scotch Plains, NJ 07076

Facility Owner

Scotch Plains-Fanwood Board of
Education
2280 Evergreen Ave
Scotch Plains, NJ 07076

Primary Contact for this Facility

Mike Roman
580 Park Ave.
Scotch Plains, NJ 07076

General Information

Howard B. Brunner School	
Gross Floor Area Excluding Parking: (ft ²)	50,580
Year Built	1960
For 12-month Evaluation Period Ending Date:	June 30, 2009

Facility Space Use Summary

Brunner School	
Space Type	K-12 School
Gross Floor Area(ft ²)	50,580
Open Weekends?	Yes
Number of PCs	180
Number of walk-in refrigeration/freezer units	0
Presence of cooking facilities	Yes
Percent Cooled	20
Percent Heated	90
Months ^o	12
High School?	No
School District ^o	Scotch Plains-Fanwood

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 06/30/2009)	Baseline (Ending Date 06/30/2009)	Rating of 75	Target	National Average
Energy Performance Rating	80	80	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	65	65	70	N/A	90
Source (kBtu/ft ²)	106	106	114	N/A	145
Energy Cost					
\$/year	\$ 49,622.30	\$ 49,622.30	\$ 53,326.70	N/A	\$ 68,189.86
\$/ft ² /year	\$ 0.98	\$ 0.98	\$ 1.05	N/A	\$ 1.35
Greenhouse Gas Emissions					
MtCO ₂ e/year	257	257	276	N/A	353
kgCO ₂ e/ft ² /year	5	5	5	N/A	7

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

Notes:

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

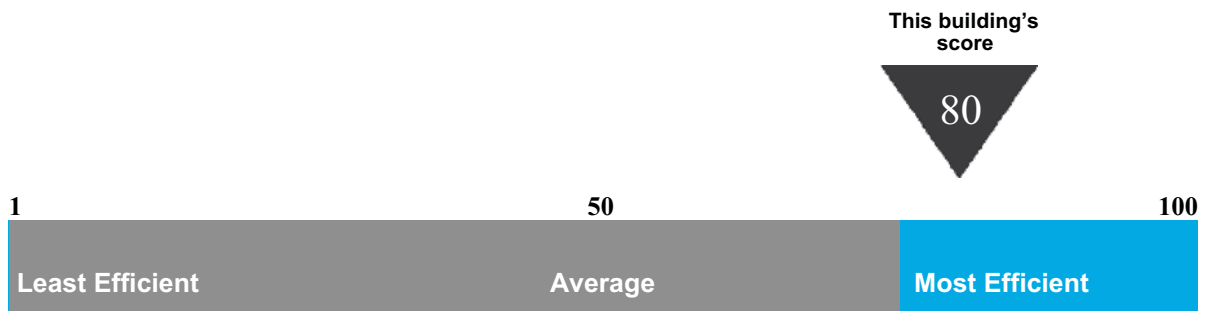
Statement of Energy Performance

2009

Howard B. Brunner School
721 Westfield Rd
Scotch Plains, NJ 07076

Portfolio Manager Building ID: 1941096

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



This building uses 106 kBtu per square foot per year.*

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

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

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

Date of certification





STATEMENT OF ENERGY PERFORMANCE

Evergreen School

Building ID: 1941104
For 12-month Period Ending: June 30, 2009¹
Date SEP becomes ineligible: N/A

Date SEP Generated: November 29, 2009

Facility

Evergreen School
 2280 Evergreen Ave
 Scotch Plains, NJ 07076

Facility Owner

Scotch Plains-Fanwood Board of
 Education
 2280 Evergreen Ave
 Scotch Plains, NJ 07076

Primary Contact for this Facility

Mike Roman
 580 Park Ave.
 Scotch Plains, NJ 07076

Year Built: 1951

Gross Floor Area (ft²): 43,524

Energy Performance Rating² (1-100) 20

Site Energy Use Summary³

Electricity - Grid Purchase(kBtu)	1,250,686
Natural Gas (kBtu) ⁴	3,872,550
Total Energy (kBtu)	5,123,236

Energy Intensity⁵

Site (kBtu/ft ² /yr)	118
Source (kBtu/ft ² /yr)	189

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	396
---	-----

Electric Distribution Utility

PSE&G - Public Service Elec & Gas Co

National Average Comparison

National Average Site EUI	89
National Average Source EUI	142
% Difference from National Average Source EUI	33%
Building Type	K-12 School

Meets Industry Standards⁶ for Indoor Environmental Conditions:

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

Notes:

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

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

Certifying Professional

Matthew Goss
 15 British American Blvd
 Latham, NY 12110

ENERGY STAR® Data Checklist for Commercial Buildings

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

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

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

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Building Name	Evergreen School	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		<input type="checkbox"/>
Type	K-12 School	Is this an accurate description of the space in question?		<input type="checkbox"/>
Location	2280 Evergreen Ave, Scotch Plains, NJ 07076	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		<input type="checkbox"/>
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building		<input type="checkbox"/>
Evergreen School (K-12 School)				
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Gross Floor Area	43,524 Sq. Ft.	Does this square footage include all supporting functions such as kitchens and break rooms used by staff, storage areas, administrative areas, elevators, stairwells, atria, vent shafts, etc. Also note that existing atriums should only include the base floor area that it occupies. Interstitial (plenum) space between floors should not be included in the total. Finally gross floor area is not the same as leasable space. Leasable space is a subset of gross floor area.		<input type="checkbox"/>
Open Weekends?	Yes	Is this building normally open at all on the weekends? This includes activities beyond the work conducted by maintenance, cleaning, and security personnel. Weekend activity could include any time when the space is used for classes, performances or other school or community activities. If the building is open on the weekend as part of the standard schedule during one or more seasons, the building should select ?yes? for open weekends. The ?yes? response should apply whether the building is open for one or both of the weekend days.		<input type="checkbox"/>
Number of PCs	127	Is this the number of personal computers in the K12 School?		<input type="checkbox"/>
Number of walk-in refrigeration/freezer units	0	Is this the total number of commercial walk-in type freezers and coolers? These units are typically found in storage and receiving areas.		<input type="checkbox"/>
Presence of cooking facilities	Yes	Does this school have a dedicated space in which food is prepared and served to students? If the school has space in which food for students is only kept warm and/or served to students, or has only a galley that is used by teachers and staff then the answer is "no".		<input type="checkbox"/>
Percent Cooled	20 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		<input type="checkbox"/>
Percent Heated	90 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		<input type="checkbox"/>
Months	12 (Optional)	Is this school in operation for at least 8 months of the year?		<input type="checkbox"/>

High School?	No	Is this building a high school (teaching grades 10, 11, and/or 12)? If the building teaches to high school students at all, the user should check 'yes' to 'high school'. For example, if the school teaches to grades K-12 (elementary/middle and high school), the user should check 'yes' to 'high school'.		<input type="checkbox"/>
---------------------	----	--	--	--------------------------

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

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

Fuel Type: Electricity		
Meter: 626051821 (kWh (thousand Watt-hours)) Space(s): Entire Facility Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
05/07/2009	06/06/2009	666.00
04/07/2009	05/06/2009	2,639.00
03/07/2009	04/06/2009	1,876.00
02/07/2009	03/06/2009	2,022.00
01/07/2009	02/06/2009	1,127.00
12/07/2008	01/06/2009	1,311.00
11/07/2008	12/06/2008	1,223.00
10/07/2008	11/06/2008	518.00
09/07/2008	10/06/2008	305.00
08/07/2008	09/06/2008	194.00
07/07/2008	08/06/2008	182.00
626051821 Consumption (kWh (thousand Watt-hours))		12,063.00
626051821 Consumption (kBtu (thousand Btu))		41,158.96
Meter: 778012708 (kWh (thousand Watt-hours)) Space(s): Entire Facility Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
05/07/2009	06/06/2009	31,600.00
04/07/2009	05/06/2009	32,800.00
03/07/2009	04/06/2009	15,000.00
02/07/2009	03/06/2009	48,600.00
01/07/2009	02/06/2009	25,400.00
12/07/2008	01/06/2009	34,400.00
11/07/2008	12/06/2008	30,200.00
10/07/2008	11/06/2008	28,400.00
09/07/2008	10/06/2008	27,000.00
08/07/2008	09/06/2008	27,000.00
07/07/2008	08/06/2008	23,000.00
778012708 Consumption (kWh (thousand Watt-hours))		323,400.00
778012708 Consumption (kBtu (thousand Btu))		1,103,440.80
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		1,144,599.76

Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		<input type="checkbox"/>
Fuel Type: Natural Gas		
Meter: 09004423 (therms) Space(s): Entire Facility		
Start Date	End Date	Energy Use (therms)
05/07/2009	06/06/2009	765.70
04/07/2009	05/06/2009	2,388.70
03/07/2009	04/06/2009	6,115.30
02/07/2009	03/06/2009	6,274.60
01/07/2009	02/06/2009	8,850.90
12/07/2008	01/06/2009	6,400.80
11/07/2008	12/06/2008	4,561.30
10/07/2008	11/06/2008	2,516.50
09/07/2008	10/06/2008	62.60
08/07/2008	09/06/2008	39.10
07/07/2008	08/06/2008	39.10
09004423 Consumption (therms)		38,014.60
09004423 Consumption (kBtu (thousand Btu))		3,801,460.00
Total Natural Gas Consumption (kBtu (thousand Btu))		3,801,460.00
Is this the total Natural Gas consumption at this building including all Natural Gas meters?		<input type="checkbox"/>

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

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.	<input type="checkbox"/>

Certifying Professional

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

Name: _____ Date: _____

Signature: _____

Signature is required when applying for the ENERGY STAR.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

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

Facility
Evergreen School
2280 Evergreen Ave
Scotch Plains, NJ 07076

Facility Owner
Scotch Plains-Fanwood Board of
Education
2280 Evergreen Ave
Scotch Plains, NJ 07076

Primary Contact for this Facility
Mike Roman
580 Park Ave.
Scotch Plains, NJ 07076

General Information

Evergreen School	
Gross Floor Area Excluding Parking: (ft ²)	43,524
Year Built	1951
For 12-month Evaluation Period Ending Date:	June 30, 2009

Facility Space Use Summary

Evergreen School	
Space Type	K-12 School
Gross Floor Area(ft ²)	43,524
Open Weekends?	Yes
Number of PCs	127
Number of walk-in refrigeration/freezer units	0
Presence of cooking facilities	Yes
Percent Cooled	20
Percent Heated	90
Months ^o	12
High School?	No
School District ^o	Scotch Plains Fanwood

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 06/30/2009)	Baseline (Ending Date 06/30/2009)	Rating of 75	Target	National Average
Energy Performance Rating	20	20	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	118	118	69	N/A	89
Source (kBtu/ft ²)	189	189	111	N/A	142
Energy Cost					
\$/year	\$ 78,326.64	\$ 78,326.64	\$ 46,053.75	N/A	\$ 58,889.71
\$/ft ² /year	\$ 1.80	\$ 1.80	\$ 1.06	N/A	\$ 1.35
Greenhouse Gas Emissions					
MtCO ₂ e/year	396	396	233	N/A	298
kgCO ₂ e/ft ² /year	9	9	5	N/A	7

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

Notes:

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

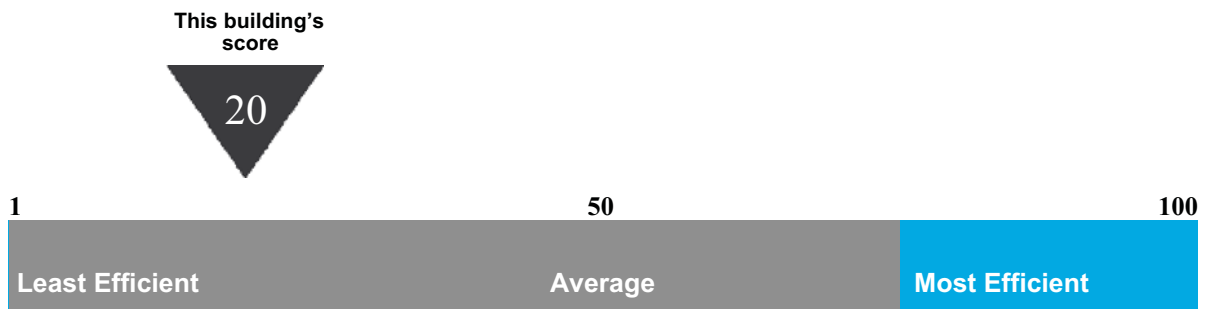
Statement of Energy Performance

2009

Evergreen School
2280 Evergreen Ave
Scotch Plains, NJ 07076

Portfolio Manager Building ID: 1941104

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



This building uses 189 kBtu per square foot per year.*

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

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

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

Date of certification





STATEMENT OF ENERGY PERFORMANCE

J. Ackerman Coles School

Building ID: 1941101
 For 12-month Period Ending: June 30, 2009¹
 Date SEP becomes ineligible: N/A

Date SEP Generated: November 29, 2009

Facility

J. Ackerman Coles School
 16 Kevin Road
 Scotch Plains, NJ 07076

Facility Owner

Scotch Plains-Fanwood Board of
 Education
 2280 Evergreen Ave
 Scotch Plains, NJ 07076

Primary Contact for this Facility

Mike Roman
 580 Park Ave.
 Scotch Plains, NJ 07076

Year Built: 1963

Gross Floor Area (ft²): 53,785

Energy Performance Rating² (1-100) 84

Site Energy Use Summary³

Electricity - Grid Purchase(kBtu)	1,018,290
Natural Gas (kBtu) ⁴	2,075,000
Total Energy (kBtu)	3,093,290

Energy Intensity⁵

Site (kBtu/ft ² /yr)	58
Source (kBtu/ft ² /yr)	104

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	265
---	-----

Electric Distribution Utility

PSE&G - Public Service Elec & Gas Co

National Average Comparison

National Average Site EUI	84
National Average Source EUI	151
% Difference from National Average Source EUI	-32%
Building Type	K-12 School

Meets Industry Standards⁶ for Indoor Environmental Conditions:

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

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

Certifying Professional

Matthew Goss
 15 British American Blvd
 Latham, NY 12110

Notes:

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

ENERGY STAR® Data Checklist for Commercial Buildings

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

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

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

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Building Name	J. Ackerman Coles School	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		<input type="checkbox"/>
Type	K-12 School	Is this an accurate description of the space in question?		<input type="checkbox"/>
Location	16 Kevin Road, Scotch Plains, NJ 07076	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		<input type="checkbox"/>
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building		<input type="checkbox"/>
J. Ackerman Coles School (K-12 School)				
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Gross Floor Area	53,785 Sq. Ft.	Does this square footage include all supporting functions such as kitchens and break rooms used by staff, storage areas, administrative areas, elevators, stairwells, atria, vent shafts, etc. Also note that existing atriums should only include the base floor area that it occupies. Interstitial (plenum) space between floors should not be included in the total. Finally gross floor area is not the same as leasable space. Leasable space is a subset of gross floor area.		<input type="checkbox"/>
Open Weekends?	Yes	Is this building normally open at all on the weekends? This includes activities beyond the work conducted by maintenance, cleaning, and security personnel. Weekend activity could include any time when the space is used for classes, performances or other school or community activities. If the building is open on the weekend as part of the standard schedule during one or more seasons, the building should select ?yes? for open weekends. The ?yes? response should apply whether the building is open for one or both of the weekend days.		<input type="checkbox"/>
Number of PCs	183	Is this the number of personal computers in the K12 School?		<input type="checkbox"/>
Number of walk-in refrigeration/freezer units	0	Is this the total number of commercial walk-in type freezers and coolers? These units are typically found in storage and receiving areas.		<input type="checkbox"/>
Presence of cooking facilities	Yes	Does this school have a dedicated space in which food is prepared and served to students? If the school has space in which food for students is only kept warm and/or served to students, or has only a galley that is used by teachers and staff then the answer is "no".		<input type="checkbox"/>
Percent Cooled	40 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		<input type="checkbox"/>
Percent Heated	90 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		<input type="checkbox"/>
Months	12 (Optional)	Is this school in operation for at least 8 months of the year?		<input type="checkbox"/>

High School?	No	Is this building a high school (teaching grades 10, 11, and/or 12)? If the building teaches to high school students at all, the user should check 'yes' to 'high school'. For example, if the school teaches to grades K-12 (elementary/middle and high school), the user should check 'yes' to 'high school'.		<input type="checkbox"/>
---------------------	----	--	--	--------------------------

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

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

Fuel Type: Electricity		
Meter: 626022252 (kWh (thousand Watt-hours)) Space(s): Entire Facility Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
05/07/2009	06/06/2009	1,900.00
04/07/2009	05/06/2009	2,590.00
03/07/2009	04/06/2009	2,960.00
02/07/2009	03/06/2009	3,740.00
01/07/2009	02/06/2009	3,060.00
12/07/2008	01/06/2009	3,880.00
11/07/2008	12/06/2008	2,610.00
10/07/2008	11/06/2008	1,460.00
09/07/2008	10/06/2008	1,270.00
08/07/2008	09/06/2008	310.00
07/07/2008	08/06/2008	270.00
626022252 Consumption (kWh (thousand Watt-hours))		24,050.00
626022252 Consumption (kBtu (thousand Btu))		82,058.60
Meter: 278006435 (kWh (thousand Watt-hours)) Space(s): Entire Facility Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
05/07/2009	06/06/2009	26,100.00
04/07/2009	05/06/2009	27,270.00
03/07/2009	04/06/2009	26,190.00
02/07/2009	03/06/2009	28,260.00
01/07/2009	02/06/2009	25,650.00
12/07/2008	01/06/2009	25,650.00
11/07/2008	12/06/2008	25,380.00
10/07/2008	11/06/2008	22,680.00
09/07/2008	10/06/2008	22,320.00
08/07/2008	09/06/2008	7,920.00
07/07/2008	08/06/2008	8,370.00
278006435 Consumption (kWh (thousand Watt-hours))		245,790.00
278006435 Consumption (kBtu (thousand Btu))		838,635.48

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

Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
05/07/2009	06/06/2009	141.00
04/07/2009	05/06/2009	162.00
03/07/2009	04/06/2009	156.00
02/07/2009	03/06/2009	157.00
01/07/2009	02/06/2009	188.00
12/07/2008	01/06/2009	192.00
11/07/2008	12/06/2008	177.00
10/07/2008	11/06/2008	167.00
09/07/2008	10/06/2008	144.00
08/07/2008	09/06/2008	131.00
07/07/2008	08/06/2008	118.00
Unmetered Consumption (kWh (thousand Watt-hours))		1,733.00
Unmetered Consumption (kBtu (thousand Btu))		5,913.00
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		926,607.08
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		<input type="checkbox"/>

Fuel Type: Natural Gas**Meter: 09218902 (therms)****Space(s):** Entire Facility

Start Date	End Date	Energy Use (therms)
05/07/2009	06/06/2009	11.10
04/07/2009	05/06/2009	1,056.90
03/07/2009	04/06/2009	2,444.80
02/07/2009	03/06/2009	4,065.30
01/07/2009	02/06/2009	5,447.60
12/07/2008	01/06/2009	3,452.10
11/07/2008	12/06/2008	2,656.50
10/07/2008	11/06/2008	1,251.20
09/07/2008	10/06/2008	14.50
08/07/2008	09/06/2008	3.40
07/07/2008	08/06/2008	1.10
09218902 Consumption (therms)		20,404.50
09218902 Consumption (kBtu (thousand Btu))		2,040,450.00
Total Natural Gas Consumption (kBtu (thousand Btu))		2,040,450.00
Is this the total Natural Gas consumption at this building including all Natural Gas meters?		<input type="checkbox"/>

Additional Fuels

Do the fuel consumption totals shown above represent the total energy use of this building?
Please confirm there are no additional fuels (district energy, generator fuel oil) used in this facility.

On-Site Solar and Wind Energy

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



Certifying Professional

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

Name: _____ Date: _____

Signature: _____

Signature is required when applying for the ENERGY STAR.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

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

Facility

J. Ackerman Coles School
16 Kevin Road
Scotch Plains, NJ 07076

Facility Owner

Scotch Plains-Fanwood Board of
Education
2280 Evergreen Ave
Scotch Plains, NJ 07076

Primary Contact for this Facility

Mike Roman
580 Park Ave.
Scotch Plains, NJ 07076

General Information

J. Ackerman Coles School	
Gross Floor Area Excluding Parking: (ft ²)	53,785
Year Built	1963
For 12-month Evaluation Period Ending Date:	June 30, 2009

Facility Space Use Summary

J. Ackerman Coles School	
Space Type	K-12 School
Gross Floor Area(ft ²)	53,785
Open Weekends?	Yes
Number of PCs	183
Number of walk-in refrigeration/freezer units	0
Presence of cooking facilities	Yes
Percent Cooled	40
Percent Heated	90
Months ^o	12
High School?	No
School District ^o	Scotch Plains Fanwood

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 06/30/2009)	Baseline (Ending Date 06/30/2009)	Rating of 75	Target	National Average
Energy Performance Rating	84	84	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	58	58	66	N/A	84
Source (kBtu/ft ²)	104	104	118	N/A	151
Energy Cost					
\$/year	\$ 57,684.82	\$ 57,684.82	\$ 65,909.75	N/A	\$ 84,285.44
\$/ft ² /year	\$ 1.07	\$ 1.07	\$ 1.22	N/A	\$ 1.56
Greenhouse Gas Emissions					
MtCO ₂ e/year	265	265	303	N/A	387
kgCO ₂ e/ft ² /year	5	5	6	N/A	7

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

Notes:

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

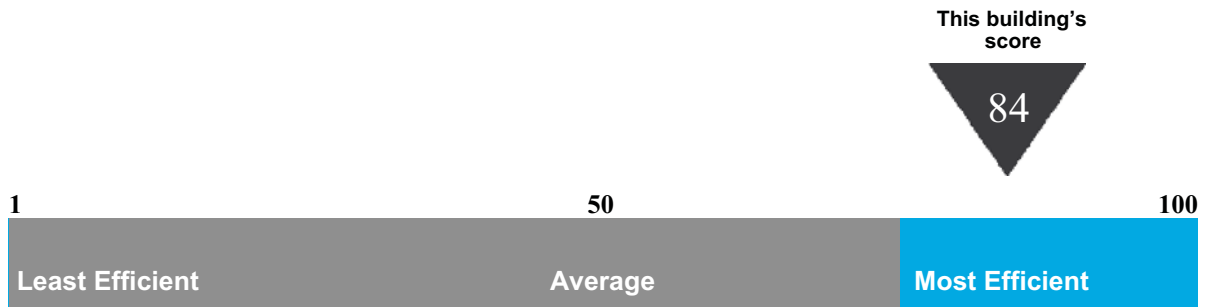
Statement of Energy Performance

2009

J. Ackerman Coles School
16 Kevin Road
Scotch Plains, NJ 07076

Portfolio Manager Building ID: 1941101

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



This building uses 104 kBtu per square foot per year.*

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

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

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

Date of certification





STATEMENT OF ENERGY PERFORMANCE

School One School

Building ID: 1941108
For 12-month Period Ending: June 30, 2009¹
Date SEP becomes ineligible: N/A

Date SEP Generated: November 29, 2009

Facility

School One School
 563 Willow Ave
 Scotch Plains, NJ 07076

Facility Owner

Scotch Plains-Fanwood Board of
 Education
 2280 Evergreen Ave
 Scotch Plains, NJ 07076

Primary Contact for this Facility

Mike Roman
 580 Park Ave.
 Scotch Plains, NJ 07076

Year Built: 1973

Gross Floor Area (ft²): 46,205

Energy Performance Rating² (1-100) 65

Site Energy Use Summary³

Electricity - Grid Purchase(kBtu)	1,744,066
Natural Gas (kBtu) ⁴	1,192,627
Total Energy (kBtu)	2,936,693

Energy Intensity⁵

Site (kBtu/ft ² /yr)	64
Source (kBtu/ft ² /yr)	153

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	329
---	-----

Electric Distribution Utility

PSE&G - Public Service Elec & Gas Co

National Average Comparison

National Average Site EUI	73
National Average Source EUI	176
% Difference from National Average Source EUI	-13%
Building Type	K-12 School

Meets Industry Standards⁶ for Indoor Environmental Conditions:

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

Stamp of Certifying Professional

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

Certifying Professional

Matthew Goss
 15 British American Blvd
 Latham, NY 12110

Notes:

- 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.
- 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.
- Values represent energy consumption, annualized to a 12-month period.
- Natural Gas values in units of volume (e.g. cubic feet) are converted to kBtu with adjustments made for elevation based on Facility zip code.
- Values represent energy intensity, annualized to a 12-month period.
- Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

ENERGY STAR® Data Checklist for Commercial Buildings

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

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

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

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Building Name	School One School	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		<input type="checkbox"/>
Type	K-12 School	Is this an accurate description of the space in question?		<input type="checkbox"/>
Location	563 Willow Ave, Scotch Plains, NJ 07076	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		<input type="checkbox"/>
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building		<input type="checkbox"/>
School One (K-12 School)				
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Gross Floor Area	46,205 Sq. Ft.	Does this square footage include all supporting functions such as kitchens and break rooms used by staff, storage areas, administrative areas, elevators, stairwells, atria, vent shafts, etc. Also note that existing atriums should only include the base floor area that it occupies. Interstitial (plenum) space between floors should not be included in the total. Finally gross floor area is not the same as leasable space. Leasable space is a subset of gross floor area.		<input type="checkbox"/>
Open Weekends?	Yes	Is this building normally open at all on the weekends? This includes activities beyond the work conducted by maintenance, cleaning, and security personnel. Weekend activity could include any time when the space is used for classes, performances or other school or community activities. If the building is open on the weekend as part of the standard schedule during one or more seasons, the building should select ?yes? for open weekends. The ?yes? response should apply whether the building is open for one or both of the weekend days.		<input type="checkbox"/>
Number of PCs	158	Is this the number of personal computers in the K12 School?		<input type="checkbox"/>
Number of walk-in refrigeration/freezer units	0	Is this the total number of commercial walk-in type freezers and coolers? These units are typically found in storage and receiving areas.		<input type="checkbox"/>
Presence of cooking facilities	Yes	Does this school have a dedicated space in which food is prepared and served to students? If the school has space in which food for students is only kept warm and/or served to students, or has only a galley that is used by teachers and staff then the answer is "no".		<input type="checkbox"/>
Percent Cooled	90 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		<input type="checkbox"/>
Percent Heated	90 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		<input type="checkbox"/>
Months	12 (Optional)	Is this school in operation for at least 8 months of the year?		<input type="checkbox"/>

High School?	No	Is this building a high school (teaching grades 10, 11, and/or 12)? If the building teaches to high school students at all, the user should check 'yes' to 'high school'. For example, if the school teaches to grades K-12 (elementary/middle and high school), the user should check 'yes' to 'high school'.		<input type="checkbox"/>
---------------------	----	--	--	--------------------------

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

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

Fuel Type: Electricity		
Meter: 626022253 (kWh (thousand Watt-hours))		
Space(s): Entire Facility		
Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
05/07/2009	06/06/2009	38,720.00
04/07/2009	05/06/2009	45,120.00
03/07/2009	04/06/2009	45,600.00
02/07/2009	03/06/2009	49,440.00
01/07/2009	02/06/2009	39,360.00
12/07/2008	01/06/2009	50,880.00
11/07/2008	12/06/2008	40,000.00
10/07/2008	11/06/2008	36,000.00
09/07/2008	10/06/2008	35,840.00
08/07/2008	09/06/2008	22,880.00
07/07/2008	08/06/2008	28,960.00
626022253 Consumption (kWh (thousand Watt-hours))		432,800.00
626022253 Consumption (kBtu (thousand Btu))		1,476,713.60
Meter: 626022253_2 (kWh (thousand Watt-hours))		
Space(s): Entire Facility		
Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
05/07/2009	06/06/2009	1,690.00
04/07/2009	05/06/2009	4,320.00
03/07/2009	04/06/2009	5,700.00
02/07/2009	03/06/2009	6,284.00
01/07/2009	02/06/2009	6,283.00
12/07/2008	01/06/2009	6,283.00
11/07/2008	12/06/2008	2,670.00
10/07/2008	11/06/2008	1,420.00
09/07/2008	10/06/2008	1,030.00
08/07/2008	09/06/2008	520.00
07/07/2008	08/06/2008	890.00
626022253_2 Consumption (kWh (thousand Watt-hours))		37,090.00
626022253_2 Consumption (kBtu (thousand Btu))		126,551.08
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		1,603,264.68

Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		<input type="checkbox"/>
Fuel Type: Natural Gas		
Meter: 00338299 (therms) Space(s): Entire Facility		
Start Date	End Date	Energy Use (therms)
05/07/2009	06/06/2009	137.70
04/07/2009	05/06/2009	569.20
03/07/2009	04/06/2009	1,233.20
02/07/2009	03/06/2009	2,307.60
01/07/2009	02/06/2009	3,243.90
12/07/2008	01/06/2009	1,883.60
11/07/2008	12/06/2008	1,422.90
10/07/2008	11/06/2008	673.70
09/07/2008	10/06/2008	134.20
08/07/2008	09/06/2008	51.10
07/07/2008	08/06/2008	39.20
00338299 Consumption (therms)		11,696.30
00338299 Consumption (kBtu (thousand Btu))		1,169,630.00
Total Natural Gas Consumption (kBtu (thousand Btu))		1,169,630.00
Is this the total Natural Gas consumption at this building including all Natural Gas meters?		<input type="checkbox"/>

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

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.	<input type="checkbox"/>

Certifying Professional

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

Name: _____ Date: _____

Signature: _____

Signature is required when applying for the ENERGY STAR.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

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

Facility
School One School
563 Willow Ave
Scotch Plains, NJ 07076

Facility Owner
Scotch Plains-Fanwood Board of
Education
2280 Evergreen Ave
Scotch Plains, NJ 07076

Primary Contact for this Facility
Mike Roman
580 Park Ave.
Scotch Plains, NJ 07076

General Information

School One School	
Gross Floor Area Excluding Parking: (ft ²)	46,205
Year Built	1973
For 12-month Evaluation Period Ending Date:	June 30, 2009

Facility Space Use Summary

School One	
Space Type	K-12 School
Gross Floor Area(ft ²)	46,205
Open Weekends?	Yes
Number of PCs	158
Number of walk-in refrigeration/freezer units	0
Presence of cooking facilities	Yes
Percent Cooled	90
Percent Heated	90
Months ^o	12
High School?	No
School District ^o	Scotch Plains Fanwood

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 06/30/2009)	Baseline (Ending Date 06/30/2009)	Rating of 75	Target	National Average
Energy Performance Rating	65	65	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	64	64	57	N/A	73
Source (kBtu/ft ²)	153	153	138	N/A	176
Energy Cost					
\$/year	\$ 91,425.92	\$ 91,425.92	\$ 82,234.42	N/A	\$ 105,162.82
\$/ft ² /year	\$ 1.98	\$ 1.98	\$ 1.78	N/A	\$ 2.28
Greenhouse Gas Emissions					
MtCO ₂ e/year	329	329	296	N/A	378
kgCO ₂ e/ft ² /year	7	7	6	N/A	8

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

Notes:

o - This attribute is optional.

d - A default value has been supplied by Portfolio Manager.

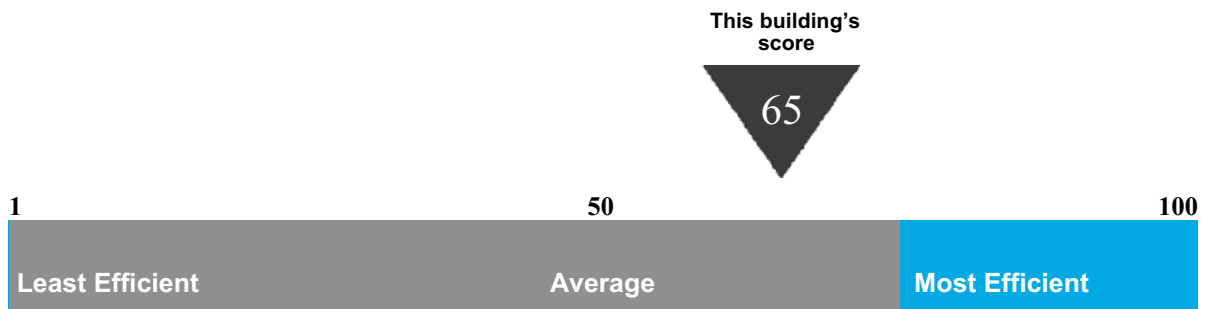
Statement of Energy Performance

2009

School One School
563 Willow Ave
Scotch Plains, NJ 07076

Portfolio Manager Building ID: 1941108

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



This building uses 153 kBtu per square foot per year.*

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

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

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

Date of certification





STATEMENT OF ENERGY PERFORMANCE

William J. McGinn School

Building ID: 1941105
For 12-month Period Ending: June 30, 2009¹
Date SEP becomes ineligible: N/A

Date SEP Generated: November 29, 2009

Facility

William J. McGinn School
 110 Roosevelt Ave
 Scotch Plains, NJ 07076

Facility Owner

Scotch Plains-Fanwood Board of
 Education
 2280 Evergreen Ave
 Scotch Plains, NJ 07076

Primary Contact for this Facility

Mike Roman
 580 Park Ave.
 Scotch Plains, NJ 07076

Year Built: 1966

Gross Floor Area (ft²): 49,489

Energy Performance Rating² (1-100) 76

Site Energy Use Summary³

Electricity - Grid Purchase(kBtu)	939,072
Natural Gas (kBtu) ⁴	2,617,200
Total Energy (kBtu)	3,556,272

Energy Intensity⁵

Site (kBtu/ft ² /yr)	72
Source (kBtu/ft ² /yr)	119

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	282
---	-----

Electric Distribution Utility

PSE&G - Public Service Elec & Gas Co

National Average Comparison

National Average Site EUI	94
National Average Source EUI	155
% Difference from National Average Source EUI	-23%
Building Type	K-12 School

Meets Industry Standards⁶ for Indoor Environmental Conditions:

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

Stamp of Certifying Professional

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

Certifying Professional

Matthew Goss
 15 British American Blvd
 Latham, NY 12110

Notes:

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

ENERGY STAR® Data Checklist for Commercial Buildings

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

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

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

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Building Name	William J. McGinn School	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		<input type="checkbox"/>
Type	K-12 School	Is this an accurate description of the space in question?		<input type="checkbox"/>
Location	110 Roosevelt Ave, Scotch Plains, NJ 07076	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		<input type="checkbox"/>
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building		<input type="checkbox"/>
William J. McGinn (K-12 School)				
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Gross Floor Area	49,489 Sq. Ft.	Does this square footage include all supporting functions such as kitchens and break rooms used by staff, storage areas, administrative areas, elevators, stairwells, atria, vent shafts, etc. Also note that existing atriums should only include the base floor area that it occupies. Interstitial (plenum) space between floors should not be included in the total. Finally gross floor area is not the same as leasable space. Leasable space is a subset of gross floor area.		<input type="checkbox"/>
Open Weekends?	Yes	Is this building normally open at all on the weekends? This includes activities beyond the work conducted by maintenance, cleaning, and security personnel. Weekend activity could include any time when the space is used for classes, performances or other school or community activities. If the building is open on the weekend as part of the standard schedule during one or more seasons, the building should select ?yes? for open weekends. The ?yes? response should apply whether the building is open for one or both of the weekend days.		<input type="checkbox"/>
Number of PCs	177	Is this the number of personal computers in the K12 School?		<input type="checkbox"/>
Number of walk-in refrigeration/freezer units	0	Is this the total number of commercial walk-in type freezers and coolers? These units are typically found in storage and receiving areas.		<input type="checkbox"/>
Presence of cooking facilities	Yes	Does this school have a dedicated space in which food is prepared and served to students? If the school has space in which food for students is only kept warm and/or served to students, or has only a galley that is used by teachers and staff then the answer is "no".		<input type="checkbox"/>
Percent Cooled	40 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		<input type="checkbox"/>
Percent Heated	90 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		<input type="checkbox"/>
Months	12 (Optional)	Is this school in operation for at least 8 months of the year?		<input type="checkbox"/>

High School?	No	Is this building a high school (teaching grades 10, 11, and/or 12)? If the building teaches to high school students at all, the user should check 'yes' to 'high school'. For example, if the school teaches to grades K-12 (elementary/middle and high school), the user should check 'yes' to 'high school'.		<input type="checkbox"/>
---------------------	----	--	--	--------------------------

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

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

Fuel Type: Electricity		
Meter: 678004697 (kWh (thousand Watt-hours)) Space(s): Entire Facility Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
05/07/2009	06/06/2009	26,460.00
04/07/2009	05/06/2009	26,100.00
03/07/2009	04/06/2009	28,530.00
02/07/2009	03/06/2009	20,250.00
01/07/2009	02/06/2009	18,540.00
12/07/2008	01/06/2009	27,090.00
11/07/2008	12/06/2008	23,580.00
10/07/2008	11/06/2008	22,140.00
09/07/2008	10/06/2008	26,010.00
08/07/2008	09/06/2008	15,300.00
07/07/2008	08/06/2008	15,390.00
678004697 Consumption (kWh (thousand Watt-hours))		249,390.00
678004697 Consumption (kBtu (thousand Btu))		850,918.68
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		850,918.68
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		<input type="checkbox"/>
Fuel Type: Natural Gas		
Meter: 00006599 (therms) Space(s): Entire Facility		
Start Date	End Date	Energy Use (therms)
05/07/2009	06/06/2009	188.10
04/07/2009	05/06/2009	1,247.10
03/07/2009	04/06/2009	2,776.70
02/07/2009	03/06/2009	5,044.80
01/07/2009	02/06/2009	6,633.80
12/07/2008	01/06/2009	4,890.90
11/07/2008	12/06/2008	3,307.50
10/07/2008	11/06/2008	1,505.40
09/07/2008	10/06/2008	62.50
08/07/2008	09/06/2008	25.70
07/07/2008	08/06/2008	16.80

00006599 Consumption (therms)	25,699.30
00006599 Consumption (kBtu (thousand Btu))	2,569,930.00
Total Natural Gas Consumption (kBtu (thousand Btu))	2,569,930.00
Is this the total Natural Gas consumption at this building including all Natural Gas meters?	<input type="checkbox"/>

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

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.	<input type="checkbox"/>

Certifying Professional

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

Name: _____ Date: _____

Signature: _____

Signature is required when applying for the ENERGY STAR.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

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

Facility

William J. McGinn School
110 Roosevelt Ave
Scotch Plains, NJ 07076

Facility Owner

Scotch Plains-Fanwood Board of
Education
2280 Evergreen Ave
Scotch Plains, NJ 07076

Primary Contact for this Facility

Mike Roman
580 Park Ave.
Scotch Plains, NJ 07076

General Information

William J. McGinn School	
Gross Floor Area Excluding Parking: (ft ²)	49,489
Year Built	1966
For 12-month Evaluation Period Ending Date:	June 30, 2009

Facility Space Use Summary

William J. McGinn	
Space Type	K-12 School
Gross Floor Area(ft ²)	49,489
Open Weekends?	Yes
Number of PCs	177
Number of walk-in refrigeration/freezer units	0
Presence of cooking facilities	Yes
Percent Cooled	40
Percent Heated	90
Months ^o	12
High School?	No
School District ^o	Scotch Plains Fanwood

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 06/30/2009)	Baseline (Ending Date 06/30/2009)	Rating of 75	Target	National Average
Energy Performance Rating	76	76	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	72	72	73	N/A	94
Source (kBtu/ft ²)	119	119	121	N/A	155
Energy Cost					
\$/year	\$ 50,626.46	\$ 50,626.46	\$ 51,542.33	N/A	\$ 65,907.39
\$/ft ² /year	\$ 1.02	\$ 1.02	\$ 1.04	N/A	\$ 1.33
Greenhouse Gas Emissions					
MtCO ₂ e/year	282	282	287	N/A	367
kgCO ₂ e/ft ² /year	6	6	6	N/A	8

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

Notes:

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

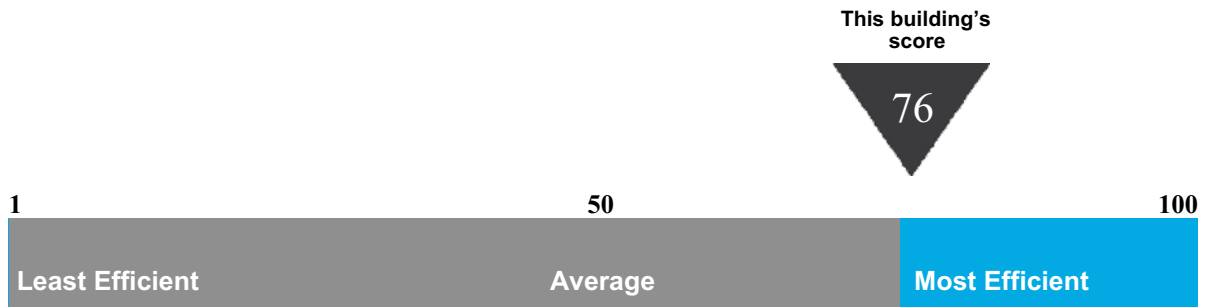
Statement of Energy Performance

2009

William J. McGinn School
110 Roosevelt Ave
Scotch Plains, NJ 07076

Portfolio Manager Building ID: 1941105

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



This building uses 119 kBtu per square foot per year.*

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

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

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

Date of certification





STATEMENT OF ENERGY PERFORMANCE

Park Middle School

Building ID: 1941109
For 12-month Period Ending: April 30, 2009¹
Date SEP becomes ineligible: N/A

Date SEP Generated: February 01, 2010

Facility
 Park Middle School
 580 Park Ave
 Scotch Plains, NJ 07076

Facility Owner
 Scotch Plains Board of Education
 580 Park Ave
 Scotch Plains, NJ 07076

Primary Contact for this Facility
 Mike Roman
 580 Park Ave
 Scotch Plains, NJ 07076

Year Built: 1929
Gross Floor Area (ft²): 113,660

Energy Performance Rating² (1-100) 74

Site Energy Use Summary³

Electricity - Grid Purchase(kBtu)	2,466,474
Natural Gas (kBtu) ⁴	5,246,033
Total Energy (kBtu)	7,712,507

Energy Intensity⁵

Site (kBtu/ft ² /yr)	68
Source (kBtu/ft ² /yr)	121

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	655
---	-----

Electric Distribution Utility

Public Service Elec & Gas Co

National Average Comparison

National Average Site EUI	86
National Average Source EUI	153
% Difference from National Average Source EUI	-21%
Building Type	K-12 School

Meets Industry Standards⁶ for Indoor Environmental Conditions:

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

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

Certifying Professional

Matthew Goss
 100 Crossways Park West, Suite 415
 Woodbury, NY 11797

Notes:

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

ENERGY STAR® Data Checklist for Commercial Buildings

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

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

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

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Building Name	Park Middle School	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		<input type="checkbox"/>
Type	K-12 School	Is this an accurate description of the space in question?		<input type="checkbox"/>
Location	580 Park Ave, Scotch Plains, NJ 07076	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		<input type="checkbox"/>
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building		<input type="checkbox"/>
Park Middle (K-12 School)				
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Gross Floor Area	113,660 Sq. Ft.	Does this square footage include all supporting functions such as kitchens and break rooms used by staff, storage areas, administrative areas, elevators, stairwells, atria, vent shafts, etc. Also note that existing atriums should only include the base floor area that it occupies. Interstitial (plenum) space between floors should not be included in the total. Finally gross floor area is not the same as leasable space. Leasable space is a subset of gross floor area.		<input type="checkbox"/>
Open Weekends?	Yes	Is this building normally open at all on the weekends? This includes activities beyond the work conducted by maintenance, cleaning, and security personnel. Weekend activity could include any time when the space is used for classes, performances or other school or community activities. If the building is open on the weekend as part of the standard schedule during one or more seasons, the building should select ?yes? for open weekends. The ?yes? response should apply whether the building is open for one or both of the weekend days.		<input type="checkbox"/>
Number of PCs	452	Is this the number of personal computers in the K12 School?		<input type="checkbox"/>
Number of walk-in refrigeration/freezer units	2	Is this the total number of commercial walk-in type freezers and coolers? These units are typically found in storage and receiving areas.		<input type="checkbox"/>
Presence of cooking facilities	Yes	Does this school have a dedicated space in which food is prepared and served to students? If the school has space in which food for students is only kept warm and/or served to students, or has only a galley that is used by teachers and staff then the answer is "no".		<input type="checkbox"/>
Percent Cooled	40 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		<input type="checkbox"/>
Percent Heated	90 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		<input type="checkbox"/>
Months	12 (Optional)	Is this school in operation for at least 8 months of the year?		<input type="checkbox"/>

High School?	No	Is this building a high school (teaching grades 10, 11, and/or 12)? If the building teaches to high school students at all, the user should check 'yes' to 'high school'. For example, if the school teaches to grades K-12 (elementary/middle and high school), the user should check 'yes' to 'high school'.		<input type="checkbox"/>
---------------------	----	--	--	--------------------------

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

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

Fuel Type: Electricity		
Meter: 778015879 (kWh (thousand Watt-hours))		
Space(s): Entire Facility		
Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
03/07/2009	04/06/2009	66,400.00
02/07/2009	03/06/2009	61,000.00
01/07/2009	02/06/2009	63,200.00
12/07/2008	01/06/2009	60,600.00
11/07/2008	12/06/2008	70,000.00
10/07/2008	11/06/2008	59,200.00
09/07/2008	10/06/2008	62,400.00
08/07/2008	09/06/2008	40,200.00
07/07/2008	08/06/2008	41,800.00
06/07/2008	07/06/2008	53,600.00
05/07/2008	06/06/2008	63,400.00
778015879 Consumption (kWh (thousand Watt-hours))		641,800.00
778015879 Consumption (kBtu (thousand Btu))		2,189,821.60
Meter: Unmetered (kWh (thousand Watt-hours))		
Space(s): Entire Facility		
Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
03/07/2009	04/06/2009	1,002.00
02/07/2009	03/06/2009	1,007.00
01/07/2009	02/06/2009	1,204.00
12/07/2008	01/06/2009	1,228.00
11/07/2008	12/06/2008	1,134.00
10/07/2008	11/06/2008	1,069.00
09/07/2008	10/06/2008	924.00
08/07/2008	09/06/2008	840.00
07/07/2008	08/06/2008	757.00
06/07/2008	07/06/2008	708.00
05/07/2008	06/06/2008	786.00
Unmetered Consumption (kWh (thousand Watt-hours))		10,659.00
Unmetered Consumption (kBtu (thousand Btu))		36,368.51
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		2,226,190.11

Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		<input type="checkbox"/>
Fuel Type: Natural Gas		
Meter: 09716130 (therms) Space(s): Entire Facility		
Start Date	End Date	Energy Use (therms)
03/07/2009	04/06/2009	7,821.80
02/07/2009	03/06/2009	8,885.30
01/07/2009	02/06/2009	12,850.40
12/07/2008	01/06/2009	9,075.40
11/07/2008	12/06/2008	5,747.50
10/07/2008	11/06/2008	2,954.50
09/07/2008	10/06/2008	345.20
08/07/2008	09/06/2008	219.90
07/07/2008	08/06/2008	198.90
06/06/2008	07/05/2008	269.90
05/06/2008	06/05/2008	1,220.10
09716130 Consumption (therms)		49,588.90
09716130 Consumption (kBtu (thousand Btu))		4,958,890.00
Total Natural Gas Consumption (kBtu (thousand Btu))		4,958,890.00
Is this the total Natural Gas consumption at this building including all Natural Gas meters?		<input type="checkbox"/>

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

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.	<input type="checkbox"/>

Certifying Professional

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

Name: _____ Date: _____

Signature: _____

Signature is required when applying for the ENERGY STAR.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

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

Facility
Park Middle School
580 Park Ave
Scotch Plains, NJ 07076

Facility Owner
Scotch Plains Board of Education
580 Park Ave
Scotch Plains, NJ 07076

Primary Contact for this Facility
Mike Roman
580 Park Ave
Scotch Plains, NJ 07076

General Information

Park Middle School	
Gross Floor Area Excluding Parking: (ft ²)	113,660
Year Built	1929
For 12-month Evaluation Period Ending Date:	April 30, 2009

Facility Space Use Summary

Park Middle	
Space Type	K-12 School
Gross Floor Area(ft ²)	113,660
Open Weekends?	Yes
Number of PCs	452
Number of walk-in refrigeration/freezer units	2
Presence of cooking facilities	Yes
Percent Cooled	40
Percent Heated	90
Months ^o	12
High School?	No
School District ^o	Scotch Plains Fanwood

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 04/30/2009)	Baseline (Ending Date 04/30/2009)	Rating of 75	Target	National Average
Energy Performance Rating	74	74	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	68	68	67	N/A	86
Source (kBtu/ft ²)	121	121	120	N/A	153
Energy Cost					
\$/year	\$ 146,459.80	\$ 146,459.80	\$ 145,056.93	N/A	\$ 185,481.21
\$/ft ² /year	\$ 1.29	\$ 1.29	\$ 1.28	N/A	\$ 1.63
Greenhouse Gas Emissions					
MtCO ₂ e/year	655	655	649	N/A	830
kgCO ₂ e/ft ² /year	6	6	6	N/A	8

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

Notes:

o - This attribute is optional.

d - A default value has been supplied by Portfolio Manager.

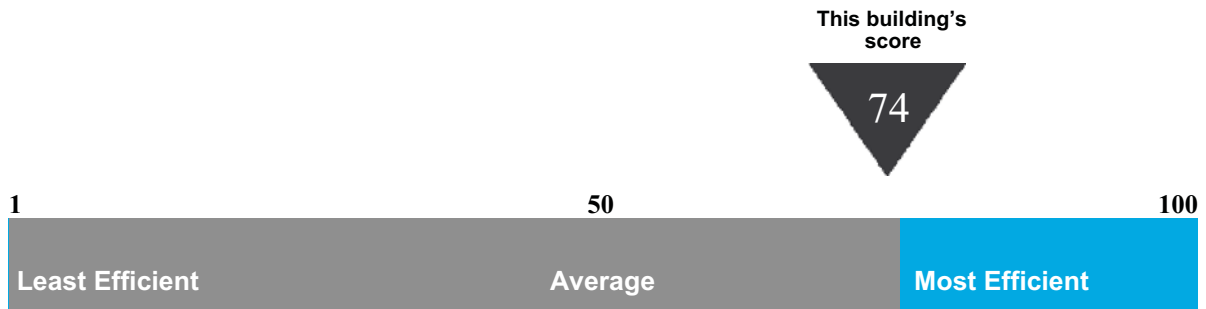
Statement of Energy Performance

2009

Park Middle School
580 Park Ave
Scotch Plains, NJ 07076

Portfolio Manager Building ID: 1941109

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



This building uses 121 kBtu per square foot per year.*

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

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

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

Date of certification





STATEMENT OF ENERGY PERFORMANCE

Terrill Middle School

Building ID: 1941113
For 12-month Period Ending: June 30, 2009¹
Date SEP becomes ineligible: N/A

Date SEP Generated: November 29, 2009

Facility

Terrill Middle School
 1301 Terrill Road
 Scotch Plains, NJ 07076

Facility Owner

Scotch Plains-Fanwood Board of
 Education
 2280 Evergreen Ave
 Scotch Plains, NJ 07076

Primary Contact for this Facility

Mike Roman
 580 Park Ave.
 Scotch Plains, NJ 07076

Year Built: 1963

Gross Floor Area (ft²): 93,577

Energy Performance Rating² (1-100) 45

Site Energy Use Summary³

Electricity - Grid Purchase(kBtu)	2,683,372
Natural Gas (kBtu) ⁴	6,239,688
Total Energy (kBtu)	8,923,060

Energy Intensity⁵

Site (kBtu/ft ² /yr)	95
Source (kBtu/ft ² /yr)	166

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	741
---	-----

Electric Distribution Utility

PSE&G - Public Service Elec & Gas Co

National Average Comparison

National Average Site EUI	92
National Average Source EUI	160
% Difference from National Average Source EUI	4%
Building Type	K-12 School

Meets Industry Standards⁶ for Indoor Environmental Conditions:

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

Stamp of Certifying Professional

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

Certifying Professional

Matthew Goss
 15 British American Blvd
 Latham, NY 12110

Notes:

- 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.
- 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.
- Values represent energy consumption, annualized to a 12-month period.
- Natural Gas values in units of volume (e.g. cubic feet) are converted to kBtu with adjustments made for elevation based on Facility zip code.
- Values represent energy intensity, annualized to a 12-month period.
- Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

ENERGY STAR® Data Checklist for Commercial Buildings

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

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

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

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Building Name	Terrill Middle School	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		<input type="checkbox"/>
Type	K-12 School	Is this an accurate description of the space in question?		<input type="checkbox"/>
Location	1301 Terrill Road, Scotch Plains, NJ 07076	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		<input type="checkbox"/>
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building		<input type="checkbox"/>
Terrill Middle School (K-12 School)				
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Gross Floor Area	93,577 Sq. Ft.	Does this square footage include all supporting functions such as kitchens and break rooms used by staff, storage areas, administrative areas, elevators, stairwells, atria, vent shafts, etc. Also note that existing atriums should only include the base floor area that it occupies. Interstitial (plenum) space between floors should not be included in the total. Finally gross floor area is not the same as leasable space. Leasable space is a subset of gross floor area.		<input type="checkbox"/>
Open Weekends?	Yes	Is this building normally open at all on the weekends? This includes activities beyond the work conducted by maintenance, cleaning, and security personnel. Weekend activity could include any time when the space is used for classes, performances or other school or community activities. If the building is open on the weekend as part of the standard schedule during one or more seasons, the building should select ?yes? for open weekends. The ?yes? response should apply whether the building is open for one or both of the weekend days.		<input type="checkbox"/>
Number of PCs	430	Is this the number of personal computers in the K12 School?		<input type="checkbox"/>
Number of walk-in refrigeration/freezer units	2	Is this the total number of commercial walk-in type freezers and coolers? These units are typically found in storage and receiving areas.		<input type="checkbox"/>
Presence of cooking facilities	Yes	Does this school have a dedicated space in which food is prepared and served to students? If the school has space in which food for students is only kept warm and/or served to students, or has only a galley that is used by teachers and staff then the answer is "no".		<input type="checkbox"/>
Percent Cooled	30 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		<input type="checkbox"/>
Percent Heated	90 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		<input type="checkbox"/>
Months	12 (Optional)	Is this school in operation for at least 8 months of the year?		<input type="checkbox"/>

High School?	No	Is this building a high school (teaching grades 10, 11, and/or 12)? If the building teaches to high school students at all, the user should check 'yes' to 'high school'. For example, if the school teaches to grades K-12 (elementary/middle and high school), the user should check 'yes' to 'high school'.		<input type="checkbox"/>
---------------------	----	--	--	--------------------------

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

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

Fuel Type: Electricity		
Meter: 778015884 (kWh (thousand Watt-hours))		
Space(s): Entire Facility		
Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
05/07/2009	06/06/2009	71,040.00
04/07/2009	05/06/2009	76,320.00
03/07/2009	04/06/2009	71,040.00
02/07/2009	03/06/2009	78,240.00
01/07/2009	02/06/2009	61,200.00
12/07/2008	01/06/2009	82,320.00
11/07/2008	12/06/2008	62,640.00
10/07/2008	11/06/2008	57,840.00
09/07/2008	10/06/2008	62,880.00
08/07/2008	09/06/2008	39,360.00
07/07/2008	08/06/2008	48,000.00
778015884 Consumption (kWh (thousand Watt-hours))		710,880.00
778015884 Consumption (kBtu (thousand Btu))		2,425,522.56
Meter: Unmetered (kWh (thousand Watt-hours))		
Space(s): Entire Facility		
Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
05/07/2009	06/06/2009	424.00
04/07/2009	05/06/2009	486.00
03/07/2009	04/06/2009	469.00
02/07/2009	03/06/2009	471.00
01/07/2009	02/06/2009	563.00
12/07/2008	01/06/2009	575.00
11/07/2008	12/06/2008	530.00
10/07/2008	11/06/2008	500.00
09/07/2008	10/06/2008	432.00
08/07/2008	09/06/2008	393.00
07/07/2008	08/06/2008	354.00
Unmetered Consumption (kWh (thousand Watt-hours))		5,197.00
Unmetered Consumption (kBtu (thousand Btu))		17,732.16
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		2,443,254.72

Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		<input type="checkbox"/>
Fuel Type: Natural Gas		
Meter: 09854386 (therms) Space(s): Entire Facility		
Start Date	End Date	Energy Use (therms)
05/07/2009	06/06/2009	538.70
04/07/2009	05/06/2009	3,281.00
03/07/2009	04/06/2009	9,210.00
02/07/2009	03/06/2009	11,023.60
01/07/2009	02/06/2009	15,995.60
12/07/2008	01/06/2009	10,670.80
11/07/2008	12/06/2008	7,001.50
10/07/2008	11/06/2008	3,017.20
09/07/2008	10/06/2008	209.20
08/07/2008	09/06/2008	136.10
07/07/2008	08/06/2008	146.60
09854386 Consumption (therms)		61,230.30
09854386 Consumption (kBtu (thousand Btu))		6,123,030.00
Total Natural Gas Consumption (kBtu (thousand Btu))		6,123,030.00
Is this the total Natural Gas consumption at this building including all Natural Gas meters?		<input type="checkbox"/>

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

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.	<input type="checkbox"/>

Certifying Professional

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

Name: _____ Date: _____

Signature: _____

Signature is required when applying for the ENERGY STAR.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

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

Facility
Terrill Middle School
1301 Terrill Road
Scotch Plains, NJ 07076

Facility Owner
Scotch Plains-Fanwood Board of
Education
2280 Evergreen Ave
Scotch Plains, NJ 07076

Primary Contact for this Facility
Mike Roman
580 Park Ave.
Scotch Plains, NJ 07076

General Information

Terrill Middle School	
Gross Floor Area Excluding Parking: (ft ²)	93,577
Year Built	1963
For 12-month Evaluation Period Ending Date:	June 30, 2009

Facility Space Use Summary

Terrill Middle School	
Space Type	K-12 School
Gross Floor Area(ft ²)	93,577
Open Weekends?	Yes
Number of PCs	430
Number of walk-in refrigeration/freezer units	2
Presence of cooking facilities	Yes
Percent Cooled	30
Percent Heated	90
Months ^o	12
High School?	No
School District ^o	Scotch Plains Fanwood

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 06/30/2009)	Baseline (Ending Date 06/30/2009)	Rating of 75	Target	National Average
Energy Performance Rating	45	45	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	95	95	72	N/A	92
Source (kBtu/ft ²)	166	166	125	N/A	160
Energy Cost					
\$/year	\$ 147,385.96	\$ 147,385.96	\$ 111,188.61	N/A	\$ 142,177.37
\$/ft ² /year	\$ 1.58	\$ 1.58	\$ 1.19	N/A	\$ 1.52
Greenhouse Gas Emissions					
MtCO ₂ e/year	741	741	559	N/A	715
kgCO ₂ e/ft ² /year	8	8	6	N/A	8

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

Notes:

o - This attribute is optional.

d - A default value has been supplied by Portfolio Manager.

