# SUSSEX COUNTY TECHNICAL SCHOOL MAIN BUILDING ENERGY ASSESSMENT

for

NEW JERSEY BUREAU OF PUBLIC UTILITIES

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# **CHA PROJECT NO. 20151**

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### 1.0 INTRODUCTION & BACKGROUND

The Board of Education of the Vocational School in the County of Sussex, owns and operates a 155,732 square foot Main Building at the Sussex County Technical School located in Sparta, New Jersey. The building houses the main educational facility and supporting operations, including the cafeteria, gym, pool, library, and mechanical rooms. The building, consisting of three wings forming a horseshoe, was constructed in the following phases:

- Main wing 1968
- New wing 1972
- Shops wing 1968

The main and new wing are two stories; shops wing is a single story. An indoor pool was added in 1976.

New Jersey's Clean Energy Program (NJCEP), funded by the New Jersey Board of Public Utilities (NJBPU), supports energy efficiency and sustainability for Municipal and Local Government Energy Audits. Through the support of a utility trust fund, New Jersey is able to assist state and local authorities in reducing energy consumption while increasing comfort.

This report covers the energy audit for the Main Building at the Sussex County Technical School.

### 2.0 EXECUTIVE SUMMARY

This report details the results of the 155,732 square foot Main Building at the Sussex County Technical School located in Sparta, New Jersey. The building, which consists of the main educational facility and supporting operations, was constructed in three phases between 1968 and 1972. The following areas were evaluated for energy conservation measures:

- Kitchen hood controller
- · Premium efficiency motors
- Reducing excess boiler oxygen
- · Boiler replacement
- · Variable speed drives
- Replacing pool air handler
- Installing pool cover
- · Kitchen hood heat recovery
- Dishwasher heater replacement
- Temperature setback
- · Window replacement
- · Lighting replacement with occupancy sensors

Various potential Energy Conservation Measures (ECMs) were identified for the above categories. Measures which are recommended for implementation have a payback of 10 years or less. This threshold is considered a viable return on investment. Potential annual savings of \$134,700 for the recommended ECMs may be realized with a payback of 6.8 years.

The ECMs identified in this report will allow for the building to reduce its energy usage and if all the recommended ECMs are pursued has the opportunity to qualify for the New Jersey Pay For Performance Program which could provide increased alternate incentives. A summary of the costs, savings, Return-On-Investment (ROI), and paybacks for the recommended ECMs follows:

ECM - 2 Install Premium Efficiency Motors

Budgetary Cost	Annu	al Utility Sav	vings			Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil Total				ROI			
\$	kW kWh		gallons	\$		\$	Years	Years
7,000	3 8,400 0 1,400				2.6	500	5.0	4.6

<sup>\*</sup>Incentive is based on the New Jersey Smart Start Program.

ECM - 3 Reduce Excess O2 in Boiler

Budgetary	Annua	l Utility Savir	ngs			Potential	Payback	Payback
Cost					]	Incentive*	(without incentive)	(with incentive)
	Electricity #2 Oil Total				ROI			
\$	kW kWh		gallons	\$		\$	Years	Years
62,200	0 0 2,100 7,400				0.8	NA	8.4	NA

<sup>\*</sup>No Incentive is available through the New Jersey Smart Start Program.

ECM – 4 Boiler Replacement

Budgetary Cost	Annua	al Utility Sav	ings			Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil Total				ROI			
\$	kW kWh		gallons	\$		\$	Years	Years
278,300	0 0 4,900 16,900				0.5	NA	16.6	NA

<sup>\*</sup>No Incentive is available through the New Jersey Smart Start Program.

ECM - 5 Install VSDs on Hot Water Pumps

Budgetary Cost	Annua	al Utility Savi	ngs	=	_		Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil propane Tota					ROI			
\$	kW kWh gallons gallons				\$		\$	Years	Years
62,700	0	44,400	0	0	7,300	0.8	5,400	8.5	7.9

<sup>\*</sup>Incentive is based on the New Jersey Smart Start Program.

ECM - 6 Replace Pool Dectron Unit

Budgetary Cost	Annua	al Utility Sav	vings				Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electr	icity	#2 Oil	propane	Total	ROI			
\$	kW	kWh	gallons	gallons	\$		\$	Years	Years
347,000	45	33,700	9,300	0	37,100	0.6	NA	9.4	NA

<sup>\*</sup>No incentive is available in New Jersey for this measure.

ECM - 7 Install Pool Cover

Budgetary	Annua	al Utility Sa	vings				Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil propane Total					ROI			
\$	kW						\$	Years	Years
27,800	0	0	2,100	3,200	11,900	3.2	NA	2.3	NA

<sup>\*</sup>No incentive is available in New Jersey for this measure.

ECM - 8 Reactivate Kitchen Hood Heat Recovery

Budgetary Cost	Annu	al Utility Sav	rings				Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil propane Total					ROI			
\$	kW	kWh	gallons	gallons	\$		\$	Years	Years,
25,300	0	0 (2,300) 900 0 2,600					NA	9.8	NÀ

<sup>\*</sup>No incentive is available in New Jersey for this measure.

ECM – 12 Temperature Setback in Isolated Areas

Budgetary Cost	Annua	ıl Utility Savi	ngs			Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil Total				ROI			
\$	kW kWh		gallons	·s		\$	Years	Years
59,600	0 0 7,100 24,500				5.2	NA	2.4	NA

<sup>\*</sup>No incentive is available for this measure in New Jersey.

ECM -16 Lighting Replacements with Occupancy Sensors

Budgetary Cost	Annua	d Utility Savi	ngs			Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil Total				ROI		,	
\$	kW kWh		gallons	\$		\$	Years	Years
58,900	25 175,400 0 25,600				6.4	10,000	2.1	1.7

<sup>\*</sup>Return-On-Investment (ROI) is calculated using the lifetime energy savings (life expectancy times yearly savings) and budgetary cost.

#### **EXISTING CONDITIONS**

## 3.1 Building – General

The 155,732 square foot Main Building consists of the primary educational facility, and support operations including the cafeteria, gym, pool, library and mechanical rooms. The building houses Career Programs including Business, Construction, Cosmetology, Hospitality, Information Technology/Medical Arts, Transportation, and Visual Communications. The building also houses Academic Programs including English, Foreign Languages, History, Mathematics, Physical Education, and Health Science.

The building's exterior is face brick built on concrete foundation. The roof is flat with a rubber surface, and was replaced in 2006. Most of the building is used approximately ten hours per day, five days a week; however, some areas such as the pool and gym remain open during the evening.

## 3.2 Utility Usage

The building uses electricity, No. 2 fuel oil, and propane. Water for boiler makeup and potable uses is pumped from an on-site well. Sewer is processed in a wastewater treatment plant on site.

The Main Building shares an electrical meter with the school's Agricultural Building. Electricity is delivered by Jersey Central Power and Light (JCP&L Account No.: 100003809173; Rate: General Service Secondary 3 Phase), via the school's Main Building. Sussex County Technical School is part of a consortium for purchasing electricity. As of May 2009, electricity is supplied by South Jersey Energy (Account No. 08003174220000180538, Rate: Bill\_Ready). From July 2008 through June 2009, the combined Main Building and Agricultural Building account had an annual electric consumption of 1.9 million kilowatt-hours (kWh), with a demand peak of approximately 522 kW (occurring in June 2009), and an annual electric cost of \$314,200. This results in a blended electric unit cost of \$0.165 per kWh. The Main Building's electricity usage is estimated at 95% of the combined amount, based on a survey of lighting and mechanical equipment.

During the site visit, the maintenance staff indicated that the typical voltage delivered to the school is 198 volts; not the 208 volts specified in the utility's rate schedule. In the summer, voltage delivered can drop to 187 volts. The school has a significant number of motors, and the undersupply is affecting their usable life expectancy. The undersupply should be corrected by JCP&L.

As of October 2008, No. 2 fuel oil is delivered by Petroleum Traders (Account No. 190571/1). The majority of oil is used by three Cleaver Brooks model CB810-125 hot water boilers, two Slant/Fin model L-60-P domestic hot water boilers, and the building's 150 kW Cummins emergency generator. From July 2008 through June 2009, the Main Building purchased and consumed approximately 57,421 gallons of No. 2 fuel oil at a cost of \$197,500. This results in a fuel oil unit cost of approximately \$3.44 per gallon.

Propane is delivered by Amerigas (Account No. 7505031270), and is used mainly for heating the pool and kitchen cooking appliances. From July 2008 through June 2009, the Main Building purchased and consumed approximately 21,309 gallons of propane at a cost of \$30,300. This results in a propane unit cost of approximately \$1.42 per gallon.

A summary of the monthly electricity, fuel oil and propane usages and charges for the past two years is provided in Appendix A.

## 3.3 HVAC Systems

Heat for the Main Building is provided by the central hot water boiler plant. Only a few spaces, particularly high heat load areas such as computer rooms, are air conditioned.

## 3.3.1 Hot Water Heating System

Heat is provided by three 125 HP Cleaver Brooks oil-fired firetube boilers located in the basement mechanical room. The boilers are enabled at an outside temperature below 60°F. One boiler is sufficient for most of the winter. For the coldest days, two boilers are operated. Each boiler has an associated hot water pump that starts when the boiler is enabled. Two of the boilers were installed during initial school construction; the third during erection of the addition.

Hot water is used by cabinet heaters, unit ventilators, and air handlers throughout the building. Many of the technology shops have unit heaters to provide space conditioning.

## 3.3.2 Air Handling Systems

The Main Building utilizes several types of air handling systems for building conditioning and ventilation.

Rooftop units provide cooling (and in some cases heating) to the library, board office, accounting, main office, CADD room, graphic arts room, science room, gym, pool, kitchen, and bakery. Most of the units are fairly new, and installed economizers increase their efficiency.

Ductless split system air conditioning (AC) units are located in room Nos. 102, 117, 126, 127, 213, 215, and 217. These units vary in age and generally were installed to address spot loads.

Classroom unit ventilators (UVs) are the most common air handling system in the facility. All UVs are served with hot water from the boilers and controlled by the direct digital control (DDC) system via electronic actuators. Some of the controls do not function as originally intended; at times local controls override the system controls.

Several air handlers with hot water and direct expansion (DX) coils provide local conditioning to offices or special use spaces. This includes two units that serve the gym with 100% outside air.

The building also has several window AC units, including the transportation office, nurse's office, industrial/electricity room #136, and kitchen.

## 3.3.3 Special Systems

The building has several exhaust systems, which are run as needed, to serve the cafeteria kitchen, bakery, and student run restaurant. The largest system, in the main kitchen, has an old heat recovery system that is currently not used; building staff does not feel the system has performed effectively since installation.

The pool has a substantial filtration system with circulator pump. The pool is currently heated by either the central boiler plant during the colder months, or a dedicated smaller propane-fired boiler during the warmer months when the central plant is shut down.

Since this is a technical school, numerous areas are dedicated to special trades including woodworking, HVAC tech, electrical, and printing. Each of these spaces has special requirements and systems (such as boilers and furnaces in the HVAC tech area) that are installed for instructional purposes. In general, these special systems, including local exhaust systems, specialized process equipment, and system mock-ups, were not assessed for energy saving opportunities as they are only used for short periods of time as teaching aids.

## 3.4 Lighting/Electrical

Lighting in the Main Building was recently upgraded, and consists mainly of efficient T-8 fluorescent fixtures with electronic ballasts, and a small number of inefficient T-12 fixtures with magnetic ballasts (mostly in underutilized areas such as mechanical areas). Most observed locations had screw in compact fluorescent lamps (CFL) installed to replace the original incandescent bulbs. The gym contains 24 high bay 400 watt metal halide fixtures. A recent renovation to the library includes (4) lamp 17 watt efficient fixtures that have been selected to produce elevated lighting levels for reading. High efficiency LED exit signs are located throughout the facility. The hours of operation of the office areas are approximately ten hours per day, five days a week, except multi-use spaces such as meeting rooms and the gym which are occupied into the evening hours. Classrooms areas are occupied nine hours per day six days a week throughout the year due to vocational, summer, and evening programs.

The pool area has (5) multiple metal halide lamp light pods. Each pod consists of (3) 1000 watt and (2) 400 watt industrial high bay fixtures facing upward in each pod. The lighting pods illuminate the pool's dome ceiling and were designed to produce a considerable amount of light to illuminate the large area.

Outdoor lighting consists of high pressure sodium and metal halide fixtures utilizing photo sensors or timers which allow the fixtures to de-energize at a specific time to shut off fixtures during daylight hours. Outdoor lighting fixtures connected to timers turn on and off at a certain time each day. All observed outdoor lighting fixtures were observed to be off during the site visit.

## 3.5 Control Systems

The Honeywell DDC system is 12 years old and operates appropriately; however, some functions do not operate as originally intended. It currently returns building information (heating only) to a central computer for maintenance staff to monitor and set parameters. This system incorporates setpoint adjustment, real time monitoring, and alarm capabilities. No higher level energy saving strategies such as night setback/shutdown are being used.

#### 4.0 ENERGY CONSERVATION MEASURES

### 4.1 ECM-1 Install Kitchen Hood Controller

In general, kitchen hoods exhaust a significant amount of air from a building. Proper control of smoke, odors, and cooking effluent requires significant air removal from the cooking surface. The air exhausted must be made up through air handlers or by infiltration. The outside air must be conditioned to internal space temperatures, which further increases the cost of operating the exhaust hood. It is also not unusual for kitchen hoods to be left on when cooking is not being performed.

This ECM proposes that a kitchen hood controller be installed. Kitchen hood controllers use temperature and smoke sensors in the ductwork to determine the need for hood operation. As the heat increases or smoke becomes present, the speed of the exhaust fan is increased. When exhaust is not required, the fan slows down to a minimum speed. This saves electrical fan energy and makeup air energy. Properly installed, the controller is connected to the exhaust fan and HVAC systems for the kitchen.

Operation of the controller requires the staff to turn the controller on at the beginning of the day. The controller then determines the required speed based on input from its sensors. Controller operation can also be dictated from a DDC system, so that during certain hours the hoods are not enabled.

The building has six kitchen hoods in the main kitchen and bakery. These include wall-mounted canopy and island style hoods. Design airflows for each hood could not be determined from equipment data; however, airflow was estimated based on the size of the hood, appliances underneath, and code velocity requirements. When all are running, the hoods exhaust more than 21,000 cfm from the building. It was estimated that the hoods operate six hours per day, each day school is in session. Installing a hood controller will better match the airflow to the exhaust requirement and save energy.

Each hood requires a separate controller with sensors, wiring, and mounting. Information on a kitchen hood controller is included in Appendix B. This kitchen hood controller will have to interact with the heat recovery system if ECM-8 is implemented. (see Section 4.8). It is recommended that the kitchen hoods fans also be replaced as a part of this ECM as they are near the end of their service life. The equipment has an expected lifetime of 15 years, according to ASHRAE, and the estimated annual energy savings was 5,600 kWh and 800 gallons of oil for a total energy savings of 84,000 kWh and 12,000 gallons of oil over the life of the project or \$55,000.

The implementation cost and savings related to this ECM are presented in Appendix B and summarized below:

ECM – 1 Install Kitchen Hoods Controller

Budgetary Cost	Annua	l Utility Savi	ngs			Potential Incentive*	Payback (without	Payback (with incentive)
	Electricity #2 Oil Total				ROI		incentive)	1
\$	kW	kWh	gallons	\$		\$	Years	Years
133,700	0	5,600	800	3,700	(0.5)	NA	>30	NA

<sup>\*</sup>No Incentive is available through the New Jersey Smart Start Program.

This measure is not recommended.

## 4.2 ECM-2 Install Premium Efficiency Motors

Some of the existing motors are older and not efficient. For motors operating continuously, excessive amounts of energy are wasted. It is recommended that they be replaced with premium efficiency motors. Installation includes removing the old motors, installing the new motors, reconnecting the output shaft and the electrical wiring, and balancing the system.

The most cost effective motors to replace are the heating hot water pumps and pool filter pumps, which have very high run hours.

The equipment has an expected lifetime of 18 years, according to ASHRAE, and the estimated annual energy savings was 8,400 kWh for a total energy savings of 151,200 kWh over the life of the project or \$25,800.

The implementation cost and savings related to this ECM are presented in Appendix C and summarized below:

ECM - 2 Install Premium Efficiency Motors

Budgetary Cost	Annua	al Utility Savi	ings			Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil Total				ROI	***************************************	(without meetit, e)	(With Hoomero)
\$	kW kWh		gallons	\$		\$	Years	Years
7,000	3 8,400 0 1,400				2.6	500	5.0	4.6

<sup>\*</sup>Incentive is based on the New Jersey Smart Start Program.

This measure is recommended.

## 4.3 ECM-3 Reduce Excess O2 in Boiler

The standard boiler controls on most firetube boilers is a simple linkage system that uses one servo motor to control airflow and fuel flow to the boiler. Adjustments are made across the range of fire to set the proper amount of air with the proper amount of fuel. A safety margin must be placed in the setting for changes in atmospheric conditions and safe operation if the system falls out of adjustment. As time passes between calibration, the boiler can become even more inefficient. This mechanical system creates inefficiencies in the boiler operation by flowing more air through the boiler than is needed which leads to increased stack losses. It is recommended that an O2 control system be installed in the boilers to increase efficiency and reduce excess air.

An O2 control system monitors the amount of oxygen in the stack gases and determines how much air is required for safe operation. Since these systems control fuel and combustion air independently, the amount of air can be continually adjusted to match the exact conditions present. The amount of excess air can be set by the controller. This type of system will not go out of calibration over time.

Since the third boiler has the least use, significant savings could be achieved if this system is installed on only two boilers. Savings can exceed \$7,000 per year in oil costs and will optimize boiler operation under all conditions.

The equipment has an expected lifetime of 15 years, according to ASHRAE, and the estimated annual energy savings was 2,100 gallons of oil for a total energy savings of 31,500 gallons of oil over the life of the project or \$108,400.

The implementation cost and savings related to this ECM are presented in Appendix D and summarized as follows:

ECM - 3 Reduce Excess O2 in Boiler

Budgetary Cost	Annua	l Utility Savii	ıgs			Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil Total				ROI			
\$	kW	kWh	gallons	\$		\$	Years	Years
62,200	0	0 0 2,100 7,400				NA	8.4	NA

<sup>\*</sup>No Incentive is available through the New Jersey Smart Start Program.

This measure is recommended.

## 4.4 ECM-4 Boiler Replacement

Two of the existing boilers are reaching the end of their useful life. Of the three 125 HP boilers, two are about 40 years old (1967 and 1970). These boilers require more maintenance than newer boilers and are not reliable, and replacements will be required in the future. Newer boilers are more efficient and more reliable.

The existing fuel oil system limits the options for new boilers. High efficiency firetube boilers similar to the existing boilers would be easiest to install and could continue to operate on fuel oil with efficiencies above 85%. High efficiency condensing boilers, well suited to hot water heating systems can operate with efficiencies greater than 90% (often 95%) but would require a fuel switch to propane. The quantity of propane for storage may make this difficult to implement. Using propane-fired boilers would require an all new fuel delivery system, increasing the costs of the project. However, the boilers have a much smaller footprint and can be rigged into the boiler room with greater ease. Installing new firetube boilers in the boiler room will still be an expensive project as rigging boilers in and out of this space will be costly. These boilers are large and must be brought in nearly fully assembled. Three firetube boilers would be replaced by six 2 million BTU condensing boilers. Because of the increased cost of installation and more costly boiler, this measure considers replacing the existing boilers with new fuel oil-fired firetube boilers similar to the existing.

Based on the age of the boilers and original design information, it is estimated that the old boilers had a thermal efficiency of 80%. New fuel oil firetube boilers at this size have an efficiency of about 88%. Sample cutsheets of a new boiler are included in Appendix E. Using the amount of fuel oil burned by the boilers over the most recent 12 month period, an annual energy savings was calculated.

Due to the cost of the measure, the boiler replacement does not pay for itself based on energy savings alone. However, this measure is recommended due to the age of two of the boilers, and energy savings can be part of the justification. The school could chose to replace just one boiler since only one boiler is needed much of the time with the other newer boiler providing additional heat when needed. Then the oldest boiler could remain only as a backup. Although this would increase the payback, replacing one or two boilers will still be a sizable project with extensive work needed in the boiler room.

The equipment has an expected lifetime of 25 years, according to ASHRAE, and the estimated annual energy savings was 4,900 gallons of oil for a total energy savings of 122,500 gallons of oil over the life of the project or \$418,900.

The implementation cost and savings related to this ECM are presented in Appendix E and summarized as follows:

ECM – 4 Boiler Replacement

Budgetary Cost	Annua	l Utility Savi	ngs			Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil Total				ROI			
\$	kW kWh		gallons	\$		\$	Years	Years
278,300	0 0 4,900 16,900				0.5	NA	16.6	NA

<sup>\*</sup>No Incentive is available through the New Jersey Smart Start Program.

This measure is recommended.

# 4.5 ECM-5 Install VSDs on Hot Water Pumps

The existing 15 HP heating hot water distribution pumps operate at constant speed whenever the associated boiler is firing, regardless of load. Each pump turns on and remains at full speed until its boiler is not longer needed and shuts down. This is wasteful as the heating load may not require the pump to operate at full flow. It is recommended that the pump be placed on a variable speed drive (VSD) and the pump speed controlled to match the load.

Installing VSDs for the system pumps will require inverter duty, premium efficiency motors (ECM-2) and piping pressure sensors to provide feedback to the drive. As equipment in the heating system satisfies its load, control valves will start closing, reducing system flow. As system flow decreases, pressure will start to increase. The drive will then reduce the speed of the pump to match the pressure output to the pressure setpoint. The piping changes in the boiler room will be minor and should only require pressure sensors to be installed. Piping changes in the remainder of the building will require that any three way valves be replaced with two way valves to reduce the flow when load is decreased.

Since the hot water system has one pump on each boiler, when more than one boiler is in operation, multiple pumps will be operating in parallel. To provide proper flow and operation, the drives should be controlled in parallel so that each drive of an operating pump has that pump at the same speed as the others. Pumps at different speed can cause flow problems, inefficient operation, and dead heading.

To calculate the savings from this measure, a model was developed that stages the pumps on as the outside air temperature drops. One pump always operates when the temperature is below 55°F. The second pump comes on below 40°F, and the third pump comes on below 15°F. Since these pumps must be operated at the same speed whenever in operation, and piping changes in the system are not compatible with constant speed pumps, all three pumps will need to be converted to VSD operation. This increases the cost even though the third pump has minimal operating hours. This also allows facility personnel to rotate the lead boiler to provide even run time.

The equipment has an expected lifetime of 15 years, according to ASHRAE, and the estimated annual energy savings was 5,600 kWh and 800 gallons of oil for a total energy savings of 84,000 kWh and 12,000 gallons of oil over the life of the project or \$110,100.

The implementation cost and savings related to this ECM are presented in Appendix F and summarized as follows:

ECM – 5 Install VSDs on Hot Water Pumps

Budgetary Cost	Annua	al Utility Savi	ngs				Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electri	icity	#2 Oil	propane	Total	ROI			
\$	kW	kW kWh gallons gallons \$					\$	Years	Years
62,700	0	44,400	0	0	7,300	0.8	5,400	8.5	7.9

<sup>\*</sup>Incentive is based on the New Jersey Smart Start Program.

This measure is recommended.

# 4.6 ECM-6 Replace Pool Dectron Unit

The pool area is served by a Dectron air handler, which provides heating and dehumidification for the pool space. Dehumidification is important since evaporating water from the pool surface can generate very high levels of humidity in the space. Dectron units use direct expansion refrigeration systems to provide cold coils for dehumidification. Typically, since pool spaces are near 80°F, the air is then reheated up to space temperature. Often this reheat is performed by a hot water coil. The existing unit is original to the building and in poor condition. Newer units have much more efficient refrigeration systems, heat recovery, economizer, and energy efficient controls. It is proposed that the unit, currently past its normal service life, be replaced with a new, more efficient unit.

Minimal information was available on the old unit; therefore, its size and efficiency were estimated by examining the design conditions and discussions with Dectron representatives. After determining the likely operating conditions of the existing unit, a new unit was selected with energy efficient systems. Example cutsheets are including in Appendix G.

The equipment has an expected lifetime of 15 years, according to ASHRAE, and the estimated annual energy savings was 9,300 gallons of oil and 33,700 kWh for a total energy savings of 139,500 gallons of oil and 505,500 kWh over the life of the project or \$556,200.

The implementation cost and savings related to this ECM are presented in Appendix G and summarized below:

ECM - 6 Replace Pool Dectron Unit

Budgetary Cost	Annua	al Utility Savi	ings				Potential Incentive*	Payback (without incentive)	Payback (with incentive)	
	Electricity #2 Oil propane Total					ROI		,	, ,	
\$	kW kWh gallons gallons \$			s		\$	Years	Years		
347,000	45	33,700	9,300	0	37,100	0.6	NA	9.4	NA	

<sup>\*</sup>No incentive is available in New Jersey for this measure.

This measure is recommended.

### 4.7 ECM-7 Install Pool Cover

The pool is used extensively by the school and community, except for a short shutdown period each summer for maintenance. The pool has a very large surface area that leads to evaporation and heat loss to the space above. Currently, the pool is never covered and the space can become the hot and humid. It is recommended that a pool cover be installed for periods when the pool is not in use.

Covering the pool will significantly reduce evaporation and heat loss. Reducing evaporation decreases the amount of makeup water required. Any makeup water needs to be pumped from the well, treated, and then heated to pool temperature, resulting in energy consumption. Evaporation to the space also increases the work required by the Dectron unit and exhaust fans. It can also make the space uncomfortable.

The pool cover can be installed in multiple units so that some parts can remain covered while other areas are being used. Covers can also be motorized making them easier to install and remove. This pool has over 5,000 square feet of surface area. If the pool can be covered for 2,900 hours per year (33%), over \$11,000 per year in propane and fuel oil used to heat the pool can be saved.

The equipment has an expected lifetime of 10 years, according to ASHRAE, and the estimated annual energy savings was 3,200 gallons of propane and 2,100 gallons of oil for a total energy savings of 32,000 gallons of propane and 21,000 gallons of oil over the life of the project or \$118,700.

The implementation cost and savings related to this ECM are presented in Appendix H and summarized below:

ECM - 7 Install Pool Cover

Budgetary Cost	Annua	ıl Utility Savi	ngs				Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil propane Total					ROI			
\$	kW kWh gallons gallons \$				\$		\$	Years	Years
27,800	0	0	2,100	3,200	11,900	3.2	NA	2.3	NA

<sup>\*</sup>No incentive is available in New Jersey for this measure.

This measure is recommended.

## 4.8 ECM-8 Reactivate Kitchen Hood Heat Recovery

In 1986, a kitchen hood heat recovery system was installed on one of the hood exhaust systems in the kitchen. This system pulled some of the exhaust air (6,000 cfm) from the exhaust duct out and through an air-to-air heat exchanger. A second fan pulled 6,000 cfm of outside air through the opposite side of the heat exchanger and pushed it down into the kitchen area. According to building personnel, this system never worked as intended and has not been used for a number of years. The amount of exhaust heat being rejected by the hoods makes it feasible to correct the system. It is recommended that the system be recommissioned and put into service.

The existing system has been degraded by years of inactivity and reactivation will require that the fan motors and heat exchanger be replaced. The motors are inefficient and heat exchanger surface is heavily corroded. Once complete, the system should be commissioned to operate per the original specification on the installation drawings (included in Appendix I).

Savings from this measure will be reduced if ECM-1 Install Kitchen Hood Controller is implemented. ECM-1 will reduce the airflow through the heat recovery system reducing the amount of heat recovered.

The project is estimated to save almost \$2,600 a year in operating costs, which results in a payback of almost 10 years. However, additional operating time above what was estimated (6 hours per day, 5 days per week) will reduce the payback period.

The equipment has an expected lifetime of 20 years, according to ASHRAE, and the estimated annual energy savings was 900 gallons of oil for a total energy savings of 18,000 gallons of oil over the life of the project or \$51,500.

The implementation cost and savings related to this ECM are presented in Appendix I and summarized below:

ECM - 8 Reactivate Kitchen Hood Heat Recovery

Budgetary Cost	Annua	al Utility Sav	ings				Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electr	Electricity #2 Oil propane Total				ROI			
\$	kW	kWh	gallons	gallons	\$		\$	Years	Years
25,300	0	(2,300)	900	0	2,600	1.0	NA	9.8	NA

<sup>\*</sup>No incentive is available in New Jersey for this measure.

This measure is recommended.

# 4.9 ECM-9 Use High Efficiency Boiler to Heat Pool

During the warmer months when the central heating plant is shut down, a small propane boiler located in the pool mechanical room is used to heat the pool water. This boiler is a standard efficiency boiler installed in 1998. Newer, high efficiency boilers can save energy heating the pool. This ECM evaluates replacing the existing boiler (80% efficient) with a high efficiency (89% efficient) boiler. An example of a high efficiency boiler is included in Appendix J.

These boilers are designed specifically for pools. Higher efficiency (95%+) condensing boilers are available that work efficiently with low temperature return water; however, their stainless steel heat exchangers are not compatible with the high chlorine content of pool water. A heat exchanger can be added to protect the boiler from the pool water; increased boiler and installation costs, and relatively short operating season will not result in a longer payback than installing a high efficiency boiler.

Since the pool boiler has a dedicated propane tank, its use can be directly calculated for a 12 month period. By using this consumption and the old and proposed boiler efficiencies, the new boiler usage can be calculated.

The new boiler is estimated to save 1,400 gallons of propane each year. With a project cost of over \$22,000, the payback exceeds 11 years. Increased use of the boiler would reduce this payback period. Using a high efficiency boiler, this boiler may at times be more efficient than the central plant at heating the pool water.

The equipment has an expected lifetime of 20 years, according to ASHRAE, and the estimated annual energy savings was 1,400 gallons of propane for a total energy savings of 28,000 gallons of propane over the life of the project or \$39,300.

The implementation cost and savings related to this ECM are presented in Appendix J and summarized as follows:

ECM – 9 Use High Efficiency Boiler to Heat Pool

Budgetary Cost	Annua	al Utility Sav	ings				Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil propane Total				Total	ROI			
\$	kW	kW kWh gallons gallons \$					\$	Years	Years
22,600	0	0	0	1,400	2,000	0.7	NA	11.5	NA

<sup>\*</sup>No incentive is available in New Jersey for this measure.

This measure is not recommended.

## 4.10 ECM-10 Replace DHW Boiler With Condensing Propane Boiler

Domestic hot water is generated by two #2 oil-fired Slant/Fin boilers. These boilers generate 180°F hot water and circulate it through a heat exchanger to produce 120°F hot water that is piped to a large hot water storage tank. These boilers are old and less than 80% efficient. During normal school operating hours they operated for very short periods of time indicating that they are oversized. Sizing calculations were performed using standard hot water loads for schools and it was confirmed that the boiler are oversized. This further reduces the boilers' overall efficiency. It is recommended that they be replaced with propane-fired condensing boilers designed for domestic hot water use.

New, high efficiency domestic hot water boilers are available with efficiencies over 95% that are designed to heat domestic water directly. This eliminates the extra heat exchanger and circulator pump. Since this type of boiler cannot operate on fuel oil, either a new propane tank will have to be installed or a pipe from the tank serving the pool boiler will need to be run to the new boilers. These boilers are also power vented so they will not use the chimney but vent through PVC piping installed at the boiler room wall. Standby losses will be significantly reduced, further increasing the savings. These boiler have variable capacity; therefore, they can match the load to the output to produce extended run times and appropriate system response. Cutsheets of an example boiler are included in Appendix K.

Calculated yearly consumption of fuel oil for domestic hot water heating was about 1,400 gallons. This will be replaced with 1,700 gallons of propane which results in a cost reduction of almost \$2,500 per year.

The equipment has an expected lifetime of 20 years, according to ASHRAE, and the estimated annual energy savings was 1,400 gallons of oil for a total energy savings of 2,800 gallons of oil over the life of the project or \$49,300.

The implementation cost and savings related to this ECM are presented in Appendix J and summarized below:

ECM - 10 Replace DHW Boiler with Condensing Propane Boiler

Budgetary Cost	Annua	al Utility Sa	vings				Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electr	icity	#2 Oil	propane	Total	ROI			
\$	kW	kWh	gallons	gallons	\$		\$	Years	Years
28,300	0	0	1,400	(1,700)	2,500	0.7	NA	11.5	NA

<sup>\*</sup>No incentive is available in New Jersey for this measure.

This measure is not recommended.

# 4.11 ECM-11 Replace Dishwasher Electric Booster Heater With Propane

Water used in commercial dishwashers is normally heated to about 180°F, which is considerably hotter than a normal domestic hot water system. To prevent scalding, many school hot water systems operate at about 120°F. To provide the proper temperature water to the dishwasher, a booster heater is installed. The simplest equipment is an electric booster heater, which is installed at the school. However, on a per Btu basis, electric heat is the most expensive form of heat. Given the heavy load on the area electrical system, the 54kW booster heater generates a significant load while operating. This ECM evaluates the replacement of the electric booster heater with a propane fired booster heater.

Propane booster heater will be less costly to operate and reduce the load on the electrical system. It can be piped to the propane supply for the kitchen and only requires a vent out of the roof. All other connections are the same. Appendix L provides a sample cutsheet of a propane powered booster heater.

For this calculation, it was estimated that the dishwasher operates for three hours per day and draws 150 gallons per hour of operation. This measure would increase propane use by about 400 gallons but reduce electrical use by 6,200 kWh per year. Overall costs would be reduced by over \$600 per year. This measure has a poor payback due to the installed cost of the new equipment.

The equipment has an expected lifetime of 18 years, according to ASHRAE, and the estimated annual energy savings was 6,300 kWh for a total energy savings of 113,400 gallons of oil over the life of the project or \$11,600.

The implementation cost and savings related to this ECM are presented in Appendix L and summarized below:

ECM - 11 Replace Dishwasher Electric Booster Heater with Propane

Budgetary	Annua	l Utility Savin	ıgs		1	Potential	Payback	Payback
Cost						Incentive*	(without incentive)	(with incentive)
	Electricity propane Total				ROI			
\$	kW	kWh	gallons	\$		\$	Years	Years
10,000	54	54 6,300 (300) 900				NA	11.3	NA

<sup>\*</sup>No incentive is available for this measure in New Jersey.

This measure is not recommended.

# 4.12 ECM-12 Temperature Setback In Isolated Areas

In addition to normal school hours, night school and community activities result in utilization of the facility until late in the evening. The building is also occupied by maintenance personnel 24/7. Due to the building's schedule, it is constantly maintained at occupied temperature. Energy savings can be achieved if areas of the school are set back when not occupied.

From field observations during the site visit and discussions with building personnel, it was noted that not all of the building is used after hours for activities, and activities do not extend beyond 11:00 pm. From the information gathered, it was estimated that only 33% of the building is used for after hours activities and requires normal space temperature. The rest of the building can be set back.

For the energy savings calculations, a setback of 8°F was used. It was determined that the building was fully occupied 60 hours per week (school time), partially occupied 45 hours per week (after hours and weekend activities), and unoccupied 63 hours per week. If the building is set back during the unoccupied periods, an energy savings of about 13% will result. This is a significant savings of over \$24,000 per year.

The existing system could at one time perform this function; however, the system is in disrepair and the programming will need to be upgraded to be fully functional. It is estimated that this will cost over \$30,000, in addition to repairs to thermostats, controllers, and system components. Despite these costs, properly implementing these setbacks will generate an attractive payback.

The equipment has an expected lifetime of 15 years, according to ASHRAE, and the estimated annual energy savings was 7,100 gallons of oil for a total energy savings of 106,500 gallons of oil over the life of the projector \$367,900.

The implementation cost and savings related to this ECM are presented in Appendix M and summarized below:

ECM - 12 Temperature Setback in Isolated Areas

Budgetary	Annu	al Utility Sav	vings			Potential	Payback	Payback
Cost						Incentive*	(without incentive)	(with incentive)
	Electr	Electricity #2 Oil Total						
s	kW	kW kWh gallons \$		\$		\$	Years	Years
59,600	0	0 0 7,100 24,500				NA	2.4	NA

<sup>\*</sup>No incentive is available for this measure in New Jersey.

This measure is recommended.

### 4.13 ECM-13 Replace Windows in Technology Wing

Over the years, many of the windows at the school have been replaced with new double pane windows. These are an effective replacement of the leaky, single pane windows originally installed. The old windows lead to increased infiltration, cold drafts, and excessive heat loss. The only area of the school that still has original windows is the technology/shop wing. This ECM evaluates replacement of these windows with new energy efficient windows similar to the remainder of the school.

This measure was calculated by determining the square footage of the perimeter length of all the areas that still had original windows. This required using a combination of the original building drawings and

the existing field conditions as many of the windows had been covered during a previous energy conservation project. With over 2,300 square feet of old windows remaining, this is a sizable project.

As with most window replacement projects, the energy saved does not alone justify the project. As areas of the school are renovated, it is recommended the windows be replaced to newer energy efficient windows.

The equipment has an expected lifetime of 20 years, according to ASHRAE, and the estimated annual energy savings was 1,900 gallons of oil for a total energy savings of 38,000 gallons of oil over the life of the project or \$128,800.

The implementation cost and savings related to this ECM are presented in Appendix N and summarized as follows:

ECM - 13 Replace Windows in Technology Wing

Budgetary Cost	Annua	al Utility Sa	vings			Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil Total				ROI			
\$	kW	kW kWh		\$		\$	Years	Years
145,600	0	0 0 1,900 6,500				NA	22.6	NA

<sup>\*</sup>No incentive is available for this measure in New Jersey.

This measure is not recommended.

## 4.14 ECM-14 Install Occupancy Sensors

It is proposed that occupancy sensors be installed in selected rooms to turn off lights when the area is unoccupied. A lighting survey was conducted of all fixtures to determine the average time lights are presently on in each space. An analysis was performed to determine the benefits of utilizing occupancy sensors to turn off lighting while the space is not in use. Occupancy sensors were not considered in mechanical areas, garage areas, and stairways due to safety concerns. Other areas were not considered due to the proposed location of the occupancy sensor. If a sensor does not have a clear view of the occupant's room or hallway, it may darken even with people in the space, creating an unsafe condition.

Daylight sensors were considered for the pool pod fixtures to allow some or all of the (5) fixtures in each pod to be turned off during sunny days. Windows are located around the perimeter of the pool area and would make this space appear to be a good candidate, yet the configuration of the existing and proposed fixtures may be problematic. The fixtures face upward and illuminate the ceiling which in turn bounces light onto the pool. Reducing the lighting to the ceiling would darken the pool and could become a safety concern. Therefore, daylighting in the pool area was not recommended.

The equipment has an expected lifetime of 15 years, according to ASHRAE, and the estimated annual energy savings was 112,500 kWh for a total energy savings of 1,686,800 kWh over the life of the project or \$246,300.

The implementation cost and savings related to this ECM are presented in Appendix O and summarized below:

ECM - 14 Install Occupancy Sensors

Budgetary Cost	Annua	ıl Utility Saviı	ngs			Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil Total				ROI			
\$	kW	kWh	gallons	\$		\$	Years	Years
29,800	0 112,500 0 16,400				7.3	5,000	1.8	1.5

<sup>\*</sup>Incentive is based on the New Jersey Smart Start Prescriptive Lighting Measures.

This measure is recommended when combined with ECM-15; see ECM-16.

## 4.15 ECM-15 Lighting Replacements

A comprehensive fixture survey was conducted of the entire building. Each switch and circuit was identified, and the number of fixtures, locations, and existing wattage established. The existing base case lighting energy consumption was calculated and compared to the proposed lighting replacements. The lighting in the areas of the facility that have been renovated contain T-8 lamps with electronic ballasts and compact fluorescent lamps, which are regarded as efficient by today's standards. A small portion of the facility's lighting consists of T-12 fixtures with magnetic ballasts. Existing exit signs presently utilize high efficiency LED technology and all original incandescent lighting has been replaced with efficient compact fluorescent fixtures.

The pool area metal halide lamp lighting pods were evaluated using fluorescent high output fixtures to carry the lumens required to match the existing space constraints inside the pod fixture. An architectural evaluation and lighting design would need to be completed before considering this measure.

The following lighting upgrades were also considered where appropriate:

- T-12 34-watt 2 & 4 lamp with magnetic ballast retrofitted to T-8 28-watt lamps and electronic ballasts
- · Incandescent lamps to efficient compact fluorescent lamps
- 400-watt metal halide high bay fixtures in the gymnasium to be replaced with new energy efficient high output T-8 54-watt (4) lamp fixtures with electronic ballasts.
- Pool area pod retrofit- (3) 1000-watt to new energy efficient high output T-8 54-watt (6) lamp and (2) 400-watt industrial fixtures to new energy efficient high output T-8 54-watt (4) lamp for each pod
- Outdoor incandescent wall mounted fixtures to outdoor rated efficient compact fluorescent fixtures

The above measures will allow the facility to stock only T-8 fixtures in the future. Presently the facility has a mixture of T-12 and T-8 lamps with multiple ballast combinations. In the future the facility should only purchase low wattage super T-8s and ballasts such as the low wattage 4-foot 28 watt units. These lamps may be directly installed into any existing 34 watt fixture when lamps fail. By installing these lamps over time, the most efficient lighting system available will be consistent throughout the facility.

The equipment has an expected lifetime of 15 years, according to ASHRAE, and the estimated annual energy savings was 64,700 kWh for a total energy savings of 970,900 kWh over the life of the project or \$172,000.

The implementation cost and savings related to this ECM are presented in Appendix P and summarized as follows:

ECM – 15 Lighting Replacements

Budgetary	Annua	l Utility Sav	ings			Potential	Payback	Payback
Cost					1	Incentive*	(without incentive)	(with incentive)
	Electricity #2 Oil Total				ROI			
\$	kW kWh g		gallons	\$		\$	Years	Years
27,100	25 64,700 0 11,500				5.4	4,900	2.4	1.9

<sup>\*</sup>Incentive is based on the New Jersey Smart Start Prescriptive Lighting Measures.

This measure is recommended when combined with ECM-14; see ECM-16.

CHA performed a calculation for a proposed lighting fixture replacement for the gymnasium area. The cost for this retrofit was based on an estimate provided by PB Lighting Design on October 25, 2008 for a similar sized gymnasium. The implementation cost and savings related to a proposed gymnasium fixture replacement is presented in Appendix P and summarized as follows:

ECM - 15a Lighting Replacements - Gymnasium

Budgetary Cost	Annua	ıl Utility Savir	ngs		Total Savings	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil Total							£
\$	kW kWh		gallons	\$	\$	\$	Years	Years
7,200	4	14,400	0	2,700	2,700	2,400	2.6	1.8

<sup>\*</sup>Incentive is based on the New Jersey Smart Start Prescriptive Lighting Measures.

This measure recommended when combined with ECM-14; see ECM-16.

## 4.16 ECM-16 Lighting Replacements With Occupancy Sensors

This measure is a combination of ECMs 14 and 15 to allow for maximum energy and demand reduction. Due to interactive effects, the energy and cost savings for occupancy sensors and lighting upgrades are not cumulative. Presently, the facility has numerous fixtures that contain T-8, T-12 lamps with magnetic and electric ballasts. To increase reliability and ease of maintenance, the staff has requested that all fixtures with the older technology be upgraded to common T-8 lamps with electronic ballasts throughout the facility. The school should also consider stocking low wattage super low wattage 28-watt T-8s 4-foot lamps to replace the existing 32-watt lamps when they fail. These lamps can be installed in the existing efficient T-8 electronic ballasted fixtures and will increase energy efficiency of the system.

The equipment has an expected lifetime of 15 years, according to ASHRAE, and the estimated annual energy savings was 175,400 kWh of oil for a total energy savings of 2,630,800 kWh the life of the project or \$414,300.

The implementation cost and savings related to this ECM are presented in Appendix Q and summarized below:

ECM -16 Lighting Replacements with Occupancy Sensors

Budgetary Cost	Annua	al Utility Savi	ngs			Potential Incentive*	Payback	Payback
Cost	Electricity #2 Oil Total				ROI	incentive	(without incentive)	(with incentive)
\$	kW	kWh	gallons	\$		\$	Years	Years
56,900	25 175,400 0 27,600		6.3	10,000	2.1	1.7		

<sup>\*</sup>Incentive is based on the New Jersey Smart Start Prescriptive Lighting Measures.

This measure is recommended.

### 4.17 Potential Incentives

The Main Building energy conservation project may be eligible for incentives from the New Jersey Office of Clean Energy. The most significant incentives may be through the New Jersey Pay for Performance (P4P) Program. The P4P program is designed for qualified energy conservation projects in facilities that consume a minimum average electric demand of 200 kW per month (total of 12 months peak demand/12). The combined Main Building and Agricultural Building electric demand over the period from July 2008 to June 2009 was 522 kW. Facilities that meet this criterion must also achieve a minimum performance target of 15% energy reduction which would need to be demonstrated using an approved simulation modeling tool before and after construction. Implementing the measures identified in this report will allow the building to achieve this reduction. To utilize this program a P4P Partner would need to be engaged. Incentives for this program include the following:

- Incentive #1: The P4P Program pays \$0.05 per square foot to a maximum of \$50,000, not to exceed 50% of the facility's annual energy cost for the P4P Partner to develop an Energy Reduction Plan (ERP). This incentive is paid after approval of the ERP and signed Installation Agreement. Applicant must agree to commit to implementation of the ERP within 6 months or the incentive must be returned to the state. For the 155,732 square foot Main Building, this corresponds to \$7,787.
- Incentive #2: Paid after installation of recommended measures; base incentives deliver \$0.11/kWh and \$1.10/therm not to exceed 30% of total project cost
- Incentive #3: Paid after acceptance of Post-Construction Benchmarking Report showing energy savings over one year utilizing the approved simulation modeling tool and EPA Portfolio Manager. Incentive #3 base incentives deliver \$0.07/kWh and \$0.70/therm not to exceed 20% of total project cost.

Combining Incentives #2 and #3 will deliver a total of \$0.18/ kWh and \$1.80/therm not to exceed 50% of total project cost. Incentives for #2 and #3 are increased by \$0.005/kWh and \$0.05/therm for each percentage increase above the minimum performance target calculated with the approved simulation modeling tool, not to exceed 50% of total project cost.

Incentives are also available for prescriptive measures for various types of equipment. Prescriptive measures are paid after installation and no energy savings verification will be required. There are incentives available for the lighting control ECM suggested in this study.

Lighting energy reduction incentives were calculated utilizing the New Jersey SmartStart Building prescriptive lighting measures and incentive program. This program provides incentives dependent upon the existing fixture type and proposed lighting retrofit measure. Prescriptive lighting incentives were utilized for this report to show savings and incentives that would be received if only lighting

implementation was selected. If Sussex County Technical School qualifies Jersey Pay for Performance Program, lighting savings will be included in total be savings. Applicants cannot apply for both programs for the same project.	and enters into the New building energy usage and
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### 5.0 ALTERNATIVE ENERGY EVALUATION

### 5.1 Geothermal

Geothermal heat pumps (GHP) transfer heat between the constant temperature of the earth and the building to maintain the building's interior space conditions. Below the surface of the earth throughout New Jersey the temperature remains in the low 50°F range throughout the year. With GHP systems, water is circulated between the building and the piping buried in the ground. The ground heat exchanger in a GHP system is made up of a closed or open loop pipe system. Most common is the closed loop, in which high density polyethylene pipe is buried horizontally at 4-6 feet deep or vertically at 100 to 400 feet deep. These pipes are filled with an environmentally friendly antifreeze/water solution that acts as a heat exchanger. In the summer, the water picks up heat from the building and moves it to the ground. In the winter the system reverses and fluid picks up heat from the ground and moves it to the building. Heat pumps make the collection and transfer of this heat to and from the building possible.

The Main Building has a mixture of systems including air handlers, package rooftop units, unit ventilators, cabinet heaters, and unit heaters. To take advantage of a GHP system, the Main Building would have to install a low temperature closed loop water source heat pump system to realize the benefit of the consistent temperature of the ground. This will also include removal of the existing heating and cooling systems with the exception of the boilers. The new heat pump system would require a cooling tower to reject heat from the system, heat exchangers, and a vertical closed loop ground heat exchanger.

This measure is not recommended due to high cost to replace existing systems to take advantage of geothermal heat transfer.

## 5.2 Solar

### 5.2.1 Photovoltaic (PV) Rooftop Solar Power Generation

The Main Building was evaluated for potential to install rooftop photovoltaic (PV) solar panels for the purpose of power generation. Present technology incorporates the use of solar cell arrays that produce direct current (DC) electric current. This DC current is converted to alternating current (AC) with the use of an electrical device called an inverter. The roof of the Main Building has sufficient room to install a solar cell array.

To calculate the PV power generation at the Main Building location, CHA utilized the PVWatts<sup>TM</sup> solar power generation model. The New Jersey clean power estimator that is provided by the NJCEP is presently going through updates; therefore, they recommend using the PVWatts<sup>TM</sup> Version 1 calculator. The closest city available in the model is Newark, NJ and a fixed tilt array type was utilized to calculate energy production. PVWatts<sup>TM</sup> solar power generation model and satellite image of roof area may be found in Appendix R.

The incentives given by the State of New Jersey for non-residential solar PV applications is \$1.00 /watt up to 50 kW of installed PV array. Federal tax credits are also available for renewable energy projects up to 30% of insulation costs. The school does not pay Federal taxes and, therefore, would not be able to utilize the Federal tax credit incentive.

Installation of PV arrays in the State of New Jersey will allow the owner to participate in the New Jersey Solar Renewable Energy Certificate (SREC) program. This is a program that has been set up to allow entities with large amounts of environmental emissions to purchase credits from zero emission PV solar-

producers. An Alternative Compliance Penalty (ACP) is paid for by the high emission producers and is set each year on a declining scale of 3% per year. One SREC credit is equivalent to 1000 kilowatt hours of PV electrical production; these credits can be traded for period of 15 years from the date of installation. The cost of the APC penalty for 2009 is \$689; this is the amount that must be paid per SREC by the high emission producers. The dollar amount that will be paid to the PV producer for 2009 is expected to be \$600/SREC credit. Payments that will be received from the PV producer will change from year to year dependent upon supply and demand. As stated above, there is no definitive way to calculate an exact price that will be received by the PV producer per SREC over the next 15 years. R & R Renewable Energy Consultants, a third party SREC broker that has been approved by the NJCEP, estimated an average of \$487/ SREC per year and this number was utilized in the cash flow for this report.

As stated previously, the Main Building shares an electrical meter with the Agricultural Building, with a maximum kW demand of 522 kW (occurring in June 2009) and a minimum kW of 270 kW (occurring in August 2008). The monthly average over the year observed was 467 kW. The Main Building uses the majority of the electricity, and only a small portion is used by the Agricultural Building, estimated at 5%. The facility has ample roof area for a PV system, and the existing load should justify the use of the maximum incentive cap of 50 kW of installed PV solar array. Therefore, a 50 kW system size was selected for the calculations. The system costs for PV installations were derived from the most recent NYSERDA (New York State Research and Development Authority) estimates of total cost of system installation. It should be noted that the cost of installation is now \$10 per watt or \$10,000 per kW of installed system. This has increased in the past few years due to greater national demand for PV power generator systems. Other cost considerations will also need to be considered. PV panels have a multiple decade life span yet the inverter device that converts DC electricity to AC has a planned life span of 10 to 12 years and may need to be replaced multiple times during the useful life of the PV system.

Photovoltaic (PV) Rooftop Solar Power Generation

Budgetary Cost	Annual Utility Savings		Total Savings	New Jersey Renewable Energy Incentive*	New Jersey Renewable  SREC**	Payback (without incentive)	Payback (with incentives)		
	Electi	ricity	#2 Oil	Total					
\$	kW	kWh	gallons	\$	\$	\$	\$	Years	Years
500,000	0	59,200	0	9,800	9,800	50,000	28,800	>30	11.7

<sup>\*</sup>Incentive based on New Jersey Renewable Energy Program for non-residential applications of \$1.00 per Watt of installed capacity

This measure is not recommended at this time due to the long payback period; however, it could be a potentially viable renewable measure for the school to consider in the future if electricity rates continue to increase and if PV installation costs decline below \$10 per watt.

### 5.2.2 Solar Thermal Domestic Hot Water Plant

Active solar thermal systems use solar collectors to collect the sun's energy to heat water, another fluid, or air. The heart of a solar collector is an absorber that converts the sun's energy into heat. The heat is then transferred by circulating water, antifreeze, or sometimes air to another location for immediate use or storage for later use. Applications for active solar thermal energy include providing hot water, heating swimming pools, space heating, and preheating air in both residential and commercial buildings.

A standard solar hot water system is typically composed of solar collectors, a heat storage vessel, piping, circulators, and controls. Systems are typically integrated to work alongside a conventional heating system that provides heat when solar resources are not sufficient. The solar collectors are usually placed

<sup>\*\*</sup> Estimated Solar Renewable Energy Certificate Program (SREC) for 15 years at \$487/1000 kWh

on the roof of the building, oriented south, and tilted around the site's latitude, so as to maximize the amount of radiation collected on a yearly basis.

Although there are several options for using active solar thermal systems for space heating, the most common method involves using glazed collectors to heat a liquid held in a storage tank (similar to an active solar hot water system). The most practical system for the Main Building would transfer the heat from the panels to thermal storage tanks and transfer solar produced thermal energy to use for domestic hot water production.

Energy savings for this energy performance measure were performed with the use of a thermal solar water heating calculator developed by the InfinitePower Corporation. Assumptions were entered that closely match the Main Building domestic hot water heating profile. Installation costs were derived from an actual project of similar size by the SOLAR-TEC Corporation incorporating all aspects of a complete installation. This system will include (8) hot water heating collectors, rack mounting system, (4) 120 gallon storage tanks (480 gallon total) and all pumping and heat transfer devices required to connect to the existing domestic hot water system.

As of the writing of this report there are no incentives available for installation of thermal solar systems. Presently there is a Federal tax credit of 30% of installation cost for the thermal applications, however the Sussex County Technical School does not pay Federal taxes and therefore would not benefit from this program.

The implementation cost and savings related to this ECM are presented in Appendix S and summarized as follows:

**Solar Thermal Domestic Hot Water Plant** 

Budgetary Cost		Annual U	Jtility Savings		Total Savings	New Jersey Renewable Energy Incentive	Payback (without incentive)	Payback (with incentive)
	Electricity #2 Oil Total							
\$	kW	kWh	gallons	\$	\$	\$	Years	Years.
45,800	0 0 465 1,600				1,600	NA	28.6	NA

<sup>\*</sup> No incentive is available in New Jersey at this time.

This measure is not recommended due to the long payback period.

### **5.3** Wind

Wind energy is a form of solar energy created by the uneven heating of the Earth's surface by the sun. Most small wind turbines use a horizontal axis propeller, or rotor, to capture the kinetic energy of the wind and convert it into rotary motion to drive a generator, which usually is designed specifically for the wind turbine. The rotor consists of two or three blades, usually made from wood or fiberglass. (These materials give the turbine the needed strength and flexibility, and have the added advantage of not interfering with television signals.) The structural backbone of the wind turbine is called the mainframe, and it includes the "slip-rings" that connect the wind turbine - which rotates as it points itself into changing wind directions - and the fixed tower wiring. The tail aligns the rotor into the wind.

To avoid turbulence and capture greater wind energy, turbines are mounted on towers. As a rule of thumb, turbines should be mounted at least 30 feet above any structures or natural features within 300 feet of the installation. Smaller turbines can go on shorter towers. For example, a 250-Watt turbine may be mounted

on a 30-50 foot tower, while a 10 kW turbine will usually need a tower of 80-120 feet. Towers come in a variety of designs, including tubular or latticed, guyed or self-supporting. Wind turbine manufacturers also offer towers, and can ensure that the tower meets required building and safety specifications as well as being compatible with the turbine.

The NJCEP for small wind installations has assigned numerous pre-approved wind turbines for installation in the state New Jersey. Incentives for wind turbine installations are based on kilowatt hours saved in the first year. Systems size under 16,000 kWh per year of production will receive a \$3.20 per kWh incentive. Systems producing over 16,000 kWh will receive \$51,200 for the first 16,000 kWh of production with an additional \$0.50 per kWh up to a maximum cap of 750,000 kWh per year. These incentives can make a project like this very cost effective. Federal tax credits are also available for renewable energy projects up to 30% of insulation costs for systems less than 100 kW. The Sussex Technical High School does not pay Federal taxes and therefore would not be able to utilize the Federal tax credit incentive.

The most important part of any small wind generation project is of course the mean annual wind speed at the height of which the turbine will be installed. The Agricultural Building shares an electric meter with the Main Building, and for this report will be considered as part of the Main Building complex. Due to the size of the Technical High School campus property a turbine heights of 30 m located on the North West side the property would be the only possible location due to tree lines, building structure setbacks and location of athletic fields. A wind resource map downloaded from the AWS Truewind Corporation indicates that that mean annual wind speed at 30 m in the Sussex County area is less than 10.1 miles per hour. Most small wind turbines become financially viable over 10 miles per hour of mean annual wind speed, therefore the ASW Truewind model indicates that installation of a wind turbine may not be applicable for this location.

This model was designed to give a good indication of wind speeds at applicable locations throughout the state. Before progressing too far with any small wind production project at Sussex County Technical School, a wind test tower will need to be installed at the 30 meter tower height and be monitored for an entire year. Consideration should also be given to the location of a turbine and weather it would affect school operations, as well as any effects the turbines site plane will have for the school's neighbors.

An aerial satellite depiction of the school's campus and a wind resource map may be found in Appendix T

This measure is not recommended due to low mean annual wind speed of the proposed location.

# 5.4 Combined Heat and Power Generation (CHP)

Combined heat and power (CHP) also known as "cogeneration" is self-production of electricity on-site, with beneficial recovery of the heat byproduct from the electrical generator. Common CHP equipment includes reciprocating engine-driven, micro turbines, steam turbines, and fuel cells. Typical CHP customers include industrial, commercial, institutional, educational institutions and multifamily residential facilities. CHP systems that are commercially viable at present time are sized approximately 50 kW and above, with numerous options in blocks grouped around 300 kW, 800 kW, 1,200 kW, and larger. Typically, CHP systems are used to produce a portion of the electricity needed by a facility some or all of the time, with the balance of electric needs satisfied by purchase from the grid.

Any proposed CHP project will need to consider many factors, such as existing system load, use of thermal energy produced, system size, natural gas fuel availability, and proposed plant location. The building has sufficient need for electrical generation and the ability to use most of the thermal byproduct during the winter, however thermal usage during the summer months is low. Thermal energy produced by the CHP plant in the warmer months will be wasted.

The most viable selection for a CHP plant at this location would be a reciprocating engine natural gasfired unit. Presently, there is no natural gas available at the facility, and emission standards do not allow diesel fired CHP units to run continuously.

This measure is not recommended due not having natural gas at the present location and the limited use of summertime thermal production.

## 5.5 Biomass Power Generation

Biomass power generation is a process in which waste organic materials are used to produce electricity or thermal energy that otherwise would be sent to the landfill or expelled to the atmosphere. To participate in NJCEP's Customer On-Site Renewable Energy (CORE) program, participants must install an on-site sustainable biomass or fuel cell energy generation system. Incentives for bio-power installations are available to support up to 1MW-dc of rated capacity.

\*Class I organic residues are eligible for funding through the NJCEP CORE program. Class I wastes include- uses a renewable supply of organic material:

- · Wood wastes not adulterated with chemicals, glues or adhesives,
- Agricultural residues (corn stover, rice hulls or nut shells, manures, poultry litter, horse manure, etc) and/or methane gases from landfills,
- Food wastes
- Municipal tree trimming and grass clipping wastes
- Paper and cardboard wastes
- Non adulterated construction wood wastes, pallets
- NJDEP evaluates biomass resources not identified in the RPS

#### \*From NJOCE website

Examples of eligible facilities for a CORE incentive include:

- Digestion of sewage sludge
- · Landfill gas facilities
- Combustion of wood wastes to steam turbine
- Gasification of wood wastes to reciprocating engine
- · Gasification or pyrolysis of bio-solid wastes to generation equipment

This measure is not recommended due the Main Building not having a waste stream that can be utilized for the production electricity or thermal energy.

# 5.6 Demand Response Curtailment

Presently the Main Building shares an electrical meter with the Agricultural Building and electricity is delivered and supplied by the Jersey Central Power and Light Corporation (JCP&L). JCP&L is the

regional transmission organization (RTO) that coordinates the movement of wholesale electricity in all or parts of 13 states and the District of Columbia including the State of New Jersey.

Utility Curtailment is an agreement with the JCP&L regional transmission organization and an approved Curtailment Service Providers (CSP) to shed electrical load by either turning major equipment off or energizing all or part of a facility utilizing an emergency generator, therefore reducing the electrical demand on the utility grid. This program is to benefit the utility company during high demand periods and JCP&L offers incentives to the CSP to participate in this program. Enrolling in the program will require program participants to drop electrical load or turn on their emergency generators during high electrical demand conditions or during emergencies. Part of the program also will require that program participants to reduce their required load or run their emergency generators with notice to test the system.

Presently the Sussex County Technical School's Main Building (and electrically linked Agricultural Building) utilize one Cummins 150 kW back up generation and has an average monthly kW demand during the observed period of 467 kW. JCP&L utilizes curtailment providers to bundle and organize demand reduction load. A JCP&L pre-approved CSP will require a minimum of 100 kW of load reduction to participate in any curtailment program. The school will need to de-energize their facility during the periods of high grid demand therefore they have the ability to reduce their electrical load by the required 100 kW minimum to enter the JCP&L demand response program. Discussions with the maintenance staff indicate that the amount of connected load may be well below the 100 kW minimum, the only connected load is the boilers, well water pumps, and emergency lighting. It is doubtful that these will exceed the 100kW requirement, however an engineering study would need to be conducted to evaluate actual connected load, and to determine if the present emergency generators will meet emission requirements to be allowed to participate in the demand response program.

The facility may not being able satisfy the Curtailment Service Provider required 100kW minimum; therefore this ECM is not recommended.

#### 6.0 EPA PORTFOLIO MANAGER

The United State Energy Protection Agency (EPA) is a federal agency which leads the nation's environmental research and assessment efforts. The mission of the Environmental Protection Agency is to protect human health and the environment. The EPA has released an interactive energy management tool known as the EPA Portfolio Manager that allows building owners to track and assess energy and water consumption across their facility. This program is designed to allow property owners and managers to share, compare and improve upon their facility's energy consumption. Inputting such parameters at electricity, heating fuel, building characteristics, and location into the website-based program generates a naturalized energy rating score out of 100. Once an account is registered, monthly utility data can be entered to track the savings progress and retrieve an updated energy rating score on a monthly basis.

Since the Agricultural Building and the Main Building at the Sussex County Technical School share an electrical meter, the two building were combined in Portfolio Manager. The combined building is considered a high energy consumer per Portfolio Manager. With a Source Energy Usage Index of 205 kBTU/ft²/year the EPA has scored the combined building at 24 out of 100. The national average energy usage index is 163 kBTU/ft²/year. Several factors are attributable to this score, including wasted energy from several factors including high outside air ventilation, a continuously running building, and poor controls.

Reducing energy loss associated with infiltration, equipment, and occupancy run hours will increase the score. If all the measures identified in this report are fully implemented, it is projected that an energy star rating of 53 can be obtained. Obtaining a score of 75 or higher out of 100 would be required to make the facility eligible for an Energy Star Rating. A higher score could be achieved if measures with higher paybacks that were not recommended were implemented.

A full EPA Energy Star Portfolio Manager Report is located in Appendix U. The user name and password for the building's Portfolio Manager account was provided to Russ Masker, Head of Maintenance, Sussex County Technical School.

## 7.0 CONCLUSIONS & RECOMMENDATIONS

The energy audit conducted by CHA at the Main Building of the Sussex County Technical School, located in Sparta, New Jersey, identified potential ECMs for motor upgrade, lighting replacements and controls, boiler replacement, variable speed drives, pool heating and cover, temperature setback, and kitchen hood controller and heat recovery. Potential annual savings of \$134,700 may be realized for the recommended ECMs, with a summary of the costs, savings, and paybacks as follows:

ECM - 2 Install Premium Efficiency Motors

	Devi 2 Install I camam Enterency Nations											
Budgetary Cost	Annu	al Utility Sav	vings			Potential Incentive*	Payback (without incentive)	Payback (with incentive)				
Cost	Electi	Electricity #2 Oil Total				I moontive	(williout modified)	(With incomite)				
\$	kW	kWh	gallons	\$		\$	Years	Years				
7,000	3	3 8,400 0		1,400	2.6	500	5.0	4.6				

<sup>\*</sup>Incentive is based on the New Jersey Smart Start Program.

ECM - 3 Reduce Excess O2 in Boiler

Budgetary	Annu	al Utility Savi	ngs			Potential	Payback	Payback			
Cost						Incentive*	(without incentive)	(with incentive)			
	Electr	icity •	#2 Oil	Total	ROI						
\$	kW	kWh	gallons	\$		\$	Years	Years			
62,200	0 0 2,100 7,400		0.8	NA	8.4	NA					

<sup>\*</sup>No Incentive is available through the New Jersey Smart Start Program.

ECM - 4 Boiler Replacement

Budgetary	Annua	l Utility Savin	gs			Potential	Payback	Payback
Cost						Incentive*	(without incentive)	(with incentive)
	Electricity		#2 Oil	Total	ROI			
\$	kW	kWh	gallons	<b>\$</b> .		\$	Years	Years
278,300	0 0 4,900 16,900				0.5	NA	16.6	NA

<sup>\*</sup>No Incentive is available through the New Jersey Smart Start Program.

ECM - 5 Install VSDs on Hot Water Pumps

Budgetary Cost	Annua	ıl Utility Savi	ngs	3			Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electr	Electricity #2 Oil propane Total							
\$	kW	kW kWh gallons gallons \$					\$	Years	Years
62,700	0	44,400	0	0	7,300	0.8	5,400	8.5	7.9

<sup>\*</sup>Incentive is based on the New Jersey Smart Start Program.

ECM - 6 Replace Pool Dectron Unit

Budgetary Cost	Annu	al Utility Sav	vings				Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electr	icity	#2 Oil	propane	Total	ROI			
\$	kW	kWh	gallons	gallons	\$		s	Years	Years
347,000	45	33,700	9,300	0	37,100	0.6	NA	9.4	NA

<sup>\*</sup>No incentive is available in New Jersey for this measure.

## ECM - 7 Install Pool Cover

Budgetary Cost	Annua	al Utility Sa	vings				Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electr	Electricity #2 Oil propane Total				ROI			
\$	kW	kW kWh gallons gallons \$					\$	Years	Years
27,800	0	0	2,100	3,200	11,900	3.2	NA	2.3	NA

<sup>\*</sup>No incentive is available in New Jersey for this measure.

ECM - 8 Reactivate Kitchen Hood Heat Recovery

Budgetary Cost	Annua	al Utility Sav	ings				Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		#2 Oil	propane	Total	ROI			#
\$	kW	kWh	gallons	gallons	\$		s	Years	Years
25,300	0	(2,300)	900	0	2,600	1.0	NA	9.8	NA

<sup>\*</sup>No incentive is available in New Jersey for this measure.

ECM – 12 Temperature Setback in Isolated Areas

Budgetary Cost	Annual Utility Savings					Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electri	icity	#2 Oil	Total ROI				
\$	kW	kWh	gallons	\$	•	s	Years	Years
59,600	0	0	7,100	24,500	5.2	NA	2.4	NA

<sup>\*</sup>No incentive is available for this measure in New Jersey.

ECM -16 Lighting Replacements with Occupancy Sensors

Budgetary Cost	Annua	al Utility Savi	ngs		ley Sensor	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		#2 Oil Total		ROI			
\$	kW	kWh	gallons	\$		\$	Years	Years
58,900	25	175,400	0	25,600	6.4	10,000	2.1	1.7

# APPENDIX A

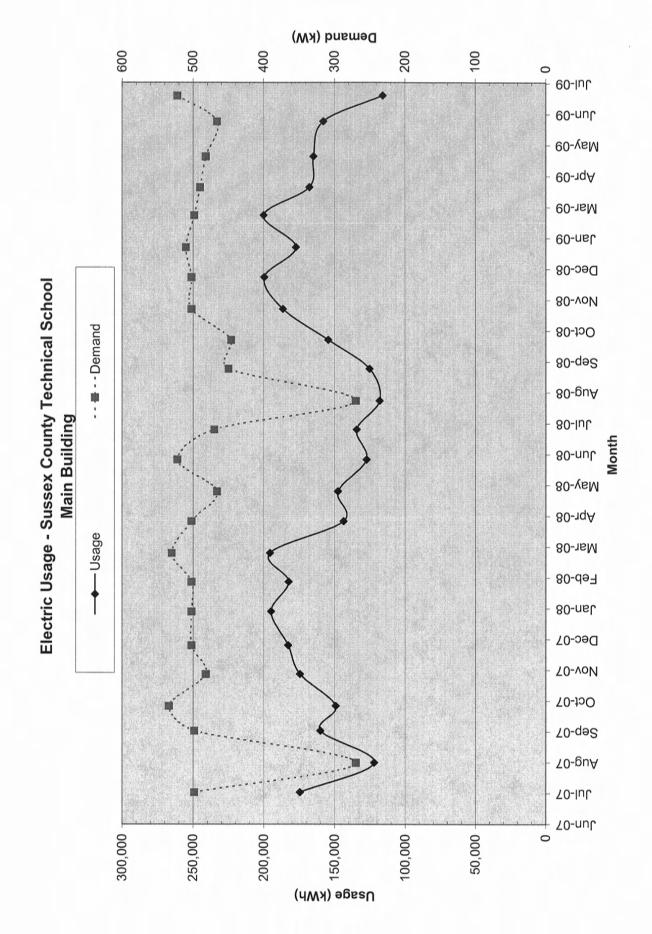
**Utility Usage Analysis** 

New Jersey BPU Energy Audit Program CHA #20151 Building: Sussex County Technical School (Main Building)

Account Number: 10 00 03 8091 7 3 Jersey Central Power and Lighting

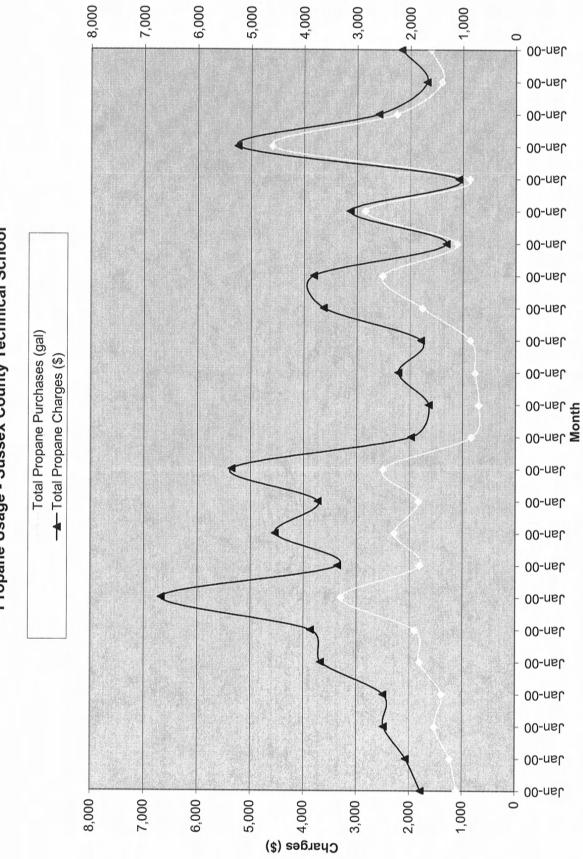
			ü	Flectricity				Customer	Fnerav	Transmission	Reconciliation	Delivery
		Supply	Delivery	Cost	Blended Rate	Unit Cost	Unit Cost	Charge	Charge	Charge	Charge	Charge
	Period	KWH	KW	(\$)	(\$/kWH)	(S/kWH)	(\$/kW)	,	,	,		KWH
Acres	7/24/2007	174,400	498.0	30,181.25	0.1731	0.1532	6.94	\$11.65	\$19,963.92	\$1,038.55	\$249.92	\$921.72
2	8/23/2007	122,000	270.0	20,642.41	0.1692	0.1538	6.94	\$11.65	\$13,965.58	\$726.51	\$174.83	\$661.92
3	9/24/2007	160,000	498.0	26,911.06	0.1682	0.1466	6.94	\$11.65	\$18,315.52	\$952.80	-\$850.00	\$850.32
4	10/19/2007	149,200	534.0	21,495.99	0.1441	0.1248	5.39	\$9.71	\$14,095.52	\$888.49	-\$1,128.10	\$783.39
3	11/20/2007	174,400	482.0	24,889.37	0.1427	0.1248	6.47	\$11.65	\$16,476.27	\$1,038.55	-\$1,318.64	\$917.09
9	12/19/2007	182,800	502.0	27,391.86	0.1498	0.1321	6.47	\$11.65	\$17,269.85	\$1,088.57	-\$51.35	\$958.73
7	1/22/2008	194,800	502.0	29,591.30	0.1519	0.1352	6.47	\$11.65	\$18,403.54	\$1,045.51	\$687.45	\$1,018.23
80	2/21/2008	182,400	502.0	27,874.25	0.1528	0.1350	6.47	\$11.65	\$17,232.06	\$923.76	\$643.69	\$956.75
O	3/21/2008	195,600	530.0	28,743.93	0.1470	0.1294	6.47	\$11.65	\$18,479.11	\$991.89	-\$383.68	\$1,022.20
10	4/22/2008	143,600	502.0	21,596.34	0.1504	0.1278	6.47	\$11.65	\$13,566.47	\$728.20	-\$579.28	\$764.38
7	5/22/2008	147,600	466.0	21,867.97	0.1482	0.1277	6.47	\$11.65	\$13,944.36	\$748.48	-\$595.42	\$784.21
12	6/23/2008	127,400	522.0	23,925.88	0.1878	0.1594	6.94	\$11.65	\$15,879.72	\$651.12	-\$406.90	\$693.65
13	7/23/2008	134,400	470.0	25,032.49	0.1863	0.1620	6.94	\$11.65	\$17,103.61	\$681.54	-\$380.62	\$723.40
14		118,000	270.0	21,018.36	0.1781	0.1622	6.94	\$11.65	\$15,016.56	\$598.38	-\$334.18	\$642.09
15		125,200	450.0	22,912.27	0.1830	0.1581	6.94	\$11.65	\$15,932.83	\$634.89	-\$860.00	\$677.78
16	10/21/2008	154,400	446.0	24,126.38	0.1563	0.1376	6.47	\$11.65	\$16,799.18	\$813.99	-\$1,340.50	\$817.93
17	11/21/2008	186,400	502.0	28,993.56	0.1555	0.1381	6.47	\$11.65	\$20,280.88	\$996.87	-\$1,618.32	\$976.58
18	12/23/2008	199,600	502.0	31,852.48	0.1596	0.1433	6.47	\$11.65	\$21,717.08	\$1,067.46	-\$683.78	\$1,042.03
19	1/22/2009	177,200	510.0	29,227.42	0.1649	0.1463	6.47	\$11.65	\$19,279.89	\$1,088.98	-\$243.83	\$930.97
20	2/23/2009	200,000	498.0	32,512.33	0.1626	0.1465	6.47	\$11.65	\$21,760.60	\$1,287.00	-\$275.20	\$1,044.01
21	3/23/2009	167,600	490.0	27,218.73	0.1624	0.1435	6.47	\$11.65	\$18,235.38	\$1,078.51	-\$764.95	\$883.37
22	4/23/2009	164,800	482.0	26,655.88	0.1617	0.1428	6.47	\$11.65	\$17,930.73	\$1,060.49	-\$864.87	\$869.49
23	5/28/2009	157,800	466.0	24,891.53	0.1577	0.1386	6.47	\$11.65	\$16,645.42			\$839.74
24	6/23/2009	115,800	522.0	19,782.53	0.1708	0.1395	6.94	\$11.65	\$12,242.98		,	\$636.14
	Total	3,855,400	534.0 \$	619,336	0.1606	0.1412	6.57	\$277.66	\$410,537.06	\$20,130.54	-\$10,923.73	\$20,416.1
	Most Recent 12											
	months	1,901,200	522.0 \$	314,224	0.1653	0.1458	6.63	\$139.80	\$212,945.14	\$9,308.11	-\$7,366.25	\$10,083.5

-	-	-			-	_	_	_	_	_	-	_	_	_	_	_	-	-	-	_	_	-	-	****	-	_	-				
		Total		\$30,181.25	\$20,642.41	\$26,911.06	\$21,495.99	\$24,889.37	\$27,391.86	\$29,591.30	\$27,874.25	\$28,743.93	\$21,596.34	\$21,867.97	\$23,925.88	\$25,032.49	\$21,018.36	\$22,912.27	\$24,126.38	\$28,993.56	\$31,852.48	\$29,227.42	\$32,512.33	\$27,218.73	\$26,655.88	\$24,891.53	\$19,782.53				
						100		36		100	Mil		933		888		28	108	100		1	883	18.3	888		200					
	Outdoor	Lighting		\$175.19	\$175.19	\$170.81	\$168.21	\$168.37	\$173.26	\$175.69	\$175.46	\$171.82	\$170.19	\$170.19	\$177.42	\$180.53	\$180.53	\$177.73	\$174.45	\$174.95	\$178.46	\$180.03	\$180.01	\$177.99	\$177.32	\$177.35	\$176.79	200	\$4,207.94	***************************************	\$2,130.14
	System	Control		\$13.78	\$9.64	\$12.64	\$11.79	\$13.78	\$14.44	\$15.39	\$14.41	\$15.45	\$11.34	\$11.66	\$10.14	\$10.62	\$9.32	\$9.89	\$12.20	\$14.73	\$15.77	\$14.00	\$15.80	\$13.24	\$13.02	\$20.82	\$16.71		\$320.58	0000	\$100.12
ransitional	Assessment	Charge		\$510.64	\$357.22	\$468.48	\$436.86	\$510.64	\$535.24	\$570.37	\$534.07	\$572.72	\$420.46	\$432.17	\$375.96	\$393.52	\$345.50	\$366.59	\$452.08	\$545.78	\$584.43	\$518.84	\$585.60	\$490.73	\$482.53	\$464.97	\$341.99		\$11,297.39		90,272,06
	Societal	Benefit		\$881.94	\$616.95	\$809.12	\$820.54	\$995.30	\$1,043.24	\$1,111.72	\$1,040.96	\$1,116.29	\$819.53	\$842.35	\$732.78	\$767.02	\$673.43	\$714.52	\$881.16	\$1,201.16	\$1,286.22	\$1,141.88	\$1,288.80	\$1,080.01	\$1,061.97	\$1,023.31	\$752.66		\$22,702.86		\$11,872.14
	Non-Utility	Gen. Chg		\$2,957.82	\$2,069.12	\$2,713.60	\$2,530.43	\$2,957.82	\$3,100.29	\$3,303.81	\$3,093.50	\$3,317.38	\$2,435.46	\$2,503.30	\$2,177.66	\$2,279.42	\$2,001.28	\$2,123.39	\$2,618.62	\$3,161.34	\$3,385.22	\$3,005.31	\$3,392.00	\$2,842.50	\$2,795.01	\$2,693.25	\$1,980.93		\$65,438.46	000000	\$37,088.40 \$32,278.27
	Delivery	Charge	KW	\$3,456.12	\$1,873.80	\$3,456.12	\$2,879.15	\$3,118.54	\$3,247.94	\$3,247.94	\$3,247.94	\$3,429.10	\$3,247.94	\$3,015.02	\$3,622.68	\$3,261.80	\$1,873.80	\$3,123.00	\$2,885.62	\$3,247.94	\$3,247.94	\$3,299.70	\$3,222.06	\$3,170.30	\$3,118.54	\$3,015.02	\$3,622.68		\$74,930.69	000	\$37,088.40
	Deliveny	Charge	KWH	\$921.72	\$661.92	\$850.32	\$783.39	\$917.09	\$958.73	\$1,018.23	\$956.75	\$1,022.20	\$764.38	\$784.21	\$693.65	\$723.40	\$642.09	\$677.78	\$817.93	\$976.58	\$1,042.03	\$930.97	\$1,044.01	\$883.37	\$869.49	\$839.74	\$636.14		\$20,416.12		\$10,083.53
	Reconciliation	Charge		\$249.92	\$174.83	-\$850.00	-\$1,128.10	-\$1,318.64	-\$51.35	\$687.45	\$643.69	-\$383.68	-\$579.28	-\$595.42	-\$406.90	-\$380.62	-\$334.18	-\$860.00	-\$1,340.50	-\$1,618.32	-\$683.78	-\$243.83	-\$275.20	-\$764.95	-\$864.87				-\$10,923.73		-57.306.75
	Transmission	Charge		\$1,038.55	\$726.51	\$952.80	\$888.49	\$1,038.55	\$1,088.57	\$1,045.51	\$923.76	\$991.89	\$728.20	\$748.48	\$651.12	\$681.54	\$598.38	\$634.89	\$813.99	\$996.87	\$1,067.46	\$1,088.98	\$1,287.00	\$1,078.51	\$1,060.49				\$20,130.54		59.308.11
	Energy	Charge		\$19,963.92	\$13,965.58	\$18,315.52	\$14,095.52	\$16,476.27	\$17,269.85	\$18,403.54	\$17,232.06	\$18,479.11	\$13,566.47	\$13,944.36	\$15,879.72	\$17,103.61	\$15,016.56	\$15,932.83	\$16,799.18	\$20,280.88	\$21,717.08	\$19,279.89	\$21,760.60	\$18,235.38	\$17,930.73	\$16,645.42	\$12,242.98		\$410,537.06		\$212,945.14
	Customer	Charge		\$11.65	\$11.65	\$11.65	\$9.71	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65	\$11.65		\$277.66		\$139.80
		Unit Cost	(\$/kW)	6.94	6.94	6.94	5.39	6.47	6.47	6.47	6.47	6.47	6.47	6.47	6.94	6.94	6.94	6.94	6.47	6.47	6.47	6.47	6.47	6.47	6.47	6.47	6.94		6.57		6.63
		Unit Cost	(\$/kWH)	0.1532	0.1538	0.1466	0.1248	0.1248	0.1321	0.1352	0.1350	0.1294	0.1278	0.1277	0.1594	0.1620	0.1622	0.1581	0.1376	0.1381	0.1433	0.1463	0.1465	0.1435	0.1428	0.1386	0.1395		0.1412		0.1458
		Blended Rate	(\$/kWH)	0.1731	0.1692	0.1682	0.1441	0.1427	0.1498	0.1519	0.1528	0.1470	0.1504	0.1482	0.1878	0.1863	0.1781	0.1830	0.1563	0.1555	0.1596	0.1649	0.1626	0.1624	0.1617	0.1577	0.1708		0.1606		0.1653
	city	ost Bil	(S)	0,181.25	,642.41	3,911.06	,495.99	1,889.37	7,391.86	9,591.30	7,874.25	3,743.93	1,596.34	1,867.97	3,925.88	5,032.49	,018.36	912.27	1,126.38	3,993.56	,852.48	3,227.42	,512.33	7,218.73	655.88	1,891.53	1,782.53		119,336		14,224



New Jersey BPU Energy Audit Program CHA #20151 Sussex County Technical School

		Total		l) lood (l	Pool (Main Building)		Kitchen	Kitchen (Main Building)	3)	General	Generator (Main Building)	ng)
Date	Charge (\$)	Gallons	\$/gal	Charge (\$)	Gallons	\$/gal	Charge (\$)	Gallons	\$/gal	Charge (\$)	Gallons	\$/gal
July-07	1,787	1,102	1.62	1,620	1,000	1.62	167	102	1.64	0	0	'
2 August-07	2,068	1,238	1.67	1,772	1,061	1.67	297	177	1.68	0	0	'
3 September-07	2,486	_	1.63	2,010	1,236	1.63	476	292	1.63	0	0	'
4 October-07	2,495	1,394	1.79	2,102	1,175	1.79	393	219	1.79	0	0	,
5 November-07	3,674	1,813	2.03	2,252	1,112	2.03	1,421	702	2.03	0	0	'
6 December-07	3,865	1,902	2.03	2,435	1,200	2.03	1,430	701	2.04	0	0	'
January-08	6,677	3,288	2.03	4,650	2,286	2.03	2,026	1,002	2.02	0	0	'
8 February-08	3,352	1,819	1.84	2,378	1,299	1.83	974	519	1.87	0	0	'
9 March-08	4,538	2,291	1.98	4,046	2,041	1.98	491	250	1.97	0	0	'
10 April-08	3,729	1,839	2.03	1,487	730	2.04	1,932	955	2.02	310	154	2.01
11 May-08	5,358	2,496	2.15	3,921	1,828	2.14	1,437	899	2.15	0	0	'
12 June-08	1,974	834	2.37	1,516	636	2.38	458	198	2.32	0	0	•
13 July-08	1,644	692	2.38	1,644	692	2.38	0	0		0	0	'
14 August-08	2,218	299	2.90	2,121	726	2.92	86	40	2.43	0	0	•
15 September-08	1,794	854	2.10	1,794	854	2.10	0	0		0	0	'
16 October-08	3,628	1,770	2.05	2,748	1,339	2.05	880	431	2.04	0	0	'
17 November-08	3,814		1.51	2,557	1,694	1.51	1,249	821	1.52	80	4	1.88
18 December-08	1,315	1,109	1.19	817	069	1.18	497	419	1.19	0	0	'
19 January-09	3,126	2,849	1.10	2,821	2,567	1.10	305	282	1.08	0	0	•
20 February-09	1,077	898	1.24	1,077	898	1.24	0	0		0	0	•
21 March-09	5,249	4,608	1.14	1,415	1,268		3,834	3,340		0	0	•
22 April-09	2,591	2,261	1.15	973	849		1,618	1,411	,	0	0	'
23 May-09	1,686	1,401	1.20	1,216	1,010	,	470	391		0	0	•
24 June-09	2,164	1,613	1.34	1,494	1,114		029	499		0	0	'
Total	\$ 72,310	42,852	\$1.69	\$ 50,866	29,273	\$1.74	\$ 21,125	13,420	\$1.57	\$ 318	159	\$2.01
Most Recent 12												
months	30.307	21.309	\$1.42	\$ 20.678	13.670	\$1.51	\$ 9.621	7.635	\$1.26	00	4	\$1 88



Purchases (gal)

Propane Usage - Sussex County Technical School

New Jersey BPU Energy Audit Program CHA #20151 Sussex County Technical School

#2 Fuel Oil

		Total		L	Mair	Main Building		M	cNeice Auc	McNeice Auditorium Building	ing	L	Agricul	Agriculture Building	
Date	Charge (\$)	Gallons	\$/gal	<u> </u>	Charge (\$)	Gallons	\$/gal	Charge (\$)	(\$)	Gallons	\$/gal	Chi	Charge (\$)	Gallons	\$/gal
1 July-07		0 0		L	0	0			0	0	,	L	0	0	
2 August-07	_	0	,		0	0	,		0	0	,		0	0	
3 September-07	8,540	3,550	2.41		8,540	3,550	2.41		0	0			0	0	
4 October-07	17,002	2 6,500	2.62		6,539	2,500	2.62		5,231	2,000	2.62	01	5,231	2,000	2.62
5 November-07	19,862	2 7,059	2.81		11,318	4,040	2.80		5,734	2,016	2.84	**	2,811	1,003	2.80
6 December-07	32,273	3 11,696			27,549	10,021	2.75		0	0			4,723	1,675	2.82
7 January-08	51,894	18,857	2.75		32,002	11,605	2.76		13,670	5,038	2.71	_	6,222	2,215	2.81
8 February-08	44,342	2 15,546	2.85		36,502	12,729	2.87		1,397	486	2.88		6,443	2,332	2.76
9 March-08		0			0	0			0	0			0	0	
10 April-08	42,916	3 12,847	3.34		34,125	10,219	3.34		0	0			8,791	2,628	3.35
11 May-08	_	0			0	0			0	0			0	0	,
12 June-08	_	0			0	0			0	0			0	0	,
13 July-08		0			0	0			0	0			0	0	
14 August-08	38,050	11,245	3.38		14,792	4,433	3.34		14,986	4,412	3.40	_	8,272	2,400	3.45
15 September-08		0			0	0			0	0			0	0	,
16 October-08	21,777	008'9	3.46		16,604	4,815	3.45		0	0			5,173	1,500	3.45
17 November-08	20,818	3 6,037	3.45		16,552	4,800	3.45		0	0			4,266	1,237	3.45
18 December-08	57,402	16,634	3.45		43,833	12,702	3.45		0	0			13,569	3,932	3.45
19 January-09	55,771	16,173	3.45		31,384	9,101	3.45		0	0	,		24,387	7,072	3.45
20 February-09	52,085	16,554	3.45		46,643	13,526	3.45		3,479	1,010	3.44	-	6,962	2,018	3.45
21 March-09	27,739	9 8,044	3.45		27,739	8,044	3.45		0	0	,		0	0	,
22 April-09	_	0			0	0			0	0			0	0	,
23 May-09	_	0			0	0			0	0			0	0	
24 June-09	0	0 0			0	0			0	0			0	0	
Total	\$ 495,469	157,043	\$3.15	ક્ર	354,122	112,085	\$3.16	\$ 4	44,497	14,962	\$2.97	s	96,850	30,011	\$3.23
Most Recent 12															
months	\$ 278,642	80,987	\$3.44	↔	197,548	57,421	\$3.44	S	18,465	5,422	\$3.41	69	62,628	18,159	\$3.45

## APPENDIX B

**ECM-1 Install Kitchen Hood Controller** 

NJBPU Energy Audits CHA #20151 Building: Sussex County Vocational School - Main Building

# ECM-1 Install Kitchen Hood Controller

	KWh	Gallons		
Total Electrical Savings	5620			
Total Oil Savings		795		
Cost Savings	8929	357 736	\$3.665	

Hours of Operation (per day)  Weeks/Year  Weeks/Year  Weeks/Year  Wator HP  Motor HP  Cost of Electricity  Total KWH/YR		Number of Kitchen Hoods				9	
190 38 38 15 15 15 15 16 17 18 19 18 19 18 19 38 11 19 38 11 11 11 11 11 11 11 11 11 11 11 11 11	Hours of Operation	η (per day)				9	K
## Sun Time	Days/Year					190	Θ
ity  **Run Time	Weeks/Year					38	O
## So.165 KWh 1140 Insvient 10631 KWh 10631 KWh 1140 Insvient 10631 KWh 114% 1063 1 KWHYR 10631 KWh 114% 1063 1 KWHYR 118% 1063 1 KWHYR 10631 KWHYR 118% 1063 1 KWHYR 10631 KWHYR 118% 1063 1 KWHYR 10631 KWHYR 118% 10631 KWHYR 10631 KWHYR 118% 10631 KWHYR 10631 KWHY	Motor HP					15	Ω
6 Run Time Time Output KWHYYR 1140 hrs/year 11631 KWh 1140 hrs/year 117% 125 1* F	Equivalent KW					9.33 KW	Ш
% Run Time Time Output KWHYR 10631 KWh L L M L M M 10631 KWh L L M M L L M M 10631 KWh 11% 125 1.54 852 857 14% 160 5.338 852 35% 399 3.823 1,525 18% 205 2.600 534 100% 0 0.944 0 000% 0 0.044 0 000% 0 0.059 0 0.050	Sost of Electricity					\$0.165 KWh	щ
% Run Time Time Output KWHYYR J + C M M M M M M M M M M M M M M M M M M	otal Time/Year					1140 hrs/year	G
Time Output KWHYR K L M L M J * G I * E ^ 2.5 L * K 103 9.325 957 125 7.166 899 160 5.338 852 399 3.823 1,525 205 2.050 2.44 0 0 0.944 0 0 0.0460 0 0 0.067 0 0 0.059 0 0 0.057 0 0 0.029 0 0 0.029 0 0 0.029 0 0 0.029 0 0 0.029 0 0 0.029 0 0 0.029 0 0 0.029 0 0 0.029 0 0 0.029 0 0 0.029 0 0 0.029 0 0 0.029 0 0 0.029 0 0.029 0 0 0 0.029 0 0 0 0.029 0 0.029 0 0 0.029 0 0 0.029 0 0 0.029 0 0 0.029 0 0 0.020 0 0 0.020	otal KWH/YR					10631 KWh	I
Imre	200	F		1	Codi Invo		
J*G     I*E^Z:5     L*K       9%     103     9.325     957       11%     125     7.166     899       14%     160     5.338     852       35%     399     3.823     1,525       18%     205     2.600     534       13%     148     1.648     244       0%     0     0.460     0       0%     0     0.167     0       0%     0     0.029     0       5,010	% Kated KFM %	- Run IIIIe	k me	Indino -	M M		
9%     103     9.325     957       11%     125     7.166     899       14%     160     5.338     852       35%     399     3.823     1,525       18%     205     2.600     534       13%     148     1.648     244       0%     0     0.944     0       0%     0     0.460     0       0%     0     0.167     0       0%     0     0.029     0       5,010		,	J*G	1*E^25	, X		
11%     125     7.166     899       14%     160     5.38     852       35%     399     3.823     1,525       18%     205     2.600     534       13%     148     1.648     244       0%     0     0.460     0       0%     0     0.167     0       0%     0     0.029     0       0%     0     0.029     0       5,010	100%	%6	103	9.325	957		
14%     160     5.338     852       35%     399     3.823     1,525       18%     205     2.600     534       13%     148     1.648     244       0%     0     0.460     0       0%     0     0.167     0       0%     0     0.029     0       0%     0     0.029     0       5,010	%06	11%	125	7.166	889		
35%     399     3.823     1,525       18%     205     2.600     534       13%     148     1.648     244       0%     0     0.944     0       0%     0     0.460     0       0%     0     0.167     0       0%     0     0.029     0       0%     0     0.029     0       5,010	%08	14%	160	5.338	852		
18%     205     2.600     534       13%     148     1.648     244       0%     0     0.944     0       0%     0     0.460     0       0%     0     0.167     0       0%     0     0.029     0       0%     0     0.029     0       5,010	%02	35%	399	3.823	1,525		
13%     148     1.648     244       0%     0     0.944     0       0%     0     0.460     0       0%     0     0.167     0       0%     0     0.029     0       0%     0     0.029     0       5,010     5,010	%09	18%	205	2.600	534		
0% 0 0.944 0 0 0.000 0 0.000 0 0 0 0 0 0 0 0 0 0	%09	13%	148	1.648	244		
0% 0 0.460 0 0 0.000 0 0.000 0 0 0.000 0 0 0.000 0 0 0.000 0 0.000 0 0.000 0 0.000 0 0.000 0 0.000 0 0 0.000 0 0 0.000 0 0 0.000 0 0 0.000 0 0	40%	%0	0	0.944	0		
0% 0 0.167 0 0 0.029 0 0 0.029 0 0 0.029	30%	%0	0	0.460	0		
0% 0 0.029 0 5,010	20%	%0	0	0.167	0		
	10%	%0	0	0.029	0		
						7	

Reduced % =	100	%
Reduced Electricity Savings =	5,620	kWh
Reduced Fuel Savings =	795	Gallons
Reduced Financial Savings =	\$3,665	

	1 naust Volume equals the	
	Note 1	
	New Net Exhaust Volume 15,315 CFM Note 1 Previous net heat load 687,820 BTU/hr new net heat load 687,820 BTU/hr new net heat load 68 F Average Outdoor Air Temp (during Heating) 88.1 F Heating Hours (Newark, NJ) 4,427 hrs/yr 170tal Therms Savings 1,114 Therms Note 1 Determine the New Exhaust Volume by completing Table 1. The New Exhaust Volume equals the % Rated RPM % Run Time H*J	
	ng) me by c	3.90% 3.90% 1.20% 1.50% 5.50% 5.50% 5.00% 1.90% 5.344 / Gallon
leating	Previous Net Exhaust Volume New Net Exhaust Volume Previous net heat load new net heat load Design Indoor Conditions Average Outdoor Air Temp (during Heating) Heating Hours (Newark,NJ) Total Therms Savings Total Therms Savings Total L Determine the New Exhaust Volume Table 1 % Rated RPM % Run Time H*J	9.00% 9.90% 11.20% 24.50% 10.80% 6.50% 0.00% 0.00% 71.90%
p Air: F	t Volume ume d in	
Conditioned Make Up Air: Heating	Previous Net Exhaust Volume New Net Exhaust Volume Previous net heat load new net heat load Design Indoor Conditions Average Outdoor Air Temp (du Heating Hours (Newark,NJ) Total Therms Savings Total Therms Savings Table 1 % Rated RPM % Run Time H*J	9% 11% 35% 18% 13% 0% 0%
itioned	Previous Net Exhaust New Net Exhaust New Net Exhaust new net heat load Design Indoor Cor Average Outdoor Heating Hours (Na Total Therms Sav Note 1 Determine Note 1 Determine Sav Rated RPM % Ruted	100% 90% 80% 70% 60% 50% 40% 30% 20% Avg RPM
Cond	Previous New Net I New Net I Previous new net h Design In Average ( Heating H Total The Note 1 De Table 1 % Rated RPM	100% 90% 80% 70% 50% 20% 20% Avg RPM

## Melink Intelli-Hood

A Smart Solution to an Industry Problem

The Melink Intelli-Hood® controls are the *new* industry standard for commercial kitchen ventilation systems. Engineers, consultants and operators are specifying them on thousands of hoods for both new and existing stores.

