

Inspira Health Network

Bridgeton Health Center
333 Irving Avenue, Bridgeton, NJ 08302

**LOCAL GOVERNMENT ENERGY AUDIT PROGRAM
FOR
NEW JERSEY
BOARD OF PUBLIC UTILITIES**

July 2015
Revised: Sept. 2015

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CHA PROJECT NO. 30212

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REPORT DISCLAIMER

This audit was conducted in accordance with the standards developed by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) for a Level II audit. Cost and savings calculations for a given measure were estimated to within $\pm 20\%$, and are based on data obtained from the owner, data obtained during site observations, professional experience, historical data, and standard engineering practice. Cost data does not include soft costs such as engineering fees, legal fees, project management fees, financing, etc.

A thorough walkthrough of the building was performed, which included gathering nameplate information and operating parameters for all accessible equipment and lighting systems. Unless otherwise stated, model, efficiency, and capacity information included in this report were collected directly from equipment nameplates and /or from documentation provided by the owner during the site visit. Typical operation and scheduling information was obtained from interviewing staff and spot measurements taken in the field.

List of Common Energy Audit Abbreviations

- A/C – Air Conditioning
- AHS – Air Handling Unit
- BMS – Building Management System
- Btu – British thermal unit
- CDW – Condenser Water
- CFM – Cubic feet per minute
- CHW – Chilled Water
- DCV – Demand Control Ventilation
- DDC – Direct Digital Control
- DHW – Domestic Hot Water
- DX – Direct Expansion
- EER – Energy Efficiency Ratio
- EF – Exhaust Fan
- EUI – Energy Use Intensity
- Gal – Gallon
- GPD – Gallons per day
- GPF – Gallons Per Flush
- GPH – Gallons per hour
- GPM – Gallons per minute
- GPS – Gallons per second
- HHW – Heating Hot Water
- HID – High Intensity Discharge
- HP – Horsepower
- HRU – Heat Recovery Unit
- HVAC – Heating, Ventilation, Air Conditioning
- HX – Heat Exchanger
- kbtu/mbtu – One thousand (1,000) Btu
- kW – Kilowatt (1,000 watts)
- kWh – Kilowatt-hours
- LED – Light Emitting Diode
- mbh – Thousand Btu per hour
- mmbtu – One million (1,000,000) Btu
- OCC – Occupancy Sensor
- PSI – Pounds per square inch
- RTU – Rooftop Unit
- SBC – System Benefits Charge
- SF – Square foot
- UH – Unit Heater
- V – Volts
- VAV – Variable Air Volume
- VSD – Variable Speed Drive
- W – Watt

1.0 EXECUTIVE SUMMARY

This report summarizes the energy audit performed by CHA for the Inspira Health Network in connection with the New Jersey Board of Public Utilities (NJBPU) Local Government Energy Audit (LGEA) Program. The purpose of this report is to identify energy savings opportunities associated with major energy consumers and inefficient practices. Low-cost and no-cost are also identified during the study. This report details the results of the energy audit conducted for the building listed below:

Building Name	Address	Square Feet	Construction Date
Bridgeton Health Center	333 Irving Avenue, Bridgeton, NJ 08302	265,000	1924 (additions: 1958, 1973, 1978, 1984)

The following table provides a detailed summary of each ECM for the building surveyed, including costs, savings, SmartStart incentives and payback.

Summary of Energy Conservation Measures

ECM #	Energy Conservation Measure	Est. Costs (\$)	Est. Savings (\$/year)	Payback w/o Incentive (years)	Potential Incentive (\$)*	Payback w/ Incentive (years)	Recommended
ECM-1	Extend DDC system to air handling units	904,273	63,501	14.2		14.2	Y
ECM-2	Install return air ductwork and reduce outdoor air volume to 1958 Tower	88,692	47,529	1.9		1.9	Y
ECM-3	Convert DX systems to chilled water	102,402	5,187	19.7		19.7	Y
ECM-4	Install premium efficiency motors and add variable frequency drives	51,533	5,678	9.1	1,800	8.8	Y
ECM-5	Install a kitchen hood control system	41,228	19,275	2.1	1,900	2.0	Y
ECM-6	Install a walk-in cooler/freezer control system	22,275	1,600	13.9		13.9	Y
ECM-7	Install an ozone laundry disinfection system	86,827	50,309	1.7		1.7	Y
ECM-L1**	Lighting Replacements / Upgrades	375,211	39,480	9.5	12,275	9.2	N

ECM #	Energy Conservation Measure	Est. Costs (\$)	Est. Savings (\$/year)	Payback w/o Incentive (years)	Potential Incentive (\$)*	Payback w/ Incentive (years)	Recommended
ECM-L2**	Install Lighting Controls (Add Occupancy Sensors)	61,560	5,575	11.0	7,980	9.6	N
ECM-L3	Lighting Replacements with Controls (Occupancy Sensors)	434,988	44,507	9.8	20,030	9.3	Y
Total(Recommended)		1,732,217	237,587	7.3	23,730	7.2	

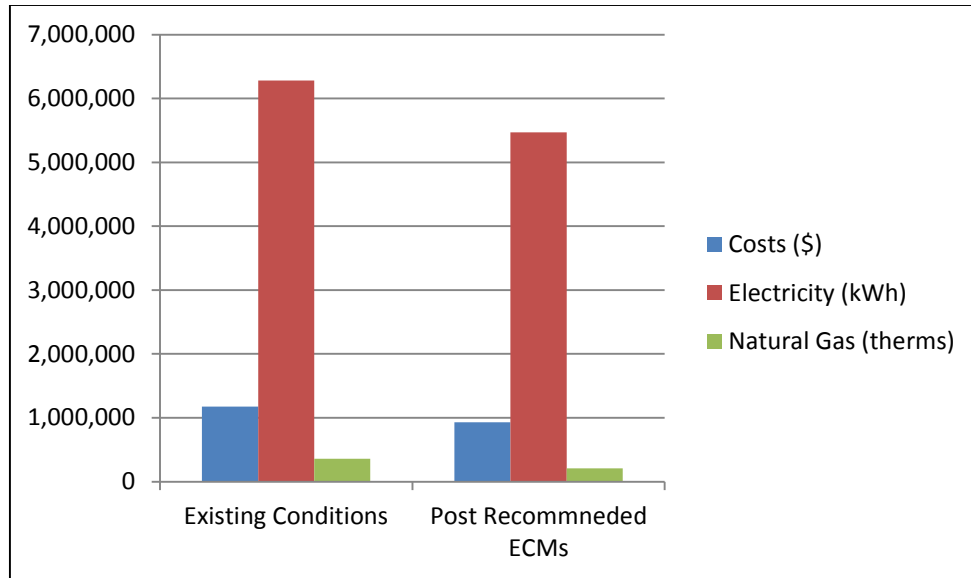
* Incentive shown is per the New Jersey SmartStart Program.

** These ECMs are not included in the Total, as they are alternate measures not recommended.

The solar PV ECM assessed under the Alternative Energy Measures section is a standalone measure that requires further study by a certified solar PV contractor, and was not included as part of the ECM Summary Table.