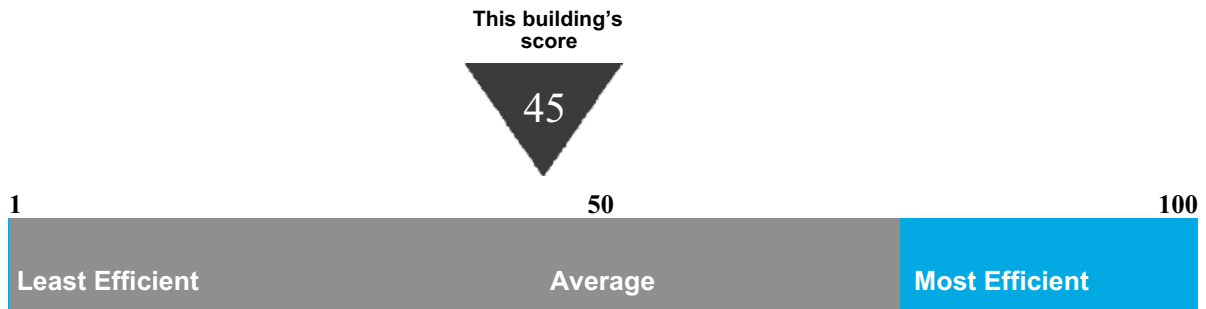
Statement of Energy Performance

2009

Terrill Middle School
1301 Terrill Road
Scotch Plains, NJ 07076

Portfolio Manager Building ID: 1941113

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



This building uses 166 kBtu per square foot per year.*

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

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

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

Date of certification





STATEMENT OF ENERGY PERFORMANCE

Scotch Plains Fanwood HS

Building ID: 1941116
For 12-month Period Ending: May 31, 2009¹
Date SEP becomes ineligible: N/A

Date SEP Generated: January 26, 2010

Facility
 Scotch Plains Fanwood HS
 667 Westfield Road
 Scotch Plains, NJ 07076

Facility Owner
 Scotch Plains Board of Education
 580 Park Ave
 Scotch Plains, NJ 07076

Primary Contact for this Facility
 Mike Roman
 580 Park Ave
 Scotch Plains, NJ 07076

Year Built: 1950
Gross Floor Area (ft²): 230,595

Energy Performance Rating² (1-100) 59

Site Energy Use Summary³

Electricity - Grid Purchase(kBtu)	6,890,545
Natural Gas (kBtu) ⁴	12,925,451
Total Energy (kBtu)	19,815,996

Energy Intensity⁵

Site (kBtu/ft ² /yr)	86
Source (kBtu/ft ² /yr)	158

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	1,737
---	-------

Electric Distribution Utility

Public Service Elec & Gas Co

National Average Comparison

National Average Site EUI	93
National Average Source EUI	172
% Difference from National Average Source EUI	-8%
Building Type	K-12 School

Stamp of Certifying Professional

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

Meets Industry Standards⁶ for Indoor Environmental Conditions:

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

Certifying Professional

Matthew Goss
 100 Crossways Park West, Suite 415
 Woodbury, NY 11797

Notes:

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

ENERGY STAR® Data Checklist for Commercial Buildings

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

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

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

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Building Name	Scotch Plains Fanwood HS	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		<input type="checkbox"/>
Type	K-12 School	Is this an accurate description of the space in question?		<input type="checkbox"/>
Location	667 Westfield Road, Scotch Plains, NJ 07076	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		<input type="checkbox"/>
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building		<input type="checkbox"/>
Scotch Plains Fanwood HS (K-12 School)				
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	<input checked="" type="checkbox"/>
Gross Floor Area	230,595 Sq. Ft.	Does this square footage include all supporting functions such as kitchens and break rooms used by staff, storage areas, administrative areas, elevators, stairwells, atria, vent shafts, etc. Also note that existing atriums should only include the base floor area that it occupies. Interstitial (plenum) space between floors should not be included in the total. Finally gross floor area is not the same as leasable space. Leasable space is a subset of gross floor area.		<input type="checkbox"/>
Open Weekends?	Yes	Is this building normally open at all on the weekends? This includes activities beyond the work conducted by maintenance, cleaning, and security personnel. Weekend activity could include any time when the space is used for classes, performances or other school or community activities. If the building is open on the weekend as part of the standard schedule during one or more seasons, the building should select ?yes? for open weekends. The ?yes? response should apply whether the building is open for one or both of the weekend days.		<input type="checkbox"/>
Number of PCs	745	Is this the number of personal computers in the K12 School?		<input type="checkbox"/>
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.		<input type="checkbox"/>
Presence of cooking facilities	Yes	Does this school have a dedicated space in which food is prepared and served to students? If the school has space in which food for students is only kept warm and/or served to students, or has only a galley that is used by teachers and staff then the answer is "no".		<input type="checkbox"/>
Percent Cooled	60 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		<input type="checkbox"/>
Percent Heated	90 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		<input type="checkbox"/>
Months	12 (Optional)	Is this school in operation for at least 8 months of the year?		<input type="checkbox"/>

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

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

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

Fuel Type: Electricity		
Meter: 778017723 (kWh (thousand Watt-hours)) Space(s): Entire Facility Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
05/01/2009	05/31/2009	212,559.00
04/01/2009	04/30/2009	176,032.00
03/01/2009	03/31/2009	179,298.00
02/01/2009	02/28/2009	156,512.00
01/01/2009	01/31/2009	172,077.00
12/01/2008	12/31/2008	158,464.00
11/01/2008	11/30/2008	147,102.00
10/01/2008	10/31/2008	178,104.00
09/01/2008	09/30/2008	193,412.00
08/01/2008	08/31/2008	124,060.00
07/01/2008	07/31/2008	141,538.00
06/01/2008	06/30/2008	180,168.00
778017723 Consumption (kWh (thousand Watt-hours))		2,019,326.00
778017723 Consumption (kBtu (thousand Btu))		6,889,940.31
Meter: 626047500 (kWh (thousand Watt-hours)) Space(s): Entire Facility Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
04/17/2009	05/19/2009	20.00
03/13/2009	04/17/2009	19.00
02/14/2009	03/13/2009	13.00
01/19/2009	02/14/2009	11.00
12/22/2008	01/19/2009	13.00
11/20/2008	12/22/2008	15.00
10/22/2008	11/20/2008	14.00
09/23/2008	10/22/2008	13.00
08/25/2008	09/23/2008	14.00
07/25/2008	08/25/2008	14.00
06/25/2008	07/24/2008	14.00
626047500 Consumption (kWh (thousand Watt-hours))		160.00
626047500 Consumption (kBtu (thousand Btu))		545.92

Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		6,890,486.23
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		<input type="checkbox"/>
Fuel Type: Natural Gas		
Meter: 08453277 (therms) Space(s): Entire Facility		
Start Date	End Date	Energy Use (therms)
04/07/2009	05/06/2009	7,141.50
03/07/2009	04/06/2009	18,337.20
02/07/2009	03/06/2009	19,722.00
01/07/2009	02/06/2009	28,648.80
12/07/2008	01/06/2009	20,305.60
11/07/2008	12/06/2008	13,376.00
10/07/2008	11/06/2008	6,786.00
09/07/2008	10/06/2008	836.80
08/07/2008	09/06/2008	0.00
07/07/2008	08/06/2008	0.00
06/07/2008	07/06/2008	8,589.00
08453277 Consumption (therms)		123,742.90
08453277 Consumption (kBtu (thousand Btu))		12,374,290.00
Total Natural Gas Consumption (kBtu (thousand Btu))		12,374,290.00
Is this the total Natural Gas consumption at this building including all Natural Gas meters?		<input type="checkbox"/>

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

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.	<input type="checkbox"/>

Certifying Professional

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

Name: _____ Date: _____

Signature: _____

Signature is required when applying for the ENERGY STAR.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

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

Facility

Scotch Plains Fanwood HS
667 Westfield Road
Scotch Plains, NJ 07076

Facility Owner

Scotch Plains Board of Education
580 Park Ave
Scotch Plains, NJ 07076

Primary Contact for this Facility

Mike Roman
580 Park Ave
Scotch Plains, NJ 07076

General Information

Scotch Plains Fanwood HS	
Gross Floor Area Excluding Parking: (ft ²)	230,595
Year Built	1950
For 12-month Evaluation Period Ending Date:	May 31, 2009

Facility Space Use Summary

Scotch Plains Fanwood HS	
Space Type	K-12 School
Gross Floor Area(ft ²)	230,595
Open Weekends?	Yes
Number of PCs	745
Number of walk-in refrigeration/freezer units	3
Presence of cooking facilities	Yes
Percent Cooled	60
Percent Heated	90
Months ^o	12
High School?	Yes
School District ^o	Scotch Plains Fanwood

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 05/31/2009)	Baseline (Ending Date 04/30/2009)	Rating of 75	Target	National Average
Energy Performance Rating	59	55	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	86	92	73	N/A	93
Source (kBtu/ft ²)	158	164	135	N/A	172
Energy Cost					
\$/year	\$ 300,970.61	\$ 314,570.82	\$ 255,648.14	N/A	\$ 326,924.20
\$/ft ² /year	\$ 1.31	\$ 1.36	\$ 1.11	N/A	\$ 1.42
Greenhouse Gas Emissions					
MtCO ₂ e/year	1,737	1,799	1,475	N/A	1,887
kgCO ₂ e/ft ² /year	8	8	7	N/A	9

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

Notes:

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

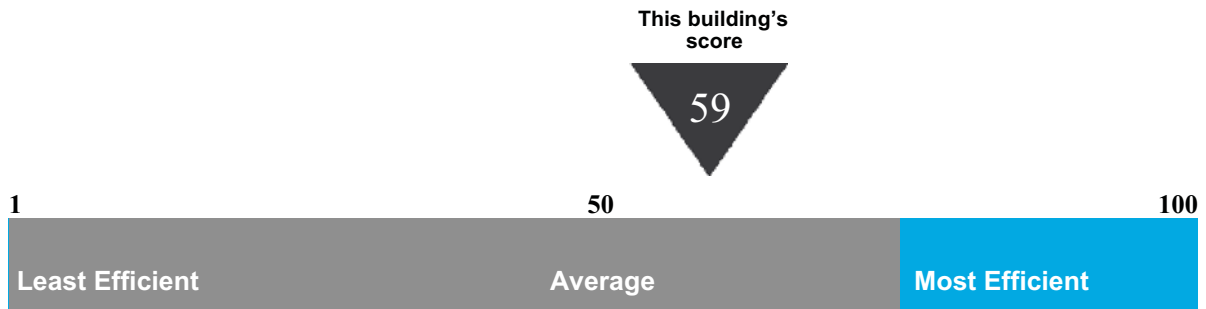
Statement of Energy Performance

2009

Scotch Plains Fanwood HS
667 Westfield Road
Scotch Plains, NJ 07076

Portfolio Manager Building ID: 1941116

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



This building uses 158 kBtu per square foot per year.*

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

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

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

Date of certification



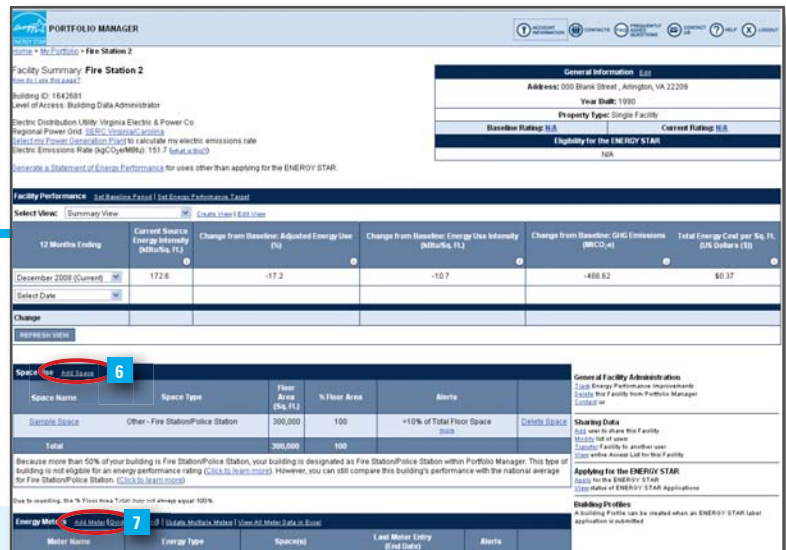


PORTFOLIO MANAGER QUICK REFERENCE GUIDE

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

IDENTIFY ENERGY EFFICIENCY PROJECTS

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



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

www.energystar.gov/benchmark

ENERGY STAR **PORTFOLIO MANAGER** ACCOUNT INFORMATION CONTACTS FAQ FREQUENTLY ASKED QUESTIONS CONTACT US HELP LOGOUT

Home > My Portfolio

Group Averages

Baseline Rating: 72 Facilities Included: 1	Current Rating: 80 Facilities Included: 1
Change from Baseline: Group Adjusted Percent Energy Use (%): -14.8% Facilities Included: 2	

Averages are weighted by Total Floor Space.
[More about Baselines](#)
[More about Change from Baseline: Adjusted Energy Use](#)

[Add a Property](#)
[Import Facility Data Using Templates](#)

Work with Facilities
[Update Multiple Meters](#)
[Share Facilities](#)
[Request Energy Performance Report](#)

Apply for Recognition
[Apply for the ENERGY STAR ENERGY STAR Leaders](#)

Automated Benchmarking
[Get Started Now](#)

My Facilities My Campuses

GROUP: Fire Stations 8 [Create Group](#) [Edit Group](#) [View All](#) **VIEW:** Summary View 9a [Create View](#) [Edit View](#) [View All](#)

Download in Excel Search Facility Name: Search

Results 1 - 2 of 2 All # A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

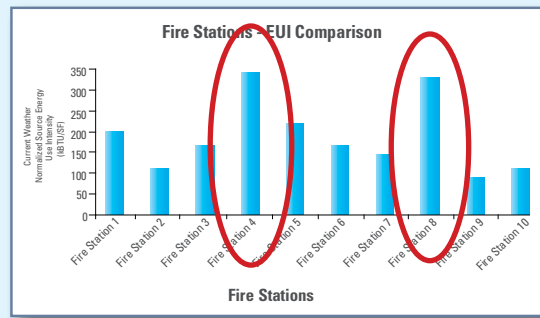
Facility Name	Current Source Energy Intensity (kBtu/Sq. Ft.)	Change from Baseline: Adjusted Energy Use (%)	Change from Baseline: Energy Use Intensity (kBtu/Sq. Ft.)	Change from Baseline: GHG Emissions (MtCO ₂ e)	Total Energy Cost per Sq. Ft. (US Dollars \$)
Fire Station 1	160.1	-12.3	-6.1	-275.86	\$0.30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

[Download in Excel](#) 9b Search Facility Name: Search

Results 1 - 2 of 2 All # A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

The rating is calculated by using the last day of the latest full calendar month where all meters in the facility have meter entries; the Period Ending date reflects that particular date.

STEP	ACTIVITY	ACTION
8	Create custom groups.	<p>Organize facilities into groups (e.g., Fire Stations, Northwest Region). Groups are completely customizable, and each facility may belong to multiple groups.</p> <ul style="list-style-type: none"> From the My Portfolio page, click CREATE GROUP, located directly to the right of the Group drop-down menu. Follow instructions to select buildings and name your group. Once they have been saved, custom groups will be available in the Group drop-down menu.
9	View and interpret results.	<p>Option 1: Go to My Portfolio and view all buildings to compare performance metrics.</p> <p>Option 2: Export data to Microsoft® Excel.</p> <ul style="list-style-type: none"> On the My Portfolio page, select the view, from the View drop-down menu that will display the data you wish to export. The My Portfolio page will update to display the selected view. (9a) Select the DOWNLOAD IN EXCEL link. A File Download dialog window will open. Follow the steps provided by Excel. (9b) Use Excel functionality to view building energy performance graphically. The example below shows a comparison of Energy Use Intensity for a portfolio of fire stations, identifying under-performing buildings to target for energy efficiency improvements.

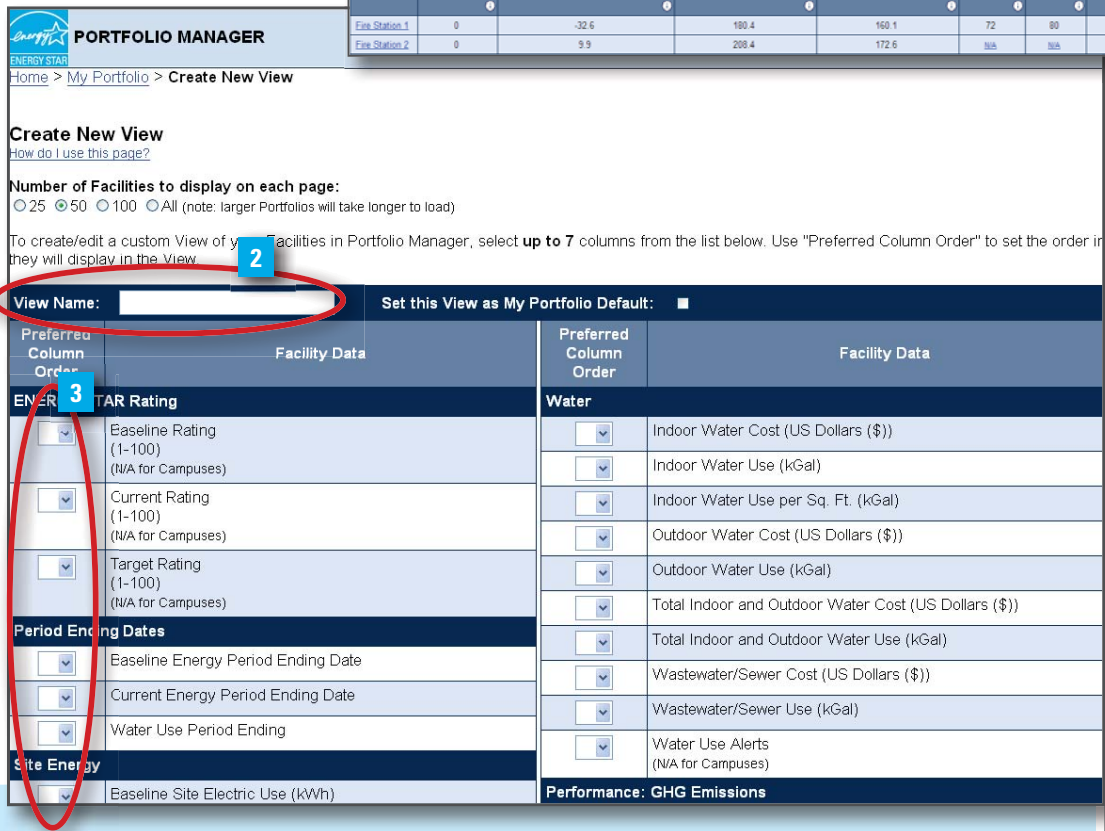
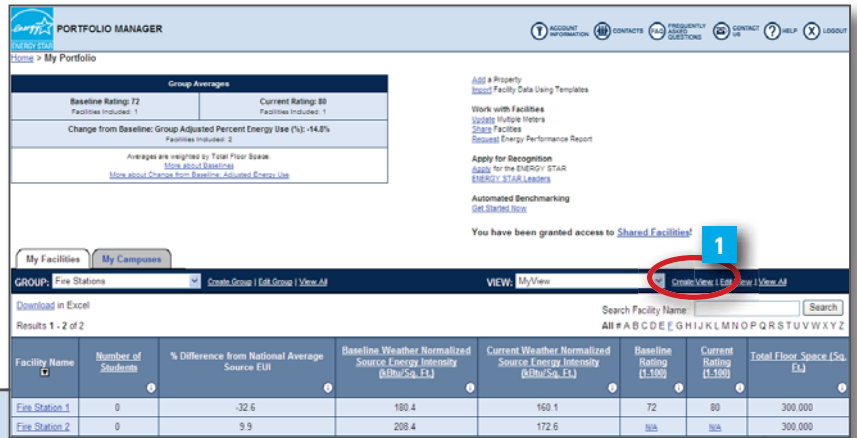


TRACK PROGRESS OVER TIME

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

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

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



CREATE A CUSTOM VIEW

STEP ACTION

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

VERIFY AND DOCUMENT RESULTS

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

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

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

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

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

OMB No. 2050-0347

STATEMENT OF ENERGY PERFORMANCE Fire Station 2

4

Building ID: 1642681
For 12-month Period Ending: December 31, 2008
Date SEP becomes ineligible: N/A
Date SEP Generated: March 05, 2009

Facility	Facility Owner	Primary Contact for this Facility
Fire Station 2 000 Blank Street Arlington, VA 22209	N/A	N/A
Year Built: 1990 Gross Floor Area (ft ²): 300,000		
Energy Performance Rating ² (1-100)		
Energy Intensity⁵		
Site (kBtu/ft ² /yr)		52
Source (kBtu/ft ² /yr)		173
Emissions (based on site energy use)		
Greenhouse Gas Emissions (MTCO ₂ e/year)		2,352
Site Energy Use Summary ³		
Electricity (kBtu)		
Natural Gas (kBtu) ⁴	15,500,000	
Total Energy (kBtu)		
Energy Intensity ⁵		
Site (kBtu/ft ² /yr)	52	
Source (kBtu/ft ² /yr)	173	
Emissions (based on site energy use)		
Greenhouse Gas Emissions (MTCO ₂ e/year)	2,352	
Electric Distribution Utility	Virginia Electric & Power Co	
National Average Comparison		
National Average Site EUI	78	
National Average Source EUI	157	
% Difference from National Average Source EUI	10%	
Building Type	Fire Station/Police Station	
Meets Industry Standards ⁶ for Indoor Environmental Conditions:		
Ventilation for Acceptable Indoor Air Quality	N/A	
Acceptable Thermal Environmental Conditions	N/A	
Adequate Illumination	N/A	
Stamp of Certifying Professional		
Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate.		
Certifying Professional N/A		

Notes:
1. Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
2. The EPA Energy Performance Rating is based on total source energy. A rating of 75 is the minimum to be eligible for the ENERGY STAR.
3. Values represent energy consumption, annualized to a 12-month period.
4. Natural Gas values in units of volume (e.g. cubic feet) are converted to Btu with adjustments made for elevation based on facility zip code.
5. National average energy intensity, emissions and EUI values are based on a 12-month period.
6. Meets Industry Standards for Indoor Environmental Conditions is based on ASHRAE 62.1-2004 and ASHRAE 90.1-2004.

PORTFOLIO MANAGER

ACCOUNT INFORMATION CONTACTS FAQ FREQUENTLY ASKED QUESTIONS CONTACT US HELP LOGOUT

Home > My Portfolio > Fire Station 2

Facility Summary: **Fire Station 2**
[How do I use this page?](#)

Building ID: 1642681
Level of Access: Building Data Administrator

Electric Distribution Utility: Virginia Electric & Power Co
Regional Power Grid: SERC Virginia/Carolina
[Select my Power Generation Plant](#) to calculate my electric emissions rate
[Electric Emissions Rate by Grid](#) 151.7 (what is this?)

1 Generate a Statement of Energy Performance for uses other than applying for the ENERGY STAR

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

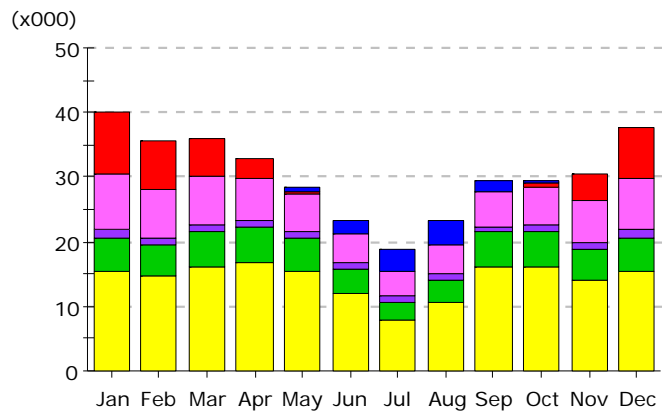
GENERATE A STATEMENT OF ENERGY PERFORMANCE AND AN ENERGY PERFORMANCE REPORT

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

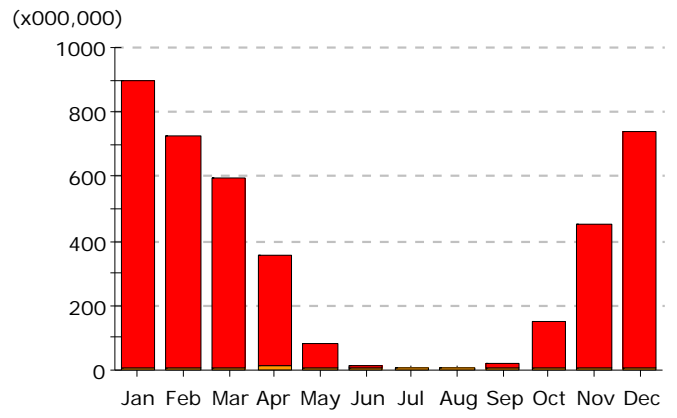
APPENDIX C

eQUEST MODEL RUN SUMMARIES

Electric Consumption (kWh)



Gas Consumption (Btu)



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

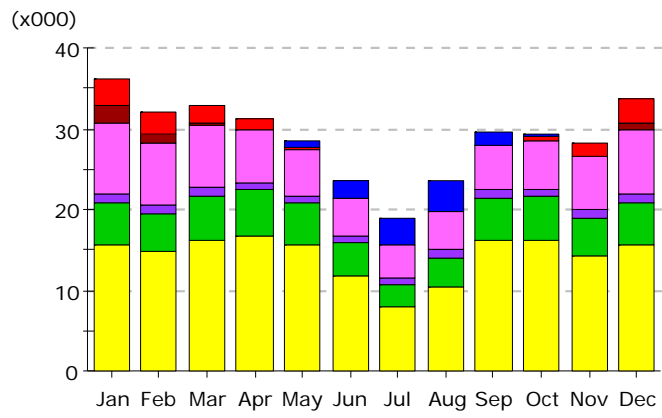
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	0.00	0.65	2.33	3.55	4.03	1.59	0.35	-	-	12.50
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	9.55	7.57	5.96	3.23	0.37	0.00	-	-	0.01	0.78	4.15	7.76	39.38
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	8.81	7.62	7.51	6.35	5.62	4.27	3.75	4.39	5.33	5.80	6.53	8.01	74.00
Pumps & Aux.	1.05	0.95	1.03	0.97	0.95	0.91	0.94	0.94	0.91	0.96	0.98	1.04	11.63
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	5.17	4.87	5.38	5.57	5.17	4.01	2.73	3.55	5.36	5.38	4.70	5.17	57.05
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	15.55	14.66	16.21	16.78	15.55	11.91	7.93	10.52	16.13	16.21	14.16	15.55	171.18
Total	40.13	35.66	36.10	32.91	28.31	23.42	18.89	23.43	29.33	29.49	30.53	37.53	365.74

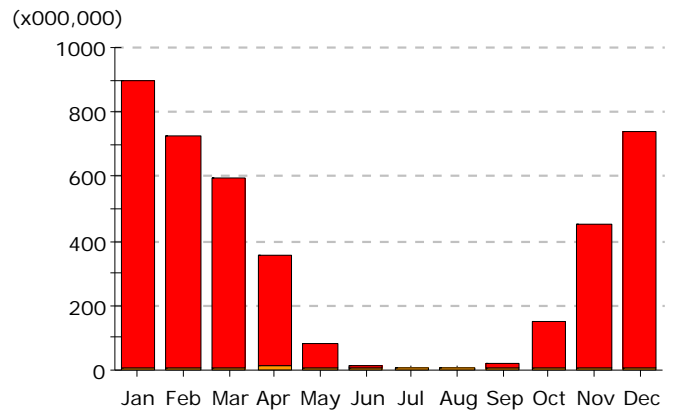
Gas Consumption (Btu x000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	890.7	718.5	584.9	348.7	76.5	4.4	0.4	-	12.4	140.7	443.4	729.7	3,950.5
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	9.5	9.3	10.2	10.3	8.9	6.1	3.7	4.8	7.5	7.9	7.5	8.9	94.7
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	900.3	727.8	595.2	359.0	85.4	10.5	4.1	4.8	19.9	148.6	451.0	738.6	4,045.2

Electric Consumption (kWh)



Gas Consumption (Btu)



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

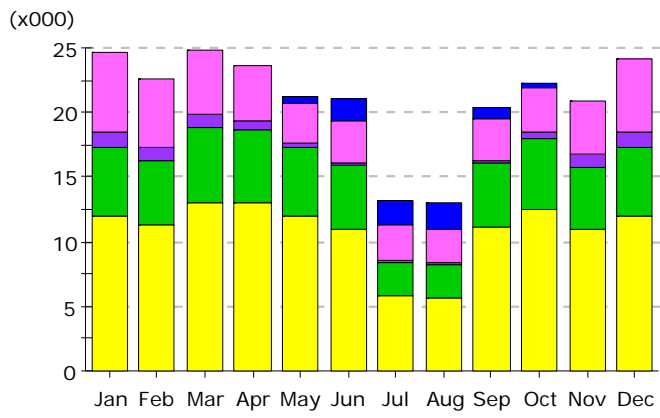
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	0.00	0.63	2.29	3.49	3.95	1.52	0.34	-	-	12.23
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	3.27	2.78	2.23	1.29	0.22	0.00	-	-	0.01	0.41	1.60	2.92	14.75
HP Supp.	2.18	0.95	0.34	0.06	-	-	-	-	-	0.00	0.09	0.75	4.37
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	8.95	7.75	7.66	6.50	5.83	4.46	3.92	4.58	5.56	6.00	6.67	8.15	76.03
Pumps & Aux.	1.10	0.99	1.07	1.00	0.95	0.91	0.94	0.94	0.91	0.98	1.01	1.09	11.88
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	5.17	4.87	5.38	5.57	5.17	4.01	2.73	3.55	5.36	5.38	4.70	5.17	57.05
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	15.55	14.66	16.21	16.78	15.55	11.91	7.93	10.52	16.13	16.21	14.16	15.55	171.18
Total	36.23	32.00	32.90	31.21	28.36	23.58	19.01	23.54	29.48	29.32	28.24	33.62	347.49

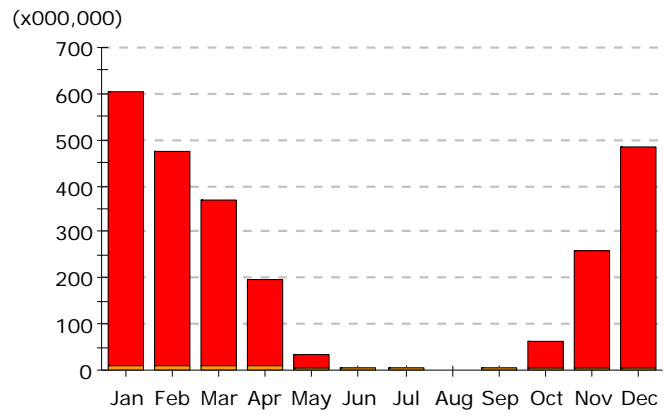
Gas Consumption (Btu x000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	890.7	718.5	584.9	348.6	76.5	4.4	0.4	-	12.4	140.6	443.4	729.7	3,950.0
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	9.5	9.3	10.2	10.3	8.9	6.1	3.7	4.8	7.5	7.9	7.5	8.9	94.7
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	900.2	727.7	595.1	358.9	85.4	10.5	4.1	4.8	19.9	148.6	450.9	738.6	4,044.8

Electric Consumption (kWh)



Gas Consumption (Btu)



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

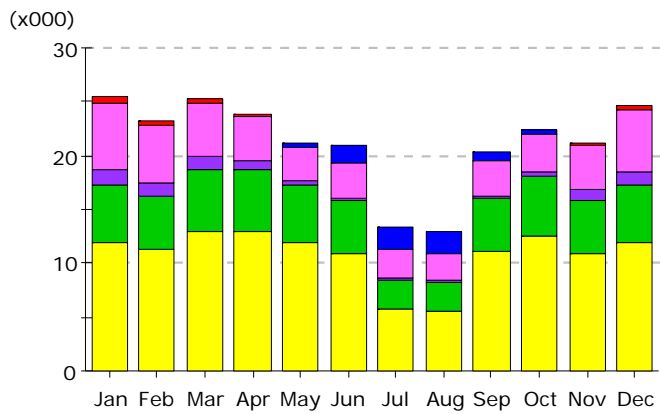
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.00	0.01	0.41	1.67	1.94	2.00	0.88	0.24	0.00	-	7.15
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	6.19	5.27	5.04	4.18	3.23	3.29	2.72	2.59	3.21	3.49	4.12	5.64	48.97
Pumps & Aux.	1.19	1.06	1.06	0.75	0.25	0.19	0.15	0.15	0.18	0.44	0.95	1.15	7.50
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	5.32	5.02	5.77	5.75	5.32	4.89	2.64	2.56	4.95	5.55	4.85	5.32	57.94
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	11.99	11.30	13.00	12.93	11.99	10.97	5.80	5.63	11.12	12.49	10.93	11.99	130.15
Total	24.69	22.65	24.86	23.62	21.20	21.01	13.26	12.93	20.34	22.21	20.84	24.11	251.72

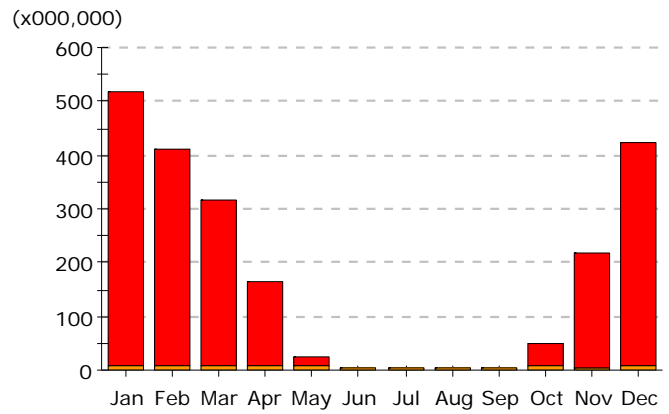
Gas Consumption (Btu x000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	595.9	466.2	362.7	186.4	24.5	0.0	0.0	-	1.4	55.7	254.2	479.4	2,426.5
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	7.5	7.3	8.4	8.2	7.1	5.9	2.6	2.4	5.2	6.2	5.9	7.0	73.6
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	603.4	473.5	371.1	194.7	31.5	5.9	2.6	2.4	6.6	62.0	260.1	486.4	2,500.1

Electric Consumption (kWh)



Gas Consumption (Btu)



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

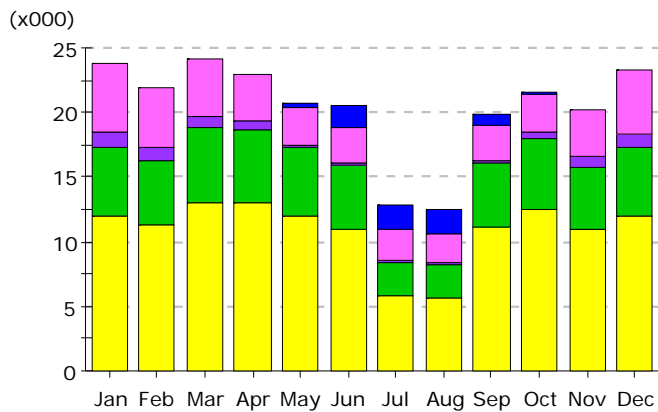
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.00	0.01	0.41	1.67	1.94	2.00	0.88	0.24	0.00	-	7.15
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	0.60	0.40	0.30	0.17	0.03	-	-	-	0.00	0.06	0.23	0.39	2.17
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	6.19	5.27	5.04	4.18	3.23	3.29	2.72	2.59	3.21	3.49	4.12	5.64	48.97
Pumps & Aux.	1.29	1.15	1.15	0.82	0.28	0.21	0.17	0.17	0.21	0.48	1.04	1.25	8.21
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	5.32	5.02	5.77	5.75	5.32	4.89	2.64	2.56	4.95	5.55	4.85	5.32	57.94
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	11.99	11.30	13.00	12.93	11.99	10.97	5.80	5.63	11.12	12.49	10.93	11.99	130.15
Total	25.39	23.14	25.26	23.86	21.25	21.04	13.28	12.95	20.37	22.32	21.15	24.59	254.60

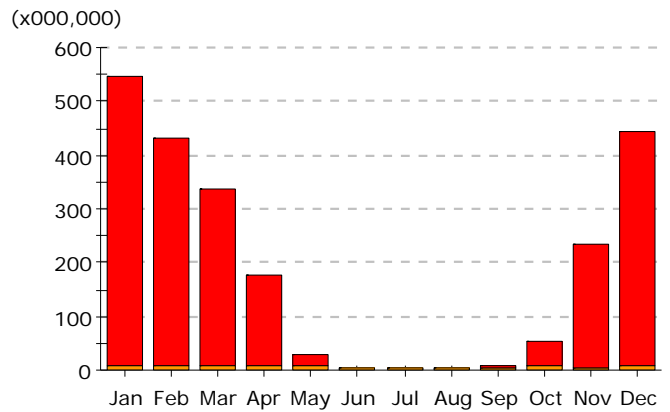
Gas Consumption (Btu x000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	512.0	401.7	308.6	155.0	18.9	0.0	0.0	-	0.8	42.7	210.4	417.1	2,067.3
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	7.5	7.3	8.4	8.2	7.1	5.9	2.6	2.4	5.2	6.2	5.9	7.0	73.6
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	519.5	409.1	317.0	163.3	25.9	5.9	2.6	2.4	6.0	48.9	216.3	424.1	2,140.9

Electric Consumption (kWh)



Gas Consumption (Btu)



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

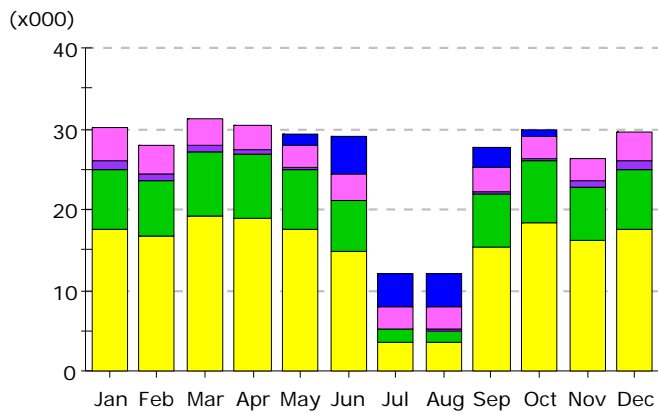
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.00	0.01	0.39	1.61	1.87	1.95	0.85	0.23	0.00	-	6.91
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	5.40	4.58	4.36	3.61	2.80	2.86	2.36	2.26	2.79	3.01	3.57	4.90	42.50
Pumps & Aux.	1.12	1.00	0.99	0.68	0.22	0.17	0.14	0.13	0.17	0.37	0.88	1.08	6.95
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	5.32	5.02	5.77	5.75	5.32	4.89	2.64	2.56	4.95	5.55	4.85	5.32	57.94
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	11.99	11.30	13.00	12.93	11.99	10.97	5.80	5.63	11.12	12.49	10.93	11.99	130.15
Total	23.84	21.90	24.12	22.99	20.71	20.50	12.82	12.52	19.88	21.65	20.22	23.30	244.45

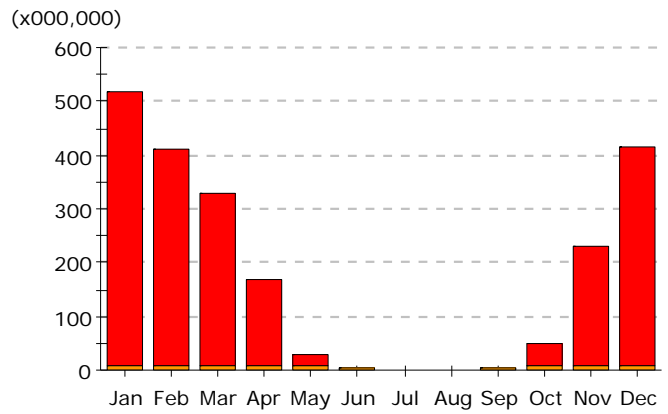
Gas Consumption (Btu x000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	539.4	424.7	329.4	170.4	21.8	0.0	0.0	-	1.2	47.8	229.1	436.3	2,200.3
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	7.5	7.3	8.4	8.2	7.0	5.9	2.6	2.4	5.2	6.2	5.9	7.0	73.6
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	546.9	432.1	337.9	178.6	28.8	5.9	2.6	2.4	6.5	54.1	235.0	443.3	2,273.9

Electric Consumption (kWh)



Gas Consumption (Btu)



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

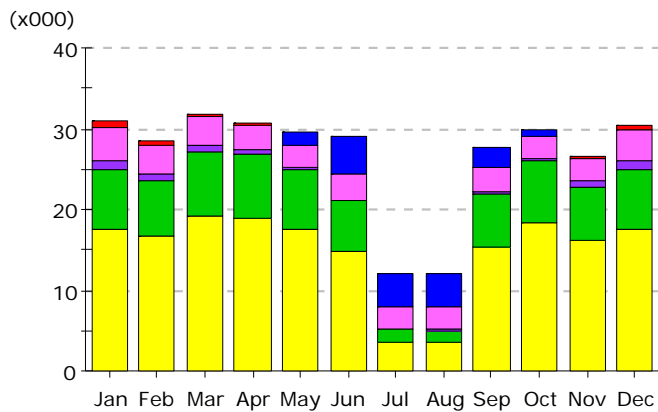
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.00	0.07	1.50	4.66	4.03	4.14	2.61	0.80	0.01	0.00	17.83
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	4.15	3.54	3.45	3.00	2.77	3.30	2.75	2.69	3.00	2.79	2.81	3.77	38.03
Pumps & Aux.	0.96	0.83	0.77	0.50	0.18	0.17	0.14	0.13	0.16	0.25	0.68	0.90	5.68
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	7.34	6.92	7.96	7.92	7.34	6.19	1.61	1.59	6.46	7.65	6.69	7.34	75.02
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	17.66	16.64	19.13	19.04	17.66	14.78	3.51	3.48	15.46	18.39	16.08	17.66	179.47
Total	30.11	27.93	31.32	30.53	29.45	29.09	12.03	12.03	27.69	29.89	26.27	29.67	316.02

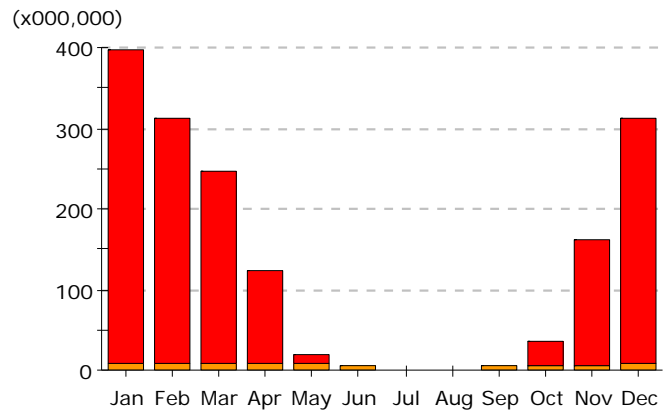
Gas Consumption (Btu x000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	508.3	401.5	319.8	160.8	19.5	0.1	0.0	0.0	0.3	43.3	222.3	409.3	2,085.2
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	8.1	7.9	9.1	8.9	7.6	5.8	0.9	0.9	5.3	6.7	6.3	7.5	75.0
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	516.3	409.4	328.9	169.7	27.1	5.8	0.9	0.9	5.7	50.0	228.6	416.8	2,160.2

Electric Consumption (kWh)



Gas Consumption (Btu)



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

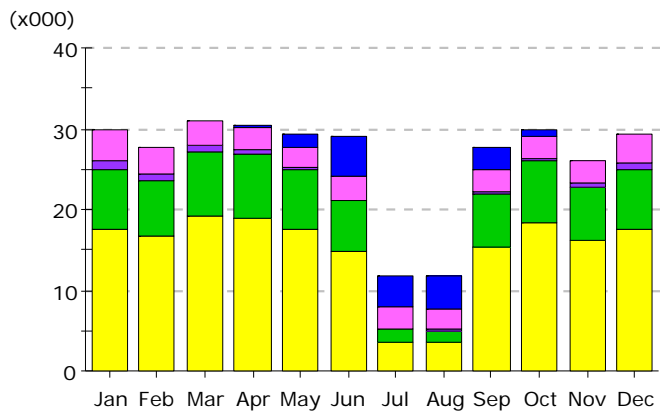
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.00	0.07	1.50	4.66	4.03	4.14	2.61	0.80	0.01	0.00	17.83
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	0.64	0.52	0.43	0.21	0.02	-	-	-	-	0.05	0.34	0.56	2.78
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	4.15	3.54	3.45	3.00	2.77	3.30	2.75	2.69	3.00	2.79	2.81	3.77	38.03
Pumps & Aux.	1.05	0.91	0.84	0.55	0.20	0.19	0.16	0.15	0.19	0.28	0.75	0.99	6.25
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	7.34	6.92	7.96	7.92	7.34	6.19	1.61	1.59	6.46	7.65	6.69	7.34	75.02
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	17.66	16.64	19.13	19.04	17.66	14.78	3.51	3.48	15.46	18.39	16.08	17.66	179.47
Total	30.84	28.53	31.81	30.79	29.49	29.12	12.05	12.05	27.72	29.97	26.68	30.32	319.37

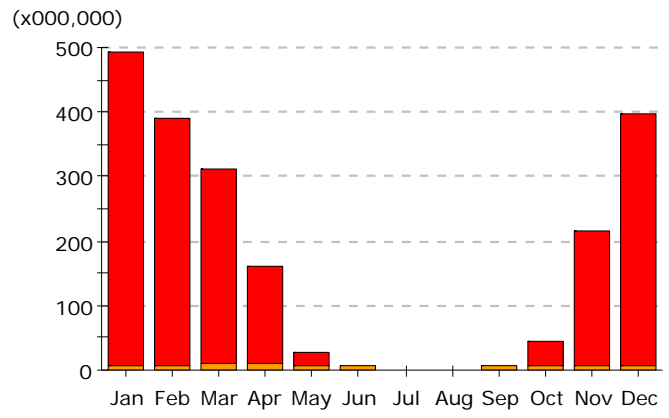
Gas Consumption (Btu x000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	388.4	303.3	237.4	115.3	12.8	0.1	0.0	0.0	0.3	28.3	155.3	304.5	1,545.7
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	8.1	7.9	9.1	8.9	7.6	5.8	0.9	0.9	5.3	6.7	6.3	7.5	75.0
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	396.5	311.2	246.5	124.2	20.4	5.8	0.9	0.9	5.7	35.0	161.7	312.1	1,620.7

Electric Consumption (kWh)



Gas Consumption (Btu)



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

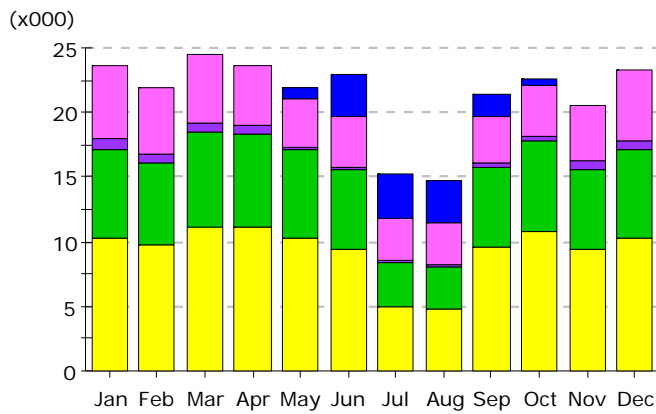
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.00	0.07	1.52	4.70	4.02	4.14	2.64	0.82	0.01	0.00	17.92
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	3.90	3.32	3.25	2.84	2.63	3.10	2.59	2.53	2.83	2.65	2.64	3.53	35.79
Pumps & Aux.	0.92	0.79	0.73	0.47	0.17	0.16	0.13	0.13	0.15	0.23	0.64	0.86	5.39
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	7.34	6.92	7.96	7.92	7.34	6.19	1.61	1.59	6.46	7.65	6.69	7.34	75.02
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	17.66	16.64	19.13	19.04	17.66	14.78	3.51	3.48	15.46	18.39	16.08	17.66	179.47
Total	29.81	27.67	31.07	30.34	29.32	28.92	11.85	11.86	27.54	29.75	26.06	29.40	313.60

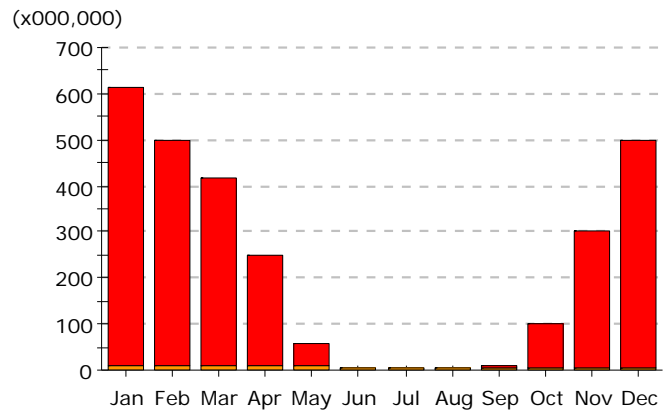
Gas Consumption (Btu x000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	485.3	382.4	303.2	151.9	18.3	0.1	0.0	0.0	0.3	38.3	209.4	389.1	1,978.3
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	8.1	7.9	9.1	8.9	7.6	5.8	0.9	0.9	5.3	6.7	6.3	7.5	75.0
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	493.4	390.3	312.3	160.8	25.9	5.8	0.9	0.9	5.7	45.0	215.7	396.7	2,053.3

Electric Consumption (kWh)



Gas Consumption (Btu)



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

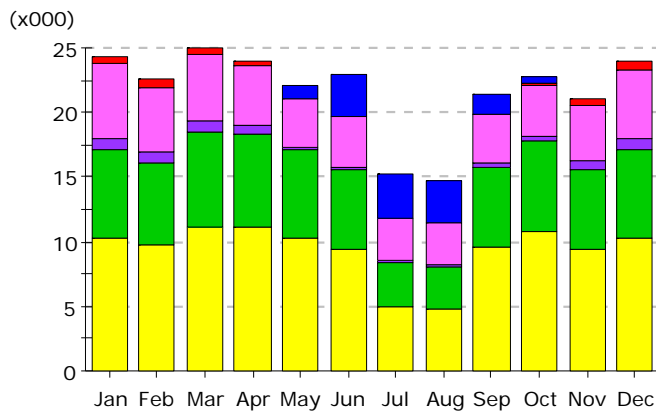
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.00	0.05	0.92	3.19	3.32	3.27	1.63	0.55	0.02	-	12.95
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	5.78	5.09	5.17	4.58	3.74	3.88	3.34	3.19	3.76	4.01	4.26	5.39	52.18
Pumps & Aux.	0.85	0.76	0.78	0.59	0.23	0.18	0.16	0.15	0.18	0.37	0.69	0.82	5.76
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	6.71	6.33	7.28	7.24	6.71	6.18	3.36	3.26	6.25	7.00	6.11	6.71	73.14
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	10.33	9.74	11.20	11.14	10.33	9.45	5.00	4.85	9.58	10.76	9.41	10.33	112.13
Total	23.68	21.91	24.42	23.60	21.94	22.88	15.18	14.72	21.40	22.68	20.50	23.26	256.17

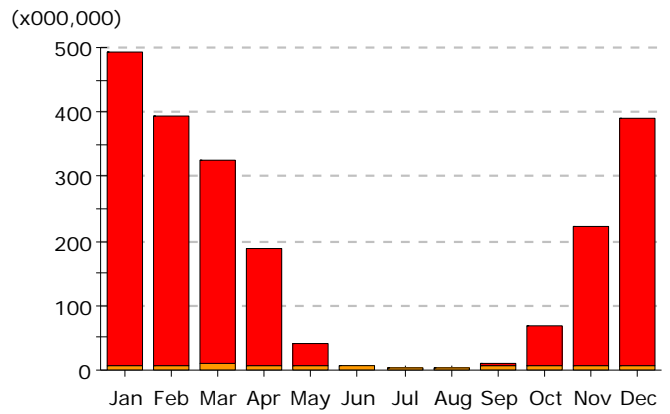
Gas Consumption (Btu x000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	604.9	488.9	408.5	242.2	48.5	1.1	0.0	-	5.6	92.2	296.4	492.1	2,680.5
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	7.6	7.5	8.6	8.4	7.2	6.0	2.6	2.4	5.4	6.4	6.0	7.1	75.3
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	612.5	496.4	417.2	250.7	55.8	7.1	2.7	2.4	11.0	98.6	302.4	499.2	2,755.8

Electric Consumption (kWh)



Gas Consumption (Btu)



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

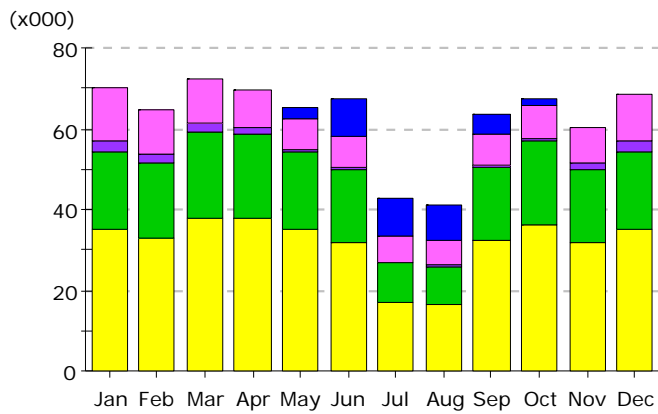
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.00	0.05	0.92	3.19	3.32	3.27	1.63	0.55	0.02	-	12.95
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	0.61	0.53	0.50	0.33	0.06	0.00	-	-	0.01	0.12	0.43	0.57	3.15
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	5.78	5.09	5.17	4.58	3.74	3.88	3.34	3.19	3.76	4.01	4.26	5.39	52.18
Pumps & Aux.	0.93	0.83	0.85	0.65	0.26	0.21	0.18	0.17	0.20	0.41	0.76	0.90	6.37
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	6.71	6.33	7.28	7.24	6.71	6.18	3.36	3.26	6.25	7.00	6.11	6.71	73.14
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	10.33	9.74	11.20	11.14	10.33	9.45	5.00	4.85	9.58	10.76	9.41	10.33	112.13
Total	24.38	22.52	25.00	23.99	22.03	22.90	15.20	14.74	21.43	22.84	21.00	23.91	259.93

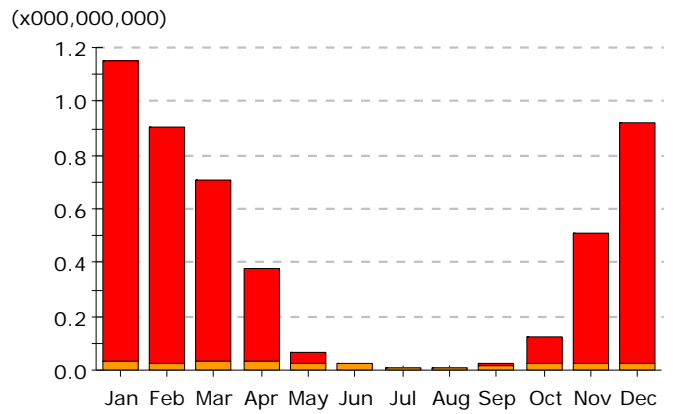
Gas Consumption (Btu x000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	484.7	386.9	315.1	179.1	33.7	0.6	0.0	-	3.4	63.3	217.6	384.1	2,068.6
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	7.6	7.5	8.6	8.4	7.2	6.0	2.6	2.4	5.4	6.4	6.0	7.1	75.3
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	492.3	394.4	323.7	187.6	41.0	6.6	2.7	2.4	8.8	69.7	223.6	391.2	2,143.9

Electric Consumption (kWh)



Gas Consumption (Btu)



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

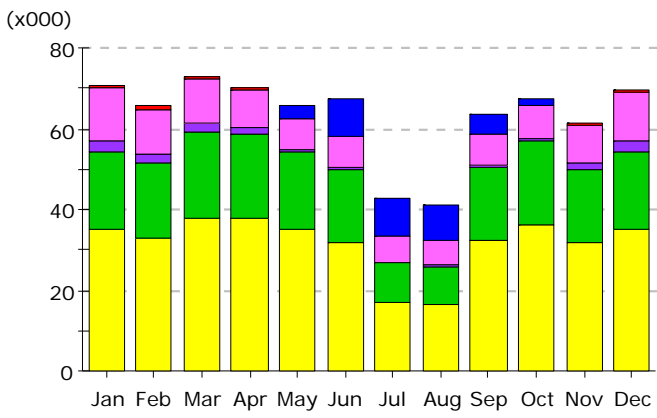
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.00	0.16	2.93	9.47	9.21	8.99	5.14	1.68	0.01	-	37.59
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	13.04	11.22	10.96	9.35	7.56	7.78	6.44	6.15	7.57	8.09	9.01	11.91	109.09
Pumps & Aux.	2.38	2.11	2.09	1.49	0.45	0.34	0.29	0.27	0.34	0.82	1.82	2.28	14.69
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	19.63	18.50	21.28	21.18	19.63	18.06	9.86	9.56	18.28	20.45	17.87	19.63	213.91
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	34.83	32.82	37.74	37.56	34.83	31.86	16.85	16.35	32.31	36.29	31.73	34.83	378.01
Total	69.88	64.66	72.07	69.73	65.41	67.52	42.66	41.32	63.63	67.33	60.44	68.64	753.28

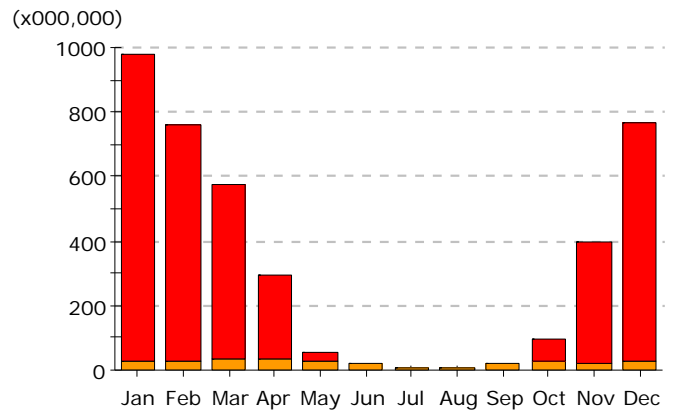
Gas Consumption (Btu x000,000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	1.12	0.88	0.68	0.34	0.04	0.00	0.00	-	0.00	0.10	0.49	0.90	4.54
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.03	0.03	0.03	0.03	0.03	0.02	0.01	0.01	0.02	0.02	0.02	0.03	0.29
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	1.15	0.90	0.71	0.38	0.07	0.02	0.01	0.01	0.02	0.13	0.51	0.92	4.83

Electric Consumption (kWh)



Gas Consumption (Btu)



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

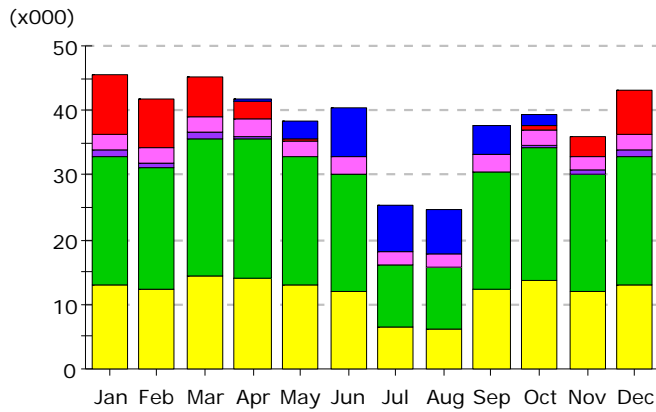
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.00	0.16	2.93	9.47	9.21	8.99	5.14	1.68	0.01	-	37.59
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	0.82	0.69	0.63	0.40	0.05	-	-	-	0.00	0.14	0.56	0.74	4.03
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	13.04	11.22	10.96	9.35	7.56	7.78	6.44	6.15	7.57	8.09	9.01	11.91	109.09
Pumps & Aux.	2.57	2.28	2.26	1.62	0.51	0.39	0.32	0.31	0.38	0.90	1.98	2.46	15.99
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	19.63	18.50	21.28	21.18	19.63	18.06	9.86	9.56	18.28	20.45	17.87	19.63	213.91
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	34.83	32.82	37.74	37.56	34.83	31.86	16.85	16.35	32.31	36.29	31.73	34.83	378.01
Total	70.89	65.52	72.87	70.26	65.51	67.56	42.70	41.36	63.68	67.55	61.16	69.56	758.62

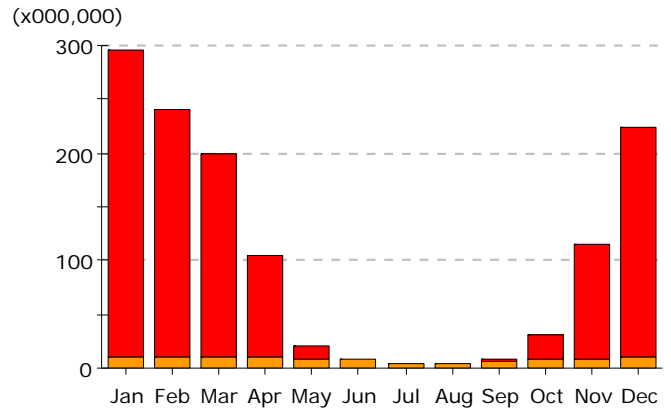
Gas Consumption (Btu x000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	950.1	730.4	545.4	261.6	27.0	0.1	0.0	-	1.1	71.3	376.8	741.1	3,704.9
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	29.0	28.4	32.7	31.9	27.3	22.7	10.0	9.2	20.3	24.1	22.7	27.1	285.4
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	979.1	758.7	578.1	293.5	54.3	22.8	10.0	9.2	21.4	95.4	399.5	768.2	3,990.3

Electric Consumption (kWh)



Gas Consumption (Btu)



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

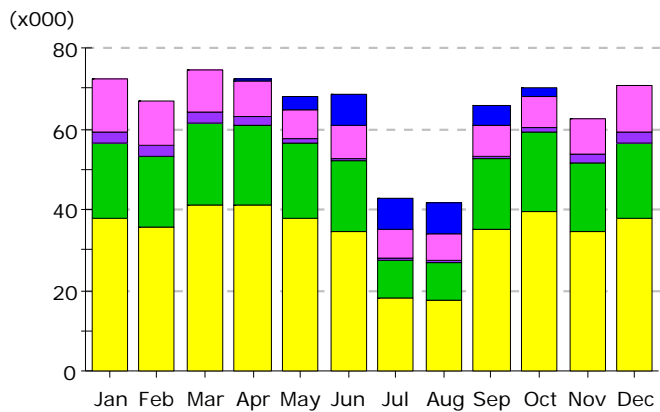
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.01	0.16	2.65	7.71	7.16	7.07	4.68	1.64	0.02	-	31.10
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	9.33	7.49	6.06	2.89	0.32	0.00	-	-	0.01	0.58	3.25	6.95	36.89
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	2.41	2.29	2.65	2.65	2.41	2.53	2.21	2.11	2.45	2.53	2.17	2.41	28.79
Pumps & Aux.	0.93	0.81	0.79	0.51	0.05	-	-	-	0.00	0.21	0.61	0.87	4.78
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	19.81	18.67	21.47	21.36	19.81	18.16	9.72	9.43	18.40	20.64	18.05	19.81	215.32
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	13.17	12.41	14.27	14.20	13.17	12.04	6.37	6.18	12.21	13.72	11.99	13.17	142.88
Total	45.65	41.67	45.24	41.77	38.41	40.44	25.46	24.79	37.75	39.30	36.09	43.21	459.77

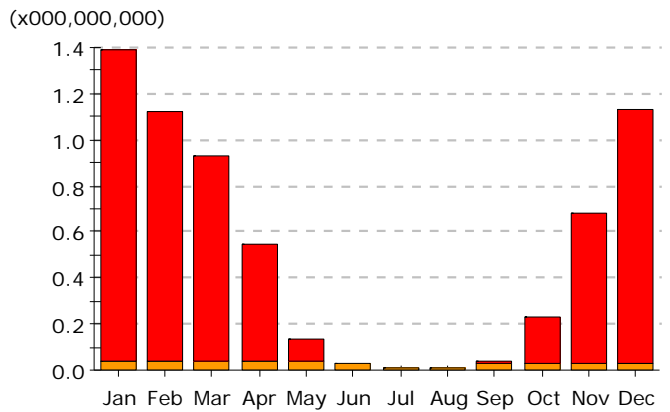
Gas Consumption (Btu x000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	285.8	230.4	188.0	94.4	12.1	0.1	0.0	0.0	0.8	23.3	106.3	214.2	1,155.3
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	9.9	9.6	11.0	10.6	9.2	7.7	3.7	3.5	6.9	8.2	7.8	9.3	97.2
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	295.7	240.0	198.9	105.0	21.3	7.7	3.7	3.5	7.7	31.5	114.1	223.4	1,252.6

Electric Consumption (kWh)



Gas Consumption (Btu)



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

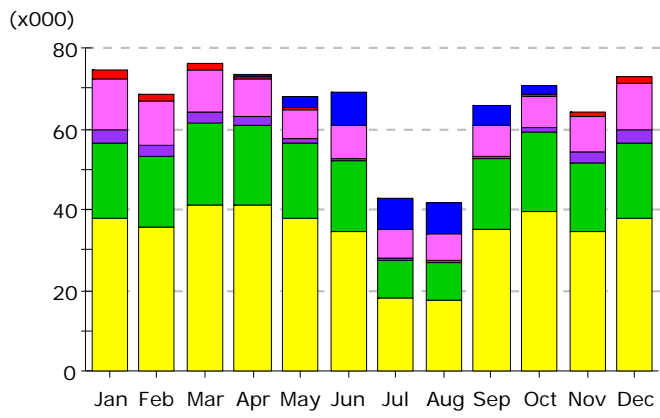
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	0.01	0.03	0.13	0.46	3.05	8.13	7.48	7.38	5.19	2.37	0.23	0.09	34.55
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	12.77	10.94	10.61	9.05	7.40	8.16	7.14	6.88	7.58	7.86	8.71	11.52	108.61
Pumps & Aux.	2.82	2.48	2.49	1.82	0.69	0.55	0.45	0.43	0.53	1.09	2.21	2.69	18.26
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	18.76	17.69	20.35	20.25	18.76	17.23	9.27	8.99	17.45	19.55	17.09	18.76	204.14
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	37.87	35.68	41.03	40.83	37.87	34.64	18.32	17.77	35.12	39.45	34.50	37.87	410.95
Total	72.22	66.82	74.61	72.41	67.77	68.70	42.67	41.44	65.87	70.33	62.73	70.93	776.50