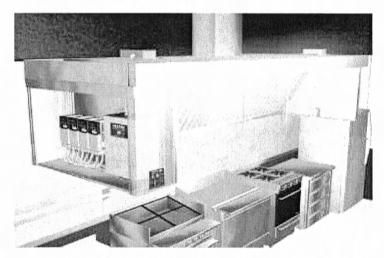
## **Savings & Benefits**

The Intelli-Hood® controls improve hood efficiency up to 50%. Typical annual operating savings are \$1,500-\$3,000 per hood, with a payback of 1-3 years. They also improve kitchen comfort, indoor air quality, and fire safety.

## Simple to Use

The cook/chef presses the light and fan switch on the Keypad. That's it!

The hood lights then turn on and the fans go to a preset minimum speed of 10-50%. When the cooking appliances are turned on, the fan speed increases based on exhaust air temperature. During actual cooking, the speed increases to 100% until the smoke/vapor is removed.



The Intelli-Hood \*controls can be specified on new hoods or be retrofitted on existing hoods.



The Intelli-Hood \*Keypad is easy to operate.

Most commercial kitchen hoods

operate at 100% capacity all day,

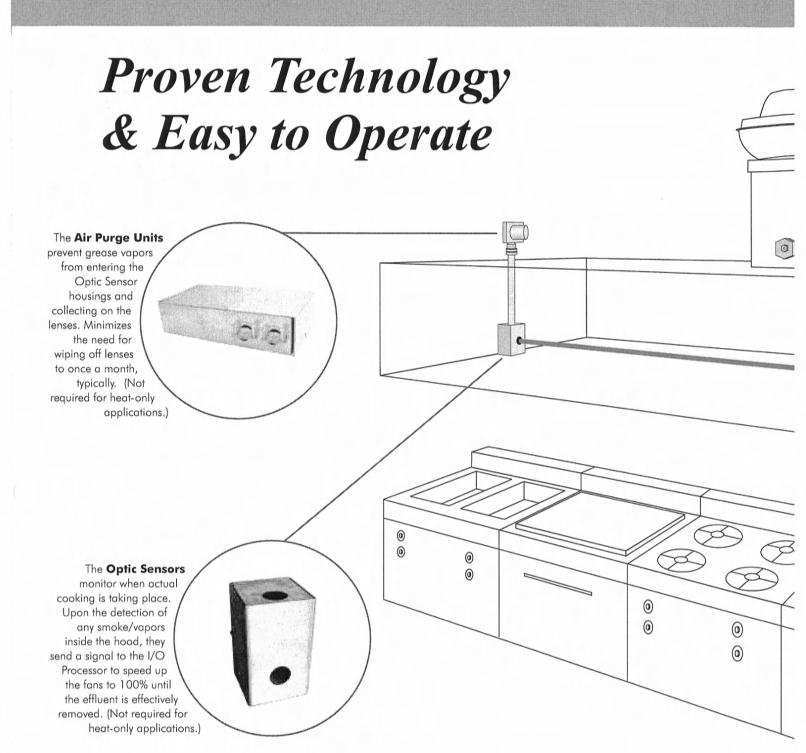
even during idle non-cooking

periods. This costs the U.S. food

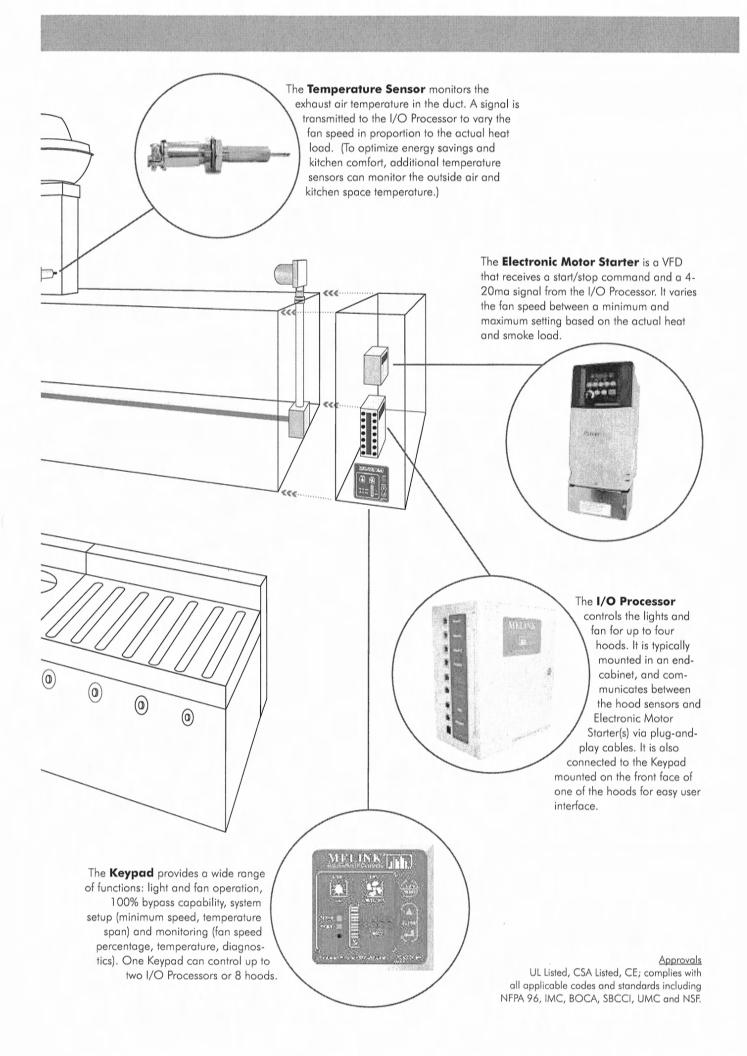
service industry over \$2 billion in

wasted energy every year.

The Melink Intelli-Hood \*controls are the only proven solution to this problem. Using a microprocessor and sensors, they reduce fan speed during idle periods to save both fan energy and conditioned air.

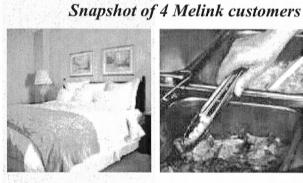






## Case Studies







## **Supermarket**

Annual energy savings per location

\$2,340

Current payback

1.8 years

## Restaurant

Annual energy savings per location

\$2,040

Current payback

2.2 years

## Hotel

Annual energy savings per location

\$20,000

Current payback

1.3 years

## **University**

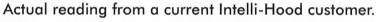
Annual energy savings per location

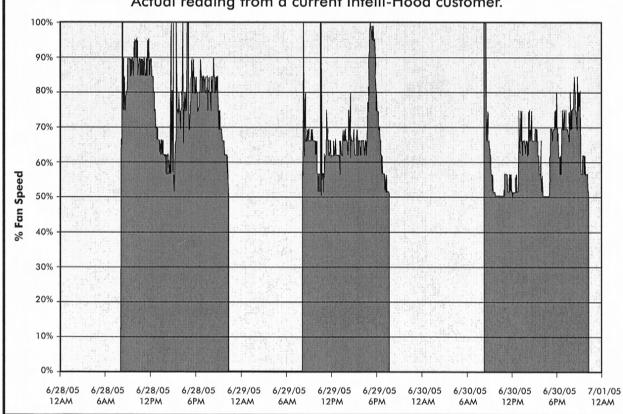
\$17,000

Current payback

1.8 years

## Before-and-After Energy Savings





## Melink Intelli-Hood®

A New Standard in Kitchen Ventilation

## **Savings & Benefits**

**Improves Energy Efficiency** 

The Intelli-Hood® controls improve energy efficiency by reducing the exhaust and make-up fan speeds during idle periods. Typical annual operating savings are \$1,500-\$3,000 per hood, with a payback of 1-3 years.

**Improves Kitchen Comfort** 

The Intelli-Hood® controls improve kitchen comfort by reducing the supply of hot/humid make-up air during idle periods. They also serve as an economizer when indoor and outdoor conditions are right for free cooling. Finally, the Intelli-Hood® controls reduce hood noise in the kitchen up to 90% when the fans slow down.

**Improves Fire Safety** 

The Intelli-Hood® controls can improve fire safety by monitoring the exhaust air temperature. If the temperature approaches the fusible link rating of the fire suppression system, an alarm can sound and/or the cooking appliances can be shut down.

Improves Occupant Health

The Intelli-Hood® controls can improve indoor air quality (IAQ) by monitoring the CO<sub>2</sub> levels in the dining area. The exhaust and outside air quantities can be increased to 100% if the level exceeds a certain threshold.

Intelli-Hood Kitchen Ventilation Controls

## Other Intelli-Hood® Advantages

- Eliminate drive losses and belt maintenance by specifying direct drive fans.
- 2. Reduce humidity problems associated with a negative building pressure.
- Improve hood and building air balance with variable-speed controls (verses belts and pulleys).
- Extend HVAC equipment life by reducing run time and thus wear/tear of compressors, motors, heaters, etc.
- 5. Prevent simultaneous MUA heating and RTU cooling inside the kitchen during the winter.
- Reduce grease on roof and inside ducts and fans by reducing the "transport" velocity.

## **MELINK**<sup>\*</sup>

MELINK CORPORATION

5140 River Valley Road, Milford, Ohio 45150 USA

Phone: 513-965-7300 • Fax: 513-965-7353

www.melinkcorp.com

NJBPU Energy Audits CHA #20151 Building: Sussex County Vocational School - Main Building

ECM-1 Install Kitchen Hood Controller

	0.99	1.22	1.09
	Material:	Labor:	Equipment:
Multipliers			

						1 - 0 - 0	G.F.O.O.O.		
	}			UNIT COSTS	2	SUBTOTAL COSTS	COSIS	TOTAL COST BEMARKS	BEMARKS
Description	<u>-</u>		MAT.	LABOR	EQUIP.	MAT. LABOR	OR EQUIP.	10101	
						·	\$	• \$	
Melink Kitchen Hood Controller	9	ea	\$ 6,500	\$ 4,000		38,610 \$ 29,280	280 \$ -	\$ 67,890	
Motor Replacement	9	ea	\$	\$ 250		3,564 \$ 1,830	830 \$ -	\$ 5,394	
Electrical	9	ea	\$ 200	\$ 600		3 2,970 \$ 4,	4,392 \$ -	\$ 7,362	
Controls interface with HVAC	-	<u>s</u>	\$ 1,000	\$ 2,500		8 990 \$ 3,	3,050   \$	\$ 4,040	
Hood Fan 1 - 2850 cfm	-	ea	\$ 2,400	\$ 250		3 2,376	305 \$	\$ 2,681	
Hood Fan 2 - 1400 cfm	-	ea	\$ 1,800	\$ 150		\$ 1,782 \$	183 \$ -	\$ 1,965	
Hood Fan 3 - 8000 cfm	-	еа	\$ 3,600	\$ 290		3,564 \$	354 \$ -	\$ 3,918	
Hood Fan 4 - 2800 cfm	-	еа	\$ 2,400	\$ 250		3 2,376 \$	305 \$ -	\$ 2,681	
Hood Fan 5 - 1600 cfm	-	еа	\$ 1,800	\$ 150		1,782	183 \$ -	\$ 1,965	
Hood Fan 6 - 4650 cfm	-	ва	\$ 2,900	\$ 250		\$ 2,871 \$	305 \$ -	\$ 3,176	
						-	- &	\$	
						9 -	\$	\$	

\$ 15,161 15% Contingency  \$ 17,435 15% O&P  \$ - 0% Engineering  \$ 133,667 Total	ઝ	101,072 Subtotal	Subtotal
1 Total	↔	15,161	15% Contingency
Total	€	17,435	Contractor 15% O&P
\$ 133,667 Total	8		0% Engineering
	s	133,667	Total

## APPENDIX C

**ECM-2 Install Premium Efficiency Motors** 

NJBPU Energy Audits CHA #20151 Building: Sussex County Vocational School - Main Building

1,477 Total Cost 1,477 1,477 Subtotal Costs Materials Labor Equipment 989 \$ 488 989 \$ 486 989 \$ 488 545 \$ 305 545 \$ 305 545 \$ 305 Unit Costs Labor Equipment 550 \$ 250 \$ 999 \$ 400 \$ 999 \$ 400 \$ 550 \$ 250 \$ 550 \$ 250 8 999 \$ 400 Cost Estimates Materials 3.0 4.3 7.4 3.5 KWh \$ KWh Total \$ Estimated Payback Savings Savings Cost Years 54.5 6.2 1,477 8,400 \$ 1,224 \$ 1,433 \$ 6,980 860 851 493 \$ 1,477 \$ 1,477 35 199 244 137 Cost S/KWh \$ 0.146 439 \$ 290 145 229 122 1,570 \$ 1,988 994 836 4,427 2,922 1,461 8,016 4,427 Demand Cost \$/KW-month \$ 6.63 1 New Load New Demand Demand HP<sub>b</sub> Factor Efficiency<sub>a</sub> KW Savings Savings \$ 54 25 54 18 121 208 2.62 \$ 0.690 0.690 0.196 0.189 0.680 0.196 42.2 10.8 10.8 10.8 3.7 2.3 0.930 0.930 0.930 0.897 0.897 6.0 9.0 0.9 0.0 6.0 0.0 44.9 58 Existing kW 11.5 11.5 3.9 11.5 2.5 0.875 0.852 0.815 0.875 0.875 0.852 Load 6.0 6.0 6.0 6.0 6.0 Existing HP 58 ECM-2 Install Premium Efficiency Motors 15 15 15 Mech Room Mech Room Mech Room Pool Heat Location Total Pool Pool Savings Analysis # Description HW P-1 HW P-3 Pool P-1 Pool P-2 HW Pump HW P-2

Remarks

98

851

850

Same as existing HP unless resized to better match load

33

Notes a Existing and new efficiencies should be entered if known. If not known, see provided curve if based on "DOE Survey Installed Average" and NEMA Premium values, respectively.

## APPENDIX D

ECM-3 Reduce Excess O2 in Boiler

## NJBPU Energy Audits CHA #20151

**Building: Sussex County Vocational School - Main Building** 

## ECM-3 Reduce Excess O2 in boiler

Fuel Oil Cost
Yearly Oil Usage
Excess Air Reduction
Energy Savings from Reduced Air

\$ 3.440	/gal
53,574	
4%	
4%	

Oil Savings

2,143 gallons/yr \$ 7,372

<sup>\*</sup>Excess O2 can range from 5% to over 10%. Assume 7% Can be reduced to 3%

NJBPU Energy Audits CHA #20151 Building: Sussex County Vocational School - Main Building

# ECM-3 Reduce Excess O2 in boiler

	Г		
	0.99	1.22	1.09
fultipliers	Material:	Labor:	Equipment:

Description	VTO	TINIT		UNIT COSTS	S	SUI	SUBTOTAL COSTS	STS	TOTAL COST	0/10 4441
	3	O O O	MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.	IOIAL COSI REMARKS	KEMAKKS
						\$	- \$	- \$	\$	
Oxygen Trim Controller & Sensors	3	ea	\$ 000'8 \$	\$ 2,500		\$ 23,760	33,760 \$ 9,150	-	\$ 32,910	
Air servo motor	3	ea	\$ 200	\$ 150		\$ 594	\$ 549	- \$	\$ 1,143	
Fuel servo motor	3	ea	\$ 200	\$ 150		\$ 594	\$ 549 \$	-	\$ 1,143	
Boiler Mods	3	ea	\$ 200	\$ 320		\$ 1,485 \$	\$ 1,281 \$	- \$	\$ 2,766	
Startup & Training	1	ls	\$ 1,000	\$ 5,000		066 \$	\$ 6,100 \$	- \$	\$ 7,090	
						- \$	\$	-	-	
						- \$	- \$	- \$	- \$	
						- \$	- \$	- \$	-	
						- \$	\$	-	\$	

s	45,052	45,052 Subtotal
s	9,010	20% Contingency
		Contractor
\$	8,109	15% O&P
\$	-	0% Engineering
\$	62,172	Total

## APPENDIX E

**ECM-4 Boiler Replacement** 

NJBPU Energy Audits CHA #20151

Building: Sussex County Vocational School - Main Building

# **ECM-4** Boiler Replacement

Proposed Fuel **Existing Fuel** 

Þ #2 Oil #2 Oil

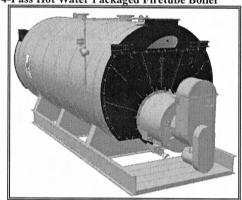
<u>Item</u>	<u>Value</u>	<u>Units</u>	Formula/Comments
Baseline Fuel Use	53,574	Gals #2	Based on historical utility data
Existing Boiler Plant Efficiency	%08		Estimated or Measured
Baseline Boiler Load	6,000,265	Mbtu/yr	Baseline Fuel Use x Existing Efficiency x 140 Mbtu/Gals #2
Baseline Fuel Charges	\$184,311	\$/yr	
Proposed Boiler Plant Efficiency	%88		New Boiler Efficiency
Proposed Fuel Use	48,703	Gals #2	Baseline Boiler Load / Proposed Efficiency / 140 Mbtu/Gals #2
Annual Savings	4,870	Gals #2	Baseline Fuel - Proposed Fuel

## Savings Summary:

Unit Cost	es.	3.44 \$/gal	lal	
	\$	2.46 \$/th	therm	
Annual \$ Savings	\$	16,756		



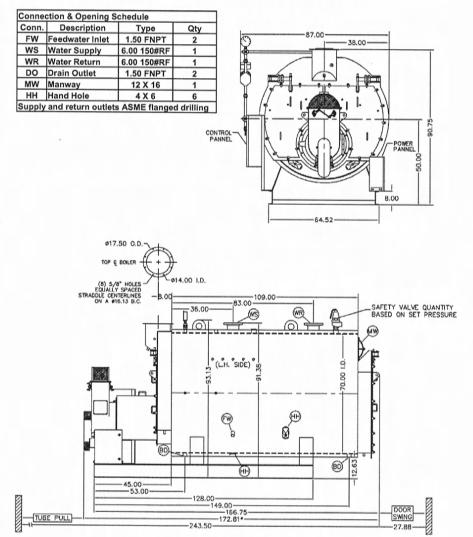
## MODEL: PFTA 125-4 4-Pass Hot Water Packaged Firetube Boiler



## Ratings & Performance Data

Horsepower 125			Natural Gas Flo	w, SCFH (1,0	00 Btu/ft <sup>3</sup> )**	4,907
Total Heating Surface, ft <sup>2</sup>		652	Combustion	Air (15% Exc	ess), SCFM***	898
Furnace Outside Diameter,	in	30.5	Flue Gas Flo	w Rate, lb/hr	***	4,279
Furnace Heat Release Rate,	Btu/ft3 hr**	157,000	Stack Flue G	as Velocity,	ft/min***	1,274
Total Combustion Volume,	ft <sup>3</sup>	52.5	#2 Oil Flow, gal	/hr (140,000 E	Stu/gal)**	33.8
Total Heat Release Rate, Bt	u/ft³ hr**	93,000	#6 Oil Flow, gala	/hr (150,000 E	3tu/gal)**	31.2
Water Content Flooded, gal		1,177	Flue Gas Side P	ressure Dro	o, in. H <sub>2</sub> O	2.6
Approx. Dry Weight 30#, lb		13,000	Approx. Operat	ing Weight 3	0#, Ib	22,800
Approx. Dry Weight 60#, Ib		13,100	Approx. Operati	ing Weight 6	0#, lb	22,900
Approx. Dry Weight 125#, Ib		13,600	Approx. Operat	ing Weight 1	25#, lb	24,000
Performance Data*						
	Natural	Gas	#2 0	Dil	#6 Oil	
Operating Temperature (F)	Stack Temp (F)	%Eff	Stack Temp	%Eff	Stack Temp (F)	%Eff
180	258	85.8	271	88.8	266	89.8
200	277	85.3	290	88.3	286	89.3
220	296	84.8	309	87.8	305	88.8
240	314	84.3	328	87.3	325	88.4

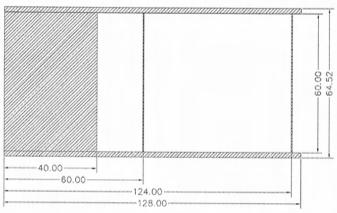
## Drawings - 4-Pass Hot Water Packaged Firetube Boiler

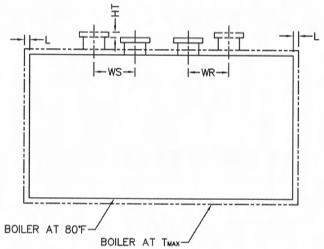


Notes: 30# Hot Water design shown, all dimensions given in inches. Fuel piping and/or optional boiler trim may increase overall width. Specifications subject to change to incorporate engineering advances. \*May vary on low-NO $_{\rm x}$  designs.

## MODEL: PFTA 125-4

## **Base Diagram**



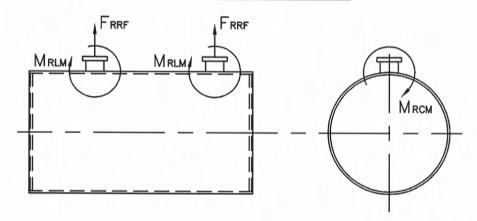


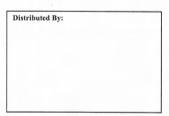
Thermal Expansi	on			
Metal T <sub>MAX</sub> (F)	180	200	220	240
L (in)	0.033	0.039	0.046	0.052
WS (in)	0.011	0.013	0.016	0.018
WR (in)	0.017	0.021	0.024	0.027
HT (in)	0.042	0.051	0.059	0.068

## MODEL: PFTA 125-4

## **Nozzle Loadings**

Maximum Al	lowable Load o	n Outlet & Ret	urn Nozzles	
	30# Design	60# Design	125# Design	160# Design
F <sub>RRF,</sub> Ib	3,135	2,555	1,775	2,670
M <sub>RCM</sub> , in-lb	13,420	13,420	13,420	23,150
M <sub>RLM</sub> , in-lb	19,790	16,145	11,195	18.630







300 Pine Street P.O. Box 300 Ferrysburg, MI 49409-0300 Telephone: (616) 842-5050 Net: www.johnstonboiler.com

	PPM∨		lb/hr @	Ton/Yr@
	(Corr to 3% O <sub>2</sub> )	lb/MBtu	Full Rate	Full Rate
	110	0.131	0.643	2.814
NO <sub>x</sub> *	30	0.036	0.175	0.768
	9	0.011	0.053	0.230
СО	50	0.037	0.18	0.790
CO2	2.55 lb/lb fuel	119.76	588	2,574
H <sub>2</sub> 0	2.03 lb/lb fuel	106.16	521	2,281
Stack E	missions-#2 Oil** (	140,000 B	tu/gal)	
NO <sub>x</sub>	128	0.174	0.825	3.613
СО	50	0.037	0.174	0.762
CO2	3.20 lb/lb fuel	168.53	798	3,497
H₂0	1.12 lb/lb fuel	71.20	337	1,477

\*\*0.02% fuel bound Nitrogen

NJBPU Energy Audits CHA #20151 Building: Sussex County Vocational School - Main Building

# **ECM-4 Boiler Replacement**

			_
	0.99	1.22	1.09
Multipliers	Material:	Labor:	Equipment:

Cocitorio	VTO	TINI		UNIT COSTS		SUB	SUBTOTAL COSTS	STS	TOTAL COST DEMANDES	DEMADIZ
Describation	5	CINIO	MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.	I O I AL COST	NEWARKS
						8	- \$	-	- \$	
125hp Boiler	2	еа	\$ 29,500 \$	\$ 8,050		\$117,810	\$117,810   \$ 19,642	- \$	\$ 137,452	
Installation	2	еа	\$ 1,500	\$ 2,500		\$ 2,970	2,970 \$ 6,100	- \$	\$ 9,070	
Start up	2	еа	\$ 500	\$ 1,000		066 \$	0 \$ 2,440	- \$	\$ 3,430	
Piping Modifications	2	еа	\$ 2,500	\$ 2,000		\$ 4,950 \$	\$ 4,880	- &	08'6 \$	
Electrical Modifications	2	еа	\$ 1,000 \$	\$ 1,200		\$ 1,980 \$	\$ 2,928	9	\$ 4,908	
Flue Modifications	2	ea	\$ 1,500	\$ 800		\$ 2,970	2,970 \$ 2,196	-	\$ 5,166	
Misc	1	sl	\$ 2,000 \$	\$ 7,000		\$ 4,950 \$	\$ 8,540	- \$	\$ 13,490	
						\$	\$	- \$	- \$	
						\$	\$	- \$	- \$	
						- \$	- \$	- \$	- \$	

\$ 36,669 20% Conting Contra \$ 33,002 15% O&P \$ 25,302 10% Engine \$ 278,319 Total	\$	183,346 Subtotal	Subtotal
36,669 33,002 25,302 <b>278,319 Total</b>			
15% 10% <b>Total</b>	↔	36,669	20% Contingency
15% 10% <b>Total</b>			Contractor
10% <b>Total</b>	s	33,002	15% O&P
	ક્ક	25,302	10% Engineering
	\$	278,319	Total

## APPENDIX F ECM-5 Install VSDs – HW Pumps

## ECM-5 Install Variable Speed Drives - HW Pump

Balance Pt	55
VFD Eff.	98.5%

## Summary

Each boiler in the main plant has an associated circulator. When the boiler fires, the pump starts. This pump runs at constant speed regardless of load. Pumps stage on with boiler so not all pumps have same runtime.

Pump ID	Qty	НР	Total HP	Existing Motor Motor Eff.	New Motor Motor Eff.	Exist. Motor kW Note 1	New Motor kW Note 2
P-1	1	15.0	15.0	93.0%	93.0%	9.63	9.63
					Total:	9.63	9.63

OAT - DB Avg Temp F	Annual Hours in Bin	Heating Hours Bin	Pump Load %	Existing Pump kWh	Proposed Pump kW	Proposed Pump kWh	Proposed Savings kWh
(A) See Note 3	(C ) See Note 3	(D) =IF(A>TP,0,C)	(E) =0.5+0.5* (50-A)/(50-10)) See Note 4	(F) =D*AA	(G) =BB*E^2.5/CC See Note 5	(H) =D*G	(I) =F-H
97.5	3	0	0%	0	0.0	0	0
92.5	34	0	0%	0	0.0	0	0
87.5	131	0	0%	0	0.0	0	0
82.5	500	0	0%	0	0.0	0	0
77.5	620	0	0%	0	0.0	0	0
72.5	664	0	0%	0	0.0	0	0
67.5	854	0	0%	0	0.0	0	0
62.5	927	0	0%	0	0.0	0	0
57.5	600	0	0%	0	0.0	0	0
52.5	610	610	50%	5,872	1.7	1,054	4,818
47.5	611	611	66%	5,881	3.5	2,113	3,768
42.5	656	656	84%	6,315	6.3	4,146	2,169
37.5	1,023	1,023	50%	9,847	1.7	1,767	8,080
32.5	734	734	60%	7,065	2.7	2,000	5,065
27.5	334	334	70%	3,215	4.0	1,338	1,877
22.5	252	252	80%	2,426	5.6	1,410	1,016
17.5	125	125	90%	1,203	7.5	939	265
12.5	47	47	67%	452	3.6	169	284
7.5	22	22	84%	212	6.3	139	73
2.5	13	13	100%	125	9.8	127	-2
-2.5	0	0	0%	0	0.0	0	0
-7.5	0	0	0%	0	0.0	0	0
	8,760	4,427		42,613		15,201	27,412

Pump ID	Qty	HP	Total HP	Existing Motor Motor Eff.	New Motor Motor Eff.	Exist. Motor kW Note 1	New Motor kW Note 2
P-2	1	15.0	15.0	93.0%	93.0%	9.63	9.63
					Total:	9.63	9.63

OAT - DB Avg	Annual Hours in	Heating Hours	Pump Load	Existing Pump	Proposed Pump	Proposed Pump	Proposed Savings
Temp F	Bin	Bin	%	kWh	kW	kWh	kWh
(A)	(C)	(D) =IF(A>TP,0,C)	(E) =0.5+0.5* (50-A)/(50-10))	(F) =D*AA	(G) =BB*E^2.5/CC	(H) =D*G	(I) =F-H
See Note 3	See Note 3		See Note 4		See Note 5		
97.5	3	0	0%	0	0.0	0	0
92.5	34	0	0%	0	0.0	0	ő
87.5	131	0	0%	Ö	0.0	o	ő
82.5	500	0	0%	0	0.0	0	0
77.5	620	0	0%	0	0.0	0	0
72.5	664	0	0%	0	0.0	0	0
67.5	854	0	0%	0	0.0	0	0
62.5	927	0	0%	0	0.0	0	0
57.5	600	0	0%	0	0.0	0	0
52.5	610	610	0%	0	0.0	0	0
47.5	611	611	0%	0	0.0	0	0
42.5	656	656	0%	0	0.0	0	0
37.5	1,023	1,023	50%	9,847	1.7	1,767	8,080
32.5	734	734	60%	7,065	2.7	2,000	5,065
27.5	334	334	70%	3,215	4.0	1,338	1,877
22.5	252	252	80%	2,426	5.6	1,410	1,016
17.5	125	125	90%	1,203	7.5	939	265
12.5	47	47	67%	452	3.6	169	284
7.5	22	22	84%	212	6.3	139	73
2.5	13	13	100%	125	9.8	127	-2
-2.5	0	0	0%	0	0.0	0	0
-7.5	0	0	0%	0	0.0	0	0
	8,760	4,427		24,546		7,889	16,657

Pump ID	Qty	НР	Total HP	Existing Motor Motor Eff.	New Motor Motor Eff.	Exist. Motor kW Note 1	New Motor kW Note 2
P-3	1	15.0	15.0	93.0%	93.0%	9.63	9.63
					Total:	9.63	9.63

OAT - DB Avg Temp F	Annual Hours in Bin	Heating Hours Bin	Pump Load %	Existing Pump kWh	Proposed Pump kW	Proposed Pump kWh	Proposed Savings kWh
(A)	(C)	(D) =IF(A>TP,0,C)	(E) =0.5+0.5* (50-A)/(50-10))	(F) =D*AA	(G) =BB*E^2.5/CC	(H) =D*G	(I) =F-H
See Note 3	See Note 3		See Note 4		See Note 5		
97.5	3	0	0%	0	0.0	0	0
92.5	34	0	0%	0	0.0	0	0
87.5	131	0	0%	0	0.0	0	o o
82.5	500	0	0%	0	0.0	Ö	0
77.5	620	0	0%	0	0.0	0	0
72.5	664	0	0%	0	0.0	0	0
67.5	854	0	0%	0	0.0	0	0
62.5	927	0	0%	0	0.0	0	0
57.5	600	0	0%	0	0.0	0	0
52.5	610	610	0%	0	0.0	0	0
47.5	611	611	0%	0	0.0	0	0
42.5	656	656	0%	0	0.0	0	0
37.5	1,023	1,023	0%	0	0.0	0	0
32.5	734	734	0%	0	0.0	0	0
27.5	334	334	0%	0	0.0	0	0
22.5	252	252	0%	0	0.0	0	0
17.5	125	125	0%	0	0.0	0	0
12.5	47	47	67%	452	3.6	169	284
7.5	22	22	84%	212	6.3	139	73
2.5	13	13	100%	125	9.8	127	-2
-2.5	0	0	0%	0	0.0	0	0
-7.5	0	0	0%	0	0.0	0	0
	8,760	4,427		789		435	354

				_
Total	67,949	23,525	44,424	kWh

Notes:

1) Existing motor power was estimated
2) New motor power is the same as Existing motor power adjusted for the new efficiency, if a new motor is proposed.
3) Weather data from NOAA for Newark,NJ
4) The pump load is estimated at 100% at 10 deg. OAT and 50% at 50 deg. OAT and varies linearly in between.
5) The required VFD motor draw is based on a 2.5 power relationship to load.

NJBPU Energy Audits CHA #20151 Building: Sussex County Vocational School - Main Building

# ECM-5 Install Variable Speed Drives - HW pumps

	Material: 0.99	Labor:   1.22	Equipment:   1.09
Multipliers			Eq

	, it	-		UNIT COSTS		S	SUBTOTAL COSTS	SOSTS	TOTAL	
Description	<u>ح</u>	INO	MAT.	LABOR	EQUIP.	MAT.	LABOR	REQUIP.	COST	KEMAKKS
						÷	\$	\$	\$	
15 hp VFD	3	еа	\$ 2,336	\$ 772		\$ 6,938	8 \$ 2,826	- \$ 9	\$ 9,763	
Electrical - misc.	3	ea	\$ 250	\$ 300		\$ 743	3 \$ 1,098	- \$ 8	\$ 1,841	
Pressure Sensor	3	ea	\$ 150	\$ 250		\$ 446	6 \$ 915	5 \$ -	\$ 1,361	
Controls - Programming	1	ls	\$ 1,000	\$ 2,000		\$ 800	0 \$ 2,440	- \$ 0	\$ 3,430	
Replace 2-way valves	1	ls	\$ 10,000	\$ 2,000		\$ 9,900	0 \$ 2,440	- \$ 0	\$ 12,340	assume (5) 2" valves+
Misc Piping changes	1	ls	\$ 2,000	\$ 1,200		\$ 1,980	0 \$ 1,464	4 \$	\$ 3,444	
Misc Controls	1	ls	\$ 2,500	\$ 1,500		\$ 2,475	5 \$ 1,830	- \$ 0	\$ 4,305	
						\$	\$ -	- \$ -	- \$	

Total	62,724	s
15% Engineering	8,181	ક્ર
15% O&P	7,114	ઝ
Contractor		
30% Contingency	10,945	↔
36,483 Subtotal	36,483	s

## APPENDIX G

ECM-6 Replace Pool Dectron Unit

NJBPU Energy Audits

CHA #20151

Building: Sussex County Vocational School - Main Building

## ECM-6 Replace Pool Dectron Unit

DESCRIPTION:	Replace existing dehumidification system to reduce ventilation heating costs	heating costs.	
GIVEN:	Heating Energy Cost	II	\$/gal (Fuel Oil #2)
	Water Cost	"	0.00 \$/kGal
	Electrical Use Cost	II	\$ 0.146 /Kwh
	Electrical Use Cost	II	6.63 /Kw
	Area of Pool Water Surface	II	5,050 square feet
	Pool Room Area		17,250 square feet
	Temperature of Water	II	82 F
	Temperature of Air	11	78 F
	Make-up water temperature	11	55 F
	Elevation of location	Ш	984 feet
	Relative Humidity of air at above temperature	II	%09
	Pa=saturation pressure at air temp Dew Pt.	II	0.58038 " Hg
	Pw=saturation vapor pressure at surface temperature	II	1.10249 " Hg
	Wi=humidity ratio of pool (design)	п	0.01276 W (Lbw/Lba)
	Wo=humidity ratio of outdoor air (design)	II	0.00929 W (Lbw/Lba)
	Hours of operation	п	8016 hours
	Condensing Fan HP		3 HP
	Increased Blower Fan HP	II	1 HP
	KW of Compressor	п	25 Kw
	Compressor Coefficient of Performance (COP)	п	2.5 COP
ASSUMPTION:	Heating Efficiency	·	%82
	Compressor Cycling Percentage	п	65%
	Average Return Air Temperature =	60% RH 78 F	32.7 Enthalpy
	Activity Factor (hotel, health clubs=1.3, Schools=1.6, Public=2.0)	nools=1.6, Public=2.0)	1.6
	f Outside Air	П	85 F
	Average Relative Humidity of air at above temperature	п	35%
	Proposed Design Outside Air		0.5 cfm / square feet
	Air System Efficiency Improvement Factor		%6
FORMULA:	Cost of Heating (\$MMBH) = ( Cost of Fuel (\$(unit)) / ((Heating Efficiency (%)) x (Conversion (btu/unit))  Cost of Water (\$1000 gallons) = ( Cost of Water (\$(unit)) x (Conversion (unit/1000 gallons))  Evaporation Rate (lb/In/st) = ( 0.05 x (Saturation Air Pressure (Water) Water)  Evaporation of water (gallon of water)  Evaporation of water (labra) = ( Evaporation rate) x (Surface Area of pool ) (Without cover, With cover assumed to be zero)  Evaporation of water (gallon/year) = (Evaporation rate) x (Activity Factor) x (Surface Area of pool ) (Without cover, With cover assumed to be zero)  Evaporation of water (gallon/year) = (Evaporation rate) x (Activity Factor) x (Surface Area of pool ) (Without cover, With cover assumed to be zero)  Water Cost (\$) = (Evaporation of water(gallon/year)) x (Water Cost (\$1000 gallons))  Pool Heat Loss (Bu) = (40) x ((Pool Temperature)-(Air Temperature) (13) (Simplified equation from ASHRAE Fund Chapter 4) (Used constant of 40 and 20 in leui of 80)  Pool Heat Loss (Malbu) = (Heatin Surface) x (Notion (Malbu)) x (1000 butuMBh)  Outside air quantity required = ((Evaporation rate / ((60min/hr) x (10.75) x (humidity ratio inside(Wi)) - humidity ratio outside(Wo))  Ventilation Usage (mbh) = (1.08 x OA Cfm x (Return Air Temperature - Outside Air Temperature) x (Hours in bin) / (1000 butuMBh)  Ventilation Cost (\$) = (Avaporation x \$fwmh) x (Lost of Heating (\$MMbh)) x (1000 Mbh/MMbh)  Fan Air System Costs (\$) = (Ava x months/year x \$fwm)  Demand Savings (\$) = (kW x months/year x \$fwm)  Pool Dehumidification System Recovered Heat = (Compressor Energy) x (Conversion Factor) x (Coefficient of Performance)	(Kheating Efficiency (%)) x (Conversion (btu/unit)) (\$(unit)) x (Conversion (unit/1000 gallons)) in Pressure (Water)(Pw) - Saturation Air Pressure (Air) (Pa)) (Simplified Equ. (*Activity Factor) x (Surface Area of pool ) (Without cover, With cover assun (*Bskrb), x (Hours/Year) / (Water Density (Ib/ gallon)) /) x (Water Cost (\$/1000 gallons)) /-(Air Temperature)/*/1/3) (Simplified equation from ASHRAE Fund Chapte vary Year) / (1,000 000btu/MMBtu) /-(Air Temperature)/*/1/3) (Simplified equation from ASHRAE Fund Chapte Cost of Heating (\$/RMMbh)) /-((60min/hr) x (0.075) x (humidity ratio inside(Wr) - humidity ratio outside(Wr) /- Air Temperature - Outside Air Temperature) x (Hours in bin) / (1000 btu/M /- Ost of Heating (\$/RMMbh)) x (1000 Mbh/MMbh) /- Air Anurs of operation x \$/kwh) /- X Hours of operation x \$/kwh) (*Compressor Energy) x (Conversion Factor) x (Coefficient of Performance)	phified Equation from ASHRAE) over assumed to be zero) and Chapter 4) (Used constant of 40 and 20 in leui of 80) outside(Wo)) formance)

\$/1000 gallons 31.50 \$/MMBtu

=

0.1400 MMbh/gallon

78% )/( 0.1400 MMt 1.0 1000 gallons/1000 gallons )=

\$ 3.44 )/( \$ - (\$/unit)) x(

Cost of Heating=( Cost of Water=(

CALCULATION:

0.0183 lb/hr/sq ft 147.65 lb/hr 142.086 gallons	9,469 cfm 6,100 cfm	KWH	17940 kwh 140280 kwh \$ 23,100	27 kw 300 kw \$ 2.166 \$ 25,266	TANK	91% 5980 kwh 118537 kwh KW	91% 273 kw \$ 1.888 \$ 20,048	1,011 MMBtu \$ 31,861
0.58038 )) = 5,050 ) = 8.33 lb(gallon) = - ) / 1000 gallons =	= ((	HOURS		),(		Months Months	),(	COP 2.5 )= \$/MMBtu )=
1.10249 ) - ( 1.6 ) x ( 8016 ) / ( 142,086 ) gallons x ( \$	0.00929065	ADD KW		( 22.4)*( ( 25.00)*( 300)*( )		ADD KW 0.75 )*( 65% )*( 85% )*( 25.00 )*( 8537 )=( ADD KW	( 0.75)'( ( 25.00)'( 273)=( 282 kw)'(	MM/Btu/kwh COP 2.0.003413 )×( 2.2.1011 MM/Btu)×( \$ 31.50 \$/MM/Btu)=
0.0183 )×(( 147.7 )×((	147.65 )/(60×0.075× 0.013 0.5 cfm/sf)*(	Conversion	3.00 )*( 0.746 )=( 70% )*( 17940 )+(	27 )+( 300		1.00 )*( CONVERSION CONTESSON )*( 0.746 )=( 65% )*( 65% )*( 5980 )*( 118537 )=( 118537 )*( 118537 )	9 )+(	Compressor Energy 118537 kwh) x ( (
) )		욮		J		0.1 )	J	covered Heat = ( Reheat =
POOL EVAPORATION LOSSES Evaporation Rate (0.05 x (Pw-Pa))= Evaporation of water = Evaporation of water = ( Water Cost = (	POOL AREA VENTILATION Outside air quantity required = ( Outside air required with dehumidifier= (	AIR SYSTEM ENERGY	Condensing Fan Energy = Compressor Energy = Subtotal	Fan KW Demand: Pool Compressor Demand: Subtotal Total Existing Air System Energy Costs:	PROPOSED AIR SYSTEM ENERGY	Increased Blower Fan Energy = Compressor Energy = Subtotal	Fan KW Demand: Pool Compressor Demand: Suthotal Total Existing Air System Energy Costs:	Pool Dehumidification System Recovered Heat = Additional Fuel Cost Required for Reheat =

Annual Existing Electric Use Annual Existing Heating Use	158,220 kwh 1.011 MMBtu	327 KW	îîî	s s	31.861
TOTAL EXISTING COST PER YEAR				s	57,127
Annual Proposed Electric Use	124,517 kwh	282 kW	î	s	20,048
Annual Proposed Heating Use TOTAL PROPOSED COST PER YEAR	MMBtu		î	s	20,048
Annual Proposed Electric Savings	33,703 kwh	î		s	5,218
Annual Proposed Heating Savings	1,011 MMBtu	î		s	31,861
TOTAL PROPOSED SAVINGS PER YEAR				s	37.080



## Load Summary and DRY-O-TRON® Selection

Page 1 of 1 August 17, 2009

Job Number:

3000257-2

Job Name:

Sussex County Vocational School

Room Temperature: Relative Humidity Range:

82 °F Occupied: 59%

Heat Index: 84.25 °F

Active Hours:

Unoccupied: 50%

Outdoor Condition for:

12

Newark, NJ

Summer Design: Winter Design:

DB 93.0 °F WB 74.0 °F DB 10.0 °F

Altitude:

Selection Mode:

WB 8.0 °F

Refrigerant:

NORMAL MODE R134A

Load Sources	Load Active	Load Inactive	0			
School or University / Public Fε			Surface	Activity Factor	Water Temp	Primary Water Heater
Outdoor Air		136.7	5,050	1.00	82	Dry-O-Tron
Spectators	-3.3			6000 CFM		217 0-11011
	0.0		7	0@0.1550		
Total Dehumidification Load Lb/h	220.8	136.7	,	3011000		

DRY-O-TRON® SELECTION: 1 x RS-182 Smart Saver (Refrigerant)/Purge

Summer Design Day Runtime: 85%



## Pool Dehumidifier Unit Schedule

Location	Newark, N	11	
Description	ivewalk, iv	Room Volume	
Model Number	RS-182 ( Smart Saver (Refrigerant)/Purge )	Cabinet Size	and define
Nodel Number Nomenclature	RSH182ZDSXD1945Q96		202

Supply Fan								
CFM 19,000	Air Changes Unit Total 10.270.3( 0,270.3	Type BI DWDI	SA 0.5	E.S.P RA 0.5	Total	HP 15.00	FLA 18.80	VFD <b>No</b>

ASHRAE Recommends 4 to 8 air changes

					E.S.P					
	CFM	Location	Fan Type	EA	RA	Total	HP	FLA	VFD	OA
Min EF1	6,600	Unit Mounted	FC DWDI	0.0	0.5	0.5	7.50	9.90	No	6,000
Purge Mode EF2	14,300	Unit Mounted	FC DWDI	0.0	0.5	0.5	10.00	13.00	No	19,000

Compressor(s	5)						
Refrigerant	R-134A	# of Compressor	2	Stages	2	# of Independant Refrige	rant Circuits 2
Compressor	Number	LRA	RLA		kW	Capacity (btu/h)	Compressor Type
Compress	sor #1	218	40.00		18.6	268,600	semi-hermetic
Compress	or #2	218	40.00		18.6	268,600	semi-hermetic

Space Temperature (°F)		92.0	
Reheat Coil Capacity (btu/h)		82.0 635,710	
Relative Humidity (%RH)	Minimum RH <b>50</b>	Maximum RH <b>60</b>	Selected RH 59
Moisture Removal Capacity (lb/h) Evaporator Coil Sensible Capacity (btu/h)	190.68	228.65	225.47
Net Sensible Capacity Including Outside Air Load (btu/h)	336,260	291,890	296,327
Net Sensible Capacity Not Including Outside Air Load (blu/h)	186,789	142,419	146,856
Net Sensible Capacity Not Including Outside Air Load (btu/h)	258,069	213,699	218,136

Pool Water H	eater					And Address designation of the Control
Heater	Type	Capacity (btu/h) GPN	Connection Informations		Max	PD
#1	CuNi Vented Coax.	222,624 40.0	Type	Size 1 1/2	PSIG <b>6.00</b>	FT 13.86

Pool Water Auxi	liary Heater			
Auxiliary	Туре	Capacity (btu/h)	Location	
#1			Remote	



## Pool Dehumidifier Unit Schedule

Sussex County Vocat	Sussex County Vocational School					
Location	Newark, N	NJ				
Description		Room Volume	111	ft3		
Model Number	RS-182 ( Smart Saver (Refrigerant)/Purge )	Cabinet Size	202			
Nomenclature	RSH182ZDSXD1945Q9	63ZDZOZZFE18				

Location	Unit Mounted		Normal Mode Purge Mode		
GPM Number of Rows Pressure Drop (PSIG)	70.00 2 5.10	Capacity (btu/h) 709 Entering Air Temp. (°F) 70 Leaving Air Temp. (°F) 10 Entering Water Temp. (°F) 18 Leaving Water Temp. (°F) 15		1,101,350 10.0 63.4 180.0 147.8	
Valve 3-Way By Dectron, I Connection Size: IN (OD)	Unit Mounted Valve Type 2-1/2" OUT (FPT)	Ball Valve Size 1-1/2" 2-1/2"	159.2 Pressure Drop		

Smart Saver Heat Recove	ery Coils			
Refrigerant	R-134A		Exhaust Air	Outside Air
Location Capacity (mbh) Coating	Unit Mounted 233.3 Hypoxy	CFM Entering Dry Bulb (°F) Leaving Dry Bulb (°F) Rows Fins per Inch	6,600 82.0 0.0 6 10	6,000 10.0 46.0 4

Leaving Air Temperatures (Not Including Outside Air)				
Dehumidification Mode (°F) Pool Water Heating Mode (°F)	100.4 89.6	Air Conditioning Mode (°F) Recirculation Mode (°F)	71.4 83.9	

Electrical Data		
	Unit Rating	Service & Lights
MCA (Amps)	119	
MOP (Amps)	150	15 A
Nominal unit kW	54	
EER (Energy Efficiency Ratio)	9.96	
	460	120
Voltage Phase	3	1
Hertz	60	60

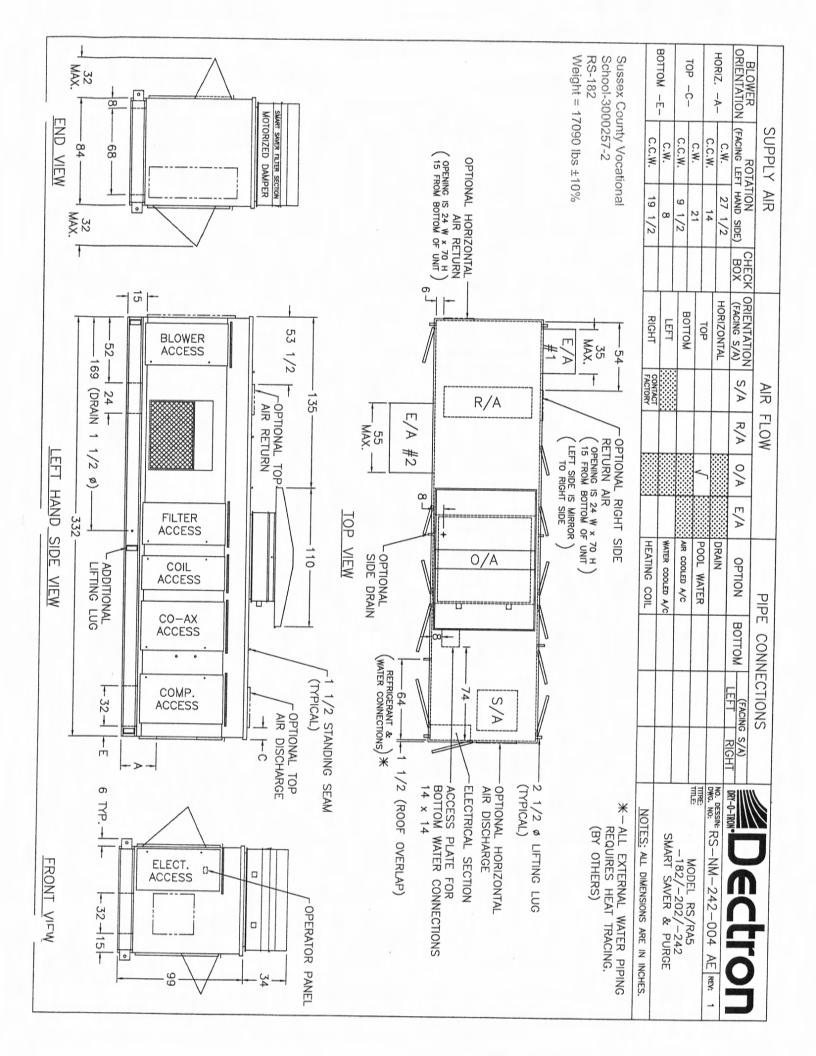


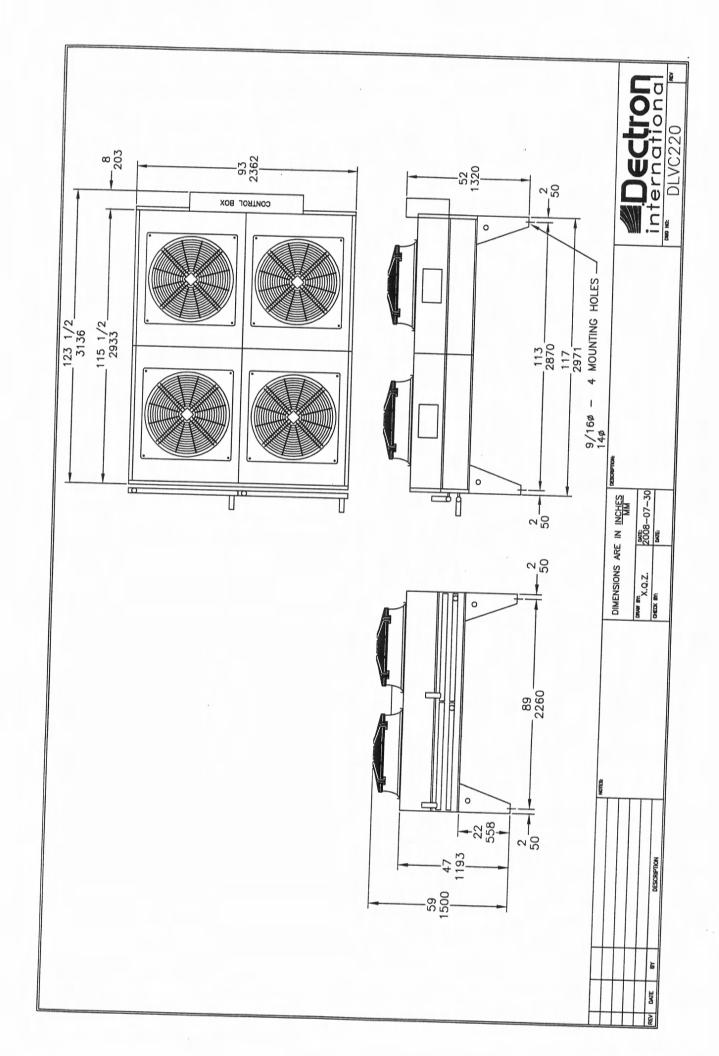
## Pool Dehumidifier Unit Schedule

Sussex County Vocation	onal School			
Location	Newark, I	NJ		
Description	.,	Room Volume	111	ft <sup>3</sup>
Model Number	RS-182 ( Smart Saver (Refrigerant)/Purge )	Cabinet Size	202	
Nomenclature	RSH182ZDSXD1945Q963ZDZOZZFE18			

Air Cooled Condenser							
Model		KVG212L					
Location			Remote (Sp	lit)			
Tag							
Ambient Temp.	95	°F	Voltage		460/3/60		
Capacity	781,200	Btu/hr	Motor HP		0.95 kW	hp	
Fan Arrangement	2 x 2		Motor FLA		2.80		
Weight	1,910.00	lbs	Motor RPM		550	rpm	
Distance	50	ft	MCA		11.90		
			Fuse/MOP	15			
Unit Liquid Level	0	ft	Unit Liquid Connec		1 1/8"		
Unit Gas Level	0	ft	Unit Gas Connection	on	1 3/8"		
Control Panel Control Panel Voltage Control Panel Options	P48 - Split electrica	al, contactor	(s), ambient fan cyc 24/1/60	ling (4,5,6) low spee	ed Ziehl-abegg		
Circuits Number Capa	acity (btu/hr) Factory Char	ge (lbs) S	ystem Charge (lbs)	Field Charge (lbs)	Liquid	Gas	
Circuit #1	310,691 88.09		208.26	120.17	1 3/8"	2 1/8"	

Line Sizes must be same size as UNIT Connections and will be size adjusted at the point of connection to the Outdoor Air Cooled Condenser





**NJBPU Energy Audits** 

CHA #20151 Building: Sussex County Vocational School - Main Building

### ECM-6 Replace Pool Dectron Unit

		_	
	1.00	1.10	1.00
Multipliers	Material:	Labor:	Equipment:

TS SUBTOTAL COSTS TOTAL COST BEMABLE	EQUIP. MAT. LABOR EQUIP.	- \$ - \$ - \$	0 8 - \$ 9,240 \$ - \$ 9,240	0   \$175,000   \$ 38,500   \$ -   \$ 213,500	0   \$ 4,000   \$ 1,925   \$ -   \$ 5,925	0   \$ 8,750   \$ 1,925   \$ -   \$ 10,675	- \$ - \$ - \$	- 8 - 8 - 8	- \$ - \$ - \$	
TOTAL COST BEMABKS	IOTAL COST REMARKS	- \$	\$ 9,240	\$ 213,500	\$ 5,925	\$ 10,675	- \$	- \$	- \$	\$
STS	EQUIP.	- \$	- \$	- \$	- \$	- \$	- \$	- \$	- \$	5
OTAL COS	LABOR		\$ 9,240	\$ 38,500	1,925	1,925	-	-	-	5
SUBT		-	-	175,000	4,000		-	-	-	-
	EQUIP.	8	87	\$	5	69	69	89	65	0.
UNIT COSTS	LABOR		\$ 8,400	35,000	1,750	1,750				
N	MAT.		67	\$175,000 \$	\$ 4,000 \$	\$ 8,750 \$				
TIMIT			ea	ea	ea	ea				
VTO	3		1	1	1	1				
Description	Cesciption		Demo	Install new dehumidification systems	Roof Curb Modifications	Misc				

Note: Structural Analysis is needed to insure existing roof will support weight of proposed Dectron Unit

S	239,340 Subtotal	Subtotal
s	47,868	20% Contingency
		Contractor
s	35,901	15% O&P
\$	23,934	10% Engineering
s	347,043	Total

### APPENDIX H

**ECM-7 Install Pool Cover** 

### ECM-7 Install Pool Cover

SCRIPTI						ie not in de			ration, make-u		TOOD UNIO TOO					
VEN:		Heating Energy Co	st					**				\$		1.51	\$/gal (LP Gas)	-
		Water Cost										\$			\$/kGal	~
		Area of Pool Water						=						5,050	square feet	
		Temperature of Wa	ater											82		
		Temperature of Air												78		
		Make-up water tem	,					=						. 55		
		Elevation of locatio						=							feet	
		Relative Humidity			,	9								60%		
		Pa=saturation pres												0.58038	-	
		Pw=saturation vap			face tem	perature		-						1.10249		
		Wi=humidity ratio													W (Lbw/Lba)	
		Wo=humidity ratio	of outdoo	or air (de	sign)										W (Lbw/Lba)	
		Hours of operation													hours	
		Unoccupied Hours	(Time wh	en pool	cover ca	in be used)								2920	hours	
SUMPTIC		Pool Cover R-value	)											4.0		
		Heating Efficiency Average Return Air	Tempera	sture				600	6 RH	7	3 F			80%		
		Activity Factor	empera	nul 0	(hotel l	nealth club	s=1.3. Sol	60% nools=1.6, Pu		/	, -			32.7	Enthalpy	
		Water Cost (\$) = (E								polified equation	n from Asus	AE Euro	d Chanter	d) (Head o	onetent of 40 o	nd 20 in law
		Water Cost (\$) = (\$ Pool Heat Loss w/c Pool Heat Loss w c Pool Heat Load (M Pool Heat Costs (\$ Outside air quantity Ventilation Usage ( Ventilation Cost (\$)	cover (Btu cover (Btu MBtu) = ( ) = Pool I y required mbh) =(1	stu) = (40 i) = (1 / ( Heat Los Heat Loa I = ((Eva .08 x OA	D) x ((Poo (R value) ss (btu)) id (MMB) poration A Cfm x (	ol Tempera ) x ((Pool 1 x (Hours/Y H) x (Cost rate / ((60 (Return Air	ature)-(Air Temperatu 'ear) / (1,0 of Heating Omin/hr) x Temperat	Temperature re) - (Air Ter 00,000btu/M (\$/MMbh)) (0.075) x (hu ure - Outside	e)^(1/3)) (Sim mperature))) IMBtu) umidity ratio in e Air Tempera	iside(Wi) - hur ture) x (Hours	nidity ratio ou	tside(W	0))	4) (Used c	onstant of 40 a	ind 20 in leui
LCULATI		Pool Heat Loss wide Pool Heat Loss wide Pool Heat Load (M Pool Heat Costs (\$ Outside air quantity Ventilation Usage (Ventilation Cost (\$	cover (Btu cover (Btu MBtu) = ( ) = Pool I y required mbh) =(1	stu) = (40 i) = (1 / ( Heat Los Heat Loa I = ((Eva .08 x OA ation Usa	D) x ((Poi (R value) ss (btu)) id (MMBi poration A Cfm x ( age (mbf	ol Tempera ) x ((Pool 1 x (Hours/Y H) x (Cost rate / ((60 (Return Air	ature)-(Air Temperatu 'ear) / (1,0 of Heating Dmin/hr) x Temperat of Heating	Temperature ire) - (Air Ter 00,000btu/M (\$/MMbh)) (0.075) x (hu ure - Outside (\$/MMbh)) x	e)(1/3)) (Sim mperature))) IMBtu) umidity ratio in e Air Tempera (1000 Mbh/M	iside(Wi) - hur ture) x (Hours Mbh)	nidity ratio ou in bin) / (100	itside(W 0 btu/ME	0))	4) (Used c		
LCULATI	ION:	Pool Heat Loss wide Pool Heat Loss wide Pool Heat Load (M Pool Heat Costs (\$ Outside air quantity Ventilation Usage (	o cover (Btu MBtu) = ( ) = Pool I y required (mbh) =(1 ) = Ventila	stu) = (40 i) = (1 / ( Heat Los Heat Loa I = ((Eva .08 x OA	D) x ((Poi (R value) ss (btu)) sd (MMBI sporation A Cfm x ( age (mbf	ol Tempera ) x ((Pool 1 x (Hours/Y H) x (Cost rate / ((60 (Return Air n) x (Cost o	ature)-(Air Temperatu 'ear) / (1,0 of Heating Dmin/hr) x Temperat of Heating	Temperature ire) - (Air Ter 00,000btu/M (\$/MMbh)) (0.075) x (hu ure - Outside (\$/MMbh)) x	e)(1/3)) (Simmperature))) IMBtu) Imidity ratio in e Air Tempera (1000 Mbh/M	side(Wi) - hur ture) x (Hours Mbh) MMbh/gallo	nidity ratio ou in bin) / (100	tside(W	0))	4) (Used c		0.66 \$/MME
LCULATI	ION:	Pool Heat Loss wide Pool Heat Loss wide Pool Heat Loss wide Loss wide Pool Heat Costs (\$ Outside air quantity Ventilation Usage (\$ Ventilation Cost (\$ Cost of Heating=(Cost of Water=(	o cover (Btu MBtu) = ( ) = Pool h y required (mbh) =(1 ) = Ventils	Stu) = (40 s) = (1 / ( Heat Los Heat Loa I = ((Eva .08 x OA ation Usa	D) x ((Poi (R value) ss (btu)) id (MMBi poration A Cfm x ( age (mbf	ol Tempera ) x ((Pool 1 x (Hours/Y H) x (Cost rate / ((60 (Return Air n) x (Cost o	ature)-(Air Temperatu 'ear) / (1,0 of Heating Dmin/hr) x Temperat of Heating	Temperature ire) - (Air Ter 00,000btu/M (\$/MMbh)) (0.075) x (hu ure - Outside (\$/MMbh)) x	e)(1/3)) (Sim mperature))) IMBtu) umidity ratio in e Air Tempera (1000 Mbh/M	side(Wi) - hur ture) x (Hours Mbh) MMbh/gallo	nidity ratio ou in bin) / (100	itside(W 0 btu/MB	0))	4) (Used c		
LCULATI	ION: POOL EVAPORATE VAPORATE V	Pool Heat Loss wide Pool Heat Loss wide Pool Heat Losd (M Pool Heat Load (M Pool Heat Costs (\$ Outside air quantity ventilation Cost (\$ Cost of Heating=( Cost of Water=( FION LOSSES 5 x (Pw-Pa))=	o cover (Btu MBtu) = ( ) = Pool h y required (mbh) =(1 ) = Ventils	itu) = (40 i) = (1 / ( i) = (1 / ( i) = (1 / ( i) Heat Los Heat Loa i = ((Eva .08 x OA ation Usa	D) x ((Poo (R value) ss (btu)) ad (MMB) poration A Cfm x ( age (mbf ) / ( (\$/unit)	ol Tempera ) x ((Pool 1 x (Hours/Y H) x (Cost rate / ((60 (Return Air n) x (Cost o	ature)-(Air Temperatu 'ear) / (1,0 of Heating Dmin/hr) x Temperat of Heating 80% 1.0	Temperature ire) - (Air Ter 00,000btu/M (\$/MMbh)) (0.075) x (hu ure - Outside (\$/MMbh)) x	e)((1/3)) (Sim mperature))) IMBtu) umidity ratio in e Air Tempera (1000 Mbh/M 0.0915 ns/1000 gallor	side(Wi) - hur ture) x (Hours Mbh) MMbh/gallo	nidity ratio ou in bin) / (100	itside(W 0 btu/MB	0))	4) (Used c	\$ 20	0.66 \$/MME
LCULATI	ION: POOL EVAPORA* Evaporation Rate (0.0.0	Pool Heat Loss wic Pool Heat Loss wic Pool Heat Load (M Pool Heat Costs (\$ Outside air quantity Ventilation Usage ( Ventilation Cost (\$ Cost of Heating=( Cost of Water=( FION LOSSES 5 x (Pw-Pa))=	o cover (Btu MBtu) = ( ) = Pool h y required (mbh) =(1 ) = Ventils	Stu) = (40 s) = (1 / ( Heat Los Heat Loa I = ((Eva .08 x OA ation Usa	D) x ((Poo (R value) ss (btu)) ad (MMB) poration A Cfm x ( age (mbf ) / ( (\$/unit)	ol Tempera )) x ((Pool 1 x (Hours/Y H) x (Cost rate / (60 (Return Air h) x (Cost of )) x (	ature)-(Air Temperature) / (1,0 of Heating Omin/hr) x Temperat of Heating 80% 1.0	Temperature re) - (Air Ter 00,000btu/M (\$/MMbh)) (0.075) x (hu ure - Outside (\$/MMbh)) x  ) / ( 1000 gallor 1.1024911 1.6	b)Y(1/3)) (Sim mperature))) IMBtu) umidity ratio in e Air Tempera (1000 Mbh/M 0.0915 ns/1000 gallor	uside(Wi) - hur ture) x (Hours Mbh) MMbh/gallo p: ) = 0.5803832	nidity ratio ou in bin) / (100	etside(W 0 btu/ME ) =	0))	4) (Used c	\$ 20	0.66 \$/MMB - \$/1000 0183 lb/hr/sc 7.65 lb/hr
LCULAT	ION:  POOL EVAPORA  Evaporation Rate (0.0t  Evaporation of water  Evaporation of water	Pool Heat Loss w/c Pool Heat Loss w c Pool Heat Losd (M Pool Heat Costs (\$ Coutside air quantity Ventilation Usage ( Ventilation Cost (\$ Cost of Heating=( Cost of Water=( TION LOSSES 5 5 x (Pw-Pa))= =  w/o cover= (	o cover (Btu MBtu) = ( ) = Pool h y required (mbh) =(1 ) = Ventils	itu) = (40 i) = (1 / ( i) = (1 / ( i) = (1 / ( i) Heat Los Heat Loa i = ((Eva .08 x OA ation Usa	D) x ((Poo (R value) ss (btu)) ad (MMB) poration A Cfm x ( age (mbf ) / ( (\$/unit)	ol Tempera )) x ((Pool 1 x (Hours/Y) x (Hours/Y) H) x (Cost 1 rate / ((60 (Return Air h) x (Cost 0 )) x ( 0.035 );	ature)-(Air Temperature)-(1,0 Gear) / (1,0 Of Heating) Omin/hr) x Temperatof Heating 80% 1.0 x ((	Temperature re) - (Air Ter 00,000btu/M (\$/MMbh)) (0.075) x (hu ure - Outside (\$/MMbh)) x  ) / ( 1000 gallor  1.1024911 1.6 8016	b)(1/3)) (Sim mperature))) IMBtu) umidity ratio in a Air Tempera (1000 Mbh/M 0.0915 ns/1000 gallor 1) - ( 3) x ( 3) / (	side(Wi) - hur ture) x (Hours Mbh) MMbh/gallo 2 ) = 0.5803832 5,050 8,3	nidity ratio ou in bin) / (100 n 3 )) = ) = 3 lb/gallon)	etside(W 0 btu/MB ) =	0))	4) (Used c	\$ 20 \$ 0,0 143 142,2	0.66 \$/MMB - \$/1000 0183 lb/hr/sc 7.65 lb/hr 086 gallons
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LCULAT	ION:  POOL EVAPORA  Evaporation Rate (0.05  Evaporation of water  Evaporation of water  Water Cost wio Cover  Water Cost wio Cover  Water Cost wio Cover	Pool Heat Loss w. Pool Heat Loss w. Pool Heat Los W. Pool Heat Cost (S. Pool Heat Cost (S. Ventilation Usage (Ventilation Los) (S. Ventilation Los) (Cost of Heating**(Cost of Water**(TION LOSSES x. (Pw-Ps))**  w. Ventilation (S. V. Ventilation Losses) (Water**(Ventilation Losses) (Water**(Ventilation Losses) (Water**(Ventilation Losses) (Water Losse	o cover (Btu MBtu) = ( ) = Pool h y required (mbh) =(1 ) = Ventils	itu) = (40 i) = (1 / ( i) = (1 / ( i) = (1 / ( i) Heat Los Heat Loa i = ((Eva .08 x OA ation Usa	D) x ((Poo (R value) ss (btu)) ad (MMB) poration A Cfm x ( age (mbf ) / ( (\$/unit)	ol Tempera )) x ((Pool 1 x (Hours/Y) x (Hours/Y) H) x (Cost 1 rate / ((60 (Return Air h) x (Cost 0 )) x ( 0.035 );	ature)-(Air Temperature)-(1,0 Gear) / (1,0 Of Heating) Omin/hr) x Temperatof Heating 80% 1.0 x ((	Temperature re) - (Air Ter re) - (Air Ter ro) - (Air Ter ro) - (Air Ter (\$/MMbh)) (9.075) x (hu ure - Outside (\$/MMbh)) x ) / ( 1000 gallor 1.1024911 1.6 8016 5096 142,086	p)(1/3)) (Simmperature))) IMBtu) umidity ratio in e Air Tempera (1000 Mbh/M 0.0915 ns/1000 gallor 1) - ( 3) x ( 3) / ( 3) / (	mside(Wi) - hur ture) x (Hours Mbh)  MMbh/gallo b: ) =  0.5803832 5,050 8.3: 8.3:	nidity ratio ou in bin) / (100 n 3 )) = ) = 3 lb/gallon) 3 lb/gallon)	tside(W 0 btu/ME ) = = =	0))	4) (Used c	\$ 20 \$ 0.0 14: 142, 90,	0.66 \$/MMB - \$/1000 0183 lb/hr/sc 7.65 lb/hr 086 gallons
LCULAT	ION:  POOL EVAPORA* Evaporation Rate (0.0.0 Evaporation of water Evaporation of water Evaporation of water Water Cost w/o Cover Water Cost w/o Cover POOL HEAT LOS	Pool Heat Loss w Pool Heat Loss w Pool Heat Loss w Pool Heat Losd (M Pool Heat Costs (S Ventral Formation Pool Heat Cost of Water (Cost of Water (FION LOSSES × (Pw-Pa)) = =	o cover (Btu MBtu) = ( ) = Pool h y required mbh) =(1 ) = Ventile \$ \$ (	itu) = (40 i) = (1 / ( Heat Los Heat Los I = ((Eva .08 x OA ation Usa 1.51	D) x ((Poo (R value) ss (btu)) ad (MMB) poration A Cfm x ( age (mbf ) / ( (\$/unit)	ol Tempera )) x ((Pool 1 x (Hours/Y H) x (Cost - rate / ((60 (Return Air n) x (Cost c  0.035 ); 147.7 );	iture)-(Air Temperature 'ear) / (1,0 of Heating Omin/hr) x Temperator 1.0 80% 1.0 x (( x (	Temperature re) - (Air Ter 00,000btu/M (\$/MMbh)) (0,075) x (hu rur - Outside (\$/MMbh)) x ) / ( 1000 gallor 1.1024911 1.6 8016 8016 90,328	sy(1/3)) (Simmerature))) midity ratio in e Air Tempera (1000 Mbh/M  0.0915 ns/1000 gallor  1 ) - ( 3 ) × ( 3 ) / ( 3 ) gallons × (  ) gallons × (	miside(Wi) - hur ture) x (Hours Mbh)  MMbh/gallo b: ) =  0.5803832 5,050 8.3 8.3 \$ - \$	nidity ratio ou in bin) / (100 n 3 )) = ) = 3 lb/gallon) 3 lb/gallon) ) / 1000 ga ) / 1000 ga	tside(W 0 btu/ME ) = = =	0))	4) (Used c	\$ 20 \$ 0.1 14: 142, 90, \$	0,66 \$/MME - \$/1000 0183 b/hr/s 7,65 b/hr 086 gallons
LCULAT	ION:  POOL EVAPORA: Evaporation Rate (0.0! Evaporation of water Evaporation of water Evaporation of water Water Cost w/o Cover Water Cost w/o Cover POOL HEAT LOS POOH HeAT LOS sow for	Pool Heat Loss w Pool Heat Loss w Pool Heat Load (M Pool Heat Costs (S Outside air quantit Ventilation Usage ( Cost of Heating* (Cost of Water=( TION LOSSES is (Pw-Pa))= = = = = = = = = = = = = = = = = = =	o cover (Btu MBtu) = ( ) = Pool h y required (mbh) =(1 ) = Ventils	itu) = (40 i) = (1 / ( Heat Los Heat Los I = ((Eva .08 x OA ation Usa 1.51	O) x ((Por (R value) ss (btu)) ss (btu)) ss (d (MMB) poration A Cfm x ( age (mb) )/( (\$/unit)	ol Tempera )) x ((Pool 1 x (Hours) H) x (Cost orate) / ((6 (Return Air orate) x (Cost orate) )) x ( 0.035 ); 147.7 ); 82.0 )	ature)-(Air Femperature)-(ar) (1,0 of Heating) Omin/hr) x Temperature 1,0 x (( x (	Temperature rep - (Air Ter 00, 000hu/M) (\$/MMbh)) (0,075) x (huure - Outside (\$/Mmbh)) x ) / ( 1000 gallor 1.1024911 1.6.8016 5096 142,086 90,328 78.0	s)*(1/3)) (Simmerature))) Importation (Simmerature))) Importation (Simmeration (Sim	side(Wi) - hur ture) x (Hours Mbh) MMbh/gallo b ) = 0.5803832 5,050 8.3 8.3 \$ -	in bin) / (100 in bin) / (100	etside(W 0 btu/ME ) = = = = Illons =	0))	4) (Used c	\$ 20 \$ 0,1 14: 142,90,\$	0.66 \$/MME - \$/1000 0183 lb/hr/sc 10/65 lb/hr 086 gallons - 253 btu/hr
LCULATI	ION:  POOL EVAPORA* Evaporation Rate (0,0 to  Evaporation of water  Evaporation of water  Evaporation of water  Water Cost wio Cover  Water Cost wio Cover  POOL HEAT LOS.  Pool Heat Loss w/o co  Pool Heat Lod w/o co	Pool heat Loss we Pool Heat Loss we Pool Heat Loss we Pool Heat Losd (M Pool Heat Costs (\$ Cost of Heatings" (Cost of Water=(Cost of Water=(FION LOSSES x (Pw-Pa))==== w  wo cover= ( (	o cover (Bu MBtu) = ( ) = Pool h y required mbh) =(1 ) = Ventila \$ \$ (	itu) = (40 i) = (1 / ( Heat Los Heat Los H	0) x ((Poo (R value) ss (btu)) id (MMB) poration A Cfm x ( age (mbl )/( (\$/unit)	ol Tempera )) x ((Pool 1 x (Hours/Y H) x (Cost - rate / ((60 (Return Air n) x (Cost c  0.035 ); 147.7 );	ature)-(Air Temperature)-(Air Temperature)-(Air Temperature)-(Air Temperature)-(Air 1.0 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Temperature re) - (Air Ter 00,000btu/Moh) (\$F/MAbh)) (0,075) x (hu rue - Outside (\$F/MMbh)) x  ) / ( 1000 gallor 1,1024911 1,6 8016 8096 142,086 90,328	)/(1/3) (Sim megrature)))  midity ratio in e Air Tempera (1000 MbivM  0.0915  ns/1000 gallor  1) - (  3) x (  3) / (  4) / (  4) / (  4) / (  4) / (  4) / (  5) / (	side(Wi) - hur ture) x (Hours Mbh) MMbh/gallo b ) = 0.5803832 5,050 8.3 8.3 \$ -	nidity ratio ou in bin) / (100 m m m m) / (100 m m m m) / (100 m m m) / (100 m)	ttside(W 0 btu/ME ) = = = Illons = Illons =	o)) sh)		\$ 20 \$ 0,1 14: 142,90,\$	0.66 \$/MMB - \$/1000 0183 lb/hr/se 0.66 gallons - 263 btu/hr
LCULATI	ION:  POOL EVAPORA  Evaporation Rate (0.0t  Evaporation of water s  Evaporation of water v  Evaporation of water v  Water Cost wo Cover  POOL HEAT LOS  Pool Heat Loss wio co  Evaporated Water Hea	Pool heat Loss we Pool heat Loss we Pool heat Loss we Pool heat Cost (& Pool heat Cost (& Ventilation Usage () Ventilation Usage () Ventilation Usage () Ventilation Cost (\$ Ventilation C	o cover (Bu MBtu) = ( ) = Pool + ( ) = Pool + ( ) = Pool + ( ) = Ventilia  \$  ( ( 20 ) x ( 10.25 ) x	itu) = (40) ) = (1 / ( 1 / ( 1 + leat Los I = ((Eva .08 x OA ation Usa 1.51 - 0.0183 ( ((()	0) x ((Por (R value) ss (btu)) dd (MMBI poration A Cfm x ( age (mbi )/( (\$/unit)	ol Tempera )) x ((Pool 1 x (Hours) H) x (Cost rate / ((60 (Return Air h) x (Cost of )) x (  0.035 );  147.7 );  82.0 )	ture)-(Air Temperature)-(Air Temperature)-(Air Gear) / (1,0) of Heating Min/hr) x Temperation Heating 80% 1.0 x (() x (() x () 8.33	Temperature rep - (Air	)/(1/3) (Simporature)))  (MBtu)  umidity ratio in e Air Tempera (1000 Mbh/M  0.0915  10.0915  1) -( 1) > (	Mbh/gallo  0.5803832  0.5803832  0.58003832  1.000,000	nidity ratio or in bin) / (100 n n n n n n n n n n n n n n n n n n	ttside(W 0 btu/ME ) = = = Illons = Illons =	0))		\$ 20 0.0 142 142, 90, \$ \$ 160, 1,	0.66 \$/MME - \$/1000 0183] lb/hr/s/ 7,65 lb/hr gallons - 328 gallons - 253 btu/hr 265 btu/hr 270 MMBtu
LCULAT	POOL EVAPORA* Evaporation Rate (0,0) Evaporation of water Evaporation of water Evaporation of water Water Cost w/o Cover Water Cost w/o Cover POOL HEAT LOS Pool Heat Loss w/o co Evaporated Water Hea Pool Heat Load w/o co	Pool heat Loss we Pool heat Loss we Pool heat Cost of Pool heat Cost of Hoat Costs (& Cost of Heatings (Cost of Heatings (Entry Loss)) = 1	o cover (Bu MBtu) = ( ) = Pool + ( ) = Pool + ( ) = Pool + ( ) = Ventilia  \$  ( ( 20 ) x ( 10.25 ) x	ttu) = (40) ) = (1 / (1 / (1 / (1 / (1 / (1 / (1 / (1	0) x ((Poi R value) ss (btu)) ad (MMBi MBi MBi MBi MBi MBi MBi MBi MBi MBi	ol Tempera )) x ((Pool 1 x (Hours) H) x (Cost orate) / ((6 (Return Air orate) x (Cost orate) )) x ( 0.035 ); 147.7 ); 82.0 )	ture)-(Air Temperature)-(Air Temperature)-(Air Gear) / (1,0) of Heating Imin/hr) x Temperature 80% 1.0 x (( x ( x ( x ( 8.33	Temperaturer (**)  - (Air Tem (**) - (Air Tem (**) - (Air Tem (**) - (0.005 tu/Mbh)) - (0.075) x (hure - Outside (**) - (1000 gallor	)/(1/3) (Simmerature))) MBlu)  unidity ratio in e Air Temperature)  0.0915  ns/100 Mbh/M  0.0915  1) - ( 1)	Mbh/gallo  0.5803832  0.5803832  0.58003832  1.000,000	anidity ratio or in bin) / (100 and anio) = 0 bin bin bin bin bin bin bin bin bin bin	ttside(WO btu/ME ) = == =   llons =    llons =   )/1E 6	btu/MMBt	u =	\$ 20 \$ 0.0 141,142,142,142,142,142,142,142,142,142,	0.66 \$/MMBtu/br/sc - \$/1000 1183 lb/hr/sc 7.65 lb/hr gallons 253 544 MMBtu MMBtu 033 MMBtu/br
_CULATI	ION:  POOL EVAPORA Evaporation Rate (0.01 Evaporation of water t Evaporation of water v Evaporation of water v Water Cost wio Cover POOL HEAT LOS Pool Heat Loss wio co Evaporated Water Hea Pool Heat Loss wo co Pool Heat Lods wo cov	Pool heat Loss w. Pool heat Loss w. Pool heat Loss w. Pool heat Cost (S. Pool heat Cost (S. Outside air quantity Ventilation Usage (Ventilation Usage (Ventilation Cost (S. S. Cost of Heating=(Cost of Weating=(Cost of Weating=(C	o cover (Bu MBtu) = ( ) = Pool + ( ) = Pool + ( ) = Pool + ( ) = Ventilia  \$  ( ( 20 ) x ( 10.25 ) x	itu) = (40) ) = (1 / ( 1 / ( 1 + leat Los I = ((Eva .08 x OA ation Usa 1.51 - 0.0183 ( ((()	0) x ((Poi R value) ss (btu)) ad (MMBi MBi MBi MBi MBi MBi MBi MBi MBi MBi	ol Tempera ol Tem	tture)-(Air Treperature)  (ear) / (1,0 feet)	Temperature rep - (Air	)/(1/3) (Simporature)))  more ture))  more ture))  more ture))  more ture))  more ture))  no Air Tempera  (1000 Mbh/M  0.0915  ns/1000 gallor  3) / (	oside(Wi) - huruture) x (Hours Mbh)  MMbh/gallo x ) =  0.5803832  5.060 8.3 8.3 \$ -  5.050 1,000,000	nidity ratio or in bin) / (100 3 3 )) = ) = ) = 3 lb/gallon) 3 lb/gallon) // 1000 ga btu/MMBtu 55 )= 2,920	ttside(W 0 btu/ME ) = = =   	btu/MMBt	u =	\$ 20 144 142 142 900 \$ \$ \$ \$	0.66 \$/MMEL - \$/1000 0183  lb/hr/s/ - \$5/1000 0183  lb/hr/s/ 056   lb/hr 056   gallons 228   gallons 253   btu/hr 32   MMBtu 32   MMBtu 32   MMBtu 32   MMBtu 32   MMBtu 32   MMBtu
_CULAT	POOL EVAPORA* Evaporation Rate (0,0) Evaporation of water Evaporation of water Evaporation of water Water Cost w/o Cover Water Cost w/o Cover POOL HEAT LOS Pool Heat Loss w/o co Evaporated Water Hea Pool Heat Load w/o co	Pool heat Loss we Pool Heat Loss we Pool Heat Loss we Pool Heat Cost of Pool Heat Cost of West Pool Heat Po	o cover (Bu MBtu) = ( ) = Pool + ( ) = Pool + ( ) = Pool + ( ) = Ventilia  \$  ( ( 20 ) x ( 10.25 ) x	ttu) = (40) ) = (1 / (1 / (1 / (1 / (1 / (1 / (1 / (1	0) x ((Poi R value) ss (btu)) ad (MMBi MBi MBi MBi MBi MBi MBi MBi MBi MBi	ol Tempera )) x ((Pool 1 x (Hours) H) x (Cost rate / ((60 (Return Air h) x (Cost of )) x (  0.035 );  147.7 );  82.0 )	ture)-(Air Temperature)-(Air Temperature)-(Air Gear) / (1,0 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Temperature (**)  (**)	)/(1/3) (Simmerature))) MBlu)  unidity ratio in e Air Temperature)  0.0915  ns/100 Mbh/M  0.0915  1) - ( 1)	MMbh/gallo  0.5803832  5.050  8.33  1.000,000  7.5605  1.000,000  1.5605  1.000,000	anidity ratio or in bin) / (100 and anio) = 0 bin bin bin bin bin bin bin bin bin bin	ttside(WO btu/ME ) = == =   llons =    llons =   )/1E 6	btu/MMBt	u =	\$ 20 \$ 0.0 1442 142, 90, \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	0.66 \$/MMBtu/br/sc - \$/1000 1183 lb/hr/sc 7.65 lb/hr gallons 253 544 MMBtu MMBtu 033 MMBtu/br
	POOL EVAPORA* Evaporation Rate (0,10,10) Evaporation of water Evaporation of water Evaporation of water Vexporation of water Vexporated Water Hea Pool Heat Loss w/ cov Evaporated Water Hea Heat Loss Cost w/o Cc Evaporated Water Hea Heat Loss Cost w/o Cc Evaporated Water Hea Heat Loss Cost w/o Cc	Pool heat Loss we Pool heat Loss we Pool heat Loss (Ne Pool heat Cost (S) When I was to provide a control of the Pool heat Cost (S) Outside air quantity Ventilation Usage (Cost of Water=(TION LOSSES is (Pw-Pa))== (Cost of Water=(Cost of Water=(Co	o cover (Bu MBtu) = ( ) = Pool + ( ) = Pool + ( ) = Pool + ( ) = Ventilia  \$  ( ( 20 ) x ( 10.25 ) x	ttu) = (40) ) = (1 / (1 / (1 / (1 / (1 / (1 / (1 / (1	0) x ((Poi R value) ss (btu)) ad (MMBi MBi MBi MBi MBi MBi MBi MBi MBi MBi	ol Tempera ol Tempera ol Tempera x (Hours/Y) h) x (Cost rate / (IGC (Return Air n) x (Cost 0.035 ); 147.7 ); 82.0 ) 1.285	ture)-(Air Temperature)-(Air Temperature)-(Air Gear) / (1,0 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Temperature (**)  (**)	))(1/13) (Simperature))) MBlu)  unidity ratio in e Air Tempera (1000 Mbh/M 0.0915 ns/1000 gallor i	MMbh/gallo  0.5803832  5.050  8.33  1.000,000  7.5605  1.000,000  1.5605  1.000,000	anidity ratio or in bin) / (100 and animals) = 0 bin bin/gallon) 3 lb/gallon) 3 lb/gallon) 3 lb/gallon) 4 1000 ga 5 5 5 5 5/M/MBtu	tside(W 0 btu/ME ) = =   	btu/MMBt	u = u = u =	\$ 20 \$ 0.0 1442 142, 90, \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	0.66 \$/MMBt. 206 \$/MMBt. 206 \$//MMBt. 206 \$//MMBt. 25//MMBt. 26//MMBt. 26//MMBt. 26//MMBt. 26//MMBt.
	ION:  POOL EVAPORA Evaporation Rate (0.05 Evaporation of water Evaporation of water Evaporation of water Evaporation of water Water Cost w/o Cover POOL HEAT LOS POOL HEAT LOS w/o co Pool Heat Loss w/o co Pool Heat Loss w/o co Evaporated Water Hea Pool Heat Loss Cost w/o Co Heat Loss Cost w/o Co Heat Loss Cost w/o Co Annual Exist. Water to	Pool Heat Loss w Pool Heat Loss w Pool Heat Losd (W Pool Heat Coad (% Pool Heat Coad (% Outside air quantity Ventilation Usage ( Cost of Heatings( Cost of Water=( FION LOSSES is (Pw-Pa)=)  (() SES SES SES Ver = ( V	o cover (Bu MBtu) = ( ) = Pool + ( ) = Pool + ( ) = Pool + ( ) = Ventilia  \$  ( ( 20 ) x ( 10.25 ) x	ttu) = (40) ) = (1 / (1 / (1 / (1 / (1 / (1 / (1 / (1	0) x ((Poi R value) ss (btu)) ad (MMBi MBi MBi MBi MBi MBi MBi MBi MBi MBi	ol Tempera ol Tempera ol Tempera x (Hours/Y) h) x (Cost rate / (IGC (Return Air n) x (Cost 0.035 ); 147.7 ); 82.0 ) 1.285	ture)-(Air Temperature) -(1,0 of Heating min/hr) x -(1,0 of Heating min/hr) -(1,0 of Heati	Temperature (re) - (Air Tev) -	))(1/13) (Simperature))) MBlu)  unidity ratio in e Air Tempera (1000 Mbh/M 0.0915 ns/1000 gallor i	side(Wi) - hur ture) x (Hours Mbh) MMbh/gallo y ) = 0.5803832 5,050 8.3.3 \$ - \$ - 5,050 1,000,000 - 3,000,000 - 3,000,000 - 3,000,000 - 3,000,000 - 5,050 1,000,000 - 3,000,000 - 5,050 1,000,000 - 5,050 1,000,000 - 5,050 1,000,000 - 5,050 1,000,000 - 5,050 1,000,000 - 5,050 1,000,000 - 5,050 - 5,000 - 5 - 5,000 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5	anidity ratio or in bin) / (100 and animals) = 0 bin bin/gallon) 3 lb/gallon) 3 lb/gallon) 3 lb/gallon) 4 1000 ga 5 5 5 5 5/M/MBtu	tside(WME	btu/MMBt	u =	\$ 20 \$ 0.0 1442 142, 90, \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	0.66 \$/MMBt. 206 \$/MMBt. 206 \$//MMBt. 206 \$//MMBt. 25//MMBt. 26//MMBt. 26//MMBt. 26//MMBt. 26//MMBt.
	POOL EVAPORA' Evaporation Rate (0.0! Evaporation of water Water Cost w/o Cover POOL HEAT LOSS w/o co Pool Heat Loss w/o co Pool Heat Loss w/o co Evaporated Water Hea Pool Heat Loss w/o co Evaporated Water Hea Heat Loss Cost w/o Ce Heat Loss Cost w/o Ce Annual Exist. Water L Annual Exist. Water L Annual Exist. Water L	Pool heat Loss we Pool heat Loss we Pool heat Loss we Pool heat Cost (\$\frac{1}{2}\$ Pool heat Cost (\$\frac{1}{2}\$ Pool heat Cost (\$\frac{1}{2}\$ Pool heat Losd (\$\frac{1}{2}\$ Pool heat Lost (\$\frac{1}{2}\$ Pool heat Cost (\$\frac{1}{2}\$ Pool heat Po	o cover (Bu MBtu) = ( ) = Pool + ( ) = Pool + ( ) = Pool + ( ) = Ventilia  \$  ( ( 20 ) x ( 10.25 ) x	ttu) = (40) ) = (1 / (1 / (1 / (1 / (1 / (1 / (1 / (1	0) x ((Poi R value) ss (btu)) ad (MMBi MBi MBi MBi MBi MBi MBi MBi MBi MBi	ol Tempera ol Tempera ol Tempera x (Hours/Y) h) x (Cost rate / (IGC (Return Air n) x (Cost 0.035 ); 147.7 ); 82.0 ) 1.285	https://dx.	Temperature (re) - (Air Tev) -	))(1/13) (Simperature))) MBlu)  unidity ratio in e Air Tempera (1000 Mbh/M 0.0915 ns/1000 gallor i	MMbh/gallo  MMbh/gallo  0.5803832  5.0505  8.3  1.00,000  1.00,000  1.00,665	anidity ratio or in bin) / (100 and animals) = 0 bin bin/gallon) 3 lb/gallon) 3 lb/gallon) 3 lb/gallon) 4 1000 ga 5 5 5 5 5/M/MBtu	taide(W	btu/MMBt	u = u = u =	\$ 20 \$ 0.0 1442 142, 90, \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	0.66 \$/MMBt. 206 \$/MMBt. 206 \$//MMBt. 206 \$//MMBt. 25//MMBt. 26//MMBt. 26//MMBt. 26//MMBt. 26//MMBt.
LCULATI	ION:  POOL EVAPORA Evaporation Rate (0.01 Evaporation of water Evaporation of water Evaporation of water Water Cost wio Cover POOL HEAT LOS POOL HEAT LOS Evaporated Water Hea FOOL Heat Load w/o co Evaporated Water Hea Heat Loss Cost w/o Co Heat Loss Cost w/o Co Annual Exist. Water H Annual Proposed Water Hea Annual Proposed Water Hea Annual Exist. Water H Annual Proposed Water Hea	Pool heat Loss we Pool heat Loss we Pool heat Loss we Pool heat Cost of Pool heat Cost of Meating to Vertilation Usage (Vertilation Cost of West Pool heat Cost of Heating (Cost of Meating (Cost of West Pool heating) (Cost of W	cover (Bt) MBtu) = (	ttu) = (40) ) = (1 / (1 / (1 / (1 / (1 / (1 / (1 / (1	0) x ((Poi R value) ss (btu)) ad (MMBi MBi MBi MBi MBi MBi MBi MBi MBi MBi	ol Tempera ol Tempera ol Tempera x (Hours/Y) h) x (Cost rate / (IGC (Return Air n) x (Cost 0.035 ); 147.7 ); 82.0 ) 1.285	stude)-(Air	Temperature (**)	))(1/13) (Simperature))) MBlu)  unidity ratio in e Air Tempera (1000 Mbh/M 0.0915 ns/1000 gallor i	selde(WI) - hur ture) x (Hours Mbh)  MMbh/gallo x ) =  0.5803832 5,050 8,3 8,3 \$ - 5,050 1,000,000 - 5,050 ) x ( - \$ 20,665 \$ 20,665	anidity ratio or in bin) / (100 and animals) = 0 bin bin/gallon) 3 lb/gallon) 3 lb/gallon) 3 lb/gallon) 4 1000 ga 5 5 5 5 5/M/MBtu	District   District	btu/MMBt	u = u = u =	\$ 20 \$ 0.0 1442 142, 90, \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	0.66 \$/MMBt. 206 \$/MMBt. 206 \$//MMBt. 206 \$//MMBt. 25//MMBt. 26//MMBt. 26//MMBt. 26//MMBt. 26//MMBt.