If Inspira Health Network implements the recommended ECMs, energy savings would be as follows:

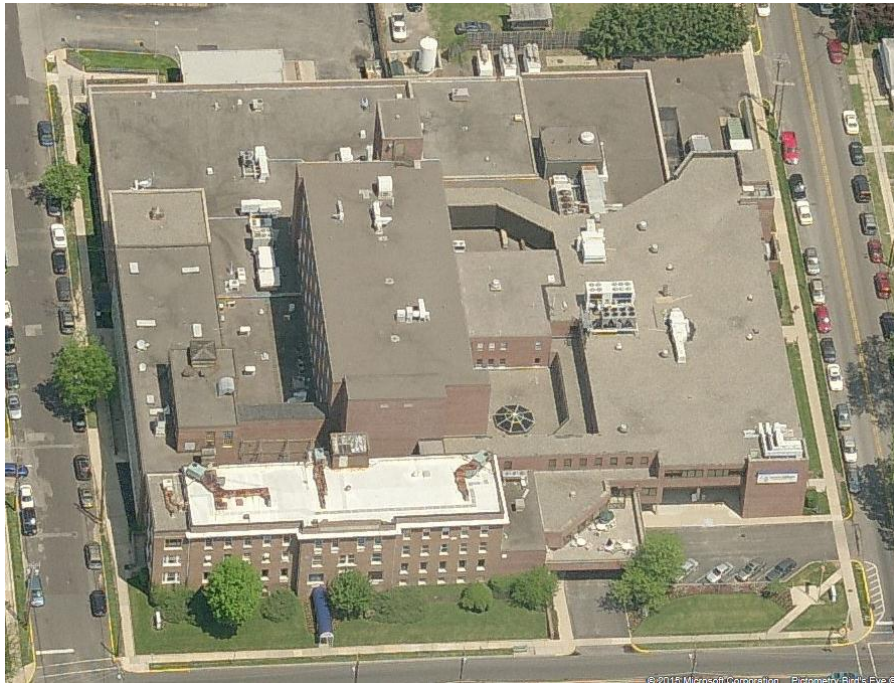
	Existing Conditions	Post Recommended ECMs	Percent Savings
Costs (\$)	1,175,048	937,461	20%
Electricity (kWh)	6,280,176	5,468,811	13%
Natural Gas (therms)	358,982	228,525	36%
Site EUI (kbtu/SF/Yr)	216.3	156.6	



2.0 BUILDING INFORMATION AND EXISTING CONDITIONS

The following is a summary of building information related to HVAC, plumbing, building envelope, lighting, and domestic hot water systems as observed during CHAs site visit. See Appendix B for detailed information on mechanical equipment, including capacities, model numbers and age. See Appendix F for representative photos of some of the existing conditions observed while onsite.

Building Name: Bridgeton Hospital
Address: 333 Irving Avenue, Bridgeton, NJ 08302
Gross Floor Area: 265,000 sq. ft.
Number of Floors: 5
Year Built: 1924
Additions: 1958, 1973, 1978, 1984



Building Envelope

Description of Spaces: Patient Rooms, Operating Rooms, Emergency Room, cafeteria, doctor's offices, locker rooms, offices and restrooms.

Description of Occupancy: The facility has full time occupancy of 100 staff members. Patient occupancy varies during the daytime hours.

Building Usage: The typical operating hours for outpatient services are generally from 7:00AM to 2:30PM on weekdays. The emergency room operates 24 hours per day, 7 days per week. The Rehab Center operates from 8:00AM to 6:00PM on weekdays. The Occupational Health Clinic operates from 7:30AM to 4:30PM on weekdays.

Construction Materials: The original 1924 building appears to be constructed of brick and poured concrete with a wooden roof support system. Consequent additions are structural steel and poured concrete with brick facades. Interior walls are primarily metal studs and sheetrock finishes. The exterior wall insulation is non-existent in all but the 1984 addition.

Roof: All roofs are adhered black rubber membrane, with the exception of the 1984 addition, which has a ballasted stone membrane. The roofs appear to be in good condition with no evidence of leakage or significant ponding.

Windows: Windows in the original 1924 building have been replaced with newer double hung windows with double pane glazing. The windows in the 1958 wing are original single pane glass with aluminum frames. Some of these windows have had internal storm windows installed. The remaining additions to the building all have double pane glass with aluminum frames. Most windows above the ground floor have operable tilting portions for fresh air. All windows on the ground level appear to be fixed and are tinted. All windows including the older single pane windows appear to be in good condition.

Exterior Doors: Public use exterior doors are aluminum framed, double glass with automatic openers. Staff manual doors are solid metal or FRP. The loading dock has several roll-up overhead doors. The public doors had fairly large gaps between the doors that should be addressed with adjustments and /or sweeps. *We have included this as an O & M measure*

Heating, Ventilation & Air Conditioning (HVAC) Systems

This hospital uses medium pressure (80-90 psig) steam for heating and re-heating, as well as domestic hot water production. Three 1972 vintage 150 HP Cleaver Brooks gas fired boilers provide the steam which is distributed through a service tunnel from the powerhouse building underground to the main building. Although these boilers are 43 years old, they appear to be well maintained and in very good condition. Maintenance staff reported that the boilers have never needed to be re-tubed which is a testament to good water treatment. The steam is used directly at 15 psig in air handling units and also converted to heating hot water using multiple heat exchangers serving re-heat coils and fan coil units. Condensate is returned to the boilers via several condensate receiver tanks that feed into one boiler feed water tank located at the powerhouse. Steam traps have been re-built as they fail. *We have included an O & M measure to perform a comprehensive steam trap survey.* Heating hot water is distributed from each heat exchanger to terminal units using constant flow pumps. Heating hot water is provided year round for re-heating. Steam coils in the main air handling units and two-pipe fan coils are utilized to provide heating after October. Maintenance personnel stated that the steam pressure was once reduced to 50 psig, however that resulted in insufficient heating at the farthest units. *It is believed that the piping is not sized adequately for lower pressures. It may be possible to re-visit this potential ECM after alterations are made to reduce the amount of outdoor air being heated.*

Cooling is provided by four (4) 150 ton air cooled York chillers and several smaller air cooled DX units, all roof mounted. Chilled water is distributed at 44°F to the air handling units and to two pipe and four pipe fan coil units using a variable flow primary/ variable flow secondary pumping system. Several air handling units have been converted from chilled water to DX by removing the chilled water coil and adding a DX cooling coil and remote air cooled condensing unit. These units are scheduled to be replaced in-kind although maintenance staff stated that they could be converted back to chilled water. There are also several small ductless split cooling systems employed for various spaces that require cooling year round. Window A/C units are used at various rooms in the 1924 building only. Cooling is provided as needed, primarily April through October.

Heating, cooling and ventilation is provided by multiple air handling units located either on the roof or in mechanical rooms throughout each floor. All units appear to be 100% outdoor air, although the current use of the building does not require this amount of outdoor air. Tempered outdoor air is distributed to core and perimeter rooms via ducted supply air systems having hot water re-heat coils. The majority of the air handling systems are constant volume. All air handling units are reported to operate 24/7. There are several air handling units that are new (1985-2005), however there are also several that are 1973 vintage and in poor condition. *We have included an ECM that evaluated the energy savings for added return air ducting and reducing the amount of outdoor air. We have also included an ECM for replacing older low efficiency motors with high efficiency motors and adding variable speed drives to replace motor starters.*

Individual patient rooms (or offices now) use wall mounted two or four pipe fan coils depending on the wing. Additionally, there are multiple convectors, unit heaters and perimeter fin tube radiation used in common areas.