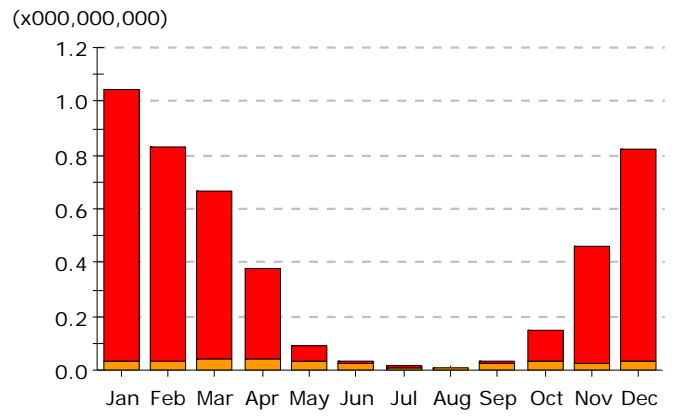
Gas Consumption (Btu x000,000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	1.36	1.09	0.89	0.51	0.10	0.00	0.00	-	0.02	0.20	0.65	1.10	5.91
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.04	0.03	0.04	0.04	0.03	0.03	0.01	0.01	0.02	0.03	0.03	0.03	0.35
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	1.39	1.12	0.93	0.55	0.14	0.03	0.01	0.01	0.04	0.23	0.68	1.13	6.26

Electric Consumption (kWh)



Gas Consumption (Btu)



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

Electric Consumption (kWh x000)

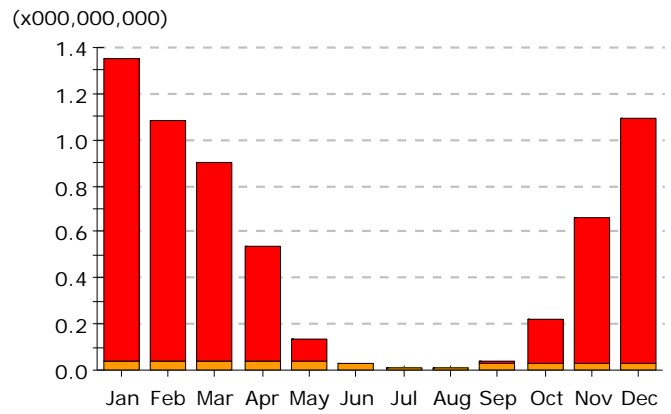
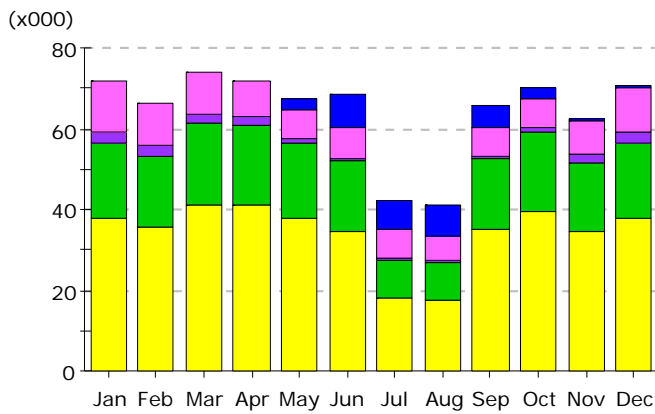
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	0.01	0.03	0.13	0.46	3.05	8.13	7.48	7.38	5.19	2.37	0.23	0.09	34.55
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	1.82	1.54	1.39	0.86	0.17	0.01	0.00	-	0.02	0.33	1.15	1.65	8.93
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	12.77	10.94	10.61	9.05	7.40	8.16	7.14	6.88	7.58	7.86	8.71	11.52	108.61
Pumps & Aux.	3.11	2.75	2.75	2.03	0.78	0.62	0.51	0.49	0.61	1.22	2.45	2.98	20.31
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	18.76	17.69	20.35	20.25	18.76	17.23	9.27	8.99	17.45	19.55	17.09	18.76	204.14
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	37.87	35.68	41.03	40.83	37.87	34.64	18.32	17.77	35.12	39.45	34.50	37.87	410.95
Total	74.34	68.62	76.26	73.47	68.03	68.78	42.73	41.50	65.97	70.79	64.12	72.86	787.48

Gas Consumption (Btu x000,000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	1.01	0.79	0.63	0.34	0.06	0.00	0.00	-	0.01	0.11	0.43	0.79	4.18
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.04	0.03	0.04	0.04	0.03	0.03	0.01	0.01	0.02	0.03	0.03	0.03	0.35
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	1.05	0.83	0.67	0.38	0.09	0.03	0.01	0.01	0.03	0.14	0.46	0.82	4.53

Electric Consumption (kWh)

Gas Consumption (Btu)



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

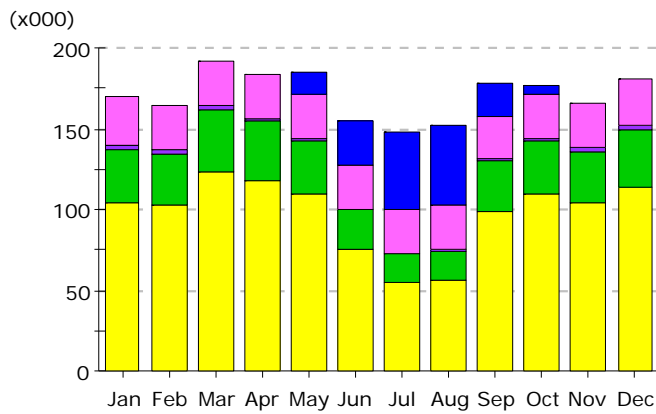
Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	0.01	0.03	0.14	0.46	3.02	8.14	7.44	7.32	5.16	2.40	0.24	0.10	34.45
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	12.29	10.52	10.20	8.72	7.13	7.75	6.77	6.48	7.28	7.56	8.38	11.07	104.14
Pumps & Aux.	2.74	2.41	2.41	1.77	0.67	0.53	0.44	0.42	0.51	1.04	2.14	2.62	17.70
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	18.76	17.69	20.35	20.25	18.76	17.23	9.27	8.99	17.45	19.55	17.09	18.76	204.14
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	37.87	35.68	41.03	40.83	37.87	34.64	18.32	17.77	35.12	39.45	34.50	37.87	410.95
Total	71.66	66.33	74.14	72.03	67.45	68.29	42.24	40.97	65.53	70.00	62.34	70.41	771.39

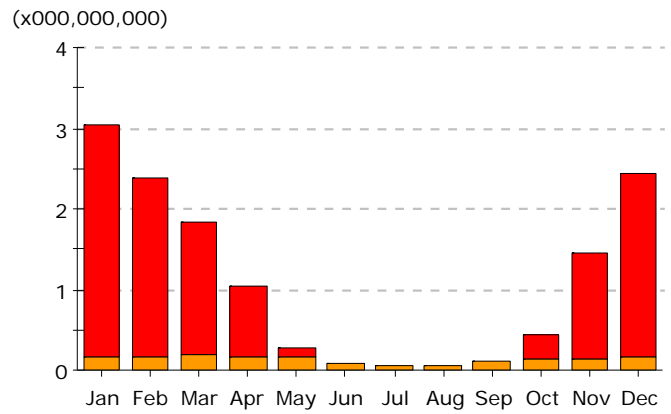
Gas Consumption (Btu x000,000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	1.32	1.05	0.87	0.50	0.10	0.00	0.00	-	0.02	0.19	0.63	1.06	5.73
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.04	0.03	0.04	0.04	0.03	0.03	0.01	0.01	0.02	0.03	0.03	0.03	0.35
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	1.35	1.09	0.91	0.54	0.13	0.03	0.01	0.01	0.04	0.22	0.66	1.10	6.08

Electric Consumption (kWh)



Gas Consumption (Btu)



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

Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.0	0.9	13.4	28.4	47.4	48.8	21.2	5.8	0.1	-	166.0
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	29.4	26.1	28.0	26.5	27.2	26.3	27.2	27.2	26.3	27.2	26.8	28.7	327.1
Pumps & Aux.	3.3	2.9	2.7	2.0	1.3	1.2	1.2	1.2	1.2	1.4	2.3	3.1	23.7
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	32.4	31.9	38.2	36.6	33.9	23.7	17.3	17.9	30.9	33.9	32.2	35.3	364.2
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	104.3	102.8	123.0	117.8	109.0	75.8	54.8	56.6	99.1	109.0	103.8	113.7	1,169.7
Total	169.4	163.7	192.0	183.9	184.7	155.4	147.8	151.7	178.7	177.2	165.3	180.8	2,050.6

Gas Consumption (Btu x000,000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	2.89	2.21	1.64	0.87	0.12	0.00	0.00	0.00	0.00	0.32	1.32	2.28	11.64
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.15	0.15	0.18	0.17	0.14	0.09	0.06	0.06	0.10	0.12	0.13	0.15	1.48
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.10
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	3.04	2.37	1.83	1.04	0.27	0.09	0.06	0.06	0.12	0.45	1.45	2.44	13.22

APPENDIX D
LIGHTING SPREADSHEET

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

Seq. #	Building	Map ID	Floor #	Location	Existing Fixture Description	Exist. Qty of Fix.	Exist. Wats	Exist. kW Base	Exist. Oper. Hrs.	Exist. kWh	Existing Annual Cost of Energy	Proposed Fixture Description	Prop. Qty of Fixtures	Prop. Wats	Prop. kW Base	Prop. Oper. Hrs. w/ Sensors	Prop. kWh	Proposed Annual Cost of Energy	Sensor Description	Sensor Qty's	Total kW Saved	kWh Saved Lighting Only	kWh Saved Sensors Only	Total kWh Saved	Energy Cost Savings
1	High School		B	Electrical Panel	200w Incandescent S/I	2	200	0.40	1,000	400	\$ 62	Remove and Replace Existing Lamp With a New 42w Compact Fluorescent Two Piece Screw-In.	2	42	0.08	1,000	84	\$ 13	NO SENSOR PROPOSED	0	0.32	316	-	316	\$49
2	High School		B	Stairs & Hall	200w Incandescent S/I	3	200	0.60	3,640	2,184	\$ 339	Remove and Replace Existing Lamp With a New 42w Compact Fluorescent Two Piece Screw-In.	3	42	0.13	3,640	459	\$ 71	NO SENSOR PROPOSED	0	0.47	1,725	-	1,725	\$268
3	High School		B	Boiler Room	200w Incandescent S/I	4	200	0.80	1,000	800	\$ 124	Remove and Replace Existing Lamp With a New 42w Compact Fluorescent Two Piece Screw-In.	4	42	0.17	1,000	168	\$ 26	NO SENSOR PROPOSED	0	0.63	632	-	632	\$98
4	High School		B	Boiler Room	32w. Compact Fluorescent S/I	4	32	0.13	1,000	128	\$ 20	No Work Proposed	0	32	0.13	1,000	128	\$ 20	NO SENSOR PROPOSED	0	-	-	-	0	\$0
5	High School		B	Boiler Room	4' Vanity Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	2	61	0.12	1,000	122	\$ 19	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,000	96	\$ 15	NO SENSOR PROPOSED	0	0.03	26	-	26	\$4
6	High School		2	Storage Closet	200w Incandescent S/I	3	200	0.60	500	300	\$ 47	Remove and Replace Existing Lamp With a New 42w Compact Fluorescent Two Piece Screw-In.	3	42	0.13	500	63	\$ 10	NO SENSOR PROPOSED	0	0.47	237	-	237	\$37
7	High School	247	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	12	110	1.32	1,650	2,178	\$ 338	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	95	1.14	1,073	1,223	\$ 190	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.18	297	658	955	\$148
8	High School	248	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	4	110	0.44	1,650	726	\$ 113	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	1,650	627	\$ 97	NO SENSOR PROPOSED	0	0.06	99	-	99	\$15
9	High School	232	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	12	110	1.32	1,650	2,178	\$ 338	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	95	1.14	1,073	1,223	\$ 190	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.18	297	658	955	\$148
10	High School		2	Mechanical Room	60w. Incandescent S/I	9	60	0.54	1,000	540	\$ 84	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	9	15	0.14	1,000	135	\$ 21	NO SENSOR PROPOSED	0	0.41	405	-	405	\$63
11	High School	233	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	9	110	0.99	1,650	1,634	\$ 254	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 142	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$111
12	High School	234	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	1,650	1,452	\$ 225	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,073	815	\$ 127	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.12	198	439	637	\$99
13	High School	235	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	1,650	1,452	\$ 225	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,073	815	\$ 127	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.12	198	439	637	\$99
14	High School	C-236	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
15	High School	237	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	12	110	1.32	1,650	2,178	\$ 338	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	95	1.14	1,073	1,223	\$ 190	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.18	297	658	955	\$148
16	High School	238	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	9	110	0.99	1,650	1,634	\$ 254	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 142	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$111
17	High School	240	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	9	110	0.99	1,650	1,634	\$ 254	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 142	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$111
18	High School	242	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	1,650	1,452	\$ 225	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,073	815	\$ 127	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.12	198	439	637	\$99
19	High School	243	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	12	110	1.32	1,650	2,178	\$ 338	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	95	1.14	1,073	1,223	\$ 190	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.18	297	658	955	\$148
20	High School	241	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	1,650	1,452	\$ 225	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,073	815	\$ 127	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.12	198	439	637	\$99
21	High School		2	Storage Closet	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	3	110	0.33	500	165	\$ 26	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	95	0.29	500	143	\$ 22	NO SENSOR PROPOSED	0	0.05	23	-	23	\$3
22	High School	244	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	4	110	0.44	1,650	726	\$ 113	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	1,073	408	\$ 63	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.06	99	219	318	\$49
23	High School	245	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	9	110	0.99	1,650	1,634	\$ 254	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 142	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$111
24	High School	246	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	12	110	1.32	1,650	2,178	\$ 338	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	95	1.14	1,073	1,223	\$ 190	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.18	297	658	955	\$148
25	High School	223	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	9	110	0.99	1,650	1,634	\$ 254	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 142	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$111
26	High School	224	2	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	9	110	0.99	1,650	1,634	\$ 254	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 142	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$111

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

27	High School	228	2	Classroom	2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	9	110	0.99	1,650	1,634	\$ 254	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 142	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$111
28	High School	230	2	Office	2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	3	110	0.33	2,400	792	\$ 123	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	95	0.29	1,560	445	\$ 69	Wide View Low Voltage (w/PP-20) Wall Mounted Sensor-40' Range (8-15' Mtg. Height)	1	0.05	108	239	347	\$54
29	High School	231	2	Classroom	2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	9	110	0.99	1,650	1,634	\$ 254	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 142	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$111
30	High School	202	2	Classroom	2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	9	110	0.99	1,650	1,634	\$ 254	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 142	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$111
31	High School	203	2	Classroom	2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	9	110	0.99	1,650	1,634	\$ 254	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 142	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$111
32	High School	209	2	Child Study	2x4 recessed troffer with (4) F34 Econo-Watt T12 Lamps & (1) 4-Light Magnetic ballast	6	160	0.96	1,650	1,584	\$ 246	Re-build existing troffer fixture w/ (2) F28 T8 Lamps, & (1) Normal Power 2-Lamp Electronic Ballast & Silver Reflector	6	48	0.29	1,650	475	\$ 74	NO SENSOR PROPOSED	0	0.67	1,109	-	1,109	\$172
33	High School	2	2	Office	2x4 recessed troffer with (4) F34 Econo-Watt T12 Lamps & (1) 4-Light Magnetic ballast	2	160	0.32	2,400	768	\$ 119	Re-build existing troffer fixture w/ (2) F28 T8 Lamps, & (1) Low Power 2-Lamp Electronic Ballast & Silver Reflector	2	42	0.08	2,400	202	\$ 31	NO SENSOR PROPOSED	0	0.24	566	-	566	\$88
34	High School	2	2	Office 2	2x4 recessed troffer with (4) F34 Econo-Watt T12 Lamps & (1) 4-Light Magnetic ballast	2	160	0.32	2,400	768	\$ 119	Re-build existing troffer fixture w/ (2) F28 T8 Lamps, & (1) Low Power 2-Lamp Electronic Ballast & Silver Reflector	2	42	0.08	1,560	131	\$ 20	Wide View Low Voltage (w/PP-20) Wall Mounted Sensor-40' Range (8-15' Mtg. Height)	1	0.24	566	71	637	\$99
35	High School	211	2	Theater	2x4 recessed troffer with (4) F34 Econo-Watt T12 Lamps & (1) 4-Light Magnetic ballast	8	160	1.28	1,650	2,112	\$ 328	Re-build existing troffer fixture w/ (2) F28 T8 Lamps, & (1) Low Power 2-Lamp Electronic Ballast & Silver Reflector	8	42	0.34	1,650	554	\$ 86	NO SENSOR PROPOSED	0	0.94	1,558	-	1,558	\$242
36	High School	2	2	Theater	2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	5	110	0.55	1,650	908	\$ 141	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	95	0.48	1,650	784	\$ 122	NO SENSOR PROPOSED	0	0.08	124	-	124	\$19
37	High School	2	2	Theater	100w Incandescent S/I	14	100	1.40	1,650	2,310	\$ 359	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	14	23	0.32	1,650	531	\$ 82	NO SENSOR PROPOSED	0	1.08	1,779	-	1,779	\$276
38	High School	212	2	Classroom	2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	21	110	2.31	1,650	3,812	\$ 592	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	21	95	2.00	1,073	2,140	\$ 332	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.32	520	1,152	1,672	\$259
39	High School	215	2	Classroom	2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	19	110	2.09	1,650	3,449	\$ 535	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	19	95	1.81	1,073	1,936	\$ 300	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.29	470	1,042	1,513	\$235
40	High School	2	2	Boys Room	4' Wrap Fixture w/ (3) F32w T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	3,000	801	\$ 124	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	3,000	648	\$ 101	NO SENSOR PROPOSED	0	0.05	153	-	153	\$24
41	High School	2	2	Media Center	4' Wrap Fixture w/ (2) F34 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	7	80	0.56	2,400	1,344	\$ 209	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Normal Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	7	48	0.34	2,400	806	\$ 125	NO SENSOR PROPOSED	0	0.22	538	-	538	\$83
42	High School	2	2	Media Center	8' Wrap Fixture with (4) F34 T12 Lamps & (1) 4L Magnetic Ballast	72	160	11.52	2,400	27,648	\$ 4,291	Re-lamp & Re-ballast existing fixture. Install a 4-Lamp Electronic Normal Power Ballast, (4) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	72	95	6.84	2,400	16,416	\$ 2,548	NO SENSOR PROPOSED	0	4.68	11,232	-	11,232	\$1,743
43	High School	2	2	English Office	8' Wrap Fixture with (4) F34 T12 Lamps & (1) 4L Magnetic Ballast	12	160	1.92	2,400	4,608	\$ 715	Re-lamp & Re-ballast existing fixture. Install a 4-Lamp Electronic Low Power Ballast, (4) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	12	84	1.01	2,400	2,419	\$ 375	NO SENSOR PROPOSED	0	0.91	2,189	-	2,189	\$340
44	High School	2	2	English Office	4' Wrap Fixture w/ (3) F32w T8 Lamps & (1) 3-Light Electronic Ballast	3	89	0.27	2,400	641	\$ 99	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	2,400	518	\$ 80	NO SENSOR PROPOSED	0	0.05	122	-	122	\$19
45	High School	2	2	Kichenette	4' Wrap Fixture w/ (3) F32w T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	2,400	641	\$ 99	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	1,560	337	\$ 52	Wide View Low Voltage (w/PP-20) Wall Mounted Sensor-40' Range (8-15' Mtg. Height)	1	0.05	122	181	304	\$47
46	High School	2	2	Kichenette	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	3	110	0.33	2,400	792	\$ 123	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	95	0.29	2,400	684	\$ 106	NO SENSOR PROPOSED	0	0.05	108	-	108	\$17
47	High School	214	2	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 254	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,650	1,411	\$ 219	NO SENSOR PROPOSED	0	0.14	223	-	223	\$35
48	High School	2	2	Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	3,000	549	\$ 85	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$ 67	NO SENSOR PROPOSED	0	0.04	117	-	117	\$18
49	High School	2	2	K-12 Supervisor	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	27	110	2.97	2,400	7,128	\$ 1,106	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	27	95	2.57	2,400	6,156	\$ 955	NO SENSOR PROPOSED	0	0.41	972	-	972	\$151
50	High School	2	2	K-12 Supervisor	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	2,400	146	\$ 23	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	2,400	115	\$ 18	NO SENSOR PROPOSED	0	0.01	31	-	31	\$5
51	High School	2	2	Copy Room	8' Wrap Fixture with (4) F34 T12 Lamps & (1) 4L Magnetic Ballast	8	160	1.28	2,400	3,072	\$ 477	Re-lamp & Re-ballast existing fixture. Install a 4-Lamp Electronic Low Power Ballast, (4) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	8	84	0.67	2,400	1,613	\$ 250	NO SENSOR PROPOSED	0	0.61	1,459	-	1,459	\$226
52	High School	2	2	Office	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	2,400	439	\$ 68	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	2,400	346	\$ 54	NO SENSOR PROPOSED	0	0.04	94	-	94	\$15
53	High School	2	2	Office	8' Wrap Fixture with (4) F34 T12 Lamps & (1) 4L Magnetic Ballast	6	160	0.96	2,400	2,304	\$ 358	Re-lamp & Re-ballast existing fixture. Install a 4-Lamp Electronic Low Power Ballast, (4) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	6	84	0.50	2,400	1,210	\$ 188	NO SENSOR PROPOSED	0	0.46	1,094	-	1,094	\$170
54	High School	225	2	Storage Closet	8' Wrap Fixture with (4) F34 T12 Lamps & (1) 4L Magnetic Ballast	9	160	1.44	500	720	\$ 112	Re-lamp & Re-ballast existing fixture. Install a 4-Lamp Electronic Low Power Ballast, (4) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	9	84	0.76	500	378	\$ 59	NO SENSOR PROPOSED	0	0.68	342	-	342	\$53
55	High School	2	2	Custodian Office	60w. Incandescent S/I	1	60	0.06	2,400	144	\$ 22	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	2,400	36	\$ 6	NO SENSOR PROPOSED	0	0.05	108	-	108	\$17
56	High School	2	2	Men's Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	3,000	549	\$ 85	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	1,950	281	\$ 44	Wall Switch Dual Technology Occupancy Sensor	1	0.04	117	151	268	\$42
57	High School	204	2	Office	2x4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	2,400	854	\$ 133	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	2,400	691	\$ 107	NO SENSOR PROPOSED	0	0.07	163	-	163	\$25
58	High School	2	2	Computer Lab	8' Wrap Fixture with (4) F34 T12 Lamps & (1) 4L Magnetic Ballast	12	160	1.92	1,650	3,168	\$ 492	Re-lamp & Re-ballast existing fixture. Install a 4-Lamp Electronic Low Power Ballast, (4) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	12	84	1.01	1,650	1,663	\$ 258	NO SENSOR PROPOSED	0	0.91	1,505	-	1,505	\$234
59	High School	2	2	Periodicals	1x4 Recessed Troffer w/ (2) F34 Econo-Watt T12 Lamps & (1) 2L Magnetic Ballast	11	80	0.88	2,400	2,112	\$ 328	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Normal Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	11	48	0.53	2,400	1,267	\$ 197	NO SENSOR PROPOSED	0	0.35	845	-	845	\$131

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

60	High School		2	Women's Room	60w. Incandescent S/I	3	60	0.18	3,000	540	\$ 84	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	3	15	0.05	3,000	135	\$ 21	NO SENSOR PROPOSED	0	0.14	405	-	405	\$63
61	High School	250	2	Storage Closet	8' Fixture with Egg Style Metal Lens w/ (4) F34 T12 Lamps & (2) 2-Light Magnetic Ballasts	10	160	1.60	500	800	\$ 124	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps.	10	84	0.84	500	420	\$ 65	NO SENSOR PROPOSED	0	0.76	380	-	380	\$59
62	High School	251		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	16	61	0.98	1,650	1,610	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	48	0.77	1,073	824	\$ 128	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.21	343	444	787	\$122
63	High School			Storage Closet	8' Fixture with Egg Style Metal Lens w/ (4) F32 T8 Lamps & (1) 4-Light Electronic Ballasts	2	110	0.22	500	110	\$ 17	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps, and Silver Reflector.	2	95	0.19	500	95	\$ 15	NO SENSOR PROPOSED	0	0.03	15	-	15	\$2
64	High School	252		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	18	61	1.10	1,650	1,812	\$ 281	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	18	48	0.86	1,073	927	\$ 144	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.23	386	499	885	\$137
65	High School	253		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	12	61	0.73	1,650	1,208	\$ 187	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	48	0.58	1,073	618	\$ 96	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.16	257	333	590	\$92
66	High School	254		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	12	61	0.73	1,650	1,208	\$ 187	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	48	0.58	1,073	618	\$ 96	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.16	257	333	590	\$92
67	High School	255		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 234	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,073	772	\$ 120	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	322	416	738	\$114
68	High School	256		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	12	61	0.73	1,650	1,208	\$ 187	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	48	0.58	1,073	618	\$ 96	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.16	257	333	590	\$92
69	High School	259		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	12	61	0.73	1,650	1,208	\$ 187	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	48	0.58	1,073	618	\$ 96	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.16	257	333	590	\$92
70	High School	260		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	12	61	0.73	1,650	1,208	\$ 187	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	48	0.58	1,650	950	\$ 148	NO SENSOR PROPOSED	0	0.16	257	-	257	\$40
71	High School			Side Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	6	61	0.37	1,650	604	\$ 94	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	48	0.29	1,650	475	\$ 74	NO SENSOR PROPOSED	0	0.08	129	-	129	\$20
72	High School			Custodian Closet	60w. Incandescent S/I	2	60	0.12	500	60	\$ 9	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	2	15	0.03	500	15	\$ 2	NO SENSOR PROPOSED	0	0.09	45	-	45	\$7
73	High School			Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 57	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 45	NO SENSOR PROPOSED	0	0.03	78	-	78	\$12
74	High School			Men's Faculty	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$ 28	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,000	144	\$ 22	NO SENSOR PROPOSED	0	0.01	39	-	39	\$6
75	High School			Bathroom	60w. Incandescent S/I	1	60	0.06	3,000	180	\$ 28	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	3,000	45	\$ 7	NO SENSOR PROPOSED	0	0.05	135	-	135	\$21
76	High School	261		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	8	110	0.88	1,650	1,452	\$ 225	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,073	815	\$ 127	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.12	198	439	637	\$99
77	High School	2		Fan Room	100w Incandescent S/I	1	100	0.10	1,000	100	\$ 16	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	1,000	23	\$ 4	NO SENSOR PROPOSED	0	0.08	77	-	77	\$12
78	High School			Women's Room	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	1	110	0.11	3,000	330	\$ 51	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	3,000	285	\$ 44	NO SENSOR PROPOSED	0	0.02	45	-	45	\$7
79	High School			Bathroom	100w Incandescent S/I	1	100	0.10	3,000	300	\$ 47	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 11	NO SENSOR PROPOSED	0	0.08	231	-	231	\$36
80	High School			Storage	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	2	110	0.22	500	110	\$ 17	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	500	95	\$ 15	NO SENSOR PROPOSED	0	0.03	15	-	15	\$2
81	High School			Storage	100w Incandescent S/I	1	100	0.10	500	50	\$ 8	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$6
82	High School	264		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
83	High School	265		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
84	High School	266		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
85	High School	267		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	8	110	0.88	1,650	1,452	\$ 225	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,073	815	\$ 127	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.12	198	439	637	\$99
86	High School			Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,650	201	\$ 31	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,650	158	\$ 25	NO SENSOR PROPOSED	0	0.03	43	-	43	\$7
87	High School			Men's Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 57	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 45	NO SENSOR PROPOSED	0	0.03	78	-	78	\$12
88	High School			Custodian Closet	100w Incandescent S/I	1	100	0.10	500	50	\$ 8	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$6
89	High School			Women's Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 57	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 45	NO SENSOR PROPOSED	0	0.03	78	-	78	\$12
90	High School	268		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	8	110	0.88	1,650	1,452	\$ 225	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,650	1,254	\$ 195	NO SENSOR PROPOSED	0	0.12	198	-	198	\$31

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

91	High School		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,650	201	\$ 31	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,650	158	\$ 25	NO SENSOR PROPOSED	0	0.03	43	-	43	\$7	
92	High School		Storage	100w Incandescent S/I	2	100	0.20	500	100	\$ 16	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	2	23	0.05	500	23	\$ 4	NO SENSOR PROPOSED	0	0.15	77	-	77	\$12	
93	High School	270	Storage	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	8	110	0.88	500	440	\$ 68	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	500	380	\$ 59	NO SENSOR PROPOSED	0	0.12	60	-	60	\$9	
94	High School	271	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	10	110	1.10	1,650	1,815	\$ 282	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	95	0.95	1,073	1,019	\$ 158	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.15	248	549	796	\$124	
95	High School	272	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	2	110	0.22	1,650	363	\$ 56	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,073	204	\$ 32	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.03	50	110	159	\$25	
96	High School	210	Book Storage	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	3	110	0.33	500	165	\$ 26	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	95	0.29	500	143	\$ 22	NO SENSOR PROPOSED	0	0.05	23	-	23	\$3	
97	High School		Office	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	2	110	0.22	1,000	220	\$ 34	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,000	190	\$ 29	NO SENSOR PROPOSED	0	0.03	30	-	30	\$5	
98	High School	274	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74	
99	High School	276	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	10	110	1.10	1,650	1,815	\$ 282	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	95	0.95	1,650	1,568	\$ 243	NO SENSOR PROPOSED	0	0.15	248	-	248	\$38	
100	High School		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,650	201	\$ 31	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,073	103	\$ 16	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.03	43	55	98	\$15	
101	High School	275	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74	
102	High School	277	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74	
103	High School	278	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74	
104	High School	279	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74	
105	High School	280	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74	
106	High School	281	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74	
107	High School	282	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74	
108	High School	283	2	Storage	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	500	92	\$ 14	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	500	72	\$ 11	NO SENSOR PROPOSED	0	0.04	20	-	20	\$3
109	High School		Girls Room	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	2	110	0.22	3,000	660	\$ 102	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	3,000	570	\$ 88	NO SENSOR PROPOSED	0	0.03	90	-	90	\$14	
110	High School	2	Boys Room	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	2	110	0.22	3,000	660	\$ 102	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	3,000	570	\$ 88	NO SENSOR PROPOSED	0	0.03	90	-	90	\$14	
111	High School	151	1	Food Lab	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	8	110	0.88	1,650	1,452	\$ 225	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,650	1,254	\$ 195	NO SENSOR PROPOSED	0	0.12	198	-	198	\$31
112	High School	1	Food Lab	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	1,650	101	\$ 16	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,650	79	\$ 12	NO SENSOR PROPOSED	0	0.01	21	-	21	\$3	
113	High School	153	1	Child Group	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	10	61	0.61	1,650	1,007	\$ 156	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	48	0.48	1,650	792	\$ 123	NO SENSOR PROPOSED	0	0.13	215	-	215	\$33
114	High School	156		Art Class	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	10	110	1.10	1,650	1,815	\$ 282	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	95	0.95	1,650	1,568	\$ 243	NO SENSOR PROPOSED	0	0.15	248	-	248	\$38
115	High School	158		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 146	NO SENSOR PROPOSED	0	0.09	149	-	149	\$23
116	High School		Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 57	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 45	NO SENSOR PROPOSED	0	0.03	78	-	78	\$12	
117	High School		Classroom	100w Incandescent S/I	1	100	0.10	1,650	165	\$ 26	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	1,650	38	\$ 6	NO SENSOR PROPOSED	0	0.08	127	-	127	\$20	
118	High School		Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 57	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 45	NO SENSOR PROPOSED	0	0.03	78	-	78	\$12	
119	High School		Storage	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	1	110	0.11	500	55	\$ 9	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	500	48	\$ 7	NO SENSOR PROPOSED	0	0.02	8	-	8	\$1	
120	High School		Storage	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	1	110	0.11	500	55	\$ 9	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	500	48	\$ 7	NO SENSOR PROPOSED	0	0.02	8	-	8	\$1	
121	High School		Prop Storage	100w Incandescent S/I	4	100	0.40	500	200	\$ 31	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	4	23	0.09	500	46	\$ 7	NO SENSOR PROPOSED	0	0.31	154	-	154	\$24	

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

122	High School	159	Music Lab	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
123	High School		Band Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 4-Light Electronic ballast	18	89	1.60	1,650	2,643	\$ 410	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	18	72	1.30	1,650	2,138	\$ 332	NO SENSOR PROPOSED	0	0.31	505	-	505	\$78
124	High School		Instrumental Storage	40w. Incandescent S/I	2	40	0.08	500	40	\$ 6	Remove and Replace Existing Lamp With a New 13w Compact Fluorescent Two Piece Screw-In.	2	13	0.03	500	13	\$ 2	NO SENSOR PROPOSED	0	0.05	27	-	27	\$4
125	High School		Instrumental Storage	8' Fixture with Egg Style Metal Lens w/ (4) F32 T8 Lamps & (1) 4-Light Electronic Ballasts	1	110	0.11	500	55	\$ 9	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps, and Silver Reflector.	1	95	0.10	500	48	\$ 7	NO SENSOR PROPOSED	0	0.02	8	-	8	\$1
126	High School		Instrumental Storage	8' Fixture with Egg Style Metal Lens w/ (4) F32 T8 Lamps & (1) 4-Light Electronic Ballasts	1	110	0.11	500	55	\$ 9	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps, and Silver Reflector.	1	95	0.10	500	48	\$ 7	NO SENSOR PROPOSED	0	0.02	8	-	8	\$1
127	High School		Instrumental Storage	8' Fixture with Egg Style Metal Lens w/ (4) F32 T8 Lamps & (1) 4-Light Electronic Ballasts	1	110	0.11	500	55	\$ 9	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps, and Silver Reflector.	1	95	0.10	500	48	\$ 7	NO SENSOR PROPOSED	0	0.02	8	-	8	\$1
128	High School		Instrumental Storage	8' Fixture with Egg Style Metal Lens w/ (4) F32 T8 Lamps & (1) 4-Light Electronic Ballasts	1	110	0.11	500	55	\$ 9	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps, and Silver Reflector.	1	95	0.10	500	48	\$ 7	NO SENSOR PROPOSED	0	0.02	8	-	8	\$1
129	High School		Office	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	2	110	0.22	2,400	528	\$ 82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	2,400	456	\$ 71	NO SENSOR PROPOSED	0	0.03	72	-	72	\$11
130	High School		Chorus	4' Wrap Fixture w/ (2) F34 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	21	80	1.68	1,650	2,772	\$ 430	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Normal Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	21	48	1.01	1,650	1,663	\$ 258	NO SENSOR PROPOSED	0	0.67	1,109	-	1,109	\$172
131	High School		Storage	1x4 Recessed Troffer w/ (2) F34 Econo-Watt T12 Lamps & (1) 2L Magnetic Ballast	1	80	0.08	500	40	\$ 6	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Low Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	1	42	0.04	500	21	\$ 3	NO SENSOR PROPOSED	0	0.04	19	-	19	\$3
132	High School		Storage	1x4 Recessed Troffer w/ (2) F34 Econo-Watt T12 Lamps & (1) 2L Magnetic Ballast	1	80	0.08	500	40	\$ 6	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Low Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	1	42	0.04	500	21	\$ 3	NO SENSOR PROPOSED	0	0.04	19	-	19	\$3
133	High School		Storage	1x4 Recessed Troffer w/ (2) F34 Econo-Watt T12 Lamps & (1) 2L Magnetic Ballast	1	80	0.08	500	40	\$ 6	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Low Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	1	42	0.04	500	21	\$ 3	NO SENSOR PROPOSED	0	0.04	19	-	19	\$3
134	High School		Storage	1x4 Recessed Troffer w/ (2) F34 Econo-Watt T12 Lamps & (1) 2L Magnetic Ballast	1	80	0.08	500	40	\$ 6	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Low Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	1	42	0.04	500	21	\$ 3	NO SENSOR PROPOSED	0	0.04	19	-	19	\$3
135	High School		Panel Room	40w. Incandescent S/I	1	40	0.04	500	20	\$ 3	Remove and Replace Existing Lamp With a New 13w Compact Fluorescent Two Piece Screw-In.	1	13	0.01	500	7	\$ 1	NO SENSOR PROPOSED	0	0.03	14	-	14	\$2
136	High School	1	Women's Room	4' Wrap Fixture w/ (3) F32w T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	3,000	267	\$ 41	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	1,950	140	\$ 22	Wall Switch Dual Technology Occupancy Sensor	1	0.02	51	76	127	\$20
137	High School		Men's Room	4' Wrap Fixture w/ (3) F32w T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	3,000	267	\$ 41	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	1,950	140	\$ 22	Wall Switch Dual Technology Occupancy Sensor	1	0.02	51	76	127	\$20
138	High School		Stage	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	13	110	1.43	1,650	2,360	\$ 366	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	13	95	1.24	1,650	2,038	\$ 316	NO SENSOR PROPOSED	0	0.20	322	-	322	\$50
139	High School		Auditorium	32w. Compact Fluorescent S/I	43	32	1.38	1,650	2,270	\$ 352	No Work Proposed	0	32	1.38	1,650	2,270	\$ 352	NO SENSOR PROPOSED	0	-	-	-	0	\$0
140	High School		Auditorium	Exit Sign w/ 2x LED	4	2	0.01	8,760	70	\$ 11	No Work Proposed	0	2	0.01	8,760	70	\$ 11	NO SENSOR PROPOSED	0	-	-	-	0	\$0
141	High School		Storage	40w. Incandescent S/I	2	40	0.08	500	40	\$ 6	Remove and Replace Existing Lamp With a New 13w Compact Fluorescent Two Piece Screw-In.	2	13	0.03	500	13	\$ 2	NO SENSOR PROPOSED	0	0.05	27	-	27	\$4
142	High School	1	Main Office	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	8	110	0.88	2,400	2,112	\$ 328	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	2,400	1,824	\$ 283	NO SENSOR PROPOSED	0	0.12	288	-	288	\$45
143	High School		Main Office	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	1	110	0.11	2,400	264	\$ 41	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	2,400	228	\$ 35	NO SENSOR PROPOSED	0	0.02	36	-	36	\$6
144	High School		Bathroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$ 28	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,000	144	\$ 22	NO SENSOR PROPOSED	0	0.01	39	-	39	\$6
145	High School		Assistant Principal	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	4	110	0.44	2,400	1,056	\$ 164	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	1,560	593	\$ 92	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.06	144	319	463	\$72
146	High School	1	Copy Room	8' Fixture with Egg Style Metal Lens w/ (4) F32 T8 Lamps & (1) 4-Light Electronic Ballasts	1	110	0.11	2,400	264	\$ 41	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps, and Silver Reflector.	1	95	0.10	2,400	228	\$ 35	NO SENSOR PROPOSED	0	0.02	36	-	36	\$6
147	High School		Vault	100w Incandescent S/I	1	100	0.10	2,400	240	\$ 37	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	2,400	55	\$ 9	NO SENSOR PROPOSED	0	0.08	185	-	185	\$29
148	High School		Attendance/Discipline	8' Fixture with Egg Style Metal Lens w/ (4) F32 T8 Lamps & (1) 4-Light Electronic Ballasts	2	110	0.22	2,400	528	\$ 82	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps, and Silver Reflector.	2	95	0.19	1,560	296	\$ 46	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$36
149	High School		Conference Room	8' Fixture with Egg Style Metal Lens w/ (4) F32 T8 Lamps & (1) 4-Light Electronic Ballasts	2	110	0.22	2,400	528	\$ 82	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps, and Silver Reflector.	2	95	0.19	1,560	296	\$ 46	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$36
150	High School		Special Services	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	11	110	1.21	1,650	1,997	\$ 310	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	11	95	1.05	1,650	1,724	\$ 268	NO SENSOR PROPOSED	0	0.17	272	-	272	\$42
151	High School		Special Services	100w Incandescent S/I	1	100	0.10	1,650	165	\$ 26	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	1,650	38	\$ 6	NO SENSOR PROPOSED	0	0.08	127	-	127	\$20
152	High School		Office 1	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	2,400	456	\$ 71	NO SENSOR PROPOSED	0	0.03	72	-	72	\$11
153	High School		Office 2	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	2,400	456	\$ 71	NO SENSOR PROPOSED	0	0.03	72	-	72	\$11
154	High School		Office 3	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 46	Wall Switch Dual Technology Occupancy Sensor	1	0.03	72	160	232	\$36
155	High School		Office 4	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 46	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$36

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

156	High School			Office 5	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	2	110	0.22	2,400	528	\$	82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	2,400	456	\$	71	NO SENSOR PROPOSED	0	0.03	72	-	72	\$11
157	High School			Nurses Office	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	2	110	0.22	2,400	528	\$	82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	2,400	456	\$	71	NO SENSOR PROPOSED	0	0.03	72	-	72	\$11
158	High School			Hallway	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	2	110	0.22	3,000	660	\$	102	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	3,000	570	\$	88	NO SENSOR PROPOSED	0	0.03	90	-	90	\$14
159	High School			Hallway	100w Incandescent S/I	2	100	0.20	3,000	600	\$	93	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	2	23	0.05	3,000	138	\$	21	NO SENSOR PROPOSED	0	0.15	462	-	462	\$72
160	High School			Storage	100w Incandescent S/I	1	100	0.10	500	50	\$	8	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$	2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$6
161	High School			Exam Room	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	2	110	0.22	1,000	220	\$	34	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,000	190	\$	29	NO SENSOR PROPOSED	0	0.03	30	-	30	\$5
162	High School			Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	1,000	61	\$	9	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,000	48	\$	7	NO SENSOR PROPOSED	0	0.01	13	-	13	\$2
163	High School			Screening Room	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	1	110	0.11	1,000	110	\$	17	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	1,000	95	\$	15	NO SENSOR PROPOSED	0	0.02	15	-	15	\$2
164	High School			Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	1,000	61	\$	9	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,000	48	\$	7	NO SENSOR PROPOSED	0	0.01	13	-	13	\$2
165	High School			Bathroom	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	1,000	61	\$	9	No Work Proposed	0	61	0.06	1,000	61	\$	9	NO SENSOR PROPOSED	0	-	-	-	0	\$0
166	High School			Student Assistant	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	1	110	0.11	2,400	264	\$	41	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	2,400	228	\$	35	NO SENSOR PROPOSED	0	0.02	36	-	36	\$6
167	High School			Special Services	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$	169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$	146	NO SENSOR PROPOSED	0	0.09	149	-	149	\$23
168	High School			Special Services	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,650	201	\$	31	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,650	158	\$	25	NO SENSOR PROPOSED	0	0.03	43	-	43	\$7
169	High School			Storage	8' Strip Fixture with (1) F96 Econo-Watt T12 Lamp & (1) 1L Magnetic Ballast	5	83	0.42	500	208	\$	32	Rebuild an 8' Fixture. Install a 4-Lamp Electronic Low Power Ballast, Ballast Channel, Socket Bracket, (4) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	5	42	0.21	500	105	\$	16	NO SENSOR PROPOSED	0	0.21	103	-	103	\$16
170	High School			Women's Lounge	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$	57	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$	45	NO SENSOR PROPOSED	0	0.03	78	-	78	\$12
171	High School			Women's Lounge	60w. Incandescent S/I	2	60	0.12	3,000	360	\$	56	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	2	15	0.03	3,000	90	\$	14	NO SENSOR PROPOSED	0	0.09	270	-	270	\$42
172	High School	173		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$	169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$	95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
173	High School			Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,650	201	\$	31	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,650	158	\$	25	NO SENSOR PROPOSED	0	0.03	43	-	43	\$7
174	High School	175		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$	169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$	95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
175	High School	177		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$	169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$	95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
176	High School	179		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	9	89	0.80	1,650	1,322	\$	205	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	72	0.65	1,650	1,069	\$	166	NO SENSOR PROPOSED	0	0.15	252	-	252	\$39
177	High School			Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$	57	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$	45	NO SENSOR PROPOSED	0	0.03	78	-	78	\$12
178	High School			Custodian Closet	60w. Incandescent S/I	2	60	0.12	500	60	\$	9	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	2	15	0.03	500	15	\$	2	NO SENSOR PROPOSED	0	0.09	45	-	45	\$7
179	High School			Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	3,000	549	\$	85	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$	67	NO SENSOR PROPOSED	0	0.04	117	-	117	\$18
180	High School			Custodian Office	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	8	61	0.49	2,400	1,171	\$	182	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	48	0.38	2,400	922	\$	143	NO SENSOR PROPOSED	0	0.10	250	-	250	\$39
181	High School			Multi Purpose Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	30	89	2.67	2,400	6,408	\$	995	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	30	72	2.16	2,400	5,184	\$	805	NO SENSOR PROPOSED	0	0.51	1,224	-	1,224	\$190
182	High School			Corridor	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	3,000	732	\$	114	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	3,000	576	\$	89	NO SENSOR PROPOSED	0	0.05	156	-	156	\$24
183	High School			Sub Kitchen	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	1,650	403	\$	62	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	1,073	206	\$	32	Wall Switch Occupancy Sensor	1	0.05	86	111	197	\$31
184	High School			Coach's Office	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	5	61	0.31	2,400	732	\$	114	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	48	0.24	2,400	576	\$	89	NO SENSOR PROPOSED	0	0.07	156	-	156	\$24
185	High School			Storage	8' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	4	61	0.24	500	122	\$	19	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	500	96	\$	15	NO SENSOR PROPOSED	0	0.05	26	-	26	\$4
186	High School			Storage	60w. Incandescent S/I	1	60	0.06	500	30	\$	5	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	500	8	\$	1	NO SENSOR PROPOSED	0	0.05	23	-	23	\$3
187	High School	150		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$	254	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$	142	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$111
188	High School			Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,650	201	\$	31	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,650	158	\$	25	NO SENSOR PROPOSED	0	0.03	43	-	43	\$7
189	High School	152		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$	169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$	95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
190	High School	154		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$	169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$	95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

191	High School	155		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
192	High School	157		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
193	High School	163		Art Class	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	13	110	1.43	1,650	2,360	\$ 366	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	13	95	1.24	1,650	2,038	\$ 316	NO SENSOR PROPOSED	0	0.20	322	-	322	\$50
194	High School			Art Class	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	1,650	101	\$ 16	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,650	79	\$ 12	NO SENSOR PROPOSED	0	0.01	21	-	21	\$3
195	High School			Klin	100w Incandescent S/I	2	100	0.20	1,000	200	\$ 31	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	2	23	0.05	1,000	46	\$ 7	NO SENSOR PROPOSED	0	0.15	154	-	154	\$24
196	High School			Storage	8' Fixture with Egg Style Metal Lens w/ (4) F96 T8 Lamps & (1) 4-Light Electronic Ballasts	2	230	0.46	500	230	\$ 36	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps.	2	84	0.17	500	84	\$ 13	NO SENSOR PROPOSED	0	0.29	146	-	146	\$23
197	High School	165		Art Class	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	8	110	0.88	1,650	1,452	\$ 225	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,650	1,254	\$ 195	NO SENSOR PROPOSED	0	0.12	198	-	198	\$31
198	High School			Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 57	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,950	187	\$ 29	Wall Switch Dual Technology Occupancy Sensor	1	0.03	78	101	179	\$28
199	High School			Janitor Closet	60w. Incandescent S/I	1	60	0.06	500	30	\$ 5	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	500	8	\$ 1	NO SENSOR PROPOSED	0	0.05	23	-	23	\$3
200	High School			Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 57	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,950	187	\$ 29	Wall Switch Dual Technology Occupancy Sensor	1	0.03	78	101	179	\$28
201	High School	53		Inventory	1x8 Recessed Troffer w/ (4) F96 T8 Lamps & (1) 2-Light Electronic Ballast	4	118	0.47	2,400	1,133	\$ 176	No Work Proposed	0	118	0.47	2,400	1,133	\$ 176	NO SENSOR PROPOSED	0	-	-	-	0	\$0
202	High School			Men's Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 57	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 45	NO SENSOR PROPOSED	0	0.03	78	-	78	\$12
203	High School			Men's Room	100w Incandescent S/I	1	100	0.10	3,000	300	\$ 47	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 11	NO SENSOR PROPOSED	0	0.08	231	-	231	\$36
204	High School	171		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
205	High School	172		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
206	High School	174		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
207	High School	176		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 146	NO SENSOR PROPOSED	0	0.09	149	-	149	\$23
208	High School	178		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 169	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	149	329	478	\$74
209	High School			Corridor	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	3,000	732	\$ 114	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	3,000	576	\$ 89	NO SENSOR PROPOSED	0	0.05	156	-	156	\$24
210	High School			Storage	ROOM LOCKED	0	0	0.00	500	0	\$ -	No Work Proposed	0	0	0.00	500	-	\$ -	NO SENSOR PROPOSED	0	-	-	-	0	\$0
211	High School			Conference Room	ROOM LOCKED	0	0	0.00	2,400	0	\$ -	No Work Proposed	0	0	0.00	2,400	-	\$ -	NO SENSOR PROPOSED	0	-	-	-	0	\$0
212	High School			Storage	8' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	4	61	0.24	500	122	\$ 19	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	500	96	\$ 15	NO SENSOR PROPOSED	0	0.05	26	-	26	\$4
213	High School			Storage	4' Fixture with Egg Style Lens with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	1	61	0.06	500	31	\$ 5	Remove and Replace Existing Fixture With a New 1x4 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Normal Power Ballast and (2) 4' 28w T8 Energy Saving Lamps.	1	48	0.05	500	24	\$ 4	NO SENSOR PROPOSED	0	0.01	7	-	7	\$1
214	High School	149		Computer Room	8' Fixture with Egg Style Metal Lens w/ (2) F96 T12 75w Lamps & (1) 2-Light Standard Magnetic Ballast	8	173	1.38	1,650	2,284	\$ 354	Remove and Replace Existing Fixture With a New 1x4 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Normal Power Ballast, Silver Reflector, and (2) 4' 28w T8 Energy Saving Lamps.	8	48	0.38	1,650	634	\$ 98	NO SENSOR PROPOSED	0	1.00	1,650	-	1,650	\$256
215	High School	148		Weight Room	8' Fixture with Egg Style Metal Lens w/ (2) F96 T12 75w Lamps & (1) 2-Light Standard Magnetic Ballast	8	173	1.38	1,650	2,284	\$ 354	Remove and Replace Existing Fixture With a New 1x4 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Normal Power Ballast, Silver Reflector, and (2) 4' 28w T8 Energy Saving Lamps.	8	48	0.38	1,650	634	\$ 98	NO SENSOR PROPOSED	0	1.00	1,650	-	1,650	\$256
216	High School	147		Weight Room	2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	21	110	2.31	1,650	3,812	\$ 592	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	21	95	2.00	1,650	3,292	\$ 511	NO SENSOR PROPOSED	0	0.32	520	-	520	\$81
217	High School	146		Woodshop	Industrial Hood 8' Fixture w/ (4) F32 T Lamps & (1) 4L Electronic Ballast	24	110	2.64	1,650	4,356	\$ 678	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	24	95	2.28	1,650	3,762	\$ 584	NO SENSOR PROPOSED	0	0.36	594	-	594	\$92
218	High School			Storage	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	500	122	\$ 19	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	500	96	\$ 15	NO SENSOR PROPOSED	0	0.05	26	-	26	\$4
219	High School			Storage	100w Incandescent S/I	2	100	0.20	500	100	\$ 16	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	2	23	0.05	500	23	\$ 4	NO SENSOR PROPOSED	0	0.15	77	-	77	\$12
220	High School			Storage	100w Incandescent S/I	1	100	0.10	500	50	\$ 8	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$6
221	High School			Office	1x4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	2,400	586	\$ 91	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	2,400	461	\$ 72	NO SENSOR PROPOSED	0	0.05	125	-	125	\$19
222	High School			Auto Shop Class	1x4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	12	61	0.73	1,650	1,208	\$ 187	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	48	0.58	1,650	950	\$ 148	NO SENSOR PROPOSED	0	0.16	257	-	257	\$40
223	High School			Auto Shop Class	Industrial Hood 4' Fixture w/ (2) F32 T8 Lamps & (1) 2L Electronic Ballast	43	61	2.62	1,650	4,328	\$ 672	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	43	48	2.06	1,650	3,406	\$ 529	NO SENSOR PROPOSED	0	0.56	922	-	922	\$143
224	High School	142		Science Classroom	2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	18	110	1.98	1,650	3,267	\$ 507	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	18	95	1.71	1,073	1,834	\$ 285	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.27	446	988	1,433	\$222

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

225	High School	131		Science Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	16	110	1.76	1,650	2,904	\$ 451	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	95	1.52	1,073	1,630	\$ 253	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.24	396	878	1,274	\$198
226	High School			Center Storage	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	25	110	2.75	2,400	6,600	\$ 1,024	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	25	95	2.38	2,400	5,700	\$ 885	NO SENSOR PROPOSED	0	0.38	900	-	900	\$140
227	High School	141		Science Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	18	110	1.98	1,650	3,267	\$ 507	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	18	95	1.71	1,073	1,834	\$ 285	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.27	446	988	1,433	\$222
228	High School	140		Science Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	18	110	1.98	1,650	3,267	\$ 507	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	18	95	1.71	1,073	1,834	\$ 285	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.27	446	988	1,433	\$222
229	High School	135		Science Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	16	110	1.76	1,650	2,904	\$ 451	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	95	1.52	1,073	1,630	\$ 253	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.24	396	878	1,274	\$198
230	High School	139		Science Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	15	110	1.65	1,650	2,723	\$ 423	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	95	1.43	1,073	1,528	\$ 237	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.23	371	823	1,194	\$185
231	High School	138		Office	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	9	110	0.99	2,400	2,376	\$ 369	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,560	1,334	\$ 207	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	324	718	1,042	\$162
232	High School	136		Science Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	20	110	2.20	1,650	3,630	\$ 563	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	20	95	1.90	1,073	2,038	\$ 316	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.30	495	1,097	1,592	\$247
233	High School	133		Science Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	20	110	2.20	1,650	3,630	\$ 563	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	20	95	1.90	1,073	2,038	\$ 316	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.30	495	1,097	1,592	\$247
234	High School	130		Science Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	20	110	2.20	1,650	3,630	\$ 563	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	20	95	1.90	1,073	2,038	\$ 316	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.30	495	1,097	1,592	\$247
235	High School	129		Science Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	15	110	1.65	1,650	2,723	\$ 423	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	95	1.43	1,073	1,528	\$ 237	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.23	371	823	1,194	\$185
236	High School	128		Science Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	15	110	1.65	1,650	2,723	\$ 423	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	95	1.43	1,073	1,528	\$ 237	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.23	371	823	1,194	\$185
237	High School	121		Computer Lab	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	11	110	1.21	1,650	1,997	\$ 310	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	11	95	1.05	1,073	1,121	\$ 174	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.17	272	603	876	\$136
238	High School			Broadcasting	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	1,650	302	\$ 47	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	1,073	154	\$ 24	Wall Switch Occupancy Sensor	1	0.04	64	83	148	\$23
239	High School			Center Instructional	8' Wrap Fixture w/ (2) F96 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	9	123	1.11	1,650	1,827	\$ 283	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Normal Power Ballast, Silver Reflector, and (2) 4' F28 T8 Energy Saving Lamps.	9	48	0.43	1,650	713	\$ 111	NO SENSOR PROPOSED	0	0.68	1,114	-	1,114	\$173
240	High School	122		Computer Lab	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	11	110	1.21	1,650	1,997	\$ 310	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	11	95	1.05	1,650	1,724	\$ 268	NO SENSOR PROPOSED	0	0.17	272	-	272	\$42
241	High School			Faculty Dining	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	12	110	1.32	2,400	3,168	\$ 492	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	95	1.14	1,560	1,778	\$ 276	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.18	432	958	1,390	\$216
242	High School			Women's Room	100w Incandescent S/I	3	100	0.30	3,000	900	\$ 140	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	3	23	0.07	1,950	135	\$ 21	Wall Switch Dual Technology Occupancy Sensor	1	0.23	693	72	765	\$119
243	High School			Custodian Closet	100w Incandescent S/I	1	100	0.10	500	50	\$ 8	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$6
244	High School	C-100		Conference Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	2,400	586	\$ 91	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	2,400	461	\$ 72	NO SENSOR PROPOSED	0	0.05	125	-	125	\$19
245	High School	C-101		Math Dept	8' Wrap Fixture w/ (2) F96 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	10	123	1.23	2,400	2,952	\$ 458	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Normal Power Ballast, Silver Reflector, and (2) 4' F28 T8 Energy Saving Lamps.	10	48	0.48	2,400	1,152	\$ 179	NO SENSOR PROPOSED	0	0.75	1,800	-	1,800	\$279
246	High School			Server Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	1	110	0.11	1,650	182	\$ 28	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	1,650	157	\$ 24	NO SENSOR PROPOSED	0	0.02	25	-	25	\$4
247	High School			IT	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	10	110	1.10	2,400	2,640	\$ 410	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	95	0.95	2,400	2,280	\$ 354	NO SENSOR PROPOSED	0	0.15	360	-	360	\$56
248	High School			Server Room	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	6	61	0.37	1,650	604	\$ 94	No Work Proposed	0	61	0.37	1,650	604	\$ 94	NO SENSOR PROPOSED	0	-	-	-	0	\$0
249	High School	108		IT	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	15	110	1.65	2,400	3,960	\$ 615	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	95	1.43	1,560	2,223	\$ 345	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	2	0.23	540	1,197	1,737	\$270
250	High School			Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	3,000	549	\$ 85	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$ 67	NO SENSOR PROPOSED	0	0.04	117	-	117	\$18
251	High School			Custodian Office	100w Incandescent S/I	1	100	0.10	2,400	240	\$ 37	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	2,400	55	\$ 9	NO SENSOR PROPOSED	0	0.08	185	-	185	\$29
252	High School			Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	3,000	549	\$ 85	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$ 67	NO SENSOR PROPOSED	0	0.04	117	-	117	\$18

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

253	High School	137		Science Lab	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	15	110	1.65	1,650	2,723	\$ 423	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	95	1.43	1,073	1,528	\$ 237	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.23	371	823	1,194	\$185
254	High School	111		Detention	4' Wrap Fixture w/ (2) F34 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	4	80	0.32	1,650	528	\$ 82	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Low Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	4	42	0.17	1,650	277	\$ 43	NO SENSOR PROPOSED	0	0.15	251	-	251	\$39
255	High School			Media Center	8' Wrap Fixture w/ (2) F96 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	95	123	11.69	2,400	28,044	\$ 4,352	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Normal Power Ballast, Silver Reflector, and (2) 4' F28 T8 Energy Saving Lamps.	95	48	4.56	2,400	10,944	\$ 1,699	NO SENSOR PROPOSED	0	7.13	17,100	-	17,100	\$2,654
256	High School			Media Center	4' Wrap Fixture w/ (2) F34 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	17	80	1.36	2,400	3,264	\$ 507	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Normal Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	17	48	0.82	2,400	1,958	\$ 304	NO SENSOR PROPOSED	0	0.54	1,306	-	1,306	\$203
257	High School			Periodicals	8' Wrap Fixture w/ (2) F96 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	8	123	0.98	2,400	2,362	\$ 367	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Normal Power Ballast, Silver Reflector, and (2) 4' F28 T8 Energy Saving Lamps.	8	48	0.38	2,400	922	\$ 143	NO SENSOR PROPOSED	0	0.60	1,440	-	1,440	\$223
258	High School			Periodicals	4' Wrap Fixture w/ (2) F34 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	2	80	0.16	2,400	384	\$ 60	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Normal Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	2	48	0.10	2,400	230	\$ 36	NO SENSOR PROPOSED	0	0.06	154	-	154	\$24
259	High School			Magazine Storage	8' Wrap Fixture w/ (2) F96 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	5	123	0.62	500	308	\$ 48	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Low Power Ballast, Silver Reflector, and (2) 4' F28 T8 Energy Saving Lamps.	5	42	0.21	500	105	\$ 16	NO SENSOR PROPOSED	0	0.41	203	-	203	\$31
260	High School			Storage	4' Wrap Fixture w/ (2) F34 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	2	80	0.16	500	80	\$ 12	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Low Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	2	42	0.08	500	42	\$ 7	NO SENSOR PROPOSED	0	0.08	38	-	38	\$6
261	High School			Storage	4' Wrap Fixture w/ (2) F34 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	1	80	0.08	500	40	\$ 6	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Low Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	1	42	0.04	500	21	\$ 3	NO SENSOR PROPOSED	0	0.04	19	-	19	\$3
262	High School			Storage	8' Wrap Fixture w/ (2) F96 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	1	123	0.12	500	62	\$ 10	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Low Power Ballast, Silver Reflector, and (2) 4' F28 T8 Energy Saving Lamps.	1	42	0.04	500	21	\$ 3	NO SENSOR PROPOSED	0	0.08	41	-	41	\$6
263	High School			Copy Room	8' Wrap Fixture w/ (2) F96 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	8	123	0.98	2,400	2,362	\$ 367	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Low Power Ballast, Silver Reflector, and (2) 4' F28 T8 Energy Saving Lamps.	8	42	0.34	1,560	524	\$ 81	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	2	0.65	1,555	282	1,837	\$285
264	High School			Storage	8' Wrap Fixture w/ (2) F96 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	2	123	0.25	500	123	\$ 19	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Low Power Ballast, Silver Reflector, and (2) 4' F28 T8 Energy Saving Lamps.	2	42	0.08	500	42	\$ 7	NO SENSOR PROPOSED	0	0.16	81	-	81	\$13
265	High School			Radio/Television	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	12	61	0.73	1,650	1,208	\$ 187	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	48	0.58	1,650	950	\$ 148	NO SENSOR PROPOSED	0	0.16	257	-	257	\$40
266	High School			Guidance	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	10	110	1.10	2,400	2,640	\$ 410	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	95	0.95	2,400	2,280	\$ 354	NO SENSOR PROPOSED	0	0.15	360	-	360	\$56
267	High School			Guidance	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	3	68	0.20	2,400	490	\$ 76	No Work Proposed	0	68	0.20	2,400	490	\$ 76	NO SENSOR PROPOSED	0	-	-	-	0	\$0
268	High School			Counselor	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 46	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$36
269	High School			Counselor	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 46	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$36
270	High School			Counselor	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 46	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$36
271	High School			Counselor	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 46	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$36
272	High School			Counselor	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 46	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$36
273	High School			Conference Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	4	110	0.44	2,400	1,056	\$ 164	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	1,560	593	\$ 92	Wall Switch Occupancy Sensor	1	0.06	144	319	463	\$72
274	High School			Copy Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	3	110	0.33	2,400	792	\$ 123	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	95	0.29	1,560	445	\$ 69	Wall Switch Occupancy Sensor	1	0.05	108	239	347	\$54
275	High School			Counselor	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	1	110	0.11	2,400	264	\$ 41	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	1,560	148	\$ 23	Wall Switch Occupancy Sensor	1	0.02	36	80	116	\$18
276	High School			Boiler Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	1	110	0.11	1,000	110	\$ 17	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	650	62	\$ 10	Wall Switch Occupancy Sensor	1	0.02	15	33	48	\$7
277	High School			Kitchen	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	3	110	0.33	1,650	545	\$ 85	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	95	0.29	1,073	306	\$ 47	Wall Switch Occupancy Sensor	1	0.05	74	165	239	\$37
278	High School			File Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 46	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$36
279	High School			Secretary	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 46	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$36
280	High School			Principal's Office	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 46	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$36
281	High School			Main Office	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	9	68	0.61	2,400	1,469	\$ 228	No Work Proposed	0	68	0.61	2,400	1,469	\$ 228	NO SENSOR PROPOSED	0	-	-	-	0	\$0
282	High School			Main Office	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	10	110	1.10	2,400	2,640	\$ 410	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	95	0.95	2,400	2,280	\$ 354	NO SENSOR PROPOSED	0	0.15	360	-	360	\$56
283	High School			Conference Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 46	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$36
284	High School			Boiler Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	1,000	220	\$ 34	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	650	124	\$ 19	Wall Switch Occupancy Sensor	1	0.03	30	67	97	\$15
285	High School	1		Corr. Gym 1-3	8' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	23	61	1.40	3,000	4,209	\$ 653	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	23	48	1.10	3,000	3,312	\$ 514	NO SENSOR PROPOSED	0	0.30	897	-	897	\$139
286	High School			Corr. Gym 1-3	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
287	High School	1		Corr. Rec.	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	5	89	0.45	3,000	1,335	\$ 207	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	72	0.36	3,000	1,080	\$ 168	NO SENSOR PROPOSED	0	0.09	255	-	255	\$40
288	High School			Corr. Rec.	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