NJBPU Energy Audits CHA #20151 Building: Sussex County Vocational School - Main Building

### ECM-7 Install Pool Cover

			_
	0.99	1.22	1.09
Multipliers	Material:	Labor:	Equipment:

	ŀ	Ī								
) TO		FINIT	_	UNIT COSTS		SUB	SUBTOTAL COSTS		TOTAL COST BEMABKS	DEMADKS
		5	MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.	IOIAL COST	NEWANNO
						-	\$	-	- \$	
5050		sf	\$ 1.30 \$	\$ 0.50		\$ 6,499	\$ 3,081	- \$	089'6 \$	
2		еа	\$ 4,000			\$ 7,920 \$	\$	- \$	\$ 7,920	
1		ea	\$ 200	\$ 1,000		\$ 495	\$ 1,220	- \$	\$ 1,715	
						- \$	\$	- \$	- \$	
						- \$	- \$	- \$	- \$	
						- \$	\$	- \$	- \$	
						- \$	- \$	- \$	- \$	
						\$	\$	\$	- \$	
	_					- \$	\$	\$	- \$	
	_					- \$	\$	- \$	- \$	

\$	19,215	9,215 Subtotal
↔	5,764	30% Contingency
↔	2,882	Contractor 15% O&P
		Engineering
\$	27,862	Total

### APPENDIX I

ECM-8 Reactivate Kitchen Hood Heat Recovery

### NJBPU Energy Audits CHA #20151

**Building: Sussex County Vocational School - Main Building** 

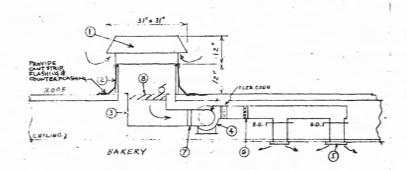
### **ECM-7 Reactivate Kitchen Heat Recovery**

Fuel Oil Cost Electricity Cost Boiler Efficiency	\$ 3.44 /gal \$ 0.165 /kWh 80%	Fuel Oil Savings	\$ 859 2,957	gallons per year
Estimated Hood Exhaust Heat Recovery Flow	8,000 cfm 6,000 cfm	Electric Usage	\$ 2,321 384	kWh per year
Heat Recovery Flow Heat Recovery Fan Heat Supply Fan	3 hp 3 hp	Savings	\$ 2,573	per year
Hours of Operation Heating Hours Heat Recovery Hours	1,140 /yr 4,427 /yr 576 /yr			
Average Exhaust Temp HEX Efficiency Building Balance Point	75 F 70% original design 55 F			

	time	Heating	Hood Op.	Heat Recov	vered	Boiler Input	Electric Usage
Average Temp	(hrs)	(hrs)	(hrs)	Btu/hr	MBtu/yr	(gal)	(kWh)
97.5	3	0	-	-	-	-	0
92.5	34	0	-	-	-	-	0
87.5	131	0	-	-	-	-	0
82.5	500	0	-	-	-	-	0
77.5	620	0	-	-	-	-	0
72.5	664	0	-	11,340	-	-	0
67.5	854	0	-	34,020	-	-	0
62.5	927	0	-	56,700	-	-	0
57.5	600	0	-	79,380	-	-	0
52.5	610	610	79	102,060	8,102	72	320
47.5	611	611	80	124,740	9,919	89	320
42.5	656	656	85	147,420	12,585	112	344
37.5	1,023	1,023	133	170,100	22,645	202	536
32.5	734	734	96	192,780	18,414	164	385
27.5	334	334	43	215,460	9,365	84	175
22.5	252	252	33	238,140	7,810	70	132
17.5	125	125	16	260,820	4,243	38	66
12.5	47	47	6	283,500	1,734	15	25
7.5	22	22	3	306,180	877	8	12
2.5	13	13	2	328,860	556	5	7



### BAKERY FRESH AIR. VENTILATION SYSTEM



### SPECIFICATIONS

DIAGRAM OF BAKERY FRESH AIR SYSTEM

- (1) ALLMINN'S AR INTAKE VENTILATOR, 20"x 20" THROAT, 350 FPM
  INTAKE, 700 FPF THROAT VELOCITY, ISOO CFM CAPACITY.

  CARNES MCDE: GIAB W BOL COPEEL.
- (2) ALUMBLUM ROOF CURE, 14"> 26" X 16" HIGH, CARNES MODEL
- G GALVANIZEL STREEL DOCTOGEN, WITH IT FIRERGLASS ACCUTATION AND VAPOR BASSIER, VETCOMIES SHALL SE SUPPLY ICCO FFM MAX & 0.08"S.P., SUCTION 850 FFM MAX. & 0.08"S.P., By SE ALLOWANCE TO LIN. FT. LOCATE AS DIRECTED BY ARCH.
- ◆ BLOWER ISOB CFM 

  ★ S.P., YSH.P., 200/108/2307, 2 PHASE,

  MOUNT WITH VIBRATION ISOLATORS. HANG FROM ROOF JOISTS.

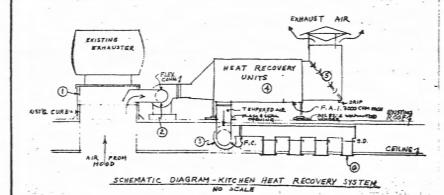
  \*\*AND THE PROPERTY OF THE PROPERTY OF
- (5) ADJUSTABLE 4 WAY DIFFUSERS, CARNES MODEL KSARD 15"x15". LOCATE AS DIRECTED BY ARCH. 2 REQUIREL.
- ( SUBMIT ALTERNATE COST FOR ISKW, 4 STAGE, ELECTRIC DUCT HEATER - 208V, 3 PH W/ DUCT STAT. INSTALLED.
- 7 2" PERMANSINT FILTER WASHABLE & VACLUM CLEANABLE.
- 8 MOTOR OPENATED DAMPER INTERLOCK WITH BLOWER MOTOR.

### NOTES

- 1. REOPEN 3 4'x 4' EXHAUST OFFICES IN BAKERY CEILING.
  THAT ARE SEALED, INSTALL WIRE MESH OF GRILLES IN
  OPENING WITH 19' 7 1/2 MAXIMUM, SIZE OPENINGS.
- 2. INCREASE EXISTING EXHAUS? ISOCCFM. (CHANGE FAN PULLEYS AND BELT, OR MOTOR AS REQUISED).
- 3. ADJUST EXISTING SUPPLY REGISTERS AND LOUVERS AS DIRECTED.
- 4. BLOWER SWITCH ON WALL OF BAKERY WHERE DIRECTED.
- S. ROOF FLASHING BY CERTIFIED ROOFER.
- 6 SUBMIT DETAILED PLAN TO ARCHITECT REFORE STARTING INSTALLATION FOR HIS APPROVAL.
- 7. ELECTRICAL WIRING IS TO BE INCLUDED.

BIB - FURNISH AND INSTALL BAKERY VENTILATION SYSTEM,
BALANCE NEW & EXISTING REGISTERS, GRILLES & FANS.

### B KITCHEN HEAT RECOVERY SYSTEM



### SPECIFICATIONS

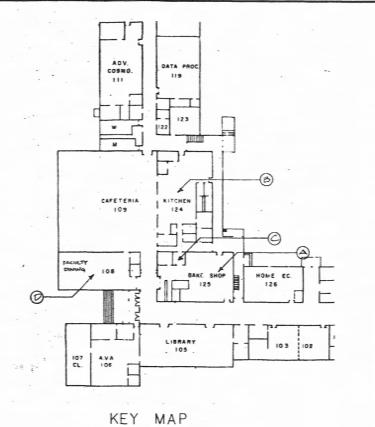
- ① NEW 16" HIGH CURS EXTENSION REMOUNT & RECOVNECT EXISTING EXHAUSTER.
- DEXHAUST BLOWER G,000 CFM, 1.6" S.P., 3 H.P. 200/201/201, 3 PHASE, RAINTITIE COVER, VIBRATION ISOLATION MOUNTS; 3) SAME AS 3) EXCEPT NO RAINTITE COVER.
- HEAT RECOVERY UNIT, 2 REQUIRED, 3000 CFM CARACHY FACH. EXCITHERMICS MODEL 4000 AL 30° .. TON EFF. MIN.

  DUCTWORK-GALVANED STEE; R-8 INSULATION WITH VAPOR BARRIER FROM CURB TO HEM RECOVERY UNIT AND FRIM UNIT TO POST. 5-4 INSULATION BELOW ROOF.
- INSULATE BLOWER ON ROLF W RE.

  DIFFUSERS 4 WAY PERFORATED ALEMINUM, ADJUSTABLE,
  CARNES MODEL SPUB 224 PIZXIZA: FOUR REQUIRED.

### NOTES

- I. INSTALL SWITCH ON KITCHEN WALL BY SYSTEM, ALSO INTERLOCK WITH HOOD EXHAUSTER.
- 2. BASE BID TO INCLUDE ALL ROOFTOP DUTWORK AND 40 LIN.FT. ABOVE CEILING
- 2. SUBMIT PLAN WITH DUCTSIZES 4 REISTER LOCATIONS TO ARCHITECT FOR APPROVAL
- 4. ELECTRIC WIRING IS INCLUDED. SYSTM TO BE COMPLETE
  AND OPERATIONAL.



1) PROVIDE SEPARATE BIOS FOR EACH ITEM : LICHA!: A, B, C : D
2) BIO PRICE SHA'LL NICLULATE GHARANTEE OF ALL MATTIKA:
I NORKHENNING FOR ONE YEAR, PROVIDE ONE TEAR SERVICE
AT NO EXTRACOST.

### VENTILATION SPECIFICATIONS

### Installation

- The mechanical hetalistics shall confers to sil relevant parts of the New Jersey Unified Construction code, the current "Gocs Basic Mechanical Code" all local regulations, and manufacturer's specification
- 2. Provide all itses necessary for complete operating systems (placther or not specifically shows on the drawings) includings resident distances, supply 6 return doctment, diffusers, curbs, motorized dampers 6 thermatats. Provide all materials 'or 'pent-house' construction. It wide all electrical connections to equipment, as required.
- Before commencing work, submit detailed shop frawings to the architect for his approval. The architect shall approve the exact location of all egelpsont, ductwork 5 roof openings in the field before work begins.
- 4. All rotating mechanical equipment shall be mounted or supported on
- 5. Where roof penetrations are required, the contractor shall carefull, provide all necessary flashing 6 counter flashing of the proper typ:. The contractor shall assure that the owner's existing roof warranties remain in effect, by employing a qualified, bonded roof sub-cractor whose installation is approved in advance by the original roc menufacturer.
- Completed air handling systems shall be adjusted and balanced. Upo completion, contractor shall operate all MAXE systems and instruct owners's representatives with all details of operation.
- 7. The mechanical contractor shall subsit two board sets of all shop drawings, maintenance instructions, operating instructions and other drawings of all major items of equipment (CATPALIZO A PAGE 2.)

	ALAN SF	ECTOR & ASSOC	CIATES	580 Lafayake 7 PO Bax 746 San Tayahane	
	M. Ja	Alterations to Ventilation Systems at SUSSEX CHART-YEARTHMAL-TECHNICAL SCHOOL SPORTS TOWNSHIP, N.J.	OC.	-	1
- 1	1 30V	TimLE .	DR. SY	Caro. By	HQ.
_		(A) BASERYS (A) KITCHEN WESTHLATTON	DATE	ely 13 a	1-9.10
			RELEME	D FOR BID: 7	/28/86

NJBPU Energy Audits

CHA #20151

Building: Sussex County Vocational School - Main Building

## ECM-7 Reactivate Kitchen Heat Recovery

	0.99	1.22	1.09
Multipliers	Material:	Labor:	Equipment:

1,100	VTO	H		UNIT COSTS	0	SUE	SUBTOTAL COSTS	STS	TOTAL	DEMABILE
Describation	3		MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.	COST	REMARKS
						\$	\$	- \$	- \$	
Replace Heat Exchangers	2	ea	\$ 6,000	\$ 750		\$ 11,880	\$ 1,830	- \$	\$ 13,710	
Ductwork mods	1	SI	\$ 200	\$ 200		\$ 495	\$ 610	- \$	\$ 1,105	
Replace Fan Motors	2	ea	\$ 220	\$ 250		\$ 1,089	\$ 610	- \$	\$ 1,699	premium efficiency
System refurbish	1	SI	\$ 200	\$ 200		\$ 495	\$ 610	- \$	\$ 1,105	
						\$	- \$	- \$	- \$	
						\$	\$	- \$	- \$	
						\$	\$	- \$	- \$	
						\$	\$	- \$	- \$	
						- \$	\$	- \$	\$	
						\$	\$	- \$	- &	

\$ 4,405 25% Contingency Contractor 3,3304 15% 0&P  \$ 0% Engineering	ક્ક	17,619	\$ 17,619  Subtotal
Total	4	4 405	V20epritac? %50
Total		1,	Contractor
- 25,327 Total	↔	3,304	15% O&P
-   25,327 Total			
	છ	•,	0% Engineering
	€9	25,327	Total

### APPENDIX J

ECM-9 Use High Efficiency Boiler to Heat Pool

NJBPU Energy Audits

CHA #20151

Building: Sussex County Vocational School - Main Building

### ECM-9 Use High Efficiency Boiler to heat pool

Existing Fuel Proposed Fuel

Propane Propane

<u>Item</u>	Value	Units	Formula/Comments
Baseline Fuel Use	13,670	Gals LPG	Based on historical utility data
Existing Boiler Plant Efficiency	%08		Estimated or Measured
Baseline Boiler Load	995,176	Mbtu/yr	Baseline Fuel Use x Existing Efficiency x 91 Mbtu/Gals LPG
Proposed Boiler Plant Efficiency	%68		New Boiler Efficiency
Proposed Fuel Use	12,288	Gals LPG	Baseline Boiler Load / Proposed Efficiency / 91 Mbtu/Gals LPG
Annual Savings	1,382	Gals LPG	Baseline Fuel - Proposed Fuel

### Savings Summary:

Unit Cost	\$ 1.42 \$	2 \$/gal propane
Annual \$ Savings	\$ 1,963	



### COPPER-FIN2

Gas Heaters For Commercial Pool Applications

High Efficiency In A Space-Saving Design







From 500,000 to 2,070,000 Btu/hr
Up to 89% Thermal Efficiency
Less Than 30 ppm NOx Rating





### **2° Commercial Gas Heaters**

### Thermal Efficiency Is Higher...While **Footprint And Vent Sizes Are Smaller**

Lochinvar's Copper-Fin<sup>2®</sup> line of high efficiency commercial gas heaters gives you all the advantages of copper-finned tube heat exchanger technology plus the benefits of a sealed combustion system. Every Copper-Fin<sup>2</sup> model offers four major advantages: higher efficiency, smaller footprint, smaller vent diameters and a wide variety of venting options.

### **Outstanding Thermal Efficiency**

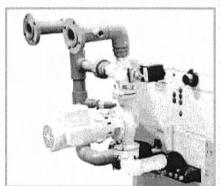
and proven combination.

Copper-Fin<sup>2</sup> gas heaters offer a remarkably high 89% thermal efficiency. This means that 89¢ out of every fuel dollar goes into heating the water, dramatically reducing the operating cost of the equipment. Copper-Fin<sup>2</sup> achieves this efficiency through the combination of an advanced fan assisted combustion system and an exclusive gasketless copper-finned tube heat exchanger. A time tested

The heat energy from the combustion process is efficiently transferred into the water as it passes through the solid copper-finned tube heat exchanger. The sealed combustion design of the Copper-Fin<sup>2</sup> reduces external heat loss. This means that the energy dollars heat the water, not the mechanical room. It also ensures that the jacket stays cooler, providing greater safety and requiring less clearance from combustible walls - just 1" in most cases.

### **Automatic Pumped Bypass Standard**

All Copper-Fin<sup>2</sup> heaters are equipped with an automatic high temperature CPVC pumped bypass to ensure proper flow and return water temperatures to the heater. This results in longer equipment life and trouble free operation. The CPVC bypass is provided as standard equipment in a



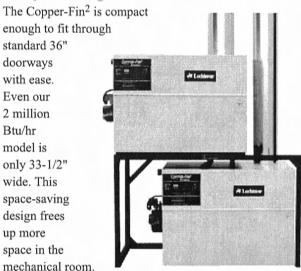
horizontal configuration. A vertical configuration is also available offering the flexibility to meet mechanical room space requirements or piping constraints.

### Meets The Toughest Air Quality Standards

Because of our unique fan-assisted combustion process, the Copper-Fin<sup>2</sup> exceeds today's toughest NOx emissions requirements. An independent certification laboratory test gave us a rating of less than 30 ppm —corrected to 3% O<sub>2</sub>.

And less NOx means a cleaner environment.

### Compact Design - For Installation Ease





And our optional Multi-Stack<sup>™</sup> frame lets you put two units in the footprint of just one. See Multi-Stack frame

literature for more details. (Indoor use only)

### Making Installation Easier...For Less

High-efficiency, fan-assisted combustion means you can use a smaller diameter vent stack — up to 8" smaller than typically required. This makes installation less expensive and more flexible.

**Vent Cost Savings** 

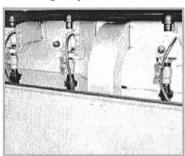
Btu/hr INPUT	CONVENTIONAL VENT SIZE	COPPER-FIN <sup>2</sup> VENT SIZE	5 SAVING
500,000	10"	6"	\$ 657
650,000	12"	8"	\$ 731
750,000	14"	8″	\$ 1,450
990,000	16"	10"	\$ 1,790
1,260,000	16"	12"	\$ 1,463
1,440,000	18"	12"	\$ 2,432
1,800,000	20"	14"	\$ 3,526
2,070,000	22" ed on 25' vent system usin	14"	\$ 3,738

storm collar and vent cap.

### **The Proven Performers**

### Service & Installation Ease

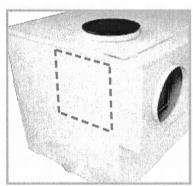
All Copper-Fin<sup>2</sup> models offer a service friendly design with gas inlet and shutoff cocks, electrical and EMS connections toward the front of the unit, and a slide out control panel. The referenced gas valve design improves operational performance by monitoring the pressure in the sealed combustion chamber to



maintain the optimum air/fuel mixture.

All models feature alternate air inlet connections for greater installation flexibility. This field convertible option provides the ability to connect the air inlet on either the right side

or the rear of the unit. And the built-in air inlet filter reduces maintenance and improves performance by trapping dust and airborne particulates that can foul the burners and blowers.



You'll also save installation time and expense with Lochinvar's direct vent option, featuring our innovative Aire-Lock<sup>TM</sup> combustion system. The Aire-Lock<sup>TM</sup> direct vent option allows the installer to vent the products of combustion directly through a side

wall without the use of an auxiliary power vent cap. By using approved vent material and an air intake pipe, this option effectively "detaches" the unit from the mechanical room by pulling all combustion air from outside the building and venting all combustion by-products outside through a side wall. A feature that can really simplify an installation while reducing overall installed costs.

### Control at your fingertips

The enhanced operator interface panel provides fingertip control of the built-in digital temperature controller and can



monitor up to four temperature readouts; inlet, outlet, pool and system temperature with the ability to adjust pool temperature. Its refined user friendly design simplifies service by providing "slide-out" access to electronics and controls.

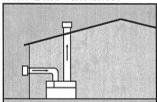
### Flexible Venting Options

Conventional

Vents into conventional flue or vent breaching using Type B double wall vent.

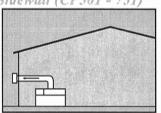
Requires optional outdoor vent cap. Use when indoor space is a problem or if outdoor location gives better access.

### DirectAire Vertical with Sidewall Inlet



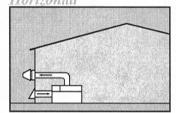
Draws fresh air from outside and vents through conventional vertical flue.

### Sidewall (CP501 - 751)



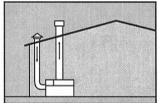
Draws fresh air from inside the room. Vents up to 50 equivalent feet directly through the outside wall without the need for a powered sidewall cap.

### Power DirectAire Horizontal



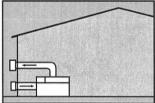
Draws fresh air from outside and vents through sidewall using optional powered vent cap.

### DirectAire Vertical



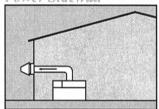
Draws fresh air from outside and vents through conventional vertical flue.

### Aire-Lock Direct Vent

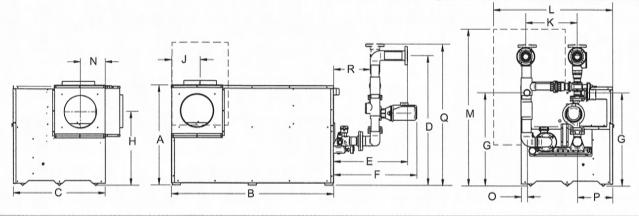


Utilizes sealed Aire-Lock combustion system to draw fresh air 50 equivalent feet from a sidewall. Vents horizontally up to 50 equivalent feet through the sidewall using Category IV approved vent material.

### Power Sidewall



Vents directly through the outside wall using an optional powered sidewall cap. Ideal when a vent stack is not practical.



Model	Btv/h	r Btu/hr																		Vent	Air	Gas S	Shipping
Number	Input	Output	A	В	C							K		14			P		R	Size	Inlet	Conn	Weight
CPN501	500,000	445,000	31-1/2"	45-1/2"	22-1/4"	38"	20-1/4"	26-1/2"	29"	23"	7"	12-3/4"	28"	38"	8"	1/2"	9"	41-1/8"	9-3/4"	6"	6"	1-1/4"	480
CPN651	650,000	578,500	31-1/2"	56-3/4"	22-1/4"	38"	20-1/4"	26-1/2"	29"	23"	8-1/2"	12-3/4"	38"	38"	8"	1/2"	9"	41-1/8"	9-3/4"	8"	8"	1-1/4"	550
CPN751	750,000	667,500	31-1/2"	64"	22-1/4"	38"	20-1/4"	26-1/2"	29"	23"	8-1/2"	12-3/4"	38"	38"	8"	1/2"	9"	41-1/8"	9-3/4"	8"	8"	1-1/4"	605
CPN0991	990,000	881,100	36"	48-1/4"	33-1/2"	47"	26-3/4"	30-1/4"	34"	27"	8"	18-1/4"	42"	48"	9-1/4"	2-1/4"	13"	51-1/4"	13-1/4"	10"	10"	2"	930
CPN1261	1,260,000	1,121,400	36"	58-1/2"	33-1/2"	47"	26-3/4"	30-1/4"	34"	27"	9"	18-1/4"	42"	48"	9-1/4"	2-1/4"	13"	51-1/4"	13-1/4"	12"	12"	2"	995
CPN1441	1,440,000	1,281,600	36"	68-3/4"	33-1/2"	47"	26-3/4"	30-1/4"	34"	27"	9"	18-1/4"	42"	48"	9-1/4"	2-1/4"	13"	51-1/4"	13-1/4"	12"	12"	2"	1,130
CPN1801*	1,800,000	1,602,000	36"	82-1/4"	33-1/2"	47"	26-3/4"	30-1/4"	34"	27"	10"	18-1/4"	42"	48"	9-1/4"	2-1/4"	13"	51-1/4"	13-1/4"	14"	12"	2"	1,285
CPN2071*	2,070,000	1,842,300	36"	92-1/2"	33-1/2"	47"	26-3/4"	30-1/4"	34"	27"	10"	18-1/4"	42"	48"	9-1/4"	2-1/4"	13"	51-1/4"	13-1/4"	14"	12"	2"	1,400
Notes: Cl	hange 'N'	to 'L' for LP	gas mod	lels.				No o	lerati	on o	n LP me	dels.											

Notes: Change 'N' to 'L' for LP gas models.

Performance data is based on manufacturer test results.

\*Cupro Nickel Heat Exchanger is standard on these models.

### Standard Features

- Up to 89% Thermal Efficiency
- Digital Operator Interface
- \* Less Than 30 ppm NOx Rating
- ASME Gasketless Copper Finned-Tube Heat Exchanger (CP501-1441)
- ASME Gasketless Cupro Nickel Finned-Tube Heat Exchanger (CP1801-2071)
- High Temperature CPVC Automatic Pumped Bypass
- \* Flanged Inlet/Outlet Fittings
- Loch-Heat™ Ceramic Tile Sealed Combustion Chamber
- · Combustion Air Filter
- \* Field Convertible Air Inlet Connection
- \* Programmable Temperature Setpoint
- \* Inlet & Outlet Temperature Sensor
- Pool Temperature Sensor
- · Hot Surface Ignition System
- Stainless Steel Burners
- · Referenced Gas Valves
- ASME 160 psi Working Pressure
- 110°F Safety Limit
- · 24V Controls
- · Flow Switch
- · Air Pressure Switch

- Remote Control Compatible
- Adjustable High Limit w/ Manual Reset
- 150 psi ASME Temperature and Pressure Relief Valve
- Slide-Out Control Panel with Plug-In Components
- 5-Year Limited Warranty on Heat Exchanger (See warranty for details)

### **Optional Equipment**

- · Alarm Bell
- Cupro Nickel Heat Exchanger (CP501-1441)
- · High Gas Pressure Switch w/ Manual Reset
- Low Gas Pressure Switch w/ Manual Reset
- Multi-Stack Frame (Horizontal Bypass Only)
- Pump Delay
- Pump Purge w/ Maintenance Timer
- Vertical Mounted Pumped Bypass

### **Available Firing Systems**

F9 Electronic Control with Hot-Surface Ignition (Standard)

F13 GE GAP/FM/IRI F7 California Code

### **Venting Options**

- Aire-Lock Direct Vent Sealed Combustion
- · Conventional
- DirectAire® Vertical
- DirectAire® Vertical w/ Sidewall Inlet
- · Outdoor
- \* Powered DirectAire\* Horizontal
- · Powered Sidewall
- \* Sidewall (CP501-751)

FOR EASE IN ORDERING BY MODEL NUMBER



This heater is 500,000 Btu/hr natural gas Copper-Fin<sup>2</sup> pool heater. It has F9 firing controls.











Lochinvar Corporation • 300 Maddox Simpson Pkwy • Lebanon, TN 37090 • 615-889-8900 / Fax: 615-547-1000 www.Lochinvar.com

NJBPU Energy Audits

CHA #20151

Building: Sussex County Vocational School - Main Building

## ECM-9 Use High Efficiency Boiler to heat pool

	0.99	1.22	1.09
Multipliers	Material:	Labor:	Equipment:

Docoription	) TO	TIMIT		UNIT	UNIT COSTS		SU	SUBTOTAL COSTS	COST	S	TOTAL	DEMANDIZE
Description	5		MAT.	LAE	LABOR	EQUIP.	MAT.	LABOR	_	EQUIP.	COST	KEIWIARKO
							s	\$	-	-	- \$	
Pool Water Heater 600 MBH	1	ea	\$ 8,900				\$ 8,811	\$		1	\$ 8,811	
							s	\$	-	-	- \$	
Start up	1	еа	\$ 100	s	200		66 \$	\$	610 \$	1	60/ \$	
Piping Modification	1	еа	\$ 200	s	1,000		\$ 495	s	1,220 \$	-	\$ 1,715	
Flue mods	1	еа	\$ 2,350	\$	800		\$ 2,327	\$	\$ 926	-	\$ 3,303	
Electrical mods	1	еа	\$ 200	s	300		\$ 198	\$	366   \$	1	\$ 264	
Removal of old boiler	1	ea	\$ 100	\$	400		66 \$	\$	488 \$	-	\$ 287	
							\$	\$	\$ -	-	- \$	
							\$	\$	\$ -	-	- \$	
							\$	\$	-	-	- \$	

Total	\$ 22,552
0% Engineering	\$
15% O&P	\$ 2,942
Contractor	
25% Contingency	\$ 3,922
Subtotal	\$ 15,689 Subtotal

### APPENDIX K

ECM-10 Replace DHW Boiler with Condensing Boiler

NJBPU Energy Audits

CHA #20151

Building: Sussex County Vocational School - Main Building

# ECM-10 Replace DHW Boiler with Condensing Boiler

Existing Fuel Proposed Fuel

#2 Oil • Propane

<u>Item</u>	Value	Units	Formula/Comments
Baseline Fuel Use	1,436	Gals #2	Based on historical utility data
Existing Boiler Plant Efficiency	%82		Estimated or Measured
Baseline Boiler Load	155,355	Mbtu/yr	Baseline Fuel Use x Existing Efficiency x 138.7 Mbtu/Gals #2
Proposed Boiler Plant Efficiency	%86		New Boiler Efficiency
Proposed Fuel Use	1,742	Gals LPG	Baseline Boiler Load / Proposed Efficiency / 91 Mbtu/Gals LPG
Annual Savings	1,436	Gals #2	Baseline Fuel

### Savings Summary:

Unit Cost	ક	1.42	.42 \$/gal propane
	\$	3.44	3.44 \$/gal oil
Annual \$ Savings	\$	2,467	

### NJBPU Energy Audits CHA #20151

**Building: Sussex County Vocational School - Main Building** 

### ECM-10 - DHW Load Calculations

### DHW Usage

Number of Students	825	students	
Faculty and Staff	120	F&S	
Total Occupants	945	occupants	
Occupied hours per day	10	hrs	
Open School Days	180	days/yr	
Usage Factor		gallons/day/occ	upant
Daily DHW Usage	1,701	gallons/day	
Hourly DHW Usage	170	gallons/hr	
Annual DHW Usage	306,180	gallons/year	
Hot Water Temperature	120	F	
Average Feed Water Temperature	58.5	F	
Annual DHW Heating Load	156,854,483	Btu/yr	
Existing Boiler Plant Efficiency	78%		
Annual Fuel Usage	1,450	gallons #2/yr	#2 fuel Oil heating value is 138,700 btu/gal
Annual Fuel Usage for Entire Building Percent Fuel used for DHW	21,309 6.80%	gallons #2/yr	based on historical utility data

### **DHW Heater Sizing**

Recovery rate	0.3	gph/occupant
Water Heater Peak Flow Rate	284	gallons/hour
Heating Load	145,236	Btu/hr

### CONDENSING COMMERCIAL GAS WATER HEATERS

Sample



### SMART SYSTEM

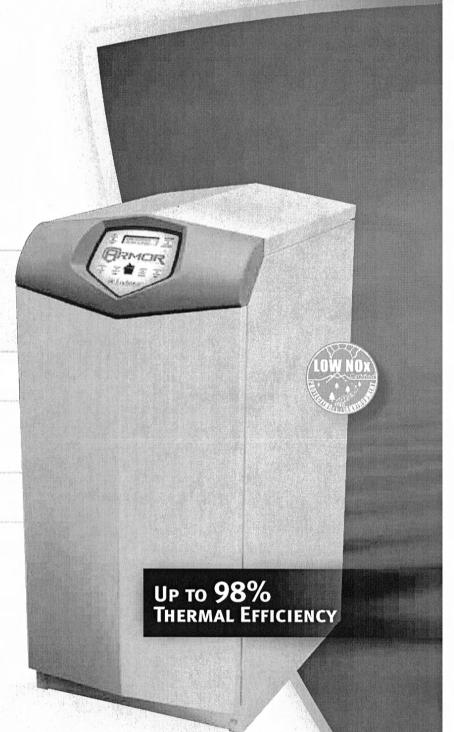
CONTROL WITH CASCADING SEQUENCER

**UP TO 98% THERMAL EFFICIENCY** 

8 MODELS FROM 150,000 TO 800,000 BTU/HR

5:1 TURNDOWN FIRING RATE

LESS THAN 20 ppm NOx







### A BETTER WAY TO ACHIEVE 98% THERMAL EFFICIENCY

There are several tank-type commercial water heaters on the market with thermal efficiencies of 95% or higher. They all promise tremendous savings on operating costs compared to standard-efficiency units, but none of them truly measures up to the Lochinvar ARMOR™.

ARMOR is a fully condensing commercial gas water heater. Available in eight models with inputs ranging from 150,000 to 800,000 Btu/hr, the ARMOR achieves thermal efficiencies up to 98%.

ARMOR delivers long-lasting life-cycle efficiency surpassing any commercial unit in its class. When you look beyond the numbers you'll discover the many ways that ARMOR technology is in a class by itself!

### Fully Modulating with 5:1 Turndown

ARMOR features advanced Negative Regulation (Neg/Reg) sealed combustion technology, permitting fan speed to constantly adjust the volume of fuel and air entering the burner. This ensures that ARMOR can safely and reliably operate with supply gas pressure as low as 4 inches water column.

ARMOR is equipped with fully modulating combustion with 5:1 turndown. This means ARMOR can fire as low as 20% of maximum input when water heating demand is lowest, and increase the firing rate up to 100% as demand increases. The result is better overall efficiency and less cycling, compared to all other tank-type units which are "on-off," which means they can only fire at 100% of maximum input.

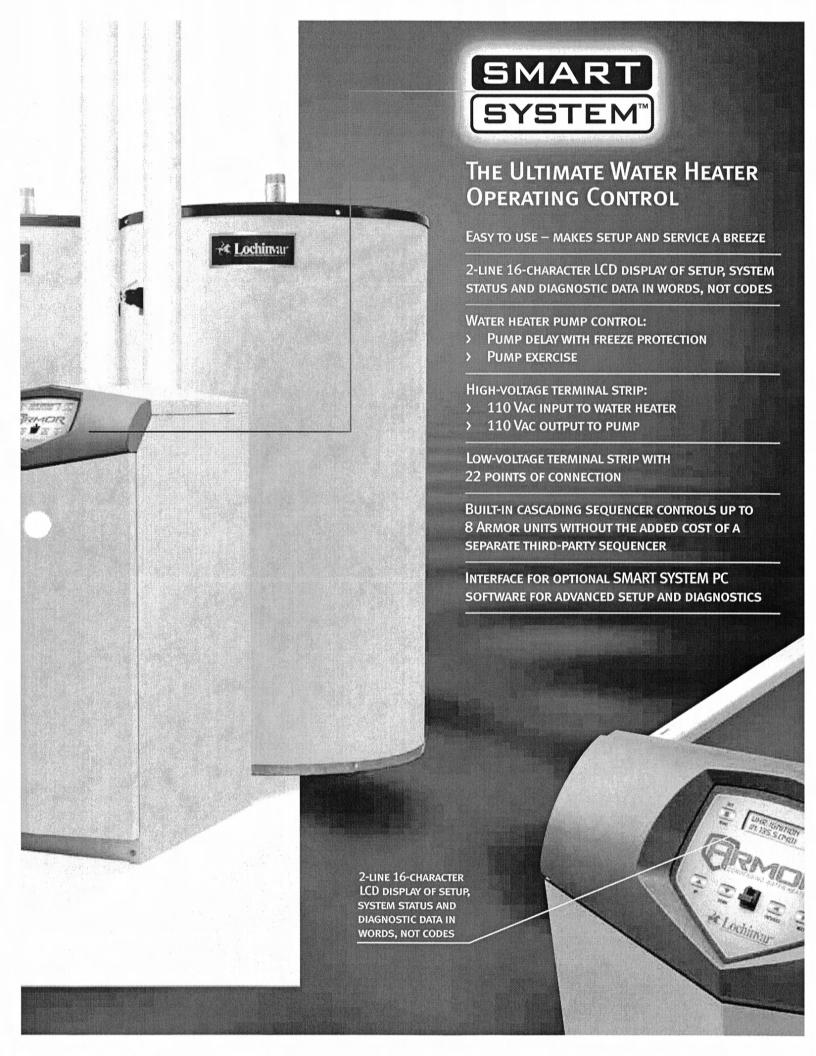
### STAINLESS STEEL CONDENSING HEAT EXCHANGER

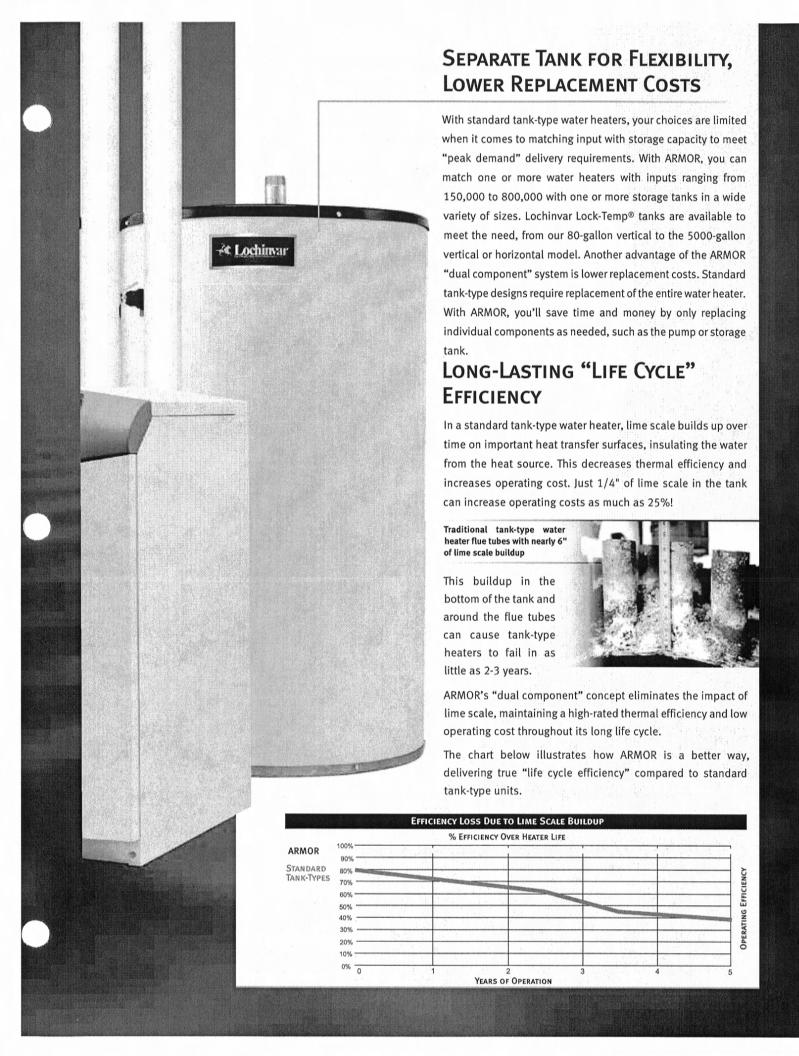
The ARMOR's stainless steel heat exchanger is built to ASME Section IV requirements. Its design provides superior resistance to corrosion caused by condensation from low entering water temperatures. Traditional commercial water heaters will fail early with low entering water temperatures; however, with the ARMOR the lower the supply water temperature the more efficiently it performs throughout the life of the heater.



AW (285-800)

Lochim





### EASY, FLEXIBLE INSTALLATION AND SERVICE

**Vent using PVC, CPVC or SS** – Up to 100 feet of air intake and 100 feet of exhaust vent with PVC, CPVC or SS.

Conduit Knockouts - For field wiring connections.

**User-Friendly Terminal Strip** – Allows 22 points of low-voltage field connections for additional safeties or accessories.

**Easy-Access Cabinet** – Front and top panels are hand-removable, without tools.

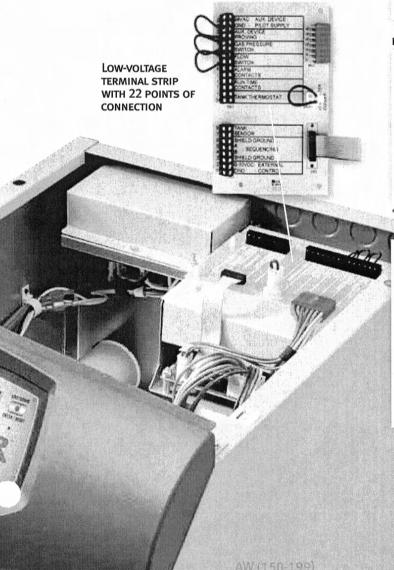
**Leveling Legs** – Certified for installation on combustible floors.

Water Heater Circulating Pump – Included as standard equipment.

Small Footprint - Conserves valuable floor space.

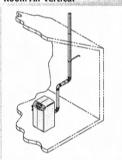
Lightweight Design - Easy to handle, simple to install.

Natural to LP Gas Conversion - Simple and fast

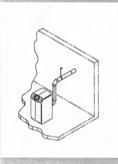


### 7 VENTING OPTIONS!

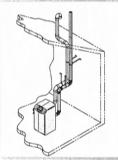
**Room Air Vertical** 



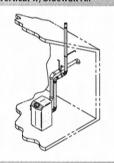
Room Air Sidewall



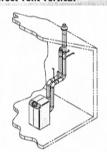
**Direct Vent Vertical** 



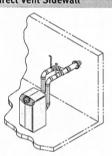
Vertical w/Sidewall Air



**Direct Vent Vertical\*** 

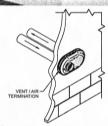


**Direct Vent Sidewall\*** 

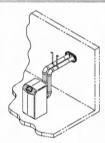


\*Optional Concentric Vent Kit Sold Separately

Direct Vent Sidewall

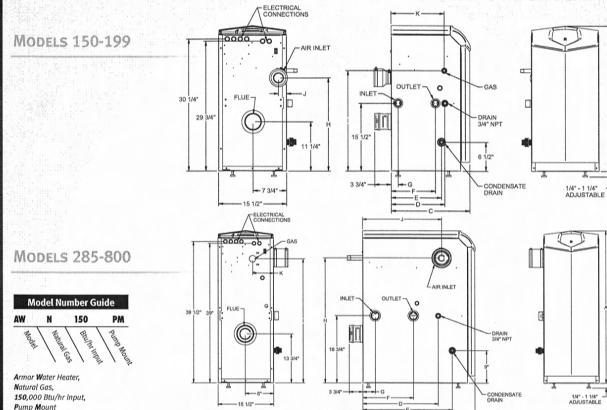


SIDEWALL VENT TERMINATION FACTORY SUPPLIED AND SHIPPED STANDARD WITH EVERY MODEL



SIDEWALL VENT TERMINATION

### ARMOR™ WATER HEATER DIMENSIONS AND SPECIFICATIONS



Model Number	Btu/hr Input	GPH @ 100° Rise	A	c	D	E	F	G	н	1	,	K	Gas Conn.	Water Conn.	Air Inlet	Vent Size	Shipping Wt. (lbs.)
AWN150PM	150,000	174	33-1/4"	18"	12-1/4"	11-1/2"	10"	1-1/2"	21-1/4"	23"	1-3/4"	12"	1/2"	1-1/4"	3″	3"	165
AWN199PM	199,999	235	33-1/4"	22-1/4"	16-1/2"	15-3/4"	14-1/4"	5-1/4"	21-1/4"	23"	1-3/4"	16-1/4"	1/2"	1-1/4"	3″	3″	185
AWN285PM	285,000	339	42-1/2"	19-3/4"	12-3/4"	13-1/2"	6"	2"	34"	31"	11-3/4"	4-1/4"	3/4"	2"	4"	4"	235
AWN399PM	399,999	475	42-1/2"	27"	21"	20-3/4"	14"	3-1/2"	34"	34"	18-3/4"	2″	1"	2"	4"	4"	295
AWN500PM	500,000	594	42-1/2"	31-1/4"	21"	25"	14"	3-1/2"	35"	35"	22"	5-3/4"	1"	2"	4"	4"	335
AWN600PM	600,000	713	42-1/2"	36-1/4"	25"	21"	14"	3-1/2"	36"	32-3/4"	19-1/2"	5-1/2"	1-1/2"	2"	4"	4"	380
AWN700PM	700,000	832	42-1/2"	40-1/4"	29"	23"	17"	3-1/2"	36"	32-3/4"	23-1/2"	3-1/4"	1-1/2"	2"	4"	6"	461
AWN800PM	800,000	950	42-1/2"	45-1/4"	33-1/4"	23"	17"	3-1/2"	36"	32-3/4"	27-3/4"	3-1/4"	1-1/2"	2"	4"	6"	527

### STANDARD FEATURES

- Up to 98% Thermal Efficiency
- > Modulating Burner with 5:1 Turndown
  - Direct-Spark Ignition
  - > Low NOx Operation
  - > Sealed Combustion
  - Low Gas Pressure Operation

### > Vertical & Horizontal Direct-Vent

- PVC, CPVC or SS Venting up to 100 Feet
- PVC/CPVC Sidewall Vent Termination

### > Stainless Steel Heat Exchanger

- > All Welded Construction, Gasketless Design
- > 160 psi Working Pressure
- ASME Construction (AW 285-800)
- > Natural to L.P. Conversion Kit
- > All Bronze Circulating Pump
- > On/Off Switch
- > Flow Switch
- > ASME Temperature & Pressure Relief Valve
- Temperature & Pressure Gauge (AW 500-800)
- Downstream Test Valves (AW 500-800)
- > Adjustable Leveling Legs
- > Tank Sensor
- Manual Reset High Limit
- > Condensate Trap
- > Zero Clearances to Combustible Material
- 5 Year Limited Warranty (See Warranty for Details)
- > 1 Year Parts Warranty (See Warranty for Details)

### SMART SYSTEM FEATURES

- **SMART SYSTEM Digital Operating Control**
- > 2 line, 16 Character Display
- Dual Level Password Security
- > Built in Cascading Sequencer for up to 8 Water Heaters
- Building Management System Integration with 0-10 VDC Input
- > Low Water Flow Safety Control & Indication
- > Inlet & Outlet Temperature Sensors & Readout
- > Flue Temperature Sensor > Water Heater Pump Control
- Pump Delay with Freeze Protection
- Pump Exercise
- > Night Setback
- > Time Clock
- > Service Reminder

### High Voltage Terminal Strip

- 120 VAC / 60 Hertz / 1 Phase Power Supply
- Pump Control Contacts

### > Low Voltage Terminal Strip

- > 24 VAC Auxiliary Device Relay
- > Auxiliary Proving Switch Contacts
- > Flow Switch Contacts
- Alarm on Any Failure Contacts
- > Runtime Contacts
- Tank Sensor Contacts
- > Cascade Contacts
- > 0-10 VDC BMS External Control Contact

### OPTIONAL EQUIPMENT

- Adjustable High Limit w/ Manual Reset
- > Alarm Bell
- Condensate Neutralization Kit
- High & Low Gas Pressure Switches (AW 500-800)
- Concentric Vent Kit (3" & 4" PVC/CPVC only)
- SMART SYSTEM PC Software
- > Room Air Vent Kits
- > Multi-Stack Frame

### FIRING CONTROL SYSTEMS

- Standard Construction ) M9 ) M7 California Code
- (AW 285-800)
- ) M13 CSD1 / FM / GE Gap
- (AW 500-800)











NJBPU Energy Audits

CHA #20151

Building: Sussex County Vocational School - Main Building

# ECM-10 Replace DHW Boiler with Condensing Boiler

	0.99	1.22	1.09
Multipliers	Material:	Labor:	Equipment:

3000	VTO	TIMIT		UNIT COSTS	S	SUE	SUBTOTAL COSTS	STS	TOTAL	DEMADIVE
Describation	3	ONI	MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.	COST	NEIWIANNO
						\$	\$	- \$	-	
DHW Water Heater 150 MBH	2	ea	\$ 4,400 \$	\$ 1,000		\$ 8,712	\$ 2,440	- \$	\$ 11,152	
						\$	\$	- \$	- \$	
						- \$	\$	- \$	- \$	
Start up	2	ea	\$ 20	\$ 320		66 \$	\$ 854	- \$	\$ 953	
Piping Modification	2	ea	\$ 800	\$ 1,000		\$ 1,584	\$ 2,440	- \$	\$ 4,024	
Flue mods	2	ea	\$ 100	\$ 250		\$ 198	\$ 610	- \$	\$ 808	
Electrical mods	2	ea	\$ 200	\$ 300		968 \$	\$ 732	- \$	\$ 1,128	
Removal of old boilers	2	еа	\$ 200	200 \$ 500		\$ 396	1,220	- \$	\$ 1,616	
						\$	\$	- \$	- \$	
						\$	\$	- \$	- \$	

	_					
\$ 19,681   Subtotal		25% Contingency	Contractor	15% O&P	0% Engineering	Total
19,681		4,920		3,690	-	28,291
ક્ક		↔		↔	ક્ક	₩

### APPENDIX L

ECM-11 Convert Booster Heater from Electric to Propane

### NJBPU Energy Audits CHA #20151

**Building: Sussex County Vocational School - Main Building** 

### **ECM-11 Convert Booster Heater from Electric to Propane**

		Exist	ing	Proposed	]
1 2 3 4 5 6 7	Water Use/Hour (estimated) Operating Hours/Day Days/Week Weeks/Year Final Rinse Use Water Use/Year Primary Heat required to raise the temperature	15 3 5 38 75 64,1 62	0 3 % 25	150 3 5 38 75% 64,125 622	gph hrs days weeks gallons/y
8	from 50 degree F to 140 degree F  Booster Heat required to raise the temperature	6,2		022	propane kWh
9	from 140 degree F to 180 degree F (kWh)  Booster Heat required to raise the temperature from 140 degree F to 180 degree F (gallons			276	gallons
	· · · · · · · · · · · · · · · · · · ·			kW	
	Cost of Electric Cost of Propane	\$ \$		gph / kWh	
	Savings Electric Savings Propane Savings	\$	1,034 (392)	/yr	

\$

642

Note 1: Heat required = 8.33 x Specific Heat for Water x Temp diff x Gallon Use/Boiler Efficiency

Financial Savings



### **POWERNITE** GAS BOOSTER WATER HEATERS Models PMG-60, PMG-100, PMG-200

The Hatco Powermite Gas Booster Water Heater provides 180°F (82°C) sanitizing hot water and long life dependability. Designed to fit under the dishtable, near the dishwasher, minimizes the heat loss that can occur when heaters are installed in a remote location.

### **FLEXIBILITY**

All models can operate on either natural or propane gas and feature a burner system that utilizes both primary and secondary air for consistent ignition.

PMG-60... for single tank, door-type machines. It has 58,000 BTU heating capacity with a storage capacity of 3.2 gallons (12 liters) and has an output equivalent to approximately 13.5kW. This unit can naturally and safely vent directly into the room. Consult local codes for venting requirements. The PMG-60 can increase the temperature of 135 gallons/hour (511 liter/hr) by 40°F (22°C).

PMG-100... for 2-tank, conveyor machines. It has 105,000 BTU heating capacity with a storage capacity of 5 gallons (19 liters) and has an output equivalent to approximately 24kW. The PMG-100 can increase the temperature of 241 gallons/hour (912 liter/hr) by 40°F (22°C).

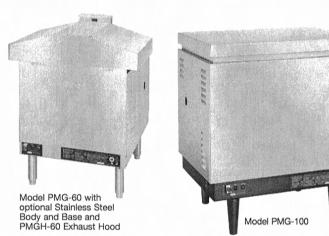
PMG-200... for large, conveyor-type dishwashing operations. This 195,000 BTU gas booster water heater has an output equivalent to approximately 45kW and has a 5 gallon (19 liter) storage capacity. The PMG-200 can increase the temperature of 452 gallons/hour (1711 liter/hr) by 40°F (22°C).

Models PMG-100 and -200 use a forced draft system with a 4" (102 mm) diameter adapter provided to allow the installer to hook up the exhaust venting to meet regulatory and local codes.

### QUALITY

The following features assure the best performance for years to come:

- Stainless steel tanks.
- Stainless steel front and top, with powdercoat sides and back (stainless steel body available).
- Finned tube copper heat exchanger.
- Spark to light with standing pilot.
- Eight blade type burners in the PMG-60, three tube type burners in the PMG-100, six tube type burners in the PMG-200.
- Temperature/pressure relief valve.
- · Pressure reducing valve.
- Two temperature/pressure gauges.
- Low-water cut-off.
- Blended phosphate water treatment system.
- Shock absorber.





### **BOOSTER SIZING**

Water Temperature Recovery Table in GPH (LPH) and °F (°C)

Model	Input MBH (1.000		Ter	Temperature Rise				
Model	el MBH (1,000 BTU/HR)	30° (16°)	40° (22°)	50° (28°)	60° (30°)	70° (39°)		
PMG-60	58	181 ( 685)	135 ( 511)	108 ( 409)	90 ( 341)	77 (292)		
PMG-100	105	321 (1215)	241 ( 912)	193 ( 731)	161 ( 610)	138 (522)		
PMG-200	195	602 (2279)	452 (1711)	361 (1367)	301 (1139)	258 (977)		

**Note:** Installations above 2,000 ft. (610 m) will reduce the above capacities and may require orifice changes to meet IAS safety compliance. Consult "Installation and Operating Manual" for sizing adjustments and orifice changes.

### WATER QUALITY REQUIREMENTS

Incoming water in excess of 3.0 grains of hardness per gallon (GPG) (.75 grains of hardness per liter) must be treated and softened before being supplied to booster heater(s). Water containing over 3.0 GPG (.75 GPL) will decrease the efficiency and reduce the operating life of the unit.

Note: Product failure caused by liming or sediment buildup is not covered under warranty.



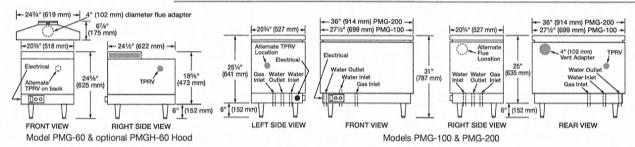




HATCO CORPORATION P.O. Box 340500 Milwaukee, WI 53234-0500 U.S.A. (800) 558-0607 • (414) 671-6350 • Fax (800) 543-7521 • Int'l. Fax (414) 671-3976 www.hatcocorp.com • E-mail: equipsales@hatcocorp.com



### **POWERMITE®** GAS BOOSTER WATER HEATERS Models PMG-60, PMG-100, PMG-200



### **SPECIFICATIONS**

### Capacity

PMG-60	Input 58,000 BTUs/Hour. Output – 46,000 = 13.4kW	
PMG-100	Input 105,000 BTUs/Hour. Output – 84,800 = 24.8kW	
PMG-200	Input 195,000 BTUs/Hour. Output – 156,000 = 45.7kW	

### **Fuel**

All Models	Natural or Propane Gas
Electrical	
PMG-60	120 VAC, 210 watt, 1.75 amps.
PMGH-60	120 VAC, 18 watt, 0.15 amps.
PMG-100/200	120 VAC, 360 watt, 3.00 amps.

### Connections

PMG-60	Gas – ½" NPT, Water – ¾" NPT, Electric – 120 VAC, 15 amp.
PMG-100/200	Gas – 3/4" NPT, Water – 3/4" NPT, Electric – 120 VAC, 15 amp.

### Fluing

PMG-60	Direct – combustion air enters bottom, flue gasses exit sides at top of unit.
PMG-100/200	Direct – combustion air enters bottom, flue gasses exit right side or back at top of unit. 4" (102 mm) flue round.

### **Operating Water Pressure**

All Models	150 PSI max. Relief valve set at 150 PSI, 210°F (99°C)	
Shipping Weight		

PMG-60	130 lbs. (59 kg) dry.	
PMG-100	180 lbs. (82 kg) dry.	
PMG-200	215 lbs. (98 kg) dry.	

### **OPTIONS (NOT FOR RETROFIT)**

- Stainless Steel Body, Base, and Sides
- ☐ Pressure Reducing Valves (Brass or Iron)
- ☐ 6"-7" (152-178 mm) Adjustable Stainless Steel Legs (4)
- ☐ Floor Mounting Hardware
- Security Package

### **DIMENSIONS**

PMG-60: 203/8"W x 241/2"D x 245/8"H\* (518 x 622 x 625 mm). PMG-100: 271/2"W x 203/4"D x 31"H\* (699 x 527 x 787 mm). PMG-200: 36"W x 203/4"D x 31"H\* (914 x 527 x 787 mm). PMGH-60 Hood: 243/8"W x 133/8"D+ x 67/8"H\* (619 x 340 x 175 mm).

- \* Height includes 6" (152 mm) legs.
- + Add 4" (102 mm) for flue adapter.
  Adds 4" (102 mm) to width and 5<sup>7</sup>/s" (149 mm) to height of PMG-60.

### **Gas Inlet Pressure**

	Water	Column
Gas Type	Minimum	Maximum
Natural	5.0" (127 mm)	10.5" (267 mm)
Propane/LP	11.0" (279 mm)	13.0" (330 mm)

### Operating Pressure Specifications at Manifold

	Water Column At Pressure Tap
Gas Type	High Burn
Natural	3.5" ( 89 mm)
Propane/LP	10.0" (254 mm)

### Vent<sup>^</sup>

PMGH-60	4" (102 mm) diameter vent pipe adapter
PMG-100/200	Forced draft system with 4" (102 mm) diameter vent pipe adapter.

^ Before installing any method of venting you should contact the local code authority or your gas supplier to make sure that the final installation will be acceptable to the authorities who have jurisdiction.

The proper method of venting a power vented gas appliance is too complicated to cover in this specification sheet and is explained in detail in the National Fuel Gas Code. Before installing the venting system, the person or agency making the installation must be familiar and experienced with the guidelines of the National Fuel Gas Code.

ALL INSTALLATIONS MUST BE MADE BY A QUALIFIED INSTALLER IN ACCORDANCE WITH THE NATIONAL FUEL GAS CODE OR LOCAL CODES.

### **ACCESSORIES**

- ☐ Exhaust Hood PMGH-60 (For PMG-60 only)
- ☐ High Altitude Orifice Kit

### PRODUCT SPECS

### **Gas Booster Water Heater**

The Gas Booster Water Heater to supply the final 180°F (82°C) rinse for the dishwasher shall be a Hatco Powermite® Model ...., as manufactured for commercial use by the Hatco Corporation, Milwaukee, WI 53234 U.S.A.

With 24/7 service (U.S and Canada only), the booster shall have the capacity to heat ....gph (lph) from 110°F to 180°F (43°C to 82°C) and it shall be rated at ....btu, 120 volts, single phase. The stainless steel tank shall be designed for a working pressure of 150 psi (1034 kPa) and hydrostatically tested at 300 psi (2069 kPa). The heater shall be complete with all internal plumbing, including

3/4" NPT pipe and fittings from inlet and outlet. All controls shall

be built-in, and carry safety approval in accordance with ANSI 21.10.3. Sanitary approval shall be in accordance with NSF Standard 5. Proper surface mounting circuit breaker or fused disconnect switch shall be provided by electrical contractor.

The gas fired heating system shall be controlled by close tolerance immersion thermostats. The booster shall be protected with high temperature limit switch (ECO) and low water cut-off.

The heater shall consist of stainless steel front, top, and stainless steel adjustable legs or stainless steel front and silver-gray hammertone sides and back with standard 6" (152 mm) legs.

The heater shall include a temperature/pressure relief valve, high-temperature limit, pressure reducing valve with bypass, indicating temperature/pressure gauge, shock absorber, and blended phosphate water treatment system.

HATCO CORPORATION P.O. Box 340500 Milwaukee, WI 53234-0500 U.S.A. • (800) 558-0607 • (414) 671-6350 Fax (800) 543-7521 • Int'l. Fax (414) 671-3976 • www.hatcocorp.com • E-mail: equipsales@hatcocorp.com

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NJBPU Energy Audits CHA #20151 Building: Sussex County Vocational School - Main Building

ECM-11 Convert Booster Heater from Electric to Natural Gas

	0.99	1.22	1.09
Multipliers	Material:	Labor:	Equipment:

			L	STSOC TINIT		J	SI IRTOTAL COSTS	SOO	TS.	TOTAI	
Description	QTY	LINO	MAT	I ABOR	FOUIP	MAT	I ABOR 1	OR	FOUIP	COST	REMARKS
						\$	8			\$	
Propane Booster Heater 195MBTUH	1	еа	\$ 6,200	\$ 100	· &	\$ 6,138	s	122 \$		\$ 6,260	
Piping Mods (water and propane)	1	<u>s</u>	\$ 250 \$	\$ 200	- &	\$ 248	s	610 \$	-	\$ 858	
Venting	1	s	\$ 200 \$	\$ 150	- \$	\$ 198	s	183 \$	-	\$ 381	
Electrical Mods	1	SI	\$ 125 \$	\$ 200	- \$	\$ 124	s	244 \$	-	898 \$	
						\$	s	-	-	- \$	
						s	S	-	-	- \$	
						\$	s	\$ -	-	- \$	
						\$	s	-	-	- \$	
						\$	s	\$ -	- 5	- \$	
						-	\$	- \$		- \$	

Total	9,951	8
0% Engineering	-	\$
15% O&P	1,298	↔
Contractor		
10% Contingency	787	\$
7,866 Subtotal	7,866	\$

### APPENDIX M

ECM-12 Temperature Setback in Isolated Areas

### NJBPU Energy Audits CHA #20151

**Building: Sussex County Vocational School - Main Building** 

### ECM-12 Temperature Setback in Isolated Areas

Fuel Oil Cost Heating Oil Usage	\$ 3.44 53,574	gallons #2
Hours - Full Occupied Hours - Partial Occupied Hours - Unoccupied	45	hrs/week hrs/week hrs/week
Occ. Temp. Setpoint Unocc. Temp. Setpoint	70 62	
% Partial Occupied	33%	
Aver. Temp. Occupied Aver. Temp. Partial Occ. Aver. Temp. Unocc.	70 64.6 62	F
Overall Average Temp.	65.6	F
Savings per Degree of Setback Total Savings	3% 13.3%	per EPA Energy Star
Fuel Oil Savings	7,129 \$ 24,527	-

NJBPU Energy Audits CHA #20151 Building: Sussex County Vocational School - Main Building

ECM-12 Temperature Setback in Isolated Areas

lultipliers	
Material:	0.99
Labor:	1.22
Equipment:	1.09

:	, it o	1		UNIT COSTS		SUE	SUBTOTAL COSTS	STS	TOTAL	0000
Description	۲	INO	MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.	COST	KEIMAKKS
							- \$	\$	· \$	
Upgrade Controls for Setback	1	sl	\$ 30,000	\$ 5,000		\$ 29,700	\$ 29,700 \$ 6,100	- \$	\$ 35,800	
Replace controllers/thermostats	1	sl	\$ 2,000 \$	\$ 2,000		\$ 4,950	4,950 \$ 2,440	- \$	\$ 7,390	correct faulty equipment
						-	\$	- \$	- \$	
						- \$	- \$	- \$	- \$	
						- \$	- \$	- \$	- \$	
						\$	- \$	- \$	- \$	
						-	- \$	- \$	- \$	
						- \$	- \$	- \$	- \$	
						- \$	- \$	- \$	- \$	
						- \$	- \$	- \$	\$	

\$	43,190	\$ 43,190  Subtotal
<del>U</del>	8 638	20% Contingency
<u>}</u>	5	Contractor
S	\$ 7,774	15% O&P
\$	-	0% Engineering
8	59,602	Total

### APPENDIX N

ECM-13 Replace Windows in Technology Wing

NJBPU Energy Audits CHA #20151

Building: Sussex County Vocational School - Main Building

\*Change U-value and air infiltration rates based on new windows or storm windows

See block load spreadsheet for U-values

# ECM-13 Replace Windows in Technology Wing

Windows can lead to increased can decrease energy usage.