Exhaust: Separate exhaust or pressure relief is provided for all areas. Isolation areas, toilet rooms and the kitchen all have dedicated roof mounted exhaust fans. The kitchen uses three fans for cooking fume removal and steam removal from the dishwasher. All exhaust fans are reported to operate 24/7. Additionally, there appears to be several large exhaust fans mounted on the 1984 wing roof that are reported to be used for smoke evacuation only.

An inventory of major HVAC equipment is included in Appendix B.

Controls Systems

The building has some direct digital controls provided by a Johnson Metasys System. This is limited to the 1984 wing chillers and air handling units. The majority of the building temperature controls, damper and valve actuators are original pneumatic controls. There are multiple air compressors distributed throughout the building that serve these systems. The 1958 tower wing has stand-alone electric controls only for the air handling units. Per building maintenance personnel, all equipment controlled pneumatically or electrically (1958 wing) operates 24/7, regardless of occupancy. Re-heat coils are pneumatically controlled to raise the discharge air temperature from 55°F to the desired space temperatures. All re-heat coils use pneumatic controls valves, many of which are reported to be inoperable. Two and four pipe fan coil units are controlled by return air sensors that cycle the unit fans to provide heating or cooling as required by the staff. These units are not on the DDC control system nor the pneumatic control system. Heating set point is maintained between 68-72°F and cooling is maintained between 72-74°F. All of the primary heating and chilled water pumps are controlled by variable frequency drives controlled by system differential pressure. Newer vintage air handling systems have VFDs controlled by duct differential static pressure or mixed air temperature reset. *We have included an ECM that estimates the saving potential for upgrading the old pneumatic and electric controls to DDC and integrating them into the current JCI system.* This would provide for an unoccupied temperature set back sequence for areas that are not occupied 24/7, which appears to be the majority of the hospital.

The main power house has its own internal control system to control the boiler and domestic hot water heater operation. A full time boiler operator is present at all times.

Domestic Hot Water Systems

Domestic hot water is produced year round using the medium pressure steam produced by the boilers. Three AERCO semi-instantaneous water heaters produce domestic hot water at 110 F for the hospital and for the laundry. Two units serve the hospital, one unit serves the laundry. Domestic hot water is used for hand washing, showering and kitchen usage. The physical therapy area on the ground floor has an independent 100 gallon electric water heater that serves a whirlpool tub.

Domestic water is provided by the City of Bridgeton water department. Water pressure is boosted in the powerhouse by a variable speed booster pump system to provide adequate pressure for the upper floors. This booster pump is wired for 460 volts using a 208 volt to 480 volt buck-boost transformer although the pump set appears to be able to operate on 208 volts. Water is used primarily for the laundry with relatively minor usage at the hospital.

Kitchen Equipment

The building has a kitchen and cafeteria that prepares food for the patients and staff from 7:00AM to 7:00PM. The cafeteria in the building is open from 8:00AM-10:00AM for breakfast and 11:30AM-1:30PM for lunch each day, dinner is served from 5:00PM to 7:00pm. The majority of the cooking equipment is gas fired, however there are some electric warmers and coolers. Cooking odors and fumes are removed by several utility set type fans mounted on the roof. Make –up air is introduced to the cafeteria by one air handling unit. *We have included an ECM that evaluates the energy savings for installing a variable speed control system on the hood fans and the make-up air unit that reduces the fan speed when cooking operations are not present.* Refrigeration systems include three walk-in coolers using R-12 refrigerant and one walk-in freezer using R-407 refrigerant. *We have included an ECM that estimated the electrical savings for reducing the compressor/ evaporator fan run times using wet-bulb box temperature.*

Plug Load

The hospital has some medical related plug loads primarily dialysis machines and emergency room associated equipment. Offices have one personal computer each and each floor has at least one copier. There are also several vending machines that contribute to the plug load. As the hospital is not used for acute care, the predominant plug load is assumed to be office related equipment. *We have included an O & M measure for the hospital to contact the vending machine vendor to investigate replacing current machines with more efficient models.*

Plumbing Systems

Water efficient plumbing fixtures have been installed in different wings of the building. The majority of water closets in the building have been upgraded to low-flow fixtures as sections of the building have been remodeled. Higher flow water closets (2.0 GPF) are still present in toilet rooms that have not been remodeled. Lavatories are equipped with low flow aerators. Patient rooms in the adolescent mental health and the pre-adolescent mental health wings are security-grade fixtures.

Laundry Facility

This hospital has an on-site laundry facility that serves this building as well as outside contracts. Laundry is processed using three large commercial washers and three commercial gas dryers. Hot water and steam is used to sterilize the laundry and is produced by the steam boilers in the

adjacent boiler plant. The hospital meters all water, hot water steam electricity and gas consumed by this operation. Based on information provided to us, the laundry processes 287,648 Lbs of linen each month. *We have included an ECM that evaluates the potential energy and water savings for implementing an Ozone disinfection system.*

Lighting Systems

The building has a mixture of 32W T-8 fluorescent lighting in hallways and office spaces. Lobby lighting contains compact fluorescent biaxial bulbs in recessed fixtures. Newly remodeled office spaces for the Health Center Administrators and Human Resources have recessed 2-lamp T5 high output fixtures. Patient rooms have recessed wall mounted nightlights with biaxial bulbs.

Individual private offices, closets, patient rooms and bathrooms are equipped with dimmer switches that have occupancy sensors built in.

LED lights are recommended in this study. *We have provided three alternatives for the observed lighting that include adding occupancy sensors to the existing lights, replacing the lights with LED lights and a third ECM that evaluates adding occupancy sensors to the proposed LED lights.*

3.0 UTILITIES

Natural gas and electricity are separately metered into this building. Utilities used by the building are delivered and supplied by the following utility companies:

	Electric	Natural Gas
Deliverer	Atlantic City Electric	South Jersey Gas
Supplier	Atlantic City Electric	Hess/Direct Energy

For the 12-month period ending in April 2015, the utilities usages and costs for the building were as follows:

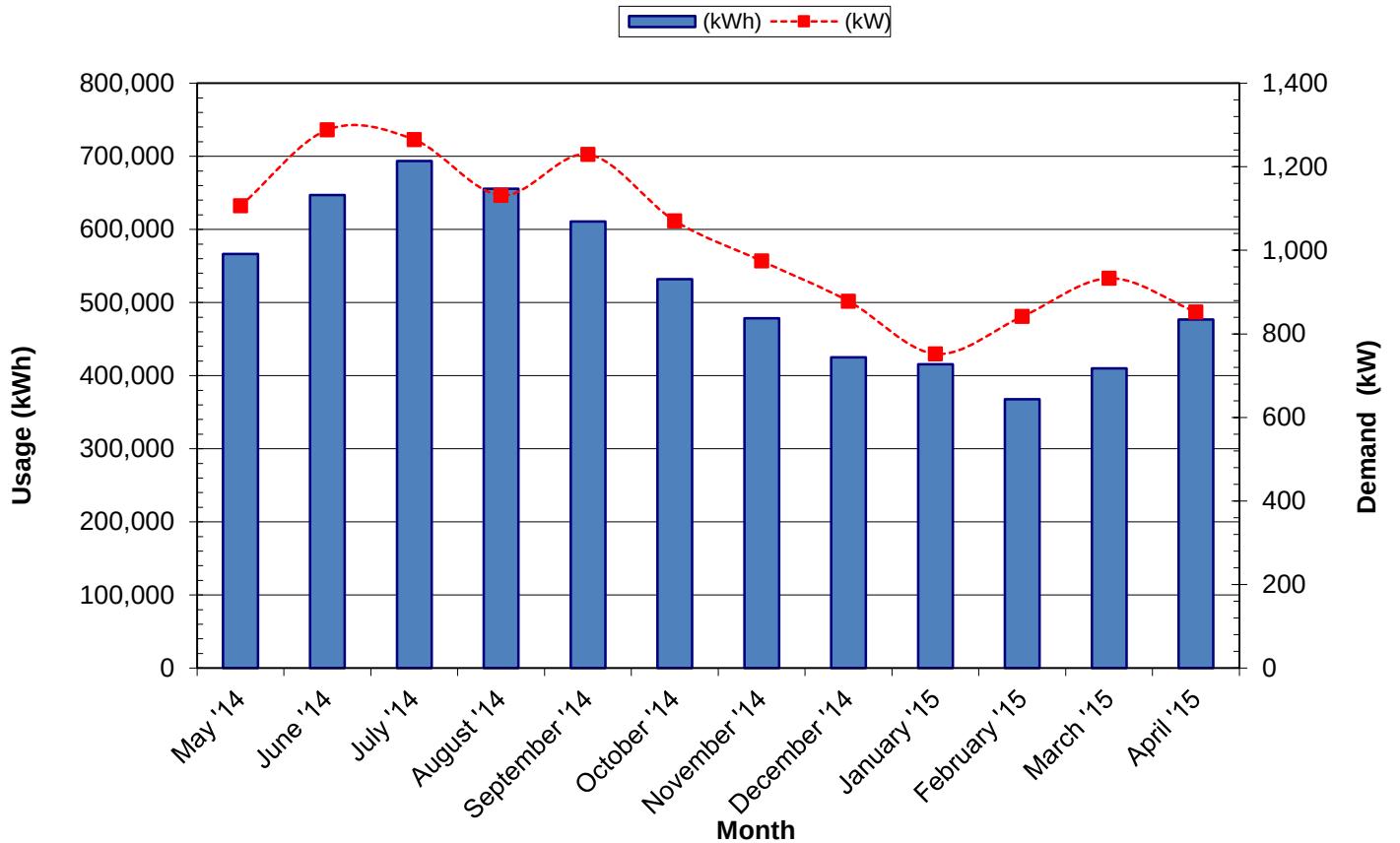
Electric		
Annual Consumption	6,280,176	kWh
Annual Cost	808,552	\$
Blended Unit Rate	0.13	\$/kWh
Consumption Rate	0.11	\$/kWh
Demand Rate	5.58	\$/kW
Peak Demand	1289	kW
Natural Gas		
Annual Consumption	358,982	Therms
Annual Cost	366,496	\$
Unit Rate	1.02	\$/therm

Blended Rate: Average rate charged determined by the annual cost / annual usage

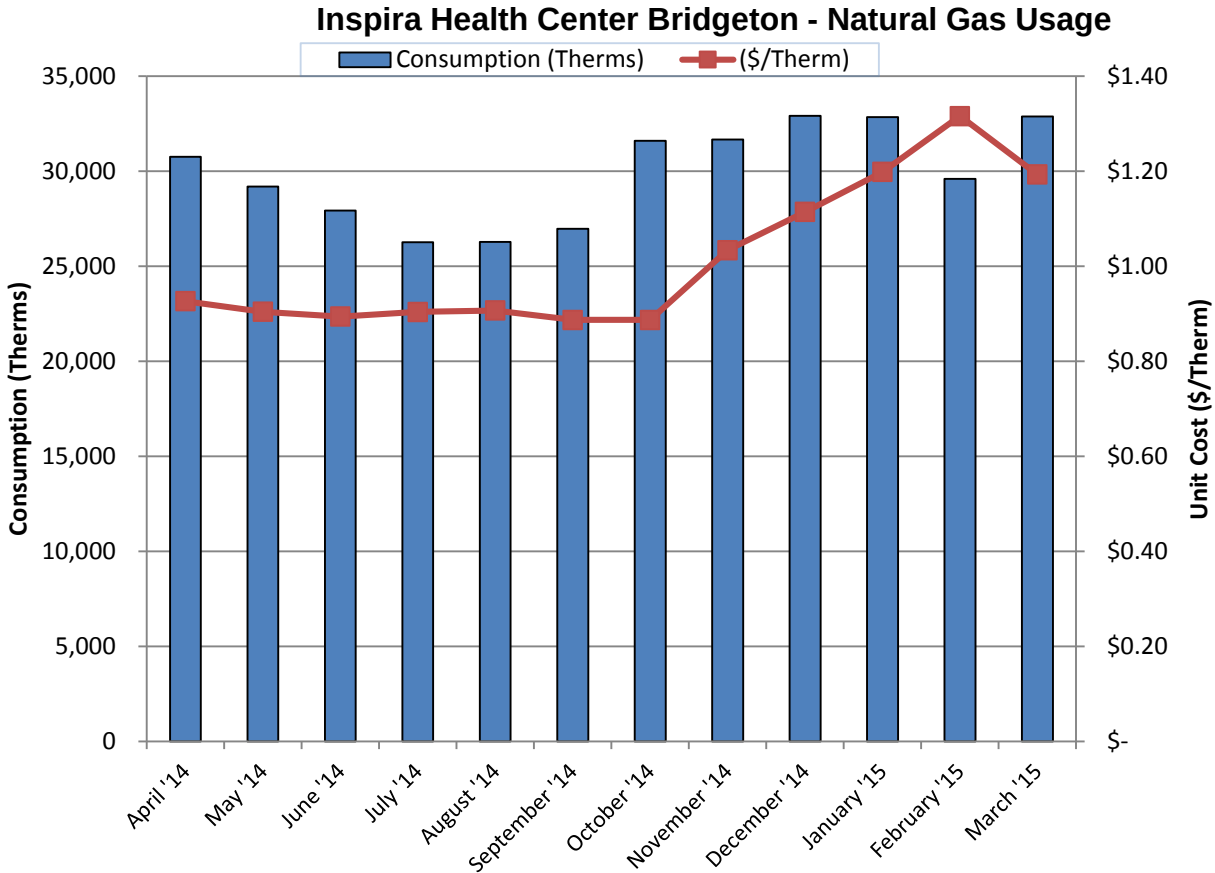
Supply Rate: Estimated

Demand Rate: Rate charged for actual electrical demand in kW (based on most recent electric bill)

Inspira Health Bridgeton - Electric Usage



The electric usage is fairly consistent each month with peak usage occurring during the summer months when the cooling is in use. The main electrical consumers are the lights and the HVAC motors.



The natural gas is used for the steam boilers, laundry and kitchen appliances. The gas usage in non-heating season is for DHW production, laundry and kitchen appliances.

See Appendix A for utility analysis.