289	High School		1	Corr. Cafeteria	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 4-Light Electronic ballast	15	89	1.34	3,000	4,005	\$ 622	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	3,000	3,240	\$ 503	NO SENSOR PROPOSED	0	0.26	765	-	765	\$119
290	High School			Corr. Cafeteria	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	12	110	1.32	3,000	3,960	\$ 615	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	95	1.14	3,000	3,420	\$ 531	NO SENSOR PROPOSED	0	0.18	540	-	540	\$84
291	High School			Corr. Cafeteria	60w. Incandescent S/I	3	60	0.18	3,000	54	\$ 84	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent Two Piece Screw-In.	3	15	0.05	3,000	135	\$ 21	NO SENSOR PROPOSED	0	0.14	405	-	405	\$63
292	High School			Corr. Cafeteria	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 8	No Work Proposed	0	2	0.01	8,760	53	\$ 8	NO SENSOR PROPOSED	0	-	-	-	0	\$0
293	High School		1	Corr. Gym 4-5	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	12	110	1.32	3,000	3,960	\$ 615	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	95	1.14	3,000	3,420	\$ 531	NO SENSOR PROPOSED	0	0.18	540	-	540	\$84
294	High School			Corr. Gym 4-5	100w Incandescent S/I	2	100	0.20	3,000	600	\$ 93	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	2	23	0.05	3,000	138	\$ 21	NO SENSOR PROPOSED	0	0.15	462	-	462	\$72
295	High School			Corr. Gym 4-5	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
296	High School		1	Corr. CONF	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	10	110	1.10	3,000	3,300	\$ 512	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	95	0.95	3,000	2,850	\$ 442	NO SENSOR PROPOSED	0	0.15	450	-	450	\$70
297	High School			Corr. CONF	100w Incandescent S/I	1	100	0.10	3,000	300	\$ 47	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 11	NO SENSOR PROPOSED	0	0.08	231	-	231	\$36
298	High School			Corr. CONF	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 5	No Work Proposed	0	2	0.00	8,760	35	\$ 5	NO SENSOR PROPOSED	0	-	-	-	0	\$0
299	High School		1	Corr. 121-129	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	13	110	1.43	3,000	4,290	\$ 666	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	13	95	1.24	3,000	3,705	\$ 575	NO SENSOR PROPOSED	0	0.20	585	-	585	\$91
300	High School			Corr. 121-129	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	3,000	267	\$ 41	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	3,000	216	\$ 34	NO SENSOR PROPOSED	0	0.02	51	-	51	\$8
301	High School			Corr. 121-129	100w Incandescent S/I	2	100	0.20	3,000	600	\$ 93	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	2	23	0.05	3,000	138	\$ 21	NO SENSOR PROPOSED	0	0.15	462	-	462	\$72
302	High School			Corr. 121-129	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 8	No Work Proposed	0	2	0.01	8,760	53	\$ 8	NO SENSOR PROPOSED	0	-	-	-	0	\$0
303	High School		1	Corr. 130-136	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	3,000	2,640	\$ 410	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	3,000	2,280	\$ 354	NO SENSOR PROPOSED	0	0.12	360	-	360	\$56
304	High School			Corr. 130-136	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 5	No Work Proposed	0	2	0.00	8,760	35	\$ 5	NO SENSOR PROPOSED	0	-	-	-	0	\$0
305	High School		1	Corr. 137-139	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	13	110	1.43	3,000	4,290	\$ 666	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	13	95	1.24	3,000	3,705	\$ 575	NO SENSOR PROPOSED	0	0.20	585	-	585	\$91
306	High School			Corr. 137-139	100w Incandescent S/I	4	100	0.40	3,000	1,200	\$ 186	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	4	23	0.09	3,000	276	\$ 43	NO SENSOR PROPOSED	0	0.31	924	-	924	\$143
307	High School			Corr. 137-139	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
308	High School		1	Corr. 140-142	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	3,000	2,640	\$ 410	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	3,000	2,280	\$ 354	NO SENSOR PROPOSED	0	0.12	360	-	360	\$56
309	High School			Corr. 140-142	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 5	No Work Proposed	0	2	0.00	8,760	35	\$ 5	NO SENSOR PROPOSED	0	-	-	-	0	\$0
310	High School		1	Corr. Auto Shop	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	4	110	0.44	3,000	1,320	\$ 205	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	3,000	1,140	\$ 177	NO SENSOR PROPOSED	0	0.06	180	-	180	\$28
311	High School			Corr. Auto Shop	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	1	68	0.07	3,000	204	\$ 32	No Work Proposed	0	68	0.07	3,000	204	\$ 32	NO SENSOR PROPOSED	0	-	-	-	0	\$0
312	High School		1	Corr. Weight Rm	8' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	10	61	0.61	3,000	1,830	\$ 284	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	48	0.48	3,000	1,440	\$ 223	NO SENSOR PROPOSED	0	0.13	390	-	390	\$61
313	High School			Corr. Weight Rm	4' Strip Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	3	31	0.09	3,000	279	\$ 43	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	3	25	0.08	3,000	225	\$ 35	NO SENSOR PROPOSED	0	0.02	54	-	54	\$8
314	High School		1	Corr. 150-158	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	19	89	1.69	3,000	5,073	\$ 787	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	19	72	1.37	3,000	4,104	\$ 637	NO SENSOR PROPOSED	0	0.32	969	-	969	\$150
315	High School			Corr. 150-158	60w. Incandescent S/I	4	60	0.24	3,000	720	\$ 112	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent One Piece Screw-In.	4	15	0.06	3,000	180	\$ 28	NO SENSOR PROPOSED	0	0.18	540	-	540	\$84
316	High School			Corr. 150-158	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 5	No Work Proposed	0	2	0.00	8,760	35	\$ 5	NO SENSOR PROPOSED	0	-	-	-	0	\$0
317	High School		1	Corr. 159	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	10	89	0.89	3,000	2,670	\$ 414	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	72	0.72	3,000	2,160	\$ 335	NO SENSOR PROPOSED	0	0.17	510	-	510	\$79
318	High School			Corr. 159	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 5	No Work Proposed	0	2	0.00	8,760	35	\$ 5	NO SENSOR PROPOSED	0	-	-	-	0	\$0
319	High School			Corr. 159	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	3,000	1,068	\$ 166	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	3,000	864	\$ 134	NO SENSOR PROPOSED	0	0.07	204	-	204	\$32
320	High School		1	Corr. 163-R.N.	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	19	89	1.69	3,000	5,073	\$ 787	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	19	72	1.37	3,000	4,104	\$ 637	NO SENSOR PROPOSED	0	0.32	969	-	969	\$150
321	High School			Corr. 163-R.N.	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	5	89	0.45	3,000	1,335	\$ 207	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	72	0.36	3,000	1,080	\$ 168	NO SENSOR PROPOSED	0	0.09	255	-	255	\$40
322	High School			Corr. 163-R.N.	40w. Incandescent S/I Flame Tip	17	40	0.68	3,000	2,040	\$ 317	Remove and Replace Existing Lamp With a New 7w Candle Compact Fluorescent Screw-In	17	7	0.12	3,000	357	\$ 55	NO SENSOR PROPOSED	0	0.56	1,683	-	1,683	\$261
323	High School			Corr. 163-R.N.	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 8	No Work Proposed	0	2	0.01	8,760	53	\$ 8	NO SENSOR PROPOSED	0	-	-	-	0	\$0
324	High School		1	Corr. 171-173	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	9	89	0.80	3,000	2,403	\$ 373	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	72	0.65	3,000	1,944	\$ 302	NO SENSOR PROPOSED	0	0.15	459	-	459	\$71
325	High School			Corr. 171-173	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 5	No Work Proposed	0	2	0.00	8,760	35	\$ 5	NO SENSOR PROPOSED	0	-	-	-	0	\$0
326	High School		1	Corr. 174-175	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	14	89	1.25	3,000	3,738	\$ 580	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	14	72	1.01	3,000	3,024	\$ 469	NO SENSOR PROPOSED	0	0.24	714	-	714	\$111
327	High School			Corr. 174-175	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
328	High School		1	Cafeteria	4' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	50	61	3.05	2,400	7,320	\$ 1,136	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	50	48	2.40	2,400	5,760	\$ 894	NO SENSOR PROPOSED	0	0.65	1,560	-	1,560	\$242
329	High School			Cafeteria	Exit Sign w/ 2w LED	4	2	0.01	8,760	70	\$ 11	No Work Proposed	0	2	0.01	8,760	70	\$ 11	NO SENSOR PROPOSED	0	-	-	-	0	\$0
330	High School		1	Kitchen	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	16	110	1.76	1,650	2,904	\$ 451	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	95	1.52	1,650	2,508	\$ 389	NO SENSOR PROPOSED	0	0.24	396	-	396	\$61
331	High School			Kitchen	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	4	110	0.44	1,650	726	\$ 113	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	1,650	627	\$ 97	NO SENSOR PROPOSED	0	0.06	99	-	99	\$15
332	High School			Kitchen	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,650	201	\$ 31	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,650	158	\$ 25	NO SENSOR PROPOSED	0	0.03	43	-	43	\$7
333	High School			Kitchen	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
334	High School			Kitchen	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	1	110	0.11	1,650	182	\$ 28	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	1,650	157	\$ 24	NO SENSOR PROPOSED	0	0.02	25	-	25	\$4
335	High School			Kitchen	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,650	201	\$ 31	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,650	158	\$ 25	NO SENSOR PROPOSED	0	0.03	43	-	43	\$7
336	High School			Kitchen	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	6	61	0.37	1,650	604	\$ 94	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	48	0.29	1,650	475	\$ 74	NO SENSOR PROPOSED	0	0.08	129	-	129	\$20

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

337	High School	1	Gym 1,2,3	High Bay Fixture with (1) 400w Metal Halide Lamp and (1) Magnetic HID Ballast	24	445	10.68	2,400	25,632	\$ 3,978	Remove and Replace Existing Fixture With a New 2x4 Recessed Troffer Fixture Containing a Silver Reflector, 4-Lamp Electronic High Output Ballast, and (4) 4' T5 F54 HO Lamps, And cage lens	24	234	5.62	2,400	13,478	\$ 2,092	NO SENSOR PROPOSED	0	5.06	12,154	-	12,154	\$1,886
338	High School		Gym 1,2,3	Exit Sign w/ 2w LED	6	2	0.01	8,760	105	\$ 16	No Work Proposed	0	2	0.01	8,760	105	\$ 16	NO SENSOR PROPOSED	0	-	-	-	0	\$0
339	High School	1	Gym 4,5	450w Mercury Vapor High Bay Fixture	36	450	16.20	2,400	38,880	\$ 6,034	Remove and Replace Existing Fixture With a New 2x4 Recessed Troffer Fixture Containing a Silver Reflector, 4-Lamp Electronic High Output Ballast, and (4) 4' T5 F54 HO Lamps, And cage lens	18	234	4.21	2,400	10,109	\$ 1,569	NO SENSOR PROPOSED	0	11.99	28,771	-	28,771	\$4,465
340	High School		Gym 4,5	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	24	61	1.46	2,400	3,514	\$ 545	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	24	48	1.15	2,400	2,765	\$ 429	NO SENSOR PROPOSED	0	0.31	749	-	749	\$116
341	High School		Gym 4,5	Exit Sign w/ 2w LED	6	2	0.01	8,760	105	\$ 16	No Work Proposed	0	2	0.01	8,760	105	\$ 16	NO SENSOR PROPOSED	0	-	-	-	0	\$0
342	High School	1	Boys Locker Rm	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	4	110	0.44	2,400	1,056	\$ 164	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	2,400	912	\$ 142	NO SENSOR PROPOSED	0	0.06	144	-	144	\$22
343	High School		Boys Locker Rm	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	6	61	0.37	2,400	878	\$ 136	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	48	0.29	2,400	691	\$ 107	NO SENSOR PROPOSED	0	0.08	187	-	187	\$29
344	High School		Boys Locker Rm	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 5	No Work Proposed	0	2	0.00	8,760	35	\$ 5	NO SENSOR PROPOSED	0	-	-	-	0	\$0
345	High School		Boys Locker Rm	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	20	61	1.22	2,400	2,928	\$ 454	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	20	48	0.96	2,400	2,304	\$ 358	NO SENSOR PROPOSED	0	0.26	624	-	624	\$97
346	High School		Boys Locker Rm	4' Vapor & Moisture Resistant Fixture w/ (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	4	110	0.44	2,400	1,056	\$ 164	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	2,400	912	\$ 142	NO SENSOR PROPOSED	0	0.06	144	-	144	\$22
347	High School	1	Office	8' Strip Fixture with (1) F96 T8 Lamp & (1) 1L Electronic Ballast	1	58	0.06	2,400	139	\$ 22	No Work Proposed	0	58	0.06	2,400	139	\$ 22	NO SENSOR PROPOSED	0	-	-	-	0	\$0
348	High School	1	Boys Locker Rm	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	9	61	0.55	2,400	1,318	\$ 204	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	48	0.43	2,400	1,037	\$ 161	NO SENSOR PROPOSED	0	0.12	281	-	281	\$44
349	High School	1	Room	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	6	61	0.37	1,650	604	\$ 94	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	48	0.29	1,650	475	\$ 74	NO SENSOR PROPOSED	0	0.08	129	-	129	\$20
350	High School	1	Room	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,650	201	\$ 31	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,650	158	\$ 25	NO SENSOR PROPOSED	0	0.03	43	-	43	\$7
351	High School		Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,650	201	\$ 31	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,650	158	\$ 25	NO SENSOR PROPOSED	0	0.03	43	-	43	\$7
352	High School	1	Adoptive Gym	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	24	89	2.14	2,400	5,126	\$ 796	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	24	72	1.73	2,400	4,147	\$ 644	NO SENSOR PROPOSED	0	0.41	979	-	979	\$152
353	High School		Adoptive Gym	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
354	High School	1	Exercise Gym	ROOM LOCKED	1	0	0.00	1,650	0	\$ -	No Work Proposed	0	0	0.00	1,650	-	\$ -	NO SENSOR PROPOSED	0	-	-	-	0	\$0
355	High School		Exercise Gym	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	22	61	1.34	1,650	2,214	\$ 344	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	22	48	1.06	1,650	1,742	\$ 270	NO SENSOR PROPOSED	0	0.29	472	-	472	\$73
356	High School		Exercise Gym	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 5	No Work Proposed	0	2	0.00	8,760	35	\$ 5	NO SENSOR PROPOSED	0	-	-	-	0	\$0
357	High School	1	Girls Locker Rm	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	17	61	1.04	2,400	2,489	\$ 386	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	17	48	0.82	2,400	1,958	\$ 304	NO SENSOR PROPOSED	0	0.22	530	-	530	\$82
358	High School		Girls Locker Rm	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
359	High School		Girls Locker Rm	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	17	61	1.04	2,400	2,489	\$ 386	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	17	48	0.82	2,400	1,958	\$ 304	NO SENSOR PROPOSED	0	0.22	530	-	530	\$82
360	High School		Girls Locker Rm	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	2,400	439	\$ 68	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	2,400	346	\$ 54	NO SENSOR PROPOSED	0	0.04	94	-	94	\$15
361	High School	1	Girls LR-Shower	60w. Incandescent S/I	1	60	0.06	3,000	180	\$ 28	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	3,000	45	\$ 7	NO SENSOR PROPOSED	0	0.05	135	-	135	\$21
362	High School		Girls LR-Shower	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	5	61	0.31	3,000	915	\$ 142	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	48	0.24	3,000	720	\$ 112	NO SENSOR PROPOSED	0	0.07	195	-	195	\$30
363	High School		Girls LR-Shower	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
364	High School	1	PE Office	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	6	61	0.37	2,400	878	\$ 136	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	48	0.29	2,400	691	\$ 107	NO SENSOR PROPOSED	0	0.08	187	-	187	\$29
365	High School	1	Side Room	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	1,650	101	\$ 16	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,650	79	\$ 12	NO SENSOR PROPOSED	0	0.01	21	-	21	\$3
366	High School	2	Corr. 202-211	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	10	110	1.10	3,000	3,300	\$ 512	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	95	0.95	3,000	2,850	\$ 442	NO SENSOR PROPOSED	0	0.15	450	-	450	\$70
367	High School		Corr. 202-211	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 5	No Work Proposed	0	2	0.00	8,760	35	\$ 5	NO SENSOR PROPOSED	0	-	-	-	0	\$0
368	High School	2	Stairs - 211	4' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	1	61	0.06	3,640	222	\$ 34	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,640	175	\$ 27	NO SENSOR PROPOSED	0	0.01	47	-	47	\$7
369	High School		Stairs - 211	Surface Mounted Drum fixture w/ (2) 60A S.I.	4	120	0.48	3,640	1,747	\$ 271	Remove and Replace Existing Lamps With (2) New 23w Compact Fluorescent Two Piece Screw-In.	4	46	0.18	3,640	670	\$ 104	NO SENSOR PROPOSED	0	0.30	1,077	-	1,077	\$167
370	High School	2	Corr. 212-215	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	6	110	0.66	3,000	1,980	\$ 307	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	3,000	1,710	\$ 265	NO SENSOR PROPOSED	0	0.09	270	-	270	\$42
371	High School	2	Corr. - K-12	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	10	110	1.10	3,000	3,300	\$ 512	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	95	0.95	3,000	2,850	\$ 442	NO SENSOR PROPOSED	0	0.15	450	-	450	\$70
372	High School		Corr. - K-12	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
373	High School	1	Stairs - 137	4' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	1	61	0.06	3,640	222	\$ 34	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,640	175	\$ 27	NO SENSOR PROPOSED	0	0.01	47	-	47	\$7
374	High School		Stairs - 137	Surface Mounted Drum fixture w/ (2) 60A S.I.	5	120	0.60	3,640	2,184	\$ 339	Remove and Replace Existing Lamps With (2) New 23w Compact Fluorescent Two Piece Screw-In.	5	46	0.23	3,640	837	\$ 130	NO SENSOR PROPOSED	0	0.37	1,347	-	1,347	\$209
375	High School		Stairs - 137	60w. Incandescent S/I	2	60	0.12	3,640	437	\$ 68	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	2	15	0.03	3,640	109	\$ 17	NO SENSOR PROPOSED	0	0.09	328	-	328	\$51
376	High School	2	Corr. 223-231	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	6	110	0.66	3,000	1,980	\$ 307	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	3,000	1,710	\$ 265	NO SENSOR PROPOSED	0	0.09	270	-	270	\$42
377	High School		Corr. 223-231	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 5	No Work Proposed	0	2	0.00	8,760	35	\$ 5	NO SENSOR PROPOSED	0	-	-	-	0	\$0
378	High School	2	Corr. 238-240	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	6	110	0.66	3,000	1,980	\$ 307	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	3,000	1,710	\$ 265	NO SENSOR PROPOSED	0	0.09	270	-	270	\$42
379	High School	2	Corr. 240-247	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	10	110	1.10	3,000	3,300	\$ 512	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	95	0.95	3,000	2,850	\$ 442	NO SENSOR PROPOSED	0	0.15	450	-	450	\$70
380	High School		Corr. 240-247	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 5	No Work Proposed	0	2	0.00	8,760	35	\$ 5	NO SENSOR PROPOSED	0	-	-	-	0	\$0
381	High School	2	Corr. 241	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	2	110	0.22	3,000	660	\$ 102	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	3,000	570	\$ 88	NO SENSOR PROPOSED	0	0.03	90	-	90	\$14

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

382	High School		Corr. 241	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	3	No Work Proposed	0	2	0.00	8,760	18	\$	3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
383	High School	1	Stairs - 139	4' Strip Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	1	31	0.03	3,640	113	\$	18	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	1	25	0.03	3,640	91	\$	14	NO SENSOR PROPOSED	0	0.01	22	-	22	\$3
384	High School		Stairs - 139	Surface Mounted Drum fixture w/ (2) 60A S.I.	4	120	0.48	3,640	1,747	\$	271	Remove and Replace Existing Lamps With (2) New 23w Compact Fluorescent Two Piece Screw-In.	4	46	0.18	3,640	670	\$	104	NO SENSOR PROPOSED	0	0.30	1,077	-	1,077	\$167
385	High School	2	Corr. 247-248	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	6	110	0.66	3,000	1,980	\$	307	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	3,000	1,710	\$	285	NO SENSOR PROPOSED	0	0.09	270	-	270	\$42
386	High School		Corr. 247-248	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$	5	No Work Proposed	0	2	0.00	8,760	35	\$	5	NO SENSOR PROPOSED	0	-	-	-	0	\$0
387	High School	1	Stairs 231	4' Strip Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	1	31	0.03	3,640	113	\$	18	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	1	25	0.03	3,640	91	\$	14	NO SENSOR PROPOSED	0	0.01	22	-	22	\$3
388	High School		Stairs 231	Surface Mounted Drum fixture w/ (2) 60A S.I.	4	120	0.48	3,640	1,747	\$	271	Remove and Replace Existing Lamps With (2) New 23w Compact Fluorescent Two Piece Screw-In.	4	46	0.18	3,640	670	\$	104	NO SENSOR PROPOSED	0	0.30	1,077	-	1,077	\$167
389	High School	2	Walkway	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	3,000	801	\$	124	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	3,000	648	\$	101	NO SENSOR PROPOSED	0	0.05	153	-	153	\$24
390	High School		Walkway	4' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	50	61	3.05	3,000	9,150	\$	1,420	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	50	48	2.40	3,000	7,200	\$	1,117	NO SENSOR PROPOSED	0	0.65	1,950	-	1,950	\$303
391	High School		Walkway	4' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	12	61	0.73	3,000	2,196	\$	341	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	48	0.58	3,000	1,728	\$	288	NO SENSOR PROPOSED	0	0.16	468	-	468	\$73
392	High School		Walkway	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	5	89	0.45	3,000	1,335	\$	207	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	72	0.36	3,000	1,080	\$	168	NO SENSOR PROPOSED	0	0.09	255	-	255	\$40
393	High School		Walkway	Exit Sign w/ 2w LED	4	2	0.01	8,760	70	\$	11	No Work Proposed	0	2	0.01	8,760	70	\$	11	NO SENSOR PROPOSED	0	-	-	-	0	\$0
394	High School	1	Stairs 179	Surface Mounted Drum fixture w/ (2) 60A S.I.	1	120	0.12	3,640	437	\$	68	Remove and Replace Existing Lamps With (2) New 23w Compact Fluorescent Two Piece Screw-In.	1	46	0.05	3,640	167	\$	26	NO SENSOR PROPOSED	0	0.07	269	-	269	\$42
395	High School		Stairs 179	60w. Incandescent S/I	3	60	0.18	3,640	655	\$	102	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	3	15	0.05	3,640	164	\$	25	NO SENSOR PROPOSED	0	0.14	491	-	491	\$76
396	High School		Stairs 179	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	3	No Work Proposed	0	2	0.00	8,760	18	\$	3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
397	High School	2	Corr. 277-281	8' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	13	61	0.79	3,000	2,379	\$	369	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	13	48	0.62	3,000	1,872	\$	291	NO SENSOR PROPOSED	0	0.17	507	-	507	\$79
398	High School		Corr. 277-281	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$	5	No Work Proposed	0	2	0.00	8,760	35	\$	5	NO SENSOR PROPOSED	0	-	-	-	0	\$0
399	High School	2	Corr. 272-275	8' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	9	61	0.55	3,000	1,647	\$	256	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	48	0.43	3,000	1,296	\$	201	NO SENSOR PROPOSED	0	0.12	351	-	351	\$54
400	High School		Corr. 272-275	4' Strip Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	1	31	0.03	3,000	93	\$	14	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	1	25	0.03	3,000	75	\$	12	NO SENSOR PROPOSED	0	0.01	18	-	18	\$3
401	High School		Corr. 272-275	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$	28	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,000	144	\$	22	NO SENSOR PROPOSED	0	0.01	39	-	39	\$6
402	High School		Corr. 272-275	60w. Incandescent S/I	3	60	0.18	3,000	540	\$	84	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	3	15	0.05	3,000	135	\$	21	NO SENSOR PROPOSED	0	0.14	405	-	405	\$63
403	High School		Corr. 272-275	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$	8	No Work Proposed	0	2	0.01	8,760	53	\$	8	NO SENSOR PROPOSED	0	-	-	-	0	\$0
404	High School	1	Stairs 173	23w Compact Fluorescent S/I	3	23	0.07	3,640	251	\$	39	No Work Proposed	0	23	0.07	3,640	251	\$	39	NO SENSOR PROPOSED	0	-	-	-	0	\$0
405	High School		Stairs 173	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	3	No Work Proposed	0	2	0.00	8,760	18	\$	3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
406	High School	2	Corr. 264-268	8' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	20	61	1.22	3,000	3,660	\$	568	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	20	48	0.96	3,000	2,880	\$	447	NO SENSOR PROPOSED	0	0.26	780	-	780	\$121
407	High School		Corr. 264-268	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$	28	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,000	144	\$	22	NO SENSOR PROPOSED	0	0.01	39	-	39	\$6
408	High School		Corr. 264-268	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$	5	No Work Proposed	0	2	0.00	8,760	35	\$	5	NO SENSOR PROPOSED	0	-	-	-	0	\$0
409	High School	2	Corr. 261	8' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	3	61	0.18	3,000	549	\$	85	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$	67	NO SENSOR PROPOSED	0	0.04	117	-	117	\$18
410	High School		Corr. 261	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$	57	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$	45	NO SENSOR PROPOSED	0	0.03	78	-	78	\$12
411	High School		Corr. 261	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	3	No Work Proposed	0	2	0.00	8,760	18	\$	3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
412	High School	1	Stairs 158	Surface Mounted Drum fixture w/ (2) 60A S.I.	1	120	0.12	3,640	437	\$	68	Remove and Replace Existing Lamps With (2) New 23w Compact Fluorescent Two Piece Screw-In.	1	46	0.05	3,640	167	\$	26	NO SENSOR PROPOSED	0	0.07	269	-	269	\$42
413	High School		Stairs 158	60w. Incandescent S/I	2	60	0.12	3,640	437	\$	68	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	2	15	0.03	3,640	109	\$	17	NO SENSOR PROPOSED	0	0.09	328	-	328	\$51
414	High School		Stairs 158	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	3	No Work Proposed	0	2	0.00	8,760	18	\$	3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
415	High School	2	Corr. 250-260	8' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	21	61	1.28	3,000	3,843	\$	596	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	21	48	1.01	3,000	3,024	\$	469	NO SENSOR PROPOSED	0	0.27	819	-	819	\$127
416	High School		Corr. 250-260	4' Strip Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	1	31	0.03	3,000	93	\$	14	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	1	25	0.03	3,000	75	\$	12	NO SENSOR PROPOSED	0	0.01	18	-	18	\$3
417	High School		Corr. 250-260	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$	28	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,000	144	\$	22	NO SENSOR PROPOSED	0	0.01	39	-	39	\$6
418	High School		Corr. 250-260	60w. Incandescent S/I	3	60	0.18	3,000	540	\$	84	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	3	15	0.05	3,000	135	\$	21	NO SENSOR PROPOSED	0	0.14	405	-	405	\$63
419	High School		Corr. 250-260	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	3	No Work Proposed	0	2	0.00	8,760	18	\$	3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
420	High School	1	Stairs 158	150w Incandescent S/I	2	150	0.30	3,640	1,092	\$	169	Remove and Replace Existing Lamp With a New 32w Compact Fluorescent Two Piece Screw-In.	2	32	0.06	3,640	233	\$	36	NO SENSOR PROPOSED	0	0.24	859	-	859	\$133
421	High School		Stairs 158	60w. Incandescent S/I	1	60	0.06	3,640	218	\$	34	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	3,640	55	\$	8	NO SENSOR PROPOSED	0	0.05	164	-	164	\$25
422	High School		Stairs 158	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	3	No Work Proposed	0	2	0.00	8,760	18	\$	3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
423	High School		OUTSIDE	Pole mounted cobra-head fixture containing 400w High Pressure Sodium Lamp and (1) HID ballast	7	450	3.15	3,640	11,466	\$	1,780	No Work Proposed	0	450	3.15	3,640	11,466	\$	1,780	NO SENSOR PROPOSED	0	-	-	-	0	\$0
424	High School		OUTSIDE	Surface Mounted Drum Fixture w/ (1) 100w Metal Halide Lamp	16	120	1.92	3,640	6,989	\$	1,085	No Work Proposed	0	120	1.92	3,640	6,989	\$	1,085	NO SENSOR PROPOSED	0	-	-	-	0	\$0
425	High School		OUTSIDE	Wall Pack Fixture w/ (1) 50w High Pressure Sodium Lamp and Magnetic Ballast	7	65	0.46	3,640	1,656	\$	257	No Work Proposed	0	65	0.46	3,640	1,656	\$	257	NO SENSOR PROPOSED	0	-	-	-	0	\$0
426	High School		OUTSIDE	100w Incandescent S/I	17	100	1.70	3,640	6,188	\$	960	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	17	23	0.39	3,640	1,423	\$	221	NO SENSOR PROPOSED	0	1.31	4,765	-	4,765	\$739
427	High School		OUTSIDE	Wall Pack Fixture with (1) 250w High Pressure Sodium Lamp and (1) Magnetic HID Ballast	5	300	1.50	3,640	5,460	\$	847	Remove and Replace Existing Fixture With a New Outdoor Flood Fixture Containing a 175w Metal Halide Lamp	5	210	1.05	3,640	3,822	\$	593	NO SENSOR PROPOSED	0	0.45	1,638	-	1,638	\$254
428	High School		OUTSIDE	Wall Pack Fixture with (1) 100w Metal Halide Lamp and (1) Magnetic HID Ballast	7	120	0.84	3,640	3,058	\$	475	No Work Proposed	0	120	0.84	3,640	3,058	\$	475	NO SENSOR PROPOSED	0	-	-	-	0	\$0
429	High School		OUTSIDE	Wall Pack Fixture with (1) 400w Mercury Vapor Lamp and (1) Magnetic HID Ballast	1	450	0.45	3,640	1,638	\$	254	Remove and Replace Existing Fixture With a New Outdoor Flood Fixture Containing a 175w Metal Halide Lamp	1	210	0.21	3,640	764	\$	119	NO SENSOR PROPOSED	0	0.24	874	-	874	\$136

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

430	High School		OUTSIDE	75w Par 38 Incandescent S/I	1	75	0.08	3,640	273	\$ 42	Remove and Replace Existing Lamp With a New 18w R38 Compact Fluorescent Screw-In	1	18	0.02	3,640	66	\$ 10	NO SENSOR PROPOSED	0	0.06	207	-	207	\$32
431	High School		OUTSIDE	Wall Pack Fixture with (1) 250w Metal Halide Lamp and (1) Magnetic HID Ballast	6	295	1.77	3,640	6,443	\$ 1,000	No Work Proposed	0	295	1.77	3,640	6,443	\$ 1,000	NO SENSOR PROPOSED	0	-	-	-	0	\$0
432	Evergreen	1	Board Office Main	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	30	110	3.30	2,400	7,920	\$ 1,418	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	30	95	2.85	2,400	6,840	\$ 1,225	NO SENSOR PROPOSED	0	0.45	1,080	-	1,080	\$193
433	Evergreen		Board Office Main	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
434	Evergreen		Office	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	2	110	0.22	2,400	528	\$ 95	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 53	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$41
435	Evergreen	160	Secretary	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	2	110	0.22	2,400	528	\$ 95	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 53	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$41
436	Evergreen	167	Mail Copy Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	3	110	0.33	2,400	792	\$ 142	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	95	0.29	1,560	445	\$ 80	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.05	108	239	347	\$62
437	Evergreen		Payroll	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	6	110	0.66	2,400	1,584	\$ 284	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,560	889	\$ 159	Wall Switch Occupancy Sensor	1	0.09	216	479	695	\$124
438	Evergreen	164	Data Processing	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	2	110	0.22	2,400	528	\$ 95	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 53	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$41
439	Evergreen	166	Personnel Director	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	4	110	0.44	2,400	1,056	\$ 189	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	1,560	593	\$ 106	Wall Switch Occupancy Sensor	1	0.06	144	319	463	\$83
440	Evergreen	156	Asst. Superintendent	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	4	110	0.44	2,400	1,056	\$ 189	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	1,560	593	\$ 106	Wall Switch Dual Technology Occupancy Sensor	1	0.06	144	319	463	\$83
441	Evergreen		Records	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	2	110	0.22	2,400	528	\$ 95	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	2,400	456	\$ 82	NO SENSOR PROPOSED	0	0.03	72	-	72	\$13
442	Evergreen	162	Conference Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	5	110	0.55	500	275	\$ 49	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	95	0.48	325	154	\$ 28	Wall Switch Occupancy Sensor	1	0.08	38	83	121	\$22
443	Evergreen	154	Superintendent Secretary	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	4	110	0.44	2,400	1,056	\$ 189	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	1,560	593	\$ 106	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.06	144	319	463	\$83
444	Evergreen		Superintendent	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	8	89	0.71	2,400	1,709	\$ 306	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	1,560	899	\$ 161	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	326	484	810	\$145
445	Evergreen	150	Building & Grounds	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	4	110	0.44	2,400	1,056	\$ 189	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	2,400	912	\$ 163	NO SENSOR PROPOSED	0	0.06	144	-	144	\$26
446	Evergreen		Reception	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	3	110	0.33	500	165	\$ 30	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	95	0.29	500	143	\$ 26	NO SENSOR PROPOSED	0	0.05	23	-	23	\$4
447	Evergreen	152	Conference Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	6	110	0.66	2,400	1,584	\$ 284	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	2,400	1,368	\$ 245	NO SENSOR PROPOSED	0	0.09	216	-	216	\$39
448	Evergreen	148	Public Meeting Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	18	110	1.98	1,000	1,980	\$ 355	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	18	95	1.71	1,000	1,710	\$ 306	NO SENSOR PROPOSED	0	0.27	270	-	270	\$48
449	Evergreen		Public Meeting Room	Exit Sign w/ (2) 20w Incandescent Lamps	1	40	0.04	8,760	350	\$ 63	Remove and Replace existing exit sign with a new LED ex sign.	1	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	0.04	333	-	333	\$60
450	Evergreen	148A	Electrical Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,000	122	\$ 22	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,000	96	\$ 17	NO SENSOR PROPOSED	0	0.03	26	-	26	\$5
451	Evergreen		Reception Lobby	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	4	110	0.44	3,000	1,320	\$ 236	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	3,000	1,140	\$ 204	NO SENSOR PROPOSED	0	0.06	180	-	180	\$32
452	Evergreen		Reception Lobby	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
453	Evergreen	147	Men's Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	1	89	0.09	3,000	267	\$ 48	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	1,950	140	\$ 25	Wall Switch Dual Technology Occupancy Sensor	1	0.02	51	76	127	\$23
454	Evergreen	146	Women's Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	1	89	0.09	3,000	267	\$ 48	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	1,950	140	\$ 25	Wall Switch Dual Technology Occupancy Sensor	1	0.02	51	76	127	\$23
455	Evergreen		Reception Hallway	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	3,000	732	\$ 131	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	3,000	576	\$ 103	NO SENSOR PROPOSED	0	0.05	156	-	156	\$28
456	Evergreen		Reception Hallway	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0
457	Evergreen	144	Girls Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	2	89	0.18	3,000	534	\$ 96	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	3,000	432	\$ 77	NO SENSOR PROPOSED	0	0.03	102	-	102	\$18
458	Evergreen		Girls Room	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$ 33	No Work Proposed	0	61	0.06	1,950	119	\$ 21	Low Voltage (w/ PP-20) Dual Technology Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High-(1) PP-20 per sensor	1	-	-	64	64	\$11
459	Evergreen	144A	Custodian Closet	100w Incandescent S/I	1	100	0.10	500	50	\$ 9	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$7
460	Evergreen	142	SGI	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	4	89	0.36	1,650	587	\$ 105	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	1,073	309	\$ 55	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.07	112	166	279	\$50
461	Evergreen	141	SGI	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	4	89	0.36	1,650	587	\$ 105	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	1,073	309	\$ 55	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.07	112	166	279	\$50
462	Evergreen	143	Boys Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	2	89	0.18	3,000	534	\$ 96	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	1,950	281	\$ 50	Low Voltage (w/ PP-20) Dual Technology Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High-(1) PP-20 per sensor	1	0.03	102	151	253	\$45
463	Evergreen		Boys Room	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$ 33	No Work Proposed	0	61	0.06	3,000	183	\$ 33	NO SENSOR PROPOSED	0	-	-	-	0	\$0
464	Evergreen	140A	Storage	100w Incandescent S/I	1	100	0.10	500	50	\$ 9	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$7
465	Evergreen	140B	Custodian Office	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	2,400	293	\$ 52	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,560	150	\$ 27	Wall Switch Occupancy Sensor	1	0.03	62	81	143	\$26

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

466	Evergreen	140C	Storage	2X4 recessed troffer with (4) F34 Econo-Watt T12 Lamps & (1) 4-Light Magnetic ballast	1	160	0.16	500	80	\$ 14	Re-build existing troffer fixture w/ (2) F28 T8 Lamps, & (1) Low Power 2-Lamp Electronic Ballast & Silver Reflector	1	42	0.04	500	21	\$ 4	NO SENSOR PROPOSED	0	0.12	59	-	59	\$11
467	Evergreen	140	Classroom	2X4 recessed troffer with (4) F34 Econo-Watt T12 Lamps & (1) 4-Light Magnetic ballast	8	160	1.28	1,650	2,112	\$ 378	Re-build existing troffer fixture w/ (2) F28 T8 Lamps, & (1) Normal Power 2-Lamp Electronic Ballast & Silver Reflector	8	48	0.38	1,650	634	\$ 113	NO SENSOR PROPOSED	0	0.90	1,478	-	1,478	\$265
468	Evergreen	138	Classroom	2X4 recessed troffer with (4) F34 Econo-Watt T12 Lamps & (1) 4-Light Magnetic ballast	8	160	1.28	1,650	2,112	\$ 378	Re-build existing troffer fixture w/ (2) F28 T8 Lamps, & (1) Normal Power 2-Lamp Electronic Ballast & Silver Reflector	8	48	0.38	1,650	634	\$ 113	NO SENSOR PROPOSED	0	0.90	1,478	-	1,478	\$265
469	Evergreen	137	Nurse	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	2,400	293	\$ 52	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	2,400	230	\$ 41	NO SENSOR PROPOSED	0	0.03	62	-	62	\$11
470	Evergreen		Exam Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	1,650	101	\$ 18	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,650	79	\$ 14	NO SENSOR PROPOSED	0	0.01	21	-	21	\$4
471	Evergreen		Bathroom	100w Incandescent S/I	1	100	0.10	3,000	300	\$ 54	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 12	NO SENSOR PROPOSED	0	0.08	231	-	231	\$41
472	Evergreen	136	SGI	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,650	201	\$ 36	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,650	158	\$ 28	NO SENSOR PROPOSED	0	0.03	43	-	43	\$8
473	Evergreen	139C	Handicap Lift	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	3,000	534	\$ 96	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	3,000	432	\$ 77	NO SENSOR PROPOSED	0	0.03	102	-	102	\$18
474	Evergreen	123A	Custodian Closet	ROOM LOCKED	0	0	0.00	500	0	\$ -	No Work Proposed	0	0	0.00	500	-	\$ -	NO SENSOR PROPOSED	0	-	-	-	0	\$0
475	Evergreen	122	Meter Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	500	61	\$ 11	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	500	48	\$ 9	NO SENSOR PROPOSED	0	0.03	13	-	13	\$2
476	Evergreen		Boiler Room	100w Incandescent S/I	8	100	0.80	1,000	800	\$ 143	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	8	23	0.18	1,000	184	\$ 33	NO SENSOR PROPOSED	0	0.62	616	-	616	\$110
477	Evergreen	124	Classroom	2X4 recessed troffer with (4) F34 Econo-Watt T12 Lamps & (1) 4-Light Magnetic ballast	8	160	1.28	1,650	2,112	\$ 378	Re-build existing troffer fixture w/ (2) F28 T8 Lamps, & (1) Normal Power 2-Lamp Electronic Ballast & Silver Reflector	8	48	0.38	1,650	634	\$ 113	NO SENSOR PROPOSED	0	0.90	1,478	-	1,478	\$265
478	Evergreen	125	Classroom	2X4 recessed troffer with (4) F34 Econo-Watt T12 Lamps & (1) 4-Light Magnetic ballast	8	160	1.28	1,650	2,112	\$ 378	Re-build existing troffer fixture w/ (2) F28 T8 Lamps, & (1) Normal Power 2-Lamp Electronic Ballast & Silver Reflector	8	48	0.38	1,650	634	\$ 113	NO SENSOR PROPOSED	0	0.90	1,478	-	1,478	\$265
479	Evergreen	126	Classroom	2X4 recessed troffer with (4) F34 Econo-Watt T12 Lamps & (1) 4-Light Magnetic ballast	8	160	1.28	1,650	2,112	\$ 378	Re-build existing troffer fixture w/ (2) F28 T8 Lamps, & (1) Normal Power 2-Lamp Electronic Ballast & Silver Reflector	8	48	0.38	1,650	634	\$ 113	NO SENSOR PROPOSED	0	0.90	1,478	-	1,478	\$265
480	Evergreen	127	Classroom	2X4 recessed troffer with (4) F34 Econo-Watt T12 Lamps & (1) 4-Light Magnetic ballast	8	160	1.28	1,650	2,112	\$ 378	Re-build existing troffer fixture w/ (2) F28 T8 Lamps, & (1) Normal Power 2-Lamp Electronic Ballast & Silver Reflector	8	48	0.38	1,650	634	\$ 113	NO SENSOR PROPOSED	0	0.90	1,478	-	1,478	\$265
481	Evergreen	128	Classroom	2X4 recessed troffer with (4) F34 Econo-Watt T12 Lamps & (1) 4-Light Magnetic ballast	8	160	1.28	1,650	2,112	\$ 378	Re-build existing troffer fixture w/ (2) F28 T8 Lamps, & (1) Normal Power 2-Lamp Electronic Ballast & Silver Reflector	8	48	0.38	1,650	634	\$ 113	NO SENSOR PROPOSED	0	0.90	1,478	-	1,478	\$265
482	Evergreen	129	Classroom	2X4 recessed troffer with (4) F34 Econo-Watt T12 Lamps & (1) 4-Light Magnetic ballast	8	160	1.28	1,650	2,112	\$ 378	Re-build existing troffer fixture w/ (2) F28 T8 Lamps, & (1) Normal Power 2-Lamp Electronic Ballast & Silver Reflector	8	48	0.38	1,650	634	\$ 113	NO SENSOR PROPOSED	0	0.90	1,478	-	1,478	\$265
483	Evergreen	131	Classroom	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	16	110	1.76	1,650	2,904	\$ 520	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	95	1.52	1,650	2,508	\$ 449	NO SENSOR PROPOSED	0	0.24	396	-	396	\$71
484	Evergreen	132	Classroom	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	16	110	1.76	1,650	2,904	\$ 520	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	95	1.52	1,650	2,508	\$ 449	NO SENSOR PROPOSED	0	0.24	396	-	396	\$71
485	Evergreen		Bathroom	100w Incandescent S/I	1	100	0.10	3,000	300	\$ 54	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 12	NO SENSOR PROPOSED	0	0.08	231	-	231	\$41
486	Evergreen	130	Storage	ROOM LOCKED	0	0	0.00	500	0	\$ -	No Work Proposed	0	0	0.00	500	-	\$ -	NO SENSOR PROPOSED	0	-	-	-	0	\$0
487	Evergreen	133	Girls Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	2	89	0.18	3,000	534	\$ 96	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	1,950	281	\$ 50	Wall Switch Dual Technology Occupancy Sensor	1	0.03	102	151	253	\$45
488	Evergreen	134	Boys Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	2	89	0.18	3,000	534	\$ 96	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	1,950	281	\$ 50	Wall Switch Dual Technology Occupancy Sensor	1	0.03	102	151	253	\$45
489	Evergreen	101	Main Office	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	4	110	0.44	2,400	1,056	\$ 189	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	2,400	912	\$ 163	NO SENSOR PROPOSED	0	0.06	144	-	144	\$26
490	Evergreen		Server Room	100w Incandescent S/I	1	100	0.10	1,650	165	\$ 30	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	1,650	38	\$ 7	NO SENSOR PROPOSED	0	0.08	127	-	127	\$23
491	Evergreen		Closet	100w Incandescent S/I	1	100	0.10	500	50	\$ 9	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$7
492	Evergreen	103	Principal's Office	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	1	110	0.11	2,400	264	\$ 47	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	2,400	228	\$ 41	NO SENSOR PROPOSED	0	0.02	36	-	36	\$6
493	Evergreen	102	Conference Room	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	2	110	0.22	2,400	528	\$ 95	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 53	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.03	72	160	232	\$41
494	Evergreen	104	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	1,650	1,452	\$ 260	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,650	1,254	\$ 225	NO SENSOR PROPOSED	0	0.12	198	-	198	\$35
495	Evergreen	105	Faculty Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	2,400	2,112	\$ 378	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	2,400	1,824	\$ 327	NO SENSOR PROPOSED	0	0.12	288	-	288	\$52
496	Evergreen		Women's Room	100w Incandescent S/I	1	100	0.10	3,000	300	\$ 54	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 12	NO SENSOR PROPOSED	0	0.08	231	-	231	\$41
497	Evergreen		Men's Room	100w Incandescent S/I	1	100	0.10	3,000	300	\$ 54	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 12	NO SENSOR PROPOSED	0	0.08	231	-	231	\$41
498	Evergreen	106	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	1,650	1,452	\$ 260	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,650	1,254	\$ 225	NO SENSOR PROPOSED	0	0.12	198	-	198	\$35
499	Evergreen	107	Boys Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	3,000	801	\$ 143	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	3,000	648	\$ 116	NO SENSOR PROPOSED	0	0.05	153	-	153	\$27
500	Evergreen	108	Girls Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	3,000	801	\$ 143	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	3,000	648	\$ 116	NO SENSOR PROPOSED	0	0.05	153	-	153	\$27
501	Evergreen	109	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	1,650	1,452	\$ 260	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,650	1,254	\$ 225	NO SENSOR PROPOSED	0	0.12	198	-	198	\$35
502	Evergreen	110	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	1,650	1,452	\$ 260	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,650	1,254	\$ 225	NO SENSOR PROPOSED	0	0.12	198	-	198	\$35
503	Evergreen	112	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	1,650	1,452	\$ 260	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,650	1,254	\$ 225	NO SENSOR PROPOSED	0	0.12	198	-	198	\$35
504	Evergreen	111	Custodian Closet	ROOM LOCKED	0	0	0.00	500	0	\$ -	No Work Proposed	0	0	0.00	500	-	\$ -	NO SENSOR PROPOSED	0	-	-	-	0	\$0
505	Evergreen	113	Group Meeting Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	6	110	0.66	2,400	1,584	\$ 284	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	2,400	1,368	\$ 245	NO SENSOR PROPOSED	0	0.09	216	-	216	\$39
506	Evergreen	114	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	1,650	1,452	\$ 260	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,650	1,254	\$ 225	NO SENSOR PROPOSED	0	0.12	198	-	198	\$35

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

507	Evergreen	115		Classroom	2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	10	110	1.10	1,650	1,815	\$ 325	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	95	0.95	1,650	1,568	\$ 281	NO SENSOR PROPOSED	0	0.15	248	-	248	\$44	
508	Evergreen			Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	1,650	101	\$ 18	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,650	79	\$ 14	NO SENSOR PROPOSED	0	0.01	21	-	21	\$4	
509	Evergreen			Bathroom	100w Incandescent S/I	2	100	0.20	3,000	600	\$ 107	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In	2	23	0.05	3,000	138	\$ 25	NO SENSOR PROPOSED	0	0.15	462	-	462	\$83	
510	Evergreen	116		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 195	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 168	NO SENSOR PROPOSED	0	0.09	149	-	149	\$27	
511	Evergreen			Bathroom	100w Incandescent S/I	1	100	0.10	3,000	300	\$ 54	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In	1	23	0.02	3,000	69	\$ 12	NO SENSOR PROPOSED	0	0.08	231	-	231	\$41	
512	Evergreen	117		Classroom	2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	9	110	0.99	1,650	1,634	\$ 293	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,650	1,411	\$ 253	NO SENSOR PROPOSED	0	0.14	223	-	223	\$40	
513	Evergreen			Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,650	201	\$ 36	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,650	158	\$ 28	NO SENSOR PROPOSED	0	0.03	43	-	43	\$8	
514	Evergreen			OUTSIDE	Flood Fixture with (1) 400w Metal Halide Pulse Start Lamp and (1) Magnetic HID Ballast	6	445	2.67	3,640	9,719	\$ 1,741	No Work Proposed	0	445	0.00	3,640	-	\$ -	NO SENSOR PROPOSED	0	2.67	9,719	-	9,719	\$1,741	
515	Evergreen			OUTSIDE	Wall Pack Fixture with (1) 70w Metal Halide Lamp and (1) Magnetic HID Ballast	5	85	0.43	3,640	1,547	\$ 277	No Work Proposed	0	85	0.00	3,640	-	\$ -	NO SENSOR PROPOSED	0	0.43	1,547	-	1,547	\$277	
516	Evergreen			OUTSIDE	Wall Pack Fixture w/ (1) 50w High Pressure Sodium Lamp and Magnetic Ballast	2	65	0.13	3,640	473	\$ 85	No Work Proposed	0	65	0.00	3,640	-	\$ -	NO SENSOR PROPOSED	0	0.13	473	-	473	\$85	
517	Evergreen			OUTSIDE	Wall Pack Fixture w/ (1) 100w High Pressure Sodium Lamp and Magnetic Ballast	13	125	1.63	3,640	5,915	\$ 1,059	No Work Proposed	0	125	0.00	3,640	-	\$ -	NO SENSOR PROPOSED	0	1.63	5,915	-	5,915	\$1,059	
518	Evergreen			OUTSIDE	Surface Mounted Drum Fixture w/ (1) 100w Metal Halide Lamp	1	120	0.12	3,640	437	\$ 78	No Work Proposed	0	120	0.00	3,640	-	\$ -	NO SENSOR PROPOSED	0	0.12	437	-	437	\$78	
519	Evergreen			OUTSIDE	Flood Fixture with (1) 400w High Pressure Sodium Lamp and (1) Magnetic HID Ballast	2	450	0.90	3,640	3,276	\$ 587	No Work Proposed	0	450	0.00	3,640	-	\$ -	NO SENSOR PROPOSED	0	0.90	3,276	-	3,276	\$587	
520	Evergreen		Corr. 114-121		4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	14	61	0.85	3,000	2,562	\$ 459	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	14	48	0.67	3,000	2,016	\$ 361	NO SENSOR PROPOSED	0	0.18	546	-	546	\$98	
521	Evergreen		Corr. 114-121		2x4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$ 33	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,000	144	\$ 26	NO SENSOR PROPOSED	0	0.01	39	-	39	\$7	
522	Evergreen		Corr. 114-121		Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 9	No Work Proposed	0	2	0.01	8,760	53	\$ 9	NO SENSOR PROPOSED	0	-	-	-	0	\$0	
523	Evergreen		Corr. 106-113		4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	3,000	732	\$ 131	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	3,000	576	\$ 103	NO SENSOR PROPOSED	0	0.05	156	-	156	\$28	
524	Evergreen		Corr. 106-113		Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0	
525	Evergreen		Corr. 7		2x4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$ 33	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,000	144	\$ 26	NO SENSOR PROPOSED	0	0.01	39	-	39	\$7	
526	Evergreen		Corr. 7		4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$ 33	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,000	144	\$ 26	NO SENSOR PROPOSED	0	0.01	39	-	39	\$7	
527	Evergreen		Corr. 101-105		4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	6	61	0.37	3,000	1,098	\$ 197	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	48	0.29	3,000	864	\$ 155	NO SENSOR PROPOSED	0	0.08	234	-	234	\$42	
528	Evergreen		Corr. 1		4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 66	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 52	NO SENSOR PROPOSED	0	0.03	78	-	78	\$14	
529	Evergreen		Corr. 136-142		4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	5	61	0.31	3,000	915	\$ 164	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	48	0.24	3,000	720	\$ 129	NO SENSOR PROPOSED	0	0.07	195	-	195	\$35	
530	Evergreen		Corr. 136-142		2x4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	4	89	0.36	3,000	1,068	\$ 191	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	3,000	864	\$ 155	NO SENSOR PROPOSED	0	0.07	204	-	204	\$37	
531	Evergreen		Corr. 136-142		2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	3	110	0.33	3,000	990	\$ 177	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	95	0.29	3,000	855	\$ 153	NO SENSOR PROPOSED	0	0.05	135	-	135	\$24	
532	Evergreen		Corr. 136-142		Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 6	No Work Proposed	0	2	0.00	8,760	35	\$ 6	NO SENSOR PROPOSED	0	-	-	-	0	\$0	
533	Evergreen		Corridor		2x4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	3,000	732	\$ 131	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	3,000	576	\$ 103	NO SENSOR PROPOSED	0	0.05	156	-	156	\$28	
534	Evergreen		Corridor		Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$0	
535	Evergreen		Corr. 124-129		4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	8	61	0.49	3,000	1,464	\$ 262	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	48	0.38	3,000	1,152	\$ 206	NO SENSOR PROPOSED	0	0.10	312	-	312	\$56	
536	Evergreen		Corr. 124-129		4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	2	31	0.06	3,000	186	\$ 33	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	2	25	0.05	3,000	150	\$ 27	NO SENSOR PROPOSED	0	0.01	36	-	36	\$6	
537	Evergreen		Corr. 124-129		Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 6	No Work Proposed	0	2	0.00	8,760	35	\$ 6	NO SENSOR PROPOSED	0	-	-	-	0	\$0	
538	Evergreen		Corr. 8		2x4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	6	89	0.53	3,000	1,602	\$ 287	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	72	0.43	3,000	1,296	\$ 232	NO SENSOR PROPOSED	0	0.10	306	-	306	\$55	
539	Evergreen		Corr. 8		Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 6	No Work Proposed	0	2	0.00	8,760	35	\$ 6	NO SENSOR PROPOSED	0	-	-	-	0	\$0	
540	Evergreen		Corr. 9		2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	5	110	0.55	3,000	1,650	\$ 296	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	95	0.48	3,000	1,425	\$ 255	NO SENSOR PROPOSED	0	0.08	225	-	225	\$40	
541	Evergreen		Corr. 9		Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 6	No Work Proposed	0	2	0.00	8,760	35	\$ 6	NO SENSOR PROPOSED	0	-	-	-	0	\$0	
542	Evergreen		Corr. Gym		2x4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	6	89	0.53	3,000	1,602	\$ 287	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	72	0.43	3,000	1,296	\$ 232	NO SENSOR PROPOSED	0	0.10	306	-	306	\$55	
543	Evergreen		Corr. Gym		Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 6	No Work Proposed	0	2	0.00	8,760	35	\$ 6	NO SENSOR PROPOSED	0	-	-	-	0	\$0	
544	Evergreen		Gym - Rm 135		High Bay Fixture with (1) 400w Metal Halide Lamp and (1) Magnetic HID Ballast	16	445	7.12	2,400	17,088	\$ 3,060	Remove and Replace Existing Fixture With a New 2x4 Recessed Troffer Fixture Containing a Silver Reflector, 4-Lamp Electronic High Output Ballast, and (4) 4' T5 F54 HO Lamps. And cage lens	16	234	3.74	2,400	8,986	\$ 1,609	NO SENSOR PROPOSED	0	3.38	8,102	-	8,102	\$1,451	
545	Evergreen		Gym - Rm 135		Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 9	No Work Proposed	0	2	0.01	8,760	53	\$ 9	NO SENSOR PROPOSED	0	-	-	-	0	\$0	
546	Evergreen		Storage		2x4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	3	89	0.27	500	134	\$ 24	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	500	108	\$ 19	NO SENSOR PROPOSED	0	0.05	26	-	26	\$5	
547	Evergreen		Office		2x4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	2	89	0.18	2,400	427	\$ 77	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	2,400	346	\$ 62	NO SENSOR PROPOSED	0	0.03	82	-	82	\$15	
548	Evergreen		Office		2x2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	2,400	146	\$ 26	No Work Proposed	0	61	0.06	1,560	95	\$ 17	Wall Switch Occupancy Sensor	2	-	-	-	51	51	\$9
549	Evergreen		Multi-Purpose Rm 139		2x4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	15	110	1.65	2,400	3,960	\$ 709	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	95	1.43	2,400	3,420	\$ 613	NO SENSOR PROPOSED	0	0.23	540	-	540	\$97	
550	Evergreen		Multi-Purpose Rm 139		Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 9	No Work Proposed	0	2	0.01	8,760	53	\$ 9	NO SENSOR PROPOSED	0	-	-	-	0	\$0	

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

551	Evergreen		Stage	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	1,650	587	\$ 105	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	1,650	475	\$ 85	NO SENSOR PROPOSED	0	0.07	112	-	112	\$20
552	Evergreen		Stage	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 6	No Work Proposed	0	2	0.00	8,760	35	\$ 6	NO SENSOR PROPOSED	0	-	-	-	0	\$0
553	Evergreen		Rm 121	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 195	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 168	NO SENSOR PROPOSED	0	0.09	149	-	149	\$27
554	Evergreen		Rm 121	100w Incandescent S/l	1	100	0.10	1,650	165	\$ 30	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	1,073	25	\$ 4	Wall Switch Occupancy Sensor	1	0.08	127	13	140	\$25
555	Evergreen		Rm 120	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 195	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 168	NO SENSOR PROPOSED	0	0.09	149	-	149	\$27
556	Evergreen		Rm 120	100w Incandescent S/l	1	100	0.10	1,650	165	\$ 30	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	1,073	25	\$ 4	Wall Switch Occupancy Sensor	1	0.08	127	13	140	\$25
557	Evergreen		Rm 118	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 195	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 168	NO SENSOR PROPOSED	0	0.09	149	-	149	\$27
558	Evergreen		Rm 118	100w Incandescent S/l	1	100	0.10	1,650	165	\$ 30	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	1,073	25	\$ 4	Wall Switch Occupancy Sensor	1	0.08	127	13	140	\$25
559	Evergreen		Library	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	60	89	5.34	2,400	12,816	\$ 2,295	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	60	72	4.32	2,400	10,368	\$ 1,857	NO SENSOR PROPOSED	0	1.02	2,448	-	2,448	\$438
560	Evergreen		Library	100w Incandescent S/l	1	100	0.10	2,400	240	\$ 43	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	2,400	55	\$ 10	NO SENSOR PROPOSED	0	0.08	185	-	185	\$33
561	School One		Storage	4' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	8	61	0.49	500	244	\$ 49	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	48	0.38	500	192	\$ 38	NO SENSOR PROPOSED	0	0.10	52	-	52	\$10
562	School One	126	Mechanical Room	4' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	2	61	0.12	1,000	122	\$ 24	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,000	96	\$ 19	NO SENSOR PROPOSED	0	0.03	26	-	26	\$5
563	School One		Mechanical Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	1,000	61	\$ 12	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,000	48	\$ 10	NO SENSOR PROPOSED	0	0.01	13	-	13	\$3
564	School One		Mechanical Room	100w Incandescent S/l	2	100	0.20	1,000	200	\$ 40	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	2	23	0.05	1,000	46	\$ 9	NO SENSOR PROPOSED	0	0.15	154	-	154	\$31
565	School One	127	General Office	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	2,400	854	\$ 171	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	2,400	691	\$ 138	NO SENSOR PROPOSED	0	0.07	163	-	163	\$33
566	School One		Copy Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	2,400	427	\$ 85	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	2,400	346	\$ 69	NO SENSOR PROPOSED	0	0.03	82	-	82	\$16
567	School One	128	Principal's Office	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	2,400	427	\$ 85	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	2,400	346	\$ 69	NO SENSOR PROPOSED	0	0.03	82	-	82	\$16
568	School One		Storage	2' Vanity Fixture with (2) F20 T12 Lamp & (1) 2L Magnetic Ballast	1	60	0.06	500	30	\$ 6	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Normal Power Ballast. (2) 2' T8 Energy Saving Lamps: New Lamp Sockets.	1	31	0.03	500	16	\$ 3	NO SENSOR PROPOSED	0	0.03	15	-	15	\$3
569	School One		Girls Room	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	3	61	0.18	3,000	549	\$ 110	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$ 86	NO SENSOR PROPOSED	0	0.04	117	-	117	\$23
570	School One	125	Custodian Closet	100w Incandescent S/l	1	100	0.10	500	50	\$ 10	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$8
571	School One		Boys Room	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	3	61	0.18	3,000	549	\$ 110	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$ 86	NO SENSOR PROPOSED	0	0.04	117	-	117	\$23
572	School One		Elevator Room	100w Incandescent S/l	2	100	0.20	500	100	\$ 20	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	2	23	0.05	500	23	\$ 5	NO SENSOR PROPOSED	0	0.15	77	-	77	\$15
573	School One	117B	Closet	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	500	45	\$ 9	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	500	36	\$ 7	NO SENSOR PROPOSED	0	0.02	9	-	9	\$2
574	School One		Men's Room	2X4 Surface Mounted Troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	1	110	0.11	3,000	330	\$ 66	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	1,950	185	\$ 37	Wall Switch Dual Technology Occupancy Sensor	1	0.02	45	100	145	\$29
575	School One		Women's Room	2X4 Surface Mounted Troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	1	110	0.11	3,000	330	\$ 66	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	1,950	185	\$ 37	Wall Switch Dual Technology Occupancy Sensor	1	0.02	45	100	145	\$29
576	School One	101	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 352	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,650	1,426	\$ 285	NO SENSOR PROPOSED	0	0.20	337	-	337	\$67
577	School One	102	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	1,650	1,175	\$ 235	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	1,650	950	\$ 190	NO SENSOR PROPOSED	0	0.14	224	-	224	\$45
578	School One	103	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 352	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,650	1,426	\$ 285	NO SENSOR PROPOSED	0	0.20	337	-	337	\$67
579	School One	104	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 352	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,650	1,426	\$ 285	NO SENSOR PROPOSED	0	0.20	337	-	337	\$67
580	School One	104	Classroom	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	2	61	0.12	1,650	201	\$ 40	No Work Proposed	0	61	0.12	1,650	201	\$ 40	NO SENSOR PROPOSED	0	-	-	-	0	\$0
581	School One		Bathroom	100w Incandescent S/l	1	100	0.10	3,000	300	\$ 60	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 14	NO SENSOR PROPOSED	0	0.08	231	-	231	\$46
582	School One	105	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	10	89	0.89	1,650	1,469	\$ 294	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	72	0.72	1,650	1,188	\$ 237	NO SENSOR PROPOSED	0	0.17	281	-	281	\$56
583	School One		Classroom	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	4	61	0.24	1,650	403	\$ 80	No Work Proposed	0	61	0.24	1,650	403	\$ 80	NO SENSOR PROPOSED	0	-	-	-	0	\$0
584	School One		Bathroom	100w Incandescent S/l	1	100	0.10	3,000	300	\$ 60	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 14	NO SENSOR PROPOSED	0	0.08	231	-	231	\$46
585	School One	106	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	13	89	1.16	1,650	1,909	\$ 382	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	13	72	0.94	1,650	1,544	\$ 309	NO SENSOR PROPOSED	0	0.22	365	-	365	\$73
586	School One		Bathroom	100w Incandescent S/l	1	100	0.10	3,000	300	\$ 60	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 14	NO SENSOR PROPOSED	0	0.08	231	-	231	\$46
587	School One	107	Resource Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	2,400	1,709	\$ 342	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	2,400	1,382	\$ 276	NO SENSOR PROPOSED	0	0.14	326	-	326	\$65
588	School One	108	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 352	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,650	1,426	\$ 285	NO SENSOR PROPOSED	0	0.20	337	-	337	\$67
589	School One	109	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 352	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,650	1,426	\$ 285	NO SENSOR PROPOSED	0	0.20	337	-	337	\$67
590	School One	110	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 352	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,650	1,426	\$ 285	NO SENSOR PROPOSED	0	0.20	337	-	337	\$67