Given

Cooling Hours per Week
Hearing Liver per Week
Hearing Cooling Support Temperature
Occupied Cooling Support Temperature
Occupied Hearing Selpoint Temperature
Unoccupied Hearing Selpoint Temperature
Window Perimeter
Proposed of Infiltration
Cooling Conversion
Hearing Blu Conversion Existing U factor
Existing Air Infiltration
Fuel Oil Heat Content
Boiler Efficiency

Cooling Energy Conduction = (Existing U x Area x (OA Temp - RA Temp) x Op Hours)

Formula

(From ASHRAE Fundamentals) (From ASHRAE Fundamentals)

1.05 Btu/(h\*sqft\*degf) 0.30 cfm/ft 140,000 Btu/gel 3976

(Assumption)
(Assumption)
(Assumption)
(Assumption)
(From window survey)
(From window survey)
(From window vendor)
(From window vendor)

168 Hours
\$3.44 Siviles
\$5.44 Siviles
\$5.40 day
\$5.40 Cogness F
25.5 Degrees F
70.0 Degrees F
70.0 Degrees F
70.0 Degrees F
70.0 Cogness
\$5.47 dt
70.0 Cog

Heating Energy Conduction = (Existing U x Area x (RA Temp - OA Temp) x Op Hours)
Cooling Energy (Conduction = (4.5 x Leakaga x Perimeter x (OA Enthalpy, RA Enthalpy) x Op Hours)
Heating Energy infiltration = 1.08 x Leakaga x Perimeter x (RA temp - OA temp) x Op Hours)
Load = (Conduction) + (Infiltration)
Cooling Energy = (Cooling Lead) / (12.000 BuuTon) x (kw/Ton)
Heating Energy = (Cooling Lead) / (12.000 BuuTon) x (kw/Ton)
Energy Cost = (Energy) x (Cosd/Unit)

Occupied Hours   Hours   Occupied Hours   Occup				Total	Cooling	Unaffine Occurring	Heating	Cooling	Montine Organized	Heating	Cooling	3	Mantina Occurring
38.3         39.5         37         0.0 <th>xisting Operation</th> <th></th> <th>OA Temp</th> <th>Hours</th> <th>Occupied Hours</th> <th>Heating Uccupied Hours</th> <th>Unoccupied</th> <th>Conduction</th> <th>neating Occupied Conduction</th> <th>Conduction</th> <th>Occupied</th> <th></th> <th>neaung Occupies Infiltration</th>	xisting Operation		OA Temp	Hours	Occupied Hours	Heating Uccupied Hours	Unoccupied	Conduction	neating Occupied Conduction	Conduction	Occupied		neaung Occupies Infiltration
35.6   87.5   131   0.0   0.	Cooling	38.3	92.5	37	0.0			0	0	0			
315   515   510   0.0	Cooling	36.6	87.5	131	0.0			0	0	0		0	
116   775   620   0.0	Cooling	33.5	82.5	200	0.0			0	0	0		0	
30.3         72.5         664         0.0 </td <td>Cooling</td> <td>31.6</td> <td>77.5</td> <td>620</td> <td>0.0</td> <td></td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td>0</td> <td></td>	Cooling	31.6	77.5	620	0.0			0	0	0		0	
24.6         67.5         86.4         0.0         864.0         0.0           24.6         62.5         927         0.0         927.0         0.0           21.6         57.5         670         0.0         670.0         0.0           16.2         47.5         670         0.0         670.0         0.0           14.3         47.5         671         0.0         670.0         0.0           10.4         37.5         1,033         0.0         666.0         0.0           10.4         37.5         1,033         0.0         102.0         0.0           10.4         37.5         1,033         0.0         102.0         0.0           10.4         37.5         1,033         0.0         102.0         0.0           10.4         27.5         324         0.0         252.0         0.0           2.4         17.5         17.5         0.0         125.0         0.0           3.9         12.5         0.0         130         0.0         0.0           4.1         27.5         0.0         0.0         0.0         0.0           4.1         27.5         0.0         0.0 <t< td=""><td>Heating</td><td>30.3</td><td>72.5</td><td>664</td><td>0.0</td><td></td><td></td><td>0</td><td>0</td><td>0</td><td></td><td>0</td><td></td></t<>	Heating	30.3	72.5	664	0.0			0	0	0		0	
246         625         927         0.0         877.0         0.0         17277115         0           18.7         55.6         600         0.0         660.0         0.0         16,527,648         0         0           18.7         47.5         611         0.0         670.0         0.0         0         26,527,698         0         0           14.3         42.5         656         0.0         670.0         0.0         0         44,823.98         0         0           12.4         42.5         656         0.0         660.0         0         44,823.98         0         0           12.4         42.5         656         0.0         660.0         0         44,823.98         0         0           12.4         42.5         656         0.0         660.0         0         0         44,823.98         0         0           12.4         42.5         656         0.0         734.0         0         0         66,227.7         0         0         0           12.4         47.5         10.0         47.0         0         0         46,727.72         0         0         0           2.5	Heating	27.9	67.5	854	0.0		0.0	0	5,305,522	0		0	2,126,347
15.16   5.75   6.00   0.0   600.0   0.0   0.0   18.687644   0   0   0   0.0	Heating	24.6	62.5	927	0.0		0.0	0	17,277,115	0		0	6,924,320
18.7   18.2	Heating	21.6	57.5	009	0.0		0.0	0	18,637,664	0		0	7,469,601
16.2   4.75   6.54   0.0   6.11   0.0   0.0   0.4   42.839   0   0   0.0   0.4   42.839   0   0   0.0   0.4   42.839   0   0   0.0   0.4   42.839   0   0   0.0   0.4   42.839   0   0   0.0	Heating	18.7	52.5	610	0.0		0.0	0	26,527,609	0		10	10,631,733
14.3   4.2   6.6   0.0   6.8   0.0   0.0   0.4   6.27   6.6   0.0   0.	Heating	16.2	47.5	611	0.0	611.0	0.0	0	34,162,838	0		13	13,691,779
124   375   1/023   0.0   1/023   0.0   0   8C.8cD/765   0   0   0   0   0   0   0   0   0	Heating	14.3	42.5	929	0.0	656.0	0.0	0	44,829,795	0		17,	17,966,881
10.4   32.5   73.4   0.0   734.0   0.0   0 6874.0227   0 0 0 6874.0267   0 0 0 6874.0267   0 0 0 6874.0267   0 0 0 0 6874.0267   0 0 0 0 6874.0267   0 0 0 0 6874.0267   0 0 0 0 6874.0267   0 0 0 0 6874.0267   0 0 0 0 6874.0267   0 0 0 0 6874.0267   0 0 0 0 6874.0267   0 0 0 0 6874.0267   0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Heating	12.4	37.5	1,023	0.0	1023.0	0.0	0	82,620,765	0		33,1	33,112,743
State   Stat	Heating	10.4	32.5	734	0.0	734.0	0.0	0	68,400,227	0		0 27,4	27,413,437
7         225         222         0.0         252.0         0.0         0         163/712         0         0           3.9         17.5         17.5         17.5         0.0         17.5         0.0         0         163/772         0         0         0           2.5         7.5         12.5         47.0         0.0         0	Heating	8.7	27.5	334	0.0	334.0	0.0	0	35,274,886	0		0 14,	14,137,465
54   175   125   0.0   1550   0.0   16307,956   0   0   16307,956   0   0   16307,956   0   0   16307,956   0   0   0   0   0   0   0   0   0	Heating	7	22.5	252	0.0	252.0	0.0	0	29,745,712	0		0 11,9	11,921,484
3.9   125   47   0.0   47.0   0.0   0.0   0.0   6.75,72   0   0   0   0.75   0   0   0   0.75   0   0   0   0.75   0   0   0   0.75   0   0   0   0.75   0   0   0   0.75   0   0   0   0.75   0   0   0   0   0   0   0   0   0	Heating	5.4	17.5	125	0.0	125.0	0.0	0	16,307,956	0		0 6,5	6,535,901
25 7.5 22 0.0 22.0 0.0 0 3,416,905 0 0 1, 12 25 13 0.0 13.0 0.0 0 2,180,007 0 0 0 -0.2 -2.5 0 0.0 0.0 0.0 0 0 0 0 0 -1.4 -7.5 0 0.0 0.0 0.0 0 0 0	Heating	9.60	12.5	47	0.0	47.0	0.0	0	6,715,772	0		0 2,6	2,691,546
12 25 13 0,0 13,0 0,0 0 2,160,607 0 0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0	Heating	2.5	7.5	23	0.0	22.0	0.0	0	3,416,905	0		1,1	1,369,427
-0.2 -2.5 0 0.0 0.0 -1.4 -7.5 0 0.0 0.0	Heating	1.2	2.5	13	0.0	13.0	0.0	0	2,180,607	0		0	873,943
-1,4 -7,5 0 0.0 0.0	Heating	-0.2	-2.5	0	0.0	0.0	0.0	0	0	0		0	
	Heating	-1.4	-7.5	0	0.0	0.0	0.0	0	0	0		0	

	The second secon	
Cooling Load =	=(0 )+(0 )	0 btu
	Cooling Load Btufton	
Cooling Energy =	( 0 M 12000)/( 24)=	0.00 ton day
	Cooling Energy Cooling Cost	
Cooling Energy Cost =	( 0.00 )×( 0.00 )=	
	Conduction Infiltration	
Heating Load =	( 391403370 ) + ( 156866607 ) =	548,269,977 btu
	Heating Load Heat Content	
Heating Energy =	( 548269977 )V 140000 )V 80% )=	4,895 gallons
	Heating Energy Heating Cost	
Heating Energy Cost =	( 4895.27)x( \$3.440)=	\$ 16,841

					Heating	Cooling		Heating	Cooling		Heating
		Total	Cooling	Heating Occupied Unoccupied	Unoccupied	Occupied	Heating Occupied	Unoccupied	Occupied	Heating Occupied	Unoccupied
OA Enthalphy	OA Temp	Hours	Occupied Hours	Hours	Hours	Conduction	Conduction	Conduction	Infiltration	Infiltration	Infiltration
	92.5	51	0.0	0.0	0.0	0	0	0		0	0
	87.5	146	0.0	0.0	0.0	0	0	0	_	0 0	0
	82.5	298	0.0	0.0	0.0	0	0	0		0 0	0
	77.5	476	0.0	0.0	0.0	0	0	0		0	0
	72.5	662	0.0	0.0	0.0	0	0	0		0	0
	67.5	740	0.0	740.3	0.0	0	2,190,186	0		0 1,228,896	0
	62.5	765	0.0	765.3	0.0	0	6,792,536	0		3,811,237	0
	57.5	733	0.0	733.3	0.0	0	10,847,340	0		0 6,086,354	0
	52.5	899	0.0	668.3	0.0	0	13,839,608	0		0 7,765,292	0
	47.5	699	0.0	659.3	0.0	0	17,554,045	0		0 9,849,432	0
e	42.5	685	0.0	685.3	0.0	0	22,301,421	0		0 12,513,146	0
12.4	37.5	739	0.0	739.3	0.0	0	28,433,942	0		0 15,964,054	0
**	32.5	717	0.0	717.3	0.0	0	31,831,690	0		0 17,860,503	0
	27.5	55	0.0	543.2	0.0	0	27,321,091	0		0 15,329,642	0
_	22.5	318	0.0	318.1	0.0	0	17,882,573	0		0 10,033,786	0
**	17.5	245	0.0	245.1	0.0	0	15,227,712	0		0 8,544,146	0
	12.5	156	0.0	156.1	0.0	0	10,619,442	0		0 5,958,483	0
	7.5	83	0.0	92.0	0.0	0	6,807,335	0		3,819,540	0
	2.5	8	0.0	36.0	0.0	0	2,876,839	0	_	1,614,171	0
-0.2	-2.5	19	0.0	19.0	0.0	0	1,630,801	0		0 915,029	0
	-7.5	00	0.0	8.0	0.0	0	733,673	0	)	0 411,658	0
		8 750	e	7 126	G	e	216 89ft 235	O Print		121 695 348	c

Cooling Load =	=(0 )+(0 )	0 ptn
	Cooling Load Btuffon	
Cooling Energy =	( 0 )/( 12000 )/( 24.00 )=	0.00 ton day
	Cooling Energy Cooling Cost	
Cooling Energy Cost =	( \$0.000) x ( \$0.0000) =	
	Conduction Infiltration	
Heating Load =	( 216890235 ) + ( 121695348 ) =	338,585,583 btu
	Heating Load Heat Content	
Heating Energy =	( 338585583 W 140000.00 ) / ( 80% ) =	3023 gallons
	Heating Energy Heating Cost	
Heating Energy Cost =	_	\$ 10,400
EXISTING COOLING ENERGY	0.00 ton day	
EXISTING HEATING ENERGY	4895 gallons	\$ 16,841.28
EXISTING ENERGY COST		\$ 16,841.28
PROPOSED COOLING ENERGY	0.00 ton day	
PROPOSED HEATING ENERGY	3023 gallons	\$ 10,400.38
PROPOSED ENERGY COST		\$ 10,400.38
COOLING ENERGY SAVINGS	0.00 ton day	
HEATING ENERGY SAVINGS	1872 gallons	\$ 6,440.90
ENERGY COST CAMBRO		8 440 00

### NJBPU Energy Audits CHA #20151

**Building: Sussex County Vocational School - Main Building** 

### ECM-13 Replace Windows in Technology Wing

	Width	Height	Area	Quantity	Total	Linear Ft	Total
Name	ft	ft	sf	(#)	sf	ft	ft
Type "C"	3.7	6.25	22.9	47	1,077	30.8	1449
old wing-large "A"	4.0	6.25	25.0	40	1,000	32.5	1300
old wing-small "B"	4.0	4.83	19.3	15	290	21.7	325
			0.0		-	338 S. H. 1869	
			0.0	- F. M. M. M. J. J.	-	60220000	

102 2,367 3,074

NJBPU Energy Audits CHA #20151 Building: Sussex County Vocational School - Main Building

ECM-13 Replace Windows in Technology Wing

### APPENDIX O

ECM-14 Install Occupancy Sensors

\$0.146 \$/kWh

\$6.63 \$/kW

Main Building - Interior   Page   P										KEI	TROFIT COM	NUITIONS					COST	& SAVINGS	ANALYSIS		
Main Building - Interior   Page 202   Page 202   Page 203   Page		SERDA Fixture W	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	Number of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual \$	Retrofit Cost	NJ Lighting	Simple Payback With Out Incentive	Simple Payback
202   Room 100		ndard Fixture of	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group			"Lighting Füdure Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Code from Table o Standard Fixture Wattages	of Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(kW Saved)* (\$/kWh)	Cost for renovations to lighting system	-	Length of time for renovations cost to be recovered	Length of time for renovations cost to be recovered
2022   Room 100	147 D E 4 (E) E)	FRONT				0000	405.0									-					
2022   Room 100		F22ILL F22ILL	33 33	0.1	SW	2808 2808	185.3 370.7		2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL F22ILL	33	0.1	OCC None	1800 2808	118.8 370.7	0.0	\$9.71	\$118.75 \$0.00	\$20.00	12.2	10.2
46		F22ILL	33	0.1	SW	2808	370.7	4	2T 17 R F 4 (ELE)	F22ILL	33	0.1	occ	1800	237.6	133.1	\$19.43	\$118.75	\$20.00	6.1	5.1
46   Room 100		F22ILL F42LL	33 60	0.1	SW	2808 2808	278.0		2T 17 R F 4 (ELE) W 32 C F 2 (ELE)	F22ILL F42LL	33 60	0.1	OCC None	1800 2808	178.2 168.5	99.8	\$14.57 \$0.00		\$20.00 \$0.00	8.2	6.8
46   Room 101   2	/ 32 C F 2 (ELE)	F42LL	60	0.1	SW	2808	337.0		W 32 C F 2 (ELE)	F42LL	60	0.1	OCC	1800	216.0	121.0	\$17.66		\$20.00	6.7	5.6
202   Room 101   2   2T 17 R F 4 (ELE)		F42LL F42LL	60 60	0.5	SW	2808	1,347.8		DC 32 P F 2	F42LL	60	0.5	OCC	1800	864.0	483.8	\$70.64	\$118.75	\$20.00	1.7	1.4
46   Room 101		F22ILL	33	0.1	SW	2808 2808	337.0 185.3		W 32 C F 2 (ELE) 2T 17 R F 4 (ELE)	F42LL F22ILL	33	0.1	000	1800	216.0 118.8	121.0 66.5	\$17.66	\$118.75 \$118.75	\$20.00	6.7 12.2	5.6 10.2
46   Room 102		F42LL	60	0.2	SW	2808	505.4		W 32 C F 2 (ELE)	F42LL	60	0.2	None	2808	505.4	0.0	\$0.00	\$0.00	\$0.00		
46   Room 102		F42LL F42LL	60	0.2	SW	2808 2808	673.9 673.9		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	None None	2808 2808	673.9 673.9	0.0	\$0.00	\$0.00	\$0.00		
202   Library	/ 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	673.9		W 32 C F 2 (ELE)	F42LL	60	0.2	None	2808	673.9	0.0	\$0.00	\$0.00	\$0.00		
2022   Library		F42LL	60	0.2	SW	2808	673.9		W 32 C F 2 (ELE)	F42LL	60	0.2	None	2808	673.9	0.0	\$0.00	\$0.00	\$0.00		
Room 105		F22ILL F22ILL	33	0.1	SW	2808 2808	370.7 370.7		2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL F22ILL	33	0.1	0-000	1800 1800	237.6 237.6	133.1	\$19.43 \$19.43	\$202.50 \$202.50	\$35.00 \$35.00	10.4	8.6 8.6
46		F22ILL	33	0.1	SW	2808	370.7	4	2T 17 R F 4 (ELE)	F22ILL	33	0.1	C-000	1800	237.6	133.1	\$19.43	\$202.50	\$35.00	10.4	8.6
46		F22ILL F42LL	33 60	1.5 0.4	SW	2808 2808	4,169.9 1,010.9		2T 17 R F 4 (ELE) W 32 C F 2 (ELE)	F22ILL F42LL	60	1.5	C-000	1800	2,673.0 648.0	1,496.9 362.9	\$218.54 \$52.98	\$405.00 \$202.50	\$70.00 \$35.00	1.9 3.8	1.5 3.2
46		F42LL	60	0.5	SW	2808	1,516.3		W 32 C F 2 (ELE)	F42LL	60	0.5	None	2808	1,516.3	0.0	\$0.00	\$0.00	\$0.00	3.0	3.2
46   Room 106		F42LL	60	0.5 0.5	SW	2808 2808	1,347.8		W 32 C F 2 (ELE)	F42LL	60	0.5	None	2808	1,347.8	0.0	\$0.00	\$0.00	\$0.00		
46		F42LL F42LL	60	0.5	SW	2808	1,516.3		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	None OCC	2808 1800	1,516.3	60.5	\$8.83	\$0.00 \$118.75	\$0.00	13.4	11.2
Room 106	/ 32 C F 2 (ELE)	F42LL	60	0.1	Breaker	8760	525.6		W 32 C F 2 (ELE)	F42LL	60	0.1	None	8760	525.6	0.0	\$0.00	\$0.00	\$0.00		
46		F22ILL F22ILL	33	0.1	SW	2808 2808	185.3 185.3		2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL F22ILL	33	0.1	000	1800 1800	118.8	66.5 66.5	\$9.71 \$9.71		\$20.00	12.2 12.2	10.2 10.2
46   Room 106   11		F42LL	60	0.2	SW	2808	505.4		W 32 C F 2 (ELE)	F42LL	60	0.2	occ	1800	324.0	181.4	\$26.49		\$20.00	4.5	3.7
Room 107		F42LL	60	0.7	SW	2808	1,853.3		W 32 C F 2 (ELE)	F42LL	60	0.7	None	2808	1,853.3	0.0	\$0.00	\$0.00	\$0.00		
46 Room 108 46 Room 109 46 Room 109 47 Room 109 48 W 32 C F 2 (ELE) 48 Room 109 40 W 32 C F 2 (ELE) 46 Room 109 41 W 32 C F 2 (ELE) 46 Room 109 46 Room 109 47 W 32 C F 2 (ELE) 47 Room 109 48 W 32 C F 2 (ELE) 48 Room 109 49 W 32 C F 2 (ELE) 49 W 32 C F 2 (ELE) 40 W 32 C F 2 (ELE) 41 W 32 C F 2 (ELE) 42 W 32 C F 2 (ELE) 43 W 32 C F 2 (ELE) 44 W 32 C F 2 (ELE) 45 Room 111 46 Room 111 47 W 32 C F 2 (ELE) 48 Room 111 49 W 32 C F 2 (ELE) 49 W 32 C F 2 (ELE) 40 Room 111 41 W 32 C F 2 (ELE) 42 Room 111 43 Room 111 44 Room 111 45 Room 111 46 Room 111 47 W 32 C F 2 (ELE) 48 Room 111 49 W 32 C F 2 (ELE) 40 Room 111 40 W 32 C F 2 (ELE) 41 W 32 C F 2 (ELE) 42 W 32 C F 2 (ELE) 43 Room 111 44 W 32 C F 2 (ELE) 45 Room 111 46 Room 111 47 W 32 C F 2 (ELE) 48 Room 112 49 W 32 C F 2 (ELE) 40 Room 112 41 W 32 C F 2 (ELE) 42 W 32 C F 2 (ELE) 43 W 32 C F 2 (ELE) 44 Room 112 45 W 32 C F 2 (ELE) 46 Room 112 47 W 32 C F 2 (ELE) 48 Room 112 49 W 32 C F 2 (ELE) 40 Room 113 50 W 32 C F 2 (ELE) 41 W 32 C F 2 (ELE) 42 W 32 C F 2 (ELE) 43 W 32 C F 2 (ELE) 44 Room 113 50 W 32 C F 2 (ELE) 51 W 32 C F 2 (ELE) 51 W 32 C F 2 (ELE) 52 W 32 C F 2 (ELE) 53 W 32 C F 2 (ELE) 54 Room 113 50 W 32 C F 2 (ELE) 54 Room 115 51 W 32 C F 2 (ELE) 54 Room 115 51 W 32 C F 2 (ELE) 54 Room 115 51 W 32 C F 2 (ELE) 54 Room 115 51 W 32 C F 2 (ELE) 54 Room 115 51 W 32 C F 2 (ELE) 54 Room 117 54 Room 117 55 W 32 C F 2 (ELE) 56 Room 117 56 Room 117 57 W 32 C F 2 (ELE) 58 W 32 C F 2 (ELE) 59 W 32 C F 2 (ELE) 59 W 32 C F 2 (ELE) 50 W 32 C F 2 (ELE) 50 W 32 C F 2 (ELE) 51 W 32 C F 2 (ELE) 51 W 32 C F 2 (ELE) 51 W 32 C F 2 (ELE) 52 W 32 C F 2 (ELE) 53 W 32 C F 2 (ELE) 54 Room 117 54 W 22 C F 2 (ELE) 54 Room 117 54 W 22 C F 2 (ELE) 54 Room 118 50 W 32 C F 2 (ELE)		F42LL F41LL	60 32	0.7	SW	2808 2808	1,853.3		W 32 C F 2 (ELE) W 32 C F 1	F42LL F41LL	32	0.7	None None	2808 2808	1,853.3 359.4	0.0	\$0.00	\$0.00	\$0.00		
46   Room 109	/ 32 C F 2 (ELE)	F42LL	60	1.4	SW	2808 .	4,043.5		W 32 C F 2 (ELE)	F42LL	60	1.4	None	2808	4,043.5	0.0	\$0.00	\$0.00	\$0.00		
46 Room 109 4 W 32 C F 2 (ELE) 46 Room 109 68 W 32 C F 2 (ELE) 46 Room 109 68 W 32 C F 2 (ELE) 46 Room 109 68 W 32 C F 2 (ELE) 46 Mens #1 4 W 32 C F 2 (ELE) 46 Room 111 2 W 32 C F 2 (ELE) 46 Room 111 6 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 9 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 112 5 W 32 C F 2 (ELE) 46 Room 112 5 W 32 C F 2 (ELE) 46 Room 112 5 W 32 C F 2 (ELE) 46 Room 112 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 46 Room 114 5 W 32 C F 2 (ELE) 46 Room 115 5 W 32 C F 2 (ELE) 46 Room 116 5 W 32 C F 2 (ELE) 46 Room 117 5 W 32 C F 2 (ELE) 46 Room 118 5 W 32 C F 2 (ELE) 46 Room 115 5 W 32 C F 2 (ELE) 46 Room 115 5 W 32 C F 2 (ELE) 46 Room 115 5 W 32 C F 2 (ELE) 46 Room 115 5 W 32 C F 2 (ELE) 46 Room 115 1 W 32 C F 2 (ELE) 46 Room 115 1 W 32 C F 2 (ELE) 46 Room 115 1 W 32 C F 2 (ELE) 46 Room 115 1 W 32 C F 2 (ELE) 46 Room 115 1 W 32 C F 2 (ELE) 46 Room 115 1 W 32 C F 2 (ELE) 46 Room 115 1 W 32 C F 2 (ELE) 46 Room 115 1 W 32 C F 2 (ELE) 46 Room 116 2 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 2 W 32 C F 2 (ELE)		F43/LL/2 F42LL	90 60	0.5	SW	1000 2808	540.0 1,347.8		T 32 R F 3 (ELE) W 32 C F 2 (ELE)	F43ILL/2 F42LL	90	0.5	None	1000	540.0 1.347.8	0.0	\$0.00	\$0.00	\$0.00		
46		F42LL	60	0.3	SW	2808	673.9		W 32 C F 2 (ELE)	F42LL	60	0.5	None None	2808 2808	673.9	0.0	\$0.00	\$0.00	\$0.00		
46 Mens #1 4 W 32 C F 2 (ELE) 46 Womens #1 3 W 32 C F 2 (ELE) 46 Room 111 2 W 32 C F 2 (ELE) 46 Room 111 6 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 1 W 32 C F 2 (ELE) 46 Room 111 5 W 32 C F 2 (ELE) 46 Room 112 5 W 32 C F 2 (ELE) 46 Room 112 5 W 32 C F 2 (ELE) 46 Room 112 5 W 32 C F 2 (ELE) 46 Room 112 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 47 Room 114 5 W 32 C F 2 (ELE) 48 Room 115 5 W 32 C F 2 (ELE) 49 Room 110 1 W 32 C F 2 (ELE) 40 Room 111 1 W 32 C F 2 (ELE) 41 W 32 C F 2 (ELE) 42 Room 113 5 W 32 C F 2 (ELE) 43 Room 114 3 W 32 C F 2 (ELE) 44 Room 115 1 W 32 C F 2 (ELE) 45 Room 115 1 W 32 C F 2 (ELE) 46 Room 115 1 W 32 C F 2 (ELE) 47 Room 115 1 W 32 C F 2 (ELE) 48 Room 115 1 W 32 C F 2 (ELE) 49 Room 115 1 W 32 C F 2 (ELE) 40 Room 115 1 W 32 C F 2 (ELE) 41 Room 115 1 W 32 C F 2 (ELE) 42 Room 115 1 W 32 C F 2 (ELE) 43 Room 115 1 W 32 C F 2 (ELE) 44 Room 115 1 W 32 C F 2 (ELE) 45 Room 116 2 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 47 Room 117 1 W 32 C F 2 (ELE) 48 Room 117 1 W 32 C F 2 (ELE) 49 Room 117 1 W 32 C F 2 (ELE) 40 Room 117 1 W 32 C F 2 (ELE) 41 W 32 C F 2 (ELE) 42 W 32 C F 2 (ELE) 43 Room 117 1 W 32 C F 2 (ELE) 44 Room 117 1 W 32 C F 2 (ELE) 45 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 47 W 32 C F 2 (ELE) 48 Room 117 1 W 32 C F 2 (ELE) 49 W 32 C F 2 (ELE) 40 W 32 C F 2 (ELE)		F42LL	60	0.6	SW	2808	1,684.8		W 32 C F 2 (ELE)	F42LL	60	0.6	None	2808	1,684.8	0.0	\$0.00	\$0.00	\$0.00		
46   Womens #1   3   W 32 C F 2 (ELE)   46   Room 111   2   W 32 C F 2 (ELE)   46   Room 111   6   W 32 C F 2 (ELE)   46   Room 111   1   W 32 C F 2 (ELE)   46   Room 111   1   W 32 C F 2 (ELE)   46   Room 111   11   W 32 C F 2 (ELE)   46   Room 111   11   W 32 C F 2 (ELE)   46   Room 111   11   W 32 C F 2 (ELE)   46   Room 111   11   W 32 C F 2 (ELE)   46   Room 111   6   W 32 C F 2 (ELE)   46   Room 112   5   W 32 C F 2 (ELE)   46   Room 112   5   W 32 C F 2 (ELE)   46   Room 112   5   W 32 C F 2 (ELE)   46   Room 112   5   W 32 C F 2 (ELE)   46   Room 112   5   W 32 C F 2 (ELE)   46   Room 113   5   W 32 C F 2 (ELE)   46   Room 113   5   W 32 C F 2 (ELE)   46   Room 113   5   W 32 C F 2 (ELE)   46   Room 113   5   W 32 C F 2 (ELE)   46   Room 113   5   W 32 C F 2 (ELE)   46   Room 114   3   W 32 C F 2 (ELE)   46   Room 115   11   W 32 C F 2 (ELE)   46   Room 115   11   W 32 C F 2 (ELE)   46   Room 115   11   W 32 C F 2 (ELE)   46   Room 115   11   W 32 C F 2 (ELE)   46   Room 115   11   W 32 C F 2 (ELE)   46   Room 115   11   W 32 C F 2 (ELE)   46   Room 116   2   W 32 C F 2 (ELE)   46   Room 117   10   W 32 C F 2 (ELE)   46   Room 117   10   W 32 C F 2 (ELE)   46   Room 117   10   W 32 C F 2 (ELE)   46   Room 117   10   W 32 C F 2 (ELE)   46   Room 117   1   W 32 C F 2 (ELE)   46   Room 117   1   W 32 C F 2 (ELE)   46   Room 117   1   W 32 C F 2 (ELE)   46   Room 117   1   W 32 C F 2 (ELE)   46   Room 117   1   W 32 C F 2 (ELE)   46   Room 117   1   W 32 C F 2 (ELE)   46   Room 117   1   W 32 C F 2 (ELE)   46   Room 118   10   W 32 C F 2 (ELE)   46   Room 118   10   W 32 C F 2 (ELE)		F42LL F42LL	60	4.1 0.2	SW	2808 2080	11,456.6 499.2		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	4.1 0.2	None None	2808 2080	11,456.6 499.2	0.0	\$0.00	\$0.00	\$0.00		
46	/ 32 C F 2 (ELE)	F42LL	60	0.2	SW	2080	374.4	3	W 32 C F 2 (ELE)	F42LL	60	0.2	None	2080	374.4	0.0	\$0.00	\$0.00	\$0.00		
46		F42LL F42LL	60	0.1	SW	2808 2808	337.0 1.010.9		W 32 C F 2 (ELE)	F42LL	60	0.1	000	1800	216.0	121.0	\$17.66	\$118.75	\$20.00	6.7	5.6
46   Room 111		F42LL	60	0.1	SW	2808	1,010.9		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	000	1800 1800	648.0 108.0	362.9 60.5	\$52.98	\$118.75 \$118.75	\$20.00 \$20.00	2.2 13.4	1.9 11.2
46		F42LL	60	0.5	SW	2808	1,516.3		W 32 C F 2 (ELE)	F42LL	60	0.5	OCC	1800	972.0	544.3	\$79.47	\$118.75	\$20.00	1.5	1.2
46 Room 111 11 W 32 C F 2 (ELE) 46 Room 111 6 W 32 C F 2 (ELE) 47 Room 112 5 W 32 C F 2 (ELE) 48 Room 112 5 W 32 C F 2 (ELE) 49 Room 112 5 W 32 C F 2 (ELE) 40 Room 112 5 W 32 C F 2 (ELE) 41 Room 112 5 W 32 C F 2 (ELE) 42 Room 113 5 W 32 C F 2 (ELE) 43 Room 113 5 W 32 C F 2 (ELE) 44 Room 113 5 W 32 C F 2 (ELE) 45 Room 113 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 47 Room 113 5 W 32 C F 2 (ELE) 48 Room 115 5 W 32 C F 2 (ELE) 49 Room 115 11 W 32 C F 2 (ELE) 40 Room 115 11 W 32 C F 2 (ELE) 41 Room 115 11 W 32 C F 2 (ELE) 42 Room 115 11 W 32 C F 2 (ELE) 43 Room 115 11 W 32 C F 2 (ELE) 44 Room 115 11 W 32 C F 2 (ELE) 45 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 47 Room 115 11 W 32 C F 2 (ELE) 48 Room 115 11 W 32 C F 2 (ELE) 49 Room 115 11 W 32 C F 2 (ELE) 40 Room 117 10 W 32 C F 2 (ELE) 41 Room 117 10 W 32 C F 2 (ELE) 42 Room 117 10 W 32 C F 2 (ELE) 43 Room 117 10 W 32 C F 2 (ELE) 44 Room 117 10 W 32 C F 2 (ELE) 45 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 47 Room 117 1 W 32 C F 2 (ELE) 48 Room 117 1 W 32 C F 2 (ELE) 49 Vestibule near Room 117 2 W 32 C F 2 (ELE) 40 Room 118 10 W 32 C F 2 (ELE)		F42LL F42LL	60 60	0.7	SW	2808 2808	1,853.3		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1800 1800	1,188.0	665.3 665.3	\$97.13 \$97.13		\$20.00	1.2	1.0
46	/ 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	1,853.3	11	W 32 C F 2 (ELE)	F42LL	60	0.7	occ	1800	1,188.0	665.3	\$97.13		\$20.00	1.2	1.0
46 Room 112 5 W 32 C F 2 (ELE) 46 Room 112 5 W 32 C F 2 (ELE) 46 Room 112 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 46 Room 114 3 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 116 2 W 32 C F 2 (ELE) 46 Room 117 10 W 32 C F 2 (ELE) 46 Room 117 10 W 32 C F 2 (ELE) 46 Room 117 10 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 47 Westibule near Room 117 2 W 32 C F 2 (ELE) 48 Room 118 10 W 32 C F 2 (ELE)		F42LL F42LL	60 60	0.4	SW	2808 2808	1,010.9		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.4	000	1800 1800	648.0 540.0	362.9	\$52.98	\$118.75	\$20.00	2.2	1.9
46 Room 112 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 46 Room 114 3 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 10 W 32 C F 2 (ELE) 46 Room 117 10 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Vestibule near Room 117 2 W 32 C F 2 (ELE) 46 Room 118 10 W 32 C F 2 (ELE) 46 Room 118 10 W 32 C F 2 (ELE)		F42LL	60	0.3	SW	2808	842.4		W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1800	540.0	302.4	\$44.15 \$44.15	\$118.75 \$118.75	\$20.00	2.7	2.2
46		F42LL	60	0.3	SW	2808	842.4		W 32 C F 2 (ELE)	F42LL	60	0.3	OCC	1800	540.0	302.4	\$44.15	\$118.75	\$20.00	2.7	2.2
46 Room 113 5 W 32 C F 2 (ELE) 46 Room 113 5 W 32 C F 2 (ELE) 46 Room 114 3 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 12 W 32 C F 2 (ELE) 46 Room 116 2 W 32 C F 2 (ELE) 46 Room 117 10 W 32 C F 2 (ELE) 46 Room 117 10 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 1 W 32 C F 2 (ELE) 46 Room 117 2 W 32 C F 2 (ELE) 46 Room 117 2 W 32 C F 2 (ELE) 46 Vestbule near Room 117 2 W 32 C F 2 (ELE) 47 Vestbule near Room 117 4 W 32 C F 2 (ELE) 48 Room 118 10 W 32 C F 2 (ELE) 49 Room 118 10 W 32 C F 2 (ELE)		F42LL F42LL	60	0.3	SW	2808 2808	842.4		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1800 1800	540.0 540.0	302.4	\$44.15 \$44.15	\$118.75 \$118.75	\$20.00	2.7	2.2
46	/ 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842.4	5	W 32 C F 2 (ELE)	F42LL	60	0.3	occ	1800	540.0	302.4	\$44.15	\$118.75	\$20.00	2.7	2.2
46         Room 114         3         W 32 C F 2 (ELE)           46         Room 115         11         W 32 C F 2 (ELE)           46         Room 115         11         W 32 C F 2 (ELE)           46         Room 115         11         W 32 C F 2 (ELE)           46         Room 115         11         W 32 C F 2 (ELE)           46         Room 115         3         W 32 C F 2 (ELE)           46         Room 116         2         W 32 C F 2 (ELE)           46         Room 117         10         W 32 C F 2 (ELE)           46         Room 117         1         W 32 C F 2 (ELE)           46         Room 117         2         W 32 C F 2 (ELE)           46         Vestibule near Room 117         2         W 32 C F 2 (ELE)           46         Vestibule near Room 117         4         W 32 C F 2 (ELE)           46         Room 118         10         W 32 C F 2 (ELE)           46         Room 118         10         W 32 C F 2 (ELE)		F42LL F42LL	60	0.3	SW	2808 2808	842.4		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1800	540.0 540.0	302.4	\$44.15 \$44.15	\$118.75 \$118.75	\$20.00	2.7	2.2
46   Room 115   11   W 32 C F 2 (ELE)	/ 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	505.4	3	W 32 C F 2 (ELE)	F42LL	60	0.2	000		324.0	181.4	\$26.49	4	\$20.00	4.5	3.7
46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 11 W 32 C F 2 (ELE) 46 Room 115 3 W 32 C F 2 (ELE) 46 Room 116 2 W 32 C F 2 (ELE) 46 Room 116 2 W 32 C F 2 (ELE) 46 Room 117 10 W 32 C F 2 (ELE) 47 Room 117 10 W 32 C F 2 (ELE) 48 Room 117 1 W 32 C F 2 (ELE) 49 Room 117 2 W 32 C F 2 (ELE) 40 Room 117 2 W 32 C F 2 (ELE) 41 W 32 C F 2 (ELE) 42 W 32 C F 2 (ELE) 43 W 32 C F 2 (ELE) 44 W 32 C F 2 (ELE) 45 Room 118 10 W 32 C F 2 (ELE) 46 Room 118 10 W 32 C F 2 (ELE)		F42LL	60	0.7	SW	2808	1,853.3	11	W 32 C F 2 (ELE)	F42LL	60	0.7	None	2808	1,853.3	0.0	\$0.00	\$0.00	\$0.00		
46         Room 115         11         W 32 C F 2 (ELE)           46         Room 115         3         W 32 C F 2 (ELE)           46         Room 116         2         W 32 C F 2 (ELE)           46         Room 117         10         W 32 C F 2 (ELE)           45         Room 117         10         W 32 C F 2 (ELE)           46         Room 117         1         W 32 C F 2 (ELE)           46         Room 117         2         W 32 C F 2 (ELE)           45         Vestbule near Room 117         2         W 32 C F 2 (ELE)           46         Vestbule near Room 117         4         W 32 C F 2 (ELE)           46         Room 118         10         W 32 C F 2 (ELE)           46         Room 118         10         W 32 C F 2 (ELE)		F42LL F42LL	60	0.7	SW	2808 2808	1,853.3		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	None None	2808 2808	1,853.3	0.0	\$0.00	\$0.00	\$0.00		
46   Room 116   2   W 32 C F 2 (ELE)	/ 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	1,853.3	11	W 32 C F 2 (ELE)	F42LL	60	0.7	None	2808	1,853.3	0.0	\$0.00	\$0.00	\$0.00		
46   Room 117   10   W 32 C F 2 (ELE)     46   Room 117   10   W 32 C F 2 (ELE)     46   Room 117   1   W 32 C F 2 (ELE)     46   Room 117   2   W 32 C F 2 (ELE)     46   Vestibule near Room 117   2   W 32 C F 2 (ELE)     46   Vestibule near Room 117   4   W 32 C F 2 (ELE)     46   Room 118   10   W 32 C F 2 (ELE)     46   Room 118   10   W 32 C F 2 (ELE)		F42LL F42LL	60	0.2	SW	2808 2808	505.4 337.0		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.2	000	1800 1800	324.0 216.0	181.4 121.0	\$26.49 \$17.66	\$118.75 \$118.75	\$20.00	4.5 6.7	3.7
46   Room 117   1   W 32 C F 2 (ELE)		F42LL	60	0.6	SW	2808	1,684.8		W 32 C F 2 (ELE)	F42LL	60	0.6	000	1800	1,080.0	604.8	\$88.30	\$118.75	\$20.00	1.3	5.6 1.1
46         Room 117         2         W 32 C F 2 (ELE)           46         Vestibule near Room 117         2         W 32 C F 2 (ELE)           46         Vestibule near Room 117         4         W 32 C F 2 (ELE)           46         Room 118         10         W 32 C F 2 (ELE)           46         Room 118         10         W 32 C F 2 (ELE)		F42LL	60	0.6	SW	2808	1,684.8	10	W 32 C F 2 (ELE)	F42LL	60	0.6	000	1800	1,080.0	604.8	\$88.30	\$118.75	\$20.00	1.3	1.1
46         Vestbule near Room 117         2         W 32 C F 2 (ELE)           46         Vestbule near Room 117         4         W 32 C F 2 (ELE)           46         Room 118         10         W 32 C F 2 (ELE)           46         Room 118         10         W 32 C F 2 (ELE)		F42LL F42LL	60	0.1	SW	2808 2808	168.5		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	000	1800	108.0 216.0	60.5 121.0	\$8.83	\$118.75 \$118.75	\$20.00	13.4 6.7	11.2 5.6
46         Room 118         10         W 32 C F 2 (ELE)           46         Room 118         10         W 32 C F 2 (ELE)	/ 32 C F 2 (ELE)	F42LL	60	0.1	SW	3744	449.3	3 2	W 32 C F 2 (ELE)	F42LL	60	0.1	None	3744	449.3	0.0	\$0.00	\$0.00	\$0.00	0.1	5.0
46 Room 118 10 W 32 C F 2 (ELE)		F42LL F42LL	60	0.2	SW	3744	898.6		W 32 C F 2 (ELE)	F42LL	60	0.2	None	3744	898.6	0.0	\$0.00	\$0.00	\$0.00		
		F42LL F42LL	60	0.6	SW	2808 2808	1,684.8		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	None None	2808 2808	1,684.8	0.0	\$0.00	\$0.00	\$0.00		
	/ 32 C F 2 (ELE)	F42LL	60	0.6	SW	2808	1,684.8	10	W 32 C F 2 (ELE)	F42LL	60	0.6	None	2808	1,684.8	0.0	\$0.00	\$0.00	\$0.00		
46 Room 118 10 W 32 C F 2 (ELE) 46 Room 119A 5 W 32 C F 2 (ELE)		F42LL F42LL	60	0.6	SW	2808 2808	1,684.8		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	None OCC	2808	1,684.8 540.0	0.0 302.4	\$0.00 \$44.15	\$0.00 \$118.75	\$0.00 \$20.00	2.7	2.2
46 Room 119A 5 W 32 C F 2 (ELE)	/ 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808			W 32 C F 2 (ELE)	F42LL	60	0.3	000		540.0	302.4	\$44.15		\$20.00	2.7	2.2
46 Room 119A 5 W 32 C F 2 (ELE) 46 Room 119A 5 W 32 C F 2 (ELE)		F42LL	60	0.3	SW	2808	842.4		W 32 C F 2 (ELE)	F42LL	60	0.3	000		540.0	302.4	\$44.15		\$20.00	2.7	2.2
46 Room 119B 5 W 32 C F 2 (ELE)  46 Room 119B 10 W 32 C F 2 (ELE)		F42LL F42LL	60	0.3	SW	2808 2808	1,684.8		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1800	540.0 1,080.0	302.4 604.8	\$44.15 \$88.30	\$118.75 \$118.75	\$20.00 \$20.00	2.7 1.3	1.1
46 Room 119B 10 W 32 C F 2 (ELE)	/ 32 C F 2 (ELE)	F42LL	60	0.6	SW	2808	1,684.8	10	W 32 C F 2 (ELE)	F42LL	60	0.6	OCC	1800	1,080.0	604.8	\$88.30	\$118.75	\$20.00	1.3	1.1
46 Room 119B 10 W 32 C F 2 (ELE) 46 Room 119B 10 W 32 C F 2 (ELE)		F42LL F42LL	60	0.6	SW	2808	1,684.8		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	000	1800 1800	1,080.0	604.8 604.8	\$88.30	\$118.75 \$118.75	\$20.00 \$20.00	1.3	1.1

												RE	TROFIT CO	ONDITIONS					COST	& SAVINGS	ANALYSIS		
										Number							000000000000000000000000000000000000000	Annual				Simple Payback	
Are	ea Description	No. of Fixtures	Standard Fixture Code	NYSERDA Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	of	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Retrofit Control	Annual Hours	Annual kWh	kWh Saved	Annual \$ Saved	Retrofit Cost	NJ Lighting	With Out	Simple
eld Unique de	lescription of the location -	No. of fixtures	"Lighting Fixture Code" Example	Code from Table of	Value from Table	(Watts/Fixt)*	Pre-inst. control	Estimated	(kW/space) *	No. of	"Lighting Fixture Code" Example	Code from Table		(Watts/Fixt)*	Retrofit	Estimated annual	(kW/space) *	(Original	(kW Saved)	Cost for	tinicentive	Incentive Length of time	Payback Length of tin
	umber/Room name; Floor imber (if applicable)		2T 40 R F(U) = 2'x2' Troff 40 v Recess. Floor 2 lamps U shape	w Standard Fixture Wattages	of Standard Fixture Wattages	(Fixt No.)	device	annual hours for the usage	(Annual Hours)		r 2T 40 R F(U) = 2'x2' Troff 40 v Recess. Floor 2 lamps U shape	Standard Fixture Wattages	Table of Standard	(Number of Fixtures)	control devic	e hours for the usage		Annual kWh) -	(S/kWh)	renovations to lighting system		for renovations cost to be	
								group				110	Fixture Wattages	i saares,		у сар		(Retrofit		lighting system		recovered	recovered
46 Room 123	3	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	673.9	4	W 32 C F 2 (ELE)	F42LL	60	0.2	occ	1800	432.0	kWh) 241.9	635.33	0110 75	620.00	24	20
6 Room 123			W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	673.9	4	W 32 C F 2 (ELE)	F42LL	60	0.2	OCC	1800	432.0	241.9	\$35.32 \$35.32	\$118.75 \$118.75	\$20.00 \$20.00	3.4	2.8
46 Room 123			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2808 2808	673.9		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	000	1800	432.0 432.0	241.9 241.9	\$35.32 \$35.32	\$118.75 \$118.75	\$20.00 \$20.00	3.4	2.8
35 Room 124		26	T 32 R F 3 (ELE)	F43ILL/2	90	2.3	SW	2808	6,570.7	26	T 32 R F 3 (ELE)	F43ILL/2	90	2.3	None	2808	6,570.7	0.0	\$0.00	\$0.00	\$0.00		
35 Room 124 46 Mens # 2		2	T 32 R F 3 (ELE) W 32 C F 2 (ELE)	F43ILL/2 F42LL	90	0.2	SW	2808 2080	505.4 499.2		T 32 R F 3 (ELE) W 32 C F 2 (ELE)	F43/LL/2 F42LL	90	0.2	OCC None	1800 2080	324.0 499.2	181.4	\$26.49	\$118.75 \$0.00	\$20.00 \$0.00	4.5	3.7
46 Womens	#2	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2080	499.2	4	W 32 C F 2 (ELE)	F42LL	60	0.2	None	2080	499.2	0.0	\$0.00	\$0.00	\$0.00		
02 Office 46 Office		8 2	2T 17 R F 4 (ELE) W 32 C F 2 (ELE)	F22ILL F42LL	33	0.3	SW	2600 2600	686.4 312.0		2T 17 R F 4 (ELE) W 32 C F 2 (ELE)	F22ILL F42LL	33 60	0.3	None None	2600 2600	686.4 312.0	0.0	\$0.00	\$0.00	\$0.00 \$0.00		-
1 near 125			X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	13.1	1	X 1.5 W LED	ELED1.5/1	1.5	0.0	None	8760	13.1	0.0	\$0.00	\$0.00	\$0.00		
35 Room 125 46 Room 125		21	T 32 R F 3 (ELE) W 32 C F 2 (ELE)	F43ILL/2 F42LL	90	0.1	SW	2808	5,307.1		T 32 R F 3 (ELE) W 32 C F 2 (ELE)	F43ILL/2 F42LL	90	0.1	None None	2808 2808	5,307.1	0.0	\$0.00	\$0.00	\$0.00	_	-
46 Room 125			W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2808	337.0	2	W 32 C F 2 (ELE)	F42LL	60	0.1	None	2808	337.0	0.0	\$0.00	\$0.00	\$0.00		
46 Room 126 46 Room 126			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808	1,010.9		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	000	1800	648.0 648.0	362.9 362.9	\$52.98 \$52.98	\$118.75 \$118.75	\$20.00 \$20.00	2.2	1.9
46 Room 126		6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,010.9	6	W 32 C F 2 (ELE)	F42LL	60	0.4	occ	1800	648.0	362.9	\$52.98	\$118.75	\$20.00	22	1.9
46 Room 127 46 Room 127			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2808	1,853.3		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	occ	1800	108.0	60.5	\$8.83	\$118.75	\$20.00	13.4	11.2
46 Room 127	7	11	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	1,853.3		W 32 C F 2 (ELE)	F42LL	60	0.7	000	1800	1,188.0	665.3 665.3	\$97.13	\$118.75 \$118.75	\$20.00 \$20.00	1.2	1.0
46 Room 127 46 Room 127			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808	1,853.3		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1800	1,188.0	665.3	\$97.13	\$118.75	\$20.00	1.2	1.0
46 Mens #3		3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2080	374.4		W 32 C F 2 (ELE)	F42LL	60	0.1	OCC None	1800 2080	108.0 374.4	0.0	\$8.83	\$118.75	\$20.00 \$0.00	13.4	11.2
46 Womens a 46 Stairway			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2080	374.4		W 32 C F 2 (ELE)	F42LL	60	0.2	None	2080	374.4	0.0	\$0.00	\$0.00	\$0.00		
98 Hallway no		50	T 32 R F 2	F42LL	60	3.0	SW	3744 3744	1,123.2		W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	3.0	None None	3744 3744	1,123.2	0.0	\$0.00	\$0.00	\$0.00	-	-
x1 Hallway no			X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	39.4	3	X 1.5 W LED	ELED1.5/1	1.5	0.0	None	8760	39.4	0.0	\$0.00	\$0.00	\$0.00		
70 Hall near I	Room 125 and 124		W 32 C F 1 W 32 C F 1	F41LL F41LL	32	0.4	SW	3744 3744	1,677.3		W 32 C F 1 W 32 C F 1	F41LL F41LL	32	0.4	None None	3744 3744	1,677.3 479.2	0.0	\$0.00	\$0.00	\$0.00 \$0.00		-
46 Hall near i			W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3744	898.6	4	W 32 C F 2 (ELE)	F42LL	60	0.2	None	3744	898.6	0.0	\$0.00	\$0.00	\$0.00		
70 Hallway no K2 Hallway no	near Room 112 near Room 112		W 32 C F 1 XX 3.0 W CF 2	F41LL ELED1.5/2	32	0.0	SW Breaker	3744 8760	5,511.2		W 32 C F 1 XX 3.0 W CF 2	F41LL ELED1.5/2	32	1.5 0.0	None	3744	5,511.2	0.0	\$0.00	\$0.00	\$0.00		
32 Area Betw	ween Room 127 and Gym	5	R 100 C I 1	i100/1	100	0.5	SW	3744	1,872.0		R100 C I 1	i100/1	100	0.5	None OCC	8760 1800	78.8	0.0 972.0	\$0.00	\$0.00 \$118.75	\$0.00 \$20.00	0.8	0.7
	ween Room 127 and Gym ween Room 127 and Gym		X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5	0.0	Breaker	8760 3744	39.4 2.695.7		X 1.5 W LED	ELED1.5/1	1.5	0.0	None	8760	39.4	0.0	\$0.00	\$0.00	\$0.00		
18 Area Betw	ween Room 127 and Gym		T 32 R F 4 (ELE)	F44ILL	60 112	0.7	SW	3744	1,258.0		T 32 R F 2 T 32 R F 4 (ELE)	F42LL F44ILL	112	0.7	000	1800	1,296.0	1,399.7	\$204.35	\$118.75 \$118.75	\$20.00 \$20.00	1.2	1.0
	ween Room 127 and Gym ween Room 127 and Gym	1	T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL F44ILL	112 112	0.1	SW	3744	419.3		T 32 R F 4 (ELE)	F44ILL	112	0.1	OCC	1800	201.6	217.7	\$31.79	\$118.75	\$20.00	3.7	3.1
	ween Room 127 and Gym		T 32 R F 4 (ELE)	F44ILL	112	0.1	Breaker SW	8760 3744	981.1 419.3		T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL F44ILL	112	0.1	None OCC	8760 1800	981.1 201.6	217.7	\$0.00	\$0.00 \$118.75	\$0.00	3.7	3.1
x1 Gym Lobb 98 Gym Lobb			X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	39.4		X 1.5 W LED	ELED1.5/1	1.5	0.0	None	8760	39.4	0.0	\$0.00	\$0.00	\$0.00		
235 Gym Offic		22	T32RF2 R75CQ1	F42LL h75/1	60 75	0.3	SW	3650 3650	4,818.0		T 32 R F 2 R 75 C Q 1	F42LL h75/1	60 75	0.3	0CC	1800 1800	2,376.0	2,442.0	\$356.53 \$81.03	\$118.75 \$118.75	\$20.00 \$20.00	1.5	1.2
235 Gym Offic		4	R 75 C Q 1	h75/1	75	0.3	SW	3650	1,095.0		R75CQ1	h75/1	75	0.3	OCC	1800	540.0	555.0	\$81.03	\$118.75	\$20.00	1.5	1.2
235 Gym Offic 235 Gym Offic		6	R75CQ1 R75CQ1	h75/1 h75/1	75 75	0.3	SW	3650 3650	1,095.0		R 75 C Q 1 R 75 C Q 1	h75/1 h75/1	75 75	0.3	000	1800	540.0 810.0	555.0 832.5	\$81.03 \$121.55	\$118.75 \$118.75	\$20.00 \$20.00	1.5	0.8
235 Gym Offic	ces	6	R 75 C Q 1	h75/1	75	0.5	SW	3650	1,642.5	6	R75CQ1	h75/1	75	0.5	OCC	1800	810.0	832.5	\$121.55	\$118.75	\$20.00	1.0	0.8
x1 Gym 9 Gym			X 1.5 W LED High Bay MH 400 35 Feet High	ELED1.5/1 MH400/1	1.5 458	11.0	Breaker SW	8760 3650	52.6 40,120.8		X 1.5 W LED High Bay MH 400 35 Feet High	ELED1.5/1 MH400/1	1.5 458	11.0	None None	. 8760 3650	52.6 40.120.8	0.0	\$0.00	\$0.00	\$0.00		
46 Aux Gym		4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3650	876.0	4	W 32 C F 2 (ELE)	F42LL	60	0.2	None	3650	876.0	0.0	\$0.00	\$0.00	\$0.00		
46 Aux Gym 46 Aux Gym			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	3650 3650	876.0 876.0		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	None None	3650 3650	876.0 876.0	0.0	\$0.00	\$0.00	\$0.00		
46 Aux Gym	1	2	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	3650	438.0	2	W 32 C F 2 (ELE)	F42LL	60	0.1	None	3650	438.0	0.0	\$0.00	\$0.00	\$0.00	+	_
32 Aux Gym 46 Gym - Boy			R 100 C I 1 W 32 C F 2 (ELE)	i100/1 F42LL	100	0.3	SW	3650 3650	1,095.0		R 100 C I 1	i100/1	100	0.3	None	3650	1,095.0	0.0	\$0.00	\$0.00	\$0.00		
50 Gym - Boy	pys	2	W 32 W F 2 (ELE) Pull Chain (500 h	rs F42LL	60	0.1	SW	3650	438.0		W 32 C F 2 (ELE) W 32 W F 2 (ELE) Pull Chain (500 hr	F42LL F42LL	60	0.1	000	1800	216.0 216.0	222.0	\$32.41 \$32.41	\$118.75 \$118.75	\$20.00	3.7	3.0
46 Gym - Boy 46 Gym - Boy			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	3650 3650	219.0 438.0		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	occ	1800	108.0	111.0	\$16.21	\$118.75	\$20.00	7.3	6.1
46 Gym - Boy	rys	7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	3650	1,533.0	7	W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.1	OCC None	1800 3650	216.0 1,533.0	222.0	\$32.41 \$0.00	\$118.75 \$0.00	\$20.00 \$0.00	3.7	3.0
98 Gym - Boy 46 Gym - Girl			T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	3650	1,752.0		T 32 R F 2	F42LL	60	0.5	None	3650	1,752.0	0.0	\$0.00	\$0.00	\$0.00		
50 Gym - Girl	ris		W 32 W F 2 (ELE) Pull Chain (500 h		60	0.1	SW	3650 3650	438.0 438.0		W 32 C F 2 (ELE) W 32 W F 2 (ELE) Pull Chain (500 hr	F42LL F42LL	60	0.1	000	1800	216.0	222.0	\$32.41 \$32.41	\$118.75 \$118.75	\$20.00 \$20.00	3.7	3.0
46 Gym - Girl	rls		W 32 C F 2 (ELE)	F42LL	60	0.1	SW	3650	219.0	1	W 32 C F 2 (ELE)	F42LL	60	0.1	OCC	1800	108.0	111.0	\$16.21	\$118.75	\$20.00	7.3	6.1
<ul> <li>46 Gym - Girl</li> <li>46 Gym - Girl</li> </ul>			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	3650 3650	438.0 1.533.0		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	None None	1800 3650	216.0 1.533.0	0.0	\$32.41	\$118.75 \$0.00	\$20.00 \$0.00	3.7	3.0
88 Gym - Girl	rls	8	T 32 R F 2	F42LL	60	0.5	SW	3650	1,752.0	8	T 32 R F 2	F42LL	60	0.5	None	3650	1,752.0	0.0	\$0.00	\$0.00	\$0.00		
Mext to G Next to G			W 32 C F 2 (ELE) W60CF1	F42LL F81EL	60	0.5	SW	3650 3744	1,971.0		W 32 C F 2 (ELE) W60CF1	F42LL F81EL	60	0.5	000	1800 1800	972.0	999.0	\$145.85 \$17.03	\$118.75	\$20.00	0.8	0.7
05 Entrance	Near Pool	6	W 32 F 1	F41LL	32	0.2	SW	3744	718.8	6	W 32 F 1	F41LL	32	0.1	000	1800	345.6	116.6 373.2	\$17.03	\$118.75 \$118.75	\$20.00	7.0	5.8 1.8
05 Hallway N c1 Hallway N		11	W 32 F 1 X 1.5 W LED	F41LL ELED1.5/1	32 1.5	0.4	Breaker Breaker	8760 8760	3,083.5		W 32 F 1	F41LL	32	0.4		8760	3,083.5	0.0	\$0.00	\$0.00	\$0.00		
1 Haliway N	Near Gym		X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	13.1		X 1.5 W LED X 1.5 W LED	ELED1.5/1 ELED1.5/1	1.5	0.0	None None	8760 8760	13.1	0.0	\$0.00	\$0.00	\$0.00	-	-
8 Hallway N 6 Washroor			T 32 R F 2	F42LL F42LL	60	0.8	SW	3744	3,145.0		T 32 R F 2	F42LL	60	0.8	None	3744	3,145.0	0.0	\$0.00	\$0.00	\$0.00		
	m nt Mechanical Room		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2080 3744	3,145.0		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	None None	2080 3744	374.4	0.0	\$0.00	\$0.00	\$0.00	-	-
46 Maintenar		6	W 32 C F 2 (ELE)	F42LL	60	0.4	Breaker	8760	3,153.6	6	W 32 C F 2 (ELE)	F42LL	60	0.4	None	8760	3,153.6	0.0	\$0.00	\$0.00	\$0.00		
98 Room 130 98 Room 130			T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.5	SW	2808 2808	1,516.3		T 32 R F 2	F42LL F42LL	60	0.5	000	1800 1800	972.0 1,080.0	544.3 604.8	\$79.47 \$88.30	\$118.75 \$118.75	\$20.00 \$20.00	1.5	1.2
98 Room 133	2	10	T 32 R F 2	F42LL	60	0.6	SW	2808	1,684:8	10	T 32 R F 2	F42LL	60	0.6	OCC	1800	1,080.0	604.8	\$88.30	\$118.75	\$20.00	1.3	1.1
98 Room 130 98 Room 130		10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.6	SW	2808	1,684.8		T 32 R F 2	F42LL	60	0.6	OCC	1800	1,080.0	604.8	\$88.30	\$118.75	\$20.00	1.3	1.1
98 Room 132			T32 R F 2	F42LL F42LL	60	0.6	SW	2808 2808	1,684.8		T 32 R F 2	F42LL F42LL	60	0.6	000	1800 1800	1,080.0	604.8	\$88.30	\$118.75 \$118.75	\$20.00 \$20.00	1.3	1.1
98 Room 132 98 Room 132			T 32 R F 2 T 32 R F 2	F42LL	60	0.6	SW	2808	1,684.8	10	T 32 R F 2	F42LL	60	0.6	OCC	1800	1,080.0	604.8	\$88.30	\$118.75	\$20.00	1.3	1.1
98 Room 130			T32 R F 2	F42LL F42LL	60	0.6	SW	2808 2808	1,684.8		T 32 R F 2	F42LL F42LL	60	0.6	000	1800 1800	1,080.0	604.8	\$88.30	\$118.75 \$118.75	\$20.00 \$20.00	1.3	1.1
98 Room 132			T 32 R F 2	F42LL	60	0.6	SW	2808	1,684.8		T 32 R F 2	F42LL	60	0.6	000	1800	1,080.0	604.8	\$88.30	\$118.75	\$20.00	1.3	1.1

											RE	TROFIT CO	NDITIONS					COST	& SAVINGS	ANALYSIS		
	Area Description	No. of Fixtures	Standard Fixture Code	NYSERDA Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Number of Annual kWh Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual \$	Retrofit Cos	NJ Lighting	Simple Payback With Out Incentive	Simple Paybac
	que description of the location om number/Room name: Floor number (if applicable)		"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt)* (Fixt No.)	Pre-inst, control device	Estimated annual hours for the usage group	(kW/space) * No. of (Annual Hours) fixtures after the retrofit	"Lighting Fixture Code" Example r 21 40 R F(U) = 2'x2' Troff 40 v Recess. Floor 2 lamps U shape	Code from Table of Standard Fixture Wattages	of Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual e hours for the usage group	(kW/space) *	(Original Annual kWh) - (Retrofit Annual kWh)	(kW Saved) (\$/kWh)	* Cost for renovations to lighting system		Length of time for renovations cost to be recovered	e Length of
8 Roon		10	T 32 R F 2 T 32 R F 2	F42LL	60	0.6	SW	2808		T32 R F 2	F42LL	60	0.6	occ	1800	1,080.0	604.8	\$88.30	\$118.75	\$20.00	1.3	1.1
d Room	m 132	1	X 1.5 W LED	F42LL ELED1.5/1	1.5	0.6	SW Breaker	2808 8760	1,684.8 10 13.1 1	T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	1.5	0.6	OCC None	1800 8760	1,080.0	0.0	\$88.30	\$118.75 \$0.00	\$20.00	1.3	1.1
8 Roon 8 Roon		2	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.2	SW	2808	673.9 4 337.0 2	T32 R F 2 T32 R F 2	F42LL F42LL	60	0.2	None OCC	2808 1800	673.9 216.0	0.0 121.0	\$0.00	\$0.00 \$118.75	\$0.00	6.7	5.6
8 Roon 6 Roon		2	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.1	SW	2808 2808	337.0 2 337.0 2	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.1	OCC	1800	216.0	121.0	\$17.66	\$118.75	\$20.00	6.7	5.6
88 Roon	m 134	10	T 32 R F 2	F42LL	60	0.6	SW	2808	1,684.8 10	T32 R F 2	F42LL	60	0.1	000	1800 1800	216.0 1,080.0	121.0 604.8	\$17.66	\$118.75 \$118.75	\$20.00	1.3	5.6
8 Roon		10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.6	SW	2808		T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.6	000	1800 1800	1,080.0	604.8 604.8	\$88.30 \$88.30	\$118.75 \$118.75	\$20.00 \$20.00	1.3	1.1
8 Roon 8 Roon		10	T 32 R F 2 T 32 R F 2	F42LL	60	0.6	SW	2808	1,684.8 10	T32RF2	F42LL	60	0.6	OCC	1800	1,080.0	604.8	\$88.30	\$118.75	\$20.00	1.3	1.1
8 Roon		8	T 32 R F 2	F42LL F42LL	60	0.5	SW	2808 2808	1,347.8 8 1,347.8 8	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.5	000	1800	864.0 864.0	483.8	\$70.64 \$70.64	\$118.75 \$118.75	\$20.00	1.7	1,
8 Roon		8 10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.5	SW	2808 2808	1,347.8 8 1,684.8 10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.5	000	1800 1800	864.0 1,080.0	483.8 604.8	\$70.64 \$88.30	\$118.75 \$118.75	\$20.00 \$20.00	1.7	1.0
8 Roon	m 134	10	T 32 R F 2	F42LL	60	0.6	SW	2808	1,684.8 10	T 32 R F 2	F42LL	60	0.6	OCC	1800	1,080.0	604.8	\$88.30	\$118.75	\$20.00	1.3	1.1
8 Roon		10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.6	SW	2808 2808	1,684.8 10 1,684.8 10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.6	000	1800 1800	1,080.0	604.8	\$88.30	\$118.75 \$118.75	\$20.00	1.3	1.1
39 Roon 32 Roon		5	R 150 C I 1 R 100 C I 1	i150/1 i100/1	150 100	0.6	SW	2808 2808		R 150 C I 1 R 100 C I 1	i150/1 i100/1	150 100	0.6	None	2808	1,684.8	0.0	\$0.00	\$0.00	\$0.00		
1 Room	m 134	1	X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	13.1 1	X 1.5 W LED	ELED1.5/1	1.5	0.5	None None	2808 8760	1,404.0	0.0	\$0.00	\$0.00	\$0.00		
0 Roon 8 Roon		6	W 32 C F 1 T 32 R F 2	F41LL F42LL	32 60	0.1	SW	2808 2808	179.7 2 1,010.9 6	W 32 C F 1 T 32 R F 2	F41LL F42LL	32 60	0.1	000	1800 1800	115.2 648.0	64.5 362.9	\$9.42 \$52.98	\$118.75 \$118.75	\$20.00 \$20.00	12.6 2.2	10.
8 Roon		2	T 32 R F 2 T 32 R F 2	F42LL	60	0.1	SW	2808	337.0 2	T32 R F 2	F42LL	60	0.1	OCC	1800	216.0	121.0	\$17.66	\$118.75	\$20.00	6.7	5.6
6 Roon	m 135	12	W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2808 2808	2,021.8 12	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	000	1800 1800	216.0 1,296.0	725.8	\$17.66 \$105.96	\$118.75 \$118.75	\$20.00 \$20.00	6.7 1.1	0.9
6 Roon		12	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808 2808		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1800 1800	1,296.0	725.8 725.8	\$105.96 \$105.96	\$118.75 \$118.75	\$20.00 \$20.00	1.1	0.9
6 Roon	m 135	12	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	2,021.8 12	W 32 C F 2 (ELE)	F42LL	60	0.7	OCC	1800	1,296.0	725.8	\$105.96	\$118.75	\$20.00	1.1	0.
Roon Roon		12	W 32 C F 2 (ELE) X 1.5 W LED	F42LL ELED1.5/1	1.5	0.7	SW Breaker	2808 8760		W 32 C F 2 (ELE) X 1.5 W LED	F42LL ELED1.5/1	1.5	0.7	OCC None	1800 8760	1,296.0	725.8	\$105.96 \$0.00	\$118.75 \$0.00	\$20.00	1.1	0.
Roon		8 4	W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	2808	1,347.8 8	W 32 C F 2 (ELE)	F42LL	60	0.5	OCC	1800	864.0	483.8	\$70.64	\$118.75	\$20.00	1.7	1
Roon Roon		2	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2808 2808		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	000	1800 1800	432.0 216.0	241.9 121.0	\$35.32 \$17.66	\$118.75 \$118.75	\$20.00	3.4 6.7	5.
Roon Roon		15	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2808 2808	673.9 4 2,527.2 15	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	None OCC	2808 1800	673.9 1.620.0	907.2	\$0.00 \$132.45	\$0.00 \$118.75	\$0.00 \$20.00	0.9	0
2 Roon	m 136	8	2T 17 R F 4 (ELE)	F22ILL	33	0.3	SW	2808	741.3 8	2T 17 R F 4 (ELE)	F22ILL	33	0.3	OCC	1800	475.2	266.1	\$38.85	\$118.75	\$20.00	3.1	2
6 Roon 6 Roon		24 14	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.8	SW	2808 2808		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.8	000	1800 1800	2,592.0 1.512.0	1,451.5 846.7	\$211.92 \$123.62	\$118.75 \$118.75	\$20.00	1.0	0.
8 Roon		4	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.2	SW	2808 2808	673.9 4 1,010.9 6	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.2	None C-OCC	2808 1800	673.9 648.0	0.0 362.9	\$0.00 \$52.98	\$0.00 \$202.50	\$0.00 \$35.00	2.0	2.
6 Scien	nce Storage	9	W 32 C F 2 (ELE)	F42LL	60	0.5	SW	1000	540.0 9	W 32 C F 2 (ELE)	F42LL	60	0.5	OCC	200	108.0	432.0	\$63.07	\$118.75	\$20.00	3.8 1.9	3.2
	room Near Room 136 room Near Room 136	2 2	W 32 C F 2 (ELE) 2T 17 R F 4 (ELE)	F42LL F22ILL	33	0.1	SW	2080	249.6 2 137.3 2	W 32 C F 2 (ELE) 2T 17 R F 4 (ELE)	F42LL F22ILL	33	0.1	000	1200 1200	144.0 79.2	105.6 58.1	\$15.42 \$8.48	\$59.38 \$59.38	\$20.00 \$20.00	3.9 7.0	2.6
	room Near Room 136 sh Room / Janitor Closet	2	R 60 C I 1 T 32 R F 2	160/1	60	0.1	SW	2080	249.6 2	R 60 C I 1	160/1	60	0.1	None	2080	249.6	0.0	\$0.00	\$0.00	\$0.00		
8 Roor	m 139	8	T 32 R F 2	F42LL F42LL	60	0.2	SW	2080 2808	499.2 4 1,347.8 8	T32 R F 2 T32 R F 2	F42LL F42LL	60	0.2	000	1800	432.0 864.0	67.2 483.8	\$9.81 \$70.64	\$118.75 \$118.75	\$20.00	12.1	10.
8 Roor 8 Roor		2 2	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.1	SW	2808 2808	337.0 2 337.0 2	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.1	None None	2808 2808	337.0 337.0	0.0	\$0.00	\$0.00 \$0.00	\$0.00		
8 Roor	m 139	6	T 32 R F 2	F42LL	60	0.4	SW	2808	1,010.9 6	T32 R F 2	F42LL	60	0.4	None	2808	1,010.9	0.0	\$0.00	\$0.00	\$0.00		
8 Roor 8 Roor		12	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.7	SW	2808 2808		T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.7	000	1800	1,296.0	725.8 725.8	\$105.96 \$105.96	\$118.75 \$118.75	\$20.00	1.1	0:
8 Roor 8 Roor		12	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.7	SW	2808 2808	2,021.8 12 2,021.8 12	T32 R F 2	F42LL F42LL	60	0.7	OCC	1800	1,296.0	725.8 725.8	\$105.96 \$105.96	\$118.75 \$118.75	\$20.00	1.1	0.
1 Roor	m 139	1	X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	13.1 1	X 1.5 W LED	ELED1.5/1	1.5	0.0	OCC None	8760	13.1	0.0	\$0.00	\$0.00	\$0.00	1-1	0.
B Roor B Roor		14	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.8	SW	2808 2808		T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.8	000	1800	1,512.0 1,512.0	846.7 846.7	\$123.62 \$123.62	\$118.75 \$118.75	\$20.00 \$20.00	1.0	0.
8 Roor 8 Roor		14	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.8	SW	2808	2,358.7 14	T 32 R F 2	F42LL	60	0.8	OCC	1800	1,512.0	846.7	\$123.62	\$118.75	\$20.00	1.0	0.
1 Roor	m 140	1	X 1.5 W LED	ELED1.5/1	1.5	0.0	SW Breaker	2808 8760		T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	1.5	0.0	OCC None	1800 8760	1,512.0	846.7 0.0	\$123.62	\$118.75 \$0.00	\$0.00	1.0	0.
Roor Roor		10	T 32 R F 4 (ELE) T 32 R F 2	F44ILL F42LL	112 60	1.1 0.2	SW	2808 2808	3,145.0 10	T 32 R F 4 (ELE)	F44ILL F42LL	112 60	1.1 0.2	OCC None	1800 2808	2,016.0 673.9	1,129.0	\$164.83 \$0.00	\$118.75 \$0.00	\$20.00 \$0.00	0.7	0.
8 Roor	m 140	6	T 32 R F 2	F42LL	60	0.4	SW	2808	1,010.9 6	T 32 R F 2	F42LL	60	0.4	None	2808	1,010.9	0.0	\$0.00	\$0.00	\$0.00		+
8 Roor 8 Roor		7 7	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.4	SW	2808 2808	1,179.4 7 1,179.4 7	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.4	000	1800	756.0 756.0	423.4 423.4	\$61.81 \$61.81	\$118.75 \$118.75	\$20.00 \$20.00	1.9	1.
8 Roor 8 Roor		5 11	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.3	SW	2808	842.4 5	T 32 R F 2	F42LL	60	0.3	OCC	1800	540.0	302.4	\$44.15	\$118.75	\$20.00	2.7	2
Roor	m 141	10	T 32 R F 2	F42LL	60	0.6	SW	2808 2808	1,684.8 10	T 32 R F 2	F42LL F42LL	60	0.7	000	1800	1,188.0 1,080.0	665.3 604.8	\$97.13 \$88.30	\$118.75 \$118.75	\$20.00 \$20.00	1.2	1 1
Roor Roor		11	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.7	SW	2808 2808		T 32 R F 2 T 32 R F 2	F42LL F42LL	60 60	0.7	000	1800 1800	1,188.0 1,188.0	665.3 665.3	\$97.13 \$97.13	\$118.75 \$118.75	\$20.00 \$20.00	1.2	1.
Roor	m 141	7	T 32 R F 2	F42LL	60	0.4	SW	2808	1,179.4 7	T 32 R F 2	F42LL	60	0.4	OCC	1800	756.0	423.4	\$61.81	\$118.75	\$20.00	1.2	1.
8 Roor 8 Roor		11	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.7	SW	2808 2808	1,11111	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.7	000	1800	1,188.0	665.3 665.3	\$97.13 \$97.13	\$118.75 \$118.75	\$20.00 \$20.00	1.2	1.
8 Roor 8 Roor	m 141	11 13	T 32 R F 2 T 32 R F 2	F42LL	60	0.7	SW	2808	1,853.3 11	T 32 R F 2	F42LL -	60	0.7	000	1800	1,188.0	665.3	\$97.13	\$118.75	\$20.00	1.2	1.
1 Roor	m 141	13	X 1.5 W LED	F42LL ELED1.5/1	1.5	0.8	SW Breaker	2808 8760		T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	1.5	0.8	OCC None	1800 8760	1,404.0	786.2	\$114.79	\$118.75	\$20.00	1.0	0.
	m 141 - Locker Room m 141 - Class Room	6 8	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.4	SW	2808 2808		T 32 R F 2	F42LL	60	0.4	OCC	1800	648.0	362.9	\$52.98	\$118.75	\$20.00	2.2	1
6 Roor	m 141 - Tool Room	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	673.9 4	W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	000	1800 1800	864.0 432.0	483.8 241.9	\$70.64 \$35.32	\$118.75 \$118.75	\$20.00	3.4	1.
	m 141 - Tool Room m 141 - Storage	6 10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.4	SW	2808 2808	1,010.9 6	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.4	OCC None	1800 2808	648.0 1.684.8	362.9	\$52.98 \$0.00	\$118.75 \$0.00	\$20.00 \$0.00	2.2	1.
46 Roor	m 142	7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	1000	420.0 7	W 32 C F 2 (ELE)	F42LL	60	0.4	OCC	1800	756.0	-336.0	-\$49.06	\$118.75	\$20.00		
46 Roor 46 Roor		7 7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808	1,179.4 7 1,179.4 7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	000	1800 1800	756.0 756.0	423.4 423.4	\$61.81 \$61.81	\$118.75 \$118.75	\$20.00 \$20.00	1.9 1.9	1.6
6 Roor		7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,179.4 7	W 32 C F 2 (ELE)	F42LL	60	0.4	000	1800	756.0	423.4	\$61.81	\$118.75	\$20.00	1.9	1.

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		SPECIFICATION CONTRACTOR	Standard Fixture Code	NYSERDA Fixture Code	Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	Number of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual \$	Retrofit Cost	NJ Lighting Incentive	Simple Payback With Out Incentive	Simple Payback
	Inique description of the location - Room number/Room name: Floor number (if applicable)		"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 r Recess. Floor 2 lamps U shape	Code from Table of W Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group			"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 v Recess. Floor 2 lamps U shape	Code from Table Standard Fixture Wattages	of Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group	(kW/space)* e (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(kW Saved) (\$/kWh)	* Cost for renovations to lighting system		Length of time for renovations cost to be recovered	Length of tim for renovation cost to be recovered
	bom 142 bom 142	7 7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.4	SW	2808 2808	1,179.4 1.179.4		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.4	000	1800 1800	756.0 756.0	423.4 423.4	\$61.81 \$61.81	\$118.75 \$118.75	\$20.00 \$20.00	1.9	1.6 1.6
46 R	loom 142	7	W 32 C F 2 (ELE) X 1.5 W LED	F42LL	60	0.4	SW	2808	1,179.4	7	W 32 C F 2 (ELE)	F42LL	60	0.4	000	1800	756.0	423.4	\$61.81	\$118.75	\$20.00	1.9	1.6
46 R	bom 142 bom 142	4	W 32 C F 2 (ELE)	ELED1.5/1 F42LL	60	0.0	Breaker SW	8760 2808	13.1 673.9	4	X 1.5 W LED W 32 C F 2 (ELE)	ELED1.5/1 F42LL	1.5	0.0	None OCC	8760 1800	13.1 432.0	0.0 241.9	\$0.00 \$35.32	\$0.00 \$118.75	\$0.00 \$20.00	3.4	2.8
	loom 142 loom 142	2	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2808 2808	337.0 337.0		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	000	1800 1800	216.0 216.0	121.0	\$17.66 \$17.66	\$118.75 \$118.75	\$20.00	6.7	5.6
	boom 142 boom 143	8	W 32 C F 2 (ELE) T 32 R F 4 (ELE)	F42LL F44ILL	60 112	0.5	SW	2808 2808	1,347.8 1.887.0		W 32 C F 2 (ELE) T 32 R F 4 (ELE)	F42LL F44ILL	60 112	0.5	OCC None	1800 2808	864.0 1.887.0	483.8 0.0	\$70.64 \$0.00	\$118.75 \$0.00	\$20.00 \$0.00	1.7	1.4
18 R	bom 143 bom 143	9 12	T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL F44ILL	112 112	1.0	SW	2808	2,830.5	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	OCC	1800	1,814.4	1,016.1	\$148.35	\$118.75	\$20.00	0.8	0.7
18 R	loom 143	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2808 2808	3,774.0 3,774.0	12	T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL F44ILL	112 112	1.3	000	1800 1800	2,419.2 2,419.2	1,354.8	\$197.79 \$197.79	\$118.75 \$118.75	\$20.00 \$20.00	0.6	0.5
-	bom 143 bom 143	12	T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL F44ILL	112	1.3	SW	2808 2808	3,774.0		T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL F44ILL	112	1.3	000	1800 1800	2,419.2	1,354.8	\$197.79	\$118.75 \$118.75	\$20.00	0.6	0.5
	boom 143 boom 143	14	T 32 R F 4 (ELE) X 1.5 W LED	F44ILL ELED1.5/1	112	1.6 0.0	SW Breaker	2808 8760	4,402.9 13.1		T 32 R F 4 (ELE) X 1.5 W LED	F44ILL ELED1.5/1	112	1.6	OCC None	1800 8760	2,822.4	1,580.5	\$230.76 \$0.00	\$118.75 \$0.00	\$20.00 \$0.00	0.5	0.4
46 R	bom 144 bom 144	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808	842.4	5	W 32 C F 2 (ELE)	F42LL	60	0.3	occ	1800	540.0	302.4	\$44.15	\$118.75	\$20.00	2.7	2.2
46 R	oom 144		W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808 2808	842.4 842.4	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1800 1800	540.0 540.0	302.4 302.4	\$44.15 \$44.15	\$118.75 \$118.75	\$20.00 \$20.00	2.7	2.2
	oom 144 oom 144	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842.4 842.4		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1800	540.0 540.0	302.4 302.4	\$44.15 \$44.15	\$118.75 \$118.75	\$20.00 \$20.00	2.7	2.2
	oom 144 oom 144	6	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,010.9 842.4		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.4	000	1800 1800	648.0 540.0	362.9 302.4	\$52.98 \$44.15	\$118.75 \$118.75	\$20.00 \$20.00	2.2	1.9
	oom 144 oom 145	1	X 1.5 W LED W 32 C F 2 (ELE)	ELED1.5/1 F42LL	1.5	0.0	Breaker	8760	13.1	1	X 1.5 W LED	ELED1.5/1	1.5	0.0	None	8760	13.1	0.0	\$0.00	\$0.00	\$0.00		
46 R	loom 145		W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808 2808	842.4 842.4	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1800 1800	540.0 540.0	302.4 302.4	\$44.15 \$44.15	\$118.75 \$118.75	\$20.00 \$20.00	2.7	2.2
	bom 145 bom 145	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842.4 842.4		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1800	540.0 540.0	302.4	\$44.15 \$44.15	\$118.75 \$118.75	\$20.00 \$20.00	2.7	2.2
	foom 145 all between Room 144 and 145	5 8	W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.3	SW SW	2808 2808	842.4 1,347.8	5	W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.3	000	1800	540.0 1,347.8	302.4	\$44.15	\$118.75	\$20.00	2.7	2.2
x1 Ha	all between Room 144 and 145	1	X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	13.1	1	X 1.5 W LED	ELED1.5/1	1.5	0.0	None None	2808 8760	13.1	0.0	\$0.00	\$0.00	\$0.00		
	all between Room 142 and 136 lall between Room 142 and 136	27	T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	1.5	1.6 0.0	SW Breaker	3744 8760	6,065.3		T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	1.5	1.6 0.0	None None	3744 8760	6,065.3	0.0	\$0.00	\$0.00	\$0.00		_
	all around Room 139 all around Room 139	12	T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	60 1.5	0.7	SW Breaker	3744 8760	2,695.7 13.1		T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	60 1.5	0.7	None None	3744 8760	2,695.7	0.0	\$0.00	\$0.00	\$0.00 \$0.00		
98 Ha	lall by Room 141 lall by Room 141	12	T 32 R F 2	F42LL	60	0.7	SW	3744	2,695.7	12	T 32 R F 2	F42LL	60	0.7	None	3744	2,695.7	0.0	\$0.00	\$0.00	\$0.00		
98 Ve	estibule by Room 136	1	X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5	0.0	Breaker SW	8760 3744	13.1 224.6	1	X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5	0.0	None None	8760 3744	13.1 224.6	0.0	\$0.00	\$0.00	\$0.00		
	ool Boiler Room ool Boiler Room	8	MH 175 W 32 C F 1	MH175/1 F41LL	215 32	0.9	SW	3744 2080	3,219.8 532.5		MH 175 W 32 C F 1	MH175/1 F41LL	215 32	0.9	None None	3744 2080	3,219.8 532.5	0.0	\$0.00	\$0.00	\$0.00	-	
	ool Room Men's ool Room Women's	1	W 32 C F 1 W 32 C F 1	F41LL F41LL	32 32	0.0	SW	2080 2080	66.6 66.6	1	W 32 C F 1 W 32 C F 1	F41LL F41LL	32	0.0	occ	1200	38.4	28.2	\$4.11	\$118.75	\$20.00	28.9	24.0
10 Po	ool Pod Up- Lighting	15	High Bay MH 1000 50 Feet High	MH1000/1	1080	16.2	Sw	2080	33,696.0	15	High Bay MH 1000 50 Feet High	MH1000/1	32 1080	16.2	None	1200 2080	38.4 33,696.0	0.0	\$4.11	\$118.75 \$0.00	\$20.00 \$0.00	28.9	24.0
46 R	ool Pod Up- Lighting boom 201	7	High Bay MH 400 35 Feet High W 32 C F 2 (ELE)	MH400/1 F42LL	458 60	4.6 0.4	Sw SW	2080 2808	9,526.4 1,179.4	7	High Bay MH 400 35 Feet High W 32 C F 2 (ELE)	MH400/1 F42LL	458 60	4.6 0.4	None None	2080 2808	9,526.4 1,179.4	0.0	\$0.00	\$0.00	\$0.00	-	
	loom 201 loom 201	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,179.4		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	None None	2808 2808	1,179.4	0.0	\$0.00 \$0.00	\$0.00 \$0.00	\$0.00		
	bom 202 bom 202	7 7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,179.4 1,179.4		W 32 C F 2 (ELE)	F42LL	60	0.4	None	2808	1,179.4	0.0	\$0.00	\$0.00	\$0.00		
46 R	loom 202	7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,179.4	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	None None	2808 2808	1,179.4	0.0	\$0.00 \$0.00	\$0.00	\$0.00 \$0.00		
	loom 203 loom 203	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	- SW	2808 2808	1,179.4		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	None None	2808 2808	1,179.4	0.0	\$0.00	\$0.00	\$0.00		-
	loom 203 loom 204	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (FLF)	F42LL F42L1	60	0.4	None None	2808 2808	1,179.4	0.0	\$0.00	\$0.00	\$0.00		
	loom 204 loom 204	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.4	SW	2808	1,179.4		W 32 C F 2 (ELE)	F42LL	60	0.4	None	2808	1,179.4	0.0	\$0.00	\$0.00	\$0.00		
46 R	loom 205	5	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808 2808	1,179.4 842.4	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	None None	2808 2808	1,179.4 842.4	0.0	\$0.00 \$0.00	\$0.00 \$0.00	\$0.00 \$0.00		
46 R	loom 205 loom 205	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842.4 842.4	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	None None	2808 2808	842.4 842.4	0.0	\$0.00	\$0.00	\$0.00		
	loom 206 loom 206		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.3	SW	2808 2808	842.4 842.4	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1800 1800	540.0 540.0	302.4 302.4	\$44.15 \$44.15	\$118.75 \$118.75	\$20.00 \$20.00	2.7	22
46 R	toom 206 toom 207	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808	842.4	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.3	OCC	1800	540.0	302.4	\$44.15	\$118.75	\$20.00	2.7	2.2
46 R	toom 207	11	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808 2808	1,853.3 1,853.3	11	W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1800 1800	1,188.0 1,188.0	665.3 665.3	\$97.13 \$97.13	\$118.75 \$118.75	\$20.00 \$20.00	1.2	1.0
	toom 207 toom 207	11	W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.7	SW	2808 2808	1,853.3 168.5		W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.7	000	1800	1,188.0	665.3 60.5	\$97.13	\$118.75 \$118.75	\$20.00 \$20.00	1.2	1.0
	toom 207 toom 207	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842.4 168.5		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.3	OCC	1800 1800	540.0 108.0	302.4	\$44.15 \$8.83	\$118.75 \$118.75	\$20.00 \$20.00	2.7	2.2
46 R	toom 208	11	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	1,853.3	11	W 32 C F 2 (ELE)	F42LL	60	0.7	000	1800	1,188.0	60.5 665.3	\$97.13	\$118.75	\$20.00	1.2	11.2 1.0
	toom 208 toom 208	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808 2808	1,853.3 1,853.3		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1800	1,188.0	665.3 665.3	\$97.13 \$97.13	\$118.75 \$118.75	\$20.00 \$20.00	1.2	1.0
	toom 208 toom 208	1 5	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2808 2808	168.5 842.4	1	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.1	000	1800 1800	108.0 540.0	60.5 302.4	\$8.83 \$44.15	\$118.75 \$118.75	\$20.00 \$20.00	13.4	11.2 2.2
x1 S	econd Floor Hallway	2	X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	26.3	2	X 1.5 W LED	ELED1.5/1	1.5	0.0	None	8760	26.3	0.0	\$0.00	\$0.00	\$0.00	2.1	- 22
46 St	econd Floor Hallway Italrway		T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	3744 3744	6,289.9 1,347.8	6	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	1.7 0.4	None None	3744 3744	1,347.8	0.0	\$0.00	\$0.00	\$0.00		
	econd Floor Men's econd Floor Women's	3	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2080 2080		3	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.2	None None	2080 2080	374.4 374.4	0.0	\$0.00 \$0.00	\$0.00	\$0.00 \$0.00		
31 S	econd Floor Wet Closet	2	R 60 C I 1	160/1	60	0.1	SW	2808	337.0	2	R 60 C I 1	160/1	60	0.1	000	1800	216.0	121.0	\$17.66	\$118.75	\$20.00	6.7	5.6
46 R	toom 209 toom 209	10	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	SW SW	2808 2808	1,684.8 1,684.8	10	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	000	1800	1,080.0	604.8	\$88.30 \$88.30	\$118.75 \$118.75	\$20.00	1.3	1.1
	Room 210 Room 210		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842.4 842.4	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1800 1800	540.0 540.0	302.4 302.4	\$44.15 \$44.15	\$118.75 \$118.75	\$20.00 \$20.00	2.7	2.2
	Room 210		W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842.4		W 32 C F 2 (ELE)	F42LL	60	0.3	OCC	1800	540.0	302.4	\$44.15	\$118.75	\$20.00	2.7	2.2

											RE	TROFIT CO	NDITIONS					COST	T & SAVINGS	ANALYSIS		
Area Description	No. of Fixtures	Standard Fixture Code	NYSERDA Fixture	Watts per Fixture	kW/Space	Exist Control	Annual Hours		Number of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual \$	Retrofit Cos	NJ Lighting	Simple Payback With Out Incentive	Sim Payl
Inique description of the location - Room number/Room name: Floor number (if applicable)		"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 Recess. Floor 2 lamps U shape	Code from Table of w Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	(Annual Hours)		"Lighting Flotture Code" Example or 2T 40 R F(U) = 2'x2' Troff 40 Recess. Floor 2 lamps U shape	Code from Table Standard Fixture Wattages	of Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group	(KW/space) * (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(kW Saved) (\$/kWh)	<ul> <li>Cost for renovations to lighting system</li> </ul>		Length of time for renovations cost to be recovered	
oom 211 oom 211	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808	842.4		W 32 C F 2 (ELE)	F42LL	60	0.3	000		540.0	302.4	\$44.15	\$118.75	\$20.00	2.7	
oom 211	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808 2808	842.4 842.4		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1800	540.0 540.0	302.4	\$44.15 \$44.15	\$118.75	\$20.00	2.7	+ :
oom 211	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842.4	5	W 32 C F 2 (ELE)	F42LL	60	0.3	occ	1800	540.0	302.4	\$44.15	\$118.75	\$20.00	2.7	
oom 212A and 212B oom 212A and 212B	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808	1,853.3		W 32 C F 2 (ELE)	F42LL	60	0.7	OCC	1800	1,188.0	665.3	\$97.13	\$118.75	\$20.00	1.2	
oom 212A and 212B		W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808 2808	1,853.3 1,853.3		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1800 1800	1,188.0	665.3 665.3	\$97.13 \$97.13	\$118.75 \$118.75	\$20.00 \$20.00	1.2	-
oom 212A and 212B	11	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	1,853.3		W 32 C F 2 (ELE)	F42LL	60	0.7	occ	1800	1.188.0	665.3	\$97.13	\$118.75	\$20.00	1.2	+
om 213	11	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	1,853.3		W 32 C F 2 (ELE)	F42LL	60	0.7	occ	1800	1,188.0	665.3	\$97.13	\$118.75	\$20.00	1.2	
oom 213	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808	1,853.3		W 32 C F 2 (ELE)	F42LL	60	0.7	occ	1800	1,188.0	665.3	\$97.13	\$118.75	\$20.00	1.2	_
om 213	11	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808 2808	1,853.3 1,853.3		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1800	1,188.0	665.3 665.3	\$97.13 \$97.13	\$118.75 \$118.75	\$20.00 \$20.00	1.2	+
oom 213	3	S 34 C F 2	F42EE	72	0.2	SW	2808	606.5		S 34 C F 2	F42EE	72	0.2	OCC	1800	388.8	217.7	\$31.79	\$118.75	\$20.00	3.7	_
oom 214	8	W 32 C F 2 (ELE)	F42LL	60	0.5	SW	2808	1,347.8		W 32 C F 2 (ELE)	F42LL	60	0.5	OCC	1800	864.0	483.8	\$70.64	\$118.75	\$20.00	1.7	
oom 214 oom 214	8 8	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	2808 2808	1,347.8		W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	000	1800	864.0	483.8	\$70.64	\$118.75	\$20.00	1.7	-
om 214		W 32 C F 2 (ELE)	F42LL	60	0.5	SW	2808	1,347.8		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	000	1800	864.0 864.0	483.8 483.8	\$70.64 \$70.64	\$118.75 \$118.75	\$20.00 \$20.00	1.7	+
om 215		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,179.4		W 32 C F 2 (ELE)	F42LL	60	0.4	000	1800	756.0	423.4	\$61.81	\$118.75	\$20.00	1.9	+
om 215	7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,179.4		W 32 C F 2 (ELE)	F42LL	60	0.4	OCC	1800	756.0	423.4	\$61.81	\$118.75	\$20.00	1.9	
om 215 om 215		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808	1,179.4		W 32 C F 2 (ELE)	F42LL	60	0.4	000	1800	756.0	423.4	\$61.81	\$118.75	\$20.00	1.9	-
om 217		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808 2808	1,179.4		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	000	1800	756.0 864.0	423.4	\$61.81 \$70.64	\$118.75 \$118.75	\$20.00	1.9	+
om 217		W 32 C F 2 (ELE)	F42LL	60	0.5	SW	2808	1,347.8		W 32 C F 2 (ELE)	F42LL	60	0.5	occ	1800	864.0	483.8	\$70.64	\$118.75	\$20.00	1.7	+
om 217	8	W 32 C F 2 (ELE)	F42LL	60	0.5	SW	2808	1,347.8		W 32 C F 2 (ELE)	F42LL	60	0.5	occ	1800	864.0	483.8	\$70.64	\$118.75	\$20.00	1.7	
om 217 om 218a		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	2808	1,347.8 505.4		W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	OCC	1800	864.0	483.8	\$70.64	\$118.75	\$20.00	1.7	_
om 218a		W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	505.4		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.2	000	1800	324.0	181.4 181.4	\$26.49 \$26.49	\$118.75 \$118.75	\$20.00	4.5	+
om 218a		W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	505.4		W 32 C F 2 (ELE)	F42LL	60	0.2	OCC	1800	324.0	181.4	\$26.49	\$118.75	\$20.00	4.5	+
om 218b	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,010.9		W 32 C F 2 (ELE)	F42LL	60	0.4	000	1800	648.0	362.9	\$52.98	\$118.75	\$20.00	2.2	
om 218b om 218b		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,010.9		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	000	1800	648.0	362.9	\$52.98	\$118.75	\$20.00	2.2	_
om 218b		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,010.9		W 32 C F 2 (ELE)	F42LL	60	0.4	OCC	1800	648.0 648.0	362.9 362.9	\$52.98 \$52.98	\$118.75 \$118.75	\$20.00	2.2	+
om 218b		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,010.9		W 32 C F 2 (ELE)	F42LL	60	0.4	occ	1800	648.0	362.9	\$52.98	\$118.75	\$20.00	2.2	_
oom 218b	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,010.9		W 32 C F 2 (ELE)	F42LL	60	0.4	OCC	1800	648.0	362.9	\$52.98	\$118.75	\$20.00	2.2	
oom 218b oom 218b	6	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,010.9		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	000	1800	648.0	362.9	\$52.98	\$118.75	\$20.00	2.2	
oom 218b		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,010.9		W 32 C F 2 (ELE)	F42LL	60	0.4	000	1800	648.0 648.0	362.9 362.9	\$52.98 \$52.98	\$118.75 \$118.75	\$20.00	2.2	+
oom 218b	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,010.9		W 32 C F 2 (ELE)	F42LL	60	0.4	OCC	1800	648.0	362.9	\$52.98	\$118.75	\$20.00	2.2	+
airs between 214 and 215	3	W 32 C F 1	F41LL	32	0.1	SW	2808	269.6		W 32 C F 1	F41LL	32	0.1	None	2808	269.6	0.0	\$0.00	\$0.00	\$0.00		
tween 215 and 216 tween 215 and 216	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2808 3744	673.9 2,471.0		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.2	None	2808	673.9	0.0	\$0.00	\$0.00	\$0.00		-
airs at 219	4	W 32 C F 2 (ELE)	F41LL	32	0.7	SW	3744	479.2		W 32 C F 2 (ELE)	F42LL F41LL	60	0.7	OCC None	1800 3744	1,188.0 479.2	1,283.0	\$187.32	\$118.75	\$20.00	0.6	+-
illway	23	1T 32 R F 2 (ELE)	F42LL	60	1.4	SW	3744	5,166.7		1T 32 R F 2 (ELE)	F42LL	60	1.4	None	3744	5,166.7	0.0	\$0.00	\$0.00	\$0.00		+
illway	1	X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	13.1		X 1.5 W LED	ELED1.5/1	1.5	0.0	None	8760	13.1	0.0	\$0.00	\$0.00	\$0.00		
illway an's	2	XX 3.0 W CF 2 W 32 C F 2 (ELE)	ELED1.5/2 F42LL	3 60	0.0	Breaker SW	8760	52.6		XX 3.0 W CF 2	ELED1.5/2	3	0.0	None	8760	52.6	0.0	\$0.00	\$0.00	\$0.00		_
omen's	-	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2080	374.4 374.4		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	None None	2080 2080	374.4 374.4	0.0	\$0.00	\$0.00	\$0.00	-	+
in Building - Exterior													0.2	140.10	2000	0.4.4	0.0	0.00	00.00	0.00		+
Wing	4	HPS 250	HPS250/1	295	1.2	Timer	2600	3,068.0		HPS 250	HPS250/1	295	1.2	None	2600	3,068.0	0.0	\$0.00	\$0.00	\$0.00		
tside w Wing - South Wing	8	WP200 I 1 WP 400 Po HPS	i200/1 hps400/1	200 465	1.6 0.5	Timer	2600	4,160.0		WP200 I 1 WP 400 Po HPS	1200/1	200	1.6	None	2600	4,160.0	0.0	\$0.00	\$0.00	\$0.00	_	+
w Wing - South Wing	1	HPS 250	HPS250/1	295	0.3	Timer	2600 2600	1,209.0 767.0		HPS 250	hps400/1 HPS250/1	465 295	0.5	None None	2600 2600	1,209.0 767.0	0.0	\$0.00	\$0.00	\$0.00	1	+
w Wing - South Wing	6	WP200 I 1	i200/1	200	1.2	Timer	2600	3,120.0	6	WP200 I 1	i200/1	200	1.2	None	2600	3,120.0	0.0	\$0.00	\$0.00	\$0.00		
ht Pole w - East Wall	9	HPS 250	HPS250/1	295	2.7	Timer	2600	6,903.0		HPS 250	HPS250/1	295	2.7	None	2600	6,903.0	0.0	\$0.00	\$0.00	\$0.00		
v - East Wall	1	MV 250 HPS 250	mv250/1 HPS250/1	290 295	0.3	Timer Timer	2600 2600	754.0 767.0		MV 250 HPS 250	mv250/1 HPS250/1	290 295	0.3	None None	2600 2600	754.0 767.0	0.0	\$0.00	\$0.00	\$0.00 \$0.00	-	+
w - North Wall	2	MV 250	mv250/1	290	0.6	Timer	2600	1,508.0		MV 250	mv250/1	290	0.6	None	2600	1,508.0	0.0	\$0.00	\$0.00	\$0.00		_
w - North Wall	2	WP200 I 1	i200/1	200	0.4	Timer	2600	1,040.0	2	WP200 I 1	i200/1	200	0.4	None	2600	1,040.0	0.0	\$0.00	\$0.00	\$0.00		
ard of Foyer w - West Wall	2 5	WP200 I 1 MV 250	i200/1	200	0.4	Timer	2600	1,040.0		WP200 I 1	1200/1	200	0.4	None	2600	1,040.0	0.0	\$0.00	\$0.00	\$0.00		
v - West Wall Flag Pole	1	R 250 Q 1	mv250/1 h250/1	290 250	0.3	Timer Timer	2600 2600	3,770.0 650.0		MV 250 R 250 Q 1	mv250/1 h250/1	290 250	1.5 0.3	None None	2600 2600	3,770.0 650.0	0.0	\$0.00	\$0.00	\$0.00	-	+
w - West Wall Flag Pole	1	MV 250	mv250/1	290	0.3	Timer	2600	754.0		MV 250	mv250/1	290	0.3	None	2600	754.0	0.0	\$0.00	\$0.00	\$0.00		
v - West Wall Flag Pole	2	WP200 I 1	i200/1	200	0.4	Timer	2600	1,040.0	2	WP200 I 1	1200/1	200	0.4	None	2600	1,040.0	0.0	\$0.00	\$0.00	\$0.00		
nind WT Room nind WT Room	1 1	MV 250 WP200 I 1	mv250/1 i200/1	290	0.3	Timer Timer	2600 2600	754.0 520.0		MV 250	mv250/1	290	0.3	None	2600	754.0	0.0	\$0.00	\$0.00	\$0.00		-
nind WT Room	1	SP 26 R CF 1	CFQ26/1-L	200	0.2	Timer	2600	70.2		WP200 I 1 SP 26 R CF 1	i200/1 CFQ26/1-L	200	0.2	None None	2600 2600	520.0 70.2	0.0	\$0.00	\$0.00	\$0.00		+
side Pool	3	MV 250	mv250/1	290	0.9	Timer	2600	2,262.0		MV 250	mv250/1	290	0.9	None	2600	2,262.0	0.0	\$0.00	\$0.00	\$0.00		+
tside Pool	1	i 100	1100/1	100	0.1	Timer	2600	260.0	1	I 100	1100/1	100	0.1	None	2600	260.0	0.0	\$0.00	\$0.00	\$0.00		
uth Side - Shop Wing	7 2	HPS 250	HPS250/1	295	2.1	Timer	2600	5,369.0		HPS 250	HPS250/1	295	2.1	None	2600	5,369.0	0.0	\$0.00	\$0.00	\$0.00		_
st Side rth Side	4	HPS 250 HPS 250	HP\$250/1 HP\$250/1	295 295	1.2	Timer Timer	2600 2600	1,534.0 3,068.0		HPS 250 HPS 250	HPS250/1 HPS250/1	295 295	0.6 1.2	None None	2600 2600	1,534.0	0.0	\$0.00	\$0.00	\$0.00 \$0.00	-	+-
outh Side - Shop Wing	9	WP200 I 1	1200/1	200	1.8	Timer	2600	4,680.0		WP200 I 1	1200/1	200	1.8	None	2600	4,680.0	0.0	\$0.00	\$0.00	\$0.00		+
ast Side	6	WP200 I 1	1200/1	200	1.2	Timer	2600	3,120.0	6	WP200 I 1	1200/1	200	1.2	None	2600	3,120.0	0.0	\$0.00	\$0.00	- \$0.00		
orth Side orth Side	8	WP200 I 1 WP400MH1	1200/1	200	1.6	Timer	2600	4,160.0		WP200 I 1	1200/1	200	1.6	None	2600	4,160.0	0.0	\$0.00	\$0.00	\$0.00		
orth Side otal	2,803	WP4UUMH1	MH400/1	458	0.9 214.9	Timer	2600	2,381.6 616,522		WP400MH1	MH400/1	458	0.9	None	2600	2,381.6 504.067	0.0	\$0.00	\$0.00	\$0.00	-	-
	2,000				214.3			010,322	2,003				215			504,067 Demand		16,418	\$29,799	5,045	-	+