Under New Jersey's energy deregulation law, the supply portion of the electric (or natural gas) bill is separated from the delivery portion. The supply portion is open to competition, and customers can shop around for the best price for their energy suppliers. The electric and natural gas distribution utilities will still deliver the gas/electric supplies through their wires and pipes – and respond to emergencies, should they arise – regardless of where those supplies are purchased. Purchasing the energy supplies from a company other than your electric or gas utility is purely an economic decision; it has no impact on the reliability or safety of the service.

Comparison of Utility Rates to NJ State Average Rates*				Recommended to Shop for Third Party Supplier?
Utility	Units	Average Rate	NJ Average Rate	
Electricity	\$/kWh	\$0.13	\$0.13	N
Natural Gas	\$/Therm	\$1.02	\$0.96	Y

* Per U.S. Energy Information Administration (2013 data – Electricity and Natural Gas, 2012 data – Fuel Oil)

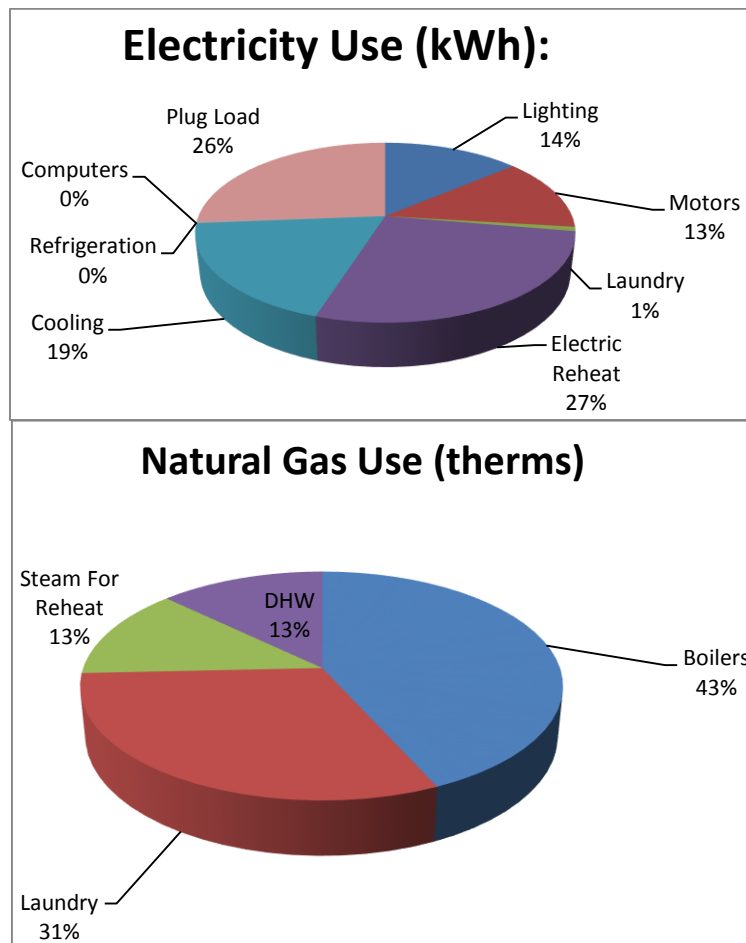
Additional information on selecting a third party energy supplier is available [here](#):

<http://www.state.nj.us/bpu/commercial/shopping.html>.

See Appendix A for a list of third-party energy suppliers licensed by the Board of Public Utilities to sell within the building's service area.

The charts below represent estimated utility end-use utility profiles for the building. The values used within the charts were estimated from a review of the utility analysis and the energy savings calculations.

Site End-Use Utility Profile



4.0 BENCHMARKING

The EPA Portfolio Manager benchmarking tool provides a site and source Energy Use Intensity (EUI), as well as an Energy Star performance rating for qualifying building types. The EUIs are provided in kBtu/ft²/year, and the performance rating represents how energy efficient a building is on a scale of 1 to 100, with 100 being the most efficient. In order for a building to receive an Energy Star label, the energy benchmark rating must be at least 75. As energy use decreases from implementation of the proposed measures, the Energy Star rating will increase. However, the EPA does not have a score for all types of buildings. The buildings that do not have an energy rating now are compared with the national median EUI.

The site EUI is the amount of heat and electricity consumed by a building as reflected in utility bills. Site energy may be delivered to a facility in the form of primary energy, which is raw fuel burned to create heat or electricity, such as natural gas or oil; or as secondary energy, which is the product created from a raw fuel such as electricity or district steam. To provide an equitable comparison for different buildings with varying proportions of primary and secondary energy consumption, Portfolio Manager uses the convention of source EUIs. The source energy also accounts for losses incurred in production, storage, transmission, and delivery of energy to the site, which provide an equivalent measure for various types of buildings with differing energy sources. The results of the benchmarking are contained in the table below.

Site EUI kBtu/ft ² /yr	Source EUI (kBtu/ft ² /yr)	Energy Star Rating (1-100)
221.9	401.5	69

The building is eligible for an Energy Star Score because the space classification "Hospital (General Medical & Surgical)" is eligible for a score. The median Energy Star score for buildings with similar usage is 50. Also, the building's Site EUI score of 221.9 and Source EUI score of 401.5 are below the national median EUIs (national median site EUI is 247.3 kBtu/ft² and national median source EUI is 447.4 kBtu/ft² for similar spaces).

5.0 ENERGY CONSERVATION MEASURES

The following types of energy savings opportunities are identified in this section of the report:

- Energy conservation measures (ECMs) are energy savings recommendations that typically require a financial investment. For these areas of opportunity, CHA prepared detailed calculations, as summarized in this section and in Appendix C. In general, additional savings may exist from reductions in maintenance activities associated with new equipment or better controls; however for conservatism, maintenance savings are not accounted for in this report; instead the only savings which are reported are those derived directly from reductions in energy which can be tracked by the utility bills.
- Operational and Maintenance measures (O&M) consist of low- or no-cost operational opportunities, which if implemented would have positive impacts on overall building operation, comfort levels, and/or energy usage. There are no estimated savings, costs or paybacks associated with the O&M measures included as part of this study.

Energy savings were quantified in the form of:

- electrical usage (kWh=Kilowatt-hour),
- electrical demand (kW=kilowatts),
- natural gas (therms=100,000 Btu),
- propane gas (gallons=91,650 Btu),
- fuel oil (gallons =138,700 Btu), and
- water (kgal=1,000 gallons).

These recommendations are influenced by the time period that it takes for a proposed project to “break even” referred to as “Simple Payback”. Simple payback is calculated by dividing the estimated cost of implementing the ECM by the energy cost savings (in dollars) of that ECM.

Another financial indicator of the performance of a particular ECM is the Return on Investment or ROI, which represents the benefit (annual savings over the life of a project) of an investment divided by the cost of the investment. The result is expressed as a percentage or ratio.

Two other financial analyses included in this report are Internal Rate of Return (IRR) and Net Present Value (NPV). Internal Rate of Return is the discount rate at which the present value of a project costs equals the present value of the project savings. Net Present Value is the difference between present value of an investment’s future net cash flows and the initial investment. If the NPV equals “0”, the project would equate to investing the same amount of dollars at the desired rate. NPV is sometimes referred to as Net Present Worth. These values are provided in the Summary Tab in Appendix C.