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

591	School One	111	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	10	89	0.89	1,650	1,469	\$	294	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	72	0.72	1,650	1,188	\$	237	NO SENSOR PROPOSED	0	0.17	281	-	281	\$56
592	School One		Classroom	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	1,650	101	\$	20	No Work Proposed	0	61	0.06	1,650	101	\$	20	NO SENSOR PROPOSED	0	-	-	-	0	\$0
593	School One		Storage	4' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	2	61	0.12	500	61	\$	12	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	500	48	\$	10	NO SENSOR PROPOSED	0	0.03	13	-	13	\$3
594	School One		Bathroom	100w Incandescent S/I	1	100	0.10	3,000	300	\$	60	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$	14	NO SENSOR PROPOSED	0	0.08	231	-	231	\$46
595	School One		Closet	60w. Incandescent S/I	1	60	0.06	500	30	\$	6	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent One Piece Screw-In.	1	15	0.02	500	8	\$	1	NO SENSOR PROPOSED	0	0.05	23	-	23	\$4
596	School One	112	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	10	89	0.89	1,650	1,469	\$	294	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	72	0.72	1,650	1,188	\$	237	NO SENSOR PROPOSED	0	0.17	281	-	281	\$56
597	School One		Classroom	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	1,650	101	\$	20	No Work Proposed	0	61	0.06	1,650	101	\$	20	NO SENSOR PROPOSED	0	-	-	-	0	\$0
598	School One		Bathroom	100w Incandescent S/I	1	100	0.10	3,000	300	\$	60	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$	14	NO SENSOR PROPOSED	0	0.08	231	-	231	\$46
599	School One		Storage	4' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	2	61	0.12	500	61	\$	12	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	500	48	\$	10	NO SENSOR PROPOSED	0	0.03	13	-	13	\$3
600	School One		Closet	60w. Incandescent S/I	1	60	0.06	500	30	\$	6	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent One Piece Screw-In.	1	15	0.02	500	8	\$	1	NO SENSOR PROPOSED	0	0.05	23	-	23	\$4
601	School One	116	Faculty Lounge	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	2,400	854	\$	171	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	1,560	449	\$	90	Low Voltage (w/ PP-20) FIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.07	163	242	405	\$81
602	School One	117	Nurse	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	2,400	854	\$	171	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	2,400	691	\$	138	NO SENSOR PROPOSED	0	0.07	163	-	163	\$33
603	School One		Bathroom	2' Vanity Fixture with (2) F20 T12 Lamp & (1) 2L Magnetic Ballast	1	60	0.06	3,000	180	\$	36	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Normal Power Ballast. (2) 2' T8 Energy Saving Lamps, New Lamp Sockets.	1	31	0.03	3,000	93	\$	19	NO SENSOR PROPOSED	0	0.03	87	-	87	\$17
604	School One	117A	Quiet Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	1,650	147	\$	29	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	1,650	119	\$	24	NO SENSOR PROPOSED	0	0.02	28	-	28	\$6
605	School One	114A	Small Group Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	1,650	587	\$	117	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	1,650	475	\$	95	NO SENSOR PROPOSED	0	0.07	112	-	112	\$22
606	School One		Closet	100w Incandescent S/I	1	100	0.10	500	50	\$	10	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$	2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$8
607	School One	113A	Closet	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	500	45	\$	9	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	325	23	\$	5	Wall Switch Occupancy Sensor	1	0.02	9	13	21	\$4
608	School One	113	Small Group Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	1,650	441	\$	88	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	1,650	356	\$	71	NO SENSOR PROPOSED	0	0.05	84	-	84	\$17
609	School One		Closet	100w Incandescent S/I	1	100	0.10	500	50	\$	10	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$	2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$8
610	School One	131	Special Education	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	16	110	1.76	1,650	2,904	\$	581	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	95	1.52	1,650	2,508	\$	501	NO SENSOR PROPOSED	0	0.24	396	-	396	\$79
611	School One		Bathroom	100w Incandescent S/I	1	100	0.10	3,000	300	\$	60	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$	14	NO SENSOR PROPOSED	0	0.08	231	-	231	\$46
612	School One	130	Special Education	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	16	110	1.76	1,650	2,904	\$	581	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	95	1.52	1,650	2,508	\$	501	NO SENSOR PROPOSED	0	0.24	396	-	396	\$79
613	School One		Bathroom	100w Incandescent S/I	1	100	0.10	3,000	300	\$	60	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$	14	NO SENSOR PROPOSED	0	0.08	231	-	231	\$46
614	School One	1	Main Entrance	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	12	61	0.73	3,000	2,196	\$	439	No Work Proposed	0	61	0.73	3,000	2,196	\$	439	NO SENSOR PROPOSED	0	-	-	-	0	\$0
615	School One	1	Corr. 101-103	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	10	89	0.89	3,000	2,670	\$	534	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	72	0.72	3,000	2,160	\$	432	NO SENSOR PROPOSED	0	0.17	510	-	510	\$102
616	School One		Corr. 101-103	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	4	No Work Proposed	0	2	0.00	8,760	18	\$	4	NO SENSOR PROPOSED	0	-	-	-	0	\$0
617	School One	1	Stairs 1	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	4	110	0.44	3,640	1,602	\$	320	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	3,640	1,383	\$	277	NO SENSOR PROPOSED	0	0.06	218	-	218	\$44
618	School One		Stairs 1	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	3,640	222	\$	44	No Work Proposed	0	61	0.06	3,640	222	\$	44	NO SENSOR PROPOSED	0	-	-	-	0	\$0
619	School One		Stairs 1	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	4	No Work Proposed	0	2	0.00	8,760	18	\$	4	NO SENSOR PROPOSED	0	-	-	-	0	\$0
620	School One	1	Stairs 2	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	4	110	0.44	3,640	1,602	\$	320	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	3,640	1,383	\$	277	NO SENSOR PROPOSED	0	0.06	218	-	218	\$44
621	School One		Stairs 2	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	3,640	222	\$	44	No Work Proposed	0	61	0.06	3,640	222	\$	44	NO SENSOR PROPOSED	0	-	-	-	0	\$0
622	School One		Stairs 2	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	4	No Work Proposed	0	2	0.00	8,760	18	\$	4	NO SENSOR PROPOSED	0	-	-	-	0	\$0
623	School One	1	Corr. 123-126	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	5	61	0.31	3,000	915	\$	183	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	48	0.24	3,000	720	\$	144	NO SENSOR PROPOSED	0	0.07	195	-	195	\$39
624	School One		Corr. 123-126	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	4	No Work Proposed	0	2	0.00	8,760	18	\$	4	NO SENSOR PROPOSED	0	-	-	-	0	\$0
625	School One	1	Corr. 104-114	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	9	89	0.80	3,000	2,403	\$	480	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	72	0.65	3,000	1,944	\$	389	NO SENSOR PROPOSED	0	0.15	459	-	459	\$92
626	School One		Corr. 104-114	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$	7	No Work Proposed	0	2	0.00	8,760	35	\$	7	NO SENSOR PROPOSED	0	-	-	-	0	\$0
627	School One	1	Corr. 107-110	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	10	89	0.89	3,000	2,670	\$	534	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	72	0.72	3,000	2,160	\$	432	NO SENSOR PROPOSED	0	0.17	510	-	510	\$102
628	School One		Corr. 107-110	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$	7	No Work Proposed	0	2	0.00	8,760	35	\$	7	NO SENSOR PROPOSED	0	-	-	-	0	\$0
629	School One	1	Stairs 4	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	3	110	0.33	3,640	1,201	\$	240	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	95	0.29	3,640	1,037	\$	207	NO SENSOR PROPOSED	0	0.05	164	-	164	\$33
630	School One		Stairs 4	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	3,640	222	\$	44	No Work Proposed	0	61	0.06	3,640	222	\$	44	NO SENSOR PROPOSED	0	-	-	-	0	\$0
631	School One		Stairs 4	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	4	No Work Proposed	0	2	0.00	8,760	18	\$	4	NO SENSOR PROPOSED	0	-	-	-	0	\$0
632	School One	1	Corridor	150w R40 Flood Incandescent S/I	1	150	0.15	3,000	450	\$	90	Re-lamp with 40w Compact Fluorescent	1	40	0.04	3,000	120	\$	24	NO SENSOR PROPOSED	0	0.11	330	-	330	\$66
633	School One	1	Corr. 10/12	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	3,000	534	\$	107	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	3,000	432	\$	86	NO SENSOR PROPOSED	0	0.03	102	-	102	\$20
634	School One		Corr. 10/12	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$	7	No Work Proposed	0	2	0.00	8,760	35	\$	7	NO SENSOR PROPOSED	0	-	-	-	0	\$0
635	School One	1	Corr. 103-131	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	5	110	0.55	3,000	1,650	\$	330	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	95	0.48	3,000	1,425	\$	285	NO SENSOR PROPOSED	0	0.08	225	-	225	\$45
636	School One		Corr. 103-131	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$	7	No Work Proposed	0</													

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

Table with columns for School ID, School Name, Room/Location, Light Fixture Description, Quantity, Height (ft), Footcandle (fc), Lumens, Cost, Labor Cost, Total Cost, Material Cost, Proposed Description, Quantity, Height (ft), Footcandle (fc), Lumens, Cost, Labor Cost, Total Cost, Material Cost, Proposed Description, Sensor Type, Quantity, Footcandle (fc), Lumens, Cost, Labor Cost, Total Cost, Material Cost.

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

684	School One		2	Rm 205	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	15	89	1.34	1,650	2,203	\$ 440	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,073	1,158	\$ 232	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.26	421	624	1,044	\$ 209
685	School One			Rm 205	60w. Incandescent S/I	1	60	0.06	1,650	99	\$ 20	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	1,650	25	\$ 5	NO SENSOR PROPOSED	0	0.05	74	-	74	\$ 15
686	School One		2	Rm 206	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	15	89	1.34	1,650	2,203	\$ 440	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,073	1,158	\$ 232	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.26	421	624	1,044	\$ 209
687	School One			Rm 206	60w. Incandescent S/I	1	60	0.06	1,650	99	\$ 20	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	1,650	25	\$ 5	NO SENSOR PROPOSED	0	0.05	74	-	74	\$ 15
688	School One		2	Rm 207	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	1,650	1,175	\$ 235	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	1,073	618	\$ 123	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	224	333	557	\$ 111
689	School One			Rm 207	60w. Incandescent S/I	1	60	0.06	1,650	99	\$ 20	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	1,650	25	\$ 5	NO SENSOR PROPOSED	0	0.05	74	-	74	\$ 15
690	School One		2	Rm 208	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 352	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 185	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 167
691	School One			Rm 208	60w. Incandescent S/I	1	60	0.06	1,650	99	\$ 20	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	1,650	25	\$ 5	NO SENSOR PROPOSED	0	0.05	74	-	74	\$ 15
692	School One		2	Rm 209	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 352	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 185	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 167
693	School One			Rm 209	60w. Incandescent S/I	1	60	0.06	1,650	99	\$ 20	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	1,650	25	\$ 5	NO SENSOR PROPOSED	0	0.05	74	-	74	\$ 15
694	School One		2	Rm 210	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 352	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 185	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 167
695	School One			Rm 210	60w. Incandescent S/I	1	60	0.06	1,650	99	\$ 20	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	1,650	25	\$ 5	NO SENSOR PROPOSED	0	0.05	74	-	74	\$ 15
696	School One		2	Rm 211	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 352	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 185	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 167
697	School One			Rm 211	60w. Incandescent S/I	1	60	0.06	1,650	99	\$ 20	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	1,650	25	\$ 5	NO SENSOR PROPOSED	0	0.05	74	-	74	\$ 15
698	School One		2	Rm 214	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	1,650	1,175	\$ 235	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	1,073	618	\$ 123	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	224	333	557	\$ 111
699	School One			Rm 214	60w. Incandescent S/I	1	60	0.06	1,650	99	\$ 20	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	1,650	25	\$ 5	NO SENSOR PROPOSED	0	0.05	74	-	74	\$ 15
700	School One		2	Rm 213	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 352	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 185	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 167
701	School One			Rm 213	60w. Incandescent S/I	1	60	0.06	1,650	99	\$ 20	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	1,650	25	\$ 5	NO SENSOR PROPOSED	0	0.05	74	-	74	\$ 15
702	Park Middle School	301	3	Computer Lab	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	15	89	1.34	1,650	2,203	\$ 449	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,073	1,158	\$ 236	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.26	421	624	1,044	\$ 213
703	Park Middle School			Small Class	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	6	89	0.53	1,650	861	\$ 180	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	72	0.43	1,073	463	\$ 95	Wide View Low Voltage (w/PP-20) Wall Mounted Sensor-40" Range (8-15 Mtg. Height)	1	0.10	168	249	418	\$ 85
704	Park Middle School			Storage	8' Fixture with Egg Style Metal Lens w/ (2) F96 T12 75w Lamps & (1) 2-Light Standard Magnetic Ballast	1	173	0.17	500	87	\$ 18	Remove and Replace Existing Fixture With a New 1x4 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Normal Power Ballast, Silver Reflector, and (2) 4' 28w T8 Energy Saving Lamps.	1	48	0.05	500	24	\$ 5	NO SENSOR PROPOSED	0	0.13	63	-	63	\$ 13
705	Park Middle School			Storage	100w Incandescent S/I	2	100	0.20	500	100	\$ 20	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	2	23	0.05	500	23	\$ 5	NO SENSOR PROPOSED	0	0.15	77	-	77	\$ 16
706	Park Middle School	301		Lobby	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	3,000	801	\$ 163	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	3,000	648	\$ 132	NO SENSOR PROPOSED	0	0.05	153	-	153	\$ 31
707	Park Middle School	302		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	9	89	0.80	1,650	1,322	\$ 270	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	72	0.65	1,073	695	\$ 142	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.15	252	374	627	\$ 128
708	Park Middle School	303		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	11	89	0.98	1,650	1,615	\$ 330	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	11	72	0.79	1,073	849	\$ 173	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.19	309	457	766	\$ 156
709	Park Middle School			Boys Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	3,000	801	\$ 163	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	3,000	648	\$ 132	NO SENSOR PROPOSED	0	0.05	153	-	153	\$ 31
710	Park Middle School	304		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	1,650	441	\$ 90	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	1,650	356	\$ 73	NO SENSOR PROPOSED	0	0.05	84	-	84	\$ 17
711	Park Middle School	305		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
712	Park Middle School	306		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
713	Park Middle School	307		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

714	Park Middle School	308		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	20	89	1.78	1,650	2,937	\$ 599	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	20	72	1.44	1,073	1,544	\$ 315	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	2	0.34	561	832	1,393	\$ 284
715	Park Middle School	309		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
716	Park Middle School	311		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
717	Park Middle School	310		Prep Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	1,650	1,175	\$ 240	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	1,650	950	\$ 194	NO SENSOR PROPOSED	0	0.14	224	-	224	\$ 46
718	Park Middle School	312		Science Class	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	19	89	1.69	1,650	2,790	\$ 569	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	19	72	1.37	1,073	1,467	\$ 299	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	2	0.32	533	790	1,323	\$ 270
719	Park Middle School	313		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
720	Park Middle School	314		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
721	Park Middle School	315		SGI	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	6	89	0.53	1,650	881	\$ 180	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	72	0.43	1,073	463	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.10	168	249	418	\$ 85
722	Park Middle School	316		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	15	89	1.34	1,650	2,203	\$ 449	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,073	1,158	\$ 236	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.26	421	624	1,044	\$ 213
723	Park Middle School	317		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	15	89	1.34	1,650	2,203	\$ 449	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,073	1,158	\$ 236	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.26	421	624	1,044	\$ 213
724	Park Middle School	318		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	14	89	1.25	1,650	2,056	\$ 419	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	14	72	1.01	1,073	1,081	\$ 221	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.24	393	582	975	\$ 199
725	Park Middle School	319	3	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	15	89	1.34	1,650	2,203	\$ 449	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,073	1,158	\$ 236	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.26	421	624	1,044	\$ 213
726	Park Middle School	220	2	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
727	Park Middle School	219		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	15	89	1.34	1,650	2,203	\$ 449	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,073	1,158	\$ 236	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.26	421	624	1,044	\$ 213
728	Park Middle School	218		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
729	Park Middle School	216		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
730	Park Middle School	217		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	5	89	0.45	1,650	734	\$ 150	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	72	0.36	1,073	386	\$ 79	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	140	208	348	\$ 71
731	Park Middle School	215		School Psychologist	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	2,400	854	\$ 174	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	1,560	449	\$ 92	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.07	163	242	405	\$ 83
732	Park Middle School	214		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
733	Park Middle School			Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	3,000	549	\$ 112	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$ 88	NO SENSOR PROPOSED	0	0.04	117	-	117	\$ 24
734	Park Middle School			Storage	40w. Incandescent S/I	1	40	0.04	500	20	\$ 4	Remove and Replace Existing Lamp With a New 13w Compact Fluorescent Two Piece Screw-In.	1	13	0.01	500	7	\$ 1	NO SENSOR PROPOSED	0	0.03	14	-	14	\$ 3
735	Park Middle School			Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	3,000	549	\$ 112	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$ 88	NO SENSOR PROPOSED	0	0.04	117	-	117	\$ 24
736	Park Middle School	213		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	14	89	1.25	1,650	2,056	\$ 419	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	14	72	1.01	1,073	1,081	\$ 221	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.24	393	582	975	\$ 199
737	Park Middle School	212		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	13	89	1.16	1,650	1,909	\$ 389	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	13	72	0.94	1,073	1,004	\$ 205	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.22	365	541	905	\$ 185
738	Park Middle School			Classroom	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	1,650	101	\$ 21	No Work Proposed	0	61	0.06	1,650	101	\$ 21	NO SENSOR PROPOSED	0	-	-	-	0	\$ -

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

739	Park Middle School	211		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	14	89	1.25	1,650	2,056	\$ 419	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	14	72	1.01	1,073	1,081	\$ 221	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.24	393	582	975	\$ 199
740	Park Middle School	210		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	10	89	0.89	1,650	1,469	\$ 300	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	72	0.72	1,073	772	\$ 158	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.17	261	416	696	\$ 142
741	Park Middle School			Classroom	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	5	61	0.31	1,650	503	\$ 103	No Work Proposed	0	61	0.31	1,650	503	\$ 103	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
742	Park Middle School	209		Faculty Lounge	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	2,400	641	\$ 131	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	1,560	337	\$ 69	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.05	122	181	304	\$ 62
743	Park Middle School			Bathroom	100w Incandescent S/I	1	100	0.10	3,000	300	\$ 61	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 14	NO SENSOR PROPOSED	0	0.08	231	-	231	\$ 47
744	Park Middle School			Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	5	61	0.31	3,000	915	\$ 187	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	48	0.24	3,000	720	\$ 147	NO SENSOR PROPOSED	0	0.07	195	-	195	\$ 40
745	Park Middle School	208		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
746	Park Middle School	207		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
747	Park Middle School	222		Principal's Office	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	2,400	427	\$ 87	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	2,400	346	\$ 71	NO SENSOR PROPOSED	0	0.03	82	-	82	\$ 17
748	Park Middle School			Principal Secretary	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	2,400	427	\$ 87	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	2,400	346	\$ 71	NO SENSOR PROPOSED	0	0.03	82	-	82	\$ 17
749	Park Middle School			Boiler Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	1,000	267	\$ 54	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	1,000	216	\$ 44	NO SENSOR PROPOSED	0	0.05	51	-	51	\$ 10
750	Park Middle School			Closet	100w Incandescent S/I	1	100	0.10	500	50	\$ 10	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$ 8
751	Park Middle School			Vault	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	2,400	146	\$ 30	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	2,400	115	\$ 24	NO SENSOR PROPOSED	0	0.01	31	-	31	\$ 6
752	Park Middle School			Main Office	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	6	89	0.53	2,400	1,282	\$ 261	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	72	0.43	2,400	1,037	\$ 212	NO SENSOR PROPOSED	0	0.10	245	-	245	\$ 50
753	Park Middle School			Social Worker	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	5	89	0.45	2,400	1,068	\$ 218	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	72	0.36	2,400	864	\$ 176	NO SENSOR PROPOSED	0	0.09	204	-	204	\$ 42
754	Park Middle School	227		Guidance Office	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	5	89	0.45	2,400	1,068	\$ 218	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	72	0.36	2,400	864	\$ 176	NO SENSOR PROPOSED	0	0.09	204	-	204	\$ 42
755	Park Middle School			Break Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	1,650	441	\$ 90	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	1,073	232	\$ 47	Wall Switch Occupancy Sensor	1	0.05	84	125	209	\$ 43
756	Park Middle School			File Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	2,400	214	\$ 44	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	2,400	173	\$ 35	NO SENSOR PROPOSED	0	0.02	41	-	41	\$ 8
757	Park Middle School			Office	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	2,400	427	\$ 87	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	1,560	225	\$ 46	Wall Switch Occupancy Sensor	1	0.03	82	121	203	\$ 41
758	Park Middle School			Office	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	2,400	427	\$ 87	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	1,560	225	\$ 46	Wall Switch Dual Technology Occupancy Sensor	1	0.03	82	121	203	\$ 41
759	Park Middle School			Office	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	2,400	427	\$ 87	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	1,560	225	\$ 46	Wall Switch Dual Technology Occupancy Sensor	1	0.03	82	121	203	\$ 41
760	Park Middle School			Closet	13w Compact Fluorescent S/I	1	13	0.01	500	7	\$ 1	No Work Proposed	0	13	0.01	500	7	\$ 1	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
761	Park Middle School	206		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
762	Park Middle School	205		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
763	Park Middle School			Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	5	61	0.31	3,000	915	\$ 187	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	48	0.24	3,000	720	\$ 147	NO SENSOR PROPOSED	0	0.07	195	-	195	\$ 40
764	Park Middle School	204		Social Worker	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	2,400	641	\$ 131	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	1,560	337	\$ 69	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.05	122	181	304	\$ 62
765	Park Middle School			Bathroom	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	3,000	183	\$ 37	No Work Proposed	0	61	0.06	3,000	183	\$ 37	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
766	Park Middle School	203		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	1,650	1,175	\$ 240	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	1,073	618	\$ 126	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	224	333	557	\$ 114
767	Park Middle School			Classroom	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	4	61	0.24	1,650	403	\$ 82	No Work Proposed	0	61	0.24	1,650	403	\$ 82	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
768	Park Middle School	202	2	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	1,650	1,175	\$ 240	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	1,073	618	\$ 126	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	224	333	557	\$ 114
769	Park Middle School		2	Classroom	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	4	61	0.24	1,650	403	\$ 82	No Work Proposed	0	61	0.24	1,650	403	\$ 82	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
770	Park Middle School	201	2	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	18	89	1.60	1,650	2,643	\$ 539	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	18	72	1.30	1,073	1,390	\$ 284	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	2	0.31	505	748	1,253	\$ 256

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

771	Park Middle School	102	1	Music Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	19	89	1.69	1,650	2,790	\$ 569	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	19	72	1.37	1,073	1,467	\$ 299	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	2	0.32	533	790	1,323	\$ 270
772	Park Middle School	103	1	Science Lab	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	15	89	1.34	1,650	2,203	\$ 449	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,073	1,158	\$ 236	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.26	421	624	1,044	\$ 213
773	Park Middle School		1	Closet	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	2	89	0.18	500	89	\$ 18	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	500	72	\$ 15	NO SENSOR PROPOSED	0	0.03	17	-	17	\$ 3
774	Park Middle School			Electrical Room	100w Incandescent S/I	2	100	0.20	1,000	200	\$ 41	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	2	23	0.05	1,000	46	\$ 9	NO SENSOR PROPOSED	0	0.15	154	-	154	\$ 31
775	Park Middle School			Boiler Room	100w Incandescent S/I	8	100	0.80	1,000	800	\$ 163	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	8	23	0.18	1,000	184	\$ 38	NO SENSOR PROPOSED	0	0.62	616	-	616	\$ 126
776	Park Middle School			Storage	100w Incandescent S/I	4	100	0.40	500	200	\$ 41	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	4	23	0.09	500	46	\$ 9	NO SENSOR PROPOSED	0	0.31	154	-	154	\$ 31
777	Park Middle School			Storage	4' Wrap Fixture w/ (2) F34 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	6	80	0.48	500	240	\$ 49	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Low Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	6	42	0.25	500	126	\$ 26	NO SENSOR PROPOSED	0	0.23	114	-	114	\$ 23
778	Park Middle School			Faculty Bathroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	5	61	0.31	2,400	732	\$ 149	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	48	0.24	1,560	374	\$ 76	Low Voltage (w/ PP-20) Dual Technology Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High-(1) PP-20 per sensor	1	0.07	156	202	358	\$ 73
779	Park Middle School	104		Industrial Tech.	8' Direct/Indirect Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	15	110	1.65	1,650	2,723	\$ 555	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps, and Silver Reflector.	15	84	1.26	1,650	2,079	\$ 424	NO SENSOR PROPOSED	0	0.39	644	-	644	\$ 131
780	Park Middle School	105		Design Lab	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	7	89	0.62	1,650	1,028	\$ 210	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	7	72	0.50	1,650	832	\$ 170	NO SENSOR PROPOSED	0	0.12	196	-	196	\$ 40
781	Park Middle School			Closet	100w Incandescent S/I	1	100	0.10	500	50	\$ 10	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$ 8
782	Park Middle School	106		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
783	Park Middle School	107		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
784	Park Middle School	108		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	6	89	0.53	1,650	881	\$ 180	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	72	0.43	1,073	463	\$ 95	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.10	168	249	418	\$ 85
785	Park Middle School			Classroom	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,650	201	\$ 41	No Work Proposed	0	61	0.12	1,650	201	\$ 41	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
786	Park Middle School			Storage	60w. Incandescent S/I	5	60	0.30	500	150	\$ 31	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	5	15	0.08	500	38	\$ 8	NO SENSOR PROPOSED	0	0.23	113	-	113	\$ 23
787	Park Middle School			Storage	60w. Incandescent S/I	7	60	0.42	500	210	\$ 43	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	7	15	0.11	500	53	\$ 11	NO SENSOR PROPOSED	0	0.32	158	-	158	\$ 32
788	Park Middle School	109		Custodian Office	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	2,400	854	\$ 174	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	2,400	691	\$ 141	NO SENSOR PROPOSED	0	0.07	163	-	163	\$ 33
789	Park Middle School			Custodian Office	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	2,400	146	\$ 30	No Work Proposed	0	61	0.06	2,400	146	\$ 30	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
790	Park Middle School			School Supply	8' Strip Fixture with (4) F34 T12 Lamps & (1) 4L Magnetic Ballast	1	160	0.16	1,650	264	\$ 54	Re-lamp & Re-ballast existing fixture. Install a 4-Lamp Electronic Low Power Ballast, (4) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	1	84	0.08	1,650	139	\$ 28	NO SENSOR PROPOSED	0	0.08	125	-	125	\$ 26
791	Park Middle School			School Supply	8' Wrap Fixture with (4) F34 T12 Lamps & (1) 4L Magnetic Ballast	1	160	0.16	1,650	264	\$ 54	Re-lamp & Re-ballast existing fixture. Install a 4-Lamp Electronic Low Power Ballast, (4) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	1	84	0.08	1,650	139	\$ 28	NO SENSOR PROPOSED	0	0.08	125	-	125	\$ 26
792	Park Middle School			Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	5	61	0.31	3,000	915	\$ 187	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	48	0.24	3,000	720	\$ 147	NO SENSOR PROPOSED	0	0.07	195	-	195	\$ 40
793	Park Middle School	110		Art Class	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	13	89	1.16	1,650	1,909	\$ 389	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	13	72	0.94	1,073	1,004	\$ 205	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	2	0.22	365	541	905	\$ 185
794	Park Middle School			Storage	4' Strip Fixture with (2) F34 Econo-Watt T12 Lamps & (1) 2L Magnetic Ballast	1	80	0.08	500	40	\$ 8	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Low Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	1	42	0.04	500	21	\$ 4	NO SENSOR PROPOSED	0	0.04	19	-	19	\$ 4
795	Park Middle School	111		Girls Locker Rm	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	2,400	146	\$ 30	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,560	75	\$ 15	Low Voltage (w/ PP-20) Dual Technology Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High-(1) PP-20 per sensor	1	0.01	31	40	72	\$ 15
796	Park Middle School			Girls Locker Rm	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	6	89	0.53	2,400	1,282	\$ 261	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	72	0.43	2,400	1,037	\$ 212	NO SENSOR PROPOSED	0	0.10	245	-	245	\$ 50
797	Park Middle School			Bathroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 75	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,950	187	\$ 38	Wall Switch Dual Technology Occupancy Sensor	1	0.03	78	101	179	\$ 36
798	Park Middle School	112		Boys Locker Rm	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	2,400	146	\$ 30	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	2,400	115	\$ 24	NO SENSOR PROPOSED	0	0.01	31	-	31	\$ 6
799	Park Middle School			Boys Locker Rm	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	5	89	0.45	2,400	1,068	\$ 218	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	72	0.36	1,560	562	\$ 115	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	204	302	506	\$ 103
800	Park Middle School			Boys Locker Rm	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	2,400	293	\$ 60	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,560	150	\$ 31	Wall Switch Dual Technology Occupancy Sensor	1	0.03	62	81	143	\$ 29
801	Park Middle School			Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	3,000	549	\$ 112	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$ 88	NO SENSOR PROPOSED	0	0.04	117	-	117	\$ 24
802	Park Middle School			Custodian Closet	60w. Incandescent S/I	1	60	0.06	500	30	\$ 6	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	500	8	\$ 2	NO SENSOR PROPOSED	0	0.05	23	-	23	\$ 6

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

803	Park Middle School		Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	3,000	549	\$ 112	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$ 88	NO SENSOR PROPOSED	0	0.04	117	-	117	\$ 24
804	Park Middle School	120	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	9	89	0.80	1,650	1,322	\$ 270	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	72	0.65	1,650	1,069	\$ 218	NO SENSOR PROPOSED	0	0.15	252	-	252	\$ 51
805	Park Middle School	113	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	15	89	1.34	1,650	2,203	\$ 449	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,073	1,158	\$ 236	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.26	421	624	1,044	\$ 213
806	Park Middle School	114	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
807	Park Middle School	115	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	9	89	0.80	1,650	1,322	\$ 270	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	72	0.65	1,073	695	\$ 142	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.15	252	374	627	\$ 128
808	Park Middle School	116	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
809	Park Middle School	117	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
810	Park Middle School		Boiler Room #3	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	2	31	0.06	1,000	62	\$ 13	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	2	25	0.05	1,000	50	\$ 10	NO SENSOR PROPOSED	0	0.01	12	-	12	\$ 2
811	Park Middle School		Boiler Room #3	60w. Incandescent S/I	2	60	0.12	1,000	120	\$ 24	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	2	15	0.03	1,000	30	\$ 6	NO SENSOR PROPOSED	0	0.09	90	-	90	\$ 18
812	Park Middle School		Boiler Room #3	23w Compact Fluorescent S/I	2	23	0.05	1,000	46	\$ 9	No Work Proposed	0	23	0.05	1,000	46	\$ 9	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
813	Park Middle School	118	Classroom	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	21	61	1.28	1,650	2,114	\$ 431	No Work Proposed	0	61	1.28	1,650	2,114	\$ 431	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
814	Park Middle School		Storage	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	500	31	\$ 6	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	500	24	\$ 5	NO SENSOR PROPOSED	0	0.01	7	-	7	\$ 1
815	Park Middle School		Storage	2X4 recessed troffer with (4) F34 Econo-Watt T12 Lamps & (1) 4-Light Magnetic Ballast	2	160	0.32	500	160	\$ 33	Re-build existing troffer fixture w/ (2) F28 T8 Lamps, & (1) Low Power 2-Lamp Electronic Ballast & Silver Reflector	2	42	0.08	500	42	\$ 9	NO SENSOR PROPOSED	0	0.24	118	-	118	\$ 24
816	Park Middle School		Buildings Dept.	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	6	89	0.53	2,400	1,282	\$ 261	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	72	0.43	1,560	674	\$ 137	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.10	245	363	608	\$ 124
817	Park Middle School	119A	Science Class	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,650	1,426	\$ 291	NO SENSOR PROPOSED	0	0.20	337	-	337	\$ 69
818	Park Middle School		Book Storage	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	500	134	\$ 27	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	500	108	\$ 22	NO SENSOR PROPOSED	0	0.05	26	-	26	\$ 5
819	Park Middle School		Graphics	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	2,400	641	\$ 131	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	2,400	518	\$ 106	NO SENSOR PROPOSED	0	0.05	122	-	122	\$ 25
820	Park Middle School	119D	Science Class	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 359	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 189	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 170
821	Park Middle School		Media Center	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	43	89	3.83	2,400	9,185	\$ 1,874	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	43	72	3.10	2,400	7,430	\$ 1,516	NO SENSOR PROPOSED	0	0.73	1,754	-	1,754	\$ 358
822	Park Middle School		Media Center	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	6	61	0.37	2,400	878	\$ 179	No Work Proposed	0	61	0.37	2,400	878	\$ 179	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
823	Park Middle School	119E	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	10	89	0.89	1,650	1,469	\$ 300	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	72	0.72	1,073	772	\$ 158	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.17	281	416	696	\$ 142
824	Park Middle School	119F	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	10	89	0.89	1,650	1,469	\$ 300	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	72	0.72	1,073	772	\$ 158	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.17	281	416	696	\$ 142
825	Park Middle School	138	Nurse	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	2,400	1,709	\$ 349	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	2,400	1,382	\$ 282	NO SENSOR PROPOSED	0	0.14	326	-	326	\$ 67
826	Park Middle School		Nurse	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	2	61	0.12	2,400	293	\$ 60	No Work Proposed	0	61	0.12	2,400	293	\$ 60	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
827	Park Middle School		Exam Room	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	1,650	101	\$ 21	No Work Proposed	0	61	0.06	1,650	101	\$ 21	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
828	Park Middle School		Exam Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	1,650	147	\$ 30	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	1,650	119	\$ 24	NO SENSOR PROPOSED	0	0.02	28	-	28	\$ 6
829	Park Middle School		Bathroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	3,000	267	\$ 54	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	3,000	216	\$ 44	NO SENSOR PROPOSED	0	0.02	51	-	51	\$ 10
830	Park Middle School		Storage	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	500	45	\$ 9	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	500	36	\$ 7	NO SENSOR PROPOSED	0	0.02	9	-	9	\$ 2
831	Park Middle School		Girls Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	3,000	534	\$ 109	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	1,950	281	\$ 57	Wall Switch Dual Technology Occupancy Sensor	1	0.03	102	151	253	\$ 52
832	Park Middle School		Boys Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	3,000	534	\$ 109	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	1,950	281	\$ 57	Wall Switch Dual Technology Occupancy Sensor	1	0.03	102	151	253	\$ 52
833	Park Middle School		Boys Locker Rm	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	2,400	641	\$ 131	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	2,400	518	\$ 106	NO SENSOR PROPOSED	0	0.05	122	-	122	\$ 25
834	Park Middle School		Coach's Office	8' Fixture with Egg Style Metal Lens w/ (4) F32 T8 Lamps & (1) 4-Light Electronic Ballasts	1	110	0.11	2,400	264	\$ 54	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps, and Silver Reflector.	1	96	0.10	2,400	228	\$ 47	NO SENSOR PROPOSED	0	0.02	36	-	36	\$ 7
835	Park Middle School		Coach's Office	100w Incandescent S/I	3	100	0.30	2,400	720	\$ 147	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	3	23	0.07	2,400	166	\$ 34	NO SENSOR PROPOSED	0	0.23	554	-	554	\$ 113

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

836	Park Middle School			Storage	4' Vanity Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	1	61	0.06	500	31	\$ 6	6	1	48	0.05	500	24	\$ 5	NO SENSOR PROPOSED	0	0.01	7	-	7	\$ 1
837	Park Middle School			Girls Locker Rm	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	2,400	854	\$ 174	4	72	0.29	2,400	691	\$ 141	NO SENSOR PROPOSED	0	0.07	163	-	163	\$ 33	
838	Park Middle School			Auditorium	Decorative Pendant with (6) 60w Incandescent Lamps	8	360	2.88	1,650	4,752	\$ 969	48	15	0.72	1,650	1,188	\$ 242	NO SENSOR PROPOSED	0	2.16	3,564	-	3,564	\$ 727	
839	Park Middle School			Auditorium	8' Fixture with Egg Style Metal Lens w/ (4) F96 T5 Lamps & (1) 4-Light Electronic Ballasts	12	260	3.12	1,650	5,148	\$ 1,050	0	260	3.12	1,650	5,148	\$ 1,050	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
840	Park Middle School			Auditorium	4' Fixture with Egg Style Lens with (4) F32 T8 Lamps & (1) 4L Electronic Ballasts	2	110	0.22	1,650	363	\$ 74	2	42	0.08	1,650	139	\$ 28	NO SENSOR PROPOSED	0	0.14	224	-	224	\$ 46	
841	Park Middle School			Auditorium	4' Strip Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	48	31	1.49	1,650	2,455	\$ 501	48	25	1.20	1,650	1,980	\$ 404	NO SENSOR PROPOSED	0	0.29	475	-	475	\$ 97	
842	Park Middle School			OUTSIDE	Surface Mounted Drum Fixture w/ (1) 100w Metal Halide lamp	3	120	0.36	3,640	1,310	\$ 267	0	120	0.36	3,640	1,310	\$ 267	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
843	Park Middle School			OUTSIDE	Flood Fixture with (1) 250w Metal Halide Pulse Start Lamp and (1) Magnetic HID Ballast	6	286	1.72	3,640	6,246	\$ 1,274	0	286	1.72	3,640	6,246	\$ 1,274	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
844	Park Middle School			OUTSIDE	75w. Par 38 Incandescent S/I	7	75	0.53	3,640	1,911	\$ 390	7	18	0.13	3,640	459	\$ 94	NO SENSOR PROPOSED	0	0.40	1,452	-	1,452	\$ 296	
845	Park Middle School			OUTSIDE	Wall Pack Fixture with (1) 250w Metal Halide Lamp and (1) Magnetic HID Ballast	5	295	1.48	3,640	5,369	\$ 1,095	0	295	1.48	3,640	5,369	\$ 1,095	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
846	Park Middle School			OUTSIDE	Wall Pack Fixture w/ (1) 100w High Pressure Sodium Lamp and Magnetic Ballast	4	125	0.50	3,640	1,820	\$ 371	0	125	0.50	3,640	1,820	\$ 371	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
847	Park Middle School			OUTSIDE	60w. Incandescent S/I	5	60	0.30	3,640	1,092	\$ 223	5	15	0.08	3,640	273	\$ 56	NO SENSOR PROPOSED	0	0.23	819	-	819	\$ 167	
848	Park Middle School			OUTSIDE	Wall Pack Fixture with (1) 250w High Pressure Sodium Lamp and (1) Magnetic HID Ballast	11	300	3.30	3,640	12,012	\$ 2,450	11	210	2.31	3,640	8,408	\$ 1,715	NO SENSOR PROPOSED	0	0.99	3,604	-	3,604	\$ 735	
849	Park Middle School	1	Corr. 104-108	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	17	89	1.51	3,000	4,539	\$ 926	17	72	1.22	3,000	3,672	\$ 749	NO SENSOR PROPOSED	0	0.29	867	-	867	\$ 177		
850	Park Middle School			Corr. 104-108	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 11	0	2	0.01	8,760	53	\$ 11	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
851	Park Middle School	1	Corr. 102-103	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	7	89	0.62	3,000	1,869	\$ 381	7	72	0.50	3,000	1,512	\$ 308	NO SENSOR PROPOSED	0	0.12	357	-	357	\$ 73		
852	Park Middle School			Corr. 102-103	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	2	61	0.12	3,000	366	\$ 75	0	61	0.12	3,000	366	\$ 75	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
853	Park Middle School	1	Corr. Machine Rm	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	3,000	1,068	\$ 218	4	72	0.29	3,000	864	\$ 176	NO SENSOR PROPOSED	0	0.07	204	-	204	\$ 42		
854	Park Middle School			Corr. Machine Rm	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	3,000	183	\$ 37	0	61	0.06	3,000	183	\$ 37	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
855	Park Middle School			Corr. Machine Rm	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
856	Park Middle School	1	Corridor	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	3,000	1,068	\$ 218	4	72	0.29	3,000	864	\$ 176	NO SENSOR PROPOSED	0	0.07	204	-	204	\$ 42		
857	Park Middle School			Corridor	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
858	Park Middle School	1	Corr. Locker Rms	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	3,000	2,136	\$ 436	8	72	0.58	3,000	1,728	\$ 353	NO SENSOR PROPOSED	0	0.14	408	-	408	\$ 83		
859	Park Middle School			Corr. Locker Rms	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	3,000	183	\$ 37	0	61	0.06	3,000	183	\$ 37	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
860	Park Middle School	1	Corr. Nurse Rm 138	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	14	89	1.25	3,000	3,738	\$ 763	14	72	1.01	3,000	3,024	\$ 617	NO SENSOR PROPOSED	0	0.24	714	-	714	\$ 146		
861	Park Middle School			Corr. Nurse Rm 138	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 7	0	2	0.00	8,760	35	\$ 7	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
862	Park Middle School	1	Corr. Rm 129-131	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	3,000	3,204	\$ 654	12	72	0.86	3,000	2,592	\$ 529	NO SENSOR PROPOSED	0	0.20	612	-	612	\$ 125		
863	Park Middle School			Corr. Rm 129-131	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
864	Park Middle School	1	Corr. 120	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	3,000	1,068	\$ 218	4	72	0.29	3,000	864	\$ 176	NO SENSOR PROPOSED	0	0.07	204	-	204	\$ 42		
865	Park Middle School			Corr. 120	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
866	Park Middle School	1	Corr. 119E	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	7	89	0.62	3,000	1,869	\$ 381	7	72	0.50	3,000	1,512	\$ 308	NO SENSOR PROPOSED	0	0.12	357	-	357	\$ 73		
867	Park Middle School			Corr. 119E	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 7	0	2	0.00	8,760	35	\$ 7	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
868	Park Middle School	1	Corr. 113-117	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	3,000	2,136	\$ 436	8	72	0.58	3,000	1,728	\$ 353	NO SENSOR PROPOSED	0	0.14	408	-	408	\$ 83		
869	Park Middle School			Corr. 113-117	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
870	Park Middle School	1	Corr. 119A	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	5	89	0.45	3,000	1,335	\$ 272	5	72	0.36	3,000	1,080	\$ 220	NO SENSOR PROPOSED	0	0.09	255	-	255	\$ 52		
871	Park Middle School			Corr. 119A	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
872	Park Middle School	1	New Lobby	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	6	89	0.53	3,000	1,602	\$ 327	6	72	0.43	3,000	1,296	\$ 264	NO SENSOR PROPOSED	0	0.10	306	-	306	\$ 62		
873	Park Middle School	1	Corr. Fac. Dining	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	3,000	1,068	\$ 218	4	72	0.29	3,000	864	\$ 176	NO SENSOR PROPOSED	0	0.07	204	-	204	\$ 42		
874	Park Middle School			Corr. Fac. Dining	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	3,000	1,068	\$ 218	4	72	0.29	3,000	864	\$ 176	NO SENSOR PROPOSED	0	0.07	204	-	204	\$ 42	
875	Park Middle School			Corr. Fac. Dining	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 7	0	2	0.00	8,760	35	\$ 7	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
876	Park Middle School	1	Corridor - Courtyard	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	5	89	0.45	3,000	1,335	\$ 272	5	72	0.36	3,000	1,080	\$ 220	NO SENSOR PROPOSED	0	0.09	255	-	255	\$ 52		
877	Park Middle School	1	Main Gym Rm 133	8' Fixture with Egg Style Metal Lens w/ (2) F96 T12 75w Lamps & (1) 2-Light Standard Magnetic Ballast	26	173	4.50	2,400	10,795	\$ 2,202	26	234	6.08	2,400	14,602	\$ 2,979	NO SENSOR PROPOSED	0	(1.59)	(3,806)	-	-3,806	\$ (777)		
878	Park Middle School			Main Gym Rm 133	Exit Sign w/ 2w LED	5	2	0.01	8,760	88	\$ 18	0	2	0.01	8,760	88	\$ 18	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

879	Park Middle School	1	Gym - Storage	60w. Incandescent S/I	2	60	0.12	500	60	\$ 12	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	2	15	0.03	325	10	\$ 2	Wall Switch Occupancy Sensor	1	0.09	45	5	50	\$ 10
880	Park Middle School	1	Multi-Purpose Rm 129	High Bay Fixture with (1) 400w Metal Halide Lamp and (1) Magnetic HID Ballast	16	445	7.12	2,400	17,088	\$ 3,486	Remove and Replace Existing Fixture With a New 2x4 Recessed Troffer Fixture Containing a Silver Reflector, 4-Lamp Electronic High Output Ballast, and (4) 4' T5 F54 HO Lamps. And cage lens	16	234	3.74	2,400	9,986	\$ 1,833	NO SENSOR PROPOSED	0	3.38	8,102	-	8,102	\$ 1,653
881	Park Middle School		Multi-Purpose Rm 129	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	2,400	146	\$ 30	No Work Proposed	0	61	0.06	2,400	146	\$ 30	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
882	Park Middle School		Multi-Purpose Rm 129	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 7	No Work Proposed	0	2	0.00	8,760	35	\$ 7	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
883	Park Middle School	1	Storage	8' Strip Fixture with (2) F96 Econo-Watt T12 Lamps & (1) 2L EE Magnetic Ballast	4	138	0.55	500	276	\$ 56	Rebuild an 8' Fixture. Install a 4-Lamp Electronic Low Power Ballast, Ballast Channel, Socket Bracket, (4) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	4	84	0.34	500	168	\$ 34	NO SENSOR PROPOSED	0	0.22	108	-	108	\$ 22
884	Park Middle School	1	Office	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	2,400	439	\$ 90	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	1,560	225	\$ 46	Wall Switch Occupancy Sensor	1	0.04	94	121	215	\$ 44
885	Park Middle School		Office	60w. Incandescent S/I	1	60	0.06	2,400	144	\$ 29	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	2,400	36	\$ 7	NO SENSOR PROPOSED	0	0.05	108	-	108	\$ 22
886	Park Middle School	1	Lunch Rm 127	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	47	89	4.18	2,400	10,039	\$ 2,048	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	47	72	3.38	2,400	8,122	\$ 1,657	NO SENSOR PROPOSED	0	0.80	1,918	-	1,918	\$ 391
887	Park Middle School		Lunch Rm 127	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 7	No Work Proposed	0	2	0.00	8,760	35	\$ 7	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
888	Park Middle School	1	Band Rm 101	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	20	89	1.78	1,650	2,937	\$ 599	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	20	72	1.44	1,650	2,376	\$ 485	NO SENSOR PROPOSED	0	0.34	561	-	561	\$ 114
889	Park Middle School		Band Rm 101	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	No Work Proposed	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
890	Park Middle School	1	Practice Rm	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	1,000	178	\$ 36	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	1,000	144	\$ 29	NO SENSOR PROPOSED	0	0.03	34	-	34	\$ 7
891	Park Middle School	1	Practice Rm	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	1,000	178	\$ 36	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	1,000	144	\$ 29	NO SENSOR PROPOSED	0	0.03	34	-	34	\$ 7
892	Park Middle School	1	Transfer Rm 14	4' Fixture with Egg Style Lens with (2) F34 T12 Lamps & (1) 4L Electronic Ballast	2	80	0.16	2,400	384	\$ 78	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Normal Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	2	48	0.10	2,400	230	\$ 47	NO SENSOR PROPOSED	0	0.06	154	-	154	\$ 31
893	Park Middle School	1	Kitchen	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	14	110	1.54	1,650	2,541	\$ 518	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	14	95	1.33	1,650	2,195	\$ 448	NO SENSOR PROPOSED	0	0.21	347	-	347	\$ 71
894	Park Middle School		Kitchen	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	1,650	302	\$ 62	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	1,650	238	\$ 48	NO SENSOR PROPOSED	0	0.04	64	-	64	\$ 13
895	Park Middle School		Kitchen	4' Fixture with Egg Style Lens with (1) F32 T8 Lamp & (1) 1L Electronic Ballast	1	31	0.03	1,650	51	\$ 10	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	1	25	0.03	1,650	41	\$ 8	NO SENSOR PROPOSED	0	0.01	10	-	10	\$ 2
896	Park Middle School	1	Kitchen - Rm	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	1,650	101	\$ 21	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,073	51	\$ 11	Wall Switch Occupancy Sensor	1	0.01	21	28	49	\$ 10
897	Park Middle School	1	Kitchen - Rm	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	1,650	101	\$ 21	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,650	79	\$ 16	NO SENSOR PROPOSED	0	0.01	21	-	21	\$ 4
898	Park Middle School	1	Kitchen - Rm	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	1,650	101	\$ 21	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,073	51	\$ 11	Wall Switch Occupancy Sensor	1	0.01	21	28	49	\$ 10
899	Park Middle School		Kitchen - Rm	60w. Incandescent S/I	1	60	0.06	1,650	99	\$ 20	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	1,650	25	\$ 5	NO SENSOR PROPOSED	0	0.05	74	-	74	\$ 15
900	Park Middle School	1	Kitchen - Rm	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	1,650	403	\$ 82	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	1,650	317	\$ 65	NO SENSOR PROPOSED	0	0.05	86	-	86	\$ 18
901	Park Middle School		Kitchen - Rm	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	No Work Proposed	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
902	Park Middle School	1	Storage	4' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	4	61	0.24	500	122	\$ 25	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	500	96	\$ 20	NO SENSOR PROPOSED	0	0.05	26	-	26	\$ 5
903	Park Middle School	1	Office	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	2,400	427	\$ 87	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	1,560	225	\$ 46	Wall Switch Occupancy Sensor	1	0.03	82	121	203	\$ 41
904	Park Middle School	1	Office - Bathroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	2,400	146	\$ 30	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	2,400	115	\$ 24	NO SENSOR PROPOSED	0	0.01	31	-	31	\$ 6
905	Park Middle School	1	Fac. Dining	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	11	89	0.98	2,400	2,350	\$ 479	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	11	72	0.79	1,560	1,236	\$ 252	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.19	449	665	1,114	\$ 227
906	Park Middle School		Fac. Dining	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	2	61	0.12	2,400	293	\$ 60	No Work Proposed	0	61	0.12	2,400	293	\$ 60	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
907	Park Middle School	1	Fac. Dining - BR	4' Vanity Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	1	61	0.06	2,400	146	\$ 30	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,560	75	\$ 15	Wall Switch Occupancy Sensor	1	0.01	31	40	72	\$ 15
908	Park Middle School		Fac. Dining - BR	60w. Incandescent S/I	1	60	0.06	2,400	144	\$ 29	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	2,400	36	\$ 7	NO SENSOR PROPOSED	0	0.05	108	-	108	\$ 22
909	Park Middle School	1	Fac. Dining - BR	2' Vanity Fixture with (1) F17 T8 Lamps & (1) 1-Light Electronic Ballast	1	24	0.02	2,400	58	\$ 12	Re-lamp & Re-ballast existing fixture. Install a 1-Lamp Electronic Normal Power Ballast, (1) 2' T8 Energy Saving Lamps, New Lamp Sockets.	1	18	0.02	1,560	28	\$ 6	Wall Switch Occupancy Sensor	1	0.01	14	15	30	\$ 6
910	Park Middle School		Fac. Dining - BR	60w. Incandescent S/I	1	60	0.06	2,400	144	\$ 29	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	2,400	36	\$ 7	NO SENSOR PROPOSED	0	0.05	108	-	108	\$ 22
911	Park Middle School	1	New Gym Rm 103	High Bay Fixture with (1) 400w Metal Halide Lamp and (1) Magnetic HID Ballast	30	445	13.35	2,400	32,040	\$ 6,536	Remove and Replace Existing Fixture With a New 2x4 Recessed Troffer Fixture Containing a Silver Reflector, 4-Lamp Electronic High Output Ballast, and (4) 4' T5 F54 HO Lamps. And cage lens	30	234	7.02	2,400	16,848	\$ 3,437	NO SENSOR PROPOSED	0	6.33	15,192	-	15,192	\$ 3,099
912	Park Middle School		New Gym Rm 103	Exit Sign w/ 2w LED	4	2	0.01	8,760	70	\$ 14	No Work Proposed	0	2	0.01	8,760	70	\$ 14	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
913	Park Middle School	1	Boys Locker Rm	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	2,400	854	\$ 174	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	1,560	449	\$ 92	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.07	163	242	405	\$ 83
914	Park Middle School	1	Boys Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	3,000	801	\$ 163	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	3,000	648	\$ 132	NO SENSOR PROPOSED	0	0.05	153	-	153	\$ 31
915	Park Middle School	1	Storage	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	500	92	\$ 19	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	500	72	\$ 15	NO SENSOR PROPOSED	0	0.04	20	-	20	\$ 4
916	Park Middle School	1	Girls Locker Rm	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	2,400	641	\$ 131	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	1,560	337	\$ 69	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.05	122	181	304	\$ 62
917	Park Middle School		Girls Locker Rm	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	2	61	0.12	2,400	293	\$ 60	No Work Proposed	0	61	0.12	2,400	293	\$ 60	NO SENSOR PROPOSED	0	-	-	-	0	\$ -

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

918	Park Middle School			Girls Locker Rm	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	2,400	641	\$	131	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	1,560	337	\$	69	Wall Switch Occupancy Sensor	2	0.05	122	181	304	\$	62
919	Park Middle School	2		Corr. Rm 201-205	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	11	89	0.98	3,000	2,937	\$	599	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	11	72	0.79	3,000	2,376	\$	485	NO SENSOR PROPOSED	0	0.19	561	-	561	\$	114
920	Park Middle School			Corr. Rm 201-205	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	4	No Work Proposed	0	2	0.00	8,760	18	\$	4	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
921	Park Middle School	2		Corr. Rm 206-208	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	17	89	1.51	3,000	4,539	\$	926	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	17	72	1.22	3,000	3,672	\$	749	NO SENSOR PROPOSED	0	0.29	867	-	867	\$	177
922	Park Middle School			Corr. Rm 206-208	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$	11	No Work Proposed	0	2	0.01	8,760	53	\$	11	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
923	Park Middle School	2		Stairs 1	23w Compact Fluorescent S/l	8	23	0.18	3,640	670	\$	137	No Work Proposed	0	23	0.18	3,640	670	\$	137	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
924	Park Middle School			Stairs 1	2X4 Surface Mounted Troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	3,640	324	\$	66	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	3,640	262	\$	53	NO SENSOR PROPOSED	0	0.02	62	-	62	\$	13
925	Park Middle School			Stairs 1	2X4 Surface Mounted Troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	3,640	222	\$	45	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,640	175	\$	36	NO SENSOR PROPOSED	0	0.01	47	-	47	\$	10
926	Park Middle School			Stairs 1	4' Strip Fixture with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	1	61	0.06	3,640	222	\$	45	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,640	175	\$	36	NO SENSOR PROPOSED	0	0.01	47	-	47	\$	10
927	Park Middle School			Stairs 1	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	4	No Work Proposed	0	2	0.00	8,760	18	\$	4	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
928	Park Middle School	2		Corr. Rm 209-213	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	13	89	1.16	3,000	3,471	\$	708	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	13	72	0.94	3,000	2,808	\$	573	NO SENSOR PROPOSED	0	0.22	663	-	663	\$	135
929	Park Middle School			Corr. Rm 209-213	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$	11	No Work Proposed	0	2	0.01	8,760	53	\$	11	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
930	Park Middle School	2		Stairs 5	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	3,640	888	\$	181	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	3,640	699	\$	143	NO SENSOR PROPOSED	0	0.05	189	-	189	\$	39
931	Park Middle School			Stairs 5	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	4	No Work Proposed	0	2	0.00	8,760	18	\$	4	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
932	Park Middle School	2		Corr. 214-220	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	9	89	0.80	3,000	2,403	\$	490	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	72	0.65	3,000	1,944	\$	397	NO SENSOR PROPOSED	0	0.15	459	-	459	\$	94
933	Park Middle School			Corr. 214-220	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	4	No Work Proposed	0	2	0.00	8,760	18	\$	4	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
934	Park Middle School	2		Stairs 7	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	3,640	888	\$	181	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	3,640	699	\$	143	NO SENSOR PROPOSED	0	0.05	189	-	189	\$	39
935	Park Middle School			Stairs 7	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	4	No Work Proposed	0	2	0.00	8,760	18	\$	4	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
936	Park Middle School	3		Stairs 4	2X4 Surface Mounted Troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	3,640	648	\$	132	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	3,640	524	\$	107	NO SENSOR PROPOSED	0	0.03	124	-	124	\$	25
937	Park Middle School			Stairs 4	2X4 Surface Mounted Troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	3	61	0.18	3,640	666	\$	136	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,640	524	\$	107	NO SENSOR PROPOSED	0	0.04	142	-	142	\$	29
938	Park Middle School			Stairs 4	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	4	No Work Proposed	0	2	0.00	8,760	18	\$	4	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
939	Park Middle School	3		Corr. Rm 302-304	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	9	89	0.80	3,000	2,403	\$	490	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	72	0.65	3,000	1,944	\$	397	NO SENSOR PROPOSED	0	0.15	459	-	459	\$	94
940	Park Middle School			Corr. Rm 302-304	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$	7	No Work Proposed	0	2	0.00	8,760	35	\$	7	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
941	Park Middle School	3		Corr. Rm 305-313	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	17	89	1.51	3,000	4,539	\$	926	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	17	72	1.22	3,000	3,672	\$	749	NO SENSOR PROPOSED	0	0.29	867	-	867	\$	177
942	Park Middle School			Corr. Rm 305-313	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$	11	No Work Proposed	0	2	0.01	8,760	53	\$	11	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
943	Park Middle School	3		Stairs 2	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	4	61	0.24	3,640	888	\$	181	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	3,640	699	\$	143	NO SENSOR PROPOSED	0	0.05	189	-	189	\$	39
944	Park Middle School			Stairs 2	4X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	1	110	0.11	3,640	400	\$	82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	3,640	346	\$	71	NO SENSOR PROPOSED	0	0.02	55	-	55	\$	11
945	Park Middle School			Stairs 2	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	4	No Work Proposed	0	2	0.00	8,760	18	\$	4	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
946	Park Middle School	3		Stairs 3	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	4	61	0.24	3,640	888	\$	181	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	3,640	699	\$	143	NO SENSOR PROPOSED	0	0.05	189	-	189	\$	39
947	Park Middle School			Stairs 3	4X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	1	110	0.11	3,640	400	\$	82	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	3,640	346	\$	71	NO SENSOR PROPOSED	0	0.02	55	-	55	\$	11
948	Park Middle School			Stairs 3	60w. Incandescent S/l	1	60	0.06	3,640	218	\$	45	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	3,640	55	\$	11	NO SENSOR PROPOSED	0	0.05	164	-	164	\$	33
949	Park Middle School			Stairs 3	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	4	No Work Proposed	0	2	0.00	8,760	18	\$	4	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
950	Park Middle School	3		Corr. Rm 315-319	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	3,000	3,204	\$	654	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	3,000	2,592	\$	529	NO SENSOR PROPOSED	0	0.20	612	-	612	\$	125
951	Park Middle School			Corr. Rm 315-319	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	3,000	183	\$	37	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,000	144	\$	29	NO SENSOR PROPOSED	0	0.01	39	-	39	\$	8
952	Park Middle School			Corr. Rm 315-319	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	4	No Work Proposed	0	2	0.00	8,760	18	\$	4	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
953	Park Middle School	3		Stairs 6	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	6	61	0.37	3,640	1,332	\$	272	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	48	0.29	3,640	1,048	\$	214	NO SENSOR PROPOSED	0	0.08	284	-	284	\$	58
954	Brunner	201		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$	192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$	166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$	26
955	Brunner	211		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$	192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$	166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$	26
956	Brunner	202		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$	192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$	166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$	26
957	Brunner	210		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$	192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$	166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$	26
958	Brunner	203		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$	192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$	166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$	26
959	Brunner	204		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$	192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$	166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$	26