### APPENDIX P

**ECM-15 Lighting Replacements** 

Energy Audit of Sussex County Technical School Facilities CHA Project No. 20151 Main Building ECM-15 Lighting Replacements

Cost of Electricity:

\$0.146 \$/kWh \$6.63 \$/kW

	ECM-15 Lighting Replacements			EXISTING CO		\$/kW						RETROFIT	CONDITIO	NS					COST & S	SAVINGS A	NALYSIS	. 415 ge	
		No. of			Mana					Number of											NJ	Simple Payback	
	Area Description	Fixtures	Standard Fixture Code	NYSERDA Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	Number of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual \$ Saved	Retrofit Cost	Lighting Incentive	With Out Incentive	Simple Payback
Field Code	Unique description of the location - Room number/Room name: Floor number (if	No. of fixtures before the	2T 40 R F(U) = 2'x2' Troff 40 w	Code from Table of Standard Fixture Wattages	of Standard Fixture	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated daily hours for the		No. of fixtures after the retrofit	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w	Code from Table of Standard Fodure	Value from Table of	(Watts/Fixt) * (Number of	Retrofit control device	Estimated annual hours	(kW/space) * (Annual Hours)	kWh) - (Retrofit		Cost for renovations to		Length of time for renovations	renovations cost to
	applicable)	retrofit	Recess. Floor 2 lamps U shape		Wattages			usage group	Hours)		Recess. Floor 2 lamps U shape	Wattages	Standard Fixture Wattages	Fixtures)		for the usage group		Annual kWh)		lighting system	Measures	cost to be recovered	be recovered
	Main Building - Interior Room 100	2	2T 17 R F 4 (ELE)	F22ILL	33	0.1	sw	2808	185	2	2T 17 R F 4 (ELE)	F22ILL	wanages 33	0.1	SW	2.808	185		s -	s -	60		
202	Room 100 Room 100	4	2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL	33	0.1	SW	2808	371	4	2T 17 R F 4 (ELE)	F22ILL	33	0.1	SW	2,808	371	-	\$ -	\$ -	\$0		
202	Room 100	3	2T 17 R F 4 (ELE)	F22ILL F22ILL	33 33	0.1	SW	2808 2808	371 278	3	2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL	33	0.1	SW SW	2,808 2,808	371 278	-	\$ - \$ -	-	4.0		
46	Room 100 Room 100	2	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2808 2808	168 337		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2,808	168		s - s -	S -	\$0 \$0		
	Room 100 Room 101		DC 32 P F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	2808 2808	1,348 337		DC 32 P F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW SW	2,808 2,808	1,348 337	-	S -	-			
	Room 101 Room 101		2T 17 R F 4 (ELE) W 32 C F 2 (ELE)	F22ILL F42LL	33 60	0.1	SW	2808 2808	185 505	2	2T 17 R F 4 (ELE) W 32 C F 2 (ELE)		33 60	0.1	SW SW	2,808	185 505	-	S -	s -	\$0		
46	Room 101 Room 102	4	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2808	674	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2,808	674	-	\$ -	\$ -	\$0		
46	Room 102	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808 2808	674 674	4	W 32 C F 2 (ELE) W 32 C F 2 (ELE)		60	0.2	SW	2,808 2,808	674 674	-	\$ - \$ -	-	111		
	Room 102 Library		W 32 C F 2 (ELE) 2T 17 R F 4 (ELE)	F42LL F22LL	60 33	0.2	SW	2808 2808	674 371		W 32 C F 2 (ELE) 2T 17 R F 4 (ELE)	F42LL F22ILL	33	0.2	SW	2,808	674 371		s - s -	*	100		
	Library Library		2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL F22ILL	33 33	0.1	SW	2808 2808	371 371		2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL	33	0.1	SW SW	2,808	371 371		S - S -	-	\$0 sn		
202	Room 105 Room 105	45	2T 17 R F 4 (ELE) W 32 C F 2 (ELE)	F22ILL F42LL	33 60	1.5	SW	2808 2808	4,170 1,011	45	2T 17 R F 4 (ELE)	F22ILL	33	1.5	SW	2,808	4,170	-	\$ -	s -	\$0		
46	Room 106	9	W 32 C F 2 (ELE)	F42LL	60	0.5	SW	2808	1,516	9	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2,808 2,808	1,011 1,516	-	s -	\$ -	-		
46	Room 106 Room 106		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.5	SW	2808 2808	1,348 1,516	9	W 32 C F 2 (ELE) W 32 C F 2 (ELE)		60	0.5	SW	2,808	1,348 1,516		\$ - \$ -	-	1.		
	Room 106 Room 106	1	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.1	SW Breaker	2808 8760	168 526		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.1	SW Breaker	2,808 8,760	168 526	-	S - S -	\$ -			
	Room 106 Room 106	2	2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL F22ILL	33 33	0.1	SW	2808 2808	185 185	2	2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL	33 33	0.1	SW	2,808	185 185	-	\$ - \$ -	\$ -	\$0		
46	Room 106		W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	505	3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2,808	505	-	s -	\$ -	\$0		
46	Room 106 Room 106	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808 2808	1,853 1,853	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2,808 2,808	1,853 1,853		s -	-	\$0		
	Room 107 Room 108		W 32 C F 1 W 32 C F 2 (ELE)	F41LL F42LL	32 60	0.1 1.4	SW	2808 2808	359 4,044		W 32 C F 1 W 32 C F 2 (ELE)	F41LL F42LL	32 60	0.1 1.4	SW	2,808 2,808	359 4,044		S -	s - s -	\$0 \$0		
	Gift Shop Room 109		T 32 R F 3 (ELE) W 32 C F 2 (ELE)	F43ILL/2 F42LL	90 60	0.5 0.5	SW	1000 2808	540 1,348	6	T 32 R F 3 (ELE) W 32 C F 2 (ELE)	F43ILL/2 F42LL	90	0.5	SW	1,000	540	-	\$ -	\$ -	\$0		
46	Room 109	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	674	4	W 32 C F 2 (ELE)	F42LL	60	0.5	SW	2,808 2,808	1,348 674	-	s - s -	\$ -	\$0		
46	Room 109 Room 109	68	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.6 4.1	SW	2808 2808	1,685 11,457		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6 4.1	SW	2,808 2,808	1,685 11,457		s -		-		
	Mens #1 Womens #1		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2080	499 374		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2,080	499 374		s - s -				
	Room 111 Room 111	2	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.1	SW	2808 2808	337 1,011	2	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2,808 2,808	337 1,011	-	S -	1	4.0		
46	Room 111 Room 111	1	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2808	168	1	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2,808	168	-	\$ -	\$ -	\$0		
46	Room 111	11	W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.5	SW	2808 2808	1,516 1,853	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW SW	2,808	1,516 1,853	-	\$ - \$ -	\$ -	\$0		
46	Room 111 Room 111	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808 2808	1,853 1,853		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2,808	1,853 1,853		s -	1	\$0		
	Room 111 Room 112		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,011		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2,808 2,808	1,011 842		s - s -		7.		
	Room 112 Room 112	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842 842	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2,808	842	-	\$ -	\$ -	-		
46	Room 112		W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2,808 2,808	842 842	-	s - s -	\$ -	**		
46	Room 113 Room 113	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842 842		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2,808	842 842		s -	1	4.0		
	Room 113 Room 113		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842 842		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2,808 2,808	842 842		s - s -	1*	4.0		
	Room 114 Room 115		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2808 2808	505 1,853	3	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW SW	2,808 2,808	505 1,853	-	\$ -	S -	\$0		
46	Room 115 Room 115	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808	1,853	11	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2,808	1,853	-	\$ -	\$ -	\$0		
46	Room 115	11	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808 2808	1,853 1,853	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2,808 2,808	1,853 1,853		\$ - \$ -	1:	\$0		
46	Room 115 Room 116		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2808 2808	505 337		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2,808	505 337		\$ - \$ -	+			
	Room 117 Room 117		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.6	SW SW	2808 2808	1,685 1,685		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	. 0.6	SW SW	2,808 2,808	1,685 1,685	-	\$ - \$ -	-			
46	Room 117 Room 117	1	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2808	168	1	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2,808	168	-	\$ -	s -	\$0		
46	Vestibule near Room 117	2	W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.1	SW	2808 3744	337 449	2	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2,808 3,744	337 449		\$ - \$ -	*			
	Vestibule near Room 117 Room 118		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	3744 2808	899 1,685		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	3,744 2,808	899 1,685		s -	s -			
	Room 118 Room 118		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.6	SW	2808 2808	1,685 1,685	10	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	SW	2,808	1,685 1,685	-	\$ -	s -	\$0		
46	Room 118	10	W 32 C F 2 (ELE)	F42LL	60	0.6	SW	2808	1,685	10	W 32 C F 2 (ELE)	F42LL	60	0.6	SW	2,808	1,685	-	\$ -	S -	\$0		
46	Room 119A Room 119A	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842 842	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)		60	0.3	SW	2,808 2,808	842 842	-	\$ - \$ -	s -	\$0		
	Room 119A Room 119A		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842 842		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2,808 2,808	842 842	-	\$ - \$ -	-			
46	Room 119B Room 119B	10	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	SW	2808 2808	1,685 1,685	10	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	SW	2,808 2,808	1,685 1,685	-	s - s -	s -	\$0		
46	Room 119B Room 119B	10	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.6	SW	2808	1,685	10	W 32 C F 2 (ELE)	F42LL	60	0.6	SW	2,808	1,685	-	S -	S -	\$0		
46	Room 123	4	W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	SW	2808 2808	1,685 674	4	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	SW	2,808 2,808	1,685 674		\$ - \$ -	-	1		
46	Room 123 Room 123	4	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2808 2808	674 674		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2,808 2,808	674 674		s - s -				
46	Room near 123	4	W 32 C F 2 (ELE) T 32 R F 3 (ELE)	F42LL F43ILU/2	60 90	0.2 2.3	SW	2808 2808	674 6,571	4	W 32 C F 2 (ELE) T 32 R F 3 (ELE)	F42LL	60 90	0.2	SW	2,808 2,808	674 6,571	-	\$ - \$ -	s -	\$0		
	Room 124 Room 124 Mone # 2	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.2	SW	2808	505	2	T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	2,808	505	-	S -	S -	\$0		
46	Mens # 2	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2080	499	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2,080	499	-	S -	S -	\$0		

_				EXISTING CO	NDITIONS							RETROFIT	T CONDITIO	NS					COST & S	AVINGS AM	NALYSIS		- ,
																					NJ .	Simple Payback	
	Area Description	No. of Fixtures	Standard Fixture Code	NYSERDA Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	Number of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual \$ Saved	Retrofit Cost	Lighting Incentive	With Out Incentive	Simple Payback
Field Code	Unique description of the location - Room number/Room name: Floor number (if	No. of fature before the	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture	(Watts/Fixt) *	Pre-inst. control device	Estimated daily hours for the	(kW/space) * (Annual	No. of fixtures after the retrofit.	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w	Code from Table of Standard Fixture	Value from Table of	(Watts/Fixt) * (Number of	Retrofit control device	Estimated annual hours	(kW/space) * (Annual Hours)	(Original Annual kWh) - (Retrofit	(kWh Saved) *	Cost for	Prescriptive	Length of time	Length of time for
	applicable)	retrofit.	Recess. Floor 2 lamps U shape		Wattages			usage group	Hours)		Recess. Floor 2 lamps U shape	Wattages	Standard Fodure	Fixtures)	Junior	for the usage	nous	Annual kWh)	(Sexwell)	renovations to lighting system	Measures	for renovations cost to be recovered	renovations cost to be recovered
46 V	fomens #2	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2080	499	4	W 32 C F 2 (ELE)	F42LL	Wattages 60	0.2	SW	2,080	499		s -		en .		
202 C		8 2	2T 17 R F 4 (ELE) W 32 C F 2 (ELE)	F22ILL F42LL	33 60	0.3	SW	2600 2600	686 312	8	2T 17 R F 4 (ELE) W 32 C F 2 (ELE)	F22ILL F42LL	33	0.3	SW	2,600 2,600	686	-	s -	\$ -	**		
x1 n		1 21	X 1.5 W LED T 32 R F 3 (ELE)	ELED1.5/1 F43ILI/2	1.5	0.0	Breaker SW	8760 2808	13 5,307	1	X 1.5 W LED T 32 R F 3 (ELE)	ELED1.5/1 F43/LL/2	1.5	0.0	Breaker	8,760	13 5,307	-	s -	\$ -	40		
46 R	oom 125		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2808	168	1	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2,808 2,808	168	-	s -	-	\$0 \$0		
46 R	oom 126	6	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808 2808	1,011	6	W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2,808 2,808	337 1,011	-	s -	-	**		
46 R	oom 126		W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,011	6	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2,808 2,808	1,011		s -				
46 R	oom 127	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2808 2808	168 1,853	1 11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2,808 2,808	168 1,853		s - s -	-	**		
46 R	oom 127	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808 2808	1,853	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2,808	1,853 1,853		s - s -	*	44		
46 R		3	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2808 2080	168 374		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2,808 2,080	168 374		s - s -		\$0 \$0		
46 V	/omens #3 tairway	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2080 3744	374 1.123		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2,080 3,744	374 1,123	-	s - s -	\$ - \$ -	\$0 en		
98 H	aliway near Room 100 aliway near Room 100	50 3	T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	60	3.0	SW Breaker	3744 8760	11,232	50	T32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	60	3.0	SW Breaker	3,744 8,760	11,232	-	\$ -	\$ -	-		
	all near Room 125 and 124		W 32 C F 1 W 32 C F 1	F41LL F41LL	32 32	0.4	SW	3744 3744	1,677 479	14	W32 C F 1 W32 C F 1	F41LL	32	0.4	SW	3,744	1,677	-	s -	\$ -	\$0		
46 H	all near Room 117 allway near Room 112		W 32 C F 2 (ELE) W 32 C F 1	F42LL F41LL	60	0.2	SW	3744	899	4	W 32 C F 2 (ELE)	F41LL F42LL	60	0.1	SW	3,744 3,744	479 899	-	s -	\$ -	\$0		
x2 H	allway near Room 112	3	XX 3.0 W CF 2	ELED1.5/2	32	0.0	SW Breaker	3744 8760	5,511 79	46 3	W 32 C F 1 XX 3.0 W CF 2	F41LL ELED1.5/2	32	0.0	SW Breaker	3,744 8,760	5,511 79	-	s -	\$ -	\$0		
x1 A	rea Between Room 127 and Gym rea Between Room 127 and Gym	3	R 100 C I 1 X 1.5 W LED	i100/1 ELED1.5/1	1.5	0.5	SW Breaker	3744 8760	1,872	3	WP 42 1 X 1.5 W LED	CF42/1-L ELED1.5/1	1.5	0.2	SW Breaker	3,744 8,760	899	-	\$ -	\$ 506.25 \$ -	-	3.1	3.1
18 A	rea Between Room 127 and Gym rea Between Room 127 and Gym	12	T 32 R F 2 T 32 R F 4 (ELE)	F42LL F44ILL	60 112	0.7	SW	3744 3744	2,696 1,258	12	T 32 R F 2 T 32 R F 4 (ELE)	F42LL F44LL	112	0.7	SW	3,744	2,696 1,258		s - s -	*	44		
18 A	rea Between Room 127 and Gym rea Between Room 127 and Gym	1	T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL F44ILL	112 112	0.1	SW Breaker	3744 8760	419 981		T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL F44ILL	112	0.1	SW Breaker	3,744 8,760	. 419		\$ - \$ -	s -	\$0 \$0		
	rea Between Room 127 and Gym ym Lobby	3	T 32 R F 4 (ELE) X 1.5 W LED	F44ILL ELED1.5/1	112	0.1	SW Breaker	3744 8760	419 39		T 32 R F 4 (ELE) X 1.5 W LED	F44ILL ELED1.5/1	112	0.1	SW Breaker	3,744 8,760	419	-	\$ - \$ -		\$0 \$n		
	ym Lobby ym Offices	22	T 32 R F 2 R 75 C Q 1	F42LL h75/1	60 75	1.3 0.3	SW	3650 3650	4,818 1,095		T 32 R F 2 WP 42 1	F42LL CF42/1-L	60	1.3	SW	3,650 3,650	4,818 701	-	\$ -	\$ -	\$0	64	
235 G	ym Offices ym Offices	4	R 75 C Q 1 R 75 C Q 1	h75/1 h75/1	75 75	0.3	SW	3650 3650	1,095	4	WP 42 1 WP 42 1	CF42/1-L	48	0.2	SW	3,650	701	394	\$ 66.15	\$ 405.00	\$0	6.1	6.1
235 G	ym Offices ym Offices	6	R 75 C Q 1 R 75 C Q 1	h75/1 h75/1	75	0.5	SW	3650	1,643	6	WP 42 1	CF42/1-L CF42/1-L	48	0.2	SW	3,650 3,650	701 1,051	591	\$ 99.22	\$ 607.50	\$0	6.1 6.1	6.1 6.1
x1 G	ym	4	X 1.5 W LED	ELED1.5/1	75 1.5	0.5	SW Breaker	3650 8760	1,643 53	6	WP 42 1 X 1.5 W LED	CF42/1-L ELED1.5/1	1.5	0.3	SW Breaker	3,650 8,760	1,051	-	\$ -	\$ -	\$0	6.1	6.1
9 G	ux Gym	4	High Bay MH 400 35 Feet High W 32 C F 2 (ELE)	MH400/1 F42LL	458 60	11.0	SW	3650 3650	40,121 876	24 4	P 54 C F 2 (ELE)	F45GHL F42LL	294 60	7.1 0.2	SW	3,650 3,650	25,754 876		-	\$ 7,200.00		2.6	1.8
46 A	ux Gym	4	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	3650 3650	876 876	4	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	3,650 3,650	876 876		\$ - \$ -	s - s -	\$0 \$0		
46 A	ux Gym	3	W 32 C F 2 (ELE) R 100 C I 1	F42LL i100/1	100	0.1	SW	3650 3650	1,095	3	W 32 C F 2 (ELE) WP 42 1	F42LL CF42/1-L	60 48	0.1	SW	3,650 3,650	438 526		\$ - \$ 95.54	-	\$0 \$0	3.2	3.2
	ym - Boys ym - Boys	2	W 32 C F 2 (ELE) W 32 W F 2 (ELE) Pull Chain (500 hrs.)	F42LL F42LL	60	0.1	SW	3650 3650	438 438	2 2	W 32 C F 2 (ELE) W 32 W F 2 (ELE) Pull Chain (500 hrs.)	F42LL F42LL	60	0.1 0.1	SW	3,650 3,650	438 438	-	\$ - \$ -	\$ -	\$0		
	ym - Boys ym - Boys	1 2	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.1	SW	3650 3650	219 438	1 2	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	3,650 3,650	219 438	-	\$ - \$ -	S -	\$0		
	ym - Boys ym - Boys	7 8	W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60 60	0.4	SW SW	3650 3650	1,533 1,752	7	W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	3,650 3,650	1,533 1,752	-	\$ -	\$ -	\$0		
46 G	ym - Girls ym - Girls	2	W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	3650 3650	438 438		W 32 C F 2 (ELE) W 32 W F 2 (ELE) Pull Chain (500 hrs.)	F42LL	60	0.1	SW	3,650	438	-	\$ - \$ -	\$ -	\$0		
46 G	ym - Girls ym - Girls	1	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	3650	219	1	W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	3,650 3,650	438 219	-	\$ - \$ -	\$ - \$ -	\$0 \$0		
46 G	ym - Girls	7	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	3650 3650	438 1,533	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	3,650 3,650	438 1,533	-	\$ - \$ -	S -	\$0 \$0		
46 N	ym - Girls ext to Gym - Boys	9	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	3650 3650	1,752 1,971		T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	3,650	1,752		s -	-	\$0 \$0		
105 E	ext to Gym - Boys ntrance Near Pool	6	W60CF1 W 32 F 1	F81EL F41LL	60 32	0.1	SW	3744 3744	225 719		W60CF1 W 32 F 1	F81EL F41LL	60 32	0.1 0.2	SW SW	3,744 3,744	225 719	-	\$ - \$ -	-			
x1 H	allway Near Pool allway Near Pool	1	W 32 F 1 X 1.5 W LED	F41LL ELED1.5/1	32 1.5	0.4	Breaker Breaker	8760 8760	3,084 13		W 32 F 1 X 1.5 W LED	F41LL ELED1.5/1	32 1.5	0.4	Breaker Breaker	8,760 8,760	3,084	-	\$ - \$ -	-			
98 H	aliway Near Gym aliway Near Gym		X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5 60	0.0	Breaker SW	8760 3744	13 3,145	1	X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5	0.0	Breaker SW	8,760 3,744	13 3.145	-	s - s -	s -	\$0		
	/ashroom asement Mechanical Room		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.2	SW	2080 3744	374 3.145	3	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2,080 3,744	3,145 374 3,145	-	\$ -		\$0		
46 N	laintenance Storage oom 132	6	W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.4	Breaker SW	8760 2808	3,154 1,516	6	W 32 C F 2 (ELE) T 32 R F 2	F42LL	60	0.4	Breaker	8,760	3,154	-	S -	S -	\$0		
	oom 132	10	T32RF2 T32RF2	F42LL F42LL	60	0.6	SW	2808	1,685	10	T 32 R F 2	F42LL F42LL	60	0.5	SW	2,808 2,808	1,516 1,685	-	S -	\$ -	\$0		
98 R		10	T32RF2	F42LL	60	0.6	SW	2808 2808	1,685 1,685	10	T32RF2 T32RF2	F42LL F42LL	60	0.6	SW	2,808 2,808	1,685 1,685	-	\$ - \$ -	\$ -	\$0		
98 R	oom 132		T32RF2 T32RF2	F42LL F42LL	60	0.6	SW	2808 2808	1,685 1,685		T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.6	SW	2,808	1,685 1,685		s - s -				
98 R			T32RF2 T32RF2	F42LL F42LL	60	0.6	SW	2808 2808	1,685 1,685		T32RF2 T32RF2	F42LL F42LL	60	0.6	SW	2,808 2,808	1,685	-	s - s -	-			
98 R			T32RF2 T32RF2	F42LL F42LL	60	0.6	SW	2808 2808	1,685 1,685		T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.6	SW SW	2,808 2,808	1,685	-	S - S -	*	\$0 \$0		
98 R	oom 132	10	T32RF2 T32RF2	F42LL F42LL	60 60	0,6	SW	2808 2808	1,685 1,685	10	T32RF2 T32RF2	F42LL F42LL	60	0.6	SW	2,808 2,808	1,685	-	S -	\$ -	\$0		
	oom 132	1	X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5	0.0	Breaker SW	8760 2808	13	1	X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5	0.0	Breaker SW	8,760	13	-	s -	\$ -	\$0		
98 R	oom 132	2	T32RF2 T32RF2	F42LL F42LL	60	0.1	SW	2808	337	2	T32RF2	F42LL	60	0.2	SW	2,808 2,808	337	-	s -	\$ -	\$0		
46 R	oom 133 oom 134	2	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2808 2808	337 337	2	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2,808 2,808	337	-	s -	s -	\$0		
98 R	oom 134	10	T32RF2 T32RF2	F42LL F42LL	60	0.6	SW	2808 2808	1,685 1,685	10	T32RF2 T32RF2	F42LL F42LL	60	0.6	SW	2,808 2,808	1,685 1,685	-	s - s -	-	1		
98 R	oom 134 oom 134	10	T32RF2 T32RF2	F42LL F42LL	60	0.6	SW SW	2808 2808	1,685 1,685	10	T32RF2 T32RF2	F42LL F42LL	60	0.6 0.6	SW SW	2,808 2,808	1,685 1,685		s - s -	-	4-		
98 R	oom 134 oom 134	8	T32RF2 T32RF2	F42LL F42LL	60 60	0.5	SW	2808 2808	1,348 1,348		T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.5 0.5	SW SW	2,808 2,808	1,348 1,348	-	S -	\$ -	\$0		
98 R	oom 134	8	T32RF2	F42LL	60	0.5	SW	2808	1,348		T32RF2	F42LL	60	0.5	SW	2,808	1,348		s -				

				EXISTING CO	NDITIONS							RETROFIT	CONDITIO	NS					COST & S	AVINGS A	NALYSIS		
																					NJ .	Simple Payback	
	Area Description	No. of Fixtures	Standard Fixture Code	NYSERDA Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	Number of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual \$ Saved	Retrofit Cost	Lighting Incentive	With Out Incentive	Simple Payback
Field Code	Unique description of the location - Room number/Room name: Floor number (f	No. of fotures before the	2T 40 R F(U) = 2'x2' Troff 40 w		of Standard Fixture		Pre-inst. control device	Estimated daily hours for the	(kW/space) * (Annual	No, of fixtures after the retrofit	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'X2' Troff 40 w	Code from Table of Standard Fixture	Value from Table of	(Watts/Fixt) * (Number of	Retrofit control device	Estimated annual hours	(kW/space) * (Annual Hours)	(Original Annual kWh) - (Retrofit		Cost for renovations to	Prescriptive Lighting	Length of time for renovations	
	applicable)	retrofit	Recess. Floor 2 lamps U shape		Wattages			usage group	Hours)		Recess, Floor 2 lamps U shape	Wattages	Standard Fixture	Fodures)		for the usage group		Annual kWh)		lighting system	Measures	cost to be recovered	be recovered
98 R			T 32 R F 2	F42LL	60	0.6	SW	2808	1,685		T 32 R F 2	F42LL	Wattages 60	0.6	SW	2,808	1,685		S -	s -	\$0		
98 R	loom 134	10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.6	SW	2808 2808	1,685		T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.6	SW	2,808	1,685 1,685		S -				
98 R		10	T 32 R F 2 R 150 C I 1	F42LL i150/1	60 150	0.6	SW	2808 2808	1,685		T 32 R F 2 WP 42 1	F42LL	60 48	0.6	SW	2,808 2,808	1,685 539	-	s -	\$ -	\$0	2.0	2.0
232 R	lpom 134	5	R 100 C I 1 X 1.5 W LED	i100H	100	0.5	SW	2808	1,404	5	WP 42 1	CF42/1-L	48	0.2	SW	2,808	674	730	\$ 127.28	\$ 506.25	\$0	4.0	4.0
70 R	loom 134		W 32 C F 1	ELED1.5/1 F41LL	1.5	0.0	Breaker SW	8760 2808	13 180		X 1.5 W LED W 32 C F 1	ELED1.5/1 F41LL	1.5	0.0	Breaker SW	8,760 2,808	13	-	S -	1.	44		
98 R		6 2	T32RF2 T32RF2	F42LL F42LL	60	0.4	SW	2808 2808	1,011		T 32 R F 2	F42LL F42LL	60	0.4	SW	2,808 2,808	1,011		s - s -	1 *	**		
98 R 46 R	loom 134		T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2808	337	2	T 32 R F 2	F42LL	60	0.1	SW	2,808	337	-	s -	\$ -	\$0		
46 R	loom 135	12	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808 2808	2,022	12	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2,808	2,022		S -	-	\$0		
46 R			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808 2808	2,022		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2,808 2,808	2,022	-	s - s -		-		
46 R	loom 135	12	W 32 C F 2 (ELE) X 1.5 W LED	F42LL	60	0.7	SW	2808	2,022	12	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2,808	2,022	-	s -	\$ -	\$0		
46 R	loom 135	8	W 32 C F 2 (ELE)	ELED1.5/1 F42LL	1.5 60	0.0	Breaker SW	8760 2808	1,348	8	X 1.5 W LED W 32 C F 2 (ELE)	F42LL	1.5	0.0	Breaker SW	8,760 2,808	13 1,348		S -		-		
46 R			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2808 2808	674 337		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2,808 2,808	674 337		S -	1	**		
46 R	loom 135	4	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	674	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2,808	674	-	\$ -	\$ -	\$0		
202 R	loom 136	8	2T 17 R F 4 (ELE)	F42LL F22ILL	60 33	0.9	SW	2808 2808	2,527 741	8	W 32 C F 2 (ELE) 2T 17 R F 4 (ELE)		33	0.9	SW	2,808 2,808	2,527 741		\$ - \$ -	1 *	\$0		
46 R			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	1.4	SW	2808 2808	4,044 2,359		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	1.4	SW SW	2,808 2,808	4,044 2,359	-	s -	\$ -			
98 R	loom 136		T 32 R F 2	F42LL	60	0.2	SW	2808	674	4	T 32 R F 2	F42LL	60	0.2	SW	2,808	674	-	\$ -	\$ -	\$0		
46 S	cience Storage		W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 1000	1,011 540	9	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2,808 1,000	1,011		s -	-	-		
	lathroom Near Room 136 lathroom Near Room 136	2 2	W 32 C F 2 (ELE) 2T 17 R F 4 (ELE)	F42LL F22ILL	60 33	0.1	SW	2080 2080	250 137		W 32 C F 2 (ELE) 2T 17 R F 4 (ELE)	F42LL F22LL	60 33	0.1 0.1	SW	2,080 2,080	250 137	-	s -		\$0 \$0		
231 B	lathroom Near Room 136 Vash Room / Janitor Closet	2 4	R 60 C I 1 T 32 R F 2	160/1	60	0.1	SW	2080	250	2	CF 26	CF42/1-L	48	0.1	SW	2,080	200	50	\$ 9.20	\$ 40.50		4.4	4.4
98 R	loom 139	8	T 32 R F 2	F42LL F42LL	60	0.2	SW	2080 2808	1,348		T32RF2 T32RF2	F42LL F42LL	60	0.2	SW	2,080	499 1,348		\$ -	1	**		-
98 R		2	T32RF2 T32RF2	F42LL F42LL	60	0.1	SW	2808 2808	337		T 32 R F 2	F42LL F42LL	60	0.1 0.1	SW	2,808	337 337		s -	+	4.0		
98 R	loom 139	6	T 32 R F 2	F42LL	60	0.4	SW	2808	1,011	6	T 32 R F 2	F42LL	60	0.4	SW	2,808	1,011		\$ -	*	\$0		
98 R	loom 139	12 12	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.7	SW	2808 2808	2,022		T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.7	SW	2,808	2,022		\$ - \$ -	S -	\$0 \$0		
98 R		12	T32RF2 T32RF2	F42LL F42LL	60	0.7	SW	2808 2808	2,022		T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.7	SW	2,808 2,808	2,022	-	s -	-	-		
x1 R 98 R	loom 139		X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	13	1	X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8,760	2,022	-	\$ -	\$ -	\$0		
98 R	loom 140	14	T 32 R F 2	F42LL F42LL	60	0.8	SW	2808 2808	2,359 2,359		T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.8	SW	2,808	2,359		\$ -				
98 R		14	T32RF2 T32RF2	F42LL F42LL	60	0.8	SW	2808 2808	2,359		T32RF2 T32RF2	F42LL F42LL	60	0.8	SW	2,808	2,359 2,359		s -	1			
x1 R		10	X 1.5 W LED T 32 R F 4 (ELE)	ELED1.5/1	1.5	0.0	Breaker	8760	13	1	X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8,760	13	-	\$ -	\$ -	\$0		
98 R	Ipom 140	4	T 32 R F 2	F44ILL F42LL	112 60	1.1	SW	2808 2808	3,145 674	4	T 32 R F 4 (ELE) T 32 R F 2	F44ILL F42LL	112	0.2	SW	2,808	3,145 674		\$ -	*	40	-	
98 R		7	T 32 R F 2	F42LL F42LL	60	0.4	SW	2808 2808	1,011		T32RF2 T32RF2	F42LL F42LL	60	0.4	SW	2,808	1,011		\$ -	s -	SO SO		
98 R		7 5	T 32 R F 2 T 32 R F 2	F42LL	60	0.4	SW	2808	1,179	7	T 32 R F 2	F42LL	60	0.4	SW	2,808	1,179	-	\$ -	\$ -	\$0		
98 R	loom 141	11	T 32 R F 2	F42LL F42LL	60	0.3	SW	2808 2808	842 1,853	11	T32RF2 T32RF2	F42LL F42LL	60	0.3	SW	2,808	842 1,853		\$ -	-			
98 R		10	T32RF2 T32RF2	F42LL F42LL	60	0.6	SW	2808 2808	1,685		T32RF2 T32RF2	F42LL F42LL	60	0.6	SW	2,808	1,685		\$ - \$ -				
98 R		11	T 32 R F 2 T 32 R F 2	F42LL F42LL	60 60	0.7	SW	2808	1,853	11	T 32 R F 2	F42LL	60	0.7	SW	2,808	1,853	-	\$ -	\$ -	\$0		
98 R	loom 141	11	T 32 R F 2	F42LL	60	0.4	SW	2808 2808	1,179 1,853	11	T32RF2 T32RF2	F42LL F42LL	60	0.4	SW	2,808	1,179		\$ -	-			
98 R	ipom 141 Ipom 141		T 32 R F 2	F42LL F42LL	60	0.7	SW	2808 2808	1,853		T32RF2 T32RF2	F42LL F42LL	60	0.7	SW	2,808	1,853 1,853		s -	S -	\$0 \$n		
98 R	ioom 141 ioom 141	13	T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	60	0.8	SW	2808	2,190	13	T32RF2	F42LL	60	0.8	SW	2,808	2,190	-	\$ -		\$0		
98 R	loom 141 - Locker Room	6	T 32 R F 2	F42LL	60	0.0	Breaker SW	8760 2808	1,011	6	X 1.5 W LED T 32 R F 2	F42LL	1.5	0.0	Breaker SW	8,760 2,808	13		\$ - \$ -				
	loom 141 - Class Room loom 141 - Tool Room		T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	2808 2808	1,348 674		T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.5 0.2	SW	2,808 2,808	1,348 674	-	\$ - \$ -	-			
98 R	loom 141 - Tool Room loom 141 - Storage	6	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.4	SW	2808	1,011	6	T 32 R F 2	F42LL	60	0.4	SW	2,808	1,011	-	\$ -	S -	\$0		
46 R	loom 142	7	W 32 C F 2 (ELE)	F42LL	60	0.6	SW	2808 1000	1,685 420	7	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	SW	2,808 1,000	1,685 420		\$ - \$ -				
46 R	loom 142 loom 142		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,179		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW SW	2,808 2,808	1,179	-	S -	S -	\$0		
46 R	loom 142	7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,179	7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,179	-	S -	s -	\$0		
46 R	loom 142 loom 142	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,179 1,179	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2,808	1,179		S -	S -			
	loom 142 loom 142		W 32 C F 2 (ELE) X 1.5 W LED	F42LL ELED1.5/1	60 1.5	0.4	SW Breaker	2808 8760	1,179	7	W 32 C F 2 (ELE) X 1.5 W LED	F42LL ELED1.5/1	1.5	0.4	SW Breaker	2,808 8,760	1,179	-	S -	s -	\$0	-	
46 R	Room 142 Room 142	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	674	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2,808	674	-	S -	S -	\$0		
46 R	loom 142	2	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2808 2808	337 337	2	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2,808 2,808	337		S -				
	loom 142 loom 143		W 32 C F 2 (ELE) T 32 R F 4 (ELE)	F42LL F44LL	60 112	0.5 0.7	SW	2808 2808	1,348 1,887	8	W 32 C F 2 (ELE) T 32 R F 4 (ELE)	F42LL	60 112	0.5	SW	2,808 2,808	1,348	-	S -	S -	\$0		
18 R	loom 143	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2808	2,830	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2,808	2,830	-	\$ -	s -	\$0		
	Room 143 Room 143		T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL F44ILL	112	1.3	SW	2808 2808	3,774		T 32 R F 4 (ELE) T 32 R F 4 (ELE)		112	1.3	SW	2,808 2,808	3,774 3,774		S -	+			-
18 R	loom 143 loom 143	12	T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL F44ILL	112 112	1.3	SW	2808 2808	3,774 3,774	12	T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2,808	3,774	-	S -	S -	\$0		
18 R	Room 143	14	T 32 R F 4 (ELE)	F44ILL	112	1.6	SW	2808	4,403	14	T 32 R F 4 (ELE)	F44LL	112	1.3	SW	2,808 2,808	3,774 4,403		S -	-	1.		
46 R	Room 143 Room 144		X 1.5 W LED W 32 C F 2 (ELE)	ELED1.5/1 F42LL	1.5	0.0	Breaker SW	8760 2808	13 842		X 1.5 W LED W 32 C F 2 (ELE)	ELED1.5/1 F42LL	1.5	0.0	Breaker SW	8,760 2,808	13 842	-	s - s -	S -	\$0		-
46 R	Room 144 Room 144	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808	842	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2,808	842	-	S -	S -	\$0		
	Room 144	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808 2808	842 842	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2,808	842 842	-	S -	\$ -			
	toom 144		W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2,808	842		S -				

				EXISTING CO	ONDITIONS							RETROFI	T CONDITIO	NS					COST & S	SAVINGS A	NALYSIS		
																					NJ	Simple Payback	
	Area Description	No. of Fixtures	Standard Fixture Code	NYSERDA Fixture Code	Watts per e Fixture	kW/Space	e Exist Control	Annual Hours	Annual kWh	Number of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual \$ Saved	Retrofit Cost	Lighting Incentive	With Out Incentive	Simple Payback
Field Code	Unique description of the location - Room number/Room name: Floor number (if	No. of fatures before the	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'X2' Troff 40 w	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture	(Watts/Fixt)*	Pre-inst. control device	Estimated daily hours for the	(kW/space) * (Annual	No. of fixtures after the retrofit	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w	Code from Table of Standard Fixture	Value from	(Watts/Fot) *	Retroft control	Estimated	(kW/space) * (Annual	(Original Annual	(kWh Saved) *	Cost for	Prescriptive	Length of time	Length of time fo
	applicable)	retrofit.	Recess. Floor 2 lamps U shape	Table Hullages	Wattages	(Factory)	uevice	usage group	Hours)	atter tile reduit.	Recess. Floor 2 lamps U shape	Wattages	Table of Standard	(Number of Fixtures)	device	annual hours for the usage	(Hours)	kWh) - (Retrofit Annual kWh)	(S/kWh)	renovations to lighting	Lighting Measures	for renovations cost to be	renovations cost to be recovered
46	nom 144	-	W 32 C F 2 (ELE)	Feet									Fixture Wattages			group				system		recovered	
46	oom 144	5	W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,011 842		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2,808	1,011		\$ -	-			
x1 46	oom 144 oom 145	5	X 1.5 W LED W 32 C F 2 (ELE)	ELED1.5/1 F42LL	1.5	0.0	Breaker SW	8760 2808	13 842		X 1.5 W LED W 32 C F 2 (ELE)	ELED1.5/1 F42LL	1.5	0.0	Breaker SW	8,760 2.808	13 842		s -	+			
46	oom 145 oom 145	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842 842	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2,808	842	-	s -	\$ -	\$0		
46	oom 145	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2,808 2,808	842 842		S -	-	\$0 \$0		
	all between Room 144 and 145	5 8	W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.3	SW	2808 2808	1,348		W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.3	SW	2,808	842 1,348		\$ - \$ -	-			
	all between Room 144 and 145 all between Room 142 and 136	1 27	X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5	1.6	Breaker SW	8760 3744	13 6,065		X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5	0.0	Breaker	8,760	13	-	\$ -	\$ -	\$0		
x1	all between Room 142 and 136 all around Room 139	1	X 1.5 W LED T 32 R F 2	ELED1.5/1	1.5	0.0	Breaker	8760	13	1	X 1.5 W LED	ELED1.5/1	1.5	1.6 0.0	SW Breaker	3,744 8,760	6,065		\$ -	-			
x1 i	all around Room 139	1	X 1.5 W LED	F42LL ELED1.5/1	1.5	0.7	SW Breaker	3744 8760	2,696		T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	1.5	0.7	SW Breaker	3,744 8,760	2,696		s -	-	-		-
	all by Room 141 all by Room 141	12	T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	60	0.7	SW Breaker	3744 8760	2,696 13		T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	60	0.7	SW	3,744	2,696	-	\$ -	*	**		
98	estibule by Room 136	1	T32RF2	F42LL	60	0.1	SW	3744	225	1	T32RF2	F42LL	60	0.0	Breaker SW	8,760 3,744	13 225	-	\$ -	-	**		
70 F	ool Boiler Room ool Boiler Room	8	MH 175 W 32 C F 1	MH175/1 F41LL	215 32	0.9	SW	3744 2080	3,220 532		MH 175 W 32 C F 1	MH175/1 F41LL	215 32	0.9	SW	3,744 2,080	3,220 532		\$ - \$ -	*	\$0 \$0		
	ool Room Men's ool Room Women's		W 32 C F 1 W 32 C F 1	F41LL F41LL	32 32	0.0	SW	2080 2080	67 67	1	W 32 C F 1	F41LL F41LL	32	0.0	SW	2,080	67	-	\$ -	\$ -	\$0		
10	ool Pod Up- Lighting	15	High Bay MH 1000 50 Feet High	MH1000/1	1080	16.2	Sw	2080	33,696	15	C 54 C F 6	F46GHL	32 351	5.3	SW Sw	2,080	10,951	22,745	\$ 4,190.73			1.8	1.5
46		7	High Bay MH 400 35 Feet High W 32 C F 2 (ELE)	MH400/1 F42LL	458 60	4.6 0.4	SW	2080	9,526 1,179		P.54 C F 4 W 32 C F 2 (ELE)	F45GHL F42LL	294 60	2.9 0.4	Sw SW	2,080 2,808	6,115 1,179		\$ 628.51 \$ -	\$ 3,000.00		4.8	3.2
46		7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,179 1,179	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,179	-	\$ -	\$ -	\$0		
46	oom 202	7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,179	7	W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2,808 2,808	1,179 1,179	-	\$ -				
46	oom 202	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,179		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2,808 2,808	1,179		\$ - \$ -	*	**		
46	oom 203	7 7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW SW	2808 2808	1,179 1,179	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,179	-	\$ -	\$ -	**		
46	oom 203	7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,179	7	W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2,808 2,808	1,179 1,179		s -	*	\$0 \$0		
46 F	oom 204		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,179		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW SW	2,808 2,808	1,179		\$ - \$ -	S -	\$0 \$n		
46			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,179 842		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,179	-	\$ -	\$ -	\$0		
46 F	oom 205	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2,808 2,808	842 842		\$ -	-			-
46 F	oom 206			F42LL F42LL	60	0.3	SW	2808 2808	842 842		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2,808 2,808	842 842	-	s -				
46	oom 206 oom 206		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842 842	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2,808	842	-	\$ -	\$ -	\$0		
46	oom 207	11	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	1,853	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2,808 2,808	842 1,853		\$ -	1*	**		
46 F		11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808 2808	1,853		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2,808 2,808	1,853 1,853		\$ - \$ -	*	\$0 \$n		
98 46		1 5	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2808 2808	168 842	1	T 32 R F 2 W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2,808	168	-	\$ -	s -	\$0		
46	oom 207	1	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2808	168	1	W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2,808 2,808	842 168		\$ -	1			
46			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808 2808	1,853		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2,808	1,853 1,853		\$ - \$ -				
98		11	W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.7	SW	2808 2808	1,853 168	11	W 32 C F 2 (ELE) T 32 R F 2	F42LL	60	0.7	SW	2,808	1,853	-	\$ -	s -	\$0		
46	oom 208	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842	5	W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2,808	168		\$ -	-			
-	econd Floor Hallway econd Floor Hallway	28	X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5	1.7	Breaker SW	8760 3744	6,290		X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5	1.7	Breaker SW	8,760 3,744	26 6,290		\$ -	17			
46 5	tairway econd Floor Men's	6 3	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	3744 2080	1,348 374	6	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.4	SW	3,744	1,348	-	s -	*			
46 5	econd Floor Women's	3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2080	374	3	W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2,080	374 374		\$ -	S -	\$0 \$0		
	econd Floor Wet Closet com 209		R 60 C I 1 W 32 C F 2 (ELE)	160/1 F42LL	60	0.1	SW	2808 2808	337 1,685		OF 26 W 32 C F 2 (ELE)	CF42/1-L F42LL	48	0.1	SW	2,808 2,808	270 1,685	67	\$ 11.75	\$ 40.50 \$ -	\$0 \$0	3,4	3.4
	oom 209 oom 210		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	SW	2808 2808	1,685 842	10	W 32 C F 2 (ELE)	F42LL	60	0.6	SW	2,808	1,685	-	S -	-			
46	oom 210	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2,808 2,808	842 842		\$ - \$ -				
46	oom 210 oom 210	5		F42LL F42LL	60	0.3	SW	2808 2808	842 842		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2,808 2,808	842 842	-	S -	-			
46	oom 211 oom 211		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.3	SW	2808 2808	842 842	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2,808	842	-	s -	s -	\$0		
46	pom 211	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2,808 2,808	842 842		S -				
46	oom 211 oom 212A and 212B	11	W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842 1,853		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2,808 2,808	842 1,853		S -	s - s -			
	pom 212A and 212B pom 212A and 212B	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808 2808	1,853 1,853	11	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2,808	1,853	-	s -	S -	\$0		
46	pom 212A and 212B	11	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	1,853	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2,808 2,808	1,853 1,853		\$ - \$ -	-	-		
46	bom 213 bom 213	11	W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808 2808	1,853 1,853		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2,808 2,808	1,853 1,853	-	S -	S -	\$0		
	oom 213		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808	1,853 1,853	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2,808	1,853	-	\$ -	s -	\$0		
81	oom 213	3	S 34 C F 2	F42EE	72	0.2	SW	2808 2808	607	3	S 28 C F 2	F42LL F42SSILL	60 48	0.7	SW	2,808 2,808	1,853	202	\$ 35.25	\$ 344.25		9.8	8.9
	oom 214 oom 214	8	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	2808 2808	1,348 1,348		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	2,808 2,808	1,348 1,348	-	S -	S -	\$0		-
46	bom 214 bom 214	8	W 32 C F 2 (ELE)	F42LL	60	0.5	SW	2808	1,348	8	W 32 C F 2 (ELE)	F42LL	60	0.5	SW	2,808	1,348	-	s -	\$ -	\$0		
46	bom 215	7		F42LL F42LL	60	0.5	SW	2808 2808	1,348 1,179	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	2,808	1,348		S -	1:			
	oom 215 oom 215	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW SW	2808 2808	1,179 1,179	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.4	SW	2,808 2,808	1,179	-	\$ -	\$ -	\$0		
46	ioom 215 ioom 217	7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,179	7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,179	-	S -	s -	\$0		
46	pom 217	8	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	2808 2808	1,348 1,348	8	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	2,808 2,808	1,348 1,348		S -				
46	oom 217 oom 217	8	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	2808 2808	1,348 1,348	8	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.5	SW	2,808	1,348	-	S -	\$ -	\$0		
46	ioom 218a ioom 218a	3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	505	3	W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	2,808 2,808	1,348 505	-	S -	\$ -	\$0		
	0011 Z 108	3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	505	3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2,808	505	1 -	S -	S -	SO		1

_				EXISTING CO	NDITIONS							RETROFI	T CONDITION	NS					COST & S	AVINGS A	NALYSIS		- 1 · · · ·
	Area Description	No. of Fixtures	Standard Fixture Code	NYSERDA Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	Number of	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	Annual kWh	Annual \$	Retrofit Cost	NJ Lighting Incentive	Simple Payback With Out Incentive	Simpl Payba
ield	Unique description of the location - Room	No. of fixtures		Code from Table of Standard	CHAPT RECOGNORISED FROM	(Watts/Fot)*	Pre-inst. control	Estimated daily	(kW/space) *	No. of fixtures	"Lighting Fixture Code" Example	Code from Table of	all ball all residents	TETTS CHECK THE PARTY	STREET, STREET			Saved			100000000000000000000000000000000000000		_
ode	number/Room name: Floor number (if	before the	2T 40 R F(U) = 2'x2' Troff 40 w	Fixture Wattages	of Standard Fixture		device	hours for the	(Annual	after the retrofit	2T 40 R F(U) = 2'x2' Troff 40 w	Standard Fixture	Value from Table of	(Watts/Fixt) * (Number of	Retrofit control device	Estimated annual hours	(kW/space) * (Annual Hours)	(Original Annual kWh) - (Retrofit		Cost for renovations to	Prescriptive	Length of time for renovations	Length of t renovations
- 1	applicable)	retrofit.	Recess. Floor 2 lamps U shape		Wattages			usage group	Hours)		Recess, Floor 2 lamps U shape	Wattages	Standard	Fixtures)	Device	for the usage	Housy	Annual kWh)	Coursell	lighting	Measures	cost to be	be recor
- 1						1			,				Focure	1220)		aroup		Pulladismiy		system	I I I I I I I I I I I I I I I I I I I	recovered	201000
_							l						Wattages			100				,			
	Room 218b		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,011	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,011	-	s -	s -	SO		
	Room 218b		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,011	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,011	-	s -	s -	\$0		
	Room 218b		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,011		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,011	-	S -	S -	SO SO		
	Room 218b		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,011		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,011	-	S -	S -	\$0		
	Room 218b		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,011		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,011		S -	\$ -	\$0		
	Room 218b		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,011		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,011		S -	\$ -	\$0		
	Room 218b		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,011		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,011		S -	S -	\$0		
	Room 218b		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,011		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,011		S -				
	Room 218b	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,011		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,011		S -	-			
	Room 218b Stairs between 214 and 215		W 32 C F 2 (ELE) W 32 C F 1	F42LL	60	0.4	SW	2808	1,011		W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2,808	1,011		S -	-			
	Stairs between 214 and 215 Between 215 and 216			F41LL	32	0.1	SW	2808	270		W 32 C F 1	F41LL	32	0.1	SW	2,808	270		S -	-	40		
	Between 215 and 216 Between 215 and 216		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2808	674		W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2,808	674		S -	-			
	Stairs at 219				60	0.7	SW	3744	2,471		W 32 C F 2 (ELE)	F42LL	60	0.7	SW	3,744	2,471		S -	S -	\$0		
	Hallway	_	W 32 C F 1	F41LL	32	0.1	SW	3744	479		W 32 C F 1	F41LL	32	0.1	SW	3,744	479	-	S -	\$ -	\$0		
	Halway		1T 32 R F 2 (ELE)	F42LL ELED1.5/1	60	1.4	SW	3744	5,167		1T 32 R F 2 (ELE)	F42LL	60	1.4	SW	3,744	5,167		s -	-			
	Hallway		X 1.5 W LED XX 3.0 W CF 2		1.5	0.0	Breaker	8760	13		X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8,760	13		S -		40		
46 N			W 32 C F 2 (ELE)	ELED1.5/2	3	0.0	Breaker	8760	53		XX 3.0 W CF 2	ELED1.5/2	3	0.0	Breaker	8,760	53			\$ -	\$0		
	Wen's Women's			F42LL	60	0.2	SW	2080	374		W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2,080	374		S -				
	Women's Main Building - Exterior	- 3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2080	374	3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2,080	374	-	S -	\$ -	\$0		
	Old Wing	4	Line aca	LIDOSTON	005		-																
	Outside	_	HPS 250 WP200 I 1	HPS250/1	295	1.2	Timer	2600	3,068		HPS 250	HPS250/1	295	1.2	Timer	2,600	3,068		S -	\$ -			
	New Wing - South Wing	1	WP 400 Po HPS	i200/1	200 465	1.6	Timer	2600	4,160		WP 42 1	CF42/1-L	48	0.4	Timer	2,600	998					1.5	1
	New Wing - South Wing	1	HPS 250	hps400/1 HPS250/1	295	0.5	Timer Timer	2600	1,209		WP 400 Po HPS	hps400/1	465	0.5	Timer	2,600	1,209		S -	-	100		
	New Wing - South Wing	6	WP20011		200			2600	767		HPS 250	HPS250/1	295	0.3	Timer	2,600	767						
	Light Pole	9	HPS 250	i200/1 HPS250/1	295	1.2	Timer	2600 2600	3,120		WP 42.1	CF42/1-L	48	0.3	Timer	2,600	749			-		1.5	1
	New - East Wall		MV 250	mv250/1	290	0.3	Timer Timer		6,903 754		HPS 250	HPS250/1	295	2.7	Timer	2,600	6,903		S -	-			
	New - East Wall		HPS 250	HPS250/1	295	0.3	Timer	2600 2600	767		MV 250	mv250/1	290	0.3	Timer	2,600	754		s -	-	-		
	New - North Wall		MV 250	mv250/1	290	0.6	Timer	2600	1,508		HPS 250 MV 250	HPS250/1	295	0.3	Timer	2,600	767		s -	-	-		-
	New - North Wall	2	WP200 I 1	200/1	200	0.4	Timer	2600	1,040		WP 42 1	mv250/1	290	0.6	Timer	2,600	1,508		S -	\$ -			_
	Board of Foyer	2	WP200 I 1	2001	200	0.4	Timer	2600	1,040		WP 421	CF42/1-L	48	0.1	Timer	2,600	250					1.5	1
	New - West Wall	5	MV 250	mv250/1	290	1.5	Timer	2600	3,770		MV 250	CF42/1-L mv250/1	48	0.1	Timer	2,600	250					1.5	1
	New - West Wall Flag Pole	1	R 250 Q 1	h250/1	250	0.3	Timer	2600	650		WP 42 1		290	1.5	Timer	2,600	3,770			\$ -			_
	New - West Wall Flag Pole		MV 250	mv250/1	290	0.3	Timer	2600	754		MV 250	CF42/1-L mv250/1	48 290	0.0	Timer	2,600	125	525	\$ 92.75	_		1.1	1
	New - West Wall Flag Pole	2	WP20011	1200/1	200	0.4	Timer	2600	1,040		WP 42 1	CF42/1-L		0.3	Timer	2,600	754		\$ -	\$ -	14.4	4.5	
	Behind WT Room	1	MV 250	mv250/1	290	0.3	Timer	2600	754		MV 250	mv250/1	290	0.1	Timer	2,600	250					1.5	1
	Behind WT Room	1	WP20011	200/1	200	0.3	Timer	2600	520		WP 42 1	mv250/1 CF42/1-L	48				754			-			-
	Behind WT Room	1	SP 26 R CF 1	CFQ26/1-L	27	0.0	Timer	2600	70		SP 26 R CF 1	CFQ26/1-L	27	0.0	Timer Timer	2,600	125					1.5	1
	Outside Pool	_	MV 250	mv250/1	290	0.9	Timer	2600	2,262		MV 250	mv250/1	290	0.0	Timer	2,600				*	4.0		
	Outside Pool		1100	1100/1	100	0.1	Timer	2600	260		CF 26	CFQ26/1-L	290	0.0	Timer	2,600	2,262			-		40	-
	South Side - Shop Wing	7	HPS 250	HPS250/1	295	2.1	Timer	2600	5,369		HPS 250	HPS250/1	295	2.1	Timer	2,600	70 5,369					1.2	-
	East Side		HPS 250	HPS250/1	295	0.6	Timer	2600	1,534		HPS 250	HPS250/1	295	0.6	Timer	2,600	1,534		*	*		-	-
	North Side		HPS 250	HPS250/1	295	1.2	Timer	2600	3,068		HPS 250	HPS250/1	295	1.2	Timer	2,600	1,534		S -	-		-	
	South Side - Shop Wing	9	WP200 I 1	1200/1	200	1.8	Timer	2600	4,680		WP 42 1	CF42/1-L	48	0.4	Timer	2,600	1,123					4.5	-
	East Side	6	WP20011	1200/1	200	1.2	Timer	2600	3,120		WP 421	CF42/1-L	48	0.4	Timer	2,600						1.5	
	North Side	8	WP200 I 1	2001	200	1.6	Timer	2600	4,160		WP 42 1	CF42/1-L	48	0.4	Timer	2,600	749					1.5	-
	North Side	2	WP400MH1	MH400/1	458	0.9	Timer	2600	2.382	2	WP400MH1	MH400/1	458	0.4	Timer	2,600	2.382		\$ 508.34			1.5	
	Total	2,803				214.9			616,522	2,472	III Toward II	m roul I	27,521		Timer'	2,000				\$ -		_	-
-		1 2,000				214.0			010,322	2,412			21,521	190			551,793	64,729	\$11,465	\$27,061	\$4,930		-
9.	Note: Existing burnt out lamps will be re-energiz	and therefore he	ure of appention will see to posmalti														Demand S		25.3	\$2,015			
P	14000. Cassary burns out tamps will be re-energy.	Lou elicierule no	us or operation will use to normal creating an	elegy													kWh Sav		64,729	\$9,451			-
																	Total say	rings		\$11,465		2.36	1

## APPENDIX Q

ECM-16 Lighting Replacements with Occupancy Sensors

Energy Audit of Sussex County Technical School Facilities CHA Project No. 20151 Main Building

Cost of Electricity: \$0.146 \$/kWh

			EVICTIVO OCCU-	NITION:	The second second	***************************************	3 \$/kW															
			EXISTING COND	DITIONS							RETROFIT CON	DITIONS						COST & SAVIN	GS ANALYS	IS	Simple	
Area Description	No. of Fixtures	Standard Fixture Code	Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual \$ Saved	Retrofit Cost	NJ Lighting Incentive	Payback With Out Incentive	
Unique description of the location - Room number/Room name: Floor number (if applicable)	m No. of fodures before the retrofit	"Lighting Floture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess Floor 2 lamps U shape		Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	(Annual Hours) a	No. of fatures after the retrofit	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess. Fixor 2 lamps U shape	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group		(Original Annual kWh) - (Retrofit Annual kWh)	(kW Saved) * (\$lkWh)	Cost for renovations to lighting system		Length of time for renovations cost to be recovered	
Main Building - Interior											-	_	-	-		-						+
2 Room 100 2 Room 100	2 4	2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL F22ILL	33		SW SW	2808 2808	144		2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL F22ILL	33 33	0.1	OCC None	1,800						12.2	10.2
2 Room 100	4	2T 17 R F 4 (ELE)	F22ILL	33	0.1	SW	2808	371	4	2T 17 R F 4 (ELE)	F22ILL	33	0.1	000	1,800	238	133	\$ 19.43	\$ 118.75	\$ 20	6.1	5.1
2 Room 100 8 Room 100	1	2T 17 R F 4 (ELE) W 32 C F 2 (ELE)	F22ILL F42LL	33	0.1	SW	2808			2T 17 R F 4 (ELE) W 32 C F 2 (ELE)	F22ILL F42LL	33 60	0.1	OOC None	1,800			\$ 14.57 \$	\$ 118.75 \$ -		8.2	6.8
Room 100 R Room 100	2 8	W 32 C F 2 (ELE) DC 32 P F 2	F42LL F42LL	60		SW	2808 2808		2	W 32 C F 2 (ELE) DC 32 P F 2	F42LL	60	0.1	000	1,800	216	121	\$ 17.66	\$ 118.75	\$ 20		5.6
Room 101	2	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2808	337	2	W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	000	1,800						6.7	1.4 5.6
2 Room 101 6 Room 101	3	2T 17 R F 4 (ELE) W 32 C F 2 (ELE)	F22ILL F42LL	33		SW	2808 2808			2T 17 R F 4 (ELE) W 32 C F 2 (ELE)	F22ILL F42LL	33 60	0.1	OCC None	1,800 2,808	119	67			\$ 20	12.2	10.2
Room 101	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	674	4	W 32 C F 2 (ELE)	F42LL	60	0.2	None	2,808	674		\$ -	s -	\$ -		
Room 102 Room 102	4	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808 2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	None None	2,808			s -	-	-	-	+
Room 102 Library	4	W 32 C F 2 (ELE) 2T 17 R F 4 (ELE)	F42LL F22ILL	60	0.2	SW SW	2808 2808	674	4	W 32 C F 2 (ELE) 2T 17 R F 4 (ELE)	F42LL F22ILL	60	0.2	None C-OCC	2,808	674		\$ -	s -	\$ -		
2 Library	4	2T 17 R F 4 (ELE)	F22ILL	33	0.1	SW	2808	371	4	2T 17 R F 4 (ELE)	F22ILL	33	0.1	C-0CC	1,800	238	133					8.6 8.6
2   Library 2   Room 105	45	2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL F22ILL	33	0.1	SW	2808 2808			2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL F22ILL	33 33	0.1 1.5	C-0CC	1,800	238	133	\$ 19.43	\$ 202.50	\$ 35	10.4	8.6 1.5
Room 105 Room 106	6 9	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808	1,011	6	W 32 C F 2 (ELE)	F42LL	60	0.4	C-OCC	1,800	648	363				3.8	3.2
Room 106	8	W 32 C F 2 (ELE)	F42LL	60	0.5	SW	2808 2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	None None	2,808			s -	-	1.		+
Room 106 Room 106		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	SW	2808 2808	1,516	9	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	None	2,808	1,516	-	\$ -	s -	\$ -	49.4	
Room 106		W 32 C F 2 (ELE)	F42LL	60	0.1	Breaker	8760	526	1	W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	None None	8,760			\$ 8,83 \$ -			13.4	11.2
Room 106 Room 106	2 2	2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL F22ILL	33	0.1	SW	2808			2T 17 R F 4 (ELE) 2T 17 R F 4 (ELE)	F22ILL F22ILL	33	0.1	000	1,800			\$ 9.71 \$ 9.71			12.2	10.2
Room 106 Room 106	3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	505	3	W 32 C F 2 (ELE)	F42LL	60	0.2	000	1,800	324	181	\$ 26.49	\$ 118.75	\$ 20	4.5	3.7
Room 106		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	None None	2,808			s -	-	-		-
Room 107 Room 108	24	W 32 C F 1 W 32 C F 2 (ELE)	F41LL F42LL	32 60		SW	2808 2808			W 32 C F 1 W 32 C F 2 (ELE)	F41LL	32	0.1	None	2,808	359		\$ -	\$ -	\$ -		
Gift Shop	6	T 32 R F 3 (ELE)	F43ILU2	90	0.5	SW	1000	540	6	T 32 R F 3 (ELE)	F42LL F43ILL/2	60 90	0.5	None None	2,808			s -	s -			+
Room 109 Room 109	8 4	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808 2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	None None	2,808			s -	-	_		
Room 109 Room 109	10 68	W 32 C F 2 (ELE)	F42LL	60	0.6	SW	2808	1,685	10	W 32 C F 2 (ELE)	F42LL	60	0.6	None	2,808	1,685		\$ -	\$ -	s -		
Mens #1	4	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	4.1 0.2	None None	2,808			s -				+
Womens #1 Room 111	3 2	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2080			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.2	None OCC	2,080	374		\$ -		-		-
Room 111	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,011	6	W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	000	1,800	648	363	\$ 52.98		\$ 20	6.7 2.2	5.6
Room 111 Room 111	9	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	000	1,800			\$ 8.83 \$ 79.47			13.4	11
Room 111 Room 111		W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	1,853	11	W 32 C F 2 (ELE)	F42LL	60	0.7	OCC	1,800	1,188	665	\$ 97.13	\$ 118.75	\$ 20	1.2	1.
Room 111		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808 2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1,800						1.2	1.0
Room 111 Room 112	6	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.4	000	1,800	648	363	\$ 52.98		\$ 20	2.2	1.
Room 112		W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842	5	W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1,800						2.7	2:
Room 112 Room 112	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1,800						2.7	2.
Room 113 Room 113	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842	5	W 32 C F 2 (ELE)	F42LL	60	0.3	OCC	1,800	540	302	\$ 44.15	\$ 118.75	\$ 20	2.7	2
Room 113	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	. F42LL F42LL		0.3	SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1,800						2.7	2.
Room 113 Room 114	5 3	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL		0.3	SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1,800	540	302	\$ 44.15	\$ 118.75	\$ 20	2.7	2.
Room 115	11	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	1,853	11	W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	None	1,800 2,808	324 8 1,853	181	\$ 26.49	\$ 118.75	\$ 20	4.5	3.
Room 115 Room 115		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808	.,,,,,,		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	None None	2,808			s -	1	1		-
Room 115 Room 115		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	SW .	2808	1,853	11	W 32 C F 2 (ELE)	F42LL	60	0.7	None	2,808	1,853	-	\$ -	\$ -	\$ -		
Room 116	2	W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	000	1,800						6.7	5.
Room 117 Room 117	10	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	330	1,800	1,080	605	\$ 88.30		\$ 20	1.3	1.
Room 117	1	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2808	168	. 1	W 32 C F 2 (ELE)	F42LL	60	0.1	OCC	1,800	108	60	\$ 8.83			13.4	11
Room 117 Vestibule near Room 117		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL		0.1	SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	OCC None	1,800 3,744			\$ 17.66 \$ -			6.7	5.6
Vestibule near Room 117 Room 118		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	3744	899	4	W 32 C F 2 (ELE)	F42LL	60	0.2	None	3,744	4 899	-	\$ -	\$ -	\$ -		
Room 118	10	W 32 C F 2 (ELE)	F42LL	60	0.6	SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	None None	2,808			S -	1	1.		-
Room 118 Room 118		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	None None	2,808			s -				
Room 119A	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842	5	W 32 C F 2 (ELE)	F42LL	60	0.6	OCC	1,800			\$ - \$ 44.15	+		2.7	2
Room 119A Room 119A	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000							2.7	2.
Room 119A	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842	5	W 32 C F 2 (ELE)	F42LL	60	0.3	OCC	1,800	540	302	\$ 44.15	\$ 118.75	\$ 20	2.7	2
Room 119B Room 119B	10	W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	000	1,800						1.3	1.
Room 119B Room 119B		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	SW	2808 2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	000	1,800	1,080	605	\$ 88.30	\$ 118.75	\$ 20	1.3	1
Room 123	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	674	4	W 32 C F 2 (ELE)	F42LL	60	0.6	occ	1,800	0 432			\$ 118.75	\$ 20	3.4	1.
Room 123 Room 123		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	000	1,80		242	\$ 35.32			3.4	2.8
Room near 123	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2808	674	4	W 32 C F 2 (ELE)	F42LL	60	0.2	occ	1,800	432	242	\$ 35.32	\$ 118.75	\$ 20	3.4	
Room 124 Room 124	26	T 32 R F 3 (ELE) T 32 R F 3 (ELE)	F43/LL/2 F43/LL/2	90	0 2.3	SW	2808			T 32 R F 3 (ELE) T 32 R F 3 (ELE)	F43ILL/2 F43ILL/2	90	0.2	None OCC		8 6,571 324		S - 26.49			4.5	3.7

			EXISTING CON	DITIONS	16						RETROFIT CON	IDITIONS				164a 114 1		COST & SAVIN	GS ANALYS	IS	100 mm	1000
												10,10	1388	***************************************				COOT G GATIN	- CANALIO		Simple	
	No. of		NYSERDA Fixture	Watts per		Exist	Annual		No. of		4 8 3 1 1	Watts pe	r	Retrofit	Annual	Annual			Retrofit	NJ Lighting	Payback With Out	
Area Description Unique description of the location - Room number/Ro	Fixtures	Standard Fixture Code	Code	Fixture	kW/Space	Control	Hours	Annual kWh	Fixtures	Standard Fixture Code	Fixture Code	Fixture		CITY CHARLES	Hours	THE RESERVE AND PARTY.	Annual kWh Saved		Cost	Incentive	Incentive	
name: Floor number (if applicable)	before the	2T 40 R F(U) = 2'x2' Troff 40 w Recess	Code from Table of Standard Foture Wattage	Value from as Table of	(Watts/Fixt) * (Fixt No.)	Pre-inst. control	Estimated annual hours		No, of fixture after the	s "Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w	Code from Table of Standard Fixture Wattage	Value from s Table of	(Watts/Fixt) * (Number of	Retrofit control	Estimated annual hours	(kWispace) * (Annual	(Original Annual kWh) - (Retrofit Annual kWh)	(kW Saved) * (\$/kWh)	Cost for renovations to		Length of time for renovations	
	netrofit	Floor 2 lamps U shape		Standard Fixture		device	for the usage group		retrofit	Recess, Floor 2 lamps U shape		Standard Fixture	Fixtures)	device	for the usage group	Hours)			lighting system		cost to be recovered	cost to be recovered
Field				Wattages								Wattages			1							
Code 46 Mens#2	- 4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2080	400		W 32 C F 2 (ELE)	F42LL			-					_			
46 Womens #2	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2080	499	4	W 32 C F 2 (ELE)	F42LL	60	0.2	None None	2,080	499		S -	T-	-		
202 Office 46 Office	8 2	2T 17 R F 4 (ELE) W 32 C F 2 (ELE)	F22ILL F42LL	33		SW	2600			2T 17 R F 4 (ELE) W 32 C F 2 (ELE)	F22ILL F42LL	33 60	0.3	None None	2,600			s -				+
x1 near 125 35 Room 125	1 21	X 1.5 W LED T 32 R F 3 (ELE)	ELED1.5/1 F43ILL/2	1.5		Breaker SW	8760 2808	13	1	X 1.5 W LED T 32 R F 3 (ELE)	ELED1.5/1 F43ILI/2	1,5	0.0	None	8,760	13		\$ -	\$ -	\$ -		
46 Room 125	1	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2808	168	1	W 32 C F 2 (ELE)	F42LL	90	0.1	None None	2,808	168		s -				
46 Room 125 46 Room 126	6	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	None OCC	2,808			\$ 52.98	-	-	2.2	1.9
46 Room 126 46 Room 126		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808 2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	000	1,800	648	363	\$ 52.98	\$ 118.75	\$ 20	2.2	1.9
46 Room 127	1	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2808	168	1	W 32 C F 2 (ELE)	F42LL	60	0.4	000	1,800	108	60	\$ 8.83	\$ 118.75	\$ 20	13.4	1.9
46 Room 127 46 Room 127	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808		11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1,800							1.0
46 Room 127 46 Room 127	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808 2808		11	W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1,800	1,188	665	\$ 97.13	\$ 118.75	\$ 20	1.2	1.0
46 Mens #3	3	W 32 C F 2 (ELE)	' F42LL	60	0.2	SW	2080	374	3	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.1	None	1,800			\$ 8.83 \$ -			13.4	11.2
46 Womens #3 46 Stairway	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2080 3744			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	None None	2,080			s -	-			
98 Hallway near Room 100 x1 Hallway near Room 100	50	T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	60 1.5	3.0	SW Breaker	3744 8760	11,232	50		F42LL ELED1.5/1	60	3.0	None	3,744	11,232	-	s -	s -	\$ -		
70 Hall near Room 125 and 124		W 32 C F 1	F41LL	32	0.4	SW	3744	1,677	14	W 32 C F 1	F41LL	1.5	0.0	None None	8,760 3,744	1,677		S -	s -	\$ -		
70 Stairs 46 Hall near Room 117	4	W 32 C F 1 W 32 C F 2 (ELE)	F41LL F42LL	32		SW	3744			W 32 C F 1 W 32 C F 2 (ELE)	F41LL F42LL	32 60	0.1	None None	3,744			s -	s -	\$ -	-	+
70 Hallway near Room 112 x2 Hallway near Room 112	46	W 32 C F 1 XX 3.0 W CF 2	F41LL ELED1.5/2	32	1.5	SW Breaker	3744 8760	5,511	46	W 32 C F 1	F41LL ELED1.5/2	32	1.5	None	3,744	5,511		S -	S -	\$		1
232 Area Between Room 127 and Gym	5	R 100 C I 1	i100l1	100	0.5	SW	3744	1,872	5	XX 3.0 W CF 2 WP 42 1	CF42/1-L	48	0.0	None OCC	8,760 1,800	432	1,440	\$ 230.93	\$ 625.00	\$ 20	2.7	2.6
x1 Area Between Room 127 and Gym 98 Area Between Room 127 and Gym	12	X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5		Breaker SW	3744			X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5	0.0	None OCC	8,760 1,800			\$ 204.35	-	-	0.6	0.5
18 Area Between Room 127 and Gym 18 Area Between Room 127 and Gym	3	T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL F44ILL	112		SW	3744 3744	1,258	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	000	1,800	605	653	\$ 95.36	\$ 118.75	\$ 20	1.2	1.0
18 Area Between Room 127 and Gym	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	Breaker	8760	981		T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL F44ILL	112	0.1	OCC None	1,800 8,760			\$ 31.79 \$ -		\$ 20	3.7	3.1
18 Area Between Room 127 and Gym x1 Gym Lobby	1 3	T 32 R F 4 (ELE) X 1.5 W LED	F44ILL ELED1.5/1	112		SW Breaker	3744 8760			T 32 R F 4 (ELE) X 1.5 W LED	F44ILL ELED1.5/1	112	0.1	OCC None	1,800			\$ 31.79 \$ -	-	1	3.7	3.1
98 Gym Lobby	22	T32RF2	F42LL	60	1.3	SW	3650	4,818	22	T32RF2	F42LL	60	1.3	000	1,800	2,376	2,442	\$ 356.53	\$ 118.75	\$ 20	0.3	0.3
235 Gym Offices 235 Gym Offices	4	R75 C Q 1	h75/1 h75/1	75	0.3	SW	3650 3650	1,095	4		CF42/1-L CF42/1-L	48	0.2	000	1,800						4.4	4.3
235 Gym Offices 235 Gym Offices	6	R 75 C Q 1 R 75 C Q 1	h75/1 h75/1	75	0.3	SW	3650			WP 42 1 WP 42 1	OF42/1-L OF42/1-L	48	0.2	000	1,800					\$ 20	4.4	4.3
235 Gym Offices	6 4	R75CQ1	h75/1	75	0.5	SW	3650	1,643	6	WP 42 1	CF42/1-L	48	0.3	000	1,800	518	1,124	\$ 177.01	\$ 726.25	\$ 20		4.0
x1 Gym 9 Gym	24	X 1.5 W LED High Bay MH 400 35 Feet High	ELED1.5/1 MH400/1	1.5 458		Breaker SW	8760 3650		24	X 1.5 W LED P 54 C F 4	ELED1.5/1 F45GHL	1.5	7.1	None None	3,650				-	-	2.6	1.8
46 Aux Gym 46 Aux Gym	4	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	3650			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	None None	3,650			s -		_		
46 Aux Gym	4 2	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3650	876	4	W 32 C F 2 (ELE)	F42LL	60	0.2	None	3,650	876	-	\$ -	\$ -	\$ -		
46 Aux Gym 232 Aux Gym	3	W 32 C F 2 (ELE) R 100 C I 1	F42LL i100/1	100		SW	3650		3	W 32 C F 2 (ELE) WP 42 1	F42LL CF42f1-L	60	0.1	None None	3,650			\$ 95.54	*	-	3.2	3.2
46 Gym - Boys 50 Gym - Boys	2 2	W 32 C F 2 (ELE) W 32 W F 2 (ELE) Pull Chain (500 hrs.)	F42LL F42LL	60		SW	3650			W 32 C F 2 (ELE) W 32 W F 2 (ELE) Pull Chain (500 hrs.)	F42LL F42LL	60	0.1	000	1,80						3.7	3.0
46 Gym - Boys 46 Gym - Boys	1 2	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.1	SW	3650	219	1	W 32 C F 2 (ELE)	F42LL	60	0.1	330	1,800	108	111	\$ 16.21	\$ 118.75	\$ 20	7.3	6.1
46 Gym - Boys	7	W 32 C F 2 (ELE)	F42LL F42LL	60		SW	3650 - 3650			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	None	1,80			\$ 32.41				3.0
98 Gym - Boys 46 Gym - Girls	8 2	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60		SW	3650 3650		8	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.5	None OCC	3,650			\$ - \$ 32.41			3.7	3.0
50 Gym - Girls 46 Gym - Girls	2	W 32 W F 2 (ELE) Pull Chain (500 hrs.) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	3650	0 438	2	W 32 W F 2 (ELE) Pull Chain (500 hrs.)	F42LL	60	0.1	000	1,80	216	222	\$ 32.41	\$ 118.75	\$ 20	3.7	3.0
46 Gym - Girls	2	W 32 C F 2 (ELE)	F42LL	60		SW	3650 3650			W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	000	1,80						7.3	6.1 3.0
46 Gym - Girls 98 Gym - Girls	7 8	W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60		SW	3650 3650			W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.4	None None	3,65		-	s -	s -	\$ -		
46 Next to Gym - Boys		W 32 C F 2 (ELE) W60CF1	F42LL	60	0.5	SW	3650	0 1,971	9	W 32 C F 2 (ELE)	F42LL	60	0.5	000	1,800	972	999	\$ 145.85	\$ 118.75	\$ 20		0.7
227 Next to Gym - Boys 105 Entrance Near Pool	6	W 32 F 1	F81EL F41LL	60 32	0.2	SW	3744 3744	4 719	1 6	W 32 F 1	F81EL F41LL	60 32	0.1	000	1,80							5.8 1.8
105 Haliway Near Pool x1 Haliway Near Pool	11	W 32 F 1 X 1.5 W LED	F41LL ELED1.5/1	32 1.5		Breaker Breaker	8760 8760		11	W 32 F 1 X 1.5 W LED	F41LL ELED1.5/1	32 1.5	0.4	None	8,76 8,76			s - s -	+	\$ .	-	
x1 Hallway Near Gym	1	X 1.5 W LED T 32 R F 2	ELED1.5/1	1.5	0.0	Breaker	8760	0 13	1	X 1.5 W LED	ELED1.5/1	1.5	0.0	None None	8,76	13	-	\$ -	\$ -	\$ -		
98 Hallway Near Gym 46 Washroom	14	W 32 C F 2 (ELE)	F42LL F42LL	60 60		SW	3744 2080			T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.8	None None	2,08			s -				-
46 Basement Mechanical Room 46 Maintenance Storage	14	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW Breaker	3744 8760			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL - F42LL	60	0.8	None None		3,145	-	s -	+	+	-	1
98 Room 132	9	T 32 R F 2	F42LL	60	0.5	SW	2808	8 1,516	9	T 32 R F 2	F42LL	60	0.5	000	1,80	972	544	\$ 79.47	\$ 118.75	\$ 20		1.2
98 Room 132 98 Room 132	10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.6	SW	280	1,685	10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.6	000	1,80							1.1
98 Room 132 98 Room 132	10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60		SW	280 280			T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.6	000	1,80	1,080	605	\$ 88.30	\$ 118.75	\$ 20	1.3	1.1
98 Room 132	10	T32RF2	F42LL	60	0.6	SW	280	8 1,685	10	T 32 R F 2	F42LL	60	0.6	000	1,80	1,080	605	\$ 88.30	\$ 118.75	\$ 20	1.3	1.1
98 Room 132 98 Room 132	10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60		SW	280			T 32 R F 2	F42LL F42LL	60	0.6	000	1,80						1.3	1.1
98 Room 132 98 Room 132	10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.6	SW	280 280	8 1,685	10	T 32 R F 2 T 32 R F 2	F42LL	60	0.6	000	1,80	1,080	605	\$ 88.30	\$ 118.75	\$ 20	1.3	1.1
98 Room 132	10	T 32 R F 2	F42LL	60	0.6	SW	280	8 1,685	10	T 32 R F 2	F42LL F42LL	60	0.6	000	1,80	1,080	605	\$ 88.30	\$ 118.75	\$ 20	1.3	1.1
98 Room 132 x1 Room 132	10	T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	1.5		SW Breaker	280i 876i			T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	60 1.5	0.6	OCC None				S 88.30 S -			1.3	1.1
98 Room 132 98 Room 132	4 2	T 32 R F 2 T 32 R F 2	F42LL F42LL	60		SW	280	8 674	4	T 32 R F 2	F42LL	60	0.2	None	2,80	8 674		s -	s -	\$ .		
98 Room 132	2	T 32 R F 2	F42LL	60	0.1	SW		8 337		T 32 R F 2	F42LL F42LL	60	0.1	000	1,80						6.7	5.6 5.6
46 Room 133 98 Room 134	10	W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.1	SW	2800 2800	8 337	2	W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.1	000	1,80	9 216	121	\$ 17.66	\$ 118.75	\$ 20	6.7	5,6 1,1
98 Room 134	10	T 32 R F 2	F42LL	60	0.6	SW	280	1,685	10	T 32 R F 2	F42LL	60	0.6	000	1,80	1,080	605	\$ 88.30	\$ 118.75	\$ 20	1.3	1.1
98 Room 134 98 Room 134	10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.6	SW	280			T 32 R F 2	F42LL F42LL	60	0.6	000	1,80						1.3	1.1
98 Room 134	8	T 32 R F 2	F42LL		0.5	SW	280			T32RF2	F42LL	60		OCC							1.7	1.4