5.1 ECM-1 Extend DDC system to air handling units

Air handling units serving spaces within the 1924, 1958, 1973, and 1978 wings are presently controlled by pneumatics or standalone electric thermostats. These pneumatic controls are in poor condition and surpassed their suggested useful life. This measure addresses adding DDC controls to the air handling units serving these wings of the building. The implementation costs reflects the installation of additional control points, programming the additional units into the existing system, and retro-commissioning the existing system.

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

ECM-1 Extend DDC System to Air Handling Units

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$	%	\$	Years	Years
904,273	0	214,707	35,123	63,501	5%	0	14.2	14.2

* Incentive shown, if available, is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities.

This measure is recommended.

5.2 ECM-2 Install return air ductwork and reduce outdoor air volume to 1958 Tower

The 1958 Tower is served by two air handling units that use 100% outside air. Using a high percentage of outside air requires a significant amount of energy to condition air that flows into spaces within the building. It is possible to recirculate return air mixed with outside air to heat spaces in the building. The mixed air temperature in this setup would be higher than the current setup, and the amount of natural gas required to heat the air would be lower.

To implement this ECM, a return air plenum would be installed in the floors below and connected to the air handling units on the roof. The outside air dampers on the units would be adjusted to open at an intermediate setting less than 100%. Additional controls points and power wiring would be needed as well.

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

ECM-2 Install return air ductwork and reduce outdoor air volume to 1958 Tower

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$	%	\$	Years	Years
88,692	0	103,847	33,459	47,529	1508%	0	1.9	1.9

* Incentive shown, if available, is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities.

This measure is recommended.

5.3 ECM-3 Convert DX systems to chilled water

There are several air handling units on the roof that were originally built with chilled water coils. Several of these units have been retrofitted with direct expansion (DX) coils and remote condensing units. Many unitary DX coils would use a significant amount of electricity. Alternatively, these units could be equipped with chilled water coils and connected to one of the air cooled chillers located on the roof. There are (6) air cooled chillers located on the roof of the 1978 wing and the 1958 wing that serve chilled water coils within respective air handling units. Based on the approximate capacities of these air cooled chillers, there is potential to increase the cooling load by adding additional chilled water coils. The implementation cost reflects additional piping, coils and controls labor required to reprogram the existing system. Using the air cooled chillers would be more efficient than operating multiple DX cooling systems.

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

ECM-3 Convert DX systems to chilled water

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$	%	\$	Years	Years
102,402	0	40,289	0	5,187	1%	0	19.7	19.7

* Incentive shown, if available, is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities.

This measure is recommended.

5.4 ECM-4 Install premium efficiency motors and add variable frequency drives

Many of the existing fan and pump motors are of nominal efficiency and operate nearly 24/7. Replacing these motors with premium efficiency motors will result in an electrical savings based on the difference in efficiency between the two motors. There are also some chilled water pumps and hot water pumps that are not currently equipped with variable speed drives. Utilizing variable speed drives will allow these pumps to modulate operation based on outside air temperature. The cost of this measure reflects the price of premium efficiency motors, the variable frequency drives where applicable and any miscellaneous electrical work that may be encountered.

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

ECM-4 Install premium efficiency motors and add variable frequency drives

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$	%	\$	Years	Years
51,533	3.7	46,747	0	5,678	122%	1800	9.1	8.8

* Incentive shown, if available, is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities.

This measure is recommended.

5.5 ECM-5 Install a kitchen Hood Control System

The kitchen hoods are exhausted by fans that run at 100% speed during the kitchen operational hours. Cooking operations vary and therefore so does the amount of grease laden air that is being expelled through the hood. The hoods in the kitchen are typically turned on from 8:00AM-6:00PM, regardless of whether cooking activities are taking place.

This measure evaluates the savings associated with installing a control system that varies the amount of exhaust air volume based on the actual density of the grease laden air coming off the kitchen equipment. This system uses infrared beams and temperature sensors mounted within the hood enclosure that sense air density and temperature, which is then converted into an electronic signal which is used to control the speed of the exhaust fan (and make-up air fan, when applicable). The fan(s) speed is never reduced to zero, draft is always maintained during cooking operations. This control system also has a timer feature that can be programmed to shut the fan(s) off entirely when the cooking operations are completed. The system components include new inverter duty, high efficiency motors, variable frequency drives, sensors and control relays. All interconnecting wiring is provided in the field.

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

ECM-5 Install a kitchen hood control system

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$	%	\$	Years	Years
41,228	0	49,307	12,662	19,275	601%	1,900	2.1	2.0

* Incentive shown, if available, is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities.

This measure is recommended.

5.6 ECM-6 Install a walk-in cooler/freezer control system

The kitchen has a walk-in freezer and three walk-in refrigerators for food storage. The refrigeration systems within the coolers and freezer run constantly to maintain internal temperatures based on dry bulb measurements. Walk-in freezer and refrigerator controls can further reduce the run time of the evaporator fans and electric door heaters

based on dew point instead of dry bulb temperature, saving electrical energy. The units also provide diagnostic and trending features to aid in system maintenance and trouble shooting. All walk-in units would benefit from the refrigeration controls.

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

ECM-6 Install a kitchen hood control system

Budgetary Cost	Annual Utility Savings			ROI	Potential Incentive	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas				
\$	kW	kWh	Therms	\$	%	\$	Years
22,275	0	12,429	0	1,600	8%	0	13.9

* Incentive shown, if available, is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities.

This measure is recommended.

5.7 ECM-7 Install an ozone laundry disinfection system

The Central Plant has commercial washers and dryers to launder the linens and towels used by the patients. Laundry systems are typically one of the largest hot water consumers at a facility and can be expensive to operate. Installing an ozone system will reduce wash cycle time, use less water, and significantly reduce or eliminate the use of hot water in the laundry process. Reducing the wash cycle time will also increase the life of the linens.

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

ECM-7 Install an ozone laundry disinfection system

Budgetary Cost	Annual Utility Savings			ROI	Potential Incentive	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas				
\$	kW	kWh	Therms	\$	%	\$	Years
86,827	0	510	49,213	50,309	769%	0	1.7

* Incentive shown, if available, is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities.

This measure is recommended.

5.8.1 ECM-L1 Lighting Replacement / Upgrades

The building has a mixture of some 32 Watt T-8 fluorescent lighting fixtures, compact fluorescent bulbs and T-5 high output fluorescent fixtures. The lights in this building are controlled by manual wall switches or dimmer switches with occupancy sensors. Recent technological improvements in light emitting diode (LED) technologies have driven down the initial costs making it a viable option for installation. The T-8 and compact fluorescent

lamps could be replaced by LEDs, however, the T-5 lamps could stay as they are high efficiency light fixtures.

Overall energy consumption can be reduced by replacing inefficient bulbs and linear fluorescent bulbs with more efficient LED technology. To compute the annual savings for this ECM, the energy consumption of the current lighting fixtures was established and compared to the proposed fixture power requirement with the same annual hours of operation. The difference between the existing and proposed annual energy consumption was the energy savings. These calculations are based on 1 to 1 replacements of the fixtures, and do not take into account lumen output requirements for a given space. A more comprehensive engineering study should be performed to determine correct lighting levels.