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

960	Brunner	208	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$ 26
961	Brunner	205	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$ 26
962	Brunner	207	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$ 26
963	Brunner	206	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$ 26
964	Brunner	209A	Boys Room	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	4	31	0.12	3,000	372	\$ 66	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	4	25	0.10	3,000	300	\$ 53	NO SENSOR PROPOSED	0	0.02	72	-	72	\$ 13
965	Brunner	209B	Storage	8' Fixture with Egg Style Metal Lens w/ (4) F34 T12 Lamps & (2) 2-Light Magnetic Ballasts	1	160	0.16	500	80	\$ 14	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4 T8 F28 Energy Saving Lamps.	1	84	0.08	500	42	\$ 7	NO SENSOR PROPOSED	0	0.08	38	-	38	\$ 7
966	Brunner	209C	Storage	100w Incandescent S/I	1	100	0.10	500	50	\$ 9	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$ 7
967	Brunner	209D	Girls Room	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	4	31	0.12	3,000	372	\$ 66	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	4	25	0.10	3,000	300	\$ 53	NO SENSOR PROPOSED	0	0.02	72	-	72	\$ 13
968	Brunner	116	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$ 26
969	Brunner	118	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$ 26
970	Brunner	115	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$ 26
971	Brunner	119	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$ 26
972	Brunner	114	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$ 26
973	Brunner	113	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$ 26
974	Brunner	132D	Boys Room	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	5	31	0.16	3,000	465	\$ 82	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	5	25	0.13	3,000	375	\$ 66	NO SENSOR PROPOSED	0	0.03	90	-	90	\$ 16
975	Brunner	132C	Custodian Closet	100w Incandescent S/I	1	100	0.10	500	50	\$ 9	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$ 7
976	Brunner	132B	Storage	100w Incandescent S/I	1	100	0.10	500	50	\$ 9	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$ 7
977	Brunner		Girls Room	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	5	31	0.16	3,000	465	\$ 82	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	5	25	0.13	3,000	375	\$ 66	NO SENSOR PROPOSED	0	0.03	90	-	90	\$ 16
978	Brunner	120	SGI	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	1,650	587	\$ 104	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	1,073	309	\$ 55	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtq. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.07	112	166	279	\$ 49
979	Brunner	112	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$ 26
980	Brunner	121	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$ 26
981	Brunner	111	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	6	110	0.66	1,650	1,089	\$ 192	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$ 166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$ 26
982	Brunner	122	SGI	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	1,650	587	\$ 104	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	1,073	309	\$ 55	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtq. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.07	112	166	279	\$ 49
983	Brunner		Boys Room	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	7	31	0.22	3,000	651	\$ 115	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	7	25	0.18	3,000	525	\$ 93	NO SENSOR PROPOSED	0	0.04	126	-	126	\$ 22
984	Brunner	C-7	Custodian Office	100w Incandescent S/I	1	100	0.10	2,400	240	\$ 42	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	2,400	55	\$ 10	NO SENSOR PROPOSED	0	0.08	185	-	185	\$ 33
985	Brunner	123	SGI	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	1,650	587	\$ 104	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	1,650	475	\$ 84	NO SENSOR PROPOSED	0	0.07	112	-	112	\$ 20
986	Brunner	131B	Restroom	2' Vanity Fixture with (2) F17 T8 Lamps & (1) 2-Light Electronic Ballast	1	34	0.03	3,000	102	\$ 18	No Work Proposed	0	34	0.03	3,000	102	\$ 18	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
987	Brunner		Restroom	60w. Incandescent S/I	1	60	0.06	3,000	180	\$ 32	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent One Piece Screw-In.	1	15	0.02	3,000	45	\$ 8	NO SENSOR PROPOSED	0	0.05	135	-	135	\$ 24
988	Brunner	131A	Girls Room	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	7	31	0.22	3,000	651	\$ 115	Re-lamp existing fixture with (3) Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	7	25	0.18	3,000	525	\$ 93	NO SENSOR PROPOSED	0	0.04	126	-	126	\$ 22
989	Brunner	124	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	15	89	1.34	1,650	2,203	\$ 389	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,650	1,782	\$ 315	NO SENSOR PROPOSED	0	0.26	421	-	421	\$ 74
990	Brunner	125	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	15	89	1.34	1,650	2,203	\$ 389	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,650	1,782	\$ 315	NO SENSOR PROPOSED	0	0.26	421	-	421	\$ 74
991	Brunner	126	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	15	89	1.34	1,650	2,203	\$ 389	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,650	1,782	\$ 315	NO SENSOR PROPOSED	0	0.26	421	-	421	\$ 74
992	Brunner	127	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	16	89	1.42	1,650	2,350	\$ 415	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	72	1.15	1,650	1,901	\$ 336	NO SENSOR PROPOSED	0	0.27	449	-	449	\$ 79
993	Brunner	128	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	1,650	1,175	\$ 207	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	1,650	950	\$ 168	NO SENSOR PROPOSED	0	0.14	224	-	224	\$ 40
994	Brunner	129	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	1,650	1,175	\$ 207	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	1,650	950	\$ 168	NO SENSOR PROPOSED	0	0.14	224	-	224	\$ 40
995	Brunner		Media Center	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	38	89	3.38	2,400	8,117	\$ 1,433	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	38	72	2.74	2,400	6,566	\$ 1,160	NO SENSOR PROPOSED	0	0.65	1,550	-	1,550	\$ 274
996	Brunner		Media Center	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	4	61	0.24	2,400	586	\$ 103	No Work Proposed	0	61	0.24	2,400	586	\$ 103	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
997	Brunner	109E	Ladies Room	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	1	31	0.03	2,400	74	\$ 13	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	1	25	0.03	2,400	60	\$ 11	NO SENSOR PROPOSED	0	0.01	14	-	14	\$ 3

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

998	Brunner	109		Faculty Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	8	61	0.49	2,400	1,171	\$	207	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	48	0.38	2,400	922	\$	163	NO SENSOR PROPOSED	0	0.10	250	-	250	\$	44
999	Brunner	109B		Storage	100w Incandescent S/I	1	100	0.10	500	50	\$	9	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$	2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$	7
1000	Brunner	109A		Restroom	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	1	31	0.03	3,000	93	\$	16	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	1	25	0.03	3,000	75	\$	13	NO SENSOR PROPOSED	0	0.01	18	-	18	\$	3
1001	Brunner	109D		Custodian Closet	100w Incandescent S/I	1	100	0.10	500	50	\$	9	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$	2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$	7
1002	Brunner	108B		Storage	100w Incandescent S/I	3	100	0.30	500	150	\$	26	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	3	23	0.07	500	35	\$	6	NO SENSOR PROPOSED	0	0.23	116	-	116	\$	20
1003	Brunner	109C		Men's Room	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	2	31	0.06	3,000	186	\$	33	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	2	25	0.05	3,000	150	\$	26	NO SENSOR PROPOSED	0	0.01	36	-	36	\$	6
1004	Brunner	108		Boiler Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	1,000	122	\$	22	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,000	96	\$	17	NO SENSOR PROPOSED	0	0.03	26	-	26	\$	5
1005	Brunner			Boiler Room	100w Incandescent S/I	2	100	0.20	1,000	200	\$	35	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	2	23	0.05	1,000	46	\$	8	NO SENSOR PROPOSED	0	0.15	154	-	154	\$	27
1006	Brunner			Boiler Room	8' Fixture with Egg Style Metal Lens w/ (4) F34 T12 Lamps & (2) 2-Light Magnetic Ballasts	1	160	0.16	1,000	160	\$	28	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps.	1	84	0.08	1,000	84	\$	15	NO SENSOR PROPOSED	0	0.08	76	-	76	\$	13
1007	Brunner	108C		Boiler Room	100w Incandescent S/I	6	100	0.60	1,000	600	\$	106	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	6	23	0.14	1,000	138	\$	24	NO SENSOR PROPOSED	0	0.46	462	-	462	\$	82
1008	Brunner	107		Classroom	8' Fixture with Egg Style Metal Lens w/ (4) F32 T8 Lamps & (1) 4-Light Electronic Ballasts	6	110	0.66	1,650	1,089	\$	192	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps, and Silver Reflector.	6	95	0.57	1,650	941	\$	166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$	26
1009	Brunner			Classroom	4' Fixture with Egg Style Lens with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	3	61	0.18	1,650	302	\$	53	Remove and Replace Existing Fixture With a New 1x4 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Normal Power Ballast and (2) 4' 28w T8 Energy Saving Lamps.	3	48	0.14	1,650	238	\$	42	NO SENSOR PROPOSED	0	0.04	64	-	64	\$	11
1010	Brunner			Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	1	110	0.11	1,650	182	\$	32	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	1,650	157	\$	28	NO SENSOR PROPOSED	0	0.02	25	-	25	\$	4
1011	Brunner			Bathroom	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	1	31	0.03	3,000	93	\$	16	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	1	25	0.03	3,000	75	\$	13	NO SENSOR PROPOSED	0	0.01	18	-	18	\$	3
1012	Brunner	106		Classroom	8' Fixture with Egg Style Metal Lens w/ (4) F32 T8 Lamps & (1) 4-Light Electronic Ballasts	6	110	0.66	1,650	1,089	\$	192	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps, and Silver Reflector.	6	95	0.57	1,650	941	\$	166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$	26
1013	Brunner			Classroom	4' Fixture with Egg Style Lens with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	3	61	0.18	1,650	302	\$	53	Remove and Replace Existing Fixture With a New 1x4 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Normal Power Ballast and (2) 4' 28w T8 Energy Saving Lamps.	3	48	0.14	1,650	238	\$	42	NO SENSOR PROPOSED	0	0.04	64	-	64	\$	11
1014	Brunner	105		Classroom	8' Fixture with Egg Style Metal Lens w/ (4) F32 T8 Lamps & (1) 4-Light Electronic Ballasts	6	110	0.66	1,650	1,089	\$	192	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps, and Silver Reflector.	6	95	0.57	1,650	941	\$	166	NO SENSOR PROPOSED	0	0.09	149	-	149	\$	26
1015	Brunner			Classroom	4' Fixture with Egg Style Lens with (2) F32 T8 Lamps & (1) 2L Electronic Ballast	3	61	0.18	1,650	302	\$	53	Remove and Replace Existing Fixture With a New 1x4 Surface Mounted Wrap Fixture Containing a 2-Lamp Electronic Normal Power Ballast and (2) 4' 28w T8 Energy Saving Lamps.	3	48	0.14	1,650	238	\$	42	NO SENSOR PROPOSED	0	0.04	64	-	64	\$	11
1016	Brunner	104C		Storage	100w Incandescent S/I	1	100	0.10	500	50	\$	9	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$	2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$	7
1017	Brunner	104		Nurse	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	2,400	586	\$	103	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	2,400	461	\$	81	NO SENSOR PROPOSED	0	0.05	125	-	125	\$	22
1018	Brunner			Exam Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	1,650	101	\$	18	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,650	79	\$	14	NO SENSOR PROPOSED	0	0.01	21	-	21	\$	4
1019	Brunner			Copy Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	2,400	586	\$	103	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	2,400	461	\$	81	NO SENSOR PROPOSED	0	0.05	125	-	125	\$	22
1020	Brunner			Main Office	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	6	61	0.37	2,400	878	\$	155	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	48	0.29	2,400	691	\$	122	NO SENSOR PROPOSED	0	0.08	187	-	187	\$	33
1021	Brunner			Principal's Office	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	2,400	439	\$	78	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	2,400	346	\$	61	NO SENSOR PROPOSED	0	0.04	94	-	94	\$	17
1022	Brunner			Bathroom	100w Incandescent S/I	1	100	0.10	3,000	300	\$	53	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$	12	NO SENSOR PROPOSED	0	0.08	231	-	231	\$	41
1023	Brunner			Storage	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	2	31	0.06	500	31	\$	5	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	2	25	0.05	500	25	\$	4	NO SENSOR PROPOSED	0	0.01	6	-	6	\$	1
1024	Brunner			OUTSIDE	60w. Incandescent S/I	24	60	1.44	3,640	5,242	\$	926	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	24	15	0.36	3,640	1,310	\$	231	NO SENSOR PROPOSED	0	1.08	3,931	-	3,931	\$	694
1025	Brunner			OUTSIDE	500w Quartz	1	500	0.50	3,640	1,820	\$	321	Remove and Replace Existing Fixture With a New Outdoor Flood Fixture Containing a 175w Metal Halide Lamp	1	210	0.21	3,640	764	\$	135	NO SENSOR PROPOSED	0	0.29	1,056	-	1,056	\$	186
1026	Brunner			OUTSIDE	75w. Par 38 Incandescent S/I	2	75	0.15	3,640	546	\$	96	Remove and Replace Existing Lamp With a New 18w R38 Compact Fluorescent Screw-In.	2	18	0.04	3,640	131	\$	23	NO SENSOR PROPOSED	0	0.11	415	-	415	\$	73
1027	Brunner			OUTSIDE	Flood Fixture with (1) 250w Metal Halide Pulse Start Lamp and (1) Magnetic HID Ballast	3	286	0.86	3,640	3,123	\$	552	No Work Proposed	0	286	0.86	3,640	3,123	\$	552	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
1028	Brunner			OUTSIDE	Wall Pack Fixture w/ (1) 42w Compact Fluorescent PL Lamp and Electronic Ballast	4	42	0.17	3,640	612	\$	108	No Work Proposed	0	42	0.17	3,640	612	\$	108	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
1029	Brunner			OUTSIDE	Wall Pack Fixture with (1) 150w High Pressure Sodium Lamp and (1) Magnetic HID Ballast	6	195	1.17	3,640	4,259	\$	752	Remove and Replace Existing Fixture With a New Outdoor Flood Fixture Containing a 100w. Metal Halide Lamp	6	127	0.76	3,640	2,774	\$	490	NO SENSOR PROPOSED	0	0.41	1,485	-	1,485	\$	262
1030	Brunner			OUTSIDE	Wall Pack Fixture with (1) 250w Metal Halide Lamp and (1) Magnetic HID Ballast	2	295	0.59	3,640	2,148	\$	379	No Work Proposed	0	295	0.59	3,640	2,148	\$	379	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
1031	Brunner	1		Corr. 105-107	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	5	61	0.31	3,000	915	\$	162	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	48	0.24	3,000	720	\$	127	NO SENSOR PROPOSED	0	0.07	195	-	195	\$	34
1032	Brunner			Corr. 105-107	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	3	No Work Proposed	0	2	0.00	8,760	18	\$	3	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
1033	Brunner	1		Main Entrance	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	3,000	732	\$	129	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	3,000	576	\$	102	NO SENSOR PROPOSED	0	0.05	156	-	156	\$	28
1034	Brunner			Main Entrance	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	3	No Work Proposed	0	2	0.00	8,760	18	\$	3	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
1035	Brunner	1		Corr. Rm 110-115	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	28	61	1.71	3,000	5,124	\$	905	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	28	48	1.34	3,000	4,032	\$	712	NO SENSOR PROPOSED	0	0.36	1,092	-	1,092	\$	193
1036	Brunner			Corr. Rm 110-115	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$	9	No Work Proposed	0	2	0.01	8,760	53	\$	9	NO SENSOR PROPOSED	0	-	-	-	0	\$	-

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

1037	Brunner		1	Corr. 120-123	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	4	61	0.24	3,000	732	\$ 129	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	3,000	576	\$ 102	NO SENSOR PROPOSED	0	0.05	156	-	156	\$ 28
1038	Brunner			Corr. 120-123	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	4	61	0.24	3,000	732	\$ 129	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	3,000	576	\$ 102	NO SENSOR PROPOSED	0	0.05	156	-	156	\$ 28
1039	Brunner			Corr. 120-123	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 6	No Work Proposed	0	2	0.00	8,760	35	\$ 6	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1040	Brunner		1	Corr. 124-126	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	3,000	1,068	\$ 189	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	3,000	864	\$ 153	NO SENSOR PROPOSED	0	0.07	204	-	204	\$ 36
1041	Brunner			Corr. 124-126	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 6	No Work Proposed	0	2	0.00	8,760	35	\$ 6	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1042	Brunner		1	Corr. 127-129	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	5	89	0.45	3,000	1,335	\$ 236	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	72	0.36	3,000	1,080	\$ 191	NO SENSOR PROPOSED	0	0.09	255	-	255	\$ 45
1043	Brunner			Corr. 127-129	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 6	No Work Proposed	0	2	0.00	8,760	35	\$ 6	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1044	Brunner		1	Corr. 117	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	6	89	0.53	3,000	1,602	\$ 283	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	72	0.43	3,000	1,296	\$ 229	NO SENSOR PROPOSED	0	0.10	306	-	306	\$ 54
1045	Brunner			Corr. 117	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1046	Brunner			Corr. 117	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	3,000	267	\$ 47	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	3,000	216	\$ 38	NO SENSOR PROPOSED	0	0.02	51	-	51	\$ 9
1047	Brunner			Corr. 117	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	3,000	267	\$ 47	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	3,000	216	\$ 38	NO SENSOR PROPOSED	0	0.02	51	-	51	\$ 9
1048	Brunner		1	Gym 117	450w Mercury Vapor High Bay Fixture	16	450	7.20	2,400	17,280	\$ 3,052	New 2x4 Recessed Fixture, (3) FPF4 Lamps, HO Ballast, Silver Reflector.	16	179	2.86	2,400	6,874	\$ 1,214	NO SENSOR PROPOSED	0	4.34	10,406	-	10,406	\$ 1,838
1049	Brunner			Gym 117	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 9	No Work Proposed	0	2	0.01	8,760	53	\$ 9	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1050	Brunner		1	Gym 117 - Rm	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	2,400	439	\$ 78	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	1,560	225	\$ 40	Wall Switch Occupancy Sensor	1	0.04	94	121	215	\$ 38
1051	Brunner		1	Gym 117 - Rm	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	2,400	427	\$ 75	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	1,560	225	\$ 40	Wall Switch Occupancy Sensor	1	0.03	82	121	203	\$ 36
1052	Brunner		1	Multi Purpose Rm 110	High Bay Fixture with (1) 400w Metal Halide Lamp and (1) Magnetic HID Ballast	20	445	8.90	2,400	21,360	\$ 3,772	Remove and Replace Existing Fixture With a New 2x4 Recessed Troffer Fixture Containing a Silver Reflector, 4-Lamp Electronic High Output Ballast, and (4) 4' T5 F54 HO Lamps. Add cage lens.	20	234	4.68	2,400	11,232	\$ 1,984	NO SENSOR PROPOSED	0	4.22	10,128	-	10,128	\$ 1,789
1053	Brunner			Multi Purpose Rm 110	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 9	No Work Proposed	0	2	0.01	8,760	53	\$ 9	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1054	Brunner		1	Stage Music	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	1,650	147	\$ 26	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	1,650	119	\$ 21	NO SENSOR PROPOSED	0	0.02	28	-	28	\$ 5
1055	Brunner			Stage Music	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	1,650	147	\$ 26	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	1,650	119	\$ 21	NO SENSOR PROPOSED	0	0.02	28	-	28	\$ 5
1056	Brunner			Stage Music	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	1,650	101	\$ 18	No Work Proposed	0	61	0.06	1,650	101	\$ 18	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1057	Brunner			Stage Music	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	5	61	0.31	1,650	503	\$ 89	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	48	0.24	1,650	396	\$ 70	NO SENSOR PROPOSED	0	0.07	107	-	107	\$ 19
1058	Brunner			Stage Music	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 9	No Work Proposed	0	2	0.01	8,760	53	\$ 9	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1059	Brunner		2	Stairs 7	2x2 Vapor & Moisture Resistant Fixture w/ (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	3	62	0.19	3,640	677	\$ 120	No Work Proposed	0	62	0.19	3,640	677	\$ 120	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1060	Brunner			Stairs 7	2x2 Vapor & Moisture Resistant Fixture w/ (4) F20 T12 Lamps & (1) 4-Light Magnetic Ballast	1	79	0.08	3,640	288	\$ 51	Re-build existing troffer fixture w/ (2) F17 T8 Lamps, & (1) Normal Power 2-Lamp Electronic Ballast & Silver Reflector	1	34	0.03	3,640	124	\$ 22	NO SENSOR PROPOSED	0	0.05	164	-	164	\$ 29
1061	Brunner		2	Corr. 201-206	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	14	61	0.85	3,000	2,562	\$ 452	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	14	48	0.67	3,000	2,016	\$ 356	NO SENSOR PROPOSED	0	0.18	546	-	546	\$ 96
1062	Brunner			Corr. 201-206	4' Wrap Fixture w/ (2) F34 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	4	80	0.32	3,000	960	\$ 170	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Normal Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	4	48	0.19	3,000	576	\$ 102	NO SENSOR PROPOSED	0	0.13	384	-	384	\$ 68
1063	Brunner			Corr. 201-206	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 6	No Work Proposed	0	2	0.00	8,760	35	\$ 6	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1064	Brunner		2	Stairs 11	2x2 Vapor & Moisture Resistant Fixture w/ (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	4	62	0.25	3,640	903	\$ 159	No Work Proposed	0	62	0.25	3,640	903	\$ 159	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1065	Terril Middle School			Copy Room	8' Fixture with Egg Style Metal Lens w/ (4) F34 T12 Lamps & (2) 2-Light Magnetic Ballasts	2	160	0.32	2,400	768	\$ 175	Remove and Replace Existing Fixture With a New 1x8 Surface Mounted Wrap Fixture Containing a 4-Lamp Low Powered Electronic T8 Ballast, and (4) 4' T8 F28 Energy Saving Lamps.	2	84	0.17	1,560	262	\$ 60	Wall Switch Occupancy Sensor	1	0.15	365	141	506	\$ 116
1066	Terril Middle School		24	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1067	Terril Middle School		25	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1068	Terril Middle School		27	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1069	Terril Middle School		26	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1070	Terril Middle School		28	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1071	Terril Middle School		29	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	21	61	1.28	1,650	2,114	\$ 483	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	21	48	1.01	1,073	1,081	\$ 247	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.27	450	582	1,033	\$ 236
1072	Terril Middle School		38	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1073	Terril Middle School		32	Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

1074	Terril Middle School	31		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	21	61	1.28	1,650	2,114	\$ 483	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	21	48	1.01	1,073	1,081	\$ 247	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.27	450	582	1,033	\$ 236
1075	Terril Middle School	33		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	23	61	1.40	1,650	2,315	\$ 529	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	23	48	1.10	1,073	1,184	\$ 270	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.30	493	638	1,131	\$ 258
1076	Terril Middle School			Closet	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	500	92	\$ 21	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	500	72	\$ 16	NO SENSOR PROPOSED	0	0.04	20	-	20	\$ 4
1077	Terril Middle School	34		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1078	Terril Middle School			Faculty Bathroom	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	2,400	146	\$ 33	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	2,400	115	\$ 26	NO SENSOR PROPOSED	0	0.01	31	-	31	\$ 7
1079	Terril Middle School			Faculty Bathroom	100w Incandescent S/I	1	100	0.10	2,400	240	\$ 55	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	2,400	55	\$ 13	NO SENSOR PROPOSED	0	0.08	185	-	185	\$ 42
1080	Terril Middle School			Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 84	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 66	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 18
1081	Terril Middle School			Custodian Closet	60w. Incandescent S/I	1	60	0.06	500	30	\$ 7	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	500	8	\$ 2	NO SENSOR PROPOSED	0	0.05	23	-	23	\$ 5
1082	Terril Middle School			Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 84	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,950	187	\$ 43	Low Voltage (w/ PP-20) Dual Technology Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High-(1) PP-20 per sensor	1	0.03	78	101	179	\$ 41
1083	Terril Middle School	29		Prep Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	5	61	0.31	1,650	503	\$ 115	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	48	0.24	1,073	257	\$ 59	Low Voltage (w/ PP-20) Dual Technology Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High-(1) PP-20 per sensor	1	0.07	107	139	246	\$ 56
1084	Terril Middle School			Custodian Closet	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	500	31	\$ 7	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	325	16	\$ 4	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.01	7	8	15	\$ 3
1085	Terril Middle School			Boys Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	3,000	1,068	\$ 244	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	1,950	562	\$ 128	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.07	204	302	506	\$ 116
1086	Terril Middle School			Girls Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	3,000	1,068	\$ 244	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	1,950	562	\$ 128	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.07	204	302	506	\$ 116
1087	Terril Middle School	35		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 402	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 212	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 191
1088	Terril Middle School	37		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 402	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 212	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 191
1089	Terril Middle School	36		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 402	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 212	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 191
1090	Terril Middle School	38		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 402	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 212	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 191
1091	Terril Middle School	39		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 402	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 212	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 191
1092	Terril Middle School	40		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 402	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 212	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 191
1093	Terril Middle School	2		Electrical Room	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	1,000	61	\$ 14	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,000	48	\$ 11	NO SENSOR PROPOSED	0	0.01	13	-	13	\$ 3
1094	Terril Middle School	1		Electrical Room	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	1	61	0.06	1,000	61	\$ 14	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,000	48	\$ 11	NO SENSOR PROPOSED	0	0.01	13	-	13	\$ 3
1095	Terril Middle School	23		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 402	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 212	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 191
1096	Terril Middle School	22		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 402	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 212	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 191
1097	Terril Middle School	20		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 402	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 212	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 191
1098	Terril Middle School	18		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$ 402	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 212	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 191

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

1099	Terril Middle School	21		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	12	89	1.07	1,650	1,762	\$ 402	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 212	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 191
1100	Terril Middle School	19		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	12	89	1.07	1,650	1,762	\$ 402	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 212	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$ 191
1101	Terril Middle School			Girls Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	4	89	0.36	3,000	1,068	\$ 244	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	1,950	562	\$ 128	Low Voltage (w/ PP-20) Dual Technology Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High-(1) PP-20 per sensor	1	0.07	204	302	506	\$ 116
1102	Terril Middle School			Boys Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	3	89	0.27	3,000	801	\$ 183	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	1,950	421	\$ 96	Low Voltage (w/ PP-20) Dual Technology Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High-(1) PP-20 per sensor	1	0.05	153	227	380	\$ 87
1103	Terril Middle School	16		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1104	Terril Middle School	17		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	21	61	1.28	1,650	2,114	\$ 483	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	21	48	1.01	1,073	1,081	\$ 247	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.27	450	582	1,033	\$ 236
1105	Terril Middle School	14		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1106	Terril Middle School	13		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	21	61	1.28	1,650	2,114	\$ 483	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	21	48	1.01	1,073	1,081	\$ 247	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.27	450	582	1,033	\$ 236
1107	Terril Middle School	12		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1108	Terril Middle School			Book Room	40w. Incandescent S/I	6	40	0.24	1,650	396	\$ 90	Remove and Replace Existing Lamp With a New 13w Compact Fluorescent Two Piece Screw-In.	6	13	0.08	1,650	129	\$ 29	NO SENSOR PROPOSED	0	0.16	267	-	267	\$ 61
1109	Terril Middle School			Faculty Room	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	2,400	2,376	\$ 543	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,560	1,334	\$ 305	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	324	718	1,042	\$ 238
1110	Terril Middle School			Men's Room	100w Incandescent S/I	1	100	0.10	3,000	300	\$ 69	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 16	NO SENSOR PROPOSED	0	0.08	231	-	231	\$ 53
1111	Terril Middle School			Women's Room	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$ 42	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,000	144	\$ 33	NO SENSOR PROPOSED	0	0.01	39	-	39	\$ 9
1112	Terril Middle School			Women's Room	100w Incandescent S/I	2	100	0.20	3,000	600	\$ 137	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	2	23	0.05	3,000	138	\$ 32	NO SENSOR PROPOSED	0	0.15	462	-	462	\$ 106
1113	Terril Middle School			Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 84	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 66	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 18
1114	Terril Middle School			Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 84	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 66	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 18
1115	Terril Middle School			Custodian Closet	60w. Incandescent S/I	1	60	0.06	500	30	\$ 7	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent One Piece Screw-In.	1	15	0.02	500	8	\$ 2	NO SENSOR PROPOSED	0	0.05	23	-	23	\$ 5
1116	Terril Middle School			SPFEA	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	2,400	146	\$ 33	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	2,400	115	\$ 26	NO SENSOR PROPOSED	0	0.01	31	-	31	\$ 7
1117	Terril Middle School			SPFEA	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	4	110	0.44	2,400	1,056	\$ 241	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	2,400	912	\$ 208	NO SENSOR PROPOSED	0	0.06	144	-	144	\$ 33
1118	Terril Middle School			Closet	60w. Incandescent S/I	1	60	0.06	500	30	\$ 7	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent One Piece Screw-In.	1	15	0.02	500	8	\$ 2	NO SENSOR PROPOSED	0	0.05	23	-	23	\$ 5
1119	Terril Middle School			School Store	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	1,650	302	\$ 69	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	1,650	238	\$ 54	NO SENSOR PROPOSED	0	0.04	64	-	64	\$ 15
1120	Terril Middle School	10		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1121	Terril Middle School	11		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,650	1,411	\$ 322	NO SENSOR PROPOSED	0	0.14	223	-	223	\$ 51
1122	Terril Middle School			Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 84	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 66	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 18
1123	Terril Middle School			Custodian Office	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	2,400	293	\$ 67	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	2,400	230	\$ 53	NO SENSOR PROPOSED	0	0.03	62	-	62	\$ 14
1124	Terril Middle School			Closet	60w. Incandescent S/I	1	60	0.06	500	30	\$ 7	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent One Piece Screw-In.	1	15	0.02	500	8	\$ 2	NO SENSOR PROPOSED	0	0.05	23	-	23	\$ 5
1125	Terril Middle School			Nurse	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	11	61	0.67	2,400	1,610	\$ 368	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	11	48	0.53	2,400	1,267	\$ 289	NO SENSOR PROPOSED	0	0.14	343	-	343	\$ 78
1126	Terril Middle School			Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 84	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 66	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 18
1127	Terril Middle School	1		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1128	Terril Middle School	2		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	21	61	1.28	1,650	2,114	\$ 483	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	21	48	1.01	1,073	1,081	\$ 247	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.27	450	582	1,033	\$ 236

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

1129	Terril Middle School	4		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1130	Terril Middle School	3		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1131	Terril Middle School	5		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1132	Terril Middle School	6		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	9	110	0.99	1,650	1,634	\$ 373	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	95	0.86	1,073	917	\$ 209	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	223	494	717	\$ 164
1133	Terril Middle School			Telephone Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	1,000	89	\$ 20	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	1,000	72	\$ 16	NO SENSOR PROPOSED	0	0.02	17	-	17	\$ 4
1134	Terril Middle School			File Storage	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	500	45	\$ 10	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	500	36	\$ 8	NO SENSOR PROPOSED	0	0.02	9	-	9	\$ 2
1135	Terril Middle School			Main Office	75w. Par 38 Incandescent S/I	6	75	0.45	2,400	1,080	\$ 247	Remove and Replace Existing Lamp With a New 18w R38 Compact Fluorescent Screw-In	6	18	0.11	2,400	259	\$ 59	NO SENSOR PROPOSED	0	0.34	821	-	821	\$ 187
1136	Terril Middle School			Main Office	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	2,400	2,112	\$ 482	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	2,400	1,824	\$ 417	NO SENSOR PROPOSED	0	0.12	288	-	288	\$ 66
1137	Terril Middle School			Main Office	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	4	68	0.27	2,400	653	\$ 149	No Work Proposed	0	68	0.27	2,400	653	\$ 149	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1138	Terril Middle School			Office 1	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	6	110	0.66	2,400	1,584	\$ 362	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,560	889	\$ 203	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	216	479	695	\$ 159
1139	Terril Middle School			Copy Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	6	110	0.66	2,400	1,584	\$ 362	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,560	889	\$ 203	Wall Switch Occupancy Sensor	1	0.09	216	479	695	\$ 159
1140	Terril Middle School			Office 2	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	3	110	0.33	2,400	792	\$ 181	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	95	0.29	2,400	684	\$ 156	NO SENSOR PROPOSED	0	0.05	108	-	108	\$ 25
1141	Terril Middle School			Principal's Office	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	6	110	0.66	2,400	1,584	\$ 362	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,560	889	\$ 203	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.09	216	479	695	\$ 159
1142	Terril Middle School			Women's Room	40w. Incandescent G40 Globe S/I	3	40	0.12	3,000	360	\$ 82	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent Two Piece Screw-In With Globe Dimming	3	15	0.05	3,000	135	\$ 31	NO SENSOR PROPOSED	0	0.08	225	-	225	\$ 51
1143	Terril Middle School			Men's Room	40w. Incandescent G40 Globe S/I	3	40	0.12	3,000	360	\$ 82	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent Two Piece Screw-In With Globe Dimming	3	15	0.05	3,000	135	\$ 31	NO SENSOR PROPOSED	0	0.08	225	-	225	\$ 51
1144	Terril Middle School			Mechanical Room	100w Incandescent S/I	1	100	0.10	1,000	100	\$ 23	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In	1	23	0.02	1,000	23	\$ 5	NO SENSOR PROPOSED	0	0.08	77	-	77	\$ 18
1145	Terril Middle School			Counseling	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	6	110	0.66	2,400	1,584	\$ 362	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	2,400	1,368	\$ 312	NO SENSOR PROPOSED	0	0.09	216	-	216	\$ 49
1146	Terril Middle School			Office 1	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 121	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 68	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$ 53
1147	Terril Middle School			Office 2	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	2	110	0.22	2,400	528	\$ 121	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 68	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$ 53
1148	Terril Middle School			Office 3	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	3	110	0.33	2,400	792	\$ 181	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	95	0.29	1,560	445	\$ 102	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.05	108	239	347	\$ 79
1149	Terril Middle School			Conference Room	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	8	110	0.88	2,400	2,112	\$ 482	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,560	1,186	\$ 271	Wide View Low Voltage (w/PP-20) Wall Mounted Sensor-40" Range (8-15' Mtg. Height)	1	0.12	288	638	926	\$ 212
1150	Terril Middle School			Conference Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	2,400	293	\$ 67	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,560	150	\$ 34	Wide View Low Voltage (w/PP-20) Wall Mounted Sensor-40" Range (8-15' Mtg. Height)	1	0.03	62	81	143	\$ 33
1151	Terril Middle School			Child Study Office	ROOM LOCKED	0	0	0.00	2,400	0	\$ -	No Work Proposed	0	0	0.00	2,400	-	\$ -	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1152	Terril Middle School			Media Center	4' Direct/Indirect Fixture with (3) F32 T8 Lamps & (1) 3L Electronic Ballast	120	89	10.68	2,400	25,632	\$ 5,854	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	120	72	8.64	2,400	20,736	\$ 4,736	NO SENSOR PROPOSED	0	2.04	4,896	-	4,896	\$ 1,118
1153	Terril Middle School			Sink	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	500	92	\$ 21	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	500	72	\$ 16	NO SENSOR PROPOSED	0	0.04	20	-	20	\$ 4
1154	Terril Middle School			Center Class	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	1,650	587	\$ 134	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	1,650	475	\$ 109	NO SENSOR PROPOSED	0	0.07	112	-	112	\$ 26
1155	Terril Middle School			Computer Lab	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	12	110	1.32	1,650	2,178	\$ 497	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	95	1.14	1,650	1,881	\$ 430	NO SENSOR PROPOSED	0	0.18	297	-	297	\$ 68
1156	Terril Middle School			Storage	60w. Incandescent S/I	2	60	0.12	500	60	\$ 14	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent One Piece Screw-In	2	15	0.03	500	15	\$ 3	NO SENSOR PROPOSED	0	0.09	45	-	45	\$ 10
1157	Terril Middle School			Custodian Closet	40w. Incandescent S/I	1	40	0.04	500	20	\$ 5	Remove and Replace Existing Lamp With a New 13w Compact Fluorescent Two Piece Screw-In	1	13	0.01	500	7	\$ 1	NO SENSOR PROPOSED	0	0.03	14	-	14	\$ 3
1158	Terril Middle School	8		Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	14	110	1.54	1,650	2,541	\$ 580	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	14	95	1.33	1,073	1,426	\$ 326	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	2	0.21	347	768	1,115	\$ 255
1159	Terril Middle School			Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	8	61	0.49	1,650	805	\$ 184	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	48	0.38	1,650	634	\$ 145	NO SENSOR PROPOSED	0	0.10	172	-	172	\$ 39
1160	Terril Middle School	7		Classroom	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	12	110	1.32	1,650	2,178	\$ 497	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	95	1.14	1,073	1,223	\$ 279	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.18	297	658	955	\$ 218
1161	Terril Middle School			Band Room	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	2	68	0.14	1,650	224	\$ 51	No Work Proposed	0	68	0.14	1,650	224	\$ 51	NO SENSOR PROPOSED	0	-	-	-	0	\$ -

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

1162	Terril Middle School		Office 1	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	2	110	0.22	2,400	528	\$ 121	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 68	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$ 53
1163	Terril Middle School		Office 2	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	2	110	0.22	2,400	528	\$ 121	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	1,560	296	\$ 68	Wall Switch Occupancy Sensor	1	0.03	72	160	232	\$ 53
1164	Terril Middle School		Auditorium	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	24	61	1.46	1,650	2,416	\$ 552	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	24	48	1.15	1,650	1,901	\$ 434	NO SENSOR PROPOSED	0	0.31	515	-	515	\$ 118
1165	Terril Middle School		Auditorium	150w Incandescent S/I	46	150	6.90	1,650	11,385	\$ 2,600	Remove and Replace Existing Lamp With a New 32w Compact Fluorescent Two Piece Screw-In.	46	32	1.47	1,650	2,429	\$ 555	NO SENSOR PROPOSED	0	5.43	8,956	-	8,956	\$ 2,046
1166	Terril Middle School		Auditorium	Exit Sign w/ (2) 20w Incandescent Lamps	4	40	0.16	8,760	1,402	\$ 320	Remove and Replace existing exit sign with a new LED exit sign	4	2	0.01	8,760	70	\$ 16	NO SENSOR PROPOSED	0	0.15	1,332	-	1,332	\$ 304
1167	Terril Middle School		Music Room	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	23	110	2.53	1,650	4,175	\$ 953	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	23	95	2.19	1,650	3,605	\$ 823	NO SENSOR PROPOSED	0	0.35	569	-	569	\$ 130
1168	Terril Middle School		Villa Lobby	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$ 42	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,000	144	\$ 33	NO SENSOR PROPOSED	0	0.01	39	-	39	\$ 9
1169	Terril Middle School		Villa 3	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	16	61	0.98	2,400	2,342	\$ 535	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	48	0.77	1,560	1,198	\$ 274	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.21	499	645	1,144	\$ 261
1170	Terril Middle School		Villa 4	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	16	61	0.98	2,400	2,342	\$ 535	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	48	0.77	1,560	1,198	\$ 274	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.21	499	645	1,144	\$ 261
1171	Terril Middle School		Villa Lobby	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 84	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 66	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 18
1172	Terril Middle School		Villa 1	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	16	61	0.98	2,400	2,342	\$ 535	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	48	0.77	1,560	1,198	\$ 274	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.21	499	645	1,144	\$ 261
1173	Terril Middle School		Villa 2	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	16	61	0.98	2,400	2,342	\$ 535	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	48	0.77	1,560	1,198	\$ 274	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.21	499	645	1,144	\$ 261
1174	Terril Middle School		Bathroom 1	60w. Incandescent S/I	1	60	0.06	3,000	180	\$ 41	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent One Piece Screw-In.	1	15	0.02	3,000	45	\$ 10	NO SENSOR PROPOSED	0	0.05	135	-	135	\$ 31
1175	Terril Middle School		Bathroom 2	60w. Incandescent S/I	1	60	0.06	3,000	180	\$ 41	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent One Piece Screw-In.	1	15	0.02	3,000	45	\$ 10	NO SENSOR PROPOSED	0	0.05	135	-	135	\$ 31
1176	Terril Middle School		Center Area	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	2,400	293	\$ 67	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	2,400	230	\$ 53	NO SENSOR PROPOSED	0	0.03	62	-	62	\$ 14
1177	Terril Middle School		Custodian Closet	60w. Incandescent S/I	1	60	0.06	500	30	\$ 7	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent One Piece Screw-In.	1	15	0.02	500	8	\$ 2	NO SENSOR PROPOSED	0	0.05	23	-	23	\$ 5
1178	Terril Middle School		Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 84	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,950	187	\$ 43	Wall Switch Dual Technology Occupancy Sensor	1	0.03	78	101	179	\$ 41
1179	Terril Middle School		Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 84	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	1,950	187	\$ 43	Wall Switch Dual Technology Occupancy Sensor	1	0.03	78	101	179	\$ 41
1180	Terril Middle School		Custodian Closet	300w Incandescent S/I	1	300	0.30	500	150	\$ 34	Remove and Replace Existing Lamp With a New 42w Compact Fluorescent Two Piece Screw-In.	1	42	0.04	500	21	\$ 5	NO SENSOR PROPOSED	0	0.26	129	-	129	\$ 29
1181	Terril Middle School		Cafeteria	Low Bay Fixture with (1) 175w Metal Halide Lamp and (1) Magnetic HID Ballast	18	215	3.87	2,400	9,288	\$ 2,121	No Work Proposed	0	215	3.87	2,400	9,288	\$ 2,121	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1182	Terril Middle School		Cafeteria	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	2	68	0.14	2,400	326	\$ 75	No Work Proposed	0	68	0.14	2,400	326	\$ 75	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1183	Terril Middle School		Cafeteria	Exit Sign w/ 2w LED	5	2	0.01	8,760	88	\$ 20	No Work Proposed	0	2	0.01	8,760	88	\$ 20	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1184	Terril Middle School	9	Computer Class	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	8	68	0.54	1,650	898	\$ 205	No Work Proposed	0	68	0.54	1,073	583	\$ 133	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	-	-	314	314	\$ 72
1185	Terril Middle School		Kitchen	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	21	61	1.28	1,650	2,114	\$ 483	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	21	48	1.01	1,650	1,663	\$ 380	NO SENSOR PROPOSED	0	0.27	450	-	450	\$ 103
1186	Terril Middle School		Bathroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$ 42	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	1,950	94	\$ 21	Wall Switch Dual Technology Occupancy Sensor	1	0.01	39	50	89	\$ 20
1187	Terril Middle School		Freezer	60w. Incandescent S/I	1	60	0.06	1,650	99	\$ 23	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent One Piece Screw-In.	1	15	0.02	1,650	25	\$ 6	NO SENSOR PROPOSED	0	0.05	74	-	74	\$ 17
1188	Terril Middle School		Food Storage	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	2,400	439	\$ 100	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	2,400	346	\$ 79	NO SENSOR PROPOSED	0	0.04	94	-	94	\$ 21
1189	Terril Middle School		Storage	60w. Incandescent S/I	1	60	0.06	500	30	\$ 7	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent One Piece Screw-In.	1	15	0.02	500	8	\$ 2	NO SENSOR PROPOSED	0	0.05	23	-	23	\$ 5
1190	Terril Middle School		Wood Shop	Industrial Hood 4' Fixture w/ (2) F32 T8 Lamps & (1) 2L Electronic Ballast	37	61	2.26	1,650	3,724	\$ 851	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	37	48	1.78	1,650	2,930	\$ 669	NO SENSOR PROPOSED	0	0.48	794	-	794	\$ 181
1191	Terril Middle School		Computer Class	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	8	110	0.88	1,650	1,452	\$ 332	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	1,650	1,254	\$ 286	NO SENSOR PROPOSED	0	0.12	198	-	198	\$ 45
1192	Terril Middle School		Art Class	Industrial Hood 4' Fixture w/ (2) F32 T8 Lamps & (1) 2L Electronic Ballast	38	61	2.32	1,650	3,825	\$ 874	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	38	48	1.82	1,650	3,010	\$ 687	NO SENSOR PROPOSED	0	0.49	815	-	815	\$ 186
1193	Terril Middle School		Boiler Room	300w Incandescent S/I	18	300	5.40	1,000	5,400	\$ 1,233	Remove and Replace Existing Lamp With a New 42w Compact Fluorescent Two Piece Screw-In.	18	42	0.76	1,000	756	\$ 173	NO SENSOR PROPOSED	0	4.64	4,644	-	4,644	\$ 1,061
1194	Terril Middle School		Storage	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	500	92	\$ 21	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	500	72	\$ 16	NO SENSOR PROPOSED	0	0.04	20	-	20	\$ 4
1195	Terril Middle School		OUTSIDE	75w. Par 38 Incandescent S/I	4	75	0.30	3,640	1,092	\$ 249	Remove and Replace Existing Lamp With a New 18w R38 Compact Fluorescent Screw-In.	4	18	0.07	3,640	262	\$ 60	NO SENSOR PROPOSED	0	0.23	830	-	830	\$ 190
1196	Terril Middle School		OUTSIDE	300w Incandescent S/I	28	300	8.40	3,640	30,576	\$ 6,984	Remove and Replace Existing Lamp With a New 42w Compact Fluorescent Two Piece Screw-In.	28	42	1.18	3,640	4,281	\$ 978	NO SENSOR PROPOSED	0	7.22	26,295	-	26,295	\$ 6,006
1197	Terril Middle School		OUTSIDE	Wall Pack Fixture with (1) 175w Metal Halide Lamp and (1) Magnetic HID Ballast	7	215	1.51	3,640	5,478	\$ 1,251	No Work Proposed	0	215	1.51	3,640	5,478	\$ 1,251	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1198	Terril Middle School		OUTSIDE	Wall Pack Fixture with (1) 250w Metal Halide Lamp and (1) Magnetic HID Ballast	15	295	4.43	3,640	16,107	\$ 3,679	No Work Proposed	0	295	4.43	3,640	16,107	\$ 3,679	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1199	Terril Middle School		OUTSIDE	100w Incandescent S/I	9	100	0.90	3,640	3,076	\$ 748	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	9	23	0.21	3,640	753	\$ 172	NO SENSOR PROPOSED	0	0.69	2,523	-	2,523	\$ 576
1200	Terril Middle School		OUTSIDE	Wall Pack Fixture with (1) 250w High Pressure Sodium Lamp and (1) Magnetic HID Ballast	1	300	0.30	3,640	1,292	\$ 249	Remove and Replace Existing Fixture With a New Outdoor Flood Fixture Containing a 175w Metal Halide Lamp	1	210	0.21	3,640	764	\$ 175	NO SENSOR PROPOSED	0	0.09	328	-	328	\$ 75
1201	Terril Middle School	1	Lobby 1	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	4	68	0.27	3,000	816	\$ 186	No Work Proposed	0	68	0.27	3,000	816	\$ 186	NO SENSOR PROPOSED	0	-	-	-	0	\$ -

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

1202	Terril Middle School		Lobby 1	75w. Par 30 Flood S/I	6	75	0.45	3,000	1,350	\$ 308	Remove and Replace Existing Lamp With a New 18w R30 Compact Fluorescent Screw-In	6	18	0.11	3,000	324	\$ 74	NO SENSOR PROPOSED	0	0.34	1,026	-	1,026	\$ 234
1203	Terril Middle School	1	Corr. 26	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	13	68	0.88	3,000	2,652	\$ 606	No Work Proposed	0	68	0.88	3,000	2,652	\$ 606	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1204	Terril Middle School		Corr. 26	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 84	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 66	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 18
1205	Terril Middle School		Corr. 26	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	No Work Proposed	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1206	Terril Middle School	1	Corr.	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	12	68	0.82	3,000	2,448	\$ 559	No Work Proposed	0	68	0.82	3,000	2,448	\$ 559	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1207	Terril Middle School	1	Corr. Media Ctr	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	13	68	0.88	3,000	2,652	\$ 606	No Work Proposed	0	68	0.88	3,000	2,652	\$ 606	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1208	Terril Middle School		Corr. Media Ctr	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	3,000	549	\$ 125	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$ 99	NO SENSOR PROPOSED	0	0.04	117	-	117	\$ 27
1209	Terril Middle School	1	Corr. 2/3	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	12	68	0.82	3,000	2,448	\$ 559	No Work Proposed	0	68	0.82	3,000	2,448	\$ 559	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1210	Terril Middle School		Corr. 2/3	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 8	No Work Proposed	0	2	0.00	8,760	35	\$ 8	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1211	Terril Middle School	1	Corr. 5	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	12	68	0.82	3,000	2,448	\$ 559	No Work Proposed	0	68	0.82	3,000	2,448	\$ 559	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1212	Terril Middle School		Corr. 5	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	No Work Proposed	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1213	Terril Middle School	1	Corr.	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	12	68	0.82	3,000	2,448	\$ 559	No Work Proposed	0	68	0.82	3,000	2,448	\$ 559	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1214	Terril Middle School	1	Corr. 6	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	9	89	0.80	3,000	2,403	\$ 549	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	72	0.65	3,000	1,944	\$ 444	NO SENSOR PROPOSED	0	0.15	459	-	459	\$ 105
1215	Terril Middle School		Corr. 6	Recessed Can w/ (1) 23w CF PL	8	23	0.18	3,000	552	\$ 126	No Work Proposed	0	23	0.18	3,000	552	\$ 126	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1216	Terril Middle School		Corr. 6	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 12	No Work Proposed	0	2	0.01	8,760	53	\$ 12	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1217	Terril Middle School	1	Corr. 8/20	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	19	68	1.29	3,000	3,876	\$ 885	No Work Proposed	0	68	1.29	3,000	3,876	\$ 885	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1218	Terril Middle School		Corr. 8/20	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 84	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 66	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 18
1219	Terril Middle School		Corr. 8/20	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 84	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 66	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 18
1220	Terril Middle School		Corr. 8/20	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 8	No Work Proposed	0	2	0.00	8,760	35	\$ 8	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1221	Terril Middle School	1	Corr. 21	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	10	89	0.89	3,000	2,670	\$ 610	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	72	0.72	3,000	2,160	\$ 493	NO SENSOR PROPOSED	0	0.17	510	-	510	\$ 116
1222	Terril Middle School		Corr. 21	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	No Work Proposed	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1223	Terril Middle School	1	Corr. 9	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	9	89	0.80	3,000	2,403	\$ 549	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	72	0.65	3,000	1,944	\$ 444	NO SENSOR PROPOSED	0	0.15	459	-	459	\$ 105
1224	Terril Middle School		Corr. 9	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	No Work Proposed	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1225	Terril Middle School	1	Gym Lobby	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	6	89	0.53	3,000	1,602	\$ 366	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	72	0.43	3,000	1,296	\$ 296	NO SENSOR PROPOSED	0	0.10	306	-	306	\$ 70
1226	Terril Middle School		Gym Lobby	75w. Par 30 Flood S/I	4	75	0.30	3,000	900	\$ 206	Remove and Replace Existing Lamp With a New 18w R30 Compact Fluorescent Screw-In	4	18	0.07	3,000	216	\$ 49	NO SENSOR PROPOSED	0	0.23	684	-	684	\$ 156
1227	Terril Middle School	1	Corr. 12	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	9	68	0.61	3,000	1,836	\$ 419	No Work Proposed	0	68	0.61	3,000	1,836	\$ 419	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1228	Terril Middle School		Corr. 12	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	No Work Proposed	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1229	Terril Middle School	1	Gym Lobby	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	6	68	0.41	3,000	1,224	\$ 280	No Work Proposed	0	68	0.41	3,000	1,224	\$ 280	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1230	Terril Middle School		Gym Lobby	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	13	68	0.88	3,000	2,652	\$ 606	No Work Proposed	0	68	0.88	3,000	2,652	\$ 606	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1231	Terril Middle School		Gym Lobby	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	No Work Proposed	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1232	Terril Middle School	1	Corr. 19	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	9	68	0.61	3,000	1,836	\$ 419	No Work Proposed	0	68	0.61	3,000	1,836	\$ 419	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1233	Terril Middle School		Corr. 19	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	No Work Proposed	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1234	Terril Middle School	1	Multi-Purpose Room	High Bay Fixture with (1) 400w Metal Halide Lamp and (1) Magnetic HID Ballast	24	445	10.68	2,400	25,632	\$ 5,854	Remove and Replace Existing Fixture With a New 2x4 Recessed Troffer Fixture Containing a Silver Reflector, 4-Lamp Electronic High Output Ballast, and (4) 4' T5 F54 HO Lamps. And cage lens	24	234	5.62	2,400	13,478	\$ 3,078	NO SENSOR PROPOSED	0	5.06	12,154	-	12,154	\$ 2,776
1235	Terril Middle School		Multi-Purpose Room	Exit Sign w/ 2w LED	4	2	0.01	8,760	70	\$ 16	No Work Proposed	0	2	0.01	8,760	70	\$ 16	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1236	Terril Middle School	1	Satellite Kitchen	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	12	89	1.07	2,400	2,563	\$ 585	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	2,400	2,074	\$ 474	NO SENSOR PROPOSED	0	0.20	490	-	490	\$ 112
1237	Terril Middle School		Satellite Kitchen	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 4	No Work Proposed	0	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1238	Terril Middle School	1	Storage	Industrial Hood 4' Fixture w/ (2) F32 T8 Lamps & (1) 2L Electronic Ballast	3	61	0.18	500	92	\$ 21	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	500	72	\$ 16	NO SENSOR PROPOSED	0	0.04	20	-	20	\$ 4
1239	Terril Middle School	1	Music Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	30	89	2.67	1,650	4,406	\$ 1,006	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	30	72	2.16	1,650	3,564	\$ 814	NO SENSOR PROPOSED	0	0.51	842	-	842	\$ 192
1240	Terril Middle School		Music Room	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 8	No Work Proposed	0	2	0.00	8,760	35	\$ 8	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1241	Terril Middle School	1	Practice Rm	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	2	89	0.18	1,000	178	\$ 41	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	1,000	144	\$ 33	NO SENSOR PROPOSED	0	0.03	34	-	34	\$ 8
1242	Terril Middle School	1	Practice Rm	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	2	89	0.18	1,000	178	\$ 41	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	1,000	144	\$ 33	NO SENSOR PROPOSED	0	0.03	34	-	34	\$ 8
1243	Terril Middle School	1	Gym	High Bay Fixture with (1) 400w Metal Halide Lamp and (1) Magnetic HID Ballast	22	445	9.79	2,400	23,496	\$ 5,366	Remove and Replace Existing Fixture With a New 2x4 Recessed Troffer Fixture Containing a Silver Reflector, 4-Lamp Electronic High Output Ballast, and (4) 4' T5 F54 HO Lamps. And cage lens	22	234	5.15	2,400	12,355	\$ 2,822	NO SENSOR PROPOSED	0	4.64	11,141	-	11,141	\$ 2,545
1244	Terril Middle School		Gym	75w. Par 30 Flood S/I	16	75	1.20	2,400	2,880	\$ 658	Remove and Replace Existing Lamp With a New 18w R30 Compact Fluorescent Screw-In	16	18	0.29	2,400	691	\$ 158	NO SENSOR PROPOSED	0	0.91	2,189	-	2,189	\$ 500
1245	Terril Middle School		Gym	Exit Sign w/ 2w LED	4	2	0.01	8,760	70	\$ 16	No Work Proposed	0	2	0.01	8,760	70	\$ 16	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1246	Terril Middle School	1	Gym Storage	60w. Incandescent S/I	3	60	0.18	500	90	\$ 21	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	3	15	0.05	500	23	\$ 5	NO SENSOR PROPOSED	0	0.14	68	-	68	\$ 15
1247	Terril Middle School		Gym Storage	Exit Sign w/ 2w LED	4	2	0.01	8,760	70	\$ 16	No Work Proposed	0	2	0.01	8,760	70	\$ 16	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1248	Terril Middle School	1	Stairs	Surface Mounted Drum fixture w/ (2) 60A S.I.	5	120	0.60	3,640	2,184	\$ 499	Remove and Replace Existing Lamps With (2) New 23w Compact Fluorescent Two Piece Screw-In.	5	46	0.23	3,640	837	\$ 191	NO SENSOR PROPOSED	0	0.37	1,347	-	1,347	\$ 308

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

1249	Terril Middle School		Stairs	Exit Sign w/ (2) 20w Incandescent Lamps	1	40	0.04	8,760	350	\$ 80	Remove and Replace existing exit sign with a new LED exit sign.	1	2	0.00	8,760	18	\$ 4	NO SENSOR PROPOSED	0	0.04	333	-	333	\$ 76	
1250	Terril Middle School	1	Corridor	60w. Incandescent S/I	6	60	0.36	3,000	1,080	\$ 247	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	6	15	0.09	3,000	270	\$ 62	NO SENSOR PROPOSED	0	0.27	810	-	810	\$ 185	
1251	Terril Middle School		Corridor	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 8	No Work Proposed	0	2	0.00	8,760	35	\$ 8	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
1252	Terril Middle School	1	Stairs	Surface Mounted Drum fixture w/ (2) 60A S.I.	5	120	0.60	3,640	2,184	\$ 499	Remove and Replace Existing Lamps With (2) New 23w Compact Fluorescent Two Piece Screw-In.	5	46	0.23	3,640	837	\$ 191	NO SENSOR PROPOSED	0	0.37	1,347	-	1,347	\$ 308	
1253	Terril Middle School	1	Boys Locker Rm	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	8	110	0.88	2,400	2,112	\$ 482	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	2,400	1,824	\$ 417	NO SENSOR PROPOSED	0	0.12	288	-	288	\$ 66	
1254	Terril Middle School		Boys Locker Rm	60w. Incandescent S/I	9	60	0.54	2,400	1,296	\$ 296	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	9	15	0.14	2,400	324	\$ 74	NO SENSOR PROPOSED	0	0.41	972	-	972	\$ 222	
1255	Terril Middle School	1	Office	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	2	110	0.22	2,400	528	\$ 121	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	95	0.19	2,400	456	\$ 104	NO SENSOR PROPOSED	0	0.03	72	-	72	\$ 16	
1256	Terril Middle School	1	Bathroom	60w. Incandescent S/I	3	60	0.18	3,000	540	\$ 123	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	3	15	0.05	3,000	135	\$ 31	NO SENSOR PROPOSED	0	0.14	405	-	405	\$ 93	
1257	Terril Middle School	1	Shower	60w. Incandescent S/I	6	60	0.36	1,000	360	\$ 82	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	6	15	0.09	1,000	90	\$ 21	NO SENSOR PROPOSED	0	0.27	270	-	270	\$ 62	
1258	Terril Middle School	1	Stairs	Surface Mounted Drum fixture w/ (2) 60A S.I.	5	120	0.60	3,640	2,184	\$ 499	Remove and Replace Existing Lamps With (2) New 23w Compact Fluorescent Two Piece Screw-In.	5	46	0.23	3,640	837	\$ 191	NO SENSOR PROPOSED	0	0.37	1,347	-	1,347	\$ 308	
1259	Terril Middle School	1	Corridor	23w Compact Fluorescent S/I	5	23	0.12	3,000	345	\$ 79	No Work Proposed	0	23	0.12	3,000	345	\$ 79	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
1260	Terril Middle School		Corridor	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 8	No Work Proposed	0	2	0.00	8,760	35	\$ 8	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
1261	Terril Middle School	1	Girls Locker Rm	60w. Incandescent S/I	12	60	0.72	2,400	1,728	\$ 395	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	12	15	0.18	2,400	432	\$ 99	NO SENSOR PROPOSED	0	0.54	1,296	-	1,296	\$ 296	
1262	Terril Middle School		Girls Locker Rm	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	8	110	0.88	2,400	2,112	\$ 482	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	95	0.76	2,400	1,824	\$ 417	NO SENSOR PROPOSED	0	0.12	288	-	288	\$ 66	
1263	Terril Middle School	1	Shower	60w. Incandescent S/I	6	60	0.36	1,000	360	\$ 82	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	6	15	0.09	1,000	90	\$ 21	NO SENSOR PROPOSED	0	0.27	270	-	270	\$ 62	
1264	Terril Middle School	1	Office	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	2,400	293	\$ 67	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	2,400	230	\$ 53	NO SENSOR PROPOSED	0	0.03	62	-	62	\$ 14	
1265	Terril Middle School	1	Bathroom	60w. Incandescent S/I	3	60	0.18	3,000	540	\$ 123	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	3	15	0.05	3,000	135	\$ 31	NO SENSOR PROPOSED	0	0.14	405	-	405	\$ 93	
1266	Terril Middle School	1	Stairs	Surface Mounted Drum fixture w/ (2) 60A S.I.	5	120	0.60	3,640	2,184	\$ 499	Remove and Replace Existing Lamps With (2) New 23w Compact Fluorescent Two Piece Screw-In.	5	46	0.23	3,640	837	\$ 191	NO SENSOR PROPOSED	0	0.37	1,347	-	1,347	\$ 308	
1267	Terril Middle School	2	Stairs 7	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	7	89	0.62	3,640	2,268	\$ 518	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	7	72	0.50	3,640	1,835	\$ 419	NO SENSOR PROPOSED	0	0.12	433	-	433	\$ 99	
1268	Terril Middle School	2	Corridor	Recessed Can w/ (1) 23w CF PL	8	23	0.18	3,000	552	\$ 126	No Work Proposed	0	23	0.18	3,000	552	\$ 126	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
1269	Terril Middle School		Corridor	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	9	89	0.80	3,000	2,403	\$ 549	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	72	0.65	3,000	1,944	\$ 444	NO SENSOR PROPOSED	0	0.15	459	-	459	\$ 105	
1270	Terril Middle School		Corridor	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 8	No Work Proposed	0	2	0.00	8,760	35	\$ 8	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
1271	Terril Middle School	2	Corridor	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	1	89	0.09	3,000	267	\$ 61	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	3,000	216	\$ 49	NO SENSOR PROPOSED	0	0.02	51	-	51	\$ 12	
1272	Terril Middle School		Corridor	2X2 recessed troffer with (2) F17 T8 Lamps & (1) 2-Light Electronic Ballast	1	34	0.03	3,000	102	\$ 23	No Work Proposed	0	34	0.03	3,000	102	\$ 23	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
1273	Terril Middle School		Corridor	1x4 Recessed Troffer w/ (2) F34 Econo-Watt T12 Lamps & (1) 2L Magnetic Ballast	2	80	0.16	3,000	480	\$ 110	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 66	NO SENSOR PROPOSED	0	0.06	192	-	192	\$ 44	
1274	Terril Middle School	2	Corridor	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	1	89	0.09	3,000	267	\$ 61	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	3,000	216	\$ 49	NO SENSOR PROPOSED	0	0.02	51	-	51	\$ 12	
1275	Terril Middle School		Corridor	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	12	68	0.82	3,000	2,448	\$ 559	No Work Proposed	0	68	0.82	3,000	2,448	\$ 559	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
1276	Terril Middle School		Corridor	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 8	No Work Proposed	0	2	0.00	8,760	35	\$ 8	NO SENSOR PROPOSED	0	-	-	-	0	\$ -	
1277	Terril Middle School		Corridor	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 84	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 66	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 18	
1278	Terril Middle School	2	Stairs 8	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	5	61	0.31	3,640	1,110	\$ 254	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	48	0.24	3,640	874	\$ 200	NO SENSOR PROPOSED	0	0.07	237	-	237	\$ 54	
1279	Terril Middle School	2	Stairs 20	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	5	61	0.31	3,640	1,110	\$ 254	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	48	0.24	3,640	874	\$ 200	NO SENSOR PROPOSED	0	0.07	237	-	237	\$ 54	
1280	Ackerman Cole Elementary	123	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	12	89	1.07	1,650	1,762	\$ 351	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$ 184	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	-	499	836	\$ 166
1281	Ackerman Cole Elementary	124	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	12	89	1.07	1,650	1,762	\$ 351	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,650	1,426	\$ 284	NO SENSOR PROPOSED	0	0.20	337	-	337	\$ 67	
1282	Ackerman Cole Elementary	122	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64	
1283	Ackerman Cole Elementary	121	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64	
1284	Ackerman Cole Elementary	120	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64	
1285	Ackerman Cole Elementary	119	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64	
1286	Ackerman Cole Elementary	118	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64	
1287	Ackerman Cole Elementary	117	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64	
1288	Ackerman Cole Elementary	116	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64	
1289	Ackerman Cole Elementary	115	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64	
1290	Ackerman Cole Elementary		Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	3,000	549	\$ 109	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$ 86	NO SENSOR PROPOSED	0	0.04	117	-	117	\$ 23	