			EXISTING CON	DITIONS			Ţ,			RETROFIT CON	IDITIONS						COST & SAVIN	GS ANALYS	IS .		
	No. of		NYSERDA Fixture	C 2010 C 10 C 10 C 10 C 10 C 10 C 10 C 1		Exist	Annual	No. of			Watts per		Retrofit	Annual	Annual				NJ Lighting		
Area Description Unique description of the location - Room number/Ro	Fixtures om No. of fixtures	Standard Fixture Code  "Lighting Fixture Code" Example	Code from Table of	Fixture Value from	(Watts/Fod)	Control Pre-inst.	Hours Estimated	Annual kWh Fixtures (kW/space) * No. of fotures	Standard Fixture Code "Lighting Fixture Code" Example	Fixture Code  Code from Table of	Value from	(Watts/Fixt)	Control Retroft	Hours Estimated	(kW/space)	Annual kWh Saved (Original Annual kWh) -	(kW Saved) * (\$/kWh)	Cost for	Incentive	Incentive Length of time	Payback Length of time
name: Floor number (f applicable)	before the retrofit	2T 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape			(Fot No.)	control device	annual hours	(Annual Hours) after the retrofit	2T 40 R F(U) = 2'x2' Troff 40 w	Standard Fixture Wattage	s Table of	(Number of	control	annual hours	* (Annual	(Retrofit Annual kWh)	(KW Saveu) (arkwii)	renovations to		for renovations	for renovations
	l'action a	1 Soc 2 lesipo o Stape		Fixture		device	for the usage group	leson.	Recess. Floor 2 lamps U shape		Standard Fixture	Fixtures)	device	for the usage group	Hours)			lighting system		cost to be recovered	cost to be recovered
Field Code				Wattages							Wattages										
98 Room 134	8	T32RF2	F42LL	60	0.5	SW	2808	1,348 8	T32RF2	F42LL	60	0.5	000	1,80	0 864	484	\$ 70.64	\$ 118.75	\$ 20	1.7	1.4
98 Room 134 98 Room 134	8 10	T 32 R F 2 T 32 R F 2	F42LL F42LL	60		SW	2808 2808		T 32 R F 2 T 32 R F 2	F42LL	60	0.5	000	1,800	864	484	\$ 70.64	\$ 118.75	\$ 20	1.7	1.4
98 Room 134	10	T 32 R F 2	F42LL	60	0.6	SW	2808	1,685 10	T 32 R F 2	F42LL F42LL	60	0.6	000	1,80						1.3	1.1
98 Room 134 98 Room 134	10	T 32 R F 2	F42LL F42LL	60		SW	2808		T32RF2 T32RF2	F42LL F42LL	60	0.6	000	1,80					\$ 20	1.3	1.1
239 Room 134	4	R 150 C I 1	i150/1	150	0.6	SW	2808	1,685 4	WP 42 1	CF42/1-L	48	0.2	None	2,80	539	1,146	\$ 199.73	\$ 405.00	\$ -	2.0	2.0
232 Room 134 x1 Room 134	5	R 100 C I 1 X 1.5 W LED	i100/1 ELED1.5/1	100	0.5	SW Breaker	2808 8760		WP 42 1 X 1.5 W LED	CF42/1-L ELED1.5/1	1.5	0.2	None None	2,80			\$ 127.28			4.0	4.0
70 Room 134 98 Room 134	2	W 32 C F 1 T 32 R F 2	F41LL F42LL	32	0.1	SW	2808	180 2	W 32 C F 1	F41LL	32	0.1	000	1,800	115	65	\$ 9.42	\$ 118.75	\$ 20	12.6	10.5
98 Room 134	2	T32RF2	F42LL		0.1	SW	2808 2808		T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.4	000	1,80						6.7	1.9 5.6
98 Room 134 46 Room 135	12	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808 2808		T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	000	1,80	216	121	\$ 17.66	\$ 118.75	\$ 20	6.7	5.6
46 Room 135	12	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	2,022 12	W 32 C F 2 (ELE)	F42LL	60	0.7	000	1,80							0.9
46 Room 135 46 Room 135	12	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1,80						1.1	0.9
46 Room 135		W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	2,022 12	W 32 C F 2 (ELE)	F42LL	60	0.7	OCC	1,800	1,296	726	\$ 105.96	\$ 118.75	\$ 20	1.1	0.9
x1 Room 135 46 Room 135	8	X 1.5 W LED W 32 C F 2 (ELE)	ELED1.5/1 F42LL	1.5	0.0	Breaker SW	8760 2808		X 1.5 W LED W 32 C F 2 (ELE)	ELED1.5/1 F42LL	1.5	0.0	None OCC	8,760 1,800			\$ 70.64	\$ -		1.7	1.4
46 Room 135 46 Room 135	4 2	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808	674 4	W 32 C F 2 (ELE)	F42LL	60	0.2	OCC	1,80	432	242	\$ 35.32	\$ 118.75	\$ 20	3.4	2.8
46 Room 135	4	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2808 2808	674 4	W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	None None	1,80			\$ 17.66 \$	-		6.7	5.6
46 Room 136 202 Room 136	15	W 32 C F 2 (ELE) 2T 17 R F 4 (ELE)	F42LL F22ILL	60 33		SW	2808 2808		W 32 C F 2 (ELE) 2T 17 R F 4 (ELE)	F42LL F22LL	60	0.9	000	1,80	1,620	907	\$ 132.45				0.7
46 Room 136	24	W 32 C F 2 (ELE)	F42LL	60	1.4	SW	2808	4,044 24	W 32 C F 2 (ELE)	F42LL	33 60	1.4	000	1,80							2.5 0.5
46 Room 136 98 Room 136	14	W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60		SW	2808 2808		W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.8	OCC None	1,80			\$ 123.62 \$		\$ 20		0.8
98 Room 136	6	T32RF2	F42LL	60	0.4	SW	2808	1,011 6	T 32 R F 2	F42LL	60	0.4	C-OCC	1,80				-		3.8	3.2
46 Science Storage 46 Bathroom Near Room 136	9 2	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	1000		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	000	1,20						1.9	1.6 2.6
202 Bathroom Near Room 136	2	2T 17 R F 4 (ELE)	F22ILL	33	0.1	SW	2080	137 2	2T 17 R F 4 (ELE)	F22ILL	33	0.1	000	1,200	79	58	\$ 8.48	\$ 59.38	\$ 20	7.0	4.6
231 Bathroom Near Room 136 98 Wash Room / Janitor Closet	4	R 60 C I 1 T 32 R F 2	160/1 F42LL	60		SW	2080		T 32 R F 2	CF42/1-L F42LL	60	0.1	None	2,080			\$ 9.20 \$ 9.81			12.1	10.1
98 Room 139 98 Room 139	8 2	T 32 R F 2 T 32 R F 2	F42LL	60	0.5	SW	2808	1,348 8	T32 R F 2	F42LL	60	0.5	000	1,800	864	484	\$ 70.64	\$ 118.75	\$ 20	1.7	1.4
98 Room 139	2	T32RF2	F42LL F42LL	60	0.1	SW	2808 2808		T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.1	None None	2,80			s - s -	S -	*	-	
98 Room 139 98 Room 139	6 12	T32 R F 2 T32 R F 2	F42LL F42LL	60	0.4	SW	2808 2808		T 32 R F 2 T 32 R F 2	F42LL	60	0.4	None	2,80	1,011		\$ -	\$ -	\$ -		
98 Room 139	12	T 32 R F 2	F42LL	60	0.7	SW	2808	2,022 12	T 32 R F 2	F42LL F42LL	60	0.7	000	1,80							0.9
98 Room 139 98 Room 139	12	T32 R F 2 T32 R F 2	F42LL F42LL	60		SW	2808 2808		T 32 R F 2	F42LL F42LL	60	0.7	000	1,80						1.1	0.9
x1 Room 139	1	X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	13 1	X 1.5 W LED	ELED1.5/1	1.5	0.0	None	8,76	13	-	\$ -	s -	\$ -		
98 Room 140 98 Room 140	14	T32 R F 2 T32 R F 2	F42LL F42LL	60 60	0.8	SW	2808		T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.8	000	1,80						1.0	0.8
98 Room 140 98 Room 140	14	T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.8	SW	2808	2,359 14	T 32 R F 2	F42LL	60	0.8	OCC	1,80	1,512	847	\$ 123.62	\$ 118.75	\$ 20	1.0	0.8
x1 Room 140	1	X 1.5 W LED	ELED1.5/1	1.5	0.0	SW Breaker	2808 8760		T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	1.5	0.8	OCC None	1,80 8,76			\$ 123.62 \$				0.8
18 Room 140 98 Room 140	10	T 32 R F 4 (ELE) T 32 R F 2	F44ILL F42LL	112		SW	2808 2808		T 32 R F 4 (ELE) T 32 R F 2	F44ILL F42LL	112	1.1	OCC	1,80			\$ 164.83	\$ 118.75	\$ 20	0.7	0.6
98 Room 140	6	T 32 R F 2	F42LL	60	0.4	SW	2808	1,011 6	T32RF2	F42LL	60	0.2	None None	2,80			\$ -	\$ -	\$ -		
98 Room 141 98 Room 141	7 7	T 32 R F 2	F42LL F42LL	60		SW	2808 2808		T 32 R F 2 T 32 R F 2	F42LL F42LL	60	0.4	000	1,80							1.6
98 Room 141	5	T32RF2	F42LL	60	0.3	SW	2808	842 5	T 32 R F 2	F42LL	60	0.3	OCC	1,80	540	302		\$ 118.75	\$ 20	1.9 2.7	1.6
98 Room 141 98 Room 141	11	T32 R F 2 T32 R F 2	F42LL F42LL	60		SW	2808		T 32 R F 2	F42LL F42LL	60	0.7	000	1,80			\$ 97.13 \$ 88.30			1.2	1.0
98 Room 141	11	T32RF2	F42LL	60	0.7	SW	2808	1,853 11	T 32 R F 2	F42LL	60	0.7	occ	1,80	1,188	665	\$ 97.13	\$ 118.75	\$ 20	1.2	1.0
98 Room 141 98 Room 141	7	T32 R F 2	F42LL F42LL	60	0.7	SW	2808	1,111	T 32 R F 2	F42LL F42LL	60	0.7	000	1,80	54	144	\$ 97.13 \$ 61.81			1.2	1.0
98 Room 141 98 Room 141	11	T32RF2 T32RF2	F42LL F42LL	60	0.7	SW	2808	1,853 11		F42LL F42LL	60	0.7	000	1,80		665	\$ 97.13	\$ 118.75	\$ 20	1.2	1.0
98 Room 141	11	T 32 R F 2	F42LL	60	0.7	SW	2808	1,853 11	T32RF2	F42LL	60	0.7	000	1,80						1.2	1.0
98 Room 141 x1 Room 141	13	T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	1.5	0.0	SW Breaker	2808		T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	1.5	0.0	OCC None	1,80 8,76			\$ 114.79 \$		\$ 20		0.9
98 Room 141 - Locker Room	6	T32RF2	F42LL	60	0.4	SW	2808	1,011 6	T 32 R F 2	F42LL	60	0.4	OCC	1,80	648	363	\$ 52.98	\$ 118.75	\$ 20	2.2	1.9
98 Room 141 - Class Room 46 Room 141 - Tool Room		T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808		T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	000	1,80						1.7 3.4	1.4 2.8
98 Room 141 - Tool Room 98 Room 141 - Storage		T 32 R F 2 T 32 R F 2	F42LL	60	0.4	SW	2808	1,011 6	T 32 R F 2	F42LL	60	0.4	000	1,80	648	363	\$ 52.98	\$ 118.75	\$ 20	2.2	1.9
46 Room 142	7	W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	SW	1000			F42LL F42LL	60	0,6	None	2,80			\$ -	-	-		
46 Room 142 46 Room 142		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808	1,179 7	W 32 C F 2 (ELE)	F42LL	60	0.4	000	1,80	0 756	423	\$ 61.81	\$ 118.75	\$ 20	1.9	1.6
46 Room 142	7	W 32 C F 2 (ELE)	F42LL	60		SW	2808	1,179 7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	000	1,80						1.9	1.6
46 Room 142 46 Room 142	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808	1,179 7		F42LL F42LL	60	0.4	000	1,80	756	423	\$ 61.81	\$ 118.75	\$ 20	1.9	1.6
46 Room 142	7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,179 7	W 32 C F 2 (ELE)	F42LL	60	0.4	000	1,80	756		\$ 61.81 \$ 61.81			1.9	1.6
x1 Room 142 46 Room 142	1 4	X 1.5 W LED W 32 C F 2 (ELE)	ELED1.5/1 F42LL	1.5		Breaker SW	8760 2808		X 1.5 W LED W 32 C F 2 (ELE)	ELED1.5/1 F42LL	1.5	0.0	None OCC	8,76 1.80			\$ - \$ 35.32		\$ -		2.8
46 Room 142	2	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2808	337 2	W 32 C F 2 (ELE)	F42LL	60	0.1	000	1,80	0 216	121	\$ 17.66	\$ 118.75	\$ 20	6.7	5.6
46 Room 142 46 Room 142	8	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	SW	2808			F42LL F42LL	60	0.1	000	1,80						6.7	5.6 1.4
18 Room 143	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2808	1,887 6	T 32 R F 4 (ELE)	F44ILL	112	0.7	None	2,80	8 1,887		S -	\$ -	\$ -		
18 Room 143 18 Room 143	12	T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL F44ILL	112	1.0	SW	2808			F44ILL F44ILL	112 112	1.0	000	1,80						0.8	0.7
18 Room 143	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2808	3,774 12	T 32 R F 4 (ELE)	F44ILL	112	1.3	000	1,80	0 2,419	1,355	\$ 197.79	\$ 118.75	\$ 20	0.6	0.5
18 Room 143 18 Room 143	12	T 32 R F 4 (ELE) T 32 R F 4 (ELE)	F44ILL F44ILL	112	1.3	SW	2808		T 32 R F 4 (ELE)	F44ILL F44ILL	112	1.3	000	1,80						0.6	0.5
18 Room 143 x1 Room 143	14	T 32 R F 4 (ELE) X 1.5 W LED	F44 LL ELED1.5/1	112 1.5	1.6	SW	2808	4,403 14		F44ILL	112	1.6	000	1,80	0 2,822	1,581	\$ 230.76	\$ 118.75	\$ 20	0.5	0.4
46 Room 144	5	W 32 C F 2 (ELE)	F42LL	60	0.3	Breaker SW	2808	842 5	X 1.5 W LED W 32 C F 2 (ELE)	ELED1.5/1 F42LL	1.5	0.0	None OCC	8,76 1,80			\$ -	-		2.7	2.2
46 Room 144	5	W 32 C F 2 (ELE)	F42LL		0.3		2808		W 32 C F 2 (ELE)	F42LL	60		OCC				\$ 44.15			2.7	2.2

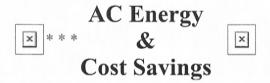
			EXISTING CON	DITIONS						RETROFIT CON	DITIONS						COST & SAVIN	GS ANALYS	IS		
	No. of		NYSERDA Fixture	Watts per		Exist	Annual	No. of			18/									Simple Payback	Ci.
Area Description	Fixtures	Standard Fixture Code	Code	Fixture	kW/Space	Control	Hours	Annual kWh Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space		Annual Hours	Annual kWh	Annual kWh Saved		Retrofit Cost	NJ Lighting Incentive	With Out Incentive	
Unique description of the location - Room number/R name: Floor number (f applicable)	oom No. of fixtures before the retrofit	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess Floor 2 lamps U shape	Code from Table of s. Standard Fixture Wattage	Value from s Table of Standard	(Watts/Fot) (Fot No.)	Pre-inst.		(kW/space) * No. of fixtures (Annual Hours) after the	2T 40 R F(U) = 2'x2' Troff 40 w	Code from Table of Standard Fixture Wattage		(Watts/Fixt) * (Number of	Retrofit control	Estimated annual hours		(Original Annual kWh) - (Retrofit Annual kWh)	(kW Saved) * (\$/kWh)	Cost for renovations to		Length of time for renovations	Length of time for renovation
	I GE GIA	riou 2 iamps o snape		Fixture Wattages		device	for the usage group	retrofit	Recess. Floor 2 lamps U shape		Standard Fixture Wattages	Fixtures)	device	for the usage group	(Hours)			lighting system		cost to be recovered	cost to be recovered
Field Code				liiugu							Wallages										
46 Room 144 46 Room 144	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808 2808		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.3	000	1,800						2.7	2.2
46 Room 144 46 Room 144	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842 5	W 32 C F 2 (ELE)	F42LL	60	0.3	000	1,800	540	302	\$ 44.15	\$ 118.75	\$ 20	2.7	22
46 Room 144	5	W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842 5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	000	1,800						2.7	1.9
x1 Room 144 46 Room 145	5	X 1.5 W LED W 32 C F 2 (ELE)	ELED1.5/1 F42LL	1.5		Breaker SW	8760 2808	10	X 1.5 W LED W 32 C F 2 (ELE)	ELED1.5/1 F42LL	1.5	0.0	None OCC	8,760 1,800			\$ - \$ 44.15	1-		2.7	2.2
46 Room 145 46 Room 145	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842 5	W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1,800	540	302	\$ 44.15	\$ 118.75	\$ 20	2.7	2.2
46 Room 145	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842 5	W 32 C F 2 (ELE)	F42LL	60	0.3	000	1,800	540	302	\$ 44.15	\$ 118.75	\$ 20		22
46 Room 145 98 Hall between Room 144 and 145	5 8	W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.5	SW	2808 2808		W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.3	OCC None	1,800			\$ 44.15 \$ -	-		2.7	2.2
x1 Hall between Room 144 and 145 98 Hall between Room 142 and 136	27	X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5		Breaker SW	8760 3744		X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5	0.0	None None	8,760 3,744	0 13	-		-			
x1 Hall between Room 142 and 136 98 Hall around Room 139	1	X 1.5 W LED T 32 R F 2	ELED1.5/1 F42LL	1.5	0.0	Breaker	8760	13 1	X 1.5 W LED	ELED1.5/1	1.5	0.0	None	8,760	0 13	-	\$ -	\$ -	s -		
x1 Hall around Room 139	1	X 1.5 W LED	ELED1.5/1	1.5		SW Breaker	3744 8760	13 1	T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	1.5	0.7	None None	3,744 8,760			\$ -				-
98 Hall by Room 141 x1 Hall by Room 141	12	T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	1.5		SW Breaker	3744 8760		T 32 R F 2 X 1.5 W LED	F42LL ELED1.5/1	60 1.5	0.7	None None	3,744 8,760	4 2,696		\$ - \$ -	1	-		
98 Vestitule by Room 136 8 Pool Boiler Room	1 4	T 32 R F 2 MH 175	F42LL MH175/1		0.1	SW	3744 3744	225 1	T 32 R F 2 MH 175	F42LL MH175/1	60	0.1	None	3,744	4 225	-	\$ -	\$ -	\$ -		
70 Pool Boiler Room	8	W 32 C F 1	F41LL	32	0.3	SW	2080	532 8	W 32 C F 1	F41LL	215 32	0.9	None None	3,744 2,080	532	-	\$ - \$ -	\$ -	\$ -		
70 Pool Room Men's 70 Pool Room Women's	1	W 32 C F 1 W 32 C F 1	F41LL F41LL	32	0.0	SW	2080 2080	67 1	W 32 C F 1 W 32 C F 1	F41LL F41LL	32 32	0.0	000	1,200							24.0 24.0
10 Pool Pod Up- Lighting 9 Pool Pod Up- Lighting	15 10	High Bay MH 1000 50 Feet High High Bay MH 400 35 Feet High	MH1000/1 MH400/1	1080 458		Sw Sw	2080 2080		C 54 C F 6 P 54 C F 4	F46GHL F45GHL	351 294	5.3 2.9	None None	2,080	0 10,951	22,745	\$ 4,190.73	\$ 7,687.50	\$ 1,500	1.8	1.5
46 Room 201 46 Room 201	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808	1,179 7	W 32 C F 2 (ELE)	F42LL	60	0.4	None	2,808	1,179	-	\$ -	s -	\$ -	7.0	3.2
46 Room 201	7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808 2808	1,179 7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	None None	2,808			\$ -				
46 Room 202 46 Room 202	7 7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	None None	2,808			\$ - \$ -				
46 Room 202 46 Room 203	7 7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808	1,179 7	W 32 C F 2 (ELE)	F42LL	60	0.4	None	2,808	1,179	-	\$ -	s -	\$ -		
46 Room 203	7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808 2808	1,179 7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	None None	2,808			\$ - \$	-	1*		
46 Room 203 46 Room 204	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	None None	2,808			s -	*	*		
46 Room 204 46 Room 204	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808 2808	1,179 7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	None	2,808	8 1,179	-	\$ -	s -	\$ -		
46 Room 205	5	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842 5	W 32 C F 2 (ELE)	F42LL	60	0.4	None None	2,808	8 842		\$ -		-		
46 Room 205 46 Room 205	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	None None	2,808			s - s -				-
46 Room 206 46 Room 206	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808 2808	842 5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	330	1,800	540	302	\$ 44.15			2.7 2.7	2.2
46 Room 206 46 Room 207	5 11	W 32 C F 2 (ELE)	F42LL	60	0.3	SW	2808	842 5	W 32 C F 2 (ELE)	F42LL	60	0.3	000	1,800	540	302	\$ 44.15	\$ 118.75	\$ 20	2.7	2.2
46 Room 207	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL		0.7	SW	2808 2808		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1,800						1.2	1.0
46 Room 207 98 Room 207	11	W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60		SW	2808 2808		W 32 C F 2 (ELE) T 32 R F 2	F42LL F42LL	60	0.7	000	1,800					\$ 20	1.2	1.0
46 Room 207 46 Room 207	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842 5	W 32 C F 2 (ELE)	F42LL	60	0.3	OCC	1,800	540	302	\$ 44.15	\$ 118.75	\$ 20	2.7	2.2
46 Room 208	11	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	1,853 11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.1	000	1,800	1,188					13.4	11.2
46 Room 208 46 Room 208	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1,800						1.2	1.0
98 Room 208 46 Room 208	1 5	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808 2808	168 1	T 32 R F 2 W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.1	000	1,800	108	60	\$ 8.83	\$ 118.75	\$ 20	13.4 2.7	11.2
x1 Second Floor Hallway 98 Second Floor Hallway	2	X 1.5 W LED T 32 R F 2	ELED1.5/1	1.5	0.0	Breaker	8760	26 2	X 1.5 W LED	ELED1.5/1	1.5	0.0	None	8,760	0 26	-	\$ -	s -	\$ -	2.1	2.2
46 Stairway		W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	3744 3744	1,348 6	W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	None None	3,74			S -		*		-
46 Second Floor Men's 46 Second Floor Women's		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	SW	2080		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.2	None None	2,080			s - s -		-		
231 Second Floor Wet Closet 46 Room 209	10	R 60 C I 1 W 32 C F 2 (ELE)	160/1 F42LL	60		SW	2808	337 2	CF 26	CF42/1-L	48	0.1	OCC	1,800	0 173	164	\$ 25.88	\$ 159.25	\$ 20		5.4
46 Room 209	10	W 32 C F 2 (ELE)	F42LL	60	0.6	SW	2808 2808	1,685 10	W 32 C F 2 (ELE)	F42LL F42LL	60	0.6	000	1,800						1.3	1.1
46 Room 210 46 Room 210	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808	842 5 842 5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1,800						2.7	2.2
46 Room 210 46 Room 210	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808	842 5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1,800	0 540	302	\$ 44.15	\$ 118.75	\$ 20	2.7	2.2
46 Room 211 46 Room 211	5	W 32 C F 2 (ELE)	F42LL	60 60		SW	2808	842 5	W 32 C F 2 (ELE)	F42LL	60	0.3	000	1,800	0 540	302	\$ 44.15	\$ 118.75	\$ 20	2.7	22
46 Room 211	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL		0.3	SW	2808 2808	842 5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1,800	0 540	302	\$ 44.15			2.7	22
46 Room 211 46 Room 212A and 212B	5	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	SW	2808 2808		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.3	000	1,80		302	\$ 44.15	\$ 118.75	\$ 20	2.7	2.2
46 Room 212A and 212B 46 Room 212A and 212B			F42LL F42LL	60	0.7	SW	2808 2808	1,853 11	W 32 C F 2 (ELE)	F42LL	60	0.7	000	1,800	0 1,188	665	\$ 97.13	\$ 118.75	\$ 20	1.2	1.0
46 Room 212A and 212B	11	W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	1,853 11	W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1,80	0 1,188	665	\$ 97.13	\$ 118.75	\$ 20	1.2	1.0
46 Room 213 46 Room 213	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60	0.7	SW	2808		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.7	000	1,800						1.2	1.0
46 Room 213 46 Room 213	11	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60 60		SW	2808 2808	1,853 11	W 32 C F 2 (ELE)	F42LL	60	0.7	000	1,800	0 1,188	665	\$ 97.13	\$ 118.75	\$ 20	1.2	1.0
81 Room 213	3	S 34 C F 2	F42EE	72	0.2	SW	2808	607 3	S 28 C F 2	F42LL F42SSILL	60 48	0.1	000	1,80	0 259	347	\$ 56.44	\$ 463.00	\$ 50	1.2 8.2	7.3
46 Room 214 46 Room 214		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL		0.5	SW	2808			F42LL F42LL	60	0.5	000	1,80					\$ 20 \$ 20	1.7	1.4
46 Room 214 46 Room 214	8	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808 2808	1,348 8	W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	OCC	1,80	0 864	484	\$ 70.64	\$ 118.75		1.7	1.4
46 Room 215	7	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,179 7	W 32 C F 2 (ELE)	F42LL	60	0.4	000	1,80	0 756	423	\$ 61.81	\$ 118.75	\$ 20	1.9	1.4
46 Room 215 46 Room 215	7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL		0.4	SW	2808	1,179 7	W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	000	1,80					\$ 20	1.9 1.9	1.6
46 Room 215 46 Room 217		W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	SW	2808 2808	1,179 7		F42LL F42LL	60	0.4	000	1,80	0 756	423	\$ 61.81	\$ 118.75	\$ 20	1.9	1.6
46 Room 217 46 Room 217	8	W 32 C F 2 (ELE)	F42LL	60	0.5	SW	2808	1,348 8	W 32 C F 2 (ELE)	F42LL	60	0.5	000	1,80	0 864	484	\$ 70.64	\$ 118.75	\$ 20	1.7	1.4
46 Room 217	8	W 32 C F 2 (ELE)	F42LL	60	0.5	SW	2808			F42LL		0.5	000							1.7	1.

				EXISTING COND	HIUNS							RETROFIT CON	DITIONS						COST & SAVING	GS ANALYS	IS		
Area Description	Fixt	o. of ctures	Standard Fixture Code	NYSERDA Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual \$ Saved	Retrofit Cost	NJ Lighting	Payback With Out Incentive	k t Simple
Unique description of the location - Room nu name: Floor number (if applicable)	mber/Room No. of before	f fodures	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess.	Code from Table of Standard Fixture Wattages	Value from	(Watts/Fot)*	Pre-inst.	Estimated	(kW/space) *	No. of focures	"Lighting Fixture Code" Example	Code from Table of	Value from	(Watts/Fixt) *	Retrofit	Estimated	(kW/space)		(kW Saved) * (\$/kWh)	Cost for		Length of time	
name. Floor number (a approasse)	retrofit		Floor 2 lamps U shape	. Sardard Fixture Watages	Standard Fixture Wattages	(Fixt No.)	control device	annual hours for the usage group		after the retrofit	2T 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Standard Fidure Wattages	Table of Standard Fixture Wattages	(Number of Fixtures)	control device	annual hours for the usage group	* (Annual Hours)	(Retrofit Annual kWh)		renovations to lighting system		for renovations cost to be recovered	for ren cost to recove
Room 217		8	W 32 C F 2 (ELE)	F42LL	60	0.5	SW	2808	1710		W 32 C F 2 (ELE)	FARIL			000			40.1					+
Room 218a			W 32 C F 2 (ELE)	F42LL	60		SW	2808			W 32 C F 2 (ELE)	F42LL F42LL	60	0.5	000	1,800						4.5	_
Room 218a			W 32 C F 2 (ELE)	F42LL	60		SW	2808			W 32 C F 2 (ELE)	F42LL	60	0.2	000	1,800						4.5	-
Room 218a		3	W 32 C F 2 (ELE)	F42LL	60		SW	2808			W 32 C F 2 (ELE)	F42LL	60	0.2	000	1,800						4.5	
Room 218b			W 32 C F 2 (ELE)	F42LL	60	0.4	SW	2808	1,011	6	W 32 C F 2 (ELE)	F42LL	60	0.4	000	1,800						2.2	
Room 218b			W 32 C F 2 (ELE)	F42LL	60		SW	2808			W 32 C F 2 (ELE)	F42LL	60	0.4	OCC	1,800	648					2.2	
6 Room 218b			W 32 C F 2 (ELE)	F42LL	60		SW	2808			W 32 C F 2 (ELE)	F42LL	60	0.4	000	1,800		363	\$ 52.98	\$ 118.75	\$ 20	2.2	
Room 218b			W 32 C F 2 (ELE)	F42LL	60		SW	2808			W 32 C F 2 (ELE)	F42LL	60	0.4	000	1,800						2.2	
6 Room 218b 6 Room 218b			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60		SW	2808			W 32 C F 2 (ELE)	F42LL	60	0.4	OCC	1,800						2.2	-
Room 218b			W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808			W 32 C F 2 (ELE)	F42LL	60	0.4	000	1,800						2.2	
6 Room 218b			W 32 C F 2 (ELE)	F42LL F42LL	60		SW	2808			W 32 C F 2 (ELE) W 32 C F 2 (ELE)	F42LL	60	0.4	000	1,800						2.2	_
6 Rpom 218b			W 32 C F 2 (ELE)	F42LL	60		SW	2808			W 32 C F 2 (ELE)	F42LL F42LL	60	0.4	000	1,800						2.2	
Room 218b			W 32 C F 2 (ELE)	F42LL	60		SW	2808			W 32 C F 2 (ELE)	F42LL	60	0.4	000	1,800						22	+
0 Stairs between 214 and 215			W 32 C F 1	F41LL	32		SW	2808			W 32 C F 1	F41LL	32	0.1	None	2,808							_
Between 215 and 216		4	W 32 C F 2 (ELE)	F42LL	60		SW	2808			W 32 C F 2 (ELE)	F42LL	60	0.2	None	2,808						-	-
Between 215 and 216			W 32 C F 2 (ELE)	F42LL	60	0.7	SW	3744	2,471		W 32 C F 2 (ELE)	F42LL	60	0.7	OCC	1,800						0.6	
Stairs at 219		4	W 32 C F 1	F41LL	32	0.1	SW	3744	479	4	W 32 C F 1	F41LL	32	0.1	None	3,744				-			
6 Hallway			1T 32 R F 2 (ELE)	F42LL	60		SW	3744			1T 32 R F 2 (ELE)	F42LL	60	1.4	None	3,744	5,167			\$ -	s -		
1 Hallway			X 1.5 W LED	ELED1.5/1	1.5		Breaker	8760			X 1.5 W LED	ELED1.5/1	1.5	0.0	None	8,760	13	-	\$ -	\$ -	S -		
2 Hallway			XX 3.0 W CF 2	ELED1.5/2	3	0.0	Breaker	8760			XX 3.0 W CF 2	ELED1.5/2	3	0.0	None	8,760		-	\$ -	\$ -	\$ -		
6 Men's			W 32 C F 2 (ELE)	F42LL	60		SW	2080			W 32 C F 2 (ELE)	F42LL	60	0.2	None	2,080							
6 Women's Main Building - Exterior		3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2080	374	3	W 32 C F 2 (ELE)	F42LL	60	0.2	None	2,080	374	-	\$ -	\$ -	s -		_
Main Building - Extends 41 Old Wing		4	HPS 250	HPS250/1	295	1.2	Timer	2600	3.068	4	HPS 250	I IDOACAN										_	_
29 Outside			WP200 I 1	2001	290		Timer	2600			WP 42 1	HPS250/1 CF42/1-L	295 48	1.2	None	2,600				-		1.	_
87 New Wing - South Wing			WP 400 Po HPS	hps400/1	465		Timer	2600			WP 400 Pp HPS	hps400/1	465	0.4	None None	2,600			_		-		-
11 New Wing - South Wing			HPS 250	HPS250/1	295		Timer	2600			HPS 250	HPS250/1	295	0.3	None	2,600				-	-		+
9 New Wing - South Wing			WP200 I 1	1200/1	200	1.2	Timer	2600				CF42/1-L	48	0.3	None	2,600						1.5	_
11 Light Pole		9	HPS 250	HPS250/1	295	2.7	Timer	2600		9		HPS250/1	295	2.7	None	2,600						1.0	_
86 New - East Wall		1	MV 250	mv250/1	290	0.3	Timer	2600	754	1	MV 250	mv250/1	290	0.3	None	2,600			\$ -	s -	s -		
11 New - East Wall			HPS 250	HPS250/1	295		Timer	2600			HPS 250	HPS250/1	295	0.3	None	2,600				\$ -	s -		
86 New - North Wali			MV 250	mv250/1	290		Timer	2600			MV 250	mv250/1	290	0.6	None	2,600	1,508	-	\$ -	S -	\$ -		
29 New - North Wall			WP200 I 1	1200/1	200		Timer	2600			WP 42 1	CF42/1-L	48	0.1	None	2,600						1.5	
9 Board of Foyer			WP200 I 1	1200/1	200		Timer	2600			WP 42 1	CF42/1-L	48	0.1	None	2,600					\$ -	1.5	
86 New - West Wall 40 New - West Wall Flag Pole			MV 250 R 250 Q 1	mv250/1	290		Timer	2600			MV 250	mv250/1	290	1.5	None	2,600			*	*	*		_
16 New - West Wall Flag Pole			MV 250 WV 250	h250/1 mv250/1	250 290		Timer	2600			WP 42 1 MV 250	CF42/1-L	48	0.0	None	2,600						1.1	
9 New - West Wall Flag Pole			WP20011	1200/1	200		Timer	2600			WP 42 1	mv250/1 CF42/1-L	290	0.3	None	2,600				\$ -		1	-
6 Behind WT Room			MV 250	mv250/1	290	0.4	Timer	2600				mv250/1	290	0.1	None None	2,600						1.5	-
9 Behind WT Room			WP200 I 1	1200/1	200		Timer	2600			WP 42 1	CF42/1-L	48	0.0	None	2,600						1.5	+
Behind WT Room			SP 26 R CF 1	CFQ26/1-L	27		Timer	2600		1		CFQ26/1-L	27	0.0	None	2,600						1.0	+
6 Outside Pool		3	MV 250	mv250/1	290		Timer	2600		3		mv250/1	290	0.9	None	2,600				*	-	1	-
Outside Pool			I 100	1100/1	100		Timer	2600			CF 26	CFQ26/1-L	27	0.0	None	2,600				-		1.2	$\pm$
South Side - Shop Wing			HPS 250	HPS250/1	295		Timer	2600	5,369		HPS 250	HPS250/1	295	2.1	None	2,600							
I East Side			HPS 250	HPS250/1	295		Timer	2600			HPS 250	HPS250/1	295	0.6	None	2,600	1,534	-	\$ -	s -	\$ -		
1 North Side			HPS 250	HPS250/1	295		Timer	2600			HPS 250	HPS250/1	295	1.2	None	2,600							
9 South Side - Shop Wing			WP200   1	1200/1	200		Timer	2600			WP 42 1	CF42/1-L	48	0.4	None	2,600						1.5	
29 East Side			WP200 I 1	200/1	200		Timer	2600			WP 42 1	CF42/1-L	48	0.3	None	2,600						1.5	
9 North Side North Side			WP200 I 1 WP400MH1	i200/1 MH400/1	200 458	1.6 0.9	Timer	2600 2600			WP 42 1	CF42/1-L	48	0.4	None	2,600					-	1.5	
Total		,803	11: 100H11	MONUT	458		Timer	2600			WP400MH1	MH400/1	458	0.9	None	2,600			-	-	1 *	4	$\perp$
1041	- 2,	,003				214.9			616,522	2,803				189.6			441,139		\$ 27,621		9,975		
																		emand Savings	25.3	\$2,015			
																		kWh Savings	175,384	\$25,606			

8/24/20

### APPENDIX R

Photovoltaic (PV) Rooftop Solar Power Generation



Station Identification	ation
City:	Newark
State:	New_Jersey
Latitude:	40.70° N
Longitude:	74.17° W
Elevation:	9 m .
PV System Specifications	
DC Rating:	50.0 kW
DC to AC Derate Factor:	0.770
AC Rating:	38.5 kW
Array Type:	Fixed Tilt
Array Tilt:	40.7°
Array Azimuth:	180.0°
Energy Specifications	
Cost of Electricity:	14.0 ¢/kWh

	Res	sults	
Month	Solar Radiation (kWh/m²/day)	AC Energy (kWh)	Energy Value (\$)
1	3.36	4139	579.46
2	4.05	4469	625.66
3	4.58	5422	759.08
4	4.84	5299	741.86
5	5.30	5838	817.32
6	5.33	5506	770.84
7	5.27	5561	778.54
8	5.25	5503	770.42
9	5.06	5338	747.32
10	4.46	5027	703.78
11	3.15	3588	502.32
12	2.87	3460	484.40
Year	4.46	59150	8281.00

**Output Hourly Performance Data** 

\*

Output Results as Text

About the Hourly Performance Data

Saving Text from a Browser

Run  $\underline{PVWATTS}\ v.1$  for another US location or an International location Run  $\underline{PVWATTS}\ v.2$  (US only)

Please send questions and comments regarding PVWATTS to Webmaster

Disclaimer and copyright notice

×

Return to RReDC home page (http://rredc.nrel.gov)



# **Cautions for Interpreting the Results**

The monthly and yearly energy production are modeled using the PV system parameters you selected and weather data that are typical or representative of long-term averages. For reference, or comparison with local information, the solar radiation values modeled for the PV array are included in the performance results.

Because weather patterns vary from year-to-year, the values in the tables are better indicators of long-term performance than performance for a particular month or year. PV performance is largely proportional to the amount of solar radiation received, which may vary from the long-term average by  $\pm$  30% for monthly values and  $\pm$  10% for yearly values. How the solar radiation might vary for your location may be evaluated by examining the tables in the *Solar Radiation Data Manual for Flat-Plate and Concentrating Collectors* (http://rredc.nrel.gov/solar/old\_data/nsrdb/redbook/).

For these variations and the uncertainties associated with the weather data and the model used to model the PV performance, future months and years may be encountered where the actual PV performance is less than or greater than the values shown in the table. The variations may be as much as 40% for individual months and up to 20% for individual years. Compared to long-term performance over many years, the values in the table are accurate to within 10% to 12%.

If the default overall DC to AC derate factor is used, the energy values in the table will overestimate the actual energy production if nearby buildings, objects, or other PV modules and array structure shade the PV modules; if tracking mechanisms for one- and two-axis tracking systems do not keep the PV arrays at the optimum orientation with respect to the sun's position; if soiling or snow cover related losses exceed 5%; or if the system performance has degraded from new. (PV performance /pically degrades 1% per year.) If any of these situations exist, an overall DC to AC derate factor should be used with PVWATTS that was calculated using system specific component derate factors for *shading*, *sun-tracking*, *soiling*, and *age*.

The PV system size is the nameplate DC power rating. The energy production values in the table are valid only for crystalline silicon PV systems.

The cost savings are determined as the product of the number of kilowatt hours (kWh) and the cost of electricity per kWh. These cost savings occur if the owner uses all the electricity produced by the PV system, or if the owner has a net-metering agreement with the utility. With net-metering, the utility bills the owner for the net electricity consumed. When electricity flows from the utility to the owner, the meter spins forward. When electricity flows from the PV system to the utility, the meter spins backwards.

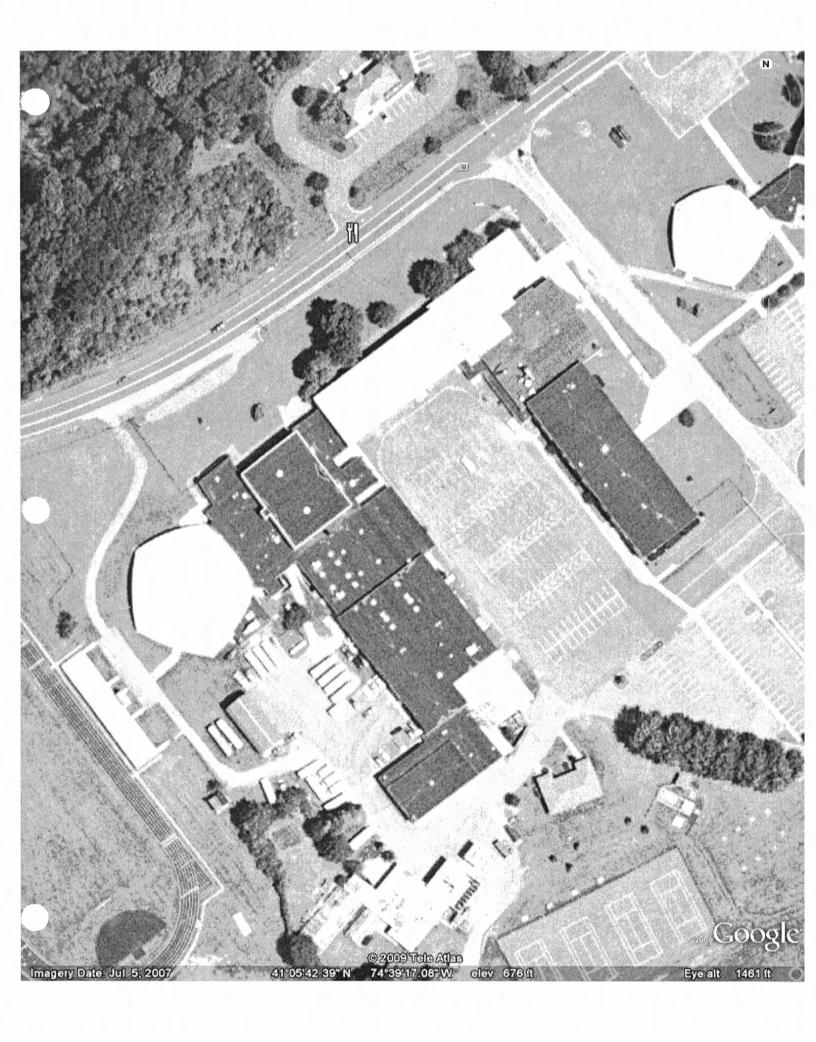
If net-metering isn't available and the PV system sends surplus electricity to the utility grid, the utility generally buys the electricity from the owner at a lower price than the owner pays the utility for electricity. In this case, the cost savings shown in the table should be reduced.

Besides the cost savings shown in the table, other benefits of PV systems include greater energy independence and a reduction in fossil fuel usage and air pollution. For commercial customers, additional cost savings may come from reducing demand charges. Homeowners can often include the cost of the PV system in their home mortgage as a way of accommodating the PV system's initial cost.

To accelerate the use of PV systems, many state and local governments offer financial incentives and programs. Go to http://www.nrel.gov/stateandlocal for more information.

Please send questions and comments to Webmaster

Disclaimer and copyright notice.



### APPENDIX S

Solar Thermal Domestic Hot Water Plant



Home

FAQs

### SOLAR WATER HEATING CALCULATOR

RENEWABLE ENERGY THE INFINITE POWER OF TEXAS

What Can I Do?

Electric Choice Home Energy

Water heating is a major energy consumer. Although the energy consumed daily is often less than for air conditioning or heating, it is required year round, making it a good application of solar energy.

Minter Macher Pharacteristics

LEARN Fact Sheets Lesson Plans Use this calculator to explore the energy usage of your water heater, and to estimate whether a solar water heater could save you money.

PLAY Calculators

NETWORK Organizations Businesses Events Calendar

BROWSE Resources Solar Wind Biomass Geothermal Water

**Projects** TX Energy -Past and Present

Financial Help

About Us About SECO

Home

What Can I Do? Electric Choice and Green Power
Renewable Energy
at Home
Frequently Asked
Questions

LEARN Fact Sheets Lesson Plans

PLAY Calculators

COMMUNICATE Ask an Expert

NETWORK Organizations Businesses Events Calendar

BROWSE Media Center Resources Solar Wind Biomass Geothermal Water etc. Projects
TX Energy - Past
and Present
Financial Help

Α	h	'n	ut.	ı	3	¢
500	м	ω	w.	۵.	c.	и

Physical		Thermal		
Piameter (feet)	3.5	? Water Inlet Temperature (Degrees F)	55	
P Capacity (gallons)	480	? Ambient Temperature (Degrees F)	70	
Surface Area (calculated - sq ft)	92.58	Phot Water Temperature (Degrees F)	135	
? Effective R-value	Effective R-value 50 Phot Water Usage (Gallons per Day)		675	
	Ene	ergy Use		
18470		Pleat Delivered in Hot Water (BTU/hr)		
120.4		P Heat loss through insulation (E	on (BTU/hr)	

	Gas vs. Electric Water Heating	
Gas		Electric
0.7948	[?] Overall Efficiency	0.9737
0.8	? Conversion Efficiency	0.98
23240 BTU/hr	Power Into Water Heater	18970 BTU/hr
	Cost	
\$1.2 /Therm	2 Utility Rates	\$0.14 /kWh
\$ 2442.988	[?] Yearly Water Heating Cost	\$ 6813.680
	How Does Solar Compare?	
Solar	Water Heater Cost: \$ 26490	Percentage Solar: 70
15.49039 years for gas	Payback Time for Solar System	5.553952years for electric

More information on solar water heating:

- Fact sheet Solar Water Heaters (requires Adobe Acrobat reader)
- Fact sheet Solar Water Heaters for Swimming Pools (requires Adobe Acrobat reader)
- Kids fact sheet Heat from the Sun (requires Adobe Acrobat reader)

NJBPU Energy Audits CHA#20151 Building: Sussex County Vocational School -

	0.99	1.22	1.09
Multipliers	Material	Labor	Equipment

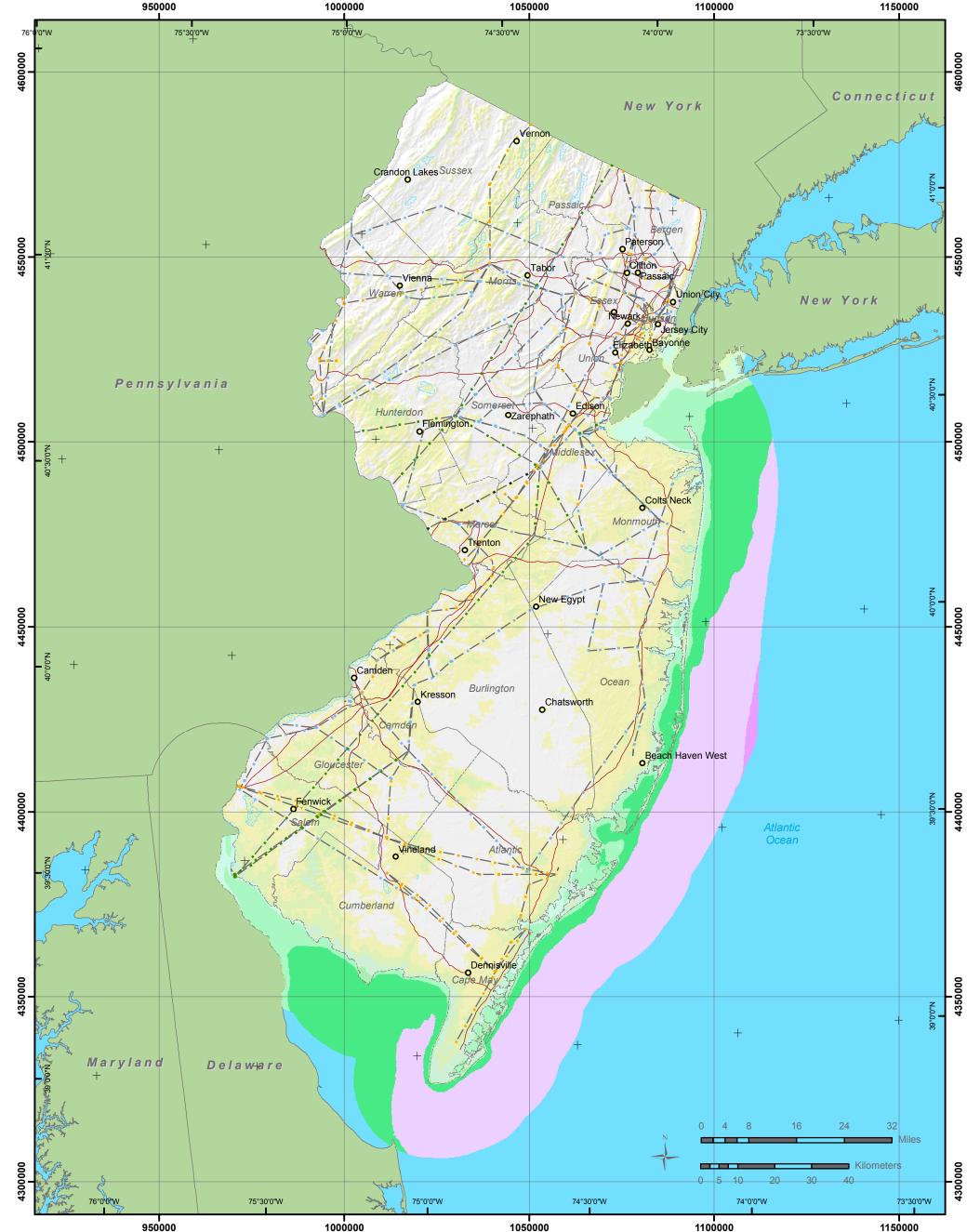
				10000000						
Building: Sussex County Vocational School - Main Building				Labor:	1.22					
				Equipment	1.09					
	VI.O.	TIMIT		UNIT COSTS			SUBTOTAL COSTS	STS	TOTAL	DEMADIVE
Description	5	ONI	MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.	COST	NEWARKS
Synergy Solar Thermal System	4	еа				s	. \$	- \$ 3,600 \$ 14,400	\$ 14,400	
Piping modifications	1	sl	\$ 3,000 \$	3,500		\$ 2,970 \$	0 \$ 4,270 \$		- \$ 7,240	
Electrical modifications	-	sl	\$ 1,000 \$	0001		\$ 99	990 \$ 1,220 \$		- \$ 2,210	
Building modifications	1	sl	\$ 1,500 \$	0 \$ 1,200		\$ 1,48	\$ 1,485 \$ 1,464 \$		- \$ 2,949	
120 GallonStorage Tanks	4	еа	\$ 450 \$	0 \$ 250		\$ 1,80	1,800 \$ 1,000 \$	s	\$ 2,800	
15 Gallon Drip Tank	4	еа	\$ 15	150 \$ 78		9 \$	600 \$ 312 \$	s	\$ 912	
						s	. 8 -	- 8 -	S	
	The latest designation of the latest designa	Marie Control of the					THE RESIDENCE OF THE PARTY OF T			

\$ 30,511	\$ 30,511 Subtotal
\$ 4,577	15% Contingency
\$ 4,577	15% Contractor O&P
\$ 6,102	20% Engineering
\$ 45,767 Total	Total

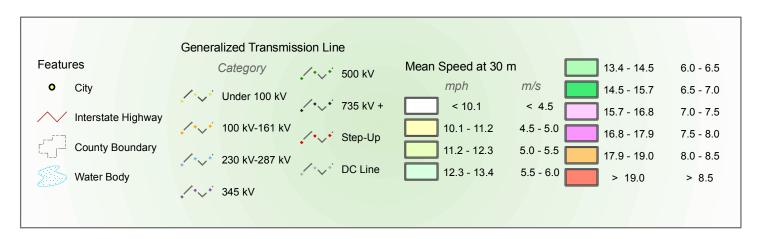
### APPENDIX T

Wind





Wind Resource of New Jersey Mean Annual Wind Speed at 30 Meters





Projection: Tranverse Mercator, UTM Zone 17 WGS84

Spatial Resolution of Wind Resource Data: 200m
This map was created by AWS Truewind using
the MesoMap system and historical weather data.
Although it is believed to represent an accurate
overall picture of the wind energy resource,
estimates at any location should be confirmed by
measurement.

The transmission line information was obtained by AWS Truewind from the Global Energy Decisions Velocity Suite. AWS does not warrant the accuracy of the transmission line information.

### APPENDIX U

EPA Portfolio Manager



### STATEMENT OF ENERGY PERFORMANCE Main and Agricultural Building

**Building ID: 1800470** 

For 12-month Period Ending: May 31, 20091

Date SEP becomes ineligible: N/A

Date SEP Generated: August 07, 2009

Facility

Main and Agricultural Building 105 North Church Road Sparta, NJ 07871

**Facility Owner** 

Sussex County Technical School 105 North Church Road Sparta, NJ 07871

Primary Contact for this Facility

Russ Masker 105 North Church Road Sparta, NJ 07871

Year Built: 1968

Gross Floor Area (ft2): 166,111

Energy Performance Rating<sup>2</sup> (1-100) 24

Site Energy Use Summary<sup>3</sup>

Propane (kBtu) 1,847,812 Fuel Oil (No. 2) (kBtu) 10,581,241 Electricity (kBtu) 6,449,807 Natural Gas (kBtu)4 Total Energy (kBtu) 18,878,860

Energy Intensity<sup>5</sup>

Site (kBtu/ft²/yr) 114 Source (kBtu/ft²/yr) 205

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO2e/year) 1,949

**Electric Distribution Utility** 

Jersey Central Power & Lt Co

**National Average Comparison** 

National Average Site EUI 90 National Average Source EUI 163 % Difference from National Average Source EUI 26% **Building Type** K-12 School Stamp of Certifying Professional

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

### Meets Industry Standards<sup>6</sup> for Indoor Environmental Conditions:

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

Certifying Professional N/A

- 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.
- 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.
- 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.

The government estimates the average time needed to fill out this form is 6 hours (includes the time for entering energy data, PE facility inspection, and notarizing the SEP) and welcomes suggestions for reducing this level of effort. Send comments (referencing OMB control number) to the Director, Collection Strategies Division, U.S., EPA (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460.

# 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	$\Box$
Building Name	Main and Agricultural Building	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		
Type	K-12 School	Is this an accurate description of the space in question?	***************************************	
Location	105 North Church Road , Sparta, NJ 07871	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building		
Main Building (K-12 So	chool)	IST CHEET AND THE		
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	$\overline{\mathbf{Q}}$
Gross Floor Area	155,732 Sq. Ft.	Does this square footage include all supporting functions such as kitchens and break rooms used by staff, storage areas, administrative areas, elevators, stairwells, atria, vent shafts, etc. Also note that existing atriums should only include the base floor area that it occupies. Interstitial (plenum) space between floors should not be included in the total. Finally gross floor area is not the same as leasable space. Leasable space is a subset of gross floor area.		
Open Weekends?	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.	namantanan inanahkaran kirahih a ahamanan inanahan karahan aktira aktira aktira aktira aktira aktira aktira ak	
Number of PCs	375	Is this the number of personal computers in the K12 School?	k karak makila ini dikila dikimalia makila unu kilayi da hai mali fami dikimani kanta sida kanke an maina	
Number of walk-in refrigeration/freezer units	1	Is this the total number of commercial walk-in type freezers and coolers? These units are typically found in storage and receiving areas.	Aces Marie Marie Marie Marie Andrew (Andrew Marie Mari	
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".	ana, automik ilimiliimihimik vuodusmas kaikin kinduskaiskai kaida	montantanin laine angacop   a ceramenamia mainin   a ceramenamia mai
Percent Cooled	10 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?	uran marini mangani kata Masan malamah kata kata a salah	
Percent Heated	100 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?	***************************************	

Months	11 (Optional)	Is this school in operation for at least 8 months of the year?		
High School?	Yes	Is this building a high school (teaching grades 10, 11, and/or 12)? If the building teaches to high school students at all, the user should check 'yes' to 'high school'. For example, if the school teaches to grades K-12 (elementary/middle and high school), the user should check 'yes' to 'high school'.		Security Control of Co
Agricultural Building (	Other)			
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	V
Gross Floor Area	10,379 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.		
Number of PCs	N/A(Optional)	Is this the number of personal computers in the space?		
Weekly operating hours	N/A(Optional)	Is this the total number of hours per week that the space is 75% occupied? This number should exclude hours when the facility is occupied only by maintenance, security, or other support personnel. For facilities with a schedule that varies during the year, "operating hours/week" refers to the total weekly hours for the schedule most often followed.		
Workers on Main Shift	N/A(Optional)	Is this the number of employees present during the main shift? Note this is not the total number of employees or visitors who are in a building during an entire 24 hour period. For example, if there are two daily 8 hour shifts of 100 workers each, the Workers on Main Shift value is 100.		

# ENERGY STAR® Data Checklist for Commercial Buildings

#### Energy Consumption

Power Generation Plant or Distribution Utility: Jersey Central Power & Lt Co

Me	eter: Electric (kWh (thousand Watt-hours Space(s): Entire Facility	3))
Start Date	End Date	Energy Use (kWh (thousand Watt-hours)
04/24/2009	05/28/2009	157,800.00
03/24/2009	04/23/2009	164,800.00
02/24/2009	03/23/2009	167,600.00
01/23/2009	02/23/2009	200,000.00
12/24/2008	01/22/2009	177,200.00
11/22/2008	12/23/2008	199,600.00
10/22/2008	11/21/2008	186,400.00
09/23/2008	10/21/2008	154,400.00
08/22/2008	09/22/2008	125,200.00
07/24/2008	08/21/2008	118,000.00
06/24/2008	07/23/2008	134,400.00
Electric Consumption (kWh (thousand Watt-h	ours))	1,785,400.00
Electric Consumption (kBtu)		6,091,784.80
Total Electricity Consumption (kBtu)		6,091,784.80
s this the total Electricity consumption at this	s building including all Electricity meters?	

	Meter: Oil - Main Building (Gallons) Space(s): Main Building	
Start Date	End Date	Energy Use (Gallons)
04/02/2009	05/01/2009	0.00
03/02/2009	04/01/2009	. 0.00
02/02/2009	03/01/2009	8,044.00
01/02/2009	02/01/2009	13,526.00
12/02/2008	01/01/2009	9,101.00
11/02/2008	12/01/2008	12,702.00
10/02/2008	11/01/2008	4,800.00
09/02/2008	10/01/2008	4,815.00
08/02/2008	09/01/2008	0.00
07/02/2008	08/01/2008	4,433.40

06/02/2008	07/01/2008	0.00
Oil - Main Building Consumption (Gallons)		57,421.40
Oil - Main Building Consumption (kBtu)		8,038,984.52
	Meter: Oil - Agricultural Building (Gallons) Space(s): Agricultural Building	Andrein de Referencia de Aprilia de Anticoneiro de Anticoneiro de Companyo de
Start Date	End Date	Energy Use (Gallons)
05/01/2009	05/31/2009	0.00
04/01/2009	04/30/2009	0.00
03/01/2009	03/31/2009	0.00
02/01/2009	02/28/2009	2,018.00
01/01/2009	01/31/2009	7,072.00
12/01/2008	12/31/2008	3,932.00
11/01/2008	11/30/2008	1,237.00
10/01/2008	10/31/2008	1,500.00
09/01/2008	09/30/2008	0.00
08/01/2008	08/31/2008	2,400.00
07/01/2008	07/31/2008	0.00
06/01/2008	06/30/2008	0.00
Oil - Agricultural Building Consumption (Gall	lons)	18,159.00
Oil - Agricultural Building Consumption (kBt	u)	2,542,256.37
Total Fuel Oil (No. 2) Consumption (kBtu)		10,581,240.88
ls this the total Fuel Oil (No. 2) consumption meters?	at this building including all Fuel Oil (No. 2)	

Meter: F	Propane - Kitchen, Pool and Generator Space(s): Main Building	(Gallons)
Start Date	End Date	Energy Use (Gallons)
05/01/2009	05/31/2009	1,401.00
04/01/2009	04/30/2009	2,260.71
03/01/2009	03/31/2009	4,607.80
02/01/2009	02/28/2009	867.50
01/01/2009	01/31/2009	2,848.70
12/01/2008	12/31/2008	1,109.30
11/01/2008	11/30/2008	2,519.70
10/01/2008	10/31/2008	1,770.00
09/01/2008	09/30/2008	854.20
08/01/2008	08/31/2008	765.60
07/01/2008	07/31/2008	692.00
06/01/2008	06/30/2008	833.50
ropane - Kitchen, Pool and Generator Consu	mption (Gallons)	20,530.01
ropane - Kitchen, Pool and Generator Consu	mption (kBtu)	1,847,811.76
otal Propane Consumption (kBtu)		1,847,811.76

Is this the total Propane consumption at this	building including all Propane meters?	
Additional Fuels		
Do the fuel consumption totals shown above repr Please confirm there are no additional fuels (distr		And Annahous are self-record from the final delay of Annahous are self-record and annahous are self-record annahous are se
Certifying Professional		
	st be the same PE that signed and stamped the SEP.)	
Name:	Date:	
Signature:		

### 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** Main and Agricultural Building 105 North Church Road Sparta, NJ 07871

**Facility Owner** Sussex County Technical School 105 North Church Road Sparta, NJ 07871

**Primary Contact for this Facility** Russ Masker 105 North Church Road Sparta, NJ 07871

#### **General Information**

Main and Agricultural Building	
Gross Floor Area Excluding Parking: (ft²)	166,111
Year Built	1968
For 12-month Evaluation Period Ending Date:	May 31, 2009

Facility Space Use Summary

Main Building		Agricultural Bu	ilding
Space Type	K-12 School	Space Type	Other - Other
Gross Floor Area(ft²)	155,732	Gross Floor Area(ft²)	10,379
Open Weekends?	Yes	Number of PCs°	N/A
Number of PCs	375	Weekly operating hours	N/A
Number of walk-in refrigeration/freezer units	1	Workers on Main Shift®	N/A
Presence of cooking facilities	Yes	W.	
Percent Cooled	10	*	
Percent Heated	100		
Months <sup>o</sup>	11	100	
High School?	Yes	*	
School District <sup>o</sup>	N/A		

**Energy Performance Comparison** 

	Evaluation	n Periods		Compariso	ons
Performance Metrics	Current (Ending Date 05/31/2009)	Baseline (Ending Date 06/30/2008)	Rating of 75	Target	National Average
Energy Performance Rating	24	26	75	N/A	50
Energy Intensity					
Site (kBtu/ft²)	114	108	70	N/A	90
Source (kBtu/ft²)	205	202	127	N/A	163
Energy Cost					
\$/year	\$ 604,213.69	\$ 537,714.96	\$ 374,171.22	N/A	\$ 478,479.82
\$/ft²/year	\$ 3.64	\$ 3.24	\$ 2.25	N/A	\$ 2.88
Greenhouse Gas Emissions					
MtCO <sub>2</sub> e/year	1,949	1,884	1,207	N/A	1,543
kgCO <sub>2</sub> e/ft²/year	12	11	7	N/A	10

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

o - This attribute is optional.

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

## APPENDIX V

**Equipment Inventory** 

New Jersey BPU Energy Audit Program CHA #20151 Sussex County Technical School Main Building

	Manufacturer						Useable Life	
Description	Name	Model No.	Equipment Type	Capacity/Size	Location	Date Installed	Expectancy	Other Info.
Boiler #1	Cleaver Brooks	(S/N L-50266)	Package Boiler	5.23 MMBtu/hr (input) 375 aph fuel oil	Boiler Room	1970		Constant speed pump     Honeywell building controls
Boiler #2	Cleaver Brooks	CB810-125 (S/N I -42735)	Package Boiler	5.23 MMBtu/hr (input) 375 aph fuel oil	Boiler Room	1967		- Constant speed pump - Honewwell building controls
Boiler #3	Cleaver Brooks	CB810-125 (S/N I -42734)	Package Boiler	5.23 MMBtu/hr (input) 375 oph fuel oil	Boiler Room	1989		- Constant speed pump - Honewwell building controls
Main Heat Loop Circulator Pumps (3)	B&G	Size 1531	Circulator Pumps	15 HP, 3 Phase, 208 volts	Boiler Room	Various		For CB boilers
Pool Boiler	Bryan	F650-WP-G1 (S/N 81616)	Pool Heater	Input - 650/325 MBH, output - 520 MBH Propane - max input: 260 CFH, max output: 130 CFH	Pool Mech Room	1998		Propane fired with circulator pump
Pool Heat Loop Circulator Pump	Aurora	344BF	Circulator Pump		Pool Mech Room			For pool boiler
Pool Filter Pump					Pool Mech Room			
Well Pump								Controlled by pressure switch
Compressor #1	Ingersol-Rand		Air Compressor		Boiler Room			Serving Shop Wing
Compressor #2	Speedaire	4ME98	Air Compressor	5 HP	Boiler Room			Serving Pneumatics
Diesel Shop Compressor				10 Hp motor	Diesel Shop			In corner of Diesel Shop
Water Heater #1	Slant/Fin	Liberty L-60-P	Domestic Hot Water Boiler	364 Btu/hr (input) 2.6 gpg oil	Boiler Room			Water Temp. @ 170 °F Water Pressure @ 20 psi
Water Heater #2	Slant/Fin	Liberty L-60-P	Domestic Hot Water Boiler	364 Btu/hr (input) 2.6 gpg oil	Boiler Room			Water Temp. @ 140 °F Water Pressure @ 15 psi
Emergency Generator	Cummins	DGFA-5690529 (S/N H 040685664)	Emergency Generator	150 kW				Diesel
Heat Exchanger	Exothermics- Eclipse, Inc.	Model 4000AL S/N 797432A	Energy Recovery System	Exhaust Fan 3-Hp 81.5%				- Doesn't work - Drawings show 2 units, 3000 CFM each, 70% EFF min Exhaust blower 6,000 CFM, 3 HP.
R.T.#1	Lennox		Package Rooftop Unit		Library			Programable Thermostat AC set to 67 degrees
R.T.#2	Lennox		Package Rooftop Unit		Library			Programable Thermostat AC set to 67 degrees
R.T.#3	Lennox		Package Rooftop Unit		Board Office			Has electric heat capability
R.T.#4	Lennox		Package Rooftop Unit		Accounting			Has electric heat capability
R.T.#5	Lennox	CHA16-653-54	Package Rooftop Unit	3/4 Hp blower	Main Office	May-94		
R.T.#6	Lennox	LCA120SN1Y	Package Rooftop Unit	3/4 Hp blower	Rm#145			CADD Room 1 compressor, R22, economizer
R.T.#7	Lennox	LCA120SN1Y	Package Rooftop Unit	3/4 Hp blower	Rm#144			Graphic Arts Room 1 compressor, R22, economizer

New Jersey BPU Energy Audit Program CHA #20151 Sussex County Technical School Main Building

	Manufacturer						Useable Life	
Description	Name	Model No.	Equipment Type	Capacity/Size	Location	Date Installed	Expectancy	Other Info.
R.T.#8	Lennox	LCA180SN1Y	Package Rooftop Unit	3 Hp blower	Rm#136			Science Room 3 compressors, R22
R.T.#9	Dectron		Pool Dehumidifier and Heat Unit	> 5tons	Pool	1969		
R.T.#10	Lennox	CHA15-653-3Y (S/N 5488J01944)	Central Cooling Air Conditioner Indoor Blower: 3/4 Hp Outdoor Fan: 1/4 Hp	Indoor Blower: 3/4 Hp Outdoor Fan: 1/4 Hp	Kitchen Roof			R22: 9 lb, 4 oz (SHUTDOWN?)
R.T.#11	Trane	TCD181C30ACA (S/N 531101531D)			Bake Shop	Aug-05		2 compressors (Broken)
Split System AC	Trane	TTA120B300BA	Condensing Unit		Bakery	Jun-94		2 compressors (R22) Programable Thermostat
HVAC	Trane	Climate Changer K115250	HVAC Unit		Main Office and Guidance			R12
HVAC	York	K4E0090A33A (N0E7793)	HVAC Unit		Weight Room	2007		Can also heat, no baseboard heating in room.
HVAC	AAF	H2060HVZA (S/N 470396-01)	HVAC Unit		Above Walkin Refrigerator			
HVAC	Air Flow	CCT-8A20-UD (S/N 016HB068)	HVAC Unit		Rm#143			Liebert Cabinet AC
HVAC			HVAC Unit		Diesel Shop (in tool room)			Not operational during audit
Split System AC	Fujitsu		Package Rooftop Unit		Rm#213			
Split System AC	Fujitsu		Package Rooftop Unit		Rm#215			
Split System AC	Fujitsu?		Package Rooftop Unit		Rm#217			
Split System AC	Fujitsu	ADU30CLX (S/N DEN00764)	Condensing Unit	30,300 Btu/hr	End of New Wing (Rm#117)			R410A
Split System AC	EMI	DF011D0AAUA	Condensing Unit		Front of Building, Rm#102			R22
Split System AC	Lennox	11524-411-1P	Condensing Unit		Faculty Break Rm#126	Apr-92		Uses R22
Split System AC	Lennox	LSA0906-14 (S/N 5698J01242)	Condensing Unit		Cosmotology Rm#127			1 compressor, uses R22
Air Handler	Trane	BTA090300M8			Cosmo Rm#111	Jul-88		
Air Handler	Trane	SUW-503A (S/N OF12373)	Standalone Air Handler		Staff Dining Room			
R.T. Heat Unit #1		120-BHW-4-A (S/N 971234669)		1.5 Hp	Gym	Dec-97		Gym heating through walls
R.T. Heat Unit #2		120-BHW-4-A (S/N 971234670)		1.5 Hp	Gym	Dec-97		Gym heating through walls
Window AC Units (4)	Various	Various	Window AC	Various	Various			
56" Ceiling Fans (4)	Grainger	4C855A	Ceiling Fan		Gym			
Exhaust Fans #1-5			Roof Exhaust Fans		Kitchen and Cafeteria			2 of 5 were operating
Exhaust Fans #6-11			Roof Exhaust Fans		2nd floor of Old Wing			3 of 6 were operating
Exhaust Fans #12-18			Roof Exhaust Fans		Gym and Shop			4 of 7 were operating

New Jersey BPU Energy Audit Program CHA #20151 Sussex County Technical School Main Building

Description	Manufacturer	Model No	Fariipment Type	Capacity/Size	Location	Date Installed	Useable Life Expectancy	Other Info.
Lo ori	2		odf: moundinha	o de la companya de l	1		formandu-	
Exhaust Fans #19-25			Roof Exhaust Fans		Gym boys/girls rooms			5 of / were operating
Exhaust Fans #26-34			Roof Exhaust Fans		Shop wing			5 of 9 were operating
Exhaust Fans #39-54			Roof Exhaust Fans		Roof			
Exhaust Fan	Dayton	6K123BA	Roof Exhaust Fan		Pool			
Exhaust Fan			Roof Exhaust Fan		New Wing			
Exhaust Fan			Roof Exhaust Fan		Boys and Girls			
Exhalist Fan 1A			Roof Exhalist Fan		Bake Shon			
Dust Collector			Dust Collector		Carpentry Shop			
Unit Heater	Davton		Overhead Door Heater		Rm#136			Small electric unit
Unit Heater	Nesbitt		Ceiling Heater		Girls avm locker			
Unit Heater			Ceiling Heater		Room 141			For classroom inside Diesel
			0					Shop
Unit Heaters (4)			Ceiling Heater		Room 141			- Diesel Shop. Tied into
								boilers.
								- 3 on durin visit, 1 broken & to
								be repaired.
								- Fans work for circulation.
Unit Heaters (6)			Ceiling Heater		Room 142			Autoshop
K.H.#1			Kitchen Hood		Kitchen Fryer			4' x 9.5'
K.H.#2			Kitchen Hood		Culinary Range			4'×7'
K.H.#3			Kitchen Hood		Center Island			10' x 7'
K.H.#4			Kitchen Hood		Covection Ovens			14'×4'
K.H.#5			Kitchen Hood		Stove Bake Shop			3'x8'
K.H.#6			Kitchen Hood		Staff Kitchen			3' x 15.5'
Walk-in Refrigerator and Various	Various	Various	Refrigerator and Freezer Units	Various	Kitchen, Bake Va	Various		
Freezer Units					Shop and Staff			
					Dining			
Gas fired boiler Super Steamer	Vulcan-Hart	VHL2E			Kitchen			6 psi pressure steam cooker, 35 watts
Steamer	Southbend	ECX-6S (S/N 42258-80-3870)			Kitchen			
Hot water tank			Hot water tank	50 gallons, 208 volt, 12 kW	Kitchen			
Dishwasher hot water			ot water booster	54 kW	Kitchen			
booster								
Ice Machine	ICE-O-MATIC				Kitchen			
Kettle	Vulcan-Hart	Velt-40			Kitchen			
Refrigerator (2)			Vitamin water		Kitchen			
Vending			Dasani water (sm)		Kitchen			Not used
Vending			Icecream		Cafeteria			
Vending			Coffee		Cafeteria			
Vending			Snacks		Cafeteria			
Vending			Dasani water (Ig)		Cafeteria	,		
Vending			Snapple		Cafeteria			
Refrigerator			Snapple (sm)		Staff Dining			

New Jersey BPU Energy Audit Program CHA #20151 Sussex County Technical School Main Building

	Manufacturer						Useable Life	
Description	Name	Model No.	Equipment Type	Capacity/Size	Location	Date Installed	Date Installed Expectancy Other Info.	Other Info.
Refrigerator			Cashier's Display		Staff Dining			
Gas fired dryers (2)					Laundry Room			
Washing Machine #1			Large laundry washing		Laundry Room			
			machine					
Washing Machine #2			Small laundry washing					
			machine					
Educational Shop	Various	Various	Auto lifts, welders, wood shop Various	Various	Various	Various		
Equipment			equipment, autoshop					
			equipment and compressors					

Energy Audit of Sussex County Technical School Facilities CHA Project No. 20151 Main Building Existing Lighting