Supporting calculations, including assumptions for lighting hours and annual energy usage for each fixture, are provided in Appendix C and summarized below:

ECM-L1 Lighting Replacement / Upgrades

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$	%	\$	Years	Years
375,211	58.0	300,651	0	39,480	17%	12,275	9.5	9.2

* LED retrofits must go through the "custom" measures incentive option under New Jersey SmartStart Program. There are no "prescriptive" incentives for LED retrofits. Projects must achieve a minimum of 75,000 kWh annual savings to qualify for "custom" incentives. See section 6.0 for other incentive opportunities

This measure is not recommended in lieu of ECM-L3.

5.8.2 ECM-L2 Install Lighting Controls (Occupancy Sensors)

Patient rooms, offices and closets in recently renovated parts of the building have wall mounted dimmer switches with occupancy sensors built in. Other parts of the building that have not been recently renovated have interior lights that are controlled by wall mounted switches. Review of the comprehensive lighting survey determined that lighting in some areas could benefit from installation of occupancy sensors to turn off lights when they are unoccupied.

This measure recommends installing occupancy sensors for the current lighting system. Using a process similar to that utilized in Section ECM-L1, the energy savings for this measure was calculated by applying the known fixture wattages in the space to the estimated existing and proposed times of operation for each fixture.

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

ECM-L2 Install Lighting Controls (Occupancy Sensors)

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$		\$	Years	Years
61,560	0	43,299	0	5,575	(9%)	7,980	11.0	9.6

* Incentive shown is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities.

This measure is not recommended in lieu of ECM-L3.

5.8.3 ECM-L3 Lighting Replacements with Controls (Occupancy Sensors)

This measure is a combination of ECM-L1 and ECM-L2; recommending replace/upgrade the current lighting fixtures to more efficient ones and installing occupancy sensors on the new lights. Interactive effects of the higher efficiency lights and occupancy sensors lead the energy and cost savings for this measure to not be cumulative or equivalent to the sum of replacing the lighting fixtures alone and installing occupancy sensors without the lighting upgrade. The implementation cost and savings related to this ECM are presented in Appendix C and summarized below:

ECM-L3 Lighting Replacements with Controls (Occupancy Sensors)

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$	%	\$	Years	Years
434,988	59.4	343,529	0	44,507	14%	20,030	9.8	9.3

* LED retrofits must go through the "custom" measures incentive option under New Jersey SmartStart Program. There are no "prescriptive" incentives for LED retrofits. Projects must achieve a minimum of 75,000 kWh annual savings to qualify for "custom" incentives. See section 6.0 for other incentive opportunities

This measure is recommended.

5.9 Additional O&M Opportunities

This list of operations and maintenance (O&M) - type measures represent low-cost or no-cost opportunities, which if implemented will have a positive impact on the overall building operations, comfort and/or energy consumption. The recommended O&M measures for this building are as follows:

- Clean all heat transfer coils- how water ,steam, cooling and condenser coils
- Change filter regularly
- Maintain sweeps and seals on exterior doors
- Manually turn equipment off in areas that are not used
- Request the vending machine company to provide energy efficient vending machines
- Conduct a steam trap survey

6.0 PROJECT INCENTIVES

6.1 Incentives Overview

The following sections give detailed information on available incentive programs including New Jersey Smart Start, Direct Install, New Jersey Pay for Performance (P4P) and Energy Savings Improvement Plan (ESIP). If the city wishes to and is eligible to participate in the Energy Savings Improvement Plan (ESIP) program and/or the Pay for Performance Incentive Program (P4P), it cannot participate in either the Smart Start or Direct Install Programs. Refer to Appendix D for more information on the Smart Start program.

6.1.1 New Jersey Smart Start Program

For this energy audit, The New Jersey Smart Start Incentives are used in the energy savings calculations, where applicable. This program is intended for medium and large energy users and provides incentives for:

- Electric Chillers
- Gas Chillers
- Gas Heating
- Unitary HVAC
- Ground Source Heat Pumps
- Variable frequency Drives/ motors
- Refrigeration
- Prescriptive and performance lighting and lighting controls

The equipment is procured using a typical bid- build method, installed and paid for and then the incentives are reimbursed to the owner.

Refer to Appendix D for more information on the Smart Start program.

6.1.2 Direct Install Program

The Direct Install Program applies to smaller facilities that have a peak electrical demand of 200 kW or less in any of the previous 12 months. Buildings must be located in New Jersey and served by one of the state's public, regulated electric utility companies.

Direct Install is funded through New Jersey's Clean Energy Program and is designed to provide capital for building energy upgrade projects to fast track implementation. The program will pay up to 70% of the costs for lighting, HVAC, motors, refrigeration, and other equipment upgrades with higher efficiency alternatives. If a building is eligible for this funding, the Direct Install Program can reduce the implementation cost of energy conservation projects.

The Direct Install program has specific HVAC equipment and lighting requirements and is generally applicable only to smaller package HVAC units, small boilers and lighting retrofits.

The program pays a maximum amount of \$75,000 per building, and up to \$250,000 per customer per year. Installations must be completed by an approved Direct Install participating contractor, a list of which can be found on the New Jersey Clean Energy Website. Contractors will coordinate with the applicant to arrange installation of recommended measures identified in a previous energy assessment, such as this energy audit. The incentive is reimbursed to the Owner upon successful replacement and payment of the equipment.

Refer to Appendix D for more information on this program.

6.1.3 New Jersey Pay For Performance Program (P4P)

This building may be eligible for incentives from the New Jersey Office of Clean Energy. The most significant incentives are available from the New Jersey Pay for Performance (P4P) Program. The P4P program is designed to offset the cost of energy conservation projects for facilities that pay the Societal Benefits Charge (SBC) and whose demand (kW) in any of the preceding 12 months exceeds 100 kW. This demand minimum has been waived for buildings owned by local governments or municipalities and non-profit organizations and *is not applicable to public schools*. Facilities that meet this criterion must also achieve a minimum performance target of 15% energy reduction by using the EPA Portfolio Manager benchmarking tool before and after implementation of the measure(s). Additionally, the overall return on investment (ROI) must exceed 10%. If the participant is a municipal electric company customer, and a customer of a regulated gas New Jersey Utility, only gas measures will be eligible under the Program. Available incentives are as follows:

Incentive #1: Energy Reduction Plan – This incentive is designed to offset the cost of services associated with the development of the Energy Reduction Plan (ERP). The ERP must include a detailed energy audit of the desired ECMs, energy savings calculations (using building modeling software) and inputting of all utility bills into the EPA Portfolio Manager website.

- Incentive Amount: \$0.10/SF
- Minimum incentive: \$5,000
- Maximum Incentive: \$50,000 or 50% of Facility annual energy cost

The standard incentive pays \$0.10 per square foot, up to a maximum of \$50,000, not to exceed 50% of facility annual energy cost, paid after approval of application. For building audits funded by the New Jersey Board of Public Utilities, which receive an initial 75% incentive toward performance of the energy audit, facilities are only eligible for an additional \$0.05 per square foot, up to a maximum of \$25,000, rather than the standard incentive noted above. The ERP must be completed by a Certified Energy Manager (CEM) and submitted along with the project application.