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

1291	Ackerman Cole Elementary			Custodian Office	60w. Incandescent S/I	1	60	0.06	2,400	144	\$ 29	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	2,400	36	\$ 7	NO SENSOR PROPOSED	0	0.05	108	-	108	\$ 21
1292	Ackerman Cole Elementary			Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	3,000	549	\$ 109	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$ 86	NO SENSOR PROPOSED	0	0.04	117	-	117	\$ 23
1293	Ackerman Cole Elementary	114		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64
1294	Ackerman Cole Elementary			Classroom	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	1,650	302	\$ 60	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	1,650	238	\$ 47	NO SENSOR PROPOSED	0	0.04	64	-	64	\$ 13
1295	Ackerman Cole Elementary			Women's Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	2	89	0.18	3,000	534	\$ 106	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	3,000	432	\$ 86	NO SENSOR PROPOSED	0	0.03	102	-	102	\$ 20
1296	Ackerman Cole Elementary	113		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64
1297	Ackerman Cole Elementary			Classroom	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	1,650	302	\$ 60	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	1,650	238	\$ 47	NO SENSOR PROPOSED	0	0.04	64	-	64	\$ 13
1298	Ackerman Cole Elementary			Store Room	100w Incandescent S/I	1	100	0.10	500	50	\$ 10	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent. Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$ 8
1299	Ackerman Cole Elementary	127A		Custodian Office 1	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	5	61	0.31	2,400	732	\$ 146	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	48	0.24	2,400	576	\$ 115	NO SENSOR PROPOSED	0	0.07	156	-	156	\$ 31
1300	Ackerman Cole Elementary			Custodian Office 2	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	2,400	146	\$ 29	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	2,400	115	\$ 23	NO SENSOR PROPOSED	0	0.01	31	-	31	\$ 6
1301	Ackerman Cole Elementary			Kitchen	150w Incandescent S/I	4	150	0.60	1,650	990	\$ 197	Remove and Replace Existing Lamp With a New 32w Compact Fluorescent Two Piece Screw-In.	4	32	0.13	1,650	211	\$ 42	NO SENSOR PROPOSED	0	0.47	779	-	779	\$ 155
1302	Ackerman Cole Elementary			Bathroom	150w Incandescent S/I	1	150	0.15	3,000	450	\$ 90	Remove and Replace Existing Lamp With a New 32w Compact Fluorescent Two Piece Screw-In.	1	32	0.03	3,000	96	\$ 19	NO SENSOR PROPOSED	0	0.12	354	-	354	\$ 70
1303	Ackerman Cole Elementary			Cafeteria	High Bay Fixture with (1) 400w Metal Halide Lamp and (1) Magnetic HID Ballast	8	445	3.56	2,400	8,544	\$ 1,699	Remove and Replace Existing Fixture With a New 2x4 Recessed Troffer Fixture Containing a Silver Reflector, 4-Lamp Electronic High Output Ballast, and (4) 4' T5 F54 HO Lamps. And cage lens	8	234	1.87	2,400	4,493	\$ 894	NO SENSOR PROPOSED	0	1.69	4,051	-	4,051	\$ 806
1304	Ackerman Cole Elementary	166		SGI	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	10	61	0.61	1,650	1,007	\$ 200	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	48	0.48	1,650	792	\$ 158	NO SENSOR PROPOSED	0	0.13	215	-	215	\$ 43
1305	Ackerman Cole Elementary	173		Corridor	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic Ballast	6	68	0.41	3,000	1,224	\$ 243	No Work Proposed	0	68	0.41	3,000	1,224	\$ 243	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1306	Ackerman Cole Elementary			Nurse	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	2,400	586	\$ 116	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	2,400	461	\$ 92	NO SENSOR PROPOSED	0	0.05	125	-	125	\$ 25
1307	Ackerman Cole Elementary			Nurse	60w. Incandescent S/I	2	60	0.12	2,400	288	\$ 57	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	2	15	0.03	2,400	72	\$ 14	NO SENSOR PROPOSED	0	0.09	216	-	216	\$ 43
1308	Ackerman Cole Elementary			Bathroom	60w. Incandescent S/I	1	60	0.06	3,000	180	\$ 36	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	3,000	45	\$ 9	NO SENSOR PROPOSED	0	0.05	135	-	135	\$ 27
1309	Ackerman Cole Elementary			Copy Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	4	61	0.24	2,400	586	\$ 116	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	48	0.19	1,560	300	\$ 60	Wall Switch Occupancy Sensor	1	0.05	125	161	286	\$ 57
1310	Ackerman Cole Elementary			Bathroom	60w. Incandescent S/I	1	60	0.06	3,000	180	\$ 36	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	3,000	45	\$ 9	NO SENSOR PROPOSED	0	0.05	135	-	135	\$ 27
1311	Ackerman Cole Elementary			Main Office	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	6	110	0.66	2,400	1,584	\$ 315	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	2,400	1,368	\$ 272	NO SENSOR PROPOSED	0	0.09	216	-	216	\$ 43
1312	Ackerman Cole Elementary			Storage	1X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	500	31	\$ 6	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	500	24	\$ 5	NO SENSOR PROPOSED	0	0.01	7	-	7	\$ 1
1313	Ackerman Cole Elementary			Principal's Office	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	4	110	0.44	2,400	1,056	\$ 210	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	1,560	593	\$ 118	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.06	144	319	463	\$ 92
1314	Ackerman Cole Elementary			Men's Room	60w. Incandescent S/I	2	60	0.12	3,000	360	\$ 72	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	2	15	0.03	3,000	90	\$ 18	NO SENSOR PROPOSED	0	0.09	270	-	270	\$ 54
1315	Ackerman Cole Elementary			Women's Room	60w. Incandescent S/I	2	60	0.12	3,000	360	\$ 72	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	2	15	0.03	3,000	90	\$ 18	NO SENSOR PROPOSED	0	0.09	270	-	270	\$ 54
1316	Ackerman Cole Elementary			Stage	300w Incandescent S/I	5	300	1.50	1,650	2,475	\$ 492	Remove and Replace Existing Lamp With a New 42w Compact Fluorescent Two Piece Screw-In.	5	42	0.21	1,650	347	\$ 69	NO SENSOR PROPOSED	0	1.29	2,129	-	2,129	\$ 423
1317	Ackerman Cole Elementary	110		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64
1318	Ackerman Cole Elementary	111		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64
1319	Ackerman Cole Elementary	108		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64
1320	Ackerman Cole Elementary	109		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64
1321	Ackerman Cole Elementary	106		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64
1322	Ackerman Cole Elementary	107		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64
1323	Ackerman Cole Elementary	105		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64
1324	Ackerman Cole Elementary	104		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64
1325	Ackerman Cole Elementary	103		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64
1326	Ackerman Cole Elementary	102		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64
1327	Ackerman Cole Elementary	101		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 300	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 236	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 64
1328	Ackerman Cole Elementary	150		Classroom	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	16	110	1.76	1,650	2,904	\$ 578	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	95	1.52	1,650	2,508	\$ 499	NO SENSOR PROPOSED	0	0.24	396	-	396	\$ 79
1329	Ackerman Cole Elementary			Bathroom	100w Incandescent S/I	1	100	0.10	3,000	300	\$ 60	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 14	NO SENSOR PROPOSED	0	0.08	231	-	231	\$ 46
1330	Ackerman Cole Elementary	151		Classroom	4' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	12	110	1.32	1,650	2,178	\$ 433	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	95	1.14	1,650	1,881	\$ 374	NO SENSOR PROPOSED	0	0.18	297	-	297	\$ 59
1331	Ackerman Cole Elementary			Classroom	100w Incandescent S/I	1	100	0.10	1,650	165	\$ 33	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	1,650	38	\$ 8	NO SENSOR PROPOSED	0	0.08	127	-	127	\$ 25

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

1332	Ackerman Cole Elementary		Custodian Office	100w Incandescent S/I	1	100	0.10	2,400	240	\$	48	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	2,400	55	\$	11	NO SENSOR PROPOSED	0	0.08	185	-	185	\$	37
1333	Ackerman Cole Elementary		Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	3,000	549	\$	109	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$	86	NO SENSOR PROPOSED	0	0.04	117	-	117	\$	23
1334	Ackerman Cole Elementary		Storage C	300w Incandescent S/I	1	300	0.30	500	150	\$	30	Remove and Replace Existing Lamp With a New 42w Compact Fluorescent Two Piece Screw-In.	1	42	0.04	500	21	\$	4	NO SENSOR PROPOSED	0	0.26	129	-	129	\$	26
1335	Ackerman Cole Elementary		Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	3	61	0.18	3,000	549	\$	109	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	3,000	432	\$	86	NO SENSOR PROPOSED	0	0.04	117	-	117	\$	23
1336	Ackerman Cole Elementary		Teachers Bathroom	100w Incandescent S/I	1	100	0.10	2,400	240	\$	48	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	2,400	55	\$	11	NO SENSOR PROPOSED	0	0.08	185	-	185	\$	37
1337	Ackerman Cole Elementary		Restroom	2X2 recessed troffer with (2) F32 T8 U/Lamps & (1) 2-Light Electronic ballast	4	61	0.24	3,000	732	\$	146	No Work Proposed	0	61	0.24	1,950	476	\$	95	Wall Switch Occupancy Sensor	2	-	-	256	256	\$	51
1338	Ackerman Cole Elementary		Storage	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	500	134	\$	27	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	500	108	\$	21	NO SENSOR PROPOSED	0	0.05	26	-	26	\$	5
1339	Ackerman Cole Elementary	152	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	19	89	1.69	1,650	2,790	\$	555	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	19	72	1.37	1,650	2,257	\$	449	NO SENSOR PROPOSED	0	0.32	533	-	533	\$	106
1340	Ackerman Cole Elementary		Bathroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	3,000	267	\$	53	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	3,000	216	\$	43	NO SENSOR PROPOSED	0	0.02	51	-	51	\$	10
1341	Ackerman Cole Elementary		Storage	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	500	134	\$	27	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	500	108	\$	21	NO SENSOR PROPOSED	0	0.05	26	-	26	\$	5
1342	Ackerman Cole Elementary	153	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	19	89	1.69	1,650	2,790	\$	555	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	19	72	1.37	1,650	2,257	\$	449	NO SENSOR PROPOSED	0	0.32	533	-	533	\$	106
1343	Ackerman Cole Elementary		Bathroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	3,000	267	\$	53	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	3,000	216	\$	43	NO SENSOR PROPOSED	0	0.02	51	-	51	\$	10
1344	Ackerman Cole Elementary		Girls Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	3	89	0.27	3,000	801	\$	159	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	72	0.22	3,000	648	\$	129	NO SENSOR PROPOSED	0	0.05	153	-	153	\$	30
1345	Ackerman Cole Elementary		Boys Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	3,000	534	\$	106	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	3,000	432	\$	86	NO SENSOR PROPOSED	0	0.03	102	-	102	\$	20
1346	Ackerman Cole Elementary	165	Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	6	110	0.66	1,650	1,089	\$	217	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,650	941	\$	187	NO SENSOR PROPOSED	0	0.09	149	-	149	\$	30
1347	Ackerman Cole Elementary		Boys Room	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	7	31	0.22	3,000	651	\$	129	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	7	25	0.18	3,000	525	\$	104	NO SENSOR PROPOSED	0	0.04	126	-	126	\$	25
1348	Ackerman Cole Elementary		Faculty Bathroom	100w Incandescent S/I	1	100	0.10	2,400	240	\$	48	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	2,400	55	\$	11	NO SENSOR PROPOSED	0	0.08	185	-	185	\$	37
1349	Ackerman Cole Elementary		Faculty Bathroom	2' Vanity Fixture with (2) F17 T8 Lamps & (1) 2-Light Electronic Ballast	1	34	0.03	2,400	82	\$	16	No Work Proposed	0	34	0.03	2,400	82	\$	16	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
1350	Ackerman Cole Elementary		Custodian Office	150w Incandescent S/I	1	150	0.15	2,400	360	\$	72	Remove and Replace Existing Lamp With a New 32w Compact Fluorescent Two Piece Screw-In.	1	32	0.03	2,400	77	\$	15	NO SENSOR PROPOSED	0	0.12	283	-	283	\$	56
1351	Ackerman Cole Elementary		Girls Room	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	7	31	0.22	3,000	651	\$	129	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	7	25	0.18	3,000	525	\$	104	NO SENSOR PROPOSED	0	0.04	126	-	126	\$	25
1352	Ackerman Cole Elementary		Library Office	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	2,400	854	\$	170	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	2,400	691	\$	137	NO SENSOR PROPOSED	0	0.07	163	-	163	\$	32
1353	Ackerman Cole Elementary	156	Faculty Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	15	89	1.34	2,400	3,204	\$	637	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,560	1,685	\$	335	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.26	612	907	1,519	\$	302
1354	Ackerman Cole Elementary	157	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$	351	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,650	1,426	\$	284	NO SENSOR PROPOSED	0	0.20	337	-	337	\$	67
1355	Ackerman Cole Elementary	158	Music Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	12	89	1.07	1,650	1,762	\$	351	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	12	72	0.86	1,073	927	\$	184	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.20	337	499	836	\$	166
1356	Ackerman Cole Elementary	159	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	1,650	1,175	\$	234	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	1,073	618	\$	123	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	224	333	557	\$	111
1357	Ackerman Cole Elementary	160	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	1,650	1,175	\$	234	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	1,073	618	\$	123	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	224	333	557	\$	111
1358	Ackerman Cole Elementary	161	Conference Room	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	2,400	1,709	\$	340	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	1,560	899	\$	179	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	326	484	810	\$	161
1359	Ackerman Cole Elementary	162	Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	8	89	0.71	1,650	1,175	\$	234	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	1,073	618	\$	123	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	224	333	557	\$	111
1360	Ackerman Cole Elementary		Electrical Room	100w Incandescent S/I	2	100	0.20	1,000	200	\$	40	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	2	23	0.05	1,000	46	\$	9	NO SENSOR PROPOSED	0	0.15	154	-	154	\$	31
1361	Ackerman Cole Elementary		OUTSIDE	150w Incandescent S/I	13	150	1.95	3,640	7,098	\$	1,412	Remove and Replace Existing Lamp With a New 32w Compact Fluorescent Two Piece Screw-In.	13	32	0.42	3,640	1,514	\$	301	NO SENSOR PROPOSED	0	1.53	5,584	-	5,584	\$	1,111
1362	Ackerman Cole Elementary		OUTSIDE	Wall Pack Fixture with (1) 250w High Pressure Sodium Lamp and (1) Magnetic HID Ballast	14	300	4.20	3,640	15,288	\$	3,041	Remove and Replace Existing Fixture With a New Outdoor Flood Fixture Containing a 175w Metal Halide Lamp	14	210	2.94	3,640	10,702	\$	2,129	NO SENSOR PROPOSED	0	1.26	4,586	-	4,586	\$	912
1363	Ackerman Cole Elementary		OUTSIDE	Wall Pack Fixture with (1) 250w Metal Halide Lamp and (1) Magnetic HID Ballast	21	295	6.20	3,640	22,550	\$	4,485	No Work Proposed	0	295	6.20	3,640	22,550	\$	4,485	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
1364	Ackerman Cole Elementary		Corr. 1	40w. Incandescent S/I Flame Trip	8	40	0.32	3,000	960	\$	191	Remove and Replace Existing Lamp With a New 7w Candle Compact Fluorescent Screw-In	8	7	0.06	3,000	168	\$	33	NO SENSOR PROPOSED	0	0.26	792	-	792	\$	158
1365	Ackerman Cole Elementary		Corr. 1	23w Compact Fluorescent S/I	4	23	0.09	3,000	276	\$	55	No Work Proposed	0	23	0.09	3,000	276	\$	55	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
1366	Ackerman Cole Elementary		Corr. 1	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$	3	No Work Proposed	0	2	0.00	8,760	18	\$	3	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
1367	Ackerman Cole Elementary		Corr. 3	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	5	110	0.55	3,000	1,650	\$	328	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	5	95	0.48	3,000	1,425	\$	283	NO SENSOR PROPOSED	0	0.08	225	-	225	\$	45
1368	Ackerman Cole Elementary		Corr. 3	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	12	68	0.82	3,000	2,448	\$	487	No Work Proposed	0	68	0.82	3,000	2,448	\$	487	NO SENSOR PROPOSED	0	-	-	-	0	\$	-
1369	Ackerman Cole Elementary		Corr. 3	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$	10	No Work Proposed	0	2	0.01	8,760	53	\$	10	NO SENSOR PROPOSED	0	-	-	-	0	\$	-

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

1370	Ackerman Cole Elementary			Corr. 2	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	3,000	534	\$ 106	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	3,000	432	\$ 86	NO SENSOR PROPOSED	0	0.03	102	-	102	\$ 20
1371	Ackerman Cole Elementary			Corr. 2	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1372	Ackerman Cole Elementary			Corr. 5	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	9	89	0.80	3,000	2,403	\$ 478	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	9	72	0.65	3,000	1,944	\$ 387	NO SENSOR PROPOSED	0	0.15	459	-	459	\$ 91
1373	Ackerman Cole Elementary			Corr. 5	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 10	No Work Proposed	0	2	0.01	8,760	53	\$ 10	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1374	Ackerman Cole Elementary			Corr. 11	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	8	61	0.49	3,000	1,464	\$ 291	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	48	0.38	3,000	1,152	\$ 229	NO SENSOR PROPOSED	0	0.10	312	-	312	\$ 62
1375	Ackerman Cole Elementary			Corr. 11	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 7	No Work Proposed	0	2	0.00	8,760	35	\$ 7	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1376	Ackerman Cole Elementary			Corridor	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	3,000	1,068	\$ 212	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	3,000	864	\$ 172	NO SENSOR PROPOSED	0	0.07	204	-	204	\$ 41
1377	Ackerman Cole Elementary			Corridor	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1378	Ackerman Cole Elementary			Corr. 14	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	6	89	0.53	3,000	1,602	\$ 319	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	72	0.43	3,000	1,296	\$ 258	NO SENSOR PROPOSED	0	0.10	306	-	306	\$ 61
1379	Ackerman Cole Elementary			Corr. 14	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 7	No Work Proposed	0	2	0.00	8,760	35	\$ 7	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1380	Ackerman Cole Elementary			Corridor	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	10	68	0.68	3,000	2,040	\$ 406	No Work Proposed	0	68	0.68	3,000	2,040	\$ 406	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1381	Ackerman Cole Elementary			Corridor	23w Compact Fluorescent S/l	3	23	0.07	3,000	207	\$ 41	No Work Proposed	0	23	0.07	3,000	207	\$ 41	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1382	Ackerman Cole Elementary			Corr. 16/18	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	4	68	0.27	3,000	816	\$ 162	No Work Proposed	0	68	0.27	3,000	816	\$ 162	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1383	Ackerman Cole Elementary			Corr. 16/18	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1384	Ackerman Cole Elementary			Corr. 17	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	8	68	0.54	3,000	1,632	\$ 325	No Work Proposed	0	68	0.54	3,000	1,632	\$ 325	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1385	Ackerman Cole Elementary			Corr. 17	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	3,000	534	\$ 106	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	3,000	432	\$ 86	NO SENSOR PROPOSED	0	0.03	102	-	102	\$ 20
1386	Ackerman Cole Elementary			Corr. 17	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1387	Ackerman Cole Elementary			Corr. 23	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	6	68	0.41	3,000	1,224	\$ 243	No Work Proposed	0	68	0.41	3,000	1,224	\$ 243	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1388	Ackerman Cole Elementary			Corr. 23	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 7	No Work Proposed	0	2	0.00	8,760	35	\$ 7	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1389	Ackerman Cole Elementary			Gym	2x2 Recessed Fixture w/ (1) 400w Metal Halide Lamp and Magnetic Ballast	21	445	9.35	2,400	22,428	\$ 4,461	Remove and Replace Existing Fixture With a New 2x4 Recessed Troffer Fixture Containing a Silver Reflexor, 4-Lamp Electronic High Output Ballast, and (4) 4' T5 F54 HO Lamps. And cage lens	21	234	4.91	2,400	11,794	\$ 2,346	NO SENSOR PROPOSED	0	4.43	10,634	-	10,634	\$ 2,115
1390	Ackerman Cole Elementary			Gym	Industrial Hood 4' Fixture w/ (2) F32 T8 Lamps & (1) 2L Electronic Ballast	3	61	0.18	2,400	439	\$ 87	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	48	0.14	2,400	346	\$ 69	NO SENSOR PROPOSED	0	0.04	94	-	94	\$ 19
1391	Ackerman Cole Elementary			Gym	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	2,400	214	\$ 42	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	2,400	173	\$ 34	NO SENSOR PROPOSED	0	0.02	41	-	41	\$ 8
1392	Ackerman Cole Elementary			Gym	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 10	No Work Proposed	0	2	0.01	8,760	53	\$ 10	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1393	Ackerman Cole Elementary			Library - Media Ctr	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	47	89	4.18	2,400	10,039	\$ 1,997	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	47	72	3.38	2,400	8,122	\$ 1,615	NO SENSOR PROPOSED	0	0.80	1,918	-	1,918	\$ 381
1394	McGinn	103		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	17	61	1.04	1,650	1,711	\$ 284	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	17	48	0.82	1,650	1,346	\$ 223	NO SENSOR PROPOSED	0	0.22	365	-	365	\$ 60
1395	McGinn			Bathroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$ 30	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,000	144	\$ 24	NO SENSOR PROPOSED	0	0.01	39	-	39	\$ 6
1396	McGinn			Storage	4' Wrap Fixture w/ (2) F34 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	1	80	0.08	500	40	\$ 7	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Low Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets	1	42	0.04	500	21	\$ 3	NO SENSOR PROPOSED	0	0.04	19	-	19	\$ 3
1397	McGinn	104		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	17	61	1.04	1,650	1,711	\$ 284	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	17	48	0.82	1,650	1,346	\$ 223	NO SENSOR PROPOSED	0	0.22	365	-	365	\$ 60
1398	McGinn			Bathroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	3,000	183	\$ 30	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	3,000	144	\$ 24	NO SENSOR PROPOSED	0	0.01	39	-	39	\$ 6
1399	McGinn			Storage	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	500	31	\$ 5	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	500	24	\$ 4	NO SENSOR PROPOSED	0	0.01	7	-	7	\$ 1
1400	McGinn	105		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	17	61	1.04	1,650	1,711	\$ 284	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	17	48	0.82	1,650	1,346	\$ 223	NO SENSOR PROPOSED	0	0.22	365	-	365	\$ 60
1401	McGinn			Bathroom	4' Wrap Fixture w/ (2) F34 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	1	80	0.08	3,000	240	\$ 40	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Low Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets	1	42	0.04	3,000	126	\$ 21	NO SENSOR PROPOSED	0	0.04	114	-	114	\$ 19
1402	McGinn			Storage	4' Wrap Fixture w/ (2) F34 Econo-Watt T12 Lamps & (1) 2-Light Magnetic Ballast	1	80	0.08	500	40	\$ 7	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Low Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets	1	42	0.04	500	21	\$ 3	NO SENSOR PROPOSED	0	0.04	19	-	19	\$ 3
1403	McGinn			Nurse	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	4	110	0.44	2,400	1,056	\$ 175	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	2,400	912	\$ 151	NO SENSOR PROPOSED	0	0.06	144	-	144	\$ 24
1404	McGinn			Bathroom	60w. Incandescent S/l	1	60	0.06	3,000	180	\$ 30	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	3,000	45	\$ 7	NO SENSOR PROPOSED	0	0.05	135	-	135	\$ 22
1405	McGinn	106		Conference Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	6	61	0.37	2,400	878	\$ 146	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	48	0.29	1,560	449	\$ 74	Low Voltage (w/ PF-20) PIR Ceiling Sensor (8-15 Mtg Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.08	187	242	429	\$ 71
1406	McGinn	101		Main Office	100w Incandescent S/l	2	100	0.20	2,400	480	\$ 80	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	2	23	0.05	2,400	110	\$ 18	NO SENSOR PROPOSED	0	0.15	370	-	370	\$ 61
1407	McGinn			Main Office	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	4	110	0.44	2,400	1,056	\$ 175	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	2,400	912	\$ 151	NO SENSOR PROPOSED	0	0.06	144	-	144	\$ 24
1408	McGinn	102		Principal's Office	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic ballast	4	110	0.44	2,400	1,056	\$ 175	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	95	0.38	1,560	593	\$ 98	Low Voltage (w/ PF-20) PIR Ceiling Sensor (8-15 Mtg Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.06	144	319	463	\$ 77
1409	McGinn			Principal's Office	100w Incandescent S/l	1	100	0.10	2,400	240	\$ 40	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	2,400	55	\$ 9	NO SENSOR PROPOSED	0	0.08	185	-	185	\$ 31
1410	McGinn			Bathroom	100w Incandescent S/l	1	100	0.10	3,000	300	\$ 50	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 11	NO SENSOR PROPOSED	0	0.08	231	-	231	\$ 38
1411	McGinn			Custodian Closet	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	500	31	\$ 5	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	48	0.05	500	24	\$ 4	NO SENSOR PROPOSED	0	0.01	7	-	7	\$ 1

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

1412	McGinn	109		Office	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	1	110	0.11	2,400	264	\$ 44	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	95	0.10	2,400	228	\$ 38	NO SENSOR PROPOSED	0	0.02	36	-	36	\$ 6
1413	McGinn			Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 61	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 48	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 13
1414	McGinn			Girls Room	4' Vanity Fixture with (2) F34 Econo-Watt T12 Lamps & (1) 2L Magnetic Ballast	2	80	0.16	3,000	480	\$ 80	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Low Power Ballast, (2) 4' 28w T8 Energy Saving Lamps, New Lamp Sockets.	2	42	0.08	3,000	252	\$ 42	NO SENSOR PROPOSED	0	0.08	228	-	228	\$ 38
1415	McGinn			Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 61	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 48	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 13
1416	McGinn			Handicap Elevator	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	2	89	0.18	3,000	534	\$ 89	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	3,000	432	\$ 72	NO SENSOR PROPOSED	0	0.03	102	-	102	\$ 17
1417	McGinn	115		Faculty	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	8	89	0.71	2,400	1,709	\$ 283	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	8	72	0.58	1,560	899	\$ 149	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15' Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.14	326	484	810	\$ 134
1418	McGinn	115A		Faculty	8' Wrap Fixture with (4) F32 T8 Lamps & (1) 4L Electronic Ballast	3	110	0.33	2,400	792	\$ 131	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	3	95	0.29	2,400	684	\$ 113	NO SENSOR PROPOSED	0	0.05	108	-	108	\$ 18
1419	McGinn	128		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1420	McGinn	117		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1421	McGinn	116		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1422	McGinn	118		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1423	McGinn	119		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1424	McGinn	120		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1425	McGinn	122		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1426	McGinn	121		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1427	McGinn	124		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1428	McGinn	123		Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1429	McGinn			Bathroom	100w Incandescent S/l	1	100	0.10	3,000	300	\$ 50	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	3,000	69	\$ 11	NO SENSOR PROPOSED	0	0.08	231	-	231	\$ 38
1430	McGinn			Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 61	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 48	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 13
1431	McGinn	126		Storage	100w Incandescent S/l	1	100	0.10	500	50	\$ 8	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	1	23	0.02	500	12	\$ 2	NO SENSOR PROPOSED	0	0.08	39	-	39	\$ 6
1432	McGinn			Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 61	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 48	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 13
1433	McGinn	127A		Custodian Closet	150w Incandescent S/l	1	150	0.15	500	75	\$ 12	Remove and Replace Existing Lamp With a New 32w Compact Fluorescent Two Piece Screw-In.	1	32	0.03	500	16	\$ 3	NO SENSOR PROPOSED	0	0.12	59	-	59	\$ 10
1434	McGinn	162		Storage	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	500	61	\$ 10	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	500	48	\$ 8	NO SENSOR PROPOSED	0	0.03	13	-	13	\$ 2
1435	McGinn			Boiler Room	150w Incandescent S/l	8	150	1.20	1,000	1,200	\$ 199	Remove and Replace Existing Lamp With a New 32w Compact Fluorescent Two Piece Screw-In.	8	32	0.26	1,000	256	\$ 42	NO SENSOR PROPOSED	0	0.94	944	-	944	\$ 157
1436	McGinn	159		Custodian Office	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	2	89	0.18	2,400	427	\$ 71	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	2,400	346	\$ 57	NO SENSOR PROPOSED	0	0.03	82	-	82	\$ 14
1437	McGinn			Bathroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	1	89	0.09	3,000	267	\$ 44	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	3,000	216	\$ 36	NO SENSOR PROPOSED	0	0.02	51	-	51	\$ 8
1438	McGinn	152		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	16	89	1.42	1,650	2,350	\$ 390	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	16	72	1.15	1,650	1,901	\$ 315	NO SENSOR PROPOSED	0	0.27	449	-	449	\$ 74
1439	McGinn	151		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	15	89	1.34	1,650	2,203	\$ 365	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,650	1,782	\$ 295	NO SENSOR PROPOSED	0	0.26	421	-	421	\$ 70
1440	McGinn	150		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	15	89	1.34	1,650	2,203	\$ 365	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,650	1,782	\$ 295	NO SENSOR PROPOSED	0	0.26	421	-	421	\$ 70
1441	McGinn	149		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	14	89	1.25	1,650	2,056	\$ 341	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	14	72	1.01	1,650	1,663	\$ 276	NO SENSOR PROPOSED	0	0.24	393	-	393	\$ 65
1442	McGinn			Classroom	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic Ballast	1	61	0.06	1,650	101	\$ 17	No Work Proposed	0	61	0.06	1,650	101	\$ 17	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1443	McGinn	148		Classroom	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic Ballast	15	89	1.34	1,650	2,203	\$ 365	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	72	1.08	1,650	1,782	\$ 295	NO SENSOR PROPOSED	0	0.26	421	-	421	\$ 70
1444	McGinn	145		Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	6	110	0.66	1,650	1,089	\$ 181	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	95	0.57	1,073	611	\$ 101	Wall Switch Occupancy Sensor	1	0.09	149	329	478	\$ 79
1445	McGinn	144		Classroom	2X4 recessed troffer with (4) F32 T8 Lamps & (1) 4-Light Electronic Ballast	10	110	1.10	1,650	1,815	\$ 301	Re-lamp existing fixture with (4) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	10	95	0.95	1,650	1,568	\$ 260	NO SENSOR PROPOSED	0	0.15	248	-	248	\$ 41
1446	McGinn			Girls Room	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	6	31	0.19	3,000	558	\$ 93	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	6	25	0.15	3,000	450	\$ 75	NO SENSOR PROPOSED	0	0.04	108	-	108	\$ 18
1447	McGinn	142A		Custodian Closet	150w Incandescent S/l	1	150	0.15	500	75	\$ 12	Remove and Replace Existing Lamp With a New 32w Compact Fluorescent Two Piece Screw-In.	1	32	0.03	500	16	\$ 3	NO SENSOR PROPOSED	0	0.12	59	-	59	\$ 10
1448	McGinn			Women's Room	150w Incandescent S/l	1	150	0.15	3,000	450	\$ 75	Remove and Replace Existing Lamp With a New 32w Compact Fluorescent Two Piece Screw-In.	1	32	0.03	3,000	96	\$ 16	NO SENSOR PROPOSED	0	0.12	354	-	354	\$ 59
1449	McGinn			Women's Room	2' Vanity Fixture with (2) F20 T12 Lamp & (1) 2L Magnetic Ballast	1	60	0.06	3,000	180	\$ 30	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Normal Power Ballast, (2) 2' T8 Energy Saving Lamps, New Lamp Sockets.	1	31	0.03	3,000	93	\$ 15	NO SENSOR PROPOSED	0	0.03	87	-	87	\$ 14
1450	McGinn			Boys Room	4' Wrap Fixture with (1) F32 T12 Lamp & (1) 1L Magnetic Ballast	6	31	0.19	3,000	558	\$ 93	Re-lamp existing fixture with an Energy Saving 28w Lamp to standardize lamp types for maintenance. Existing Ballast stays in place	6	25	0.15	3,000	450	\$ 75	NO SENSOR PROPOSED	0	0.04	108	-	108	\$ 18

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

1451	McGinn	129	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1452	McGinn	130	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1453	McGinn	132	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1454	McGinn	131	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1455	McGinn	133	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1456	McGinn	135	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1457	McGinn	134	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1458	McGinn	137	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1459	McGinn	136	Classroom	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	15	61	0.92	1,650	1,510	\$ 250	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	15	48	0.72	1,650	1,188	\$ 197	NO SENSOR PROPOSED	0	0.20	322	-	322	\$ 53
1460	McGinn		Staff Bath	200w incandescent S/I	1	200	0.20	1,650	330	\$ 55	Remove and Replace Existing Lamp With a New 42w Compact Fluorescent Two Piece Screw-In.	1	42	0.04	1,650	69	\$ 11	NO SENSOR PROPOSED	0	0.16	261	-	261	\$ 43
1461	McGinn		Girls Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 61	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 48	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 13
1462	McGinn		Storage	200w incandescent S/I	1	200	0.20	500	100	\$ 17	Remove and Replace Existing Lamp With a New 42w Compact Fluorescent Two Piece Screw-In.	1	42	0.04	500	21	\$ 3	NO SENSOR PROPOSED	0	0.16	79	-	79	\$ 13
1463	McGinn		Boys Room	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	3,000	366	\$ 61	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	3,000	288	\$ 48	NO SENSOR PROPOSED	0	0.03	78	-	78	\$ 13
1464	McGinn		Custodian Closet	200w incandescent S/I	1	200	0.20	500	100	\$ 17	Remove and Replace Existing Lamp With a New 42w Compact Fluorescent Two Piece Screw-In.	1	42	0.04	500	21	\$ 3	NO SENSOR PROPOSED	0	0.16	79	-	79	\$ 13
1465	McGinn		OUTSIDE	Flood Fixture with (1) 250w Metal Halide Pulse Start Lamp and (1) Magnetic HID Ballast	6	286	1.72	3,640	6,246	\$ 1,036	No Work Proposed	0	286	1.72	3,640	6,246	\$ 1,036	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1466	McGinn		OUTSIDE	200w incandescent S/I	8	200	1.60	3,640	5,824	\$ 966	Remove and Replace Existing Lamp With a New 42w Compact Fluorescent Two Piece Screw-In.	8	42	0.34	3,640	1,223	\$ 203	NO SENSOR PROPOSED	0	1.26	4,601	-	4,601	\$ 763
1467	McGinn		OUTSIDE	45w. Par 38 Incandescent S/I	2	45	0.09	3,640	328	\$ 54	Remove and Replace Existing Lamp With a New 18w R38 Compact Fluorescent Screw-In	2	18	0.04	3,640	131	\$ 22	NO SENSOR PROPOSED	0	0.05	197	-	197	\$ 33
1468	McGinn		OUTSIDE	Flood Fixture with (1) 100w High Pressure Sodium Lamp and (1) Magnetic HID Ballast	1	120	0.12	3,640	437	\$ 72	No Work Proposed	0	120	0.12	3,640	437	\$ 72	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1469	McGinn		OUTSIDE	Wall Pack Fixture w/ (1) 100w High Pressure Sodium Lamp and Magnetic Ballast	6	125	0.75	3,640	2,730	\$ 453	No Work Proposed	0	125	0.75	3,640	2,730	\$ 453	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1470	McGinn		Lobby 1	60w. incandescent S/I	8	60	0.48	3,000	1,440	\$ 239	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	8	15	0.12	3,000	360	\$ 60	NO SENSOR PROPOSED	0	0.36	1,080	-	1,080	\$ 179
1471	McGinn		Lobby 1	1x2 Recessed Troffer w/ (2) F20 T12 Lamps & (1) 1L Magnetic Ballast	3	56	0.17	3,000	504	\$ 84	Re-lamp & Re-ballast existing fixture. Install a 2-Lamp Electronic Normal Power Ballast, (2) 2' T8 Energy Saving Lamps, New Lamp Sockets.	3	34	0.10	3,000	306	\$ 51	NO SENSOR PROPOSED	0	0.07	198	-	198	\$ 33
1472	McGinn		Lobby 1	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1473	McGinn		Corr. 101-107	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic ballast	2	61	0.12	3,000	366	\$ 61	No Work Proposed	0	61	0.12	3,000	366	\$ 61	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1474	McGinn		Corr. 101-107	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1475	McGinn		Corr. 103-105	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	4	68	0.27	3,000	816	\$ 135	No Work Proposed	0	68	0.27	3,000	816	\$ 135	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1476	McGinn		Corr. 103-105	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 6	No Work Proposed	0	2	0.00	8,760	35	\$ 6	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1477	McGinn		Corr. 115	2X2 recessed troffer with (2) F32 T8 U6 Lamps & (1) 2-Light Electronic Ballast	10	61	0.61	3,000	1,830	\$ 303	No Work Proposed	0	61	0.61	3,000	1,830	\$ 303	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1478	McGinn		Corr. 115	60w. incandescent S/I	1	60	0.06	3,000	180	\$ 30	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	1	15	0.02	3,000	45	\$ 7	NO SENSOR PROPOSED	0	0.05	135	-	135	\$ 22
1479	McGinn		Corr. 115	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1480	McGinn		Corr. 116-124	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	10	68	0.68	3,000	2,040	\$ 338	No Work Proposed	0	68	0.68	3,000	2,040	\$ 338	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1481	McGinn		Corr. 116-124	100w incandescent S/I	5	100	0.50	3,000	1,500	\$ 249	Remove and Replace Existing Lamp With a New 23w Compact Fluorescent Two Piece Screw-In.	5	23	0.12	3,000	345	\$ 57	NO SENSOR PROPOSED	0	0.39	1,155	-	1,155	\$ 191
1482	McGinn		Corr. 116-124	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 6	No Work Proposed	0	2	0.00	8,760	35	\$ 6	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1483	McGinn		Corr. 10	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	4	68	0.27	3,000	816	\$ 135	No Work Proposed	0	68	0.27	3,000	816	\$ 135	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1484	McGinn		Corr. 10	60w. incandescent S/I	3	60	0.18	3,000	540	\$ 90	Remove and Replace Existing Lamp With a New 15w Compact Fluorescent one Piece Screw-In.	3	15	0.05	3,000	135	\$ 22	NO SENSOR PROPOSED	0	0.14	405	-	405	\$ 67
1485	McGinn		Corr. 10	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1486	McGinn		Corr. 129-137	2X2 recessed troffer with (4) F17 T8 Lamps & (1) 4-Light Electronic ballast	10	68	0.68	3,000	2,040	\$ 338	No Work Proposed	0	68	0.68	3,000	2,040	\$ 338	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1487	McGinn		Corr. 129-137	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 6	No Work Proposed	0	2	0.00	8,760	35	\$ 6	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1488	McGinn		Corr. 160	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	7	89	0.62	3,000	1,869	\$ 310	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	7	72	0.50	3,000	1,512	\$ 251	NO SENSOR PROPOSED	0	0.12	357	-	357	\$ 59
1489	McGinn		Corr. 160	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1490	McGinn		Lobby 5	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	7	89	0.62	3,000	1,869	\$ 310	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	7	72	0.50	3,000	1,512	\$ 251	NO SENSOR PROPOSED	0	0.12	357	-	357	\$ 59
1491	McGinn		Lobby 5	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1492	McGinn		Corr.150-152	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	6	89	0.53	3,000	1,602	\$ 266	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	6	72	0.43	3,000	1,296	\$ 215	NO SENSOR PROPOSED	0	0.10	306	-	306	\$ 51
1493	McGinn		Corr.150-152	Exit Sign w/ 2w LED	4	2	0.01	8,760	70	\$ 12	No Work Proposed	0	2	0.01	8,760	70	\$ 12	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1494	McGinn		Corr. 148-149	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	4	89	0.36	3,000	1,068	\$ 177	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	4	72	0.29	3,000	864	\$ 143	NO SENSOR PROPOSED	0	0.07	204	-	204	\$ 34
1495	McGinn		Corr. 148-149	Exit Sign w/ 2w LED	1	2	0.00	8,760	18	\$ 3	No Work Proposed	0	2	0.00	8,760	18	\$ 3	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1496	McGinn		Corr. 144-148	2X4 recessed troffer with (2) F32 T8 Lamps & (1) 2-Light Electronic ballast	7	61	0.43	3,000	1,281	\$ 212	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	7	48	0.34	3,000	1,008	\$ 167	NO SENSOR PROPOSED	0	0.09	273	-	273	\$ 45
1497	McGinn		Corr. 144-148	Exit Sign w/ 2w LED	2	2	0.00	8,760	35	\$ 6	No Work Proposed	0	2	0.00	8,760	35	\$ 6	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1498	McGinn		Library - Media Ctr	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	27	89	2.40	2,400	5,767	\$ 956	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	27	72</											

Appendix D - Scotch Plains Fanwood Public Schools Lighting Spreadsheet

1501	McGinn		Multi-Purpose Room A Rm 110	2x2 Recessed Fixture w/ (1) 400w Metal Halide Lamp and Magnetic Ballast	14	445	6.23	2,400	14,952	\$ 2,479	Remove and Replace Existing Fixture With a New 2x4 Recessed Troffer Fixture Containing a Silver Reflector, 4-Lamp Electronic High Output Ballast, and (4) 4' T5 F54 HO Lamps, And cage lens	14	234	3.28	2,400	7,862	\$ 1,304	NO SENSOR PROPOSED	0	2.95	7,090	-	7,090	\$ 1,175
1502	McGinn		Multi-Purpose Room A Rm 110	50W High Pressure Sodium Recessed Can Fixture	11	65	0.72	2,400	1,716	\$ 285	Relamp existing fixture with a new 50w Self Ballasted Metal Halide Integrated Lamp	11	50	0.55	2,400	1,320	\$ 219	NO SENSOR PROPOSED	0	0.17	396	-	396	\$ 66
1503	McGinn		Multi-Purpose Room A Rm 110	Recessed Can w/ (1) 90w Incan.PAR38 Halogen Screw In	12	90	1.08	2,400	2,592	\$ 430	Remove and Replace Existing Lamp With a New 23w R38 Compact Fluorescent Screw-In	12	23	0.28	2,400	662	\$ 110	NO SENSOR PROPOSED	0	0.80	1,930	-	1,930	\$ 320
1504	McGinn		Multi-Purpose Room A Rm 110	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 9	No Work Proposed	0	2	0.01	8,760	53	\$ 9	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1505	McGinn		Storage	4' Wrap Fixture w/ (2) F32 T8 Lamps & (1) 2-Light Electronic Ballast	2	61	0.12	500	61	\$ 10	Re-lamp existing fixture with (2) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	48	0.10	500	48	\$ 8	NO SENSOR PROPOSED	0	0.03	13	-	13	\$ 2
1506	McGinn		Stage	150w Incandescent S/I	3	150	0.45	1,650	743	\$ 123	Remove and Replace Existing Lamp With a New 32w Compact Fluorescent Two Piece Screw-In.	3	32	0.10	1,650	158	\$ 26	NO SENSOR PROPOSED	0	0.35	584	-	584	\$ 97
1507	McGinn		Multi-Purpose Room B Rm 157	High Bay Fixture with (1) 400w Metal Halide Lamp and (1) Magnetic HID Ballast	16	445	7.12	2,400	17,088	\$ 2,833	New 2x4 Recessed Fixture, (3) FP54 Lamps, HO Ballast, Silver Reflector.	16	179	2.86	2,400	6,874	\$ 1,140	NO SENSOR PROPOSED	0	4.26	10,214	-	10,214	\$ 1,694
1508	McGinn		Multi-Purpose Room B Rm 157	Exit Sign w/ 2w LED	3	2	0.01	8,760	53	\$ 9	No Work Proposed	0	2	0.01	8,760	53	\$ 9	NO SENSOR PROPOSED	0	-	-	-	0	\$ -
1509	McGinn		PE Office	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	1	89	0.09	2,400	214	\$ 35	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	1	72	0.07	1,560	112	\$ 19	Wall Switch Occupancy Sensor	1	0.02	41	60	101	\$ 17
1510	McGinn		Storage	2X4 recessed troffer with (3) F32 T8 Lamps & (1) 3-Light Electronic ballast	2	89	0.18	500	89	\$ 15	Re-lamp existing fixture with (3) Energy Saving 28w Lamps to standardize lamp types for maintenance. Existing Ballast stays in place	2	72	0.14	325	47	\$ 8	Low Voltage (w/ PP-20) PIR Ceiling Sensor (8-15 Mtg. Height) 360 Deg. Coverage 12' Circular Viewing Pattern @ 9' High	1	0.03	17	25	42	\$ 7
					9,617		961.62		2,102,273	\$ 392,485		8,647		686		1,375,005	\$256,832		317	275.56	609,463	117,805	727,268	\$135,653

APPENDIX E

SOLAR ENERGY FINANCING WORKSHEET

SOLAR SYSTEM OVERLAYS

Preliminary Financing Worksheet 3 - Scotch Plains-Fanwood Public Schools Solar Projects

PV Solar System
Total System Cost

Pro Forma
\$9,155,640

Variables and Assumptions:

Percentage of annual kWh degradation (Solar)	0.50%
Annual inflation rate	3.00%
Value of RECs per kWh at current price	Conservative est. based on market conditions
15 Year Interest Rate	4.50%
Term (Years)	15

Year	Annual kWh Prod. Solar	Est Annual Maint. Cost	Project Cashflows				Possible Financing Options		Addl CREB Benefits If Applicable	
			1 Potential NJ SmartStart Rebates	2 Avoided Cost of Grid Energy (PV)	3 Solar RECs	4 Project Income	5 15 Year Tax Exempt Lease	6 Yearly Balance	7 Plus CREB Award	8 Yearly Balance
1	1,356,692	-\$27,134	\$0	\$217,071	\$663,422	\$890,008	-\$840,536	\$49,473	\$394,994	\$444,467
2	1,349,909	-\$26,998	\$0	\$222,465	\$639,857	\$871,972	-\$840,536	\$31,437	\$375,301	\$406,737
3	1,343,159	-\$26,863	\$0	\$227,993	\$617,853	\$855,632	-\$840,536	\$15,096	\$354,703	\$369,799
4	1,336,443	-\$26,729	\$0	\$233,659	\$596,054	\$839,633	-\$840,536	-\$903	\$333,158	\$332,255
5	1,329,761	-\$26,595	\$0	\$239,465	\$575,787	\$825,306	-\$840,536	-\$15,230	\$310,624	\$295,394
6	1,323,112	-\$26,462	\$0	\$245,416	\$520,975	\$776,578	-\$840,536	-\$63,958	\$287,055	\$223,097
7	1,316,497	-\$26,330	\$0	\$251,515	\$502,573	\$764,406	-\$840,536	-\$76,130	\$262,403	\$186,273
8	1,309,914	-\$26,198	\$0	\$257,765	\$485,323	\$753,539	-\$840,536	-\$86,997	\$236,618	\$149,621
9	1,303,365	-\$26,067	\$0	\$264,170	\$468,234	\$742,986	-\$840,536	-\$97,550	\$209,649	\$112,099
10	1,296,848	-\$25,937	\$0	\$270,735	\$453,897	\$735,344	-\$840,536	-\$105,192	\$181,441	\$76,249
11	1,290,364	-\$25,807	\$0	\$277,463	\$451,627	\$703,282	-\$840,536	-\$137,253	\$151,937	\$14,684
12	1,283,912	-\$25,678	\$0	\$284,357	\$449,369	\$708,048	-\$840,536	-\$132,487	\$121,078	-\$11,409
13	1,277,492	-\$25,550	\$0	\$291,424	\$447,122	\$712,996	-\$840,536	-\$127,540	\$88,801	-\$38,739
14	1,271,105	-\$25,422	\$0	\$298,666	\$444,887	\$718,130	-\$840,536	-\$122,406	\$55,041	-\$67,364
15	1,264,749	-\$25,295	\$0	\$306,087	\$442,662	\$723,455	-\$840,536	-\$117,081	\$19,731	-\$97,351
16	1,258,425	-\$25,169	\$0	\$313,694		\$288,525		\$288,525		\$288,525
17	1,252,133	-\$25,043	\$0	\$321,489		\$296,446		\$296,446		\$296,446
18	1,245,873	-\$24,917	\$0	\$329,478		\$304,561		\$304,561		\$304,561
19	1,239,643	-\$24,793	\$0	\$337,666		\$312,873		\$312,873		\$312,873
20	1,233,445	-\$24,669	\$0	\$346,057		\$321,388		\$321,388		\$321,388
21	1,227,278	-\$24,546	\$0	\$354,656		\$330,110		\$330,110		\$330,110
22	1,221,141	-\$24,423	\$0	\$363,469		\$339,046		\$339,046		\$339,046
23	1,215,036	-\$24,301	\$0	\$372,501		\$348,201		\$348,201		\$348,201
24	1,208,961	-\$24,179	\$0	\$381,758		\$357,579		\$357,579		\$357,579
25	1,202,916	-\$24,058	\$0	\$391,245		\$367,186		\$367,186		\$367,186
		-\$639,163	\$0	\$7,400,262	\$7,759,641	\$14,887,231	-\$12,608,037	\$2,279,194	\$3,382,534	\$5,661,728

Financing – strategies and options



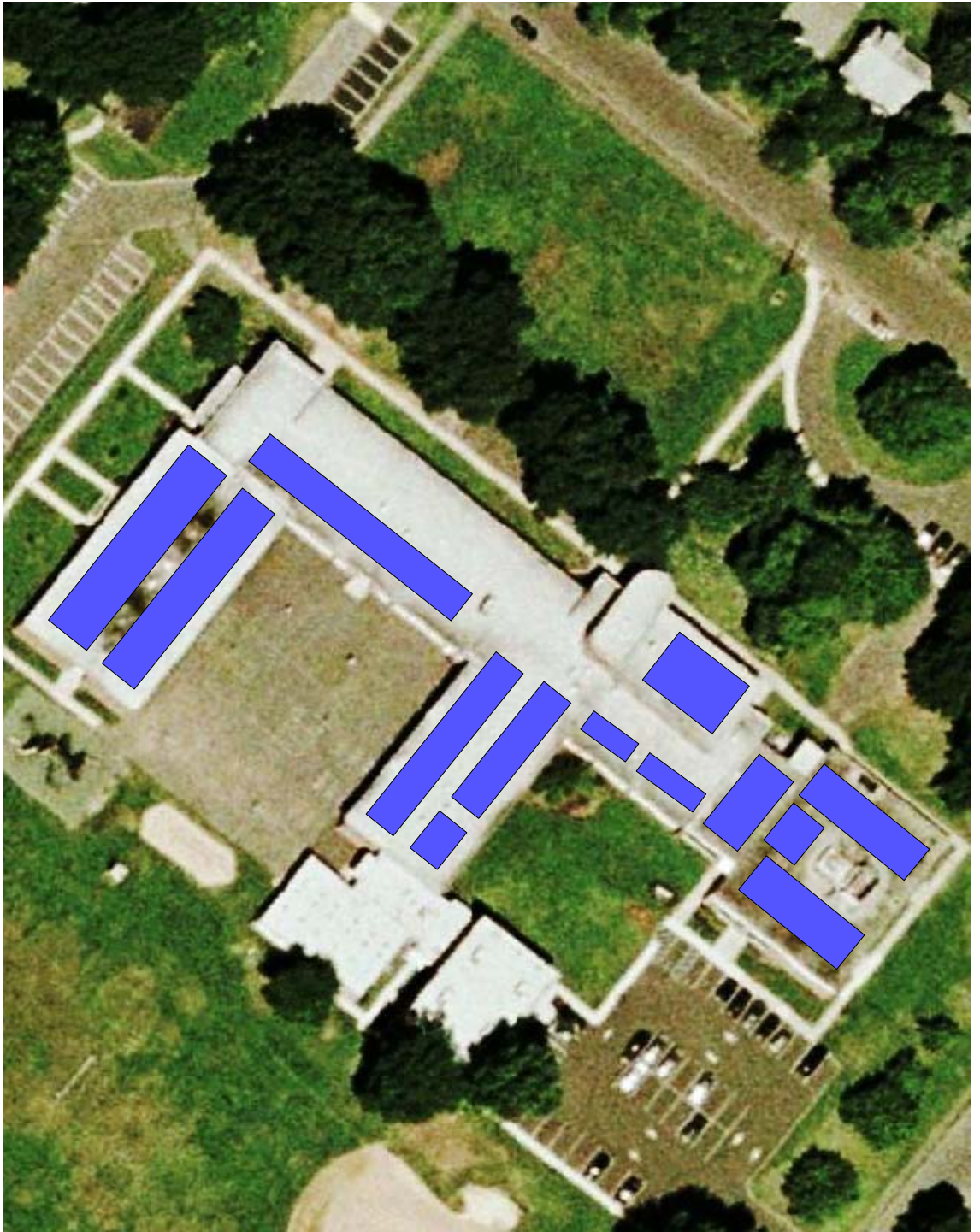
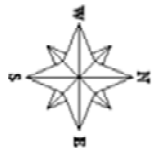
System Details

Client:
 School:
 Installer:
 Electricity Utility:
 Elec. Utility Account #:
 Solar Module Type:
 Total Array Rating:
 Approximate Area:

Scotch Plains-Fanwood Public Schools
 H.B. Brunner Elementary School
 Metro Energy Solutions

Sharp ND-U230C1
 68.08 kW dc
 7,262 (ft²)

	1140 Bloomfield Avenue Suite 200 West Caldwell, NJ 07006 (973) 439-7283	Title Scotch Plains – Fanwood Public Schools: H.B. Brunner Elementary School
		Location 721 Westfield Road, Scotch Plains, NJ 07076
UNAUTHORIZED REPRODUCTION OF THIS MATERIAL IS STRICTLY PROHIBITED. PLEASE CONTACT METRO ENERGY SOLUTIONS FOR PERMISSION TO REPRODUCE OR DISTRIBUTE THIS MATERIAL.		




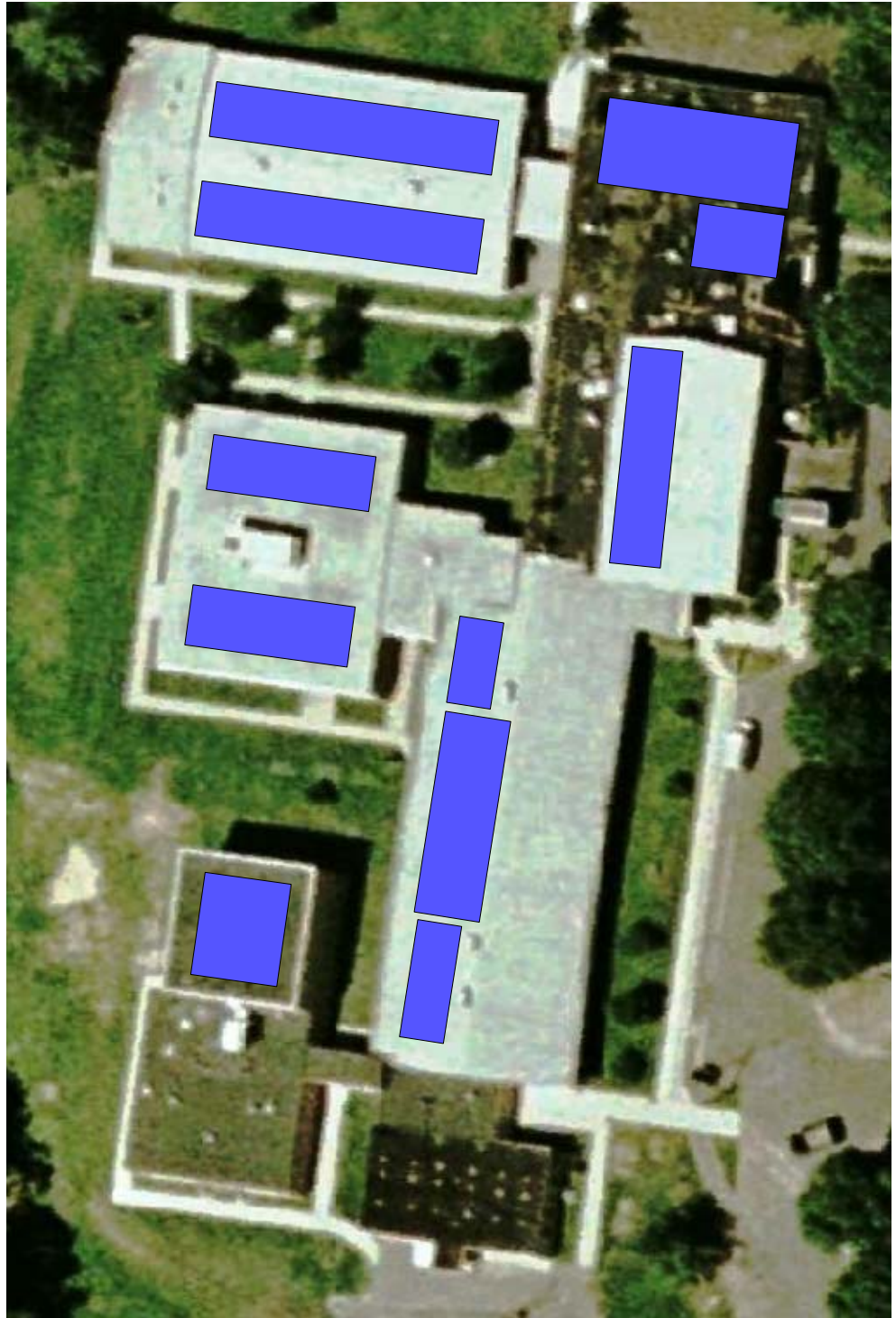
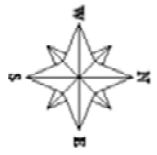
System Details

Client: Scotch Plains-Fanwood Public Schools
 School: Evergreen Elementary School
 Installer: Metro Energy Solutions
 Electricity Utility: Sharp ND-U230C1
 Elec. Utility Account #: 152.95 kW dc
 Solar Module Type: 16,241 (ft²)
 Total Array Rating:
 Approximate Area:

Scotch Plains-Fanwood Public Schools
 Evergreen Elementary School
 Metro Energy Solutions

Sharp ND-U230C1
 152.95 kW dc
 16,241 (ft²)

	1140 Bloomfield Avenue Suite 200 West Caldwell, NJ 07006 (973) 439-7283	Title Scotch Plains – Fanwood Public Schools: Evergreen Elementary School
		Location 2280 Evergreen Avenue, Scotch Plains, NJ 07076
UNAUTHORIZED REPRODUCTION OF THIS MATERIAL IS STRICTLY PROHIBITED. PLEASE CONTACT METRO ENERGY SOLUTIONS FOR PERMISSION TO REPRODUCE OR DISTRIBUTE THIS MATERIAL.		



System Details

Client: Scotch Plains-Fanwood Public Schools
School: Coles Elementary School
Installer: Metro Energy Solutions
Electricity Utility:
Elec. Utility Account #: Sharp ND-U230C1
Solar Module Type: 135.70 kW dc
Total Array Rating: 15,106 (ft²)
Approximate Area:



1140 Bloomfield Avenue
Suite 200
West Caldwell, NJ 07006
(973) 439-7283

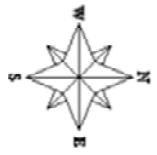
Title

Scotch Plains – Fanwood Public Schools:
Coles Elementary School

Location

16 Kevin Road, Scotch Plains, NJ 07076

UNAUTHORIZED REPRODUCTION OF THIS MATERIAL IS STRICTLY PROHIBITED. PLEASE CONTACT METRO ENERGY SOLUTIONS FOR PERMISSION TO REPRODUCE OR DISTRIBUTE THIS MATERIAL.




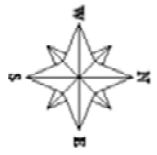
System Details

Client:
 School:
 Installer:
 Electricity Utility:
 Elec. Utility Account #:
 Solar Module Type:
 Total Array Rating:
 Approximate Area:

Scotch Plains-Fanwood Public Schools
 School One
 Metro Energy Solutions

Sharp ND-U230C1
 46.46 kW dc
 4,857 (ft²)

	1140 Bloomfield Avenue Suite 200 West Caldwell, NJ 07006 (973) 439-7283	Title <p style="text-align: center;">Scotch Plains – Fanwood Public Schools: School One</p>
		Location <p style="text-align: center;">Willow Avenue, Scotch Plains, NJ 07076</p>
UNAUTHORIZED REPRODUCTION OF THIS MATERIAL IS STRICTLY PROHIBITED. PLEASE CONTACT METRO ENERGY SOLUTIONS FOR PERMISSION TO REPRODUCE OR DISTRIBUTE THIS MATERIAL.		

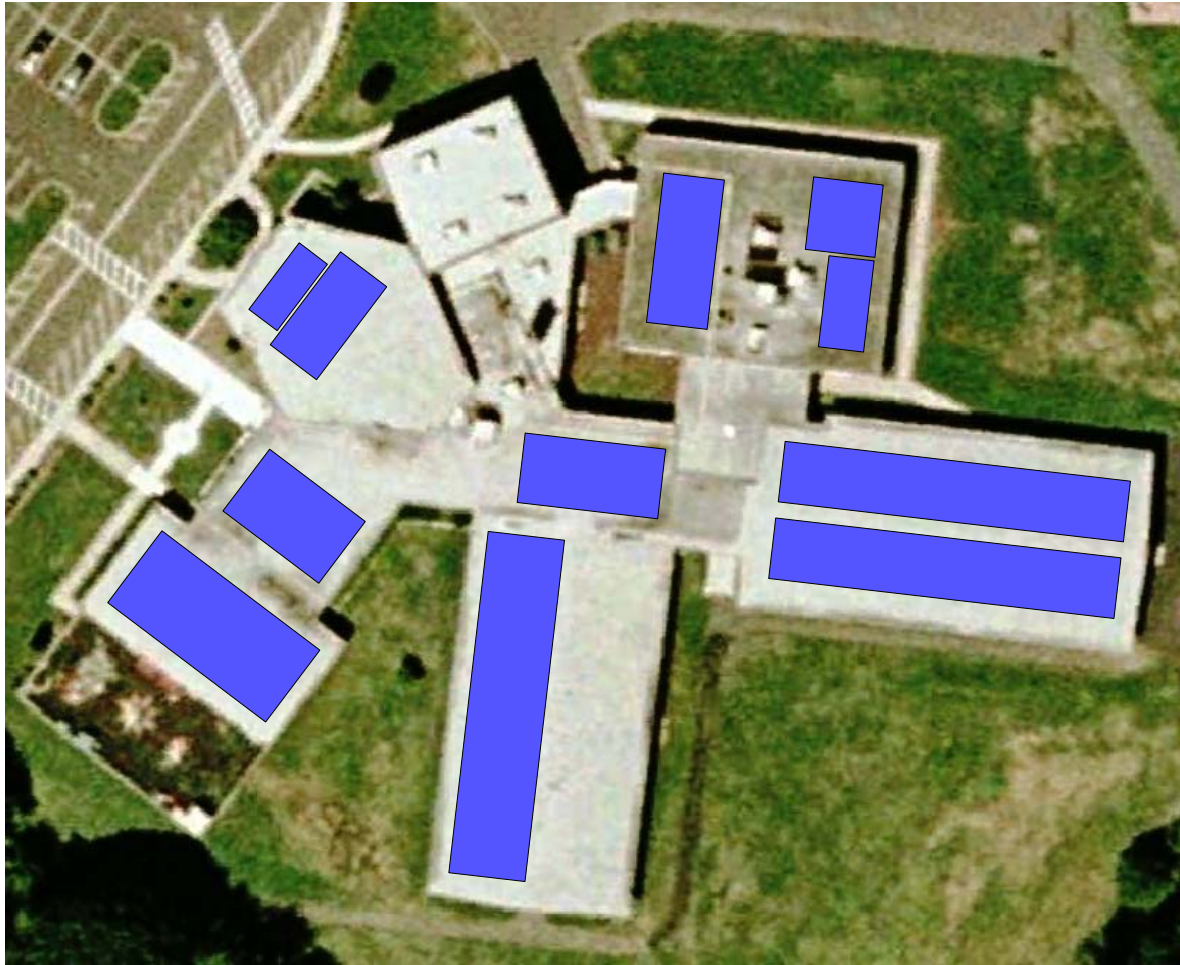



System Details

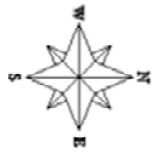
Client:
School:
Installer:
Electricity Utility:
Elec. Utility Account #:
Solar Module Type:
Total Array Rating:
Approximate Area:

Scotch Plains-Fanwood Public Schools
William J. McGinn Elementary School
Metro Energy Solutions

Sharp ND-U230C1
206.54 kW dc
19,817 (ft²)



	1140 Bloomfield Avenue Suite 200 West Caldwell, NJ 07006 (973) 439-7283	Title	Scotch Plains – Fanwood Public Schools: William J. McGinn Elementary School
		Location	1100 Roosevelt Avenue, Scotch Plains, NJ 07076
UNAUTHORIZED REPRODUCTION OF THIS MATERIAL IS STRICTLY PROHIBITED. PLEASE CONTACT METRO ENERGY SOLUTIONS FOR PERMISSION TO REPRODUCE OR DISTRIBUTE THIS MATERIAL.			