Accordance   Acc						\$6.63	\$6.63 \$/kW					
Protection   Pro					EXISTING	CONDITIO	NS					
Name of the part of parts		Area Description	No. of Fixtures	Standard Fixture Code		Watts per Fixture	kWiSpace	Exist Control	Annual	Retrofit	Annual	
Main Building   Mainted   Mainted	p @	Unique description of the location - Room number(Room name: Floor number (if applicable)	No. of fixtures before the retrofit		Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture	(Watts/Fixt)* (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group		(kW/space)* (Annual Hours)	Notes
None 100         1         2<	$\top$	fain Building - Interior				O Property						
No. 10.10.10.10.10.10.10.10.10.10.10.10.10.1		30om 100	2	2T 17 R F 4 (ELE)	F22ILL	33	0.1	SW	2808	200	185	
		Soom 100	4	2T 17 R F 4 (ELE)	F22ILL	33	0.1	SW	2808	None	371	
	$\neg$	Soom 100	4	2T 17 R F 4 (ELE)	F22ILL	33	0.1	SW	2808	000	371	
Room 101   Color   C	Т	Soom 100	3	2T 17 R F 4 (ELE)	F22ILL	33	0.1	SW	2808	200	278	
Decay 10, 10, 10, 10, 10, 10, 10, 10, 10, 10,		coom 100	- 0	W 32 C F 2 (ELE)	F42LL	09	1.0	SW	2808	None	168	
Name   1   Name   2   Name   2		Soom 100		N 32 C F 2 (ELE)	F42LL	90		SW	2808	38	1 248	
2         NY PORT PREMISE         FF20LL         670         SSW         2000         OCC           4         W 20C FG ELE         FF20LL         60         0.2         SW         2000         NAME           4         W 20C FG ELE         FF20LL         60         0.2         SW         2000         NAME           4         W 20C FG ELE         FF20LL         60         0.2         SW         2000         NAME           4         W 20C FG ELE         FF20LL         60         0.2         SW         2000         NAME           4         W 20C FG ELE         FF20LL         60         0.2         SW         2000         NAME           4         W 20C FG ELE         FF20LL         60         0.2         SW         2000         NAME           4         X 17 KF 4 ELE         FF20LL         60         0.2         SW         2000         NAME           6         W 20 CF ELE         FF20LL         60         0.5         SW         2000         NAME           1         W 20 CF ELE         FF20LL         60         0.5         SW         2000         NAME           1         W 20 CF ELE         FF20LL <td< td=""><td>+</td><td>toom 101</td><td></td><td>W32 C F 2 (FI F)</td><td>F4211</td><td>8 6</td><td>200</td><td>WS.</td><td>2808</td><td>800</td><td>337</td><td></td></td<>	+	toom 101		W32 C F 2 (FI F)	F4211	8 6	200	WS.	2808	800	337	
4         WAGE CF2 (ELE)         F42LL         60         0.2         SW         2060         None           4         WAGE CF2 (ELE)         F42LL         60         0.2         SW         2060         None           4         WAGE CF2 (ELE)         F42LL         60         0.2         SW         2060         None           4         WAGE CF2 (ELE)         F42LL         60         0.2         SW         2060         None           4         WAGE CF2 (ELE)         F72LL         80         0.1         SW         2060         None           4         WAGE CF2 (ELE)         F72LL         80         0.1         SW         2060         None           4         ZYTAR F4 (ELE)         F72LL         80         0.1         SW         2060         COCC           6         WAGE CF (ELE)         F72LL         80         0.1         SW         2060         COCC           1         WAGE CF (ELE)         F72LL         80         0.1         SW         2060         None           1         WAGE CF (ELE)         F72LL         80         0.1         SW         2060         None           1         WAGE CF (ELE)	+	Soom 101		27 17 R F 4 (ELE)	F22ILL	33	0.1	SW	2808	2000	185	
4         W 20 C C 2 (ELE)         F42LL         60         0.2         SW         Debt           4         W 30 C C 2 (ELE)         F42LL         60         0.2         SW         2006         NA           4         W 30 C C 2 (ELE)         F42LL         60         0.2         SW         2006         NA           4         W 30 C C 2 (ELE)         F42LL         60         0.2         SW         2006         NA           4         M 30 C C 2 (ELE)         F42LL         60         0.2         SW         2006         NA           6         M 30 C C 2 (ELE)         F42LL         60         0.3         SW         2006         NA           6         W 30 C C 2 (ELE)         F42LL         60         0.3         SW         2006         NA           9         W 30 C C 2 (ELE)         F42LL         60         0.3         SW         2006         NA           1         W 30 C C 2 (ELE)         F42LL         60         0.3         SW         2006         NA           1         W 30 C C 2 (ELE)         F42LL         60         0.3         SW         2006         NA           1         W 30 C C 2 (ELE)         F42LL	14	Soom 101		W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2808	None	202	
4         W 20 C F 2 (ELE)         F 721.1         60         0.2         SW         200         None           4         W 20 C F 2 (ELE)         F 721.1         30         0.2         SW         2260         None           4         W 32 C F 2 (ELE)         F 721.1         30         0.1         SW         2260         None           4         W 32 C F 2 (ELE)         F 721.1         30         0.1         SW         2260         None           6         W 32 C F 2 (ELE)         F 721.1         30         0.1         SW         2260         COCC           6         W 32 C F 2 (ELE)         F 721.1         30         0.1         SW         2260         COCC           9         W 32 C F 2 (ELE)         F 721.1         60         0.1         SW         2260         None           1         W 32 C F 2 (ELE)         F 721.1         60         0.1         SW         2260         None           2         2 71 76 F 4 (ELE)         F 721.1         60         0.7         SW         2260         None           3         3 W 20 C F 2 (ELE)         F 721.1         80         0.1         SW         200         None           4	t.E.	300m 101		W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2808	None	674	
4         W 32 OF F2 (ELE)         F4211         60         0.2         SW         2808         NAME           4         W 32 OF F2 (ELE)         F4211         33         0.1         SW         2808         NAME           4         Z 17 VR F4 (ELE)         F7211         33         0.1         SW         2808         C-OCC           4.5         Z 17 VR F4 (ELE)         F7211         33         0.1         SW         2808         C-OCC           9.         W 32 OF 2 (ELE)         F7211         33         0.1         SW         2808         C-OCC           9.         W 32 OF 2 (ELE)         F7211         0.0         0.3         SW         2808         C-OCC           1.0         W 32 OF 2 (ELE)         F7211         0.0         0.3         SW         2808         C-OCC           1.0         W 32 OF 2 (ELE)         F7211         0.0         0.3         SW         2808         C-OCC           1.0         W 32 OF 2 (ELE)         F7211         0.0         0.3         SW         2808         C-OCC           1.0         W 32 OF 2 (ELE)         F7211         0.0         0.3         SW         2808         C-OCC           1.0<	15	30om 102		W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2808	None	674	
4         NY TATE FREE         F7211         30         0.2         SW         2006           4         A TY TATE FREE         F7211         33         0.1         SW         2006         COCC           4         A TY TATE FREE         F7211         33         0.1         SW         2008         COCC           4         A TY TATE FREE         F7211         33         0.1         SW         2008         COCC           6         W 20 FF ELE         F7211         33         0.1         SW         2008         COCC           6         W 20 FF ELE         F7211         80         0.5         SW         2008         COCC           1         W 20 FF ELE         F7211         80         0.5         SW         2009         COCC           8         W 30 FF ELE         F7211         80         0.7         SW         2009         COCC           1         W 30 FF ELE         F7211         80         0.7         SW         2009         COCC           2         A 70 FF ELE         F7211         80         0.7         SW         2009         No           3         W 30 FF ELE         F7211         80	-	Soom 102		W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2808	None	674	
4         271 N R F GLE)         727LL         35         011         SW         2000         COCC           64         271 N R F GLE)         727LL         33         0.13         SW         2000         COCC           64         271 N R F GLE)         F72LL         33         0.13         SW         2000         COCC           64         271 N R F GLE)         F72LL         60         0.04         SW         2000         COCC           6         ALONGO CE GLE)         F72LL         60         0.05         SW         2000         COCC           1         WEG CE GLE)         F72LL         60         0.05         SW         2000         COCC           2         ALA CALLE         F72LL         60         0.05         SW         2000         None           3         ALONGO CE GLE)         F72LL         60         0.05         SW         2000         None           4         WEG CE GLE)         F72LL         60         0.05         SW         2000         None           1         WEG CE GLE)         F72LL         60         0.07         SW         2000         None           2         ALONGO CE GLE)	+	Soom 102		W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2808	None	674	
4   27   17   18   12   17   18   12   18   18   18   18   18   18	+	ibrary		21 17 R F 4 (ELE)	FZZILL	33	0.1	SW	2808	2000	3/1	
44         CTATURAL PARTER         FAZILL         33         L1         SW         COCC           6         W 20C F F ELE         FAZIL         60         0.5         SW         2000         COCC           9         W 32C F F ELE         FAZIL         60         0.5         SW         2000         COCC           9         W 32C F Z ELE         FAZIL         60         0.5         SW         2000         None           1         W 32C F Z ELE         FAZIL         60         0.5         SW         2000         None           1         W 32C F Z ELE         FAZIL         60         0.5         SW         2000         None           2         Z 17 N F K 4 ELE         FAZIL         60         0.7         SW         2000         None           1         W 32C F Z ELE         FAZIL         60         0.7         SW         2000         None           2         Z 17 N F K 4 ELE         FAZIL         60         0.7         SW         2000         None           1         W 32C F Z ELE         FAZIL         60         0.7         SW         2000         None           2         Z 17 N F A ELE         FAZIL	=+	ibrary		27 17 R F 4 (ELE)	F22ILL	33	0.1	SW	2808	2002	37.1	
6         M. M. S. C. C. Z. ELE.         FAZIL         60         0.13         S.M.         COCC           8         M. M. S. C. C. Z. ELE.         FAZIL         60         0.5         S.M.         2000         NAME           9         M. M. S. C. C. Z. ELE.         FAZIL         60         0.5         S.M.         2000         NAME           1         M. M. S. C. C. Z. ELE.         FAZIL         60         0.5         S.M.         2000         NAME           2         J. T. M. R. A. ELE.         FAZIL         60         0.1         Bhankey         8000         NAME           2         J. T. M. R. A. ELE.         FAZIL         60         0.7         S.W.         2000         NAME           3         M. W. S. C. C. P. ELE.         FAZIL         60         0.7         S.W.         2000         NAME           4         M. W. S. C. C. P. ELE.         FAZIL         60         0.7         S.W.         2000         NAME           5         J. T. M. R. A. ELE.         FAZIL         60         0.7         S.W.         2000         NAME           6         J. W. S. C. C. P. ELE.         FAZIL         60         0.7         S.W.         2000         NAME	+	Ibrary	4.	21 17 K F 4 (ELE)	FZZILL	33	1.0	ANS	2000	3 2	3/1	Monda the contract (TC)
9         WAS C E LEE LEE         FAZIL         60         0.5         SMY         2000         NAME           1         WAS C E LEE LEE         FAZIL         60         0.5         SMY         2000         NAME           1         WAS C E LEE LEE         FAZIL         60         0.5         SMY         2000         NAME           2         JATA R G LEE LEE         FAZIL         60         0.1         Bloador         500         NAME           2         JATA R F G LEE LEE         FAZIL         60         0.7         SWY         2000         NAME           2         JATA R F G LEE LEE         FAZIL         60         0.7         SWY         2000         NAME           1         WAS C P Z LEE LEE         FAZIL         60         0.7         SWY         2000         NAME           4         WAS C P Z LEE LEE         FAZIL         60         0.7         SWY         2000         NAME           5         WAS C P Z LEE LEE         FAZIL         60         0.5         SWY         2000         NAME           6         WAS C P Z LEE LEE         FAZIL         60         0.7         SWY         2000         NAME           6 <td>+</td> <td>COOL 103</td> <td></td> <td>M 23 C C 2 (C) C</td> <td>FZZILL</td> <td>200</td> <td>0.1</td> <td>OW.</td> <td>2000</td> <td>36</td> <td>4,10</td> <td>iveeus (wo occ selisois (10)</td>	+	COOL 103		M 23 C C 2 (C) C	FZZILL	200	0.1	OW.	2000	36	4,10	iveeus (wo occ selisois (10)
6         W.S.C.F.Z.ELE.         FAZIL         60         0.5         SW         239         1,800           1         W.S.C.F.Z.ELE.         FAZIL         60         0.5         SW         2,809         None           1         W.S.C.F.Z.ELE.         FAZIL         60         0.1         Braider         2,809         None           2         Z.T.Y.R.F.A.[ELE.]         FAZIL         80         0.1         SW         2,809         None           3         W.S.C.F.Z.ELE.         FAZIL         60         0.7         SW         2,809         None           1.1         W.S.C.F.Z.ELE.         FAZIL         60         0.7         SW         2,809         None           1.1         W.S.C.F.Z.ELE.         FAZIL         60         0.7         SW         2,809         None           4         W.S.C.F.Z.ELE.         FAZIL         60         0.7         SW         2,809         None           6         W.S.C.F.Z.ELE.         FAZIL         60         0.7         SW         2,809         None           6         W.S.C.F.Z.ELE.         FAZIL         60         0.7         SW         2,809         None           6         W.	++4	Soom 106		W 32 C F 2 (ELE)	F42LL	00	4.0	SW CW	2808	Mono	1,518	
9         W.Z.C.F.Z.[ELE]         F4211         60         0.5         SNY         22690         None           1         W.Z.C.F.Z.[ELE]         F4211         60         0.1         SNY         22690         NOCC           2         Z.T.N.F.F.4 [ELE]         F4211         60         0.1         SNY         2200         NOCC           1.1         W.Z.C.F.2 [ELE]         F4211         60         0.7         SNY         2200         NOCC           1.1         W.Z.C.F.2 [ELE]         F4211         60         0.7         SNY         2200         NOCC           1.1         W.Z.C.F.2 [ELE]         F4211         60         0.7         SNY         2200         None           4.1         W.Z.C.F.2 [ELE]         F4211         60         0.7         SNY         2200         None           4.2         W.Z.C.F.2 [ELE]         F4211         60         0.7         SNY         2200         None           4.1         W.Z.C.F.2 [ELE]         F4211         60         0.5         SNY         2200         None           4.2         W.Z.C.F.2 [ELE]         F4211         60         0.5         SNY         2200         None           4.1 </td <td>+</td> <td>300m 106</td> <td></td> <td>W 32 C F 2 (ELE)</td> <td>F42LL</td> <td>09</td> <td>0.5</td> <td>SW</td> <td>2808</td> <td>None</td> <td>1,348</td> <td></td>	+	300m 106		W 32 C F 2 (ELE)	F42LL	09	0.5	SW	2808	None	1,348	
1 NY 2C C Z (ELE)	1-	30om 106		W 32 C F 2 (ELE)	F42LL	09	0.5	SW	2808	None	1,516	
1         W.Z.C. F. Z. ELE.         F. Z. Z. I. T. T. R. F. 4 (ELE.)         F. Z. Z. I. T. T. R. F. 4 (ELE.)         F. Z. Z. I. T. T. R. F. 4 (ELE.)         F. Z. Z. I. T. T. R. F. 4 (ELE.)         F. Z. Z. I. T. T. R. F. 4 (ELE.)         F. Z. Z. Z. Z. T. T. R. F. 4 (ELE.)         F. Z. Z. Z. T. T. T. R. F. 4 (ELE.)         F. Z. Z. Z. T. T. R. F. 4 (ELE.)         F. Z. Z. Z. T. T. R. S. W. Z. C. Z. S. W. Z. 2609         None         O.C.         S. W. Z. C. F. 2 (ELE.)         F. A. Z.	T.	30om 106		W 32 C F 2 (ELE)	F42LL	09	0.1	SW	2808	2000	168	
2         ZITTARFA FELLE         FEZULL         33         0.1         SW         2.000           3         WAZO CF Z (ELE)         FEZULL         60         0.7         SW         2.008         OCC           1.1         WAZO CF Z (ELE)         F4ZLL         60         0.7         SW         2.008         None           1.1         WAZO CF Z (ELE)         F4ZLL         60         0.7         SW         2.008         None           2.4         WAZO CF Z (ELE)         F4ZLL         60         0.7         SW         2.008         None           2.4         WAZO CF Z (ELE)         F4ZLL         60         0.7         SW         2.008         None           8         WAZO CF Z (ELE)         F4ZLL         60         0.5         SW         2.008         None           6.6         WAZO CF Z (ELE)         F4ZLL         60         0.6         SW         2.008         None           6.6         WAZO CF Z (ELE)         F4ZLL         60         0.7         SW         2.008         None           6.0         WAZO CF Z (ELE)         F4ZLL         60         0.7         SW         2.008         None           6.0         WAZO CF Z	-	Soom 106		W 32 C F 2 (ELE)	F42LL	09	0.1	Breaker	8760	None	526	
2         ZITATE AT RELED         F72/11         63         0.1         SW         2000           11         W32 G F Z (ELE)         F42/11         60         0.7         SW         2808         OCC           11         W32 G F Z (ELE)         F42/11         60         0.7         SW         2808         None           11         W32 G F Z (ELE)         F42/11         60         0.7         SW         2808         None           6         T32 R F 3 (ELE)         F42/11         60         0.7         SW         2808         None           8         W3 G F Z (ELE)         F42/11         60         0.5         SW         2808         None           6         W3 G F Z (ELE)         F42/11         60         0.5         SW         2808         None           6         W3 G F Z (ELE)         F42/11         60         0.2         SW         2808         None           6         W3 G F Z (ELE)         F42/11         60         0.7         SW         2808         None           6         W3 G F Z (ELE)         F42/11         60         0.7         SW         2808         OCC           1         W3 G F Z (ELE) <t< td=""><td>-1</td><td>300m 106</td><td>2</td><td>27 17 R F 4 (ELE)</td><td>FZZILL</td><td>88</td><td>0.1</td><td>SW</td><td>2808</td><td>200</td><td>185</td><td></td></t<>	-1	300m 106	2	27 17 R F 4 (ELE)	FZZILL	88	0.1	SW	2808	200	185	
11   W.2C C F 2 (ELE)	+16	coom 100		21 17 K F 4 (ELE)	FZZILL	2 2	0.0	SW	2000	38	201	
11   W. 20 C F (   LL	-10	000m 100		W 32 O F 2 (ELE)	LACEL	000	70	SIM	2000	300	1 050	
41         M 200 C F (LLE)         F41LL         50         0.1         5NM         2000         None           24         W 32 C F 2 (LLE)         F43LL         60         1.4         SW         2808         None           8         W 32 C F 2 (LLE)         F43LL         60         0.5         SW         1000         None           10         W 32 C F 2 (LLE)         F43LL         60         0.5         SW         1000         None           11         W 32 C F 2 (LLE)         F43LL         60         0.5         SW         2808         None           12         W 32 C F 2 (LLE)         F43LL         60         0.5         SW         2808         None           14         W 32 C F 2 (LLE)         F42LL         60         0.5         SW         2808         None           1         W 32 C F 2 (LLE)         F42LL         60         0.7         SW         2808         None           1         W 32 C F 2 (LLE)         F42LL         60         0.7         SW         2808         NOC           2         W 32 C F 2 (LLE)         F42LL         60         0.7         SW         2808         OCC           1	-10	WOOTH 100		W 32 C F 2 (ELE)	L42LL	00	0.7	SIM	2000	Mone	1,033	
24         W3 C C F (ELE)         F421L         60         14         SW         220 R         None           6         T 22 K F 3 (ELE)         F431L         60         0.5         SW         2306         None           4         W 32 C F 2 (ELE)         F421L         60         0.5         SW         2308         None           68         W 32 C F 2 (ELE)         F421L         60         0.5         SW         2308         None           1         W 32 C F 2 (ELE)         F421L         60         0.2         SW         2308         None           1         W 32 C F 2 (ELE)         F421L         60         0.2         SW         2308         None           1         W 32 C F 2 (ELE)         F421L         60         0.2         SW         2308         None           2         W 32 C F 2 (ELE)         F421L         60         0.7         SW         2308         None           4         W 32 C F 2 (ELE)         F421L         60         0.7         SW         2308         OCC           1         W 32 C F 2 (ELE)         F421L         60         0.7         SW         2308         OCC           1         W 32 C	44	200m 107		W 32 C F 1	F4111	32	0.1	MS	2808	None	359	
6         T32RF3 [ELE)         F43ILL2         90         0.5         SW         1000         None           8         W 32 CF2 [ELE)         F42IL         60         0.5         SW         2808         None           10         W 32 CF2 [ELE)         F42IL         60         0.6         SW         2808         None           68         W 32 CF2 [ELE)         F42IL         60         0.6         SW         2808         None           10         W 32 CF2 [ELE)         F42IL         60         0.2         SW         2808         None           1         W 32 CF2 [ELE)         F42IL         60         0.1         SW         2808         None           1         W 32 CF2 [ELE)         F42IL         60         0.1         SW         2808         OCC           2         W 32 CF2 [ELE)         F42IL         60         0.1         SW         2808         OCC           3         W 32 CF2 [ELE)         F42IL         60         0.7         SW         2808         OCC           4         W 32 CF2 [ELE)         F42IL         60         0.7         SW         2808         OCC           11         W 32 CF2 [ELE)	14	300m 108		W 32 C F 2 (ELE)	F42LL	09	1.4	SW	2808	None	4.044	
8         W 32 C F 2 (ELE)         F 421L         60         0.5         SW         2808         None           10         W 32 C F 2 (ELE)         F421L         60         0.2         SW         2808         None           10         W 32 C F 2 (ELE)         F421L         60         0.2         SW         2808         None           1         W 32 C F 2 (ELE)         F421L         60         0.2         SW         2000         None           1         W 32 C F 2 (ELE)         F421L         60         0.2         SW         2000         None           2         W 32 C F 2 (ELE)         F421L         60         0.1         SW         2000         None           3         W 32 C F 2 (ELE)         F421L         60         0.1         SW         2000         None           4         W 32 C F 2 (ELE)         F421L         60         0.1         SW         2000         None           5         W 32 C F 2 (ELE)         F421L         60         0.7         SW         2000         NC           11         W 32 C F 2 (ELE)         F421L         60         0.7         SW         2000         NC           2         W 32	۳	lift Shop		T32RF3(ELE)	F43ILL/2	06	0.5	SW	1000	None	540	
4         W.3.C C F (ELE)         F 4211         60         0.2         SW         2808         None           68         W.3.C C F (ELE)         F4211         60         0.6         SW         2808         None           1         W.3.C C F (ELE)         F4211         60         0.2         SW         2808         None           1         W.3.C C F (ELE)         F4211         60         0.2         SW         2080         None           2         W.3.C C F (ELE)         F4211         60         0.1         SW         2808         OCC           4         W.3.C C F (ELE)         F4211         60         0.1         SW         2808         OCC           5         W.3.C C F (ELE)         F4211         60         0.7         SW         2808         OCC           9         W.3.C C F (ELE)         F4211         60         0.7         SW         2808         OCC           11         W.3.C C F (ELE)         F4211         60         0.7         SW         2808         OCC           14         W.3.C C F (ELE)         F4211         60         0.7         SW         2808         OCC           15         W.3.C C F (ELE)	I.C.	30om 109		W 32 C F 2 (ELE)	F42LL	09	0.5	SW	2808	None	1,348	
10   W.3.C.C F2 (ELE)	i.	30om 109		W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2808	None	674	
68         W. 2.C. C F Z [ELE]         F 4211         60         0.2         SW         2 800         None           1         W. 2.C. C F Z [ELE]         F 4211         60         0.2         SW         2 080         None           2         W. 2.C. C F Z [ELE]         F 4211         60         0.1         SW         2 080         None           6         W. 3.C. C F Z [ELE]         F 4211         60         0.1         SW         2 808         OCC           1         W. 3.C. C F Z [ELE]         F 4211         60         0.7         SW         2 808         OCC           1         W. 3.C. C F Z [ELE]         F 4211         60         0.7         SW         2 808         OCC           1         W. 3.C. C F Z [ELE]         F 4211         60         0.7         SW         2 808         OCC           6         W. 3.C. C F Z [ELE]         F 4211         60         0.7         SW         2 808         OCC           5         W. 3.C. C F Z [ELE]         F 4211         60         0.3         SW         2 808         OCC           6         W. 3.C. C F Z [ELE]         F 4211         60         0.3         SW         2 808         OCC	4	Soom 109	- 1	W 32 C F 2 (ELE)	F42LL	09	9.0	SW	2808	None	1,685	
1         4         W 2C F Z (ELE)         F42LL         60         0.2         SW         2,000         None           1         W 3C C F Z (ELE)         F42LL         60         0.1         SW         2,000         None           2         W 3C C F Z (ELE)         F42LL         60         0.1         SW         2,000         None           1         W 3C C F Z (ELE)         F42LL         60         0.1         SW         2,000         OCC           1         W 3C C F Z (ELE)         F42LL         60         0.7         SW         2,000         OCC           1         W 3C C F Z (ELE)         F42LL         60         0.7         SW         2,000         OCC           1         W 3C C F Z (ELE)         F42LL         60         0.7         SW         2,000         OCC           1         W 3C C F Z (ELE)         F42LL         60         0.7         SW         2,000         OCC           1         W 3C C F Z (ELE)         F42LL         60         0.7         SW         2,000         OCC           2         W 3C C F Z (ELE)         F42LL         60         0.3         SW         2,000         OCC           3 </td <td>-1-</td> <td>500m 109</td> <td></td> <td>W 32 C F 2 (ELE)</td> <td>F4ZLL</td> <td>09</td> <td>4.1</td> <td>SW</td> <td>2808</td> <td>None</td> <td>11,45/</td> <td></td>	-1-	500m 109		W 32 C F 2 (ELE)	F4ZLL	09	4.1	SW	2808	None	11,45/	
2         W 32 C F 2 (ELE)         F 4211         60         0.1         SW         2808         OCC           1         W 32 C F 2 (ELE)         F 4211         60         0.4         SW         2808         OCC           9         W 32 C F 2 (ELE)         F 4211         60         0.1         SW         2808         OCC           11         W 32 C F 2 (ELE)         F 4211         60         0.7         SW         2808         OCC           11         W 32 C F 2 (ELE)         F 4211         60         0.7         SW         2808         OCC           11         W 32 C F 2 (ELE)         F 4211         60         0.7         SW         2808         OCC           6         W 32 C F 2 (ELE)         F 4211         60         0.7         SW         2808         OCC           6         W 32 C F 2 (ELE)         F 4211         60         0.3         SW         2808         OCC           5         W 32 C F 2 (ELE)         F 4211         60         0.3         SW         2808         OCC           6         W 32 C F 2 (ELE)         F 4211         60         0.3         SW         2808         OCC           5         W	4/2	Vomens #1		W 32 C F 2 (ELE)	F42LL	00	0.2	ANS.	2080	None	374	
6         W 32 C F Z (ELE)         F 421L         60         0.4         SW         2808         OCC           1         W 32 C F Z (ELE)         F421L         60         0.1         SW         2808         OCC           1         W 32 C F Z (ELE)         F421L         60         0.7         SW         2808         OCC           1         W 32 C F Z (ELE)         F421L         60         0.7         SW         2808         OCC           1         W 32 C F Z (ELE)         F421L         60         0.7         SW         2808         OCC           5         W 32 C F Z (ELE)         F421L         60         0.4         SW         2808         OCC           5         W 32 C F Z (ELE)         F421L         60         0.3         SW         2808         OCC           5         W 32 C F Z (ELE)         F421L         60         0.3         SW         2808         OCC           5         W 32 C F Z (ELE)         F421L         60         0.3         SW         2808         OCC           5         W 32 C F Z (ELE)         F421L         60         0.3         SW         2808         OCC           6         W 32 C F Z (E	100	Som 111		W 32 C F 2 (ELE)	F42LL	09	0.1	SW	2808	2000	337	
1         W 32 C F 2 (ELE)         F 421L         60         0.1         SW         2808         OCC           11         W 32 C F 2 (ELE)         F421L         60         0.7         SW         2808         OCC           11         W 32 C F 2 (ELE)         F421L         60         0.7         SW         2808         OCC           6         W 32 C F 2 (ELE)         F421L         60         0.7         SW         2808         OCC           5         W 32 C F 2 (ELE)         F421L         60         0.7         SW         2808         OCC           5         W 32 C F 2 (ELE)         F421L         60         0.3         SW         2808         OCC           5         W 32 C F 2 (ELE)         F421L         60         0.3         SW         2808         OCC           5         W 32 C F 2 (ELE)         F421L         60         0.3         SW         2808         OCC           5         W 32 C F 2 (ELE)         F421L         60         0.3         SW         2808         OCC           5         W 32 C F 2 (ELE)         F421L         60         0.3         SW         2808         OCC           6         W 32 C F 2	1 CE	300m 111		W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	000	1.011	
9         WAZ C F Z (ELE)         FAZIL         60         0.5         SW         2808         OCC           11         WAZ C F Z (ELE)         FAZIL         60         0.7         SW         2808         OCC           11         WAZ C F Z (ELE)         FAZIL         60         0.7         SW         2808         OCC           6         WAZ C F Z (ELE)         FAZIL         60         0.7         SW         2808         OCC           5         WAZ C F Z (ELE)         FAZIL         60         0.3         SW         2808         OCC           5         WAZ C F Z (ELE)         FAZIL         60         0.3         SW         2808         OCC           5         WAZ C F Z (ELE)         FAZIL         60         0.3         SW         2808         OCC           6         WAZ C F Z (ELE)         FAZIL         60         0.3         SW         2808         OCC           5         WAZ C F Z (ELE)         FAZIL         60         0.3         SW         2808         OCC           6         WAZ C F Z (ELE)         FAZIL         60         0.3         SW         2808         OCC           7         WAZ C F Z (ELE)	I.E.	Joom 111		W 32 C F 2 (ELE)	F42LL	09	0.1	SW	2808	220	168	
11         W 22 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           11         W 22 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           11         W 22 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           5         W 22 C F 2 (ELE)         F 421L         60         0.3         SW         2808         OCC           5         W 22 C F 2 (ELE)         F 421L         60         0.3         SW         2808         OCC           5         W 22 C F 2 (ELE)         F 421L         60         0.3         SW         2808         OCC           5         W 22 C F 2 (ELE)         F 421L         60         0.3         SW         2808         OCC           6         W 22 C F 2 (ELE)         F 421L         60         0.3         SW         2808         OCC           5         W 22 C F 2 (ELE)         F 421L         60         0.3         SW         2808         OCC           6         W 22 C F 2 (ELE)         F 421L         60         0.3         SW         2808         OCC           7         W	i.E.	toom 111		W 32 C F 2 (ELE)	F42LL	60	0.5	SW	2808	220	1,516	
11   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.7   SW   2000   OCC     14   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.7   SW   2000   OCC     5   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     5   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     6   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     7   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     8   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     9   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     9   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     9   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     15   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     16   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     17   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     18   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     19   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     10   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     11   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     12   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     13   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     14   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     15   W.3.C.C.F.Z.[ELE.]   F-421L   60   0.3   SW   2000   OCC     16   W.3.C.C.F.Z.[ELE.]   F-421L   60   OCC   OCC     17   W.3.C.C.F.Z.[ELE.]   F-421L   60   OCC   OCC     17   W.3.C.C.F.Z.[ELE.]   F-421L   60   OCC   OCC   OCC     18   W.3.C.C.F.Z.[ELE.]   F-421L   60   OCC   OCC   OCC     17   W.3.C.C.F.Z.[ELE.]   F-421L   60   OC	Œ	toom 111		W 32 C F 2 (ELE)	F42LL	09	0.7	SW	2808	220	1,853	
11         W 22 C F Z (ELE)         F 4211         60         0.7         SW         2808         OCC           6         W 22 C F Z (ELE)         F 4211         60         0.3         SW         2808         OCC           5         W 22 C F Z (ELE)         F 4211         60         0.3         SW         2808         OCC           5         W 22 C F Z (ELE)         F 4211         60         0.3         SW         2808         OCC           5         W 22 C F Z (ELE)         F 4211         60         0.3         SW         2808         OCC           5         W 32 C F Z (ELE)         F 4211         60         0.3         SW         2808         OCC           6         W 32 C F Z (ELE)         F 4211         60         0.3         SW         2808         OCC           7         W 32 C F Z (ELE)         F 4211         60         0.3         SW         2808         OCC           8         W 32 C F Z (ELE)         F 4211         60         0.3         SW         2808         OCC           8         W 32 C F Z (ELE)         F 4211         60         0.3         SW         2808         OCC           8         W 3	LE.	toom 111		W 32 C F 2 (ELE)	F42LL	90	0.7	SW	2808	000	1,853	
6         WAZC C F Z [ELE]         F 4211         60         0.4         SW         2000           5         WAZ C F Z [ELE]         F4211         60         0.3         SW         2808         0CC           5         WAZ C F Z [ELE]         F4211         60         0.3         SW         2808         0CC           5         WAZ C F Z [ELE]         F4211         60         0.3         SW         2808         0CC           6         WAZ C F Z [ELE]         F4211         60         0.3         SW         2808         0CC           7         WAZ C F Z [ELE]         F4211         60         0.3         SW         2808         0CC           8         WAZ C F Z [ELE]         F4211         60         0.3         SW         2808         0CC           9         WAZ C F Z [ELE]         F4211         60         0.3         SW         2808         0CC           5         WAZ C F Z [ELE]         F4211         60         0.3         SW         2808         0CC           6         WAZ C F Z [ELE]         F4211         60         0.3         SW         2808         0CC           7         WAZ C F Z [ELE]         F4211	-	toom 111		W 32 C F 2 (ELE)	F42LL	09	0.7	SW	2808	200	1,853	
5         WAZ C F Z (ELE)         F42LL         60         0.3         SW         2000         0.0C           5         WAZ C F Z (ELE)         F42LL         60         0.3         SW         2608         0CC           5         WAZ C F Z (ELE)         F42LL         60         0.3         SW         2808         0CC           5         WAZ C F Z (ELE)         F42LL         60         0.3         SW         2808         0CC           5         WAZ C F Z (ELE)         F42LL         60         0.3         SW         2808         0CC           5         WAZ C F Z (ELE)         F42LL         60         0.3         SW         2808         0CC           6         WAZ C F Z (ELE)         F42LL         60         0.3         SW         2808         0CC           6         WAZ C F Z (ELE)         F42LL         60         0.3         SW         2808         0CC           7         WAZ C F Z (ELE)         F42LL         60         0.3         SW         2808         0CC	-16	toom 111		W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	200	1,011	
5         W 20 C F 2 (ELE)         F42LL         60         0.3         SW         200         OCC           5         W 20 C F 2 (ELE)         F42LL         60         0.3         SW         2808         OCC           5         W 20 C F 2 (ELE)         F42LL         60         0.3         SW         2808         OCC           5         W 20 C F 2 (ELE)         F42LL         60         0.3         SW         2808         OCC           6         W 20 C F 2 (ELE)         F42LL         60         0.3         SW         2808         OCC           7         W 20 C F 2 (ELE)         F42LL         60         0.3         SW         2808         OCC           8         W 20 C F 2 (ELE)         F42LL         60         0.3         SW         2808         OCC	+10	000m 112		W 32 C F 2 (ELE)	F42LL	8 8	0.0	SW	2808	38	847	
5         W 2C C F (ELE)         F42LL         60         0.3         SW         200         0.0C           5         W 3C C F 2 (ELE)         F42LL         60         0.3         SW         2808         0CC           5         W 3C C F 2 (ELE)         F42LL         60         0.3         SW         2808         0CC           5         W 3C C F 2 (ELE)         F42LL         60         0.3         SW         2808         0CC           6         W 3C C F 2 (ELE)         F42LL         60         0.3         SW         2808         0CC           7         W 3C C F 2 (ELE)         F42LL         60         0.3         SW         2808         0CC	+10	DOUBLI LE		W 32 C F 2 (ELE)	L4ZLL E4311	000	0.0	SW	2000	38	042	
5         W 22 C F 2 [ELE)         F42LL         60         0.3         SW         2808         OCC           5         W 32 C F 2 [ELE)         F42LL         60         0.3         SW         2808         OCC           5         W 32 C F 2 [ELE)         F42LL         60         0.3         SW         2808         OCC           5         W 32 C F 2 [ELE)         F42LL         60         0.3         SW         2808         OCC           5         W 32 C F 2 [ELE)         F42LL         60         0.3         SW         2808         OCC	10	com 112		W 32 C F 2 (ELE)	F42LL	8 8	0.3	SW	2808	36	847	
5         W 32 C F 2 (ELE)         F42LL         60         0.3         SW         2808         OCC           5         W 32 C F 2 (ELE)         F42LL         60         0.3         SW         2808         OCC           5         W 32 C F 2 (ELE)         F42LL         60         0.3         SW         2808         OCC	100	oom 113		W 32 C F 2 (F F F)	E4211	8 69	0.3	SW	2808	200	842	
5         W 32 C F 2 (ELE)         F 42 LL         60         0.3         SW         2808         OCC           5         W 32 C F 2 (ELE)         F 42 LL         60         0.3         SW         2808         OCC	Tak	oom 113		W 32 C F 2 (ELE)	F42LL	09	0.3	SW	2808	200	842	
5 W 32 C F 2 (ELE) F 42LL 60 0.3 SW 2808 OCC	I.	Joom 113		W 32 C F 2 (ELE)	F42LL	09	0.3	SW	2808	220	842	
	I.E.	nom 113		AM SO O CO JULIE	11072	-		7710				

Arms of Description (in the content of the												
Month of the product of the board	Ā	ea Description	No. of Fixtures		NYSERDA Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual		Annual	
		description of the location - number/Room name: Floor umber (if applicable)	No. of fixtures before the retrofit	"Lighting Fixture Code" Example 27 40 R F(U) = 2'x2' Troff 40 w Recess. Floor lamps U shape	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt)* (Fixt No.)	Pre-inst control device	Estimated annual hours for the usage group		(kW/space)* (Annual Hours)	Notes
Note   1.5			11	W 32 C F 2 (ELE)	F42LL	09	0.7	SW	2808	None	1,853	
Property   Property			11	W 32 C F 2 (ELE)	F42LL	09	0.7	SW	2808	None	1,853	
Note   1			11	W 32 C F 2 (ELE)	F42LL	09	0.7	SW	2808	None	1,853	
Moon 154         9         N         COE         FEATL         60         61         9         9         9         0.00           Moon 154         4         N         S         N         S         N         S         N         C         C         C         0 </td <td></td> <td></td> <td>11</td> <td>W 32 C F 2 (ELE)</td> <td>F42LL</td> <td>09</td> <td>0.7</td> <td>SW</td> <td>2808</td> <td>None</td> <td>1,853</td> <td></td>			11	W 32 C F 2 (ELE)	F42LL	09	0.7	SW	2808	None	1,853	
Nome of 14 (1)         15 (1) <th< td=""><td></td><td></td><td>က</td><td>W 32 C F 2 (ELE)</td><td>F42LL</td><td>09</td><td>0.2</td><td>SW</td><td>2808</td><td>200</td><td>505</td><td></td></th<>			က	W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2808	200	505	
No. 11 (1) (1) (1) (1) (1) (1) (1) (1) (1)			2	W 32 C F 2 (ELE)	F42LL	09	0.1	SW	2808	000	337	
Manuel Proposition   1			10	W 32 C F 2 (ELE)	F42LL	09	9.0	SW	2808	200	1,685	
Name   1.0   Nam				W 32 C F 2 (ELE)	F42LL	09	9.0	SW	2808	000	1,685	
Modern 19 (2007)         2 (2007)         CARDINI (2007)         CARDIN (2				W 32 C F 2 (ELE)	F42LL	09	0.1	SW	2808	200	168	
Mode and Mode an	Г			W 32 C F 2 (ELE)	F42LL	09	0.1	SW	2808	220	337	
Name of Section (1987)         4 M M G C C E ((E.E.))         F4411         6 M G G G G SW M G G G ((E.E.))         7 M G G G G G G G G G G G G G G G G G G		near Room 117		W 32 C F 2 (ELE)	F42LL	09	0.1	SW	3744	None	449	
Remni 134         10         N M C C Z (ELE)         F4411         60         6 M         6 M         6 M         N M D C D C C C C C C C C C C C C C C C C		near Room 117	4	W 32 C F 2 (ELE)	F42LL	09	0.2	SW	3744	None	899	
Room 1138         110         W. ZG C F Z ELE         F ZRLL         60         60         SWY         2209         None           Room 1138         110         W. ZG C F Z ELE         F ZRLL         60         0.5         SWY         2209         None           Room 1134         1         W. ZG C F Z ELE         F ZRLL         60         0.5         SWY         2209         None           Room 1134         5         W. ZG C F Z ELE         F ZRLL         60         0.5         SWY         2209         None           Room 1134         6         W. ZG C F Z ELE         F ZRLL         60         0.5         SWY         2209         NOC           Room 1138         10         W. ZG C F Z ELE         F ZRLL         60         0.5         SWY         2209         NOC           Room 1138         10         W. ZG C Z ELE         F ZRLL         60         0.5         SWY         2209         NOC           Room 1138         10         W. ZG C Z ELE         F ZRLL         60         0.5         SWY         2209         NOC           Room 123         4         W. ZG C Z ELE         F ZRLL         60         0.5         SWY         2209         NOC <td></td> <td></td> <td>10</td> <td>W 32 C F 2 (ELE)</td> <td>F42LL</td> <td>09</td> <td>9.0</td> <td>SW</td> <td>2808</td> <td>None</td> <td>1,685</td> <td></td>			10	W 32 C F 2 (ELE)	F42LL	09	9.0	SW	2808	None	1,685	
Room 1154         10 M VEG F F ELE)         F RALL         6 0         6 0         5 W         7 00         None           Room 1154         10 M VEG F ELE)         F RALL         6 0         6 0         5 W         2 0         5 W         None         1 M         None	Г		10	W32 CF2 (FIE)	F4211	90	0.6	MS	2808	None	1,685	
Room 1814         10 M VEC FELLEL         FEZIT.         60 O G G         SWI         5709 O         NADE           Room 1814         50 W VEC FELLEL         FEZIT.         60 O G G         SWI         2789 O         OCC           Room 1814         6 W VEC FELLEL         FEZIT.         60 O G G         SWI         2789 O         OCC           Room 1814         6 W W CC FELLEL         FEZIT.         60 O G G         SWI         2789 O         OCC           Room 1814         6 W W CC FELLEL         FEZIT.         60 O G G         SWI         2789 O         OCC           Room 1814         10 W W CC FELLEL         FEZIT.         60 O G G         SWI         2789 O         OCC           Room 1818         10 W W CC FELLEL         FEZIT.         60 O G G         SWI         2789 O         OCC           Room 1818         10 W W CC FELLEL         FEZIT.         60 O G G         SWI         2789 O         OCC           Room 182         4 W W CC FELLEL         FEZIT.         60 O G G         SWI         2789 O         OCC           Room 182         4 W W CC FELLEL         FEZIT.         60 O G G G G G G G G G G G G G G G G G G	Т			W 32 C E 2 /EI E 1	11073	80	90	CIM	2808	None	1 685	
Page 1114   Page 1214   Page	Т			W 32 O F 2 (ELE)	E4211	8 8	900	CIM	2000	None	200,1	
Page 1119-1119-1119-1119-1119-1119-1119-111	Т			W 32 O F Z (ELE)	1776	8 8	0.0	CONT	0000	Molle	000,	
National 1944   S. M. N. N. C. Z. ELEL   FAZIL   S. O. O. O. O. O. S. SW 2006   O.		4		W 32 C F 2 (ELE)	F4ZLL	ng :	0.3	ANS.	2808	330	842	
ROWN 154A         S         W 25 C F 2 (ELE)         F A211         60         0.33         SWY         2500           ROWN 154A         S         W 25 C F 2 (ELE)         F A211         60         0.33         SWY         2500         OCC           ROWN 1549         10         W 25 C F 2 (ELE)         F A211         60         0.6         SWY         2500         OCC           ROWN 1549         10         W 25 C F 2 (ELE)         F A211         60         0.6         SWY         2500         OCC           ROWN 1243         4         W 25 C F 2 (ELE)         F A211         60         0.2         SWY         2500         OCC           ROWN 124         4         W 25 C F 2 (ELE)         F 4211         60         0.2         SWY         2500         OCC           ROWN 124         2         W 25 C F 2 (ELE)         F 4211         60         0.2         SWY         2500         NOC           ROWN 125         2         W 25 C F 2 (ELE)         F 4211         60         0.2         SWY         2500         NOC           ROWN 125         2         W 25 C F 2 (ELE)         F 4211         60         0.2         SWY         2500         NOC		A		W 32 C F 2 (ELE)	F42LL	09	0.3	SW	2808	220	842	
Room 1149, 149, 149, 149, 149, 149, 149, 149	- 1	A		W 32 C F 2 (ELE)	F42LL	9	0.3	SW	2808	220	842	
Room 11993         100 Mag C F E (LE)         F ACUL         60         0.6         SW         2000           Room 11993         100 Mag C F E (LE)         F ACUL         60         0.6         SW         2000         0.00           Room 11993         100 Mag C F E (LE)         F ACUL         60         0.6         SW         2000         0.00           Room 11993         100 Mag C F E (LE)         F ACUL         60         0.2         SW         2000         0.00           Room 123         4         Mag C F E (LE)         F ACUL         60         0.2         SW         2000         0.00           Room 124         A         Mag C F E (LE)         F ACUL         60         0.2         SW         2000         0.00           Room 124         A         Mag C F E (LE)         F ACUL         60         0.2         SW         2000         None           Room 124         A         Mag C F E (LE)         F ACUL         60         0.2         SW         2000         None           Monta P A         Mag C F E (LE)         F ACUL         60         0.2         SW         2000         None           Monta P A         Mag C F E (LE)         F ACUL         60	П	A		W 32 C F 2 (ELE)	F42LL	09	0.3	SW	2808	၁၁၀	842	
Room 11999         11990         10 W 20 C F 2 (LLE)         F 2011         60         0.66         SWM         2000           Room 11999         1190         W 20 C F 2 (LLE)         F 2011         60         0.06         SWM         2000           Room 11999         110         W 20 C F 2 (LLE)         F 2011         60         0.02         SWM         2000           Room 1293         110         W 20 C F 2 (LLE)         F 2011         60         0.02         SWM         2000           Room 123         110         W 20 C F 2 (LLE)         F 2011         60         0.02         SWM         2000           Room 123         110         W 20 C F 2 (LLE)         F 2011         60         0.02         SWM         2000           Room 124         W 20 C F 2 (LLE)         F 2011         60         0.02         SWM         2000         None           Room 124         W 20 C F 2 (LLE)         F 2011         60         0.02         SWM         2000         None           Room 125         W 20 C F 2 (LLE)         F 2011         60         0.02         SWM         2000         None           Olfscewer         W 20 C F 2 (LLE)         F 2011         60         0.02 <td< td=""><td></td><td>В</td><td>10</td><td>W 32 C F 2 (ELE)</td><td>F42LL</td><td>9</td><td>9.0</td><td>SW</td><td>2808</td><td>၁၁၀</td><td>1,685</td><td></td></td<>		В	10	W 32 C F 2 (ELE)	F42LL	9	9.0	SW	2808	၁၁၀	1,685	
Room 1198B         110         W. 2.C. G. ELE.B.         F.G.LLL         60         0.66         S.W         2.00           Room 1138B         110         W. 2.C. G. ELE.B.         F.G.LLL         60         0.6         S.W         2.208         O.CC           Room 123B         4         W. 2.C. G. ELE.B.         F.G.LLL         60         0.2         S.W         2.208         O.CC           Room 123B         4         W. 2.C. G. ELE.B.         F.G.LLL         60         0.2         S.W         2.208         O.CC           Room 123B         A. W. 2.C. G. ELE.B.         F.G.LLL         60         0.2         S.W         2.208         O.CC           Room 124B         A. W. 2.C. G. ELE.B.         F.G.LLL         60         0.2         S.W         2.208         O.CC           Room 124B         A. W. 2.C. G. ELE.B.         F.G.LLL         60         0.2         S.W         2.208         O.CC           Room 124B         A. W. 2.C. G. ELE.B.         F.G.LLL         60         0.2         S.W         2.208         O.CC           Room 124B         A. W. 2.C. G. ELE.B.         F.G.LLL         60         0.2         S.W         2.208         O.CC           Room 124B         A. W		8	10	W 32 C F 2 (ELE)	F42LL	60	0.6	SW	2808	220	1,685	
Room 11989         10         W. 2.C. C. E (LELE)         F-G2LL         60         0.6         SW         2.2080         OCC           Room 1233         4         W. 2.C. C. E (LELE)         F-G2LL         60         0.2         SW         2.2080         OCC           Room 1233         4         W. 2.C. C. E (LELE)         F-G2LL         60         0.2         SW         2.2080         OCC           Room 1234         4         W. 2.C. C. E (LELE)         F-G2LL         60         0.2         SW         2.2080         OCC           Room 124         2.         T. 2.R. F. S (LELE)         F-G2LL         60         0.2         SW         2.2080         OCC           Room 124         2.         T. 2.R. F. S (LELE)         F-G2LL         60         0.2         SW         2.2080         OCC           Room 124         3.         T. S. F. F. S (LELE)         F-G2LL         60         0.2         SW         2.2080         None           Room 125         4.         W. 2. C. F. E (LELE)         F-G2LL         60         0.2         SW         2.2080         None           Room 125         4.         W. 2. C. F. E (LELE)         F-G2LL         60         0.2         SW	Room 119	В	10	W 32 C F 2 (ELE)	F42LL	09	9.0	SW	2808	000	1,685	
Room 123         4         W.Z.G. F.2 (ELE)         F.42LL         60         0.2         SW         2898         OCC           Room 123         4         W.Z.G. F.2 (ELE)         F.42LL         60         0.2         SW         2898         OCC           Room 124         4         W.Z.G. F.2 (ELE)         F.42LL         60         0.2         SW         2898         OCC           Room 124         4         W.Z.G. F.2 (ELE)         F.42LL         60         0.2         SW         2898         OCC           Room 124         2         T.Z.Z.R. F.2 (ELE)         F.42LL         60         0.2         SW         2898         OCC           Room 124         4         W.Z.G. F.2 (ELE)         F.42LL         60         0.2         SW         2898         OCC           Moren 125         4         W.Z.G. F.2 (ELE)         F.42LL         60         0.2         SW         2898         OCC           Office         5         T.T.Z.R. F.2 (ELE)         F.42LL         60         0.2         SW         DCC           Office         6         7         T.2.R.         SW         2.0         SW         DCC         DCC         DCC         DCC         DCC	Room 119	8		W 32 C F 2 (ELE)	F42LL	09	9.0	SW	2808	220	1,685	
Room 123         4         W 32 C F 2 (ELE)         F 4211         6 00         0.2         SW         2898         OCC           Room 123         4         W 32 C F 2 (ELE)         F 4211         6 0         0.2         SW         2898         OCC           Room 124         4         W 32 C F 2 (ELE)         F 4211         6 0         0.2         SW         2898         OCC           Room 124         2         1 72 R F 3 (ELE)         F 4311,2         6 0         0.2         SW         2898         OCC           Room 124         2         1 72 R F 3 (ELE)         F 4311,2         8 0         0.2         SW         2898         OCC           Monte 8 2         2         1 72 R F 3 (ELE)         F 4311,2         8 0         0.2         SW         2898         OCC           Office         2         W 32 C F 2 (ELE)         F 4311,2         8 0         0.2         SW         2898         Nore           Office         3         1 X 1 W LED         F 4311,2         8 0         0.1         SW         2898         Nore           Office         4         W 2 C F 2 (ELE)         F 4311,2         8 0         0.1         SW         2898         Nore </td <td>Room 123</td> <td></td> <td></td> <td>W 32 C F 2 (ELE)</td> <td>F42LL</td> <td>09</td> <td>0.2</td> <td>SW</td> <td>2808</td> <td>220</td> <td>674</td> <td></td>	Room 123			W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2808	220	674	
Room 123 3         4 M 92 CF 2 (ELE)         FF211         60         0.2         SW         2000           Room 124 3         4 M 92 CF 2 (ELE)         FF211         60         0.2         SW         2068         0.0C           Room 124 4         2 T 22 FF 3 (ELE)         FF211         60         0.2         SW         2086         0.0C           Monte #2         2 T 22 FF 3 (ELE)         FF211         60         0.2         SW         2080         0.0C           Monte #2         4 W 25 CF 2 (ELE)         FF211         60         0.2         SW         2080         None           Office         2 W 25 CF 2 (ELE)         FF211         60         0.2         SW         2080         None           Office         2 W 25 CF 2 (ELE)         FF211         60         0.2         SW         2000         None           Office         2 W 25 CF 2 (ELE)         FF211         60         0.1         SW         2000         None           None         1 W 25 CF 2 (ELE)         FF211         60         0.1         SW         2000         None           None         1 W 25 CF 2 (ELE)         FF211         60         0.1         SW         2000         None	Г			W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2808	000	674	
Room nata 123         A M 20 CP (ELE)         F421L         60         0.2         SW         2060         NOCC           Room 124         25         T V 20 CP (ELE)         F431L/2         90         0.2         SW         2060         NOCC           Room 124         2         T V 20 CP (ELE)         F421L/2         90         0.2         SW         2060         NoCC           Notice         2         M V 20 CP (ELE)         F421L         60         0.2         SW         2060         NoCC           Notice         2         M V 20 CP (ELE)         F421L         60         0.2         SW         2060         NocC           Office         2         M V 20 CP (ELE)         F421L         60         0.2         SW         2060         NocC           Office         2         M V 20 CP (ELE)         F421L         60         0.1         SW         2060         NocC           Nocm 125         2         M V 20 CP (ELE)         F421L         60         0.1         SW         2060         NocC           Room 125         2         M V 20 CP (ELE)         F421L         60         0.1         SW         2060         NocC           Room 127	Г			W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2808	220	674	
Room 124         26         27         SW         2000         None           Room 124         20         2         SW         2000         None           Room 124         2         1 72.R F 3 (LE)         F43LLZ         90         0.2         SW         2000         None           Monte \$2         1 72.R F 3 (LE)         F43LL         60         0.2         SW         2000         None           Office         2         2 72.R F 3 (LE)         F43LL         60         0.2         SW         2000         None           Office         2         2 72.R F 3 (LE)         F43LL         60         0.1         SW         2000         None           None 175         2         2 72.R F 3 (LE)         F43LL         60         0.1         SW         2000         None           Room 125         2         1 72.R F 3 (LE)         F43LL         60         0.1         SW         2000         None           Room 125         2         1 72.R F 3 (LE)         F43LL         60         0.1         SW         2000         None           Room 125         2         1 72.R F 3 (LE)         F43LL         60         0.1         SW         2000				W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2808	000	674	
Room 124         2 TOR REA REALED         FASULD         90         0.2         SW         22000         NOCC           Room 124         N 22 C F (ELE)         FASULD         60         0.2         SW         22000         None           Officione         8         2 TY R F (ELE)         FASUL         60         0.2         SW         2000         None           Officion         8         2 TY R F (ELE)         FASUL         60         0.2         SW         2000         None           Officion         1         N SQ C F (ELE)         FASULL         60         0.1         SW         2000         None           Room 125         1         N SQ C F (ELE)         FASULL         60         0.1         SW         2000         None           Room 126         0         1         N SQ C F (ELE)         FASULL         60         0.1         SW         2000         None           Room 126         0         1         N SQ C F (ELE)         FASULL         60         0.1         SW         2000         None           Room 127         1         N SQ C F (ELE)         FASULL         60         0.1         SW         2000         None				T 32 R F 3 (ELE)	F43ILU2	90	2.3	SW	2808	None	6,571	
Mone # 22         4 (W 30 C F 2 (LEE)         F 4211         60         0.2         SW         2000         None           Office         4 (W 30 C F 2 (LEE)         F 2211         60         0.2         SW         2000         None           Office         2 (V 30 C F 2 (LEE)         F 2211         60         0.2         SW         2000         None           Office         2 (V 30 C F 2 (LEE)         F 2211         60         0.1         SW         2600         None           Room 125         2 (V 30 C F 2 (LEE)         F 2211         60         0.1         SW         2600         None           Room 125         2 (V 30 C F 2 (LEE)         F 2211         60         0.1         SW         2600         None           Room 125         3 (V 30 C F 2 (LEE)         F 2211         60         0.1         SW         2808         None           Room 125         4 (W 30 C F 2 (LEE)         F 2211         60         0.1         SW         2808         None           Room 127         5 (W 30 C F 2 (LEE)         F 2211         60         0.1         SW         2808         None           Room 127         1 (W 30 C F 2 (LEE)         F 2211         60         0.1         S				T32 R F3 (ELE)	F43ILU2	90	0.2	SW	2808	220	202	
Worntens #2         4         Waz CF Z(ELE)         F42LL         60         0.2         SW         2000         None           Office         2         Waz CF Z(ELE)         F72LL         60         0.1         SW         2600         None           Office         2         Waz CF Z(ELE)         F72LL         60         0.1         SW         2600         None           None 125         1         TAZ R F 3 (ELE)         F72LL         60         0.1         SW         2600         None           Room 125         2         TAZ R F 3 (ELE)         F72LL         60         0.1         SW         2600         None           Room 125         2         Waz C F 2 (ELE)         F72LL         60         0.1         SW         2808         None           Room 125         2         Waz C F 2 (ELE)         F72LL         60         0.4         SW         2808         Noc           Room 127         3         Waz C F 2 (ELE)         F72LL         60         0.4         SW         2808         Noc           Room 127         4         Waz C F 2 (ELE)         F72LL         60         0.4         SW         2808         Noc           Room 127	Mens #2		4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	2080	None	499	
Office         STATE         STATE         SSA         CSA         None           Office         2         W.Z.C.F.Z.ELEL         F.ZZLL         60         0.1         SWW         2600         None           Noom 125         1.         X.I.S.W.LED         ELEDI.ST         1.5         0.0         Breaker         8760         None           Room 125         1.         X.I.S.W.LED         F.AZLL         60         0.1         SW         2806         None           Room 125         1.         X.I.S.W.LED         F.AZLL         60         0.1         SW         2806         None           Room 125         0.         W.X.Z.C.F.Z.ELEL         F.AZLL         60         0.1         SW         2806         None           Room 126         0.         W.X.Z.C.F.Z.ELEL         F.AZLL         60         0.1         SW         2806         No.C.C           Room 127         W.X.Z.C.F.Z.ELEL         F.AZLL         60         0.1         SW         2806         No.C.C           Room 127         W.X.Z.C.F.Z.ELEL         F.AZLL         60         0.1         SW         2806         No.C.C           Room 127         W.X.Z.C.F.Z.ELEL         F.AZLL         60	Womens #	22	4	W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2080	None	499	
Office         Office         SVM         2 2000         Name           Nomeries         1         VL3 C F 2 (ELE)         ELED11_ST         60         0.01         SVM         2 2000         Name           Room 125         2.1         T 22 R F 3 (ELE)         F 421L         60         0.1         SW         2 2008         Name           Room 125         2.1         T 22 R F 3 (ELE)         F 421L         60         0.1         SW         2 2008         Name           Room 125         3.1         W 32 C F 2 (ELE)         F 421L         60         0.1         SW         2 2008         Name           Room 126         6         W 32 C F 2 (ELE)         F 421L         60         0.4         SW         2 2008         Name           Room 126         6         W 32 C F 2 (ELE)         F 421L         60         0.4         SW         2 2000         Name           Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2 2000         Name           Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2 2000         Name           Room 127         11 <td< td=""><td></td><td></td><td>8</td><td>2T 17 R F 4 (ELE)</td><td>F22ILL</td><td>33</td><td>0.3</td><td>SW</td><td>2600</td><td>None</td><td>989</td><td></td></td<>			8	2T 17 R F 4 (ELE)	F22ILL	33	0.3	SW	2600	None	989	
Conder 125         1         X + 5 W LED         EEED 571         1         0         Breaker         8760         None           Room 125         1         T 22 R F 3 (ELE)         F 42ILL2         60         0.1         SW         2808         None           Room 125         0         1         W 3C F 2 (ELE)         F 42ILL         60         0.1         SW         2808         None           Room 126         0         W 3C F 2 (ELE)         F 42ILL         60         0.4         SW         2808         0.0C           Room 126         0         W 3C F 2 (ELE)         F 42ILL         60         0.4         SW         2808         0.0C           Room 126         0         W 3C F 2 (ELE)         F 42ILL         60         0.4         SW         2808         0.0C           Room 127         1         W 3C F 2 (ELE)         F 42IL         60         0.7         SW         2808         0.0C           Room 127         1         W 3C F 2 (ELE)         F 42IL         60         0.7         SW         2808         0.0C           Room 127         1         W 3C F 2 (ELE)         F 42IL         60         0.7         SW         2808         0.0C			2	W 32 C F 2 (ELE)	F42LL	09	0.1	SW	2600	None	312	
Room 125         1 T 32 R F 3 (ELE)         F 43 (LLZ)         90         19         SW         None           Room 125         1 W 32 C F 2 (ELE)         F 42 (LLE)         60         0.1         SW         2808         None           Room 125         2 W 32 C F 2 (ELE)         F 42 (LLE)         60         0.1         SW         2808         OCC           Room 126         6 W 32 C F 2 (ELE)         F 42 (LLE)         60         0.4         SW         2808         OCC           Room 126         6 W 32 C F 2 (ELE)         F 42 (LLE)         60         0.4         SW         2808         OCC           Room 127         1 W 32 C F 2 (ELE)         F 42 (LLE)         60         0.7         SW         2808         OCC           Room 127         1 W 32 C F 2 (ELE)         F 42 (LLE)         60         0.7         SW         OCC           Room 127         1 W 32 C F 2 (ELE)         F 42 (LLE)         60         0.7         SW         2808         OCC           Room 127         1 W 32 C F 2 (ELE)         F 42 (LLE)         60         0.7         SW         2808         OCC           Room 127         1 W 32 C F 2 (ELE)         F 42 (LLE)         60         0.7         SW <t< td=""><td>near 125</td><td></td><td>-</td><td>X 1.5 W LED</td><td>ELED1.5/1</td><td>1.5</td><td>0.0</td><td>Breaker</td><td>8760</td><td>None</td><td>13</td><td></td></t<>	near 125		-	X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	None	13	
Room 125         1 W 32 C F 2 (ELE)         F 221L         60         0.1         SW         2808         None           Room 125         6 W 32 C F 2 (ELE)         F 421L         60         0.1         SW         2808         None           Room 125         6 W 32 C F 2 (ELE)         F 421L         60         0.4         SW         2808         OCC           Room 126         6 W 32 C F 2 (ELE)         F 421L         60         0.4         SW         2808         OCC           Room 127         1 W 32 C F 2 (ELE)         F 421L         60         0.4         SW         2808         OCC           Room 127         1 W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         1 W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         1 W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         1 W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 128         3 W 32 C F 2 (ELE)         F 421L         60         0.7         SW	Room 125		21	T 32 R F 3 (ELE)	F43ILL/2	06	1.9	SW	2808	None	5,307	
Room 125         Q M 2C C F (ELE)         F 421L         60         0.1         SW         2808         None           Room 126         6         W 3C C F 2 (ELE)         F 421L         60         0.4         SW         2808         OCC           Room 126         6         W 3C C F 2 (ELE)         F 421L         60         0.4         SW         2808         OCC           Room 127         11         W 3C C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         11         W 3C C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         11         W 3C C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         11         W 3C C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         11         W 3C C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         N W 3C C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127	Room 125			W 32 C F 2 (ELE)	F42LL	09	0.1	SW	2808	None	168	
Room 126         6         W 32 C F 2 (ELE)         F 421L         60         0.4         SW         2808         OCC           Room 126         6         W 32 C F 2 (ELE)         F 421L         60         0.4         SW         2808         OCC           Room 126         6         W 32 C F 2 (ELE)         F 421L         60         0.1         SW         2808         OCC           Room 127         1         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         1         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         1         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         1         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         1         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         1         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC	Room 125			W 32 C F 2 (ELE)	F42LL	09	0.1	SW	2808	None	337	
Room 126         6         W 32 C F 2 (ELE)         F 421L         60         0.4         SW         2808         OCC           Room 126         6         W 32 C F 2 (ELE)         F 421L         60         0.4         SW         2808         OCC           Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Monse 4         12         M 32 C F 2 (ELE)         F 421L         60         0.2         SW         3744         None	Room 126			W32 C F 2 (ELE)	F421.1	09	0.4	SW	2808	220	1.011	
Room 126         6         W 32 C F 2 (ELE)         F 421L         60         0.4         SW         2808         OCC           Room 127         1         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         1.1         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         1.1         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         1.1         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Room 127         1.0         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         2808         OCC           Mons 473         3         W 32 C F 2 (ELE)         F 421L         60         0.2         SW         3744         None           Station 4         3         W 32 C F 2 (ELE)         F 421L         60         0.2         SW         3744         None           Hallway near Room 100         50         1 3 X 15 W LED         F 421L         60         0.2         SW         3744         None </td <td>Room 126</td> <td></td> <td></td> <td>W 32 C F 2 (ELE)</td> <td>F42LL</td> <td>09</td> <td>0.4</td> <td>SW</td> <td>2808</td> <td>220</td> <td>1,011</td> <td></td>	Room 126			W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	220	1,011	
Room 127         1         W 32 C F 2 (ELE)         F 421.L         60         0.1         SW         2808         OCC           Room 127         11         W 32 C F 2 (ELE)         F 421.L         60         0.7         SW         2808         OCC           Room 127         11         W 32 C F 2 (ELE)         F 421.L         60         0.7         SW         2808         OCC           Room 127         11         W 32 C F 2 (ELE)         F 421.L         60         0.7         SW         2808         OCC           Room 127         3         W 32 C F 2 (ELE)         F 421.L         60         0.7         SW         2808         OCC           Mones #3         W 32 C F 2 (ELE)         F 421.L         60         0.2         SW         2080         None           Staliway near Room 100         50         W 32 C F 2 (ELE)         F 421.L         60         0.2         SW         3744         None           Hall near Room 100         50         X 1.5 W LED         F 421.L         60         0.2         SW         3744         None           Stalins near Room 112         4         W 32 C F 2 (ELE)         F 421.L         60         0.2         SW         3744 <td< td=""><td>Room 126</td><td></td><td></td><td>W 32 C F 2 (ELE)</td><td>F42LL</td><td>09</td><td>0.4</td><td>SW</td><td>2808</td><td>220</td><td>1,011</td><td></td></td<>	Room 126			W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	220	1,011	
Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         280B         OCC           Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         280B         OCC           Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         280B         OCC           Room 127         1         W 32 C F 2 (ELE)         F 421L         60         0.2         SW         280B         OCC           Mens #3         3         W 32 C F 2 (ELE)         F 421L         60         0.2         SW         2080         None           Staliway pact Room 100         5         W 32 C F 2 (ELE)         F 421L         60         0.2         SW         374         None           Hall mear Room 100         3         W 32 C F 2 (ELE)         F 421L         60         0.2         SW         374         None           Hall mear Room 112         4         W 32 C F 2 (ELE)         F 421L         60         0.2         SW         374         None           Staliway near Room 112         4         W 32 C F 2 (ELE)         F 421L         30         SW         374	Room 127			W 32 C F 2 (ELE)	F42LL	09	0.1	SW	2808	220	168	
Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         280B         OCC           Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         280B         OCC           Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.2         SW         2080         None           Mens #3         3         W 32 C F 2 (ELE)         F 421L         60         0.2         SW         2080         None           Stainway         5         W 32 C F 2 (ELE)         F 421L         60         0.2         SW         300         None           Hallway near Room 100         50         1 32 R F 2         F 421L         60         3.0         SW         3744         None           Hallway near Room 100         50         1 32 R F 2         F 421L         60         3.0         SW         3744         None           Stains         Room 12         4         W 32 C F 2 (ELE)         F 41LL         32         0.1         SW         3744         None           Stains         Room 12         4         W 32 C F 2 (ELE)         F 41LL         32         0.1         SW	Room 127			W 32 C F 2 (ELE)	F42LL	09	0.7	SW	2808	000	1,853	
Room 127         11         W 32 C F 2 (ELE)         F 421L         60         0.7         SW         280B         OCC           Room 127         1         W 32 C F 2 (ELE)         F 421L         60         0.1         SW         280B         OCC           Monners #3         3         W 32 C F 2 (ELE)         F 421L         60         0.2         SW         2060         None           Stalinvan ton Ton         5         W 32 C F 2 (ELE)         F 421L         60         0.2         SW         2060         None           Hallway near Room 100         5         T 32 R F 2         F 421L         60         0.2         SW         3744         None           Hall near Room 100         3         X 15 W LED         F 421L         60         0.2         SW         3744         None           Stalins and Room 125 and 124         14         W 32 C F 1         F 41L         32         0.4         SW         3744         None           Hall near Room 127         4         W 32 C F 1         F 41L         32         0.4         SW         3744         None           Hall near Room 127         4         W 32 C F 2 (ELE)         F 421L         60         0.2         SW	Room 127			W 32 C F 2 (ELE)	F42LL	09	2.0	SW	2808	220	1,853	
Room 127         House State         F421L         60         0.1         SW         280B         OCC           Monsers \$3         3         W 32 C F 2 (ELE)         F421L         60         0.2         SW         2080         None           Viciniorers \$3         3         W 32 C F 2 (ELE)         F421L         60         0.2         SW         2080         None           Stainway near Room 100         3         W 32 C F 2 (ELE)         F421L         60         0.3         SW         3744         None           Hallway near Room 100         3         X 15 W LED         F421L         60         0.2         SW         3744         None           Hall near Room 125 and 124         4         W 32 C F 1         F41L         32         0.4         SW         3744         None           Hallway near Room 172         4         W 32 C F 2 (ELE)         F41L         32         0.4         SW         3744         None           Hallway near Room 172         4         W 32 C F 2 (ELE)         F41L         32         0.0         SW         3744         None           Hallway near Room 172         4         W 32 C F 2 (ELE)         F42L         60         SW         374         N	Room 127			W 32 C F 2 (ELE)	F42LL	99	0.7	SW	2808	2200	1,853	
Monta #3         W 32 C F 2 (ELE)         F 421.L         60         0.2         SW         2080         None           Numbers #3         3         W 32 C F 2 (ELE)         F 421.L         60         0.2         SW         2080         None           Stationary         5         W 22 C F 2 (ELE)         F 421.L         60         3.0         SW         3744         None           Hallway near Room 100         50         T 32 R F 2         F 421.L         60         3.0         SW         3744         None           Hallway near Room 100         3         X 15 W LED         F ELED1.51         1.5         0.0         Branker         8760         None           Hallway near Room 12         4         W 32 C F (ELE)         F 411.L         32         0.1         SW         3744         None           Hallway near Room 12         4         W 32 C F (ELE)         F 411.L         32         0.1         SW         3744         None           Hallway near Room 12         4         W 32 C F (ELE)         F 411.L         32         0.0         Brasker         8760         None           Hallway near Room 12         X 3         X 3 0 V C F         ELED1.51         32         0.5	Room 127		-	W 32 C F 2 (ELE)	F42LL	09	0.1	SW	2808	220	168	
Womens #33         9 %3 C F Z (ELE)         F 421L         60         0.2         SW         2080         None           Statiway near Room 100         5         W3 C F Z (ELE)         F 421L         60         0.3         SW         3744         None           Hall way near Room 100         3         X 1.5 W LED         F 421L         60         0.0         SW         3744         None           Hall near Room 100         3         X 1.5 W LED         F 421L         60         0.0         Breaker         8760         None           Hall near Room 120         4         W 32 C F 1         F 41LL         32         0.4         SW         3744         None           Hall near Room 117         4         W 32 C F 1         F 41LL         32         0.4         SW         3744         None           Hall near Room 117         4         W 32 C F 2 (ELE)         F 41LL         32         0.4         SW         3744         None           Hall near Room 12         4         W 32 C F 2 (ELE)         F 41LL         32         0.0         Breaker         876         None           Hall near Room 12         5         R 100 C 11         F 41LL         32         0.0         Breaker	Mens #3			W32 C F 2 (ELE)	F42LL	09	0.2	SW	2080	None	374	
Stativary         5 wi 3C F 2 (ELE)         F421L         60         0.3         SW         3744         None           Hallway near Room 100         50         T 2R F 2         F421L         60         3.0         SW         3744         None           Hallway near Room 100         50         T 5R F 2         0.0         Breaker         8760         None           Hallway near Room 120         4         W 32 C F 1         F41L         32         0.1         SW         3744         None           Hall way near Room 12         4         W 32 C F 1         F41L         32         0.1         SW         3744         None           Hallway near Room 12         4         W 32 C F 1         F41L         32         0.1         SW         3744         None           Hallway near Room 12         3         XX 30 W C F 3         F41L         32         0.0         Breaker         8760         None           Area Blowen Room 12         3         XX 30 W C F 3         ELED 1.5         3         0.0         Breaker         8760         None           Area Blowen Room 12 and Gym         1         1         1         1         0.0         Breaker         8760         None	Womens #	50		W32 C F 2 (ELE)	F421.1	09	0.2	SW	2080	None	374	
Hallway near Room 100         50         T32 R F 2         F42LL         60         3.0         SW         3744         None           Hallway near Room 100         3         X15 W LED         ELED1,671         1.5         0.0         Breaker         8760         None           Hall near Room 120         4         W 32 C F I         F41LL         32         0.1         SW         3744         None           Hall near Room 117         4         W 32 C F I         F41LL         32         0.1         SW         3744         None           Hallway near Room 12         4         W 32 C F I         F41LL         32         0.2         SW         3744         None           Hallway near Room 12         4         W 32 C F I         F41LL         32         0.0         SW         3744         None           Hallway near Room 12         5         X 32 W C F         ELED1,52         3         0.0         Breaker         8760         None           Area Berkeen Room 12 and 6ym         5         R 100 C I         1100/1         1.5         SW         374         None           Area Berkeen Room 12 and 6ym         5         R 100 C I         12 R 5R F         F42LL         60         SW </td <td>Stairway</td> <td></td> <td></td> <td>W 32 C F 2 (ELE)</td> <td>F42LL</td> <td>09</td> <td>0.3</td> <td>SW</td> <td>3744</td> <td>None</td> <td>1,123</td> <td></td>	Stairway			W 32 C F 2 (ELE)	F42LL	09	0.3	SW	3744	None	1,123	
Hallway near Room 100         3         X 1.5 W LED         ELED1.5/1         1.5         0.0         Broaker         8760         None           Hall near Room 123 and 124         14         W 22 C F 1         F41LL         32         0.4         SW         3744         None           State         None         F41LL         32         0.1         SW         3744         None           Hall near Room 172         4         W 32 C F 2 (ELE)         F41LL         32         0.1         SW         3744         None           Hallway near Room 172         3         XX.3 W W C Z         F41LL         32         1.5         SW         3744         None           Area Between Room 122 and Gym         5         R 100 C I 1         1100/I         3         1.5         SW         3744         None           Area Between Room 122 and Gym         5         R 100 C I 1         1100/I         1.0         0.5         SW         3744         None           Area Between Room 122 and Gym         5         R 100 C I 1         1100/I         1.5         0.0         Breaker         8760         None           Area Between Room 122 and Gym         12         T 32 R F 2         F42LL         60         0.0<	Hallway ne	sar Room 100		T32RF2	F42LL	- 09	3.0	SW	3744	None	11,232	
Hall near Room 125 and 124         14         W 32 C F 1         F41LL         32         0.4         SW         3744         None           Status         9 Status         4         W 32 C F 2 (ELE)         F41LL         32         0.1         SW         3744         None           Hall near Room 117         46         W 32 C F 2 (ELE)         F41LL         6         0.2         SW         3744         None           Hall way near Room 112         46         W 32 C F 1         F41LL         32         1.5         SW         3744         None           Area Bloween Room 12         3         XX 30 W C F 2         ELED1,5/2         3         0.0         Breaker         8760         None           Area Bloween Room 127 and Gym         5         R 100 C I 1         ELED1,5/7         10         0.5         SW         3744         None           Area Bloween Room 127 and Gym         5         X 1,5 W LD         ELED1,5/7         10         0.5         SW         374         OCC           Area Bloween Room 127 and Gym         12         128 F 2         F42LL         60         0.7         SW         3744         OCC	Hallway ne	ar Room 100	3	X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	None	39	
Statis         Statis         4         W.3.2 C F 1         F4.1LL         3.2         0.1         SW         3744         None           Hall near Room 112         4         W.3.2 C F 1         ELEL         F4.1LL         32         1.5         SW         3744         None           Hallway near Room 12         4         W.3.2 C F 1         ELED 1.51         32         1.5         SW         3744         None           Area Blankeen Room 12         3         XX.3.0 W C F 2         ELED 1.51         3         0.0         Breaker         8760         None           Area Blankeen Room 12 and Sym         5         R 100 C 11         1100/1         1.5         0.0         Breaker         876         None           Area Blankeen Room 127 and Sym         12         12.8 F 2         F42LL         60         5         SW         3744         OCC	Hall near F	Soom 125 and 124	14	W32CF1	F41LL	32	0.4	SW	3744	None	1,677	
Hellin near Room 117         4         W.3.C.C.F.Z.(ELE.)         F42LL         60         0.2         SW         3744         None           Hellin sprate Room 112         46         W.3.C.C.F.T.         F41LL         32         1.5         SW         3744         None           Hallin sprate Room 122         3         XX.3.0.W.C.F.Z.         EEDT 457         3         0.0         Breaker         8760         None           Area Between Room 122 and Gym         5         R 100 C 1         1100/1         10         0.5         SW         3744         OCC           Area Between Room 127 and Gym         1         1 73 R F 2         F42LL         60         Breaker         870         None           Area Between Room 127 and Gym         12         1 73 R F 2         F42LL         60         SW         3744         OCC	Stairs		4	W32CF1	F41LL	32	0.1	SW	3744	None	479	
Hallway near Room 112         46         W 32 C F 1         F41LL         32         1.5         SW         3744         None           Hallway near Room 112         3         XX.3.0 W C F 2         ELED1.5/7         3         0.0         Breaker         8760         None           Area Between Room 127 and Gym         5         R 100 C I 1         100/1         15         0.0         Breaker         876         OC           Area Between Room 127 and Gym         12         7 32 R F 2         F42LL         60         0.7         SW         3744         OCC	Hall near F	Soom 117	4	W 32 C F 2 (ELE)	F42LL	09	0.2	SW	3744	None	899	
Hallway near Room 112         3         XX3.0 W CF 2         ELED1.5/2         3         0.0         Breaker         8760         None           Area Botween Room 127 and Gym         5         R 100 C.1         1100/1         100         0.5         SW         734         OCC           Area Botween Room 127 and Gym         3         X 1.5 W LED         ELED1.5/1         15         0.0         Breaker         8760         None           Area Botween Room 127 and Gym         12         12.8 F.2         F42LL         60         0.7         SW         3744         OCC	Hallway ne	ar Room 112	46	W32CF1	F41LL	32	1.5	SW	3744	None	5,511	
Area Between Roam 122 and Gym         5         R 100 C I 1         1100/1         100         0.5         SW         374         OCC           Area Between Roam 122 and Gym         3         X 15 W LED         ELED1.5/I         1.5         0.0         Breaker         876         None           Area Between Roam 127 and Gym         12         T 22 R F 2         F42LL         60         0.7         SW         3744         OCC		ar Room 112	3		ELED1.5/2	3	0.0	Breaker	8760	None	79	
Area Between Room 127 and Gym         3         X 1.5 W LED         ELED1.5/1         1.5         0.0         Breaker         8760         None           Area Between Room 127 and Gym         12         T 32 R F 2         F42LL         60         0.7         SW         3744         OCC		een Room 127 and Gym	5	R 100 C 1 1	1100/1	100	0.5	SW	3744	220	1,872	
Area Between Room 127 and Gym 12   T32 R F 2   F42LL 60 0.7 SW 3744 OCC		een Room 127 and Gym	3	X1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	None	39	
	Area Betwo	een Room 127 and Gym	12	T32RF2	F42LL	03	0.7	CIM	27.4.4	000	0000	

According to the control of the co					EXISTING	<b>EXISTING CONDITIONS</b>	SN					
Open State of St		Area Description	No. of Fixtures		NYSERDA Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual	Retrofit	Annual	
Accordance (Notes) of September (Notes) of Septem	Field	Unique description of the location - Room number(Room name: Floor number (if applicable)		"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess. lamps U shape		-	(Watts/Foxt) * (Fixt No.)	Pre-inst control device	Estimated annual hours for the usage group		(kW/space)* (Annual Hours)	Notes
According to be not compared by the compared	18	Area Between Room 127 and Gvm	1	T32RF4(ELE)	F44ILL	112	0.1	SW	3744	000	419	
According the part   According to   Accode to   According to   A	18	Area Between Room 127 and Gym	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	Breaker	8760	None	981	
Part	18	Area Between Room 127 and Gym		T32RF4(ELE)	F44ILL	112	0.1	SW	3744	220	419	
Part	×	Gym Lobby		X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	None	39	
Part	98	Gym Lobby		T32RF2	F42LL	09	1.3	SW	3650	200	4,818	
Open Chilesey         4 N 75 O 31         N 75 O 31         N 75 O 32	235	Gym Offices		R75CQ1	h75/1	75	0.3	SW	3650	000	1,095	
Part	235	Gym Offices		R75CQ1	h75/1	75	0.3	SW	3650	2000	1,095	
Part	235	Gym Offices		R75CQ1	h75/1	75	0.3	SW	3650	သ	1,095	
Part Color   Par	235	Gym Offices		R75CQ1	h75/1	75	0.5	SW	3650	၁	1,643	
Ontal         Open         A M M M M M M M M M M M M M M M M M M M	235	Gym Offices		R75CQ1	h75/1	75	0.5	SW	3650	သ	1,643	
Office Signature         A MARCH SIGNATURE         FARILL         60         0.2         STM         SSM         Name           Aux Omm         Aux Omm         4         M NO DE SELED         FAZIL         60         0.2         STM         SSM         Name           Aux Omm         Aux Omm         4         M NO DE SELED         FAZIL         60         0.2         STM         SSM         SSM         Name           Aux Omm         Aux Omm         M NO DE SELED         FAZIL         60         0.1         SSM         SSM         SSM         NAME           Onn - Soya         Aux Omm         M NO DE SELED         FAZIL         60         0.1         SSM         SSM         NAME           Onn - Soya         Aux Omm         M NO DE SELED         FAZIL         60         0.1         SSM         SSM         NAME           Onn - Soya         Aux Omm         M NO DE SELED         FAZIL         60         0.1         SSM         SSM         NAME           Onn - Soya         Aux Omm         M NO DE SELED         FAZIL         60         0.1         SSM         NAME           Onn - Soya         Aux Omm         M NO DE SELED         FAZIL         60         0.1	×	Gym		X1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	None	23	
And Collima         4 M M M S C J ELEL         FASTL         60         0.2         SW         Name           And Collima         4 M M M S C J ELEL         FASTL         60         0.2         SW         Name           And Collima         2 M M M G C ELEL         FASTL         60         0.2         SW         Name           And Collima         2 M M M G C ELEL         FASTL         60         0.1         SW         8990         Name           Onn - Boys         1 M M M C C ELEL         FASTL         60         0.1         SW         8990         No           Onn - Boys         2 M M M C C ELEL         FASTL         60         0.1         SW         8990         No           Onn - Boys         2 M M M C C ELEL         FASTL         60         0.1         SW         8990         No           Onn - Grab         1 M M M C C ELEL         FASTL         60         0.1         SW         8990         No           Onn - Grab         1 M M M M M M M M M M M M M M M M M M M	6	Gym		High Bay MH 400 35 Feet High	MH400/1	458	11.0	SW	3650	None	40,121	
And Collimation         4 M MS C 12 (ELE)         FASTL         60         0 2         SSM         Name           And Collimation         4 M MS C 12 (ELE)         FASTL         60         0 2         SSM         Name           And Collimation         2 M M MS C 12 (ELE)         FASTL         60         0 1         SSM         8999         Name           And Collimation         2 M M M M M M M M M M M M M M M M M M M	46	Aux Gym	T	W 32 C F 2 (ELE)	F42LL	09	0.2	SW	3650	None	876	
Ann College         A NA COLLEGE         FARIL         60 0         0.2         SNY         SSS 00         Name           Ann College         College         0.0         0.1         SNY         SSS 00         NAME           One: Boyer         2         N WO CF CE LEID, All Challe (SOTIA)         FAZIL         60         0.1         SNY         SSS 00         OCC           One: Boyer         2         N WO CF CE LEID, All Challe (SOTIA)         FAZIL         60         0.1         SNY         SSS 00         OCC           One: Boyer         2         N WO CF CE LEID, All Challe (SOTIA)         FAZIL         60         0.1         SNY         SSS 00         OCC           One: Boyer         2         N WO CF CE LEID, All Challe (SOTIA)         FAZIL         60         0.1         SNY         SSS 00         NOC           One: College         2         N WO CF CE LEID, All Challe (SOTIA)         FAZIL         60         0.1         SNY         SSS 00         NOC           One: College         2         N WO CF CE LEID         FAZIL         60         0.1         SNY         SNY         SNY           One: College         2         N WO CF CE LEID         FAZIL         60         0.1         SNY	46	Aux Gym	T	W 32 C F 2 (ELE)	F4ZLL	09	0.2	SW	3650	None	9/8	
Ann Cypin         2         N. N. COLT, ELELY         FALL         60         0.1         SNY         9399         NAME           Ann Cypin         2         N. N. COLT, ELELY         FALL         60         0.1         SNY         9399         NAME           Opin Boys         2         N. N. COLT, ELELY         FALL         60         0.1         SNY         9399         NAME           Opin Boys         2         N. N. COLT, ELELY         FALL         60         0.1         SNY         9399         NAME           Opin Boys         2         N. N. COLT, ELELY         FALL         60         0.1         SNY         9399         NOCC           Opin Griss         2         N. N. COLT, ELELY         FALL         60         0.1         SNY         9399         NOCC           Opin Griss         2         N. N. W. P. F.         FALL         60         0.1         SNY         9399         NOCC           Opin Griss         2         N. N. W. P. F.         FALL         60         0.1         SNY         9399         NOCC           Opin Griss         2         N. N. W. P. F.         FALL         60         0.1         SNY         9399         NOCC <td>46</td> <td>Aux Gym</td> <td>T</td> <td>W 32 C F 2 (ELE)</td> <td>F42LL</td> <td>09</td> <td>0.2</td> <td>SW</td> <td>3650</td> <td>None</td> <td>876</td> <td></td>	46	Aux Gym	T	W 32 C F 2 (ELE)	F42LL	09	0.2	SW	3650	None	876	
Open State         2 B         NATOWATE (SEE) Pad Octol (800 bas)         FAZIL         600 0         61 SW         500 0         600 0	46	Aux Gym		W 32 C F 2 (ELE)	F42LL	09	0.1	SW	3650	None	438	
Opin Bibly         1 M MS OF ZE (ELE)         FEZIL         60 0         61 SW         SW         90 0         COC           Opin Bibly         2 M MS OF ZE (ELE)         FEZIL         60 0         61 SW         80 0         60 0<	232	Aux Gym	T	R100CI1	1100/1	100	0.3	SW	3650	None	1,095	
Open Signey         1 M MS OF FILE IP ALI CHAIN (SOT NR)         FFALL         60 0         61 0         50 M         60 0         60	46	Gym - Boys	T	W 32 C F 2 (ELE)	F42LL	09	0.1	SW	3650	220	438	
Open Stage         Open Stage         Open Stage         OP ACT	20	Gym - Boys	T	W 32 W F 2 (ELE) Pull Chain (500 hrs.)	F4ZLL	09	0.1	SW	3650	220	438	
Optime Stayle         1         N M SC F 2 (ELE)         FAZIL         60         6.4         SW         90         0.0           Optim Stayle         2         N M SC F 2 (ELE)         FAZIL         60         0.4         SW         90         0.0           Optim Stayle         2         N M SC F 2 (ELE)         FAZIL         60         0.1         SW         90         0.0           Optim Cities         2         N M SC F 2 (ELE)         FAZIL         60         0.1         SW         90         0.0           Optim Cities         2         N M SC F 2 (ELE)         FAZIL         60         0.1         SW         90         0.0           Optim Cities         3         N M SC F 2 (ELE)         FAZIL         60         0.1         SW         90         0.0           Optim Cities         3         N M SC F 2 (ELE)         FAZIL         60         0.1         SW         90         0.0           New Le Cyan         3         N M SC F 2 (ELE)         FAZIL         60         0.1         SW         90         0.0           Februari Export         4         N M SC F 2 (ELE)         FAZIL         60         0.1         SW         90         0.0 <td>46</td> <td>Gym - Boys</td> <td>T</td> <td>W 32 C F 2 (ELE)</td> <td>F4ZLL</td> <td>09</td> <td>0.1</td> <td>SW</td> <td>3650</td> <td>220</td> <td>219</td> <td></td>	46	Gym - Boys	T	W 32 C F 2 (ELE)	F4ZLL	09	0.1	SW	3650	220	219	
Opin Solve         1 M SECF ZELED         FEZIL         60         0.4         SNY         SNY         SNO         NAME         COT         CON         ODE	46	Gym - Boys	T	W 32 C F 2 (ELE)	F42LL	09	0.1	SW	3650	220	438	
Optimizability         Color	40	Gym - Boys	T	W 32 C F 2 (ELE)	F42LL	000	0.4	NA.	3020	None	1,533	
Open Colists         2 A WAZ AV Z (ELLE) ALIGNAMI (MORNA)         FEALL         0 K1         SW         9 SW         OCCC           Open Colists         1 A WAZ AV Z (ELLE) ALIGNAMI (MORNA)         FEALL         0 K1         SW         9 899         OCCC           Open Colists         1 A WAZ CC Z (ELLE)         FEALL         0 K0         0 K1         SW         9 899         OCCC           Open Colists         1 A WAZ CC Z (ELLE)         FEALL         0 K0         0 K1         SW         9 899         OCCC           Open Colists         1 A WAZ CC Z (ELLE)         FEALL         0 K0         0 K1         SW         9 899         OCCC           Next to Symbol         1 A WAZ CC Z (ELLE)         FEALL         0 K0         0 K1         SW         9 899         OCCC           Next to Symbol         1 A WAZ CC Z (ELLE)         FEALL         0 K0         0 K1         SW         9 899         OCCC           Market Symbol         1 A WAZ CC Z (ELLE)         FEALL         0 K0         0 K1         SW         9 899         OCCC           Market Symbol         1 A WAZ CC Z (ELLE)         FEALL         0 K0         0 K1         SW         9 899         OCCC           Market Symbol         1 A WAZ CC Z (ELLE) <t< td=""><td>000</td><td>Gym - Boys</td><td>0 0</td><td>1 32 K F 2</td><td>L4211</td><td>00</td><td>0.0</td><td>SW</td><td>3650</td><td>None</td><td>70/1</td><td></td></t<>	000	Gym - Boys	0 0	1 32 K F 2	L4211	00	0.0	SW	3650	None	70/1	
Optimization         Color	40	Gym - Gills	T	W 32 C F Z (ELE)	F42LL	00	0.1	SW	3050	3 8	430	
OFFICE	98	Gim Cide	T	W 32 W F 2 (ELE) Full Clidin (300 iiis.)	F42LL	00	5 6	SIM	3650	38	240	
Offm: Calis         7         N N S C F (ELE)         F G L L         60         61         S W         950         N N S C P (ELE)         C M S C P (ELE)	AF.	Gim Gide		W 32 C F 2 (ELE)	F424.L	00	5	SIM	3650	38	438	
Office Clieb         Office Clieb         OFFICE CLIEB         FEZIL         60         0.5         SW         3859         Nove           Newt to Ome Boye         9         N 25C F Z (ELE)         FEZIL         60         0.5         SW         3869         0.CC           Newt to Ome Boye         1         N M00CF I         N M00CF I         FEZIL         60         0.1         SW         374         0.CC           Ellmanck Newt Pool         1         N M30 F I         N M30 F I         FEZIL         60         0.1         SW         374         0.CC           Hallway Near Pool         1         N M30 F I         FEZIL         60         0.8         SW         374         None           Hallway Near Cym         1         N M30 F I         FEZIL         60         0.8         SW         374         None           Hallway Near Cym         1         N M30 F I         FEZIL         60         0.8         SW         374         None           Hallway Near Cym         1         N M30 F I         FEZIL         60         0.8         SW         374         None           Rom 132         1         1         N M30 F I         FEZIL         60         0.8 <td>46</td> <td>Gum - Girls</td> <td></td> <td>W 32 C F 2 (FLE)</td> <td>F4211</td> <td>89</td> <td>0.4</td> <td>MS</td> <td>3650</td> <td>None</td> <td>1533</td> <td></td>	46	Gum - Girls		W 32 C F 2 (FLE)	F4211	89	0.4	MS	3650	None	1533	
Medic to Gym. Bayer         99         MY 2C CF 2 (ELE)         FG2LT         60         0.5         SW         3959         OCC           Filturate to Gym. Bayer         6         MY 2C CF 2 (ELE)         FF1LL         32         0.4         SW         3744         OCC           Filturate to Gym. Bayer         1         MY 3C FT         FF1LL         32         0.4         Breader         8760         Mone           Hallway Neat Pool         1         MY 3C FT         ELED15T1         1.5         0.0         Breader         8760         None           Hallway Neat Cym         1         MY 3C FZ (ELE)         ELED15T1         1.5         0.0         Breader         8760         None           Hallway Neat Cym         1         MY 3C FZ (ELE)         FF2LL         6.0         0.3         SW         3744         None           Hallway Neat Cym         1         MY 3C FZ (ELE)         FF2LL         6.0         0.3         SW         3744         None           Basenstroad         My 3C FZ (ELE)         FF2LL         6.0         0.3         SW         3744         None           Basenstroad         My 3C FZ (ELE)         FF2LL         6.0         0.3         SW         3760	86	Gum - Girls		T32RF2	E4211	60	0.5	MS	3650	None	1752	
Monta Lo Gym.         Logy         1 Monta Pendle         6 m 2 Fell         6 m 2 Fell         6 m 2 Fell         0 m 2	46	Next to Gvm - Bovs	T	W32 CF2 (ELE)	F421.1	09	0.5	SW	3650	000	1.971	
Enthaney Naar Pool         6         W 22 F 1         F41L         22         0.2         SW         3744         OCC           Hallowey Near Pool         1         X 15 W LED         F41L         22         0.4         Breader         8750         None           Hallowey Near Pool         1         X 15 W LED         ELED1.51         1.5         0.0         Breader         8750         None           Hallowey Near Pool         1         X 15 W LED         ELED1.51         1.5         0.0         Breader         8750         None           Hallowey Near Pool         1         X 15 W LED         F42L         60         0.2         SW         3744         None           Hallowey Near Own         4         W 32 C F 2 (ELE)         F42L         60         0.2         SW         3740         None           Resement Mochanical Roun         4         W 32 C F 2 (ELE)         F42L         60         0.4         Breader         8760         None           Resement Mochanical Roun         4         W 32 C F 2 (ELE)         F42L         60         0.6         SW         3744         None           Resement Mochanical Roun         4         W 32 C F 2 (ELE)         F42LL         60         <	227	Next to Gym - Boys	T	W60CF1	F81EL	09	0.1	SW	3744	2000	225	
Hallbray Note Pool         11         WZET1         FAIL         32         0.4         Biselberr         8760           Hallbray Note Pool         1         X 1.5 W LED         ELED1.51         1.5         0.0         Biselberr         8760         Note           Hallbray Note Opm         1         X 1.5 W LED         ELED1.51         1.5         0.0         Biselberr         8770         Note           Hallbray Note Opm         1         X 1.5 W LED         ELED1.51         1.5         0.0         Biselberr         8770         Note           Hallbray Note Opm         1         X 1.5 W LED         FAZIL         60         0.8         SW         3744         Note           Hallbray Note Opm         1         W 32 C F 2 (ELE)         FAZIL         60         0.8         SW         3744         Note           Robin 122         1         W 32 C F 2 (ELE)         FAZIL         60         0.6         SW         3744         Note           Robin 122         1         T 22 R F 2         FAZIL         60         0.6         SW         3744         Note           Robin 122         1         T 22 R F 2         FAZIL         60         0.6         SW         3744	105	Entrance Near Pool		W 32 F 1	F41LL	32	0.2	SW	3744	220	719	
Hallway Nace Pool         1         X15 WLED         ELED1 571         1         0         Biesleer         8760         None           Hallway Nace Opm         1         X15 WLED         ELED1 571         15         0.0         Biesleer         8760         None           Hallway Nace Opm         1         X15 WLED         FA21L         60         0.2         SW         2080         None           Mass Account Nach Anna Control         4         W 32 C F 2 (ELE)         FA21L         60         0.2         SW         3044         None           Maintenance Storage         6         W 32 C F 2 (ELE)         FA21L         60         0.6         SW         3060         None           Room 132         10         T 32 R F Z         FA21L         60         0.6         SW         2060         OCC           Room 132         10         T 32 R F Z         FA21L         60         0.6         SW         2060         OCC           Room 132         10         T 32 R F Z         FA21L         60         0.6         SW         2060         OCC           Room 132         10         T 32 R F Z         FA21L         60         0.6         SW         OCC      <	105	Hallway Near Pool		W 32 F 1	F41LL	32	0.4	Breaker	8760		3,084	
Hallway Mear Gym         11         X1.5 W LED         FEED1.5f T         15         0.0         Breeker B 780         None           Hallway Mear Gym         14         TX2.5 F Z E (ELE)         FA21L         60         0.2         SW         3744         None           Wischroom         3         W 32.6 F Z (ELE)         FA21L         60         0.2         SW         2000         None           Maintenance Storage         4         W 32.6 F Z (ELE)         FA21L         60         0.4         SW         2000         None           Room 132         10         T 28.R F Z         FA21L         60         0.6         SW         2808         OCC           Room 132         10         T 28.R F Z         FA21L         60         0.6         SW         2808         OCC           Room 132         10         T 28.R F Z         FA21L         60         0.6         SW         2808         OCC           Room 132         10         T 28.R F Z         FA21L         60         0.6         SW         2808         OCC           Room 132         10         T 28.R F Z         FA21L         60         0.6         SW         2808         OCC	x	Hallway Near Pool		X1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	None	13	
Hallword Name         14 TA2 R F E         F EALL         60         0.8         SW         3744         None           Hallword Near Cym         14 Ma2 C F Z (ELE)         F EALL         60         0.8         SW         2080         None           Bassement Mechanical Room         14 Wa2 C F Z (ELE)         F EALL         60         0.8         SW         3744         None           Montal Racin Sourge         6 Wa2 C F Z (ELE)         F EALL         60         0.6         SW         3749         None           Montal Racin Sourge         9 T 22 R F Z         F EALL         60         0.6         SW         2808         OCC           Room 132         10 T 32 R F Z         F EALL         60         0.6         SW         2808         OCC           Room 132         10 T 32 R F Z         F EALL         60         0.6         SW         2808         OCC           Room 132         10 T 32 R F Z         F EALL         60         0.6         SW         2808         OCC           Room 132         10 T 32 R F Z         F EALL         60         0.6         SW         2808         OCC           Room 132         10 T 32 R F Z         F EALL         60         0.6	×	Hallway Near Gym		X1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	None	13	
Washinotal Roam         3         Was C C P (ELE)         F42LL         60         0.2         SW         0.0         0.0           Basement Mechanical Roam         14         Was C C P (ELE)         F42LL         60         0.4         Basker         3744         None           Roam 132         0         172 R F 2         F42LL         60         0.6         SW         200         0.0           Roam 132         10         172 R F 2         F42LL         60         0.6         SW         200         0.0           Roam 132         10         172 R F 2         F42LL         60         0.6         SW         2808         0.0           Roam 132         10         172 R F 2         F42LL         60         0.6         SW         2808         0.0           Roam 132         10         172 R F 2         F42LL         60         0.6         SW         2808         0.0           Roam 132         10         172 R F 2         F42LL         60         0.6         SW         2808         0.0           Roam 132         10         172 R F 2         F42LL         60         0.6         SW         2808         0.0           Roam 132	98	Hallway Near Gym		T32RF2	F42LL	09	8.0	SW	3744	None	3,145	
Resement Mechanical Room         14         W.3.Z.C F.Z (ELE.)         F4211         60         0.8         SW         3744         None           Room 132         9         T.3.Z.R F.2         F.2.L.         60         0.5         SW         2809         OCC           Room 132         10         T.3.Z.R F.2         F.2.L.         60         0.6         SW         2809         OCC           Room 132         10         T.3.Z.R F.2         F.2.L.         60         0.6         SW         2809         OCC           Room 132         10         T.3.Z.R F.2         F.2.L.         60         0.6         SW         2809         OCC           Room 132         10         T.3.Z.R F.2         F.2.L.         60         0.6         SW         2809         OCC           Room 132         10         T.3.Z.R F.2         F.2.L.         60         0.6         SW         2809         OCC           Room 132         10         T.3.Z.R F.2         F.2.L.         60         0.6         SW         2809         OCC           Room 132         10         T.3.Z.R F.2         F.2.L.         60         0.6         SW         SW         SW           Room 1	46	Washroom		W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2080	None	374	
Maintenance Storage         6         WAZG F Z (ELE)         F 42LL         60         0.4         Birader         8760         None           Room 132         10         T 32 R F Z         F 42LL         60         0.6         5W         2808         0CC           Room 132         10         T 32 R F Z         F 42LL         60         0.6         5W         2808         0CC           Room 132         10         T 32 R F Z         F 42LL         60         0.6         5W         2808         0CC           Room 132         10         T 32 R F Z         F 42LL         60         0.6         5W         2808         0CC           Room 132         10         T 32 R F Z         F 42LL         60         0.6         5W         2808         0CC           Room 132         10         T 32 R F Z         F 42LL         60         0.6         5W         2808         0CC           Room 132         10         T 32 R F Z         F 42LL         60         0.6         5W         2808         0CC           Room 132         10         T 32 R F Z         F 42LL         60         0.6         5W         5W         2808         0CC	46	Basement Mechanical Room		W 32 C F 2 (ELE)	F42LL	09	0.8	SW	3744	None	3,145	
Noomn 132         19 132 R F 2         F 42LL         60         0.5         SW         2808         OCC           Room 132         10 132 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10 132 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10 132 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10 132 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10 132 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10 132 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10 132 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10 1 132 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10 1 132 R F 2         F42LL         60         0.6         SW         SW         2808         OCC <td>46</td> <td>Maintenance Storage</td> <td></td> <td>W 32 C F 2 (ELE)</td> <td>F42LL</td> <td>09</td> <td>0.4</td> <td>Breaker</td> <td>8760</td> <td>None</td> <td>3,154</td> <td></td>	46	Maintenance Storage		W 32 C F 2 (ELE)	F42LL	09	0.4	Breaker	8760	None	3,154	
Noomn 132         10         1 32 K F 2         F42LL         60         0.6         SW         2000         OUC           Room 132         10         1 32 K F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         1 32 K F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         1 32 K F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         1 32 K F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         1 32 K F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         1 32 K F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         1 32 K F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         1 32 K F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         1         <	200	Koom 132	5	1 32 K F 2	F4ZLL	00	0.0	WS	2808	300	010,1	
Noom 132         10         1 22 R F 2         F42LL         60         0.6         SW         2000         OCC           Room 132         10         1 32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         1 32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         1 32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         1 32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         1 32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         1 32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         1 32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         1         1 1 32 R F 2         F42LL         60         0.6         SW         SW         S908         OCC           Room 132	90	Room 132	T	T 22 B E 2	F42LL	00	0.0	SW	2000	38	1,000	
Room 132         10         132 R F 2         F42LL         60         0.6         SW         200         0.0           Room 132         10         132 R F 2         F42LL         60         0.6         SW         2808         0CC           Room 132         10         132 R F 2         F42LL         60         0.6         SW         2808         0CC           Room 132         10         132 R F 2         F42LL         60         0.6         SW         2808         0CC           Room 132         10         132 R F 2         F42LL         60         0.6         SW         2808         0CC           Room 132         10         132 R F 2         F42LL         60         0.6         SW         2808         0CC           Room 132         10         132 R F 2         F42LL         60         0.6         SW         2808         0CC           Room 132         10         132 R F 2         F42LL         60         0.6         SW         2808         0CC           Room 132         1         132 R F 2         F42LL         60         0.6         SW         2808         0CC           Room 132         4         132 R F 2	000	Room 132	Ť	T30BE3	F4211	8 8	900	SW	2808	38	1,000	
Room 132         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         1         X15 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         2         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         2         T32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 133         2         W32 C F EL	86	Room 132	T	T37RE2	E4211	9	0.6	WS.	2808	000	1,685	
Room 132         10         T32 R F 2         F421L         60         0.6         SW         280B         OCC           Room 132         10         T32 R F 2         F421L         60         0.6         SW         280B         OCC           Room 132         10         T32 R F 2         F421L         60         0.6         SW         280B         OCC           Room 132         10         T32 R F 2         F421L         60         0.6         SW         280B         OCC           Room 132         10         T32 R F 2         F421L         60         0.6         SW         280B         OCC           Room 132         1         X15 W LED         F421L         60         0.6         SW         280B         OCC           Room 132         1         X15 W LED         F421L         60         0.6         SW         280B         OCC           Room 132         2         T32 R F 2         F421L         60         0.1         SW         280B         OCC           Room 132         2         T32 R F 2         F421L         60         0.1         SW         280B         OCC           Room 133         10         T32 R F 2<	86	Room 132		T32RF2	F4211	9	0.6	SW	2808	000	1,685	
Room 132         10         T32 R F 2         F421L         60         0.6         SW         2806         OCC           Room 132         10         T32 R F 2         F421L         60         0.6         SW         2808         OCC           Room 132         10         T32 R F 2         F421L         60         0.6         SW         2808         OCC           Room 132         10         T32 R F 2         F421L         60         0.6         SW         2808         OCC           Room 132         1         T32 R F 2         F421L         60         0.6         SW         2808         OCC           Room 132         4         T32 R F 2         F421L         60         0.1         SW         2808         OCC           Room 132         2         T32 R F 2         F421L         60         0.1         SW         2808         OCC           Room 132         2         T32 R F 2         F421L         60         0.1         SW         2808         OCC           Room 133         2         W32 C F 2 (ELE)         F421L         60         0.1         SW         2808         OCC           Room 134         10         T32 R	86	Room 132		T32RF2	F421.1	09	0.6	SW	2808	000	1.685	
Room 132         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         4         T32 R F 2         F42LL         60         0.2         SW         2808         OCC           Room 132         2         T32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 132         2         T32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 133         2         V32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 134         1.0         T32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 134         1.0         T32 R F	86	Room 132		T32RF2	F42LL	09	9.0	SW	2808	000	1,685	
Room 132         10         T32RF2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         T32RF2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         T32RF2         F42LL         60         0.6         SW         2808         OCC           Room 132         1         X15WLED         F42LL         60         0.2         SW         2808         OCC           Room 132         2         T32RF2         F42LL         60         0.1         SW         2808         OCC           Room 132         2         T32RF2         F42LL         60         0.1         SW         2808         OCC           Room 134         10         T32RF2         F42LL         60         0.1         SW         2808         OCC           Room 134         10         T32RF2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32RF2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32RF2         F42LL	86	Room 132		T32RF2	F42LL	09	0.6	SW	2808	000	1,685	
Room 132         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         4         T 72 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 132         2         T32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 132         2         T32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 133         2         T32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 133         2         T32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2<	86	Room 132		T 42 R E 2	E4211	60	0.6	MS	2808	000	1 685	
Room 132         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 132         1         X15 W LED         F42LL         60         0.2         SW         2808         OCC           Room 132         2         T32 R F 2         F42LL         60         0.2         SW         2808         OCC           Room 132         2         T32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 133         2         W3 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 133         2         W3 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2 <td>86</td> <td>Room 132</td> <td></td> <td>T 27 R E 2</td> <td>E4211</td> <td>60</td> <td>0.6</td> <td>MS</td> <td>2808</td> <td>OUC</td> <td>1,685</td> <td></td>	86	Room 132		T 27 R E 2	E4211	60	0.6	MS	2808	OUC	1,685	
Room 132         1         X.1.5 W LED         ELED1.5/1         1.5         0.0         Breaker         8760         None           Room 132         2         1 72.8 F 2         F421L         60         0.1         SW         2808         OCC           Room 132         2         1 72.8 F 2         F421L         60         0.1         SW         2808         OCC           Room 134         10         1 72.8 F 2         F421L         60         0.1         SW         2808         OCC           Room 134         10         1 72.8 F 2         F421L         60         0.6         SW         2808         OCC           Room 134         10         1 72.8 F 2         F421L         60         0.6         SW         2808         OCC           Room 134         10         1 72.8 F 2         F421L         60         0.6         SW         2808         OCC           Room 134         10         1 72.8 F 2         F421L         60         0.6         SW         2808         OCC           Room 134         10         1 72.8 F 2         F421L         60         0.6         SW         2808         OCC           Room 134         10	86	Room 132		T37RE2	E4211	60	0.6	MS	2808	0000	1,685	
Room 132         4         T32 R F 2         F42LL         60         0.2         SW         2008         None           Room 132         2         T32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 133         2         W32 C F 2 (ELE)         F42LL         60         0.1         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC	2	Room 132	T	X15WIED	EI ED1 5/1	15	0.0	Breaker	8760	None	13	
Room 132         2         T32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 132         2         T32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 133         2         W 32 C F 2 (ELE)         F42LL         60         0.1         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC	80	Boom 132	T	T 30 B E 9	EASI	60	0.0	MS	2808	None	674	
Room 133	000	Doom 132	T	T32BE3	F4211	9	0.4	CIM	2808	000	337	
Room 134         10         T32 R F 2         F42LL         60         0.1         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC	000	Room 132	T	T30BE3	EASII	8 6	0.0	MS	2808	300	337	
Room 134   10   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 134   10   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 134   10   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 134   10   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 134   10   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 134   10   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 134   10   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 134   10   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 134   10   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 134   10   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 134   10   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 134   10   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 135   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 135   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 135   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 135   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 135   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 135   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 135   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 135   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 135   T32 R F 2   F42LL   60   0.6   SW   2808   OCC     Room 136   T32 R F 2   F42LL   F42LL   60   0.6   SW   2808   OCC     Room 136   T32 R F 2   F42LL   F42LL   60   0.6   SW   2808   OCC     Room 136   T32 R F 2   F42LL   F42LL   60   0.6   SW   2808   OCC     Room 136   T32 R F 2   F42LL   F42LL   60   0.6   SW   2808   OCC     Room 136   T32 R F 2   F42LL   F42	AR.	Room 133	T	W3CE2/EIEI	E4211	89	0.1	MS	2808	000	337	
Recom 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Recom 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Recom 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC	86	Room 134	T	T 32 R F 2	E4211	9	0.6	MS	2808	0000	1,685	
Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC           Room 134         10         T32 R F 2         F42LL         60         0.6         SW         2808         OCC	80	Room 134	T	T378F2	E4211	90	0.6	SW	2808	0000	1,685	
Room 134   10   T32 R F 2   F42LL 60 0.6 SW 2808 OCC	88	Room 134		T32RF2	F42LL	09	9.0	SW	2808	000	1,685	
	86	Room 134		T32RF2	F421.1	09	9.0	SW	2808	000	1,685	

т о	Area Description Unique description of the location - Room number(Room name: Floor	No. of Fixtures No. of fixtures before the	Standard Fixture Code	NVCEDDA Civing Code	Watts per Fixture	kW/Space	Eviet Control	Annual	Retrofit	Annual	
	Unique description of the location - Room number(Room name: Floor			NISERDA FIXIUFE CODE			Exist control	SOM	3		
	Room number/Room name: Floor		Tiohfing Fixture Code" Example	Code from Table of Standard	Value from	Watts/Fixt)*	Pre-inst control	Fstimated	Keltotii	(kW/snace)*	Notes
			2T 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2	Fixture Wattages		(Fixt No.)	device	annual hours	control	(Annual	Notes
	number (if applicable)	Lenous	lamps U shape		Standard			for the usage		Hours)	
					Wattages			,			
	Room 134	80	T32RF2	F42LL	09	0.5	SW	2808	000	1,348	
	Room 134	Ť	132KF2	F42LL	09	0.5	AN	2808	38	1,348	
	Room 134	T	132 R F 2	F42LL	009	0.0	SW	2808	38	1,540	
	300m 134		T30RF2	E4211	60	0.6	SW	2808	000	1,685	
	Room 134		T32RF2	F4211	9	0.6	SW	2808	000	1,685	
	Room 134		T32RF2	F42LL	09	9.0	SW	2808	000	1,685	
1 1	Room 134	Г	R150 C11	1150/1	150	9.0	SW	2808	None	1,685	On Occupancy Sensor
ı	Room 134	Г	R 100 C 1 1	1100/1	100	0.5	SW	2808	None	1,404	1,404 On Occupancy Sensor
	Room 134		X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	None	13	
	Room 134		W 32 C F 1	F41LL	32	0.1	SW	2808	220	180	
	Room 134		T32RF2	F42LL	09	0.4	SW	2808	000	1,011	
98	Room 134	2	T32RF2	F42LL	09	0.1	SW	2808	000	337	
	Room 134		T32RF2	F42LL	09	0.1	SW	2808	200	337	
- 1	Room 135		W 32 C F 2 (ELE)	F42LL	09	0.7	SW	2808	200	2,022	
╗	Room 135		W 32 C F 2 (ELE)	F42LL	09	0.7	SW	2808	000	2,022	
Т	Room 135	12	W 32 C F 2 (ELE)	F42LL	09	0.7	SW	2808	000	2,022	
	Room 135	T	W 32 C F 2 (ELE)	F42LL	09	0.7	SW	2808	220	2,022	
46	Room 135	12	W 32 C F 2 (ELE)	F42LL	09	0.7	AS.	2808	200	2,022	
	Room 135		X 1.5 W LED	ELEDISA	1.5	0.0	breaker	8/60	None	513	
	Room 135		W 32 C F 2 (ELE)	F4ZLL	99	0.5	SW	2808	200	1,348	
90	Koom 135		W 32 C F 2 (ELE)	F42LL	8 8	0.7	AN S	2808	38	9227	
- 1	Koom 135	7	W 32 U F Z (ELE)	F42LL	200	0.1	AND	2000	3	200	
- 1	K00m 135		W 32 C F Z (ELE)	F42LL	00	7.0	SW	2000	None	2 527	
Т	Room 136	2 00	W 32 C F 2 (ELE)	F424.	3 8	0.3	SW	2808	38	741	
Т	Room 136		W 30 C F 2 (FI F)	F4211	8 8	14	MS	2808	000	4 044	
Т	Room 136	T	W 32 C F 2 (FLF)	F4211	8 9	0.8	SW	2808	200	2,359	2.359
Т	Room 136	Γ	T32RF2	F42LL	9	0.2	SW	2808	None	674	
Г	Room 136		T32RF2	F42LL	09	0.4	SW	2808	200-2	1,011	Ceiling Occupancy
46	Science Storage	6	W 32 C F 2 (ELE)	F42LL	09	0.5	SW	1000	220	540	
	Sathroom Near Room 136		W 32 C F 2 (ELE)	F42LL	09	0.1	SW	2080	200	250	SAME SWITCH
	Bathroom Near Room 136		2T 17 R F 4 (ELE)	F22ILL	æ	0.1	SW	2080	8	137	
Т	Bathroom Near Room 136		R 60 C 1 1	160/1	09	0.1	SW	2080	None	250	Low to no use
Т	Wash Room / Janitor Closet	T	132 K F 2	F4ZLL	200	0.2	NS.	2000	38	499	
100	Koom 139	Ť	132 K F 2	F4ZLL	200	0.5	NA C	2000	3	1,348	
	Room 139	Ť	1 32 R F 2	F42LL	00	0.0	SIM	2000	None	337	
	Room 130	7 9	1 32 N F 2	F424.	3 6	0.0	SW	2808	None	1011	
	Soom 130	Τ	1 32 N F 2	F424.	8 6	0.7	SW	2808	OUC.	2002	
	300m 130		T32 R F 2	E4211	9	0.7	MS	2808	000	2 022	
	300m 139	12	T32RF2	F42LL	09	0.7	SW	2808	200	2.022	
	300m 139		T32RF2	F42LL	09	0.7	SW	2808	220	2,022	
	Room 139		X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	None	13	
98	Room 140		T32RF2	F42LL	09	8.0	SW	2808	220	2,359	
	Room 140		T32RF2	F42LL	09	0.8	SW	2808	သ	2,359	
	Room 140		T32RF2	F42LL	09	0.8	SW	2808	၁၁၀	2,359	
	Room 140		T32RF2	F42LL	09	0.8	SW	2808	သ	2,359	
×	Room 140	T	X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	None	13	
T	Room 140		T 32 R F 4 (ELE)	F44II.L	112	1.1	SW	2808	220	3,145	
Т	Room 140	T	T32RF2	F42LL	09	0.2	SW	2808	None	4044	
Т	Room 140	0 1	1 32 K F Z	F42LL	000	6.0	SW	2000	None	1 470	,
	200m 141		1 32 N F 2	F42LL	8 6	500	SW	2808	38	1 170	
	300m 141		137 R F 2	F42LL	8 6	0.3	WS.	2808	200	842	
	Room 141		132 R F 2	F42LL	60	0.7	SW	2808	000	1.853	
98	Room 141	10	T 32 R F 2	F42LL	8 09	0.6	SW	2808	200	1,685	
Т	Room 141		T32RF2	F42LL	09	0.7	SW	2808	220	1,853	
П	Room 141		T32RF2	F42LL	09	0.7	SW	2808	220	1,853	
	Room 141		T32RF2	F42LL	09	0.4	SW	2808	220	1,179	

Field Un   Code   Racon   98   Room   98   88   Room   98   Room	Area Description	No. of Fixtures			Watts per			Annual	Retrofit	Annual	
888888888	ique description of the location -		Standard Fixture Code	NYSERDA Fixture Code	LIVINE	kW/Space	Exist Control	Hours	Control	kWh	
	Room number/Room name: Floor number (if appliicable)	No. of fixtures before the retrofit	"Lighting Fixture Code" Example 27 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt)* (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	Retrofit control device	(kW/space)* (Annual Hours)	Notes
	Room 141		T32RF2	F42LL	9	0.7	SW	2808	220	1,853	
	Room 141	11	T32RF2	F42LL	09	7.0	SW	2808	2000	1,853	
	Room 141		T32RF2	F42LL	09	0.7	SW	2808	000	1,853	
	Room 141	13	T32RF2	F42LL	90	0.8	SW	2808	000	2,190	
	Room 141	-	X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	None	13	
	Room 141 - Locker Room	9	T32RF2	F42LL	09	0.4	SW	2808	000	1,011	
	Room 141 - Class Room	00	T32RF2	F42LL	09	0.5	SW	2808	000	1.348	
П	Room 141 - Tool Room	4	W32 C F 2 (ELE)	F4211	09	0.2	SW	2808	000	674	
Т	Boom 141 - Tool Boom		T 32 D E 2	E4211	09	0.4	NS N	2808	88	1011	
	141 - 100 ROOM		1 32 N F 2	LAZEL LAZEL	8 8	+ 0	ALC:	2000	3	1000	
Т	Koom 141 - Storage	OL .	132KF2	F4ZLL	99	9.0	NS.	2808	None	C80'L	
Т	Room 142		W32CF2(ELE)	F42LL	09	0.4	SW	1000	200	420	
	Room 142	7	W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	000	1,179	
$\neg$	Room 142	7	W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	သ	1,179	
46 Roon	Room 142	7	W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	200	1,179	
46 Roon	Room 142	7	W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	220	1,179	
Г	Room 142	7	W32 C F 2 (FL F.)	F42(1)	09	0.4	MS	2808	000	1179	
Т	Room 142	7	W 32 C E 2 (EI E)	EASH	- BU	V	CIM	2808	UUU	1170	
Т			V 4 5 14 1 5 0	2224	3 4		and a	0200	S I	2 6	
TO CO	741		A LS W LED	ELEDI.SFI	3.0	0.0	DIEGRACI	0000	allow	2 624	
Т	Room 142		W 32 C F 2 (ELE)	L47FF	00	0.7	AAC O	0007	38	7000	
T	Koom 142		W 32 C F 2 (ELE)	F4ZLL	99	0.1	SW	2808	3	33/	
T	Room 142	2	W 32 C F 2 (ELE)	F42LL	09	0.1	SW	2808	220	337	
46 Roon	Room 142	00	W 32 C F 2 (ELE)	F42LL	09	0.5	SW	2808	200	1,348	
	Room 143	9	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2808	None	1,887	
	Room 143	6	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2808	သ	2,830	
	Room 143	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2808	200	3,774	
	Room 143	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2808	၁၁၀	3,774	
	Room 143	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2808	000	3,774	
18 Room	Room 143	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2808	000	3,774	
18 Room	Room 143	14	T 32 R F 4 (ELE)	F44ILL	112	1.6	SW	2808	၁၁၁၀	4,403	
x1 Roon	Room 143	1	X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	None	13	
46 Roon	Room 144	2	W 32 C F 2 (ELE)	F42LL	09	0.3	SW	2808	000	842	
46 Roon	Room 144	2	W 32 C F 2 (ELE)	F42LL	09	0.3	SW	2808	220	842	
46 Roon	Room 144		W 32 C F 2 (ELE)	F42LL	09	0.3	SW	2808	220	842	
	Room 144		W 32 C F 2 (ELE)	F42LL	09	0.3	SW	2808	၁၁၀	842	
Т	Boom 144		W32 C F 2 (FI F)	E4211	60	0.3	MS	2808	OCC	842	
Т	Boom 144		W 32 C E 2 (ELE)	E4211	8 9	0.0	W.S	2808	200	1011	
Т	Room 144		W 32 C E 2 (EI E)	E4211	80	0.3	MS.	2808	000	842	
Т	Door 144		V 4 5 W 1 5 D	CI CD4 6/4	3 4	0.00	Brooker	8760	Nono	42	
Т	144	-	A LO W LED	LECO1.31	3. 8	0.0	DICANCI	0000	o co	2 00	
Т	Koom 145	0	W 32 C F 2 (ELE)	F42LL	000	0.0	SW	2000	38	750	
Т	Koom 145	c	W 32 C F 2 (ELE)	F4ZLL	09	0.3	NS.	9097	300	760	
П	Room 145	2	W 32 C F 2 (ELE)	F42LL	09	0.3	SW	2808	220	842	
П	Room 145	5	W 32 C F 2 (ELE)	F42LL	09	0.3	SW	2808	220	842	
	Room 145	2	W 32 C F 2 (ELE)	F42LL	09	0.3	SW	2808	၁၁၀	842	
98 Hall b	Hall between Room 144 and 145	8	T32RF2	F42LL	09	0.5	SW	2808	None	1,348	
	between Room 144 and 145		X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	None	13	
Г	Hall between Room 142 and 136	27	T32RF2	F42LL	09	1.6	SW	3744	None	6,065	
Г	selween Room 142 and 136		X15WLED	ELED1.5/1	1.5	0.0	Breaker	8760	None	13	
Т	Hall around Room 139	12	T32RF2	F4211	09	0.7	SW	3744	None	2.696	
Т	Hall around Room 130	-	X 15 W I FD	FI ED1 5/1	1.5	0.0	Breaker	8760	None	13	
Т	Hall by Room 141	12	T37RE2	EADLI	6	0.7	WS.	3744	None	2 696	
Т	Hall by Doom 141	4 -	V15WIED	EI ED1 5/4	1,5	00	Broaker	8760	None	13	
T	A LOS	-	T 20 P LL 0	TANK TANK	2.00		Diodno	2744	Mono	300	
T	Vestibule by Room 130	-	1 32 K F 2	L-SELE.	8 2	- 0	ALC:	0744	None	00000	
Т	Pool Boller Room	4	WIT I/O	MILITAL	017	0.0	ALC:	20000	INOLIG	0,420	
Т	Pool Boiler Room	ю,	W 32 C F 1	F41LL	7 5	0.3	ANG.	7000	None	202	
100 1	Pool Room Men's		W32CF1	FAILL	3 8	0.0	ANG	7000	38	0.0	
Т	Pool Room Women's	-	W32CF1	F41LL	35	0.0	SW	7080	33	/9	
	Pod Up- Lighting		High Bay MH 1000 50 Feet High	MH1000/1	1080	16.2	Sw	2080	None	33,696 (5) P	(5) Pool Multiple Lamp Up-Lighting Pods
	Pool Pod Up- Lighting		High Bay MH 400 35 Feet High	MH400/1	458	4.6	Sw	2080	None	9,526	
46 Room 201	n 201	7	W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	None	1,179	

TAMES DESCRIPTION         No. of Part DESCRIPTION         Strated Plant Plant Code         NOTED DESCRIPTION         NOTED DESCRIPTI								CONTRACTOR OF THE PARTY OF THE				
No. of The Control of State of Sta		Area Description	No. of Fixtures	Standard Fixture Code	NYSERDA Fixture Code	Watts per Fixture	kWiSpace	Exist Control	Annual	Retrofit	Annual	
New Math         T         WAG C 2 (EE)         FR211         60         0.4         SW           New Math         T         WAG C 2 (EE)         FR211         60         0.4         SW           New Math         T         WAG C 2 (EE)         FR211         60         0.4         SW           New Math         T         WAG C 2 (EE)         FR211         60         0.4         SW           New Math         T         WAG C 2 (EE)         FR211         60         0.4         SW           New Math         T         WAG C 2 (EE)         FR211         60         0.4         SW           New Math         T         WAG C 2 (EE)         FR211         60         0.4         SW           New Math         T         WAG C 2 (EE)         FR211         60         0.4         SW           New Math         T         WAG C 2 (EE)         FR211         60         0.4         SW           New Math         T         WAG C 2 (EE)         FR211         60         0.7         SW           New Math         T         WAG C 2 (EE)         FR211         60         0.7         SW           New Math         T         WAG C 2 (EE)	ield	Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of fixtures before the retrofit	*Lighting Fixture Code* Example 2T 40 R F(U) = 2'X2' Troff 40 w Recess. lamps U shape	Code from Table of Standard Fixture Wattages	E	Watts/Fixt)* (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	Retrofit control device	(kWispace)* (Annual Hours)	Notes
Room 2020         T         W M M C 2 (REE)         FR211         60         0.4         SW M           Room 3020         T         W W M M C 2 (REE)         FR211         60         0.4         SW M           Room 3020         T         W W M M C 2 (REE)         FR211         60         0.4         SW M           Room 3020         T         W W M M C 2 (REE)         FR211         60         0.4         SW M           Room 3020         T         W W M M M C 2 (REE)         FR211         60         0.4         SW M           Room 3020         T         W W M M M M M M M M M M M M M M M M M M	1	Room 201	7	W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	None	1,179	
Norma 2020         T         NA         C         C         SNA           Norma 2020         T         NA         C         C         C         SNA           Norma 2020         T         NA         C         C         C         C         SNA           Norma 2020         T         NA         C         C         C         C         C         SNA           Norma 2020         T         NA         C         C         C         C         C         SNA           Norma 2020         T         NA         C         C         C         C         C         SNA           Norma 2020         T         NA         C         C         C         C         C         SNA           Norma 2020         N         NA         C         C         C         C         SNA           Norma 2020         N         NA         C         C         C         C         SNA           Norma 2020         N         N         C         C         C         C         SNA           Norma 2020         N         N         C         C         C         C         SNA		Room 202	7	W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	None	1,179	
Ream 2020         T         WAS C 2 (ELE)         FR211         60         0.4         SNY           Ream 3020         T         WAS C 2 (ELE)         FR211         60         0.4         SNY           Ream 3024         T         WAS C 2 (ELE)         FR211         60         0.4         SNY           Ream 3024         T         WAS C 2 (ELE)         FR211         60         0.0         SNY           Ream 3024         T         WAS C 2 (ELE)         FR211         60         0.0         SNY           Ream 3024         T         WAS C 2 (ELE)         FR211         60         0.0         SNY           Ream 3026         S         WAS C 2 (ELE)         FR211         60         0.0         SNY           Ream 3026         S         WAS C 2 (ELE)         FR211         60         0.0         SNY           Ream 3026         S         WAS C 2 (ELE)         FR211         60         0.0         SNY           Ream 3026         S         WAS C 2 (ELE)         FR211         60         0.0         SNY           Ream 3026         S         WAS C 2 (ELE)         FR211         60         0.0         SNY           Ream 3026         S <td></td> <td>Room 202</td> <td>7</td> <td>W 32 C F 2 (ELE)</td> <td>F42LL</td> <td>09</td> <td>0.4</td> <td>SW</td> <td>2808</td> <td>None</td> <td>1,179</td> <td></td>		Room 202	7	W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	None	1,179	
Ream 2019         T M WAG CF (ELE)         FR211         60         0.4         SWI           Ream 2019         T M WAG CF (ELE)         FR211         60         0.4         SWI           Ream 2019         T M WAG CF (ELE)         FR211         60         0.4         SWI           Ream 2019         T M WAG CF (ELE)         FR211         60         0.4         SWI           Ream 2019         S M WAG CF (ELE)         FR211         60         0.2         SWI           Ream 2019         S M WAG CF (ELE)         FR211         60         0.2         SWI           Ream 2019         S M WAG CF (ELE)         FR211         60         0.2         SWI           Ream 2019         S M WAG CF (ELE)         FR211         60         0.7         SWI           Ream 2019         S M WAG CF (ELE)         FR211         60         0.7         SWI           Ream 2019         S M WAG CF (ELE)         FR211         60         0.7         SWI           Ream 2019         S M WAG CF (ELE)         FR211         60         0.7         SWI           Ream 2019         S M WAG CF (ELE)         FR211         60         0.7         SWI           Ream 2019         S M WAG CF (ELE)		Room 202	7	W 32 C F 2 (ELE)	F42LL	9	0.4	SW	2808	None	1,179	
Read of State of	46	Room 203	7	W 32 C F 2 (ELE)	F42LL	90	0.4	SW	2808	None	1,179	
Roam 2034         T W 20 CE 2 (ELE)         F421.         60         0.4         SWY           Roam 2044         T W 20 CE 2 (ELE)         F421.         60         0.4         SWY           Roam 2044         T W 20 CE 2 (ELE)         F421.         60         0.0         0.0           Roam 2044         T W 20 CE 2 (ELE)         F421.         60         0.0         0.0           Roam 2040         G W 20 CE 2 (ELE)         F421.         60         0.0         0.0           Roam 2040         G W 20 CE 2 (ELE)         F421.         60         0.0         0.0           Roam 2040         G W 20 CE 2 (ELE)         F421.         60         0.0         0.0           Roam 2040         G W 20 CE 2 (ELE)         F421.         60         0.0         0.0           Roam 2040         G W 20 CE 2 (ELE)         F421.         60         0.0         0.0           Roam 2040         G W 20 CE 2 (ELE)         F421.         60         0.0         0.0           Roam 2040         G W 20 CE 2 (ELE)         F421.         60         0.0         0.0           Roam 2040         G W 20 CE 2 (ELE)         F421.         60         0.0         0.0           Roam 2040         G W	46	Room 203	7	W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	None	1,179	
Ream 2004         7         W 200 C F 2 (ELE)         F421.         60         0.4         SW           Ream 2004         7         W 200 C F 2 (ELE)         F421.         60         0.4         SW           Ream 2004         5         W 200 C F 2 (ELE)         F421.         60         0.0         0.0           Ream 2004         6         W 200 C F 2 (ELE)         F421.         60         0.0         0.0           Ream 2005         6         W 200 C F 2 (ELE)         F421.         60         0.0         0.0           Ream 2005         6         W 200 C F 2 (ELE)         F421.         60         0.0         0.0           Ream 2007         11         W 200 C F 2 (ELE)         F421.         60         0.0         0.0           Ream 2007         11         W 200 C F 2 (ELE)         F421.         60         0.0         0.0           Ream 2007         11         W 200 C F 2 (ELE)         F421.         60         0.0         0.0         0.0           Ream 2007         11         W 200 C F 2 (ELE)         F421.         60         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0	46	Room 203	7	W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	None	1.179	
Ream 204         7         W M C F F (ELE)         F F2LL         60         0.4         SW           Ream 205         S         W M C F F (ELE)         F F2LL         60         0.4         SW           Ream 205         S         W M C F F (ELE)         F F2LL         60         0.3         SW           Ream 205         S         W M C F F (ELE)         F F2LL         60         0.3         SW           Ream 205         S         W M C F F (ELE)         F F2LL         60         0.3         SW           Ream 205         S         W M C F F (ELE)         F F2LL         60         0.3         SW           Ream 205         S         W M C F F (ELE)         F F2LL         60         0.3         SW           Ream 207         I I W W C F F (ELE)         F F2LL         60         0.3         SW           Ream 207         I I W W C F F (ELE)         F F2LL         60         0.3         SW           Ream 207         I I W W C F (ELE)         F F2LL         60         0.3         SW           Ream 207         I I W W C F (ELE)         F F2LL         60         0.3         SW           Ream 207         I I W W C F (ELE)         F F2LL <th< td=""><td></td><td>Room 204</td><td>7</td><td>W 32 C F 2 (ELE)</td><td>F42LL</td><td>09</td><td>0.4</td><td>SW</td><td>2808</td><td>None</td><td>1.179</td><td></td></th<>		Room 204	7	W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	None	1.179	
Recent 2044         7 W S C F F (ELE)         F F2LL         60         0.4         SW           Recent 2045         6 W S C F F (ELE)         F F2LL         60         0.3         SW           Recent 2045         6 W S C F R (ELE)         F F2LL         60         0.3         SW           Recent 2046         6 W S C F R (ELE)         F F2LL         60         0.3         SW           Recent 2046         7 W S C F R (ELE)         F F2LL         60         0.3         SW           Recent 2047         1 W S C F R (ELE)         F F2LL         60         0.3         SW           Recent 2047         1 W S C F R (ELE)         F F2LL         60         0.3         SW           Recent 2047         1 W S C F R (ELE)         F F2LL         60         0.7         SW           Recent 2047         1 W S C F R (ELE)         F F2LL         60         0.7         SW           Recent 2047         1 W S C F R (ELE)         F F2LL         60         0.7         SW           Recent 2047         1 W S C F R (ELE)         F F2LL         60         0.7         SW           Recent 2047         1 W S C F R (ELE)         F F2LL         60         0.7         SW           Recent		Room 204	7	W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	None	1,179	
Roam 2015         S WAR CF FIELE         FAZIL         609         0.3         SWA           Roam 2015         S WAR CF FIELE         FAZIL         60         0.3         SWA           Roam 2015         S WAR CF FIELE         FAZIL         60         0.3         SWA           Roam 2015         S WAR CF FIELE         FAZIL         60         0.3         SWA           Roam 2015         S WAR CF FIELE         FAZIL         60         0.3         SWA           Roam 2015         S WAR CF FIELE         FAZIL         60         0.3         SWA           Roam 2017         S WAR CF FIELE         FAZIL         60         0.3         SWA           Roam 2017         S WAR CF FIELE         FAZIL         60         0.3         SWA           Roam 2017         S WAR CF FIELE         FAZIL         60         0.3         SWA           Roam 2017         S WAR CF FIELE         FAZIL         60         0.3         SWA           Roam 2018         S WAR CF FIELE         FAZIL         60         0.3         SWA           Roam 2018         S WAR CF FIELE         FAZIL         60         0.3         SWA           Roam 2018         S WAR CF FIELE         FAZIL </td <td></td> <td>Room 204</td> <td>7</td> <td>W 32 C E 2 (EI E)</td> <td>FASII</td> <td>69</td> <td>0.4</td> <td>WS</td> <td>2808</td> <td>None</td> <td>1 170</td> <td></td>		Room 204	7	W 32 C E 2 (EI E)	FASII	69	0.4	WS	2808	None	1 170	
Poem 2019         Figure 1019		Room 205		W 32 C F 2 (ELE)	F42LL	8 8	+ 0	WS.	2808	Mone	847	
Poem 2019         Fig. 1         60         0.02         SW           Room 2019         Fig. 1         FF211         60         0.02         SW           Room 2019         Fig. 1         FF211         60         0.02         SW           Room 2019         Fig. 1         FF211         60         0.02         SW           Room 2017         1         W.Z.C.C.Z.(ELE.)         FF211         60         0.07         SW           Room 2018         1         W.Z.C.C.Z.(ELE.)         FF211         60         0.07         SW           Room 2018         1         W.Z.C.C.Z.(ELE.)         FF211         60         0.07		Doom 205		W 32 C E 2 (ELE)	F42LL	8 8	0.0	CW	2000	Mono	240	
Open 100 50		Noonii 203	0	W 32 U F Z (ELE)	LAZEL	8 8	0.0	SIV	2000	Morie	240	
Open State         Open State         FAZIL         60 to 0.23         SW           Committed         6 M M SCFFELE         FAZIL         60 to 0.23         SW           Committed         1 M M SCFFELE         FAZIL         60 to 0.23         SW           Recent SOT         1 1 M M SCFFELE         FAZIL         60 to 0.23         SW           Recent SOT         1 1 M M SCFFELE         FAZIL         60 to 0.23         SW           Recent SOT         1 1 M SCFFELE         FAZIL         60 to 0.23         SW           Recent SOT         1 1 M SCFFELE         FAZIL         60 to 0.23         SW           Recent SOT         1 1 M SCFFELE         FAZIL         60 to 0.23         SW           Recent SOT         1 1 M SCFFELE         FAZIL         60 to 0.23         SW           Recent SOT         1 1 M SCFFELE         FAZIL         60 to 0.23         SW           Recent SOT         1 1 M SCFFELE         FAZIL         60 to 0.23         SW           Recent SOT         1 1 M SCFFELE         FAZIL         60 to 0.23         SW           Recent SOT         1 1 M SCFFELE         FAZIL         60 to 0.23         SW           Recent SOT         1 1 M SCFFELE         FAZIL         60 to	Т	Koom zus	0	W 32 U F 2 (ELE)	F4ZLL	20 00	0.3	ANS.	2808	None	242	
ROOM 2009         S         WA 2005 FEREE         FAZIL         60         0.53         SSW           ROOM 2009         11         WA 2005 FEREE         FAZIL         60         0.27         SSW           ROOM 2007         11         WA 2005 FEREE         FAZIL         60         0.27         SSW           ROOM 2007         11         WA 2005 FEREE         FAZIL         60         0.27         SSW           ROOM 2007         11         WA 2005 FEREE         FAZIL         60         0.27         SSW           ROOM 2009         11         WA 2005 FEREE         FAZIL         60         0.7         SSW           ROOM 2009         11         WA 2005 FEREE         FAZIL         60         0.7         SSW           ROOM 2009         11         WA 2005 FEREE         FAZIL         60         0.7         SSW           ROOM 2009         11         WA 2005 FEREE         FAZIL         60         0.7         SSW           ROOM 2009         12         WA 2005 FEREE         FAZIL         60         0.7         SSW           ROOM 2009         12         WA 2005 FEREE         FAZIL         60         0.7         SSW           ROOM 2009	Т	Room 206	0	W 32 C F 2 (ELE)	F4ZLL	09	0.3	SW	2808	3	847	
Recons 2006         15         W 200 F 2 [ELE]         F 4211         60         0.5         SW           Recons 2007         11         W 200 F 2 [ELE]         F 4211         60         0.7         SW           Recons 2007         11         W 200 F 2 [ELE]         F 4211         60         0.7         SW           Recons 2007         11         W 200 F 2 [ELE]         F 4211         60         0.7         SW           Recons 2007         11         W 200 F 2 [ELE]         F 4211         60         0.7         SW           Recons 2007         11         W 200 F 2 [ELE]         F 4211         60         0.7         SW           Recons 2007         11         W 200 F 2 [ELE]         F 4211         60         0.7         SW           Recons 2007         11         W 200 F 2 [ELE]         F 4211         60         0.7         SW           Recons 2008         11         W 200 F 2 [ELE]         F 4211         60         0.7         SW           Recons 2009         12         V 200 F 2 [ELE]         F 4211         60         0.7         SW           Recons 2009         12         V 200 F 2 [ELE]         F 4211         60         0.7         SW <td>- 1</td> <td>Room 206</td> <td></td> <td>W 32 C F 2 (ELE)</td> <td>F4ZLL</td> <td>09</td> <td>0.3</td> <td>SW</td> <td>2808</td> <td>220</td> <td>842</td> <td></td>	- 1	Room 206		W 32 C F 2 (ELE)	F4ZLL	09	0.3	SW	2808	220	842	
Ream 207         11         W.2.G. F. F. ELLEL         F. A.2.L         60         0.7         SW           Ream 207         11         W.2.G. F. F. ELLEL         F. A.2.L         60         0.7         SW           Ream 207         11         W.2.G. F. F. ELLEL         F. A.2.L         60         0.7         SW           Ream 207         11         W.2.G. F. F. ELLEL         F. A.2.L         60         0.7         SW           Ream 207         11         W.2.G. F. F. ELLEL         F. A.2.L         60         0.7         SW           Ream 208         11         W.2.G. F. F. ELLEL         F. A.2.L         60         0.7         SW           Ream 208         11         W.2.G. F. F. ELLEL         F. A.2.L         60         0.7         SW           Ream 208         11         W.2.G. F. F. ELLEL         F. A.2.L         60         0.7         SW           Ream 208         11         W.2.G. F. F. ELLEL         F. A.2.L         60         0.7         SW           Ream 208         11         W.2.G. F. F. ELLEL         F. A.2.L         60         0.7         SW           Ream 208         11         W.2.G. F. F. ELLEL         F. A.2.L         60         0.7	- 1	Room 206		W 32 C F 2 (ELE)	F42LL	09	0.3	SW	2808	2200	842	
Ream 2077         11         W.S.G. F. R. L.E.         FAZIL         60         0.7         SW           Ream 2077         11         W.S.G. F. R. L.E.         FAZIL         60         0.7         SW           Ream 2077         11         W.S.G. F. R. L.E.         FAZIL         60         0.7         SW           Ream 2077         11         W.S.G. F. R. L.E.         FAZIL         60         0.7         SW           Ream 207         11         W.S.G. F. R. L.E.         FAZIL         60         0.7         SW           Ream 208         11         W.S.G. F. R. L.E.         FAZIL         60         0.7         SW           Ream 208         11         W.S.G. F. R. L.E.         FAZIL         60         0.7         SW           Ream 208         11         W.S.G. F. R. L.E.         FAZIL         60         0.7         SW           Ream 208         11         W.S.G. F. R. L.E.         FAZIL         60         0.7         SW           Ream 208         11         W.S.G. F. R. L.E.         FAZIL         60         0.7         SW           Second Poor Halway         2         X. S. R. P. R.         FAZIL         60         0.7         SW		Room 207		W 32 C F 2 (ELE)	F42LL	60	0.7	SW	2808	000	1,853	
Recons 2077         11         VAZE CF 2 (ELE)         F42LL         60         0.7         SW           Recons 2077         11         VAZE CF 2 (ELE)         F42LL         60         0.7         SW           Recons 208         11         WAZE CF 2 (ELE)         F42LL         60         0.7         SW           Recons 208         11         WAZE CF 2 (ELE)         F42LL         60         0.7         SW           Recons 208         11         WAZE CF 2 (ELE)         F42LL         60         0.7         SW           Recons 208         11         WAZE CF 2 (ELE)         F42LL         60         0.7         SW           Recons 208         11         WAZE CF 2 (ELE)         F42LL         60         0.7         SW           Recons 208         11         WAZE CF 2 (ELE)         F42LL         60         0.7         SW           Recons 208         11         WAZE CF 2 (ELE)         F42LL         60         0.7         SW           Second Foor fallway         2         X14WLED         F42LL         60         0.7         SW           Second Foor fallway         2         X14WLED         F42LL         60         0.7         SW           <		Room 207		W 32 C F 2 (ELE)	F42LL	09	0.7	- MS	2808	000	1,853	
Room 2017         FAZELL         60 0 0.1         SNM           Room 2017         FAZELL         60 0 0.1         SNM           Room 2017         FAZELL         60 0 0.7         SNM           Room 2018         11 N W2 C C F (ELE)         F4ZLL         60 0 0.7         SNM           Room 2018         11 N W2 C C F (ELE)         F4ZLL         60 0 0.7         SNM           Room 2018         11 N W2 C C F (ELE)         F4ZLL         60 0 0.7         SNM           Room 2018         11 N W2 C C F (ELE)         F4ZLL         60 0 0.7         SNM           Room 2018         11 N W2 C C E (ELE)         F4ZLL         60 0 0.7         SNM           Room 2018         N W2 C C E (ELE)         F4ZLL         60 0 0.7         SNM           Scood Root chilaway         2 N W2 C C E (ELE)         F4ZLL         60 0 0.4         SNM           Scood Root chilaway         2 N W2 C C E (ELE)         F4ZLL         60 0 0.4         SNM           Scood Root chilaway         2 N W2 C C E (ELE)         F4ZLL         60 0 0.4         SNM           Scood Root chilaway         2 N W2 C C E (ELE)         F4ZLL         60 0 0.4         SNM           Scood Root chilaway         2 N W2 C C E (ELE)         F4ZLL         60 0 0.4		Room 207		W 32 C F 2 (ELE)	F42LL	09	0.7	SW	2808	220	1,853	
Room 2077         FOR MY 2007         FAZIL         60         0.3         SW           Room 2087         1 MY 2007 C E (E.E.)         FAZIL         60         0.7         SW           Room 2089         11 MY 2007 C E (E.E.)         FAZIL         60         0.7         SW           Room 2089         11 MY 2007 C E (E.E.)         FAZIL         60         0.7         SW           Room 2080         11 MY 2007 C E (E.E.)         FAZIL         60         0.7         SW           Room 2080         11 MY 2007 C E (E.E.)         FAZIL         60         0.7         SW           Room 2080         11 MY 2007 C E (E.E.)         FAZIL         60         0.7         SW           Scound Floor Halway         20         7.25 K L         FAZIL         60         0.7         SW           Scound Floor Halway         20         7.25 K L         E.E.         FAZIL         60         0.7         SW           Scound Floor Warrance         3 W 20 C F (E.E.)         FAZIL         60         0.2         SW           Sammary         3 W 20 C F (E.E.)         FAZIL         60         0.3         SW           Room 210         3 W 20 C F (E.E.)         FAZIL         60         0.3		Room 207		T32RF2	F42LL	09	0.1	SW	2808	220	168	
Region 2077         11         W 2 C C 2 (ELE)         F 221.         60         0.7         SW           Region 208         11         W 2 C C 2 (ELE)         F 221.         60         0.7         SW           Region 208         11         W 2 C C 2 (ELE)         F 221.         60         0.7         SW           Region 208         11         W 2 C C 2 (ELE)         F 221.         60         0.7         SW           Region 208         11         W 2 C C 2 (ELE)         F 221.         60         0.7         SW           Region 208         11         W 2 C C 2 (ELE)         F 221.         60         0.7         SW           Scool Float Hallway         2         W 2 C F 2 (ELE)         F 221.         60         0.7         SW           Scool Float Hallway         2         W 2 C F 2 (ELE)         F 221.         60         0.7         SW           Scool Float Hallway         2         W 2 C F 2 (ELE)         F 221.         60         0.7         SW           Scool Float Hallway         2         W 2 C F 2 (ELE)         F 221.         60         0.7         SW           Scool Float Hallway         2         W 2 C F 2 (ELE)         F 221.         60         0.7 <td></td> <td>Room 207</td> <td></td> <td>W 32 C F 2 (ELE)</td> <td>F42LL</td> <td>09</td> <td>0.3</td> <td>SW</td> <td>2808</td> <td>000</td> <td>842</td> <td></td>		Room 207		W 32 C F 2 (ELE)	F42LL	09	0.3	SW	2808	000	842	
Recon 208         11         W 2 C F 2 (EE)         F 211         60         0.7         SW           Recon 208         11         W 2 C F 2 (EE)         F 211         60         0.7         SW           Recon 208         11         W 2 C F 2 (EE)         F 211         60         0.7         SW           Recon 208         11         W 2 C F 2 (EE)         F 211         60         0.7         SW           Recon 208         11         Y 2 R F 2 (EE)         F 211         60         0.7         SW           Scoond Floor talleray         28         T 2 R F 2 (EE)         F 211         60         0.7         SW           Scoond Floor talleray         28         T 2 R F 2 (EE)         F 211         60         0.7         SW           Scoond Floor talleray         3         W 2 C F 2 (EE)         F 211         60         0.1         SW           Scoond Floor value (rest)         3         W 2 C F 2 (EE)         F 211         60         0.1         SW           Scoond Floor Value (rest)         4         W 2 C F 2 (EE)         F 211         60         0.1         SW           Recon 210         5         W 2 C F 2 (EE)         F 221         60         0.2	Г	Room 207	-	W 32 C F 2 (ELE)	F42LL	09	0.1	SW	2808	000	168	
Report 2989         11 M 22 C F (ELE)         F ELEIL         6 0         0 7         SNM           Report 2989         11 M 22 C F (ELE)         F ELEIL         6 0         0 7         SNM           Report 2089         1 T 72 R F Z         K 15 R L ELE         F ELEIL         6 0         0 7         SNM           Report 2089         1 T 72 R F Z         K 15 W L ELE         F ELEIL         6 0         0 7         SNM           Secont Floor Hallway         2 S X 15 W L ELE         F ELEIL         6 0         0 1         SNM           Secont Floor Hallway         2 S X 15 W L ELE         F ELEIL         6 0         0 2         SNM           Secont Floor Hallway         2 S X 15 W L ELE         F F21L         6 0         0 2         SNM           Secont Floor Hallway         2 S W 20 F Z ELE         F F21L         6 0         0 2         SNM           Secont Floor Well Closet         2 N 20 F Z ELE         F F21L         6 0         0 2         SNM           Report 210         6 N 20 F Z ELE         F F21L         6 0         0 3         SNM           Report 210         6 N 20 F Z ELE         F F21L         6 0         0 3         SNM           Report 210         6 N 20 F Z ELE         F	Г	Room 208	11	W32 CF2 (FIF)	F4211	99	0.7	MS	2808	000	1.853	
Recoil 2009         11         W. 2CC F.Z (ELE)         F.RZIL         6.0         0.7         SW           Rocom 2009         1         1 W. 2CC F.Z (ELE)         F.RZIL         6.0         0.1         SW           Rocom 2009         5         W. 2C F.Z (ELE)         F.RZIL         6.0         0.1         SW           Second Ploor Marins         2         X. 15 W. LED         F.RZIL         6.0         0.1         SW           Second Ploor Marins         3         W. 2C F.Z (ELE)         F.RZIL         6.0         0.2         SW           Second Ploor Welchields         3         W. 2C F.Z (ELE)         F.RZIL         6.0         0.0         SW           Second Floor Welchields         1         W. 2C F.Z (ELE)         F.RZIL         6.0         0.0         SW           Rocon 2004         1         W. 2C F.Z (ELE)         F.RZIL         6.0         0.0         SW           Rocon 2004         2         R. W. 2C F.Z (ELE)         F.RZIL         6.0         0.0         SW           Rocon 2004         3         W. 2C F.Z (ELE)         F.RZIL         6.0         0.0         SW           Rocon 210         5         W. 2C F.Z (ELE)         F.RZIL         6.0 <td< td=""><td></td><td>Room 208</td><td>-</td><td>W32 CF2 (FIE)</td><td>E4211</td><td>60</td><td>0.7</td><td>MS</td><td>2808</td><td>OCC</td><td>1.853</td><td></td></td<>		Room 208	-	W32 CF2 (FIE)	E4211	60	0.7	MS	2808	OCC	1.853	
Room 2009         1 T 320 R F 2 Lacette         F 221 Lacette         60 0         01 SW           Room 2004         Second Root Hallway         2 K 15 W LED         F 221 Lacette         60 0         0.0 3         SW           Second Root Hallway         2 K 15 W LED         F 21 Lacette         60 0         0.1 SW         SW           Second Root Hallway         2 R 15 K F 2 Lacette         F 21 Lacette         60 0         0.1 SW         SW           Second Root Hallway         2 R 15 C F 2 (Lacette)         F 22 Lacette         60 0         0.2 SW         SW           Second Root Well Closest         3 W 26 C F 2 (Lacette)         F 22 Lacette         60 0         0.2 SW         SW           Room 200         10 W 26 C F 2 (Lacette)         F 22 Lacette         F 22 Lacette         60 0         0.2 SW           Room 21 Roow Well Closest         10 W 26 C F 2 (Lacette)         F 22 Lacette         60 0         0.3 SW           Room 21 R		Boom 208	1	W 32 C F 2 (FI F)	E4211	89	0.7	WS.	2808	200	1,853	
Room 2004         50         W 20 CF 2 (ELE)         F 6211         60         0.3         SW           Socard Poor Hallway         2         X 1 X M LED         ELED 1.5/1         1.5         0.0         B Dealsdor           Socard Poor Hallway         2.8         X 1 X M LED         F421.         6.0         0.7         SW           Salarway         6         W 20 C F 2 (ELE)         F421.         6.0         0.2         SW           Scornd Poor Wommins         3         W 20 C F 2 (ELE)         F421.         6.0         0.2         SW           Scornd Poor Wommins         3         W 20 C F 2 (ELE)         F421.         6.0         0.2         SW           Room 200         10         W 20 C F 2 (ELE)         F421.         6.0         0.0         SW           Room 210         W 20 C F 2 (ELE)         F421.         6.0         0.3         SW           Room 210         W 30 C P 2 (ELE)         F421.         6.0         0.3         SW           Room 210         W 30 C P 2 (ELE)         F421.         6.0         0.3         SW           Room 210         W 30 C P 2 (ELE)         F421.         6.0         0.3         SW           Room 210         W 30 C P	1	Room 208	-	T32RF2	E4211	9	0.1	SW	2808	000	168	
Second Floor Hallway         2         X.1.5 W LED         ELED 1.51         1.5         0.0         Breador           Scound Floor Hallway         28         Y.2.5 W LED         F42LL         60         0.4         SW           Saltway         3         W.3.C F Z (ELE)         F42LL         60         0.2         SW           Second Floor Wat Closest         3         W.3.C F Z (ELE)         F42LL         60         0.2         SW           Second Floor Wat Closest         1         M.3.C F Z (ELE)         F42LL         60         0.2         SW           Second Floor Wat Closest         2         R.6.C Z (ELE)         F42LL         60         0.2         SW           Room 210         3         W.3.C F Z (ELE)         F42LL         60         0.3         SW           Room 210         5         W.3.C F Z (ELE)         F42LL         60         0.3         SW           Room 210         5         W.3.C F Z (ELE)         F42LL         60         0.3         SW           Room 210         5         W.3.C F Z (ELE)         F42LL         60         0.3         SW           Room 211         5         W.3.C F Z (ELE)         F42LL         60         0.3 <td< td=""><td></td><td>Room 208</td><td></td><td>W 30 C E 3 (E) E1</td><td>E4311</td><td>60</td><td>0.3</td><td>SW</td><td>2808</td><td>000</td><td>CP8</td><td></td></td<>		Room 208		W 30 C E 3 (E) E1	E4311	60	0.3	SW	2808	000	CP8	
Second Floor Halkey         28         T 32 R F 2         F 4211         60         1.7         SW           Slavin Mayor         8         W 32 C F 2 [ELE]         F4211         60         0.4         SW           Slocond Floor Warner's         8         W 32 C F 2 [ELE]         F4211         60         0.2         SW           Slocond Floor Ward Closert         2         R 60 C I 1         F4211         60         0.2         SW           Room 209         10         W 32 C F 2 [ELE]         F4211         60         0.6         SW           Room 210         W 32 C F 2 [ELE]         F4211         60         0.6         SW           Room 210         W 32 C F 2 [ELE]         F4211         60         0.3         SW           Room 210         W 32 C F 2 [ELE]         F4211         60         0.3         SW           Room 210         W 32 C F 2 [ELE]         F4211         60         0.3         SW           Room 210         W 32 C F 2 [ELE]         F4211         60         0.3         SW           Room 210         W 32 C F 2 [ELE]         F4211         60         0.3         SW           Room 211         W 32 C F 2 [ELE]         F4211         60	Т	Second Floor Hallway		X15WLED	ELEDI.5/1	1.5	0.0	Breaker	8760	None	26	
Significacy         Significacy         F42L         60         0.4         SW           Socoral Foot Maris         3         W.2G C F 2 [EE]         F42L         60         0.2         SW           Socoral Foot Warner's         3         W.2G C F 2 [EE]         F42L         60         0.2         SW           Socoral Foot Warner's         3         W.2G C F 2 [EE]         F42L         60         0.1         SW           Room 209         10         W.2G C F 2 [EE]         F42L         60         0.6         SW           Room 210         6         W.2G C F 2 [EE]         F42L         60         0.6         SW           Room 210         6         W.2G C F 2 [EE]         F42L         60         0.3         SW           Room 210         6         W.2G C F 2 [EE]         F42L         60         0.3         SW           Room 210         8         W.2G C F 2 [EE]         F42L         60         0.3         SW           Room 210         8         W.2G C F 2 [EE]         F42L         60         0.3         SW           Room 211         8         W.2G C F 2 [EE]         F42L         60         0.3         SW           Room 212	Т	Second Floor Hallway		T32RF2	F421.1	09	1.7	SW	3744	None	6.290	
Second Floor Men's         3         W 32 C F 2 (ELE)         F 421L         60         0.2         SW           Second Floor Wenners         3         W 32 C F 2 (ELE)         F 421L         60         0.2         SW           Room 209         10         W 32 C F 2 (ELE)         F 421L         60         0.6         SW           Room 209         10         W 32 C F 2 (ELE)         F 421L         60         0.6         SW           Room 210         5         W 32 C F 2 (ELE)         F 421L         60         0.3         SW           Room 210         5         W 32 C F 2 (ELE)         F 421L         60         0.3         SW           Room 210         5         W 32 C F 2 (ELE)         F 421L         60         0.3         SW           Room 210         5         W 32 C F 2 (ELE)         F 421L         60         0.3         SW           Room 211         5         W 32 C F 2 (ELE)         F 421L         60         0.3         SW           Room 211         5         W 32 C F 2 (ELE)         F 421L         60         0.3         SW           Room 212         5         W 32 C F 2 (ELE)         F 421L         60         0.7         SW <tr< td=""><td>Т</td><td>Stairway</td><td></td><td>W 32 C F 2 (ELE)</td><td>F42LL</td><td>09</td><td>0.4</td><td>SW</td><td>3744</td><td>None</td><td>1.348</td><td></td></tr<>	Т	Stairway		W 32 C F 2 (ELE)	F42LL	09	0.4	SW	3744	None	1.348	
Second Floor Women's         3         W.3.C F 2 (ELE)         F 521.         60         0.2         SW           Room 209         10         W.3.C C F 2 (ELE)         F 621.         60         0.1         SW           Room 209         10         W.3.C C F 2 (ELE)         F 621.         60         0.6         SW           Room 210         5         W.3.C C F 2 (ELE)         F 421.         60         0.3         SW           Room 210         5         W.3.C C F 2 (ELE)         F 421.         60         0.3         SW           Room 210         5         W.3.C C F 2 (ELE)         F 421.         60         0.3         SW           Room 210         5         W.3.C C F 2 (ELE)         F 421.         60         0.3         SW           Room 211         6         W.3.C C F 2 (ELE)         F 421.         60         0.3         SW           Room 211         8         W.3.C C F 2 (ELE)         F 421.         60         0.3         SW           Room 212         8         W.3.C C F 2 (ELE)         F 421.         60         0.3         SW           Room 212         8         W.3.C C F 2 (ELE)         F 421.         60         0.7         SW	Г	Second Floor Men's		W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2080	None	374	
Second Floor Wet Closed         2         R BOC 11         Fight         60         0.1         SW           Room 209         10         W 22C F2 (ELE)         F42LL         60         0.6         SW           Room 210         5         W 22C F2 (ELE)         F42LL         60         0.3         SW           Room 210         5         W 32 C F2 (ELE)         F42LL         60         0.3         SW           Room 210         5         W 32 C F2 (ELE)         F42LL         60         0.3         SW           Room 210         5         W 32 C F2 (ELE)         F42LL         60         0.3         SW           Room 210         5         W 32 C F2 (ELE)         F42LL         60         0.3         SW           Room 214         5         W 32 C F2 (ELE)         F42LL         60         0.3         SW           Room 214         6         W 32 C F2 (ELE)         F42LL         60         0.3         SW           Room 214         6         W 32 C F2 (ELE)         F42LL         60         0.7         SW           Room 214         6         W 32 C F2 (ELE)         F42LL         60         0.7         SW           Room 2124 and 212B	Т	Second Floor Women's		W32 CF2 (ELE)	F4211	09	0.2	SW	2080	None	374	
Room 209         10         W 3 C C F 2 (ELE)         F 421L         60         0.6         SW           Room 209         10         W 3 C C F 2 (ELE)         F 421L         60         0.6         SW           Room 210         5         W 3 C C F 2 (ELE)         F 421L         60         0.3         SW           Room 210         5         W 3 C C F 2 (ELE)         F 421L         60         0.3         SW           Room 210         5         W 3 C C F 2 (ELE)         F 421L         60         0.3         SW           Room 211         5         W 3 C C F 2 (ELE)         F 421L         60         0.3         SW           Room 211         5         W 3 C C F 2 (ELE)         F 421L         60         0.3         SW           Room 211         5         W 3 C C F 2 (ELE)         F 421L         60         0.3         SW           Room 212A and 212B         11         W 3 C C F 2 (ELE)         F 421L         60         0.7         SW           Room 212A and 212B         11         W 3 C C F 2 (ELE)         F 421L         60         0.7         SW           Room 212A and 212B         11         W 3 C C F 2 (ELE)         F 421L         60         0.7         SW<	Т	Second Floor Wet Closet	2	R 60 C 11	160/1	9	0.1	SW	2808	COCC	337	
Room 209         10         W3.2 C F 2 (ELE)         F42LL         60         0.6         SW           Room 210         5         W3.2 C F 2 (ELE)         F42LL         60         0.3         SW           Room 210         5         W3.2 C F 2 (ELE)         F42LL         60         0.3         SW           Room 210         5         W3.2 C F 2 (ELE)         F42LL         60         0.3         SW           Room 211         5         W3.2 C F 2 (ELE)         F42LL         60         0.3         SW           Room 214         6         W3.2 C F 2 (ELE)         F42LL         60         0.3         SW           Room 214         6         W3.2 C F 2 (ELE)         F42LL         60         0.3         SW           Room 215         Room 214         W3.2 C F 2 (ELE)         F42LL         60         0.3         SW           Room 215         Room 215         W3.2 C F 2 (ELE)         F42LL         60         0.7         SW           Room 215         M3.2 C F 2 (ELE)         F42LL         60         0.7         SW           Room 215         M3.2 C F 2 (ELE)         F42LL         60         0.7         SW           Room 215         M3.2 C F 2 (ELE) </td <td>Т</td> <td>Room 209</td> <td></td> <td>W32 CF2 (ELE)</td> <td>F42LL</td> <td>09</td> <td>9.0</td> <td>SW</td> <td>2808</td> <td>000</td> <td>1.685</td> <td></td>	Т	Room 209		W32 CF2 (ELE)	F42LL	09	9.0	SW	2808	000	1.685	
Room 210         5         W 32 C F 2 [ELE]         F 421L         60         0.3         SW           Room 210         5         W 32 C F 2 [ELE]         F 421L         60         0.3         SW           Room 210         5         W 32 C F 2 [ELE]         F 421L         60         0.3         SW           Room 211         5         W 32 C F 2 [ELE]         F 421L         60         0.3         SW           Room 211         5         W 32 C F 2 [ELE]         F 421L         60         0.3         SW           Room 211         5         W 32 C F 2 [ELE]         F 421L         60         0.3         SW           Room 214         6         W 32 C F 2 [ELE]         F 421L         60         0.3         SW           Room 212A and 212B         11         W 32 C F 2 [ELE]         F 421L         60         0.7         SW           Room 212A and 212B         11         W 32 C F 2 [ELE]         F 421L         60         0.7         SW           Room 212A and 212B         11         W 32 C F 2 [ELE]         F 421L         60         0.7         SW           Room 213         11         W 32 C F 2 [ELE]         F 421L         60         0.7         SW <td></td> <td>Room 209</td> <td></td> <td>W32 CF2 (FIE)</td> <td>F4211</td> <td>09</td> <td>0.6</td> <td>MS</td> <td>2808</td> <td>000</td> <td>1,685</td> <td></td>		Room 209		W32 CF2 (FIE)	F4211	09	0.6	MS	2808	000	1,685	
Room 210         6         W 32 C F 2 [ELE]         F4211         60         0.3         SW           Room 210         5         W 32 C F 2 [ELE]         F4211         60         0.3         SW           Room 210         5         W 32 C F 2 [ELE]         F4211         60         0.3         SW           Room 211         6         W 32 C F 2 [ELE]         F4211         60         0.3         SW           Room 214         5         W 32 C F 2 [ELE]         F4211         60         0.3         SW           Room 214         6         W 32 C F 2 [ELE]         F4211         60         0.3         SW           Room 217         1         W 32 C F 2 [ELE]         F4211         60         0.7         SW           Room 217         3 m 4 212B         1         W 32 C F 2 [ELE]         F4211         60         0.7         SW           Room 212A and 212B         1         W 32 C F 2 [ELE]         F4211         60         0.7         SW           Room 212A and 212B         1         W 32 C F 2 [ELE]         F4211         60         0.7         SW           Room 21A and 212B         1         W 32 C F 2 [ELE]         F4211         60         0.7         SW<	1	Room 210		W 32 C F 2 (FI F)	E4211	60	0.3	SW	2808	2000	842	
Room 210         5         W 32 C F 2 (ELE)         F 421L         60         0.3         SW           Room 210         5         W 32 C F 2 (ELE)         F421L         60         0.3         SW           Room 211         5         W 32 C F 2 (ELE)         F421L         60         0.3         SW           Room 213         SW         SW         SW         SW         SW         SW         SW           Room 214         6         W 32 C F 2 (ELE)         F421L         60         0.3         SW           Room 21A         M 32 C F 2 (ELE)         F421L         60         0.7         SW           Room 21A         M W 32 C F 2 (ELE)         F421L         60         0.7         SW           Room 21A         M W 32 C F 2 (ELE)         F421L         60         0.7         SW           Room 21A         M W 32 C F 2 (ELE)         F421L         60         0.7         SW           Room 21A         M W 32 C F 2 (ELE)         F421L         60         0.7         SW           Room 21A         M W 32 C F 2 (ELE)         F421L         60         0.7         SW           Room 21A         M W 32 C F 2 (ELE)         F421L         60         0.7		Room 210		W32 CF2 (ELE)	F42LL	09	0.3	SW	2808	000	842	
Room 210         6         W 32 C F 2 [ELE)         F4211         60         0.3         SW           Room 211         5         W 32 C F 2 [ELE)         F4211         60         0.3         SW           Room 213         6         W 32 C F 2 [ELE)         F4211         60         0.3         SW           Room 212A         11         W 32 C F 2 [ELE)         F4211         60         0.3         SW           Room 212A         3nd 212B         11         W 32 C F 2 [ELE)         F4211         60         0.7         SW           Room 212A         3nd 212B         11         W 32 C F 2 [ELE)         F4211         60         0.7         SW           Room 212A         3nd 212B         11         W 32 C F 2 [ELE)         F4211         60         0.7         SW           Room 212A         3nd 21B         11         W 32 C F 2 [ELE)         F4211         60         0.7         SW           Room 213         11         W 32 C F 2 [ELE)         F4211         60         0.7         SW           Room 213         11         W 32 C F 2 [ELE)         F4211         60         0.7         SW           Room 214         8         W 32 C F 2 [ELE)         F421E <td>Т</td> <td>Room 210</td> <td></td> <td>W 32 C E 2 (EI E)</td> <td>E4211</td> <td>9</td> <td>0.3</td> <td>MS</td> <td>2808</td> <td>COC</td> <td>842</td> <td></td>	Т	Room 210		W 32 C E 2 (EI E)	E4211	9	0.3	MS	2808	COC	842	
Room 211         5         W.2.C. F.Z. [ELE.]         F4211         60         0.3         SW           Room 211         5         W.3.C. F.Z. [ELE.]         F4211         60         0.3         SW           Room 211         6         W.3.C. F.Z. [ELE.]         F4211         60         0.3         SW           Room 212         11         W.3.C. F.Z. [ELE.]         F4211         60         0.7         SW           Room 212A and 212B         11         W.3.C. F.Z. [ELE.]         F4211         60         0.7         SW           Room 212A and 212B         11         W.3.C. F.Z. [ELE.]         F4211         60         0.7         SW           Room 212A and 212B         11         W.3.C. F.Z. [ELE.]         F4211         60         0.7         SW           Room 213A         11         W.3.C. F.Z. [ELE.]         F4211         60         0.7         SW           Room 213         11         W.3.C. F.Z. [ELE.]         F4211         60         0.7         SW           Room 213         11         W.3.C. F.Z. [ELE.]         F4211         60         0.7         SW           Room 213         11         W.3.C. F.Z. [ELE.]         F4211         60         0.7 <td< td=""><td>Т</td><td>Room 210</td><td></td><td>W 32 C E 2 (E  E)</td><td>EASI</td><td>8 6</td><td>0.3</td><td>WS.</td><td>2808</td><td>000</td><td>CP8</td><td></td></td<>	Т	Room 210		W 32 C E 2 (E  E)	EASI	8 6	0.3	WS.	2808	000	CP8	
Room 211         6         W.3.C C F Z [ELE]         F4211         60         0.3         SW           Room 211         5         W.3.C C F Z [ELE]         F4211         60         0.3         SW           Room 212A and 212B         11         W.3.C C F Z [ELE]         F4211         60         0.7         SW           Room 212A and 212B         11         W.3.C C F Z [ELE]         F4211         60         0.7         SW           Room 212A and 212B         11         W.3.C C F Z [ELE]         F4211         60         0.7         SW           Room 212A and 212B         11         W.3.C C F Z [ELE]         F4211         60         0.7         SW           Room 212A and 212B         11         W.3.C C F Z [ELE]         F4211         60         0.7         SW           Room 212A and 212B         11         W.3.C C F Z [ELE]         F4211         60         0.7         SW           Room 213         11         W.3.C C F Z [ELE]         F4211         60         0.7         SW           Room 213         11         W.3.C C F Z [ELE]         F4211         60         0.7         SW           Room 214         8         W.3.C C F Z [ELE]         F4211         60         0.	Т	Room 211	0 40	W 32 C E 2 (ELE)	E4211	89	0.3	MS.	2808	200	278	
Room 211         6         W 32 C F Z [ELE]         F4211         60         0.3         SW           Room 214         5         W 32 C F Z [ELE]         F4211         60         0.3         SW           Room 212A and 212B         11         W 32 C F Z [ELE]         F4211         60         0.7         SW           Room 212A and 212B         11         W 32 C F Z [ELE]         F4211         60         0.7         SW           Room 212A and 212B         11         W 32 C F Z [ELE]         F4211         60         0.7         SW           Room 213A         11         W 32 C F Z [ELE]         F4211         60         0.7         SW           Room 213         11         W 32 C F Z [ELE]         F4211         60         0.7         SW           Room 213         11         W 32 C F Z [ELE]         F4211         60         0.7         SW           Room 213         11         W 32 C F Z [ELE]         F4211         60         0.7         SW           Room 213         11         W 32 C F Z [ELE]         F4211         60         0.7         SW           Room 214         8         W 32 C F Z [ELE]         F4211         60         0.5         SW		Room 211	2	W 32 C F 2 (FI F)	E4211	89	0.3	WS.	2808	200	278	
Room 211         6         W 32 C F Z (ELE)         F421L         60         0.3         SW           Room 212A and 212B         11         W 32 C F Z (ELE)         F421L         60         0.7         SW           Room 212A and 212B         11         W 32 C F Z (ELE)         F421L         60         0.7         SW           Room 212A and 212B         11         W 32 C F Z (ELE)         F421L         60         0.7         SW           Room 212A and 212B         11         W 32 C F Z (ELE)         F421L         60         0.7         SW           Room 213A         11         W 32 C F Z (ELE)         F421L         60         0.7         SW           Room 213         11         W 32 C F Z (ELE)         F421L         60         0.7         SW           Room 213         11         W 32 C F Z (ELE)         F421L         60         0.7         SW           Room 213         11         W 32 C F Z (ELE)         F421L         60         0.7         SW           Room 214         8         W 32 C F Z (ELE)         F421L         60         0.5         SW           Room 214         8         W 32 C F Z (ELE)         F421L         60         0.5         SW		Room 211	2	W 32 C F 2 (FI F)	E4211	89	0.3	SW	2808	000	842	
Room 212A and 212B         11         W 32 C F 2 (ELE)         F421L         60         0.7         SW           Room 212A and 212B         11         W 32 C F 2 (ELE)         F421L         60         0.7         SW           Room 212A and 212B         11         W 32 C F 2 (ELE)         F421L         60         0.7         SW           Room 212A and 212B         11         W 32 C F 2 (ELE)         F421L         60         0.7         SW           Room 213         11         W 32 C F 2 (ELE)         F421L         60         0.7         SW           Room 213         11         W 32 C F 2 (ELE)         F421L         60         0.7         SW           Room 213         11         W 32 C F 2 (ELE)         F421L         60         0.7         SW           Room 213         11         W 32 C F 2 (ELE)         F421L         60         0.7         SW           Room 214         8         W 32 C F 2 (ELE)         F421L         60         0.5         SW           Room 214         8         W 32 C F 2 (ELE)         F421L         60         0.5         SW           Room 214         8         W 32 C F 2 (ELE)         F421L         60         0.5         SW		Room 211		W 32 C F 2 (ELE)	F4211	09	0.3	SW	2808	2200	842	
Room 212A and 212B         11         W.3.C F Z (ELE)         F421L         60         0.7         SW           Room 212A and 212B         11         W.3.C F Z (ELE)         F421L         60         0.7         SW           Room 212A and 212B         11         W.3.C F Z (ELE)         F421L         60         0.7         SW           Room 213         11         W.3.C F Z (ELE)         F421L         60         0.7         SW           Room 213         11         W.3.C F Z (ELE)         F421L         60         0.7         SW           Room 213         11         W.3.C F Z (ELE)         F421L         60         0.7         SW           Room 213         3         S.34.C F Z (ELE)         F421L         60         0.7         SW           Room 214         8         W.3.C F Z (ELE)         F421L         60         0.5         SW           Room 214         8         W.3.C F Z (ELE)         F421L         60         0.5         SW           Room 214         8         W.3.C F Z (ELE)         F421L         60         0.5         SW           Room 214         8         W.3.C F Z (ELE)         F421L         60         0.5         SW	Т	Room 2124 and 2128		W 32 C F 2 (FI F)	E4211	9	0.7	MS	2808	000	1853	
		Room 2124 and 2128		W 32 C E 2 (EL E)	E4211	8 9	0.7	MS.	2808	000	1.853	
Room 213A and 212B         11         W.3.2 C F Z (ELE)         F42LL         60         0.7         SW           Room 213         11         W.3.2 C F Z (ELE)         F42LL         60         0.7         SW           Room 213         11         W.3.2 C F Z (ELE)         F42LL         60         0.7         SW           Room 213         11         W.3.2 C F Z (ELE)         F42LL         60         0.7         SW           Room 213         11         W.3.2 C F Z (ELE)         F42LL         60         0.7         SW           Room 214         8         W.3.2 C F Z (ELE)         F42LL         60         0.7         SW           Room 214         8         W.3.2 C F Z (ELE)         F42LL         60         0.5         SW           Room 214         8         W.3.2 C F Z (ELE)         F42LL         60         0.5         SW           Room 214         8         W.3.2 C F Z (ELE)         F42LL         60         0.5         SW           Room 214         8         W.3.2 C F Z (ELE)         F42LL         60         0.5         SW           Room 214         8         W.3.2 C F Z (ELE)         F42LL         60         0.5         SW	1	Room 2124 and 212R		W 32 C F 2 (FI F)	E4211	9	0.7	WS.	2808	000	1,853	
Room 213         11         W.2.C E Z E E E E         F4211         60         0.7         SW           Room 213         11         W.3.C E Z E E E E         F4211         60         0.7         SW           Room 213         11         W.3.C E Z E E E E         F4211         60         0.7         SW           Room 213         11         W.3.C E Z E E E E         F4211         60         0.7         SW           Room 213         3         S.34 C F 2         F4211         60         0.7         SW           Room 214         8         W.3.C C F E E E         F4211         60         0.5         SW           Room 214         8         W.3.C C F E E E         F4211         60         0.5         SW           Room 214         8         W.3.C C F E E E         F4211         60         0.5         SW           Room 214         8         W.3.C C F E E E         F4211         60         0.5         SW           Room 214         8         W.3.C C F E E E         F4211         60         0.4         SW           Room 214         8         W.3.C C F E E E         F4211         60         0.4         SW	1	Room 2124 and 2128		W 32 C E 2 (EL E)	E4211	8 9	0.7	SW	2808	200	1,853	
	1	Doom 213		W 30 C E 2 (ELE)	E4211	8 8	0.7	SW	2808	200	1 853	
Room 213         11         W.3.C. F.Z (ELE.)         F421L         60         0.7         SW           Room 213         11         W.3.C. F.Z (ELE.)         F421L         60         0.7         SW           Room 214         13         S.4.C. F.Z (ELE.)         F421L         60         0.7         SW           Room 214         8         W.3.C. F.Z (ELE.)         F421L         60         0.5         SW           Room 214         8         W.3.C. F.Z (ELE.)         F421L         60         0.5         SW           Room 214         8         W.3.C. F.Z (ELE.)         F421L         60         0.5         SW           Room 214         8         W.3.C. F.Z (ELE.)         F421L         60         0.5         SW           Room 214         8         W.3.C. F.Z (ELE.)         F421L         60         0.5         SW           Room 214         8         W.3.C. F.Z (ELE.)         F421L         60         0.5         SW           Room 215         7         W.3.C. F.Z (ELE.)         F421L         60         0.4         SW	Т	Boom 213	1	W 32 C E 2 (ELE)	E4211	8 8	0.7	SW.	2808	200	1 853	
Room 213         11         W.3.2 C F Z (ELE)         F42LL         60         0.7         SW           Room 213         3         S.3.4 C F Z (ELE)         F42LL         60         0.7         SW           Room 214         8         W.3.2 C F Z (ELE)         F42LL         60         0.5         SW           Room 214         8         W.3.2 C F Z (ELE)         F42LL         60         0.5         SW           Room 214         8         W.3.2 C F Z (ELE)         F42LL         60         0.5         SW           Room 214         8         W.3.2 C F Z (ELE)         F42LL         60         0.5         SW           Room 214         7         W.3.2 C F Z (ELE)         F42LL         60         0.4         SW	Т	Room 213	1	W 30 C E 2 (E1E)	F4211	8 9	0.7	MS	2808	000	1.853	
Room 213         3         3.4.G.F.2         F42EE         72         0.2         SW           Room 214         8         W.3.C.F.2 (ELE)         F42LL         60         0.5         SW           Room 214         8         W.3.C.F.2 (ELE)         F42LL         60         0.5         SW           Room 214         8         W.3.C.F.2 (ELE)         F42LL         60         0.5         SW           Room 214         8         W.3.C.F.2 (ELE)         F42LL         60         0.5         SW           Room 214         7         W.3.C.F.2 (ELE)         F42LL         60         0.5         SW           Room 215         7         W.3.C.F.2 (ELE)         F42LL         60         0.4         SW		Room 213	11	W32 CF2 (FLE)	F4211	09	0.7	SW	2808	000	1.853	
Room 214         8         W3.2 C F 2 (ELE)         F421L         60         0.5         SW           Room 214         8         W3.2 C F 2 (ELE)         F421L         60         0.5         SW           Room 214         8         W3.2 C F 2 (ELE)         F421L         60         0.5         SW           Room 214         8         W3.2 C F 2 (ELE)         F421L         60         0.5         SW           Room 215         7         W3.2 C F 2 (ELE)         F421L         60         0.4         SW           Room 215         7         W3.2 C F 2 (ELE)         F421L         60         0.4         SW		Room 213	67	S34CF2	F42EE	72	0.2	SW	2808	000	209	
Room 214         8         W32 C F Z (ELE)         F421L         60         0.5         SW           Room 214         8         W32 C F Z (ELE)         F421L         60         0.5         SW           Room 214         8         W32 C F Z (ELE)         F421L         60         0.5         SW           Room 215         7         W32 C F Z (ELE)         F421L         60         0.4         SW           Room 215         7         W32 C F Z (ELE)         F421L         60         0.4         SW		Room 214		W 32 C F 2 (ELE)	F42LL	09	0.5	SW	2808	220	1.348	
Room 214         8         W 32 C F 2 (ELE)         F42LL         60         0.5         SW           Room 214         8         W 32 C F 2 (ELE)         F42LL         60         0.5         SW           Room 215         7         W 32 C F 2 (ELE)         F42LL         60         0.4         SW           Room 215         7         W 32 C F 2 (ELE)         F42LL         60         0.4         SW		Room 214		W32 CF2 (ELE)	F4211	09	0.5	SW	2808	000	1.348	
Room 214         8         W 32 C F 2 (ELE)         F42LL         60         0.5         SW           Room 215         7         W 32 C F 2 (ELE)         F42LL         60         0.4         SW           Room 215         7         W 32 C F 2 (ELE)         F42LL         60         0.4         SW		Room 214		W 32 C F 2 (ELE)	F4211	09	0.5	SW	2808	000	1,348	
Room 215         7         W 32 C F 2 (ELE)         F42LL         60         0.4         SW           Room 215         7         W 32 C F 2 (ELE)         F42LL         60         0.4         SW		Room 214		W 32 C F 2 (ELE)	F42LL	09	0.5	SW	2808	000	1,348	
Room 215         7         W 32 C F 2 (ELE)         F 42LL         60         0.4         SW		Room 215		W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	220	1,179	
		Room 215		W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	200	1,179	
Room 215   7   W 32 C F 2 (ELE)   F42LL   60   0.4   SW		Room 215	7	W 32 C F 2 (ELE)	F42LL	09	0.4	SW	2808	220	1,179	
7 W 20 C E 2 (E E ) 6M 10 4 SW	ĺ	170	-	IM 52 C E 2 CEI EN	I ICVA	00	200	MS	2000	Juni	11701	

No. of Standa	Standard Fixture Code 27 40 R F(U) = 2x2 Troff 40 w Recess. Floor 2 lamps U shape W 32 C F 2 (ELE) W 32 C F 2 (ELE)	NYSERDA Fixture Code	ne re	kW/Space	Exist Control	Annual Hours	Retrofit Control	Annual	
No. of figures	1 0	Ĺ					CONTRACTOR DESCRIPTION OF THE PERSON OF THE		
http://dec.et/abs/lines/	ui.			(Watts/Fixt)*	Pre-inst. control	Estimated	Retrofit	(kW/space)*	Notes
17   8   8   8   17   8   8   17   8   8   8   8   8   8   8   8   8	2 C F 2 (ELE)	Fixture Wattages	_	(Fort No.)	device	annual hours for the usage group	control	(Annual Hours)	
17   8   8   8   8   8   8   8   8   8	2 C F 2 (ELE)	FADII	Wattages	0.5	WS	2808	000	1348	
17		Edoll	60	0.5	SW	2808	000	1 348	
17	DCF2(FIF)	F4211	9	0.5	SW	2808	000	1348	
18a         3           18a         3           18a         3           18b         6           18b	DCF2(FIF)	F4211	09	0.5	SW	2808	000	1.348	
8a         3           8b         3           8b         6           2b         6           3b         6           3b         6           3b         6           4a         3           215         3a           215         4a           215         23           23         23           215         23           215         23	12 C F 2 (ELE)	F42LL	09	0.2	SW	2808	220	202	
(8a         3           (8b         6           (8c	W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2808	2200	202	
18	W32 C F 2 (FL F)	F421.1	09	0.2	SW	2808	220	202	
SB	10 C F 2 (FI F)	F4211	09	0.4	SW	2808	000	1.011	
Sh	20 C E 2 (EI E)	F4211	80	0.4	WS.	2808	000	1011	
Sh	M 32 C E 2 (E E )	54211	89	0.4	SW	2808	330	1011	
Sh	M 22 C E 2 (ELE)	54211	8 8	0.0	WS.	2808	300	1011	
Seb	2 C C (CLC)	2221	8 8	0.4	WS.	2808	200	1011	
18	2 O F 2 (CLC)	14200	8 8		CW	2000	38	1044	
1865   6   6   6   6   6   6   6   6   6	NO OF S (ELE)	142LL	8 8	***	ALC:	2000	38	770	
Bb         B           8b         6           8b         6           8b         6           3         3           215 and 216         4           215 and 216         11           219         23	W 32 C F Z (ELE)	F4ZLL	00	6.0	AND	0007	38	110'1	
88b 6 88b 6 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	W 32 C F 2 (ELE)	F4ZLL	09	0.4	SW	2808	220	110,1	
Week 214 and 215 6 Week 214 and 215 3 Z15 and 216 11 Z15 and 216 11 Z19 219 23	Z C F 2 (ELE)	F4ZLL	09	0.4	SW	2808	220	110,1	
215 and 216 4 4 11 219 and 216 4 215 and 216 4 219 219 219	2 C F 2 (ELE)	F42LL	09	0.4	SW	2808	200	1,011	
215 and 216 4 11 12 219 4 1 219 23	2CF1	F41LL	32	0.1	SW	2808	None	2/0	
215 and 216 11 4 219 23	W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2808	None	674	
219 4	W 32 C F 2 (ELE)	F42LL	09	0.7	SW	3744	200	2,471	
23	W 32 C F 1	F41LL	32	0.1	SW	3744	None	479	
	1T 32 R F 2 (ELE)	F42LL	09	1.4	SW	3744	None	5,167	
	X 1.5 W LED	ELED1.5/1	1.5	0.0	Breaker	8760	None	13	
у 2	XX 3.0 W CF 2	ELED1.5/2	3	0.0	Breaker	8760	None	53	
Men's 3 W 32	W 32 C F 2 (ELE)	F42LL	09	0.2	SW	2080	None	374	
ю	2 C F 2 (ELE)	F42LL	09	0.2	SW	2080	None	374	
Iding - Exterior									
4	\$ 250	HPS250/1	285	12	limer	2600	None	3,068 Photo	Photo Cell as well
80	20011	1200/1	200	1.6	limer	2600	None	4,160 Photo	Photo Cell as well
1	WP 400 Po HPS	hps400/1	465	0.5	Timer	2600	None	1,209 Photo	Photo Cell as well
-	\$ 250	HPS250/1	295	0.3	Timer	2600	None	767 Photo	Photo Cell as well
	20011	1200/1	200	1.2	Timer	2600	None	3,120 Photo Cell as well	Cell as well
6	\$ 250	HPS250/1	295	2.7	Timer	2600	None	6,903 Photo Cell as well	Cell as well
1	250	mv250/1	290	0.3	Timer	2600	None	754 Photo	Photo Cell as well
New-East Wall 1 HPS 250	\$ 250	HPS250/1	295	0.3	Timer	2600	None	767 Photo	Cell as well
2	250	mv250/1	290	9.0	Timer	2600	None	1,508 Photo	Cell as well
New-North Wall 2 WP200 I	20011	1200/1	200	0.4	Timer	2600	None	1,040 Photo	Photo Cell as well
2	20011	1200/1	200	0.4	Timer	2600	None	1,040 Photo	Cell as well
5	250	mv250/1	290	1.5	Timer	2600	None	3,770 Photo Cell as well	Cell as well
-	50 Q 1	h250/1	250	0.3	Timer	2600	None	650 Photo	Cell as well
-	250	mv250/1	290	0.3	Timer	2600	None	754 Photo	Cell as well
Flag Pole 2	20011	1200/1	200	0.4	Timer	2600	None	1,040 Photo	Cell as well
Behind WT Room 1 MV 250	250	mv250/1	290	0.3	Timer	2600	None	754 Photo	Cell as well
Behind WT Room 1 WP20	20011	1200/1	200	0.2	Timer	2600	None	520 Photo	Cell as well
Behind WT Room 1 SP 26	SP 26 R CF 1	CFQ26/1-L	27	0.0	Timer	2600	None	70 Photo Cell as well	Cell as well
Outside Pool 3 MV 250	250	mv250/1	290	0.9	Timer	2600	None	2,262 Photo	Photo Cell as well
1	0	1100/1	100	0.1	Timer	2600	None	260 Photo	Photo Cell as well
South Side - Shop Wing 7 HPS 250	\$ 250	HPS250/1	295	2.1	Timer	2600	None	5,369 Photo	Cell as well
East Side 2 HPS 250	3 250	HPS250/1	295	9.0	Timer	2600	None	1,534 Photo	Photo Cell as well
4	\$ 250	HPS250/1	295	1.2	Timer	2600	None	3,068 Photo Cell as well	Cell as well
e - Shop Wing 9	WP20011	1200/1	200	1.8	Timer	2600	None	4,680 Photo Cell as well	Cell as well
9	20011	1200/1	200	1.2	Timer	2600	None	3,120 Photo	Cell as well
North Side 8 WP2001	20011	1200/1	200	1.6	Timer	2600	None	4,160 Photo Cell as well	Cell as well
2	WP400MH1	MH400/1	458	6.0	Timer	2600	None	2,382 Photo	Cell as well
Total 2.803				214.9				616,522	