System Details

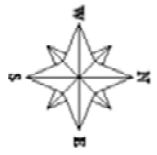
Client: _____
 School: _____
 Installer: _____
 Electricity Utility: _____
 Elec. Utility Account #: _____
 Solar Module Type: _____
 Total Array Rating: _____
 Approximate Area: _____

Scotch Plains-Fanwood Public Schools
 Park Middle School
 Metro Energy Solutions

Sharp ND-U230C1
 77.05 kW dc
 8,142 (ft²)



	1140 Bloomfield Avenue Suite 200 West Caldwell, NJ 07006 (973) 439-7283	Title Scotch Plains – Fanwood Public Schools: Park Middle School
		Location Park Avenue, Scotch Plains, NJ 07076
UNAUTHORIZED REPRODUCTION OF THIS MATERIAL IS STRICTLY PROHIBITED. PLEASE CONTACT METRO ENERGY SOLUTIONS FOR PERMISSION TO REPRODUCE OR DISTRIBUTE THIS MATERIAL.		




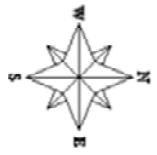
System Details

Client: **Scotch Plains-Fanwood Public Schools**
 School: **Terrill Middle School**
 Installer: **Metro Energy Solutions**
 Electricity Utility: **Sharp ND-U230C1**
 Elec. Utility Account #: **186.76 kW dc**
 Solar Module Type: **Uni-Solar PVL-144**
 Total Array Rating: **20.74 kW dc**

Scotch Plains-Fanwood Public Schools
 Terrill Middle School
 Metro Energy Solutions

Sharp ND-U230C1
 186.76 kW dc
 Uni-Solar PVL-144
 20.74 kW dc

	1140 Bloomfield Avenue Suite 200 West Caldwell, NJ 07006 (973) 439-7283	Title <p style="text-align: center;">Scotch Plains – Fanwood Public Schools: Terrill Middle School</p>
		Location <p style="text-align: center;">1301 Terrill Road, Scotch Plains, NJ 07076</p>
UNAUTHORIZED REPRODUCTION OF THIS MATERIAL IS STRICTLY PROHIBITED. PLEASE CONTACT METRO ENERGY SOLUTIONS FOR PERMISSION TO REPRODUCE OR DISTRIBUTE THIS MATERIAL.		




System Details

Client:
 School:
 Installer:
 Electricity Utility:
 Elec. Utility Account #:
 Solar Module Type:
 Total Array Rating:
 Approximate Area:

Scotch Plains-Fanwood Public Schools
 Scotch Plains-Fanwood High School
 Metro Energy Solutions

Sharp ND-U230C1
 514,28 kW dc
 52,309 (ft²)

	1140 Bloomfield Avenue Suite 200 West Caldwell, NJ 07006 (973) 439-7283	Title Scotch Plains-Fanwood Public Schools: Scotch Plains-Fanwood High School
		Location 687 Westfield Road, Scotch Plains, NJ 07076
UNAUTHORIZED REPRODUCTION OF THIS MATERIAL IS STRICTLY PROHIBITED. PLEASE CONTACT METRO ENERGY SOLUTIONS FOR PERMISSION TO REPRODUCE OR DISTRIBUTE THIS MATERIAL.		

APPENDIX F

NJ SMARTSTART INCENTIVES INFORMATION AND WORKSHEETS

NJ PAY FOR PERFORMANCE INCENTIVE STRUCTURE



2009 Prescriptive Lighting Application

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

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

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

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

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

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

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE

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

Prescriptive Lighting Measures and Incentives*

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

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

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

Visit our web site: www.NJCleanEnergy.com



Program Terms and Conditions

Definitions:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE

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

Prescriptive Lighting Measures and Incentives*

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

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

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

Visit our web site: www.NJCleanEnergy.com



Program Terms and Conditions

Definitions:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



2009 Lighting Controls Application

Customer Information

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

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

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

Contractor/Vendor Information (if different from Payee)

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

Lighting Control Information

Total Incentives (per attached Worksheet calculations):

\$ _____

Use Lighting Controls Incentive Worksheet.

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

1. Please refer to the program guide for additional applicable technical requirements, including special requirements for lighting controls.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Market Manager.
3. All lighting controls eligible for incentives must be UL listed.
4. Lighting control incentives are only available for control of eligible energy efficient lighting fixtures.
5. If more than one eligible lighting control device is associated with the same eligible fixture, the incentive paid will be for the lighting control device that yields the largest incentive only.
6. Occupancy Sensor Controls (Existing Facilities Only):
 - There is no incentive available for occupancy sensors installed in a space where they are prohibited by state or local building or safety code. Additionally, no incentive is eligible for occupancy sensors in the following specific spaces in all cases: stairways, restrooms (remote mounted only allowed), elevators, corridors/hallways, lobbies, and closets/storage areas.
 - Incentives will only be paid for eligible occupancy sensors (OSW & OSR) controlling at least 2 eligible lighting fixtures and, for OSR installations, a minimum total connected load of 180 watts.
 - Incentives will only be paid for eligible OSRH occupancy sensors controlling eligible fixtures when the controlled wattage is greater than 180 watts.
 - Occupancy sensors with manual override to the "ON" position are ineligible for incentive.
7. High-Low Controls (OHLF and OHLH):
 - Incentives will not be paid for high-low controls on eligible fluorescent fixtures where daylight dimming controls can be effectively employed.
 - Incentives will not be paid for spaces where the bottom of the fixture does not comply with the appropriate Prescriptive Lighting 2008 incentives, nor in spaces smaller than 250 square feet.
 - Incentives available only when "low level" is no more than 60% of "high level."
 - Incentives are not available for the following spaces: stairways, elevators, corridors/hallways, or lobbies.
 - OHLF will control fixtures that have a ballast factor less than 1.0 for T-5s and 1.14 for T-8s.
 - OHLH will control fixtures that have a ballast factor greater than or equal to 1.0 for T-5s and 1.14 for T-8s.
8. Daylight Dimming Controls for Eligible Fixtures:
 - Incentives will only be paid for eligible daylight dimming controls operating at least 4 eligible ballasts with a minimum total connected load of 240 watts.
 - Dimming shall be continuous or stepped at 4 or more levels.
 - Incentives will be paid only for eligible daylight dimming control systems designed in accordance with IESNA practice as delineated in "RP-5-99, IESNA Recommended Practice of Daylighting."
 - DLD will control fixtures that have a ballast factor less than 1.0 for T-5s and 1.14 for T-8s.
 - DDH will control fixtures that have a ballast factor greater than or equal to 1.0 for T-5s and 1.14 for T-8s.

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE

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

Lighting Control Prescriptive Incentives*

Control Device Type	Incentive per Unit
OSW – Occupancy Sensor Wall Mounted (Existing facilities only)	\$20 per control
OSR – Occupancy Sensor Remote Mounted (Existing facilities only)	\$35 per control
DLD – Fluorescent Daylight Dimming	\$25 per fixture controlled
OHLF – Occupancy Controlled High-Low with Step Ballast	\$25 per fixture controlled
OSRH – Occupancy Sensor Remote Mounted	\$35 per control
OHLH – Occupancy Controlled High-Low with Step Ballast	\$75 per fixture controlled
DDH – Daylight Dimming	\$75 per fixture controlled

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

New Jersey's Clean Energy Program
 c/o TRC Energy Services
 900 Route 9 North, Suite 104
 Woodbridge, NJ 07095

Phone: 866-657-6278
 Fax: 732-855-0422

Visit our web site: www.NJCleanEnergy.com



Program Terms and Conditions

Definitions:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1. Please refer to the program guide for additional applicable technical requirements, including special requirements for lighting controls.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Market Manager.
3. All lighting controls eligible for incentives must be UL listed.
4. Lighting control incentives are only available for control of eligible energy efficient lighting fixtures.
5. If more than one eligible lighting control device is associated with the same eligible fixture, the incentive paid will be for the lighting control device that yields the largest incentive only.
6. Occupancy Sensor Controls (Existing Facilities Only):
 - There is no incentive available for occupancy sensors installed in a space where they are prohibited by state or local building or safety code. Additionally, no incentive is eligible for occupancy sensors in the following specific spaces in all cases: stairways, restrooms (remote mounted only allowed), elevators, corridors/hallways, lobbies, and closets/storage areas.
 - Incentives will only be paid for eligible occupancy sensors (OSW & OSR) controlling at least 2 eligible lighting fixtures and, for OSR installations, a minimum total connected load of 180 watts.
 - Incentives will only be paid for eligible OSRH occupancy sensors controlling eligible fixtures when the controlled wattage is greater than 180 watts.
 - Occupancy sensors with manual override to the "ON" position are ineligible for incentive.
7. High-Low Controls (OHLF and OHLH):
 - Incentives will not be paid for high-low controls on eligible fluorescent fixtures where daylight dimming controls can be effectively employed.
 - Incentives will not be paid for spaces where the bottom of the fixture does not comply with the appropriate Prescriptive Lighting 2008 incentives, nor in spaces smaller than 250 square feet.
 - Incentives available only when "low level" is no more than 60% of "high level."
 - Incentives are not available for the following spaces: stairways, elevators, corridors/hallways, or lobbies.
 - OHLF will control fixtures that have a ballast factor less than 1.0 for T-5s and 1.14 for T-8s.
 - OHLH will control fixtures that have a ballast factor greater than or equal to 1.0 for T-5s and 1.14 for T-8s.
8. Daylight Dimming Controls for Eligible Fixtures:
 - Incentives will only be paid for eligible daylight dimming controls operating at least 4 eligible ballasts with a minimum total connected load of 240 watts.
 - Dimming shall be continuous or stepped at 4 or more levels.
 - Incentives will be paid only for eligible daylight dimming control systems designed in accordance with IESNA practice as delineated in "RP-5-99, IESNA Recommended Practice of Daylighting."
 - DLD will control fixtures that have a ballast factor less than 1.0 for T-5s and 1.14 for T-8s.
 - DDH will control fixtures that have a ballast factor greater than or equal to 1.0 for T-5s and 1.14 for T-8s.

Lighting Control Prescriptive Incentives*

Control Device Type	Incentive per Unit
OSW – Occupancy Sensor Wall Mounted (Existing facilities only)	\$20 per control
OSR – Occupancy Sensor Remote Mounted (Existing facilities only)	\$35 per control
DLD – Fluorescent Daylight Dimming	\$25 per fixture controlled
OHLF – Occupancy Controlled High-Low with Step Ballast	\$25 per fixture controlled
OSRH – Occupancy Sensor Remote Mounted	\$35 per control
OHLH – Occupancy Controlled High-Low with Step Ballast	\$75 per fixture controlled
DDH – Daylight Dimming	\$75 per fixture controlled

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

New Jersey's Clean Energy Program
 c/o TRC Energy Services
 900 Route 9 North, Suite 104
 Woodbridge, NJ 07095

Phone: 866-657-6278
 Fax: 732-855-0422

Visit our web site: www.NJCleanEnergy.com



Program Terms and Conditions

Definitions:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

New Jersey Clean Energy Program

Technical Worksheet – Solar Electric Equipment Information

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

GENERAL TERMS AND CONDITIONS

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

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

INSTALLATION REQUIREMENTS

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

A: Code Requirements

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

B: Solar Electric Module Array

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

C: Inverter and Controls

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

D: Control Panel to Solar Electric Array Wire Runs

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

E: Batteries (If Applicable)

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

New Jersey Clean Energy Program

Technical Worksheet – Solar Electric Equipment Information

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

A: EQUIPMENT INFORMATION

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

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

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

4. Inverter Manufacturer: _____ Inverter Model Number: _____

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

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

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

B: PROPOSED INSTALLATION/INTERCONNECTION INFORMATION

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

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

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

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

5. Inverter Location: Indoor Outdoor Location: _____

6. Utility-Accessible AC Disconnect Switch Location: _____

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

C: INCENTIVE REQUEST CALCULATION

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

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

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

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

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

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

D: WARRANTY INFORMATION

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

Revised January 2009



Incentive Structure for NJ Pay For Performance Program

Incentive #1: Energy Reduction Plan

Incentive Amount:.....\$0.10 per sq ft
 Minimum Incentive:.....\$5,000
 Maximum Incentive:.....\$50,000 or 50% of facility annual energy cost

This incentive will be developed to offset the cost of services associated with the development of the Energy Reduction Plan. Projects must identify efficiency improvements that meet the minimum performance level in order to become eligible for Incentive #1. Incentive amount will be based on the square footage of the building.

Incentive #2: Installation of Recommended Measures

Minimum Performance Target:.....15%

Electric Incentives

Base Incentive based on 15% savings:.....\$0.11 per projected kWh saved
 For each % over 15% add:.....\$0.005 per projected kWh saved
 Maximum Incentive:.....\$0.13 per projected kWh saved

Gas Incentives

Base Incentive base on 15% savings:\$1.10 per projected Therm saved
 For each % over 15% add:.....\$0.05 per projected Therm saved
 Maximum Incentive:.....\$1.45 per projected Therm saved

Incentive Cap:30% of total project cost

This incentive will be based on projected energy savings and designed to pay approximately 60% of the total performance-based incentive. Savings projections will be calculated using calibrated energy simulation and rounded to the nearest percent. Incentive #2 may not exceed 30% of the total project cost.

Incentive #3: Post-Construction Benchmarking Report

Minimum Performance Target:.....15%

Electric Incentives

Base Incentive based on 15% savings:.....\$0.07 per projected kWh saved
 For each % over 15% add:.....\$0.005 per projected kWh saved
 Maximum Incentive:.....\$0.09 per projected kWh saved

Gas Incentives

Base Incentive base on 15% savings:\$0.70 per projected Therm saved
 For each % over 15% add:.....\$0.05 per projected Therm saved
 Maximum Incentive:.....\$1.05 per projected Therm saved

Incentive Cap:20% of total project cost

This incentive will be released upon submittal of a Post-Construction Benchmarking Report that verifies that the level of savings actually achieved by the installed measures meets or exceeds the minimum performance threshold. To validate the savings and achievement of the Energy Target, the EPA Portfolio Manager shall be used. Savings should be rounded to the nearest percent. Total value of Incentive #2 and Incentive #3 may not exceed 50% of the total project cost. This incentive will "true up" proposed savings and the related payment for Incentive #2 so that the total incentive is based on actual savings. For buildings not covered by EPA, the process used by LEED EB shall be followed.

Advanced Measure Incentive: Combined Heat and Power

Eligible Technology	Incentive (per Watt) Max: \$1 Million	Maximum % of Project Cost
Level 1:		
Fuel cells not fueled by Class I renewable fuel	\$4.00.....	60%
Level 2:		
Microturbines	\$1.00.....	30% ⁽¹⁾
Internal Combustion Engines Combustion Turbines		
Level 3:		
Heat Recovery or other Mechanical Recovery from Existing Equipment	\$0.50.....	30%

(1) The maximum % of project cost will go to 40% where a cooling application is used or included with the CHP system.
 Note: Incentives for renewable fueled projects (Class 1) are currently being developed. This document will be updated when the incentive levels are finalized.

APPENDIX G

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS

Lighting Price Estimates for Scotch Plains Board of Education

BUILDING	LIGHTING	LIGHTING LABOR	TOTAL LIGHTING	SENSOR MATERIAL	SENSOR LABOR	TOTAL SENSOR	MATERIAL	LABOR	TOTAL
	MATERIAL COST	COST	COST	COST	COST	COST	SUBTOTAL	SUBTOTAL	
Scotch Plains-Fanwood High School	\$ 61,069	\$ 26,172	\$ 87,241	\$ 13,655	\$ 5,852	\$ 19,507	\$ 74,724	\$ 32,024	\$ 106,748
Terrill Middle School	\$ 29,225	\$ 12,525	\$ 41,750	\$ 8,802	\$ 3,772	\$ 12,574	\$ 38,027	\$ 16,297	\$ 54,324
Park Middle School	\$ 37,559	\$ 16,097	\$ 53,656	\$ 10,477	\$ 4,490	\$ 14,967	\$ 48,036	\$ 20,587	\$ 68,623
School One	\$ 10,621	\$ 4,552	\$ 15,173	\$ 2,019	\$ 865	\$ 2,884	\$ 12,640	\$ 5,417	\$ 18,057
William J. McGinn	\$ 14,321	\$ 6,137	\$ 20,458	\$ 708	\$ 304	\$ 1,012	\$ 15,029	\$ 6,441	\$ 21,470
Evergreen	\$ 12,877	\$ 5,519	\$ 18,396	\$ 2,262	\$ 970	\$ 3,232	\$ 15,139	\$ 6,488	\$ 21,628
J.A. Coles	\$ 17,410	\$ 7,462	\$ 24,872	\$ 1,357	\$ 581	\$ 1,938	\$ 18,767	\$ 8,043	\$ 26,810
H.B. Brunner	\$ 17,347	\$ 7,434	\$ 24,781	\$ 414	\$ 178	\$ 592	\$ 17,761	\$ 7,612	\$ 25,373
Subtotal							\$ 240,123	\$ 102,910	
SUBTOTAL=									\$ 343,033
MARKUP %=									0.43
MARKUP=									\$ 147,014
BUDGET COST ESTIMATE									<u>\$ 490,047</u>

Solar Price Estimates for Scotch Plains Board of Education

BUILDING	SOLAR MATERIAL COST	SOLAR LABOR COST	PROJECT SUBTOTAL		TOTAL
Scotch Plains-Fanwood High School	\$ 2,507,115	\$ 835,705	\$ 3,342,820	\$ 3,342,820	\$ 3,342,820
Terrill Middle School	\$ 1,011,563	\$ 337,188	\$ 1,348,750	\$ 1,348,750	\$ 1,348,750
Park Middle School	\$ 375,619	\$ 125,206	\$ 500,825	\$ 500,825	\$ 500,825
School One	\$ 226,493	\$ 75,498	\$ 301,990	\$ 301,990	\$ 301,990
William J. McGinn	\$ 1,006,883	\$ 335,628	\$ 1,342,510	\$ 1,342,510	\$ 1,342,510
Evergreen	\$ 745,631	\$ 248,544	\$ 994,175	\$ 994,175	\$ 994,175
J.A. Coles	\$ 661,538	\$ 220,513	\$ 882,050	\$ 882,050	\$ 882,050
H.B. Brunner	\$ 331,890	\$ 110,630	\$ 442,520	\$ 442,520	\$ 442,520
Subtotal			\$ 9,155,640	\$ 9,155,640	
			SUBTOTAL=		\$ 9,155,640
			MARKUP %=		0.20
			MARKUP=		\$ 1,831,128
			BUDGET COST ESTIMATE		\$ 10,986,768

CDM

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

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Location: Scotch Plains
 Estimate by: RKA
 Checked by: MG

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	Park Middle School Boiler, Gas-Fired, Condensing High Efficiency 2,000 MBH	3	ea.	\$ 34,000.00	\$ 102,000.00	3	ea.	\$ 5,750.00	\$ 17,250.00	\$ 119,250.00
	Subtotal				102,000.00				17,250.00	

SUBTOTAL = \$ 119,250.00
 MARKUP % = \$ 0.15
 MARKUP = \$ 17,887.50
 SUB-TOTAL w/ OH & P = \$ 137,137.50
 CONTINGENCY % = 0.25
 CONTINGENCY = \$ 34,284.38
 BUDGET COST ESTIMATE = \$ 171,421.88

CDM

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

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Location: Scotch Plains
 Estimate by: RKA
 Checked by: MG

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	Brunner Elementary School Boiler, Gas-Fired, Condensing High Efficiency 2,000 MBH	2	ea.	\$ 34,000.00	\$ 68,000.00	2	ea.	\$ 5,750.00	\$ 11,500.00	\$ 79,500.00
	Subtotal				68,000.00				11,500.00	

SUBTOTAL = \$ 79,500.00
 MARKUP % = \$ 0.15
 MARKUP = \$ 11,925.00
 SUB-TOTAL w/ OH & P = \$ 91,425.00
 CONTINGENCY % = 0.25
 CONTINGENCY = \$ 22,856.25
 BUDGET COST ESTIMATE = \$ 114,281.25

CDM

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

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Location: Scotch Plains
 Estimate by: RKA
 Checked by: MG

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	J Ackerman Coles Elementary School Boiler, Gas-Fired, Condensing High Efficiency 2,000 MBH	2	ea.	\$ 34,000.00	\$ 68,000.00	2	ea.	\$ 5,750.00	\$ 11,500.00	\$ 79,500.00
	Subtotal				68,000.00				11,500.00	

SUBTOTAL = \$ 79,500.00
 MARKUP % = \$ 0.15
 MARKUP = \$ 11,925.00
 SUB-TOTAL w/ OH & P = \$ 91,425.00
 CONTINGENCY % = 0.25
 CONTINGENCY = \$ 22,856.25
 BUDGET COST ESTIMATE = \$ 114,281.25

CDM

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

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Location: Scotch Plains
 Estimate by: RKA
 Checked by: MG

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	William J McGinn Boiler, Gas-Fired, Condensing High Efficiency 2,000 MBH	2	ea.	\$ 34,000.00	\$ 68,000.00	2	ea.	\$ 5,750.00	\$ 11,500.00	\$ 79,500.00
	Subtotal				68,000.00				11,500.00	

SUBTOTAL = \$ 79,500.00
 MARKUP % = \$ 0.15
 MARKUP = \$ 11,925.00
 SUB-TOTAL w/ OH & P = \$ 91,425.00
 CONTINGENCY % = 0.25
 CONTINGENCY = \$ 22,856.25
 BUDGET COST ESTIMATE = \$ 114,281.25

CDM

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

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Location: Scotch Plains
 Estimate by: RKA
 Checked by: MG

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	Terrill Middle School Boiler, Gas-Fired, Condensing High Efficiency 2,000 MBH	4	ea.	\$ 34,000.00	\$ 136,000.00	4	ea.	\$ 5,750.00	\$ 23,000.00	\$ 159,000.00
	Subtotal				136,000.00				23,000.00	

SUBTOTAL = \$ 159,000.00
 MARKUP % = \$ 0.15
 MARKUP = \$ 23,850.00
 SUB-TOTAL w/ OH & P = \$ 182,850.00
 CONTINGENCY % = 0.25
 CONTINGENCY = \$ 45,712.50
 BUDGET COST ESTIMATE = \$ 228,562.50

CDM

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

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Location: Scotch Plains-Fanwood
 Estimate by: RKA
 Checked by: MG

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	Freehold Learning Center Air Source Heat Pump, split system, 5 ton cooling, 27 MBH heat @ 0<F	2	ea.	\$ 2,675.00	\$ 5,350.00	2	ea.	\$ 1,725.00	\$ 3,450.00	\$ 8,800.00
	Subtotal									

SUBTOTAL = \$ 8,800.00
 MARKUP % = \$ 0.15
 MARKUP = \$ 1,320.00
 SUB-TOTAL w/ OH & P = \$ 10,120.00
 CONTINGENCY % = 0.25
 CONTINGENCY = \$ 2,530.00
 BUDGET COST ESTIMATE = \$ 12,650.00

*Pricing per RSMeans, 2009

APPENDIX H
FACILITY DATA FORMS



APPENDIX C - FACILITY DATA FORM

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

FACILITY INFORMATION

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

Facility Name <u>Howard B Brunner Elementary School</u>			
Street Address <u>721 Westfield Rd</u>		County	
City <u>Scotch Plains</u>	State <u>NJ</u>	Zip <u>07076</u>	
Facility's Description <u>Elementary School</u>			
Total Sq Ft <u>50,580</u>	Year Built <u>1960</u>	Hours/Week Occupied <u>~85</u>	Number of Employees <u>410 students 68 faculty</u>
Building Type (Check only one of the following):			
<input type="checkbox"/>	Emergency Services	<input type="checkbox"/>	Garage
<input type="checkbox"/>	Center/Meeting Hall/Library	<input type="checkbox"/>	Offices
<input type="checkbox"/>	Recreation/Entertainment/Parks	<input type="checkbox"/>	Religious
<input checked="" type="checkbox"/>	School	<input type="checkbox"/>	School: College
<input type="checkbox"/>	Water Treatment/Pumping	<input type="checkbox"/>	Other: _____

ENERGY DATA

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

The Data Below is for the 12 Month Period: <u>7/1/2008</u> to <u>6/1/2009</u>



ELECTRICITY

Electric Utility Name & Account Number(s) PSE + G : 6710349500	
Annual kWh Use 241,425 kWh	Annual Electricity Cost \$41,112
Max Summer kW 117 kW	Max Winter kW 102 kW

NATURAL GAS

Natural Gas Utility Name & Account Number(s) Elizabethtown Gas : 5484146700	
Annual Use in Therms 24,447	Annual Natural Gas Cost \$9,378

FUEL OIL

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

PROPANE

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

OTHER

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

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

STAFF USE ONLY

Date Received: _____	Project No.: _____
----------------------	--------------------



APPENDIX C - FACILITY DATA FORM

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

FACILITY INFORMATION

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

Facility Name <i>J. Ackerman Gates School</i>			
Street Address <i>16 Kevin Rd.</i>		County	
City <i>Scotch Plains</i>	State <i>NJ</i>	Zip <i>07076</i>	
Facility's Description <i>Elementary School</i>			
Total Sq Ft <i>53,785</i>	Year Built <i>1963</i>	Hours/Week Occupied <i>185</i>	Number of Employees <i>552 Students 66 Faculty</i>
Building Type (Check only one of the following):			
<input type="checkbox"/>	Emergency Services	<input type="checkbox"/>	Garage
<input type="checkbox"/>	Center/Meeting Hall/Library	<input type="checkbox"/>	Offices
<input type="checkbox"/>	Recreation/Entertainment/Parks	<input type="checkbox"/>	Religious
<input checked="" type="checkbox"/>	School	<input type="checkbox"/>	School: College
<input type="checkbox"/>	Water Treatment/Pumping	<input type="checkbox"/>	Other: _____

ENERGY DATA

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

The Data Below is for the 12 Month Period: <i>7/1/2008</i> to <i>6/1/2009</i>



ELECTRICITY

Electric Utility Name & Account Number(s) PSEG: 6702711409, 6632316204, 6672468900	
Annual kWh Use 299,028 kWh	Annual Electricity Cost \$50,361
Max Summer kW 109	Max Winter kW 106

NATURAL GAS

Natural Gas Utility Name & Account Number(s) Elizabethtown Gas: 5877607750	
Annual Use in Therms 20,410	Annual Natural Gas Cost \$8,389

FUEL OIL

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

PROPANE

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

OTHER

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

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

STAFF USE ONLY

Date Received: _____	Project No.: _____
----------------------	--------------------



APPENDIX C - FACILITY DATA FORM

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

FACILITY INFORMATION

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

Facility Name <i>Evergreen School</i>			
Street Address <i>2280 Evergreen Ave</i>		County	
City <i>Scotch Plains</i>	State <i>NJ</i>	Zip <i>07076</i>	
Facility's Description <i>Elementary School</i>			
Total Sq Ft <i>43,524</i>	Year Built <i>1951</i>	Hours/Week Occupied <i>285</i>	Number of Employees <i>417 students 50 faculty</i>
Building Type (Check only one of the following):			
<input type="checkbox"/>	Emergency Services	<input type="checkbox"/>	Garage
<input type="checkbox"/>	Center/Meeting Hall/Library	<input type="checkbox"/>	Offices
<input type="checkbox"/>	Recreation/Entertainment/Parks	<input type="checkbox"/>	Religious
<input checked="" type="checkbox"/>	School	<input type="checkbox"/>	School: College
<input type="checkbox"/>	Water Treatment/Pumping	<input type="checkbox"/>	Other: _____

ENERGY DATA

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

The Data Below is for the 12 Month Period: <i>7/1/2008</i> to <i>6/1/2009</i>



ELECTRICITY

Electric Utility Name & Account Number(s) PSE+G 6632318118, 4200856603,	
Annual kWh Use 366,484 kWh (combined)	Annual Electricity Cost \$63,954 (combined)
Max Summer kW 134	Max Winter kW 128

NATURAL GAS

Natural Gas Utility Name & Account Number(s) Elizabethtown Gas 8630862750	
Annual Use in Therms 38,107	Annual Natural Gas Cost \$15,640

FUEL OIL

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

PROPANE

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

OTHER

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

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

STAFF USE ONLY

Date Received: _____	Project No.: _____
----------------------	--------------------



APPENDIX C - FACILITY DATA FORM

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

FACILITY INFORMATION

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

Facility Name <i>William J. McGinn School</i>			
Street Address <i>1100 Roosevelt Ave</i>		County	
City <i>Scotch Plains</i>	State <i>NJ</i>	Zip <i>07076</i>	
Facility's Description <i>Elementary School</i>			
Total Sq Ft <i>49,489</i>	Year Built <i>1966</i>	Hours/Week Occupied <i>285</i>	Number of Employees <i>494 Students 62 faculty</i>
Building Type (Check only one of the following):			
<input type="checkbox"/> Emergency Services	<input type="checkbox"/> Garage		
<input type="checkbox"/> Center/Meeting Hall/Library	<input type="checkbox"/> Offices		
<input type="checkbox"/> Recreation/Entertainment/Parks	<input type="checkbox"/> Religious		
<input checked="" type="checkbox"/> School	<input type="checkbox"/> School: College		
<input type="checkbox"/> Water Treatment/Pumping	<input type="checkbox"/> Other: _____		

ENERGY DATA

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

The Data Below is for the 12 Month Period: <i>7/1/2008</i> to <i>6/1/2009</i>



ELECTRICITY

Electric Utility Name & Account Number(s) PSE+G: 65 19865109	
Annual kWh Use 276,030	Annual Electricity Cost \$ 44,509
Max Summer kW 136	Max Winter kW 96

NATURAL GAS

Natural Gas Utility Name & Account Number(s) Elizabethtown Gas: 2620775760	
Annual Use in Therms 25,752	Annual Natural Gas Cost \$ 8,512

FUEL OIL

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

PROPANE

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

OTHER

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

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

STAFF USE ONLY

Date Received: _____	Project No.: _____
----------------------	--------------------



APPENDIX C - FACILITY DATA FORM

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

FACILITY INFORMATION

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

Facility Name <i>School One School</i>			
Street Address <i>563 Willow Ave</i>		County	
City <i>Scotch Plains</i>	State <i>NJ</i>	Zip <i>07076</i>	
Facility's Description <i>Elementary School</i>			
Total Sq Ft <i>46,205</i>	Year Built <i>1973</i>	Hours/Week Occupied <i>~85</i>	Number of Employees <i>394 students 166 Faculty</i>
Building Type (Check only one of the following):			
<input type="checkbox"/>	Emergency Services	<input type="checkbox"/>	Garage
<input type="checkbox"/>	Center/Meeting Hall/Library	<input type="checkbox"/>	Offices
<input type="checkbox"/>	Recreation/Entertainment/Parks	<input type="checkbox"/>	Religious
<input checked="" type="checkbox"/>	School	<input type="checkbox"/>	School: College
<input type="checkbox"/>	Water Treatment/Pumping	<input type="checkbox"/>	Other: _____

ENERGY DATA

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

The Data Below is for the 12 Month Period: <i>7/1 / 2008</i> to <i>6/1 / 2009</i>



ELECTRICITY

Electric Utility Name & Account Number(s) PSE + G : 4200086107, 6631544602	
Annual kWh Use 510,970	Annual Electricity Cost \$88,576
Max Summer kW 206	Max Winter kW 184

NATURAL GAS

Natural Gas Utility Name & Account Number(s) Elizabeth Gas : 2918261740	
Annual Use in Therms 11,739	Annual Natural Gas Cost \$4,448

FUEL OIL

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

PROPANE

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

OTHER

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

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

STAFF USE ONLY

Date Received: _____	Project No.: _____
----------------------	--------------------



APPENDIX C - FACILITY DATA FORM

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

FACILITY INFORMATION

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

Facility Name <i>Park Middle School</i>			
Street Address <i>580 Park Ave</i>		County	
City <i>Scotch Plains</i>	State <i>NJ</i>	Zip <i>07076</i>	
Facility's Description <i>Middle School</i>			
Total Sq Ft <i>113,660</i>	Year Built <i>1929</i>	Hours/Week Occupied <i>285</i>	Number of Employees <i>874 students 113 faculty</i>
Building Type (Check only one of the following):			
<input type="checkbox"/> Emergency Services	<input type="checkbox"/> Garage		
<input type="checkbox"/> Center/Meeting Hall/Library	<input type="checkbox"/> Offices		
<input type="checkbox"/> Recreation/Entertainment/Parks	<input type="checkbox"/> Religious		
<input checked="" type="checkbox"/> School	<input type="checkbox"/> School: College		
<input type="checkbox"/> Water Treatment/Pumping	<input type="checkbox"/> Other: _____		

ENERGY DATA

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

The Data Below is for the 12 Month Period: <i>3/1/2008 to 4/1/2009 (elec)</i>

7/1/2008 to 6/1/2009 (gas)



ELECTRICITY

Electric Utility Name & Account Number(s) PSE+G: 4200190303, 6595756218	
Annual kWh Use 723,805	Annual Electricity Cost \$ 105,337
Max Summer kW 284	Max Winter kW 250

NATURAL GAS

Natural Gas Utility Name & Account Number(s) Elizabethtown Gas: 7855243521	
Annual Use in Therms 51,888	Annual Natural Gas Cost \$ 21,909

FUEL OIL

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

PROPANE

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

OTHER

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

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

STAFF USE ONLY

Date Received: _____	Project No.: _____
----------------------	--------------------



APPENDIX C - FACILITY DATA FORM

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

FACILITY INFORMATION

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

Facility Name <u>Terrill Middle School</u>			
Street Address <u>1301 Terrill Rd</u>		County	
City <u>Scotch Plains</u>	State <u>NJ</u>	Zip <u>07076</u>	
Facility's Description <u>Middle School</u>			
Total Sq Ft <u>93,577</u>	Year Built <u>1963</u>	Hours/Week Occupied <u>1085</u>	Number of Employees <u>859 students 96 faculty</u>
Building Type (Check only one of the following):			
<input type="checkbox"/> Emergency Services	<input type="checkbox"/> Garage		
<input type="checkbox"/> Center/Meeting Hall/Library	<input type="checkbox"/> Offices		
<input type="checkbox"/> Recreation/Entertainment/Parks	<input type="checkbox"/> Religious		
<input checked="" type="checkbox"/> School	<input type="checkbox"/> School: College		
<input type="checkbox"/> Water Treatment/Pumping	<input type="checkbox"/> Other: _____		

ENERGY DATA

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

The Data Below is for the 12 Month Period: <u>7/1/2008</u> to <u>6/1/2009</u>



ELECTRICITY

Electric Utility Name & Account Number(s) PSE+G : 4200400502, 6768470418	
Annual kWh Use 787,886	Annual Electricity Cost \$ 124,919
Max Summer kW 288	Max Winter kW 280

NATURAL GAS

Natural Gas Utility Name & Account Number(s) Elizabethtown Gas: 2350507730	
Annual Use in Therms 61,406	Annual Natural Gas Cost \$ 25,170

FUEL OIL

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

PROPANE

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

OTHER

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

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

STAFF USE ONLY

Date Received: _____	Project No.: _____
----------------------	--------------------



APPENDIX C - FACILITY DATA FORM

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

FACILITY INFORMATION

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

Facility Name <i>Scotch Plains - Fanwood High School</i>			
Street Address <i>667 Westfield Rd</i>		County	
City <i>Scotch Plains</i>	State <i>NJ</i>	Zip <i>07076</i>	
Facility's Description <i>High School</i>			
Total Sq Ft <i>230,915</i>	Year Built <i>late 1950's</i>	Hours/Week Occupied <i>~120</i>	Number of Employees <i>1,451 Students 178 faculty</i>
Building Type (Check only one of the following):			
<input type="checkbox"/> Emergency Services	<input type="checkbox"/> Garage		
<input type="checkbox"/> Center/Meeting Hall/Library	<input type="checkbox"/> Offices		
<input type="checkbox"/> Recreation/Entertainment/Parks	<input type="checkbox"/> Religious		
<input checked="" type="checkbox"/> School	<input type="checkbox"/> School: College		
<input type="checkbox"/> Water Treatment/Pumping	<input type="checkbox"/> Other: _____		

ENERGY DATA

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

The Data Below is for the 12 Month Period: <i>4/1/2008 to 3/1/2009 (elec.)</i>
--

7/1/2008 to 6/1/2009 (gas)



ELECTRICITY

Electric Utility Name & Account Number(s) PSE+G: 4200608901, 5166695518, 6595456206	
Annual kWh Use 2,765,740	Annual Electricity Cost \$ 420,551
Max Summer kW 756	Max Winter kW 660

NATURAL GAS

Natural Gas Utility Name & Account Number(s) Elizabethtown Gas: 2004446700	
Annual Use in Therms 118,676	Annual Natural Gas Cost \$ 47,881

FUEL OIL

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

PROPANE

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

OTHER

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

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

STAFF USE ONLY

Date Received: _____	Project No.: _____
----------------------	--------------------

APPENDIX I

ECRM FINANCIAL ANALYSES

Energy Conservation Retrofit Measures (ECRM) Summary Sheet

ECM Count	ECM	kW Savings	kWh Savings	Therm Savings	Water Savings (gal)	Annual Electric Savings(\$)	Annual Therm Savings(\$)	Annual Water Savings(\$)	Annual Total Savings(\$)	Annual O&M Savings(\$)	Annual Solar REC (\$)	NJ SmartStart Rebate	Labor and Material	Engineering	Total Cost	Simple Payback (Yrs.)	ROI
1- Scotch Plains-Fanwood High School																	
1	Lighting Replacement/Occupancy Sensor Inst	85.56	231,402	0	0	\$37,024	\$0	\$0	\$37,024	\$30,853	\$0	\$16,800	\$152,498	\$0	\$152,498	2.00	50%
2	PV Solar System	514.28	577,859	0	0	\$92,457	\$0	\$0	\$92,457	\$0	\$227,571	\$0	\$3,342,820	\$0	\$3,342,820	10.45	10%
	Subtotal	600	809,261	0	0	\$129,482	\$0	\$0	\$129,482	\$30,853	\$227,571	\$16,800	\$3,495,318	\$0	\$3,495,318	8.97	11%
2- Terrill Middle School																	
3	Lighting Replacement/Occupancy Sensor Inst	51.93	146,792	0	0	\$23,487	\$0	\$0	\$23,487	\$1,316	\$0	\$6,830	\$77,605	\$0	\$77,605	2.85	35%
4	PV Solar System	207.50	235,220	0	0	\$37,635	\$0	\$0	\$37,635	\$0	\$92,634	\$0	\$1,348,750	\$0	\$1,348,750	10.35	10%
	Subtotal	259.43	382,012	0	0	\$ 61,122	\$0	\$0	\$ 61,122	\$1,316	\$ 92,634	\$6,830	\$1,426,355	\$0	\$1,426,355	9.15	11%
3- Park Middle School																	
5	Lighting Replacement/Occupancy Sensor Inst	36.27	104,094	0	0	\$16,655	\$0	\$0	\$16,655	\$1,420	\$0	\$8,895	\$98,033	\$0	\$98,033	4.93	20%
6	PV Solar System	77.05	85,994	0	0	\$13,759	\$0	\$0	\$13,759	\$0	\$33,866	\$0	\$500,825	\$0	\$500,825	10.52	10%
	Subtotal	113.32	190,088	0	0	\$30,414	\$0	\$0	\$30,414	\$1,420	\$33,866	\$8,895	\$598,858	\$0	\$598,858	8.98	11%
4- School One																	
7	Lighting Replacement/Occupancy Sensor Inst	15.20	37,434	0	0	\$5,989	\$0	\$0	\$5,989	\$540	\$0	\$1,730	\$25,795	\$0	\$25,795	3.69	27%
8	PV Solar System	46.46	51,945	0	0	\$8,311	\$0	\$0	\$8,311	\$0	\$20,457	\$0	\$301,990	\$0	\$301,990	10.50	10%
	Subtotal	61.66	89,379	0	0	\$14,301	\$0	\$0	\$14,301	\$540	\$20,457	\$1,730	\$327,785	\$0	\$327,785	9.24	11%
5- William J. McGinn																	
9	Lighting Replacement/Occupancy Sensor Inst	21.16	47,523	0	0	\$7,604	\$0	\$0	\$7,604	\$566	\$0	\$3,270	\$30,671	\$0	\$30,671	3.35	30%
10	PV Solar System	206.54	234,662	0	0	\$37,546	\$0	\$0	\$37,546	\$0	\$92,414	\$0	\$1,342,510	\$0	\$1,342,510	10.33	10%
	Subtotal	227.70	282,185	0	0	\$45,150	\$0	\$0	\$45,150	\$566	\$92,414	\$3,270	\$1,373,181	\$0	\$1,373,181	9.92	10%
6- Evergreen																	
11	Lighting Replacement/Occupancy Sensor Inst	25.20	63,709	0	0	\$10,193	\$0	\$0	\$10,193	\$617	\$0	\$4,180	\$30,869	\$0	\$30,869	2.47	41%
12	PV Solar System	152.95	171,012	0	0	\$27,362	\$0	\$0	\$27,362	\$0	\$67,347	\$0	\$994,175	\$0	\$994,175	10.50	10%
	Subtotal	178.15	234,721	0	0	\$37,555	\$0	\$0	\$37,555	\$617	\$67,347	\$4,180	\$1,025,044	\$0	\$1,025,044	9.67	10%
7- J.A. Coles																	
13	Lighting Replacement/Occupancy Sensor Inst	21.86	53,607	0	0	\$8,577	\$0	\$0	\$8,577	\$689	\$0	\$3,240	\$38,300	\$0	\$38,300	3.78	26%
14	PV Solar System	135.70	154,636	0	0	\$24,742	\$0	\$0	\$24,742	\$0	\$60,898	\$0	\$882,050	\$0	\$882,050	10.30	10%
	Subtotal	157.56	208,243	0	0	\$33,319	\$0	\$0	\$33,319	\$689	\$60,898	\$3,240	\$920,350	\$0	\$920,350	9.66	10%
8- H.B. Brunner																	
15	Lighting Replacement/Occupancy Sensor Inst	18.38	42,704	0	0	\$6,833	\$0	\$0	\$6,833	\$649	\$0	\$3,840	\$36,246	\$0	\$36,246	4.33	23%
16	PV Solar System	68.08	76,042	0	0	\$12,167	\$0	\$0	\$12,167	\$0	\$29,947	\$0	\$442,520	\$0	\$442,520	10.51	10%
	Subtotal	86.46	118,746	0	0	\$18,999	\$0	\$0	\$18,999	\$649	\$29,947	\$0	\$478,766	\$0	\$478,766	9.65	10%
16	Totals	1,684	2,314,635	0	0	\$370,342	0	0	\$370,342	\$36,649	\$625,133	\$44,945	\$9,645,657	0	\$9,645,657	9.30	11%

Financial Calculations

Solar Installation Brunner Elementary		Solar Installation Evergreen Elementary		Solar Installation Coles Elementary		Solar Installation School One Elementary		Solar Installation McGinn Elementary		Solar Installation Park Middle		Solar Installation Terrill Middle		Solar Installation High School	
Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow
0	(\$442,520.00)	0	(\$994,175.00)	0	(\$882,050.00)	0	(\$301,990.00)	0	(\$1,342,510.00)	0	(\$500,825.00)	0	(\$1,348,750.00)	0	(\$3,342,820.00)
1	\$43,376.00	1	\$97,975.00	1	\$91,655.00	1	\$30,841.00	1	\$131,321.00	1	\$51,409.00	1	\$146,358.00	1	\$317,255.00
2	\$43,376.00	2	\$97,975.00	2	\$91,655.00	2	\$30,841.00	2	\$131,321.00	2	\$51,409.00	2	\$146,358.00	2	\$317,255.00
3	\$43,376.00	3	\$97,975.00	3	\$91,655.00	3	\$30,841.00	3	\$131,321.00	3	\$51,409.00	3	\$146,358.00	3	\$317,255.00
4	\$43,376.00	4	\$97,975.00	4	\$91,655.00	4	\$30,841.00	4	\$131,321.00	4	\$51,409.00	4	\$146,358.00	4	\$317,255.00
5	\$43,376.00	5	\$97,975.00	5	\$91,655.00	5	\$30,841.00	5	\$131,321.00	5	\$51,409.00	5	\$146,358.00	5	\$317,255.00
6	\$43,376.00	6	\$97,975.00	6	\$91,655.00	6	\$30,841.00	6	\$131,321.00	6	\$51,409.00	6	\$146,358.00	6	\$317,255.00
7	\$43,376.00	7	\$97,975.00	7	\$91,655.00	7	\$30,841.00	7	\$131,321.00	7	\$51,409.00	7	\$146,358.00	7	\$317,255.00
8	\$43,376.00	8	\$97,975.00	8	\$91,655.00	8	\$30,841.00	8	\$131,321.00	8	\$51,409.00	8	\$146,358.00	8	\$317,255.00
9	\$43,376.00	9	\$97,975.00	9	\$91,655.00	9	\$30,841.00	9	\$131,321.00	9	\$51,409.00	9	\$146,358.00	9	\$317,255.00
10	\$43,376.00	10	\$97,975.00	10	\$91,655.00	10	\$30,841.00	10	\$131,321.00	10	\$51,409.00	10	\$146,358.00	10	\$317,255.00
11	\$43,376.00	11	\$97,975.00	11	\$91,655.00	11	\$30,841.00	11	\$131,321.00	11	\$51,409.00	11	\$146,358.00	11	\$317,255.00
12	\$43,376.00	12	\$97,975.00	12	\$91,655.00	12	\$30,841.00	12	\$131,321.00	12	\$51,409.00	12	\$146,358.00	12	\$317,255.00
13	\$43,376.00	13	\$97,975.00	13	\$91,655.00	13	\$30,841.00	13	\$131,321.00	13	\$51,409.00	13	\$146,358.00	13	\$317,255.00
14	\$43,376.00	14	\$97,975.00	14	\$91,655.00	14	\$30,841.00	14	\$131,321.00	14	\$51,409.00	14	\$146,358.00	14	\$317,255.00
15	\$43,376.00	15	\$97,975.00	15	\$91,655.00	15	\$30,841.00	15	\$131,321.00	15	\$51,409.00	15	\$146,358.00	15	\$317,255.00
16	\$13,429.00	16	\$30,628.00	16	\$30,757.00	16	\$10,384.00	16	\$38,907.00	16	\$17,543.00	16	\$53,724.00	16	\$89,684.00
17	\$13,429.00	17	\$30,628.00	17	\$30,757.00	17	\$10,384.00	17	\$38,907.00	17	\$17,543.00	17	\$53,724.00	17	\$89,684.00
18	\$13,429.00	18	\$30,628.00	18	\$30,757.00	18	\$10,384.00	18	\$38,907.00	18	\$17,543.00	18	\$53,724.00	18	\$89,684.00
19	\$13,429.00	19	\$30,628.00	19	\$30,757.00	19	\$10,384.00	19	\$38,907.00	19	\$17,543.00	19	\$53,724.00	19	\$89,684.00
20	\$13,429.00	20	\$30,628.00	20	\$30,757.00	20	\$10,384.00	20	\$38,907.00	20	\$17,543.00	20	\$53,724.00	20	\$89,684.00
21	\$13,429.00	21	\$30,628.00	21	\$30,757.00	21	\$10,384.00	21	\$38,907.00	21	\$17,543.00	21	\$53,724.00	21	\$89,684.00
22	\$13,429.00	22	\$30,628.00	22	\$30,757.00	22	\$10,384.00	22	\$38,907.00	22	\$17,543.00	22	\$53,724.00	22	\$89,684.00
23	\$13,429.00	23	\$30,628.00	23	\$30,757.00	23	\$10,384.00	23	\$38,907.00	23	\$17,543.00	23	\$53,724.00	23	\$89,684.00
24	\$13,429.00	24	\$30,628.00	24	\$30,757.00	24	\$10,384.00	24	\$38,907.00	24	\$17,543.00	24	\$53,724.00	24	\$89,684.00
25	\$13,429.00	25	\$30,628.00	25	\$30,757.00	25	\$10,384.00	25	\$38,907.00	25	\$17,543.00	25	\$53,724.00	25	\$89,684.00
IRR	6.59%	IRR	6.67%	IRR	7.47%	IRR	7.24%	IRR	6.51%	IRR	7.32%	IRR	8.18%	IRR	6.05%
NPV	\$148,826.50	NPV	\$343,139.00	NPV	\$380,522.55	NPV	\$123,042.46	NPV	\$438,215.67	NPV	\$208,943.96	NPV	\$692,612.63	NPV	\$935,588.56
ARO	5.80%	ARO	5.85%	ARO	6.39%	ARO	6.21%	ARO	5.78%	ARO	6.26%	ARO	6.85%	ARO	5.49%

Financial Calculations

Lighting Retrofit Brunner Elementary		Lighting Retrofit Evergreen Elementary		Lighting Retrofit J. Ackerman Coles Elementary		Lighting Retrofit School One Elementary		Lighting Retrofit McGinn Elementary		Lighting Retrofit Park Middle		Lighting Retrofit Terrill Middle		Lighting Retrofit High School	
Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow
0	(\$32,406.00)	0	(26,689.00)	0	(\$35,060.00)	0	(\$24,065.00)	0	(\$27,410.00)	0	(\$89,138.00)	0	(\$70,775.00)	0	(\$135,698.00)
1	\$7,541.00	1	\$11,410.00	1	\$10,662.00	1	\$7,483.00	1	\$7,879.00	1	\$21,235.00	1	\$33,527.00	1	\$35,913.00
2	\$7,541.00	2	\$11,410.00	2	\$10,662.00	2	\$7,483.00	2	\$7,879.00	2	\$21,235.00	2	\$33,527.00	2	\$35,913.00
3	\$7,541.00	3	\$11,410.00	3	\$10,662.00	3	\$7,483.00	3	\$7,879.00	3	\$21,235.00	3	\$33,527.00	3	\$35,913.00
4	\$7,541.00	4	\$11,410.00	4	\$10,662.00	4	\$7,483.00	4	\$7,879.00	4	\$21,235.00	4	\$33,527.00	4	\$35,913.00
5	\$7,541.00	5	\$11,410.00	5	\$10,662.00	5	\$7,483.00	5	\$7,879.00	5	\$21,235.00	5	\$33,527.00	5	\$35,913.00
6	\$7,541.00	6	\$11,410.00	6	\$10,662.00	6	\$7,483.00	6	\$7,879.00	6	\$21,235.00	6	\$33,527.00	6	\$35,913.00
7	\$7,541.00	7	\$11,410.00	7	\$10,662.00	7	\$7,483.00	7	\$7,879.00	7	\$21,235.00	7	\$33,527.00	7	\$35,913.00
8	\$7,541.00	8	\$11,410.00	8	\$10,662.00	8	\$7,483.00	8	\$7,879.00	8	\$21,235.00	8	\$33,527.00	8	\$35,913.00
9	\$7,541.00	9	\$11,410.00	9	\$10,662.00	9	\$7,483.00	9	\$7,879.00	9	\$21,235.00	9	\$33,527.00	9	\$35,913.00
10	\$7,541.00	10	\$11,410.00	10	\$10,662.00	10	\$7,483.00	10	\$7,879.00	10	\$21,235.00	10	\$33,527.00	10	\$35,913.00
IRR	19.28%	IRR	41.42%	IRR	27.79%	IRR	28.58%	IRR	25.86%	IRR	19.96%	IRR	46.32%	IRR	23.17%
NPV	\$31,920.26	NPV	\$70,640.61	NPV	\$55,889.02	NPV	\$39,766.51	NPV	\$39,799.47	NPV	\$92,000.86	NPV	\$215,217.11	NPV	\$170,647.17
ARO	13.27%	ARO	32.75%	ARO	20.41%	ARO	21.09%	ARO	18.74%	ARO	13.82%	ARO	37.37%	ARO	16.47%

IRR, NPV, AROI - HVAC ECRMS

Boiler Upgrade Howard Brunner Elementary		Boiler Upgrade J Ackerman Coles Elementary		Boiler Upgrade William McGinn Elementary		Boiler Upgrade Park Middle School		Boiler Upgrade Terrill Middle School		Air Source Heat Pumps Evergreen Elementary	
Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow
0	(\$110,282.00)	0	(\$110,282.00)	0	(\$110,282.00)	0	(\$165,422.00)	0	(\$220,563.00)	0	(\$11,730.00)
1	\$4,385.00	1	\$9,524.00	1	\$11,935.00	1	\$15,501.00	1	\$20,750.00	1	\$2,846.00
2	\$4,385.00	2	\$9,524.00	2	\$11,935.00	2	\$15,501.00	2	\$20,750.00	2	\$2,846.00
3	\$4,385.00	3	\$9,524.00	3	\$11,935.00	3	\$15,501.00	3	\$20,750.00	3	\$2,846.00
4	\$4,385.00	4	\$9,524.00	4	\$11,935.00	4	\$15,501.00	4	\$20,750.00	4	\$2,846.00
5	\$4,385.00	5	\$9,524.00	5	\$11,935.00	5	\$15,501.00	5	\$20,750.00	5	\$2,846.00
6	\$4,385.00	6	\$9,524.00	6	\$11,935.00	6	\$15,501.00	6	\$20,750.00	6	\$2,846.00
7	\$4,385.00	7	\$9,524.00	7	\$11,935.00	7	\$15,501.00	7	\$20,750.00	7	\$2,846.00
8	\$4,385.00	8	\$9,524.00	8	\$11,935.00	8	\$15,501.00	8	\$20,750.00	8	\$2,846.00
9	\$4,385.00	9	\$9,524.00	9	\$11,935.00	9	\$15,501.00	9	\$20,750.00	9	\$2,846.00
10	\$4,385.00	10	\$9,524.00	10	\$11,935.00	10	\$15,501.00	10	\$20,750.00	10	\$2,846.00
11	\$4,385.00	11	\$9,524.00	11	\$11,935.00	11	\$15,501.00	11	\$20,750.00	11	\$2,846.00
12	\$4,385.00	12	\$9,524.00	12	\$11,935.00	12	\$15,501.00	12	\$20,750.00	12	\$2,846.00
13	\$4,385.00	13	\$9,524.00	13	\$11,935.00	13	\$15,501.00	13	\$20,750.00	13	\$2,846.00
14	\$4,385.00	14	\$9,524.00	14	\$11,935.00	14	\$15,501.00	14	\$20,750.00	14	\$2,846.00
15	\$4,385.00	15	\$9,524.00	15	\$11,935.00	15	\$15,501.00	15	\$20,750.00	15	\$2,846.00
16	\$4,385.00	16	\$9,524.00	16	\$11,935.00	16	\$15,501.00	16	\$20,750.00		
17	\$4,385.00	17	\$9,524.00	17	\$11,935.00	17	\$15,501.00	17	\$20,750.00		
18	\$4,385.00	18	\$9,524.00	18	\$11,935.00	18	\$15,501.00	18	\$20,750.00		
19	\$4,385.00	19	\$9,524.00	19	\$11,935.00	19	\$15,501.00	19	\$20,750.00		
20	\$4,385.00	20	\$9,524.00	20	\$11,935.00	20	\$15,501.00	20	\$20,750.00		
21	\$4,385.00	21	\$9,524.00	21	\$11,935.00	21	\$15,501.00	21	\$20,750.00		
22	\$4,385.00	22	\$9,524.00	22	\$11,935.00	22	\$15,501.00	22	\$20,750.00		
23	\$4,385.00	23	\$9,524.00	23	\$11,935.00	23	\$15,501.00	23	\$20,750.00		
24	\$4,385.00	24	\$9,524.00	24	\$11,935.00	24	\$15,501.00	24	\$20,750.00		
IRR	-0.37%	IRR	6.89%	IRR	9.63%	IRR	7.84%	IRR	7.89%	IRR	23.20%
NPV	(\$36,019.65)	NPV	\$51,012.10	NPV	\$91,843.70	NPV	\$97,095.84	NPV	\$130,849.50	NPV	\$22,245.36
AROI	-0.19%	AROI	4.47%	AROI	6.66%	AROI	5.20%	AROI	5.24%	AROI	17.60%

Scotch Plains-Fanwood										
Park Middle - Lighting Upgrade	Terrill Middle - Lighting Upgrade	High School - Lighting Upgrade	Brunner ES- Solar	Evergreen ES - Solar	Coles ES- Solar	School One ES - Solar	McGinn ES- Solar	Park MS - Solar	Terrill MS- Solar	Scotch Plains-Fanwood HS - Solar
3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
\$21,235.00	\$33,527.00	\$35,913.00	\$13,429.00	\$30,628.00	\$30,757.00	\$10,384.00	\$38,907.00	\$17,543.00	\$53,724.00	\$89,684.00
10	10	10	25	25	25	25	25	25	25	25
\$243,435.48	\$384,349.48	\$411,702.30	\$489,611.46	\$1,116,674.35	\$1,121,377.59	\$378,593.00	\$1,418,520.60	\$639,604.87	\$1,958,737.52	\$3,269,812.66
<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>
\$21,235.00	\$33,527.00	\$35,913.00	\$13,429.00	\$30,628.00	\$30,757.00	\$10,384.00	\$38,907.00	\$17,543.00	\$53,724.00	\$89,684.00
\$21,872.05	\$34,532.81	\$36,990.39	\$13,831.87	\$31,546.84	\$31,679.71	\$10,695.52	\$40,074.21	\$18,069.29	\$55,335.72	\$92,374.52
\$22,528.21	\$35,568.79	\$38,100.10	\$14,246.83	\$32,493.25	\$32,630.10	\$11,016.39	\$41,276.44	\$18,611.37	\$56,995.79	\$95,145.76
\$23,204.06	\$36,635.86	\$39,243.10	\$14,674.23	\$33,468.04	\$33,609.00	\$11,346.88	\$42,514.73	\$19,169.71	\$58,705.67	\$98,000.13
\$23,900.18	\$37,734.93	\$40,420.40	\$15,114.46	\$34,472.08	\$34,617.27	\$11,687.28	\$43,790.17	\$19,744.80	\$60,466.84	\$100,940.13
\$24,617.18	\$38,866.98	\$41,633.01	\$15,567.89	\$35,506.25	\$35,655.79	\$12,037.90	\$45,103.88	\$20,337.15	\$62,280.84	\$103,968.34
\$25,355.70	\$40,032.99	\$42,882.00	\$16,034.93	\$36,571.43	\$36,725.47	\$12,399.04	\$46,456.99	\$20,947.26	\$64,149.27	\$107,087.39
\$26,116.37	\$41,233.98	\$44,168.46	\$16,515.98	\$37,668.58	\$37,827.23	\$12,771.01	\$47,850.70	\$21,575.68	\$66,073.74	\$110,300.01
\$26,899.86	\$42,471.00	\$45,493.51	\$17,011.46	\$38,798.63	\$38,962.05	\$13,154.14	\$49,286.22	\$22,222.95	\$68,055.96	\$113,609.01
\$27,706.86	\$43,745.13	\$46,858.32	\$17,521.80	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$18,047.45	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$18,588.88	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$19,146.54	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$19,720.94	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$20,312.57	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$20,921.94	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$21,549.60	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$22,196.09	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$22,861.97	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$23,547.83	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$24,254.27	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$24,981.90	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$25,731.35	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$26,503.29	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28
			\$27,298.39	\$39,962.59	\$40,130.91	\$13,548.76	\$50,764.81	\$22,889.64	\$70,097.63	\$117,017.28

Maintenance Costs - Evergreen Elementary - Current Systems (Rooms 131, 132)

Unit	Serves	Base Service Hourly Rate	Basic Price	Equipment Multiplier	Multipliers			<u>TOTAL</u>
					Application (Commercial)	No. of Inspections per Year (Assume 6)	Age	
5 Ton Condensing Unit	131	\$35.00	\$787.50	1.10	1.1	1.00	1.25	\$1,191.09
5 Ton Condensing Unit	132	\$35.00	\$787.50	1.10	1.1	1.00	1.25	\$1,191.09
							Sum	\$2,382.19

Multiplier Reference*

<u>Equipment</u>	<u>Multiplier</u>
Package, DX	1.00
Split, DX	1.10
Chilled Water	1.10
Dual Comp.	1.10
Air Cooled	1.00
Water Cooled	1.05
Tower or Evap.	1.15
Steam Coil	1.10
Gas Heat	1.20
Oil Heat	1.30
Heat Pump	1.50

Application

Residential	1.00
Commercial	1.10
Process	1.20

No of Inspections

2	0.71
4	0.80
6	1.00
9	1.40
12	1.75

Age (Years)

0-1	0.45
2-5	0.9
6-8	1.08
9-11	1.15
11+	1.25

*Pricing and Multipliers are per "Ottaviano on Mechanical Estimating", by Victor Ottaviano, and adjusted for current wage rates

Maintenance Costs - Evergreen Elementary - Proposed Systems (Rooms 131, 132)

Unit	Serves	Base Service Hourly Rate	Basic Price	Equipment Multiplier	Multipliers			<u>TOTAL</u>
					Application (Commercial)	No. of Inspections per Year (Assume 6)	Age	
5 Ton Condensing Unit	131	\$35.00	\$787.50	1.50	1.1	1.00	1.08	\$1,403.33
5 Ton Condensing Unit	132	\$35.00	\$787.50	1.50	1.1	1.00	1.08	\$1,403.33
							Sum	\$2,806.65

Multiplier Reference*

<u>Equipment</u>	<u>Multiplier</u>
Package, DX	1.00
Split, DX	1.10
Chilled Water	1.10
Dual Comp.	1.10
Air Cooled	1.00
Water Cooled	1.05
Tower or Evap.	1.15
Steam Coil	1.10
Gas Heat	1.20
Oil Heat	1.30
Heat Pump	1.50

Application

Residential	1.00
Commercial	1.10
Process	1.20

No of Inspections

2	0.71
4	0.80
6	1.00
9	1.40
12	1.75

Age (Years)

0-1	0.45
2-5	0.9
6-8	1.08
9-11	1.15
11+	1.25

*Pricing and Multipliers are per "Ottaviano on Mechanical Estimating", by Victor Ottaviano, and adjusted for current wage rates