Incentive #2: Installation of Recommended Measures – This incentive is based on projected energy savings as determined in Incentive #1 (Minimum 15% savings must be achieved), and is paid upon successful installation of recommended measures.

Electric

- Base incentive based on 15% savings: \$0.09/ per projected kWh saved.
- For each % over 15% add: \$0.005 per projected kWh saved.
- Maximum incentive: \$0.11/ kWh per projected kWh saved.

Gas

- Base incentive based on 15% savings: \$0.90/ per projected Therm saved.
- For each % over 15% add: \$0.05 per projected Therm saved.
- Maximum incentive: \$1.25 per projected Therm saved.

Incentive cap: 25% of total project cost

Incentive #3: Post-Construction Benchmarking Report – This incentive is paid after acceptance of a report proving energy savings over one year utilizing the Environmental Protection Agency (EPA) Portfolio Manager benchmarking tool.

Electric

- Base incentive based on 15% savings: \$0.09/ per projected kWh saved.
- For each % over 15% add: \$0.005 per projected kWh saved.
- Maximum incentive: \$0.11/ kWh per projected kWh saved.

Gas

- Base incentive based on 15% savings: \$0.90/ per projected Therm saved.
- For each % over 15% add: \$0.05 per projected Therm saved.
- Maximum incentive: \$1.25 per projected Therm saved.

Combining Incentives #2 and #3 will provide a total of \$0.18/ kWh and \$1.8/therm not to exceed 50% of total project cost. Additional Incentives for #2 and #3 are increased by \$0.005/kWh and \$0.05/therm for each percentage increase above the 15% minimum target to 20%, calculated with the EPA Portfolio Manager benchmarking tool, not to exceed 50% of total project cost.

For the purpose of demonstrating the eligibility of the ECM's to meet the minimum savings requirement of 15% annual savings and 10% ROI for the Pay for Performance Program, all ECM's identified in this report have been included in the incentive calculations. The results for the building are shown in Appendix C, with more detailed program information in Appendix D.

6.1.4 Energy Savings Improvement Plan

The Energy Savings Improvement Program (ESIP) allows government agencies to make energy related improvements to their facilities and pay for the costs using the value of energy savings that result from the improvements. Under the recently enacted Chapter 4 of the Laws of 2009 (the law), the ESIP provides all government agencies in New Jersey with a flexible tool to improve and reduce energy usage with minimal expenditure of new financial resources.

ESIP allows local units to use “energy savings obligations” (ESO) to pay for the capital costs of energy improvements to their facilities. ESIP loans have a maximum loan term of 15 year. ESOs are not considered “new general obligation debt” of a local unit and do not count against debt limits or require voter approval. They may be issued as refunding bonds or leases. Savings generated from the installation of energy conservation

measures pay the principal of and interest on the bonds; for that reason, the debt service created by the ESOs is not paid from the debt service fund, but is paid from the general fund.

For local governments interested in pursuing an ESIP, the first step is to perform an energy audit. Pursuing a Local Government Energy Audit through New Jersey's Clean Energy Program is a valuable first step to the ESIP approach. The "Local Finance Notice" outlines how local governments can develop and implement an ESIP for their facilities. The ESIP can be prepared internally if the entity has qualified staff. If not, the ESIP must be implemented by an independent contractor and not by the energy savings company producing the Energy Reduction Plan.

The ESIP approach may not be appropriate for all energy conservation and energy efficiency improvements. Local units should carefully consider all alternatives to develop an approach that best meets their needs. Refer to Appendix D for more information on this program.

6.1.5 Renewable Energy Incentive Program

The Renewable Energy Incentive Program (REIP) is part of New Jersey's efforts to reach its Energy Master Plan goals of striving to use 30 percent of electricity from renewable sources by 2020.

Incentives for sustainable bio-power projects and for energy storage projects are currently under development, with competitive solicitations for each of those technologies expected to begin in the first quarter of 2014. The wind program is currently on hold.

New solar projects are no longer eligible for REIP incentives, but can register for Solar Renewable Energy Certificates (SRECs) through the SREC Registration Program (SRP).

7.0 ALTERNATIVE ENERGY SCREENING EVALUATION

7.1 Solar

7.1.1 Photovoltaic Parking Canopy Solar Power Generation

The building was evaluated for the potential to install parking lot canopy photovoltaic (PV) solar panels for power generation. Present technology incorporates the use of solar cell arrays that produce direct current (DC) electricity. This DC current is converted to alternating current (AC) with the use of an electrical device known as an inverter. The amount of available area determines how large of a solar array can be installed on any given space. The table below summarizes the approximate area available and the associated solar array size that can be installed.

Available Roof Area (Ft ²)	Potential PV Array Size (kW)
13,459	100

The PVWATTS solar power generation model was utilized to calculate PV power generation; this model is provided in Appendix E.

Installation of (PV) arrays in the state New Jersey will allow the owner to participate in the New Jersey Solar Renewable Energy Certificates Program (SREC). This is a program that has been set up to allow entities with large amounts of environmentally unfriendly 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. Payments that will be received by the PV producer will change from year to year dependent upon supply and demand. There is no definitive way to calculate an exact price that will be received by the PV producer for SREC credits over the next 15 years. Renewable Energy Consultants estimates an average of \$230/SREC for 2015 and this number was utilized in the cash flow for this report.

The system costs for PV installations were derived from recent solar contractor budgetary pricing in the state of New Jersey and include the total cost of the system installation (PV panels, inverters, wiring, ballast, controls). The cost of installation is currently about \$4.00 per watt or \$4,000 per kW of installed system, for a typical system. There are other considerations that have not been included in this pricing, such as the condition of the roof and need for structural reinforcement. Photovoltaic systems can be ground mounted if the roof is not suitable, however, this installation requires a substantial amount of open property (not wooded) and underground wiring, which adds more cost. PV panels have an approximate 20 year life span; however, the inverter device that converts DC electricity to AC has a life span of 10 to 12 years and will most likely need to be replaced during the useful life of the PV system.

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

Photovoltaic (PV) Canopy Solar Power Generation

Budgetary Cost	Annual Utility Savings			Total Savings	New Jersey Renewable SREC	Payback (without SREC)	Payback (with SREC)	Recommended
	Electricity		Natural Gas					
\$	kW	kWh	Therms	\$	\$	Years	Years	Y/N
\$400,000	100.0	118,479	0	\$15,254	\$27,250	26.2	9.4	FS

Note: CHA typically recommends a more detailed evaluation be conducted for the installation of PV Solar arrays when the screening evaluation shows a payback of less than 20 years. Therefore, this ECM is recommended for further study. Before implementation is pursued, the school should consult with a certified solar PV contractor.

7.1.2 Solar Thermal Hot Water Generation

Active solar thermal systems use solar collectors to gather the sun's energy to heat a fluid. An absorber in the collector (usually black colored piping) converts the sun's energy into heat. The heat is transferred to circulating water, antifreeze, or air for immediate use or is storage for later utilization. Applications for active solar thermal energy include supplementing domestic hot water, heating swimming pools, space heating or preheating air in residential and commercial buildings.

A standard solar hot water system is typically composed of solar collectors, 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 on the roof of the building, oriented south, and tilted at the same angle as the site's latitude, to maximize the amount of solar radiation collected on a yearly basis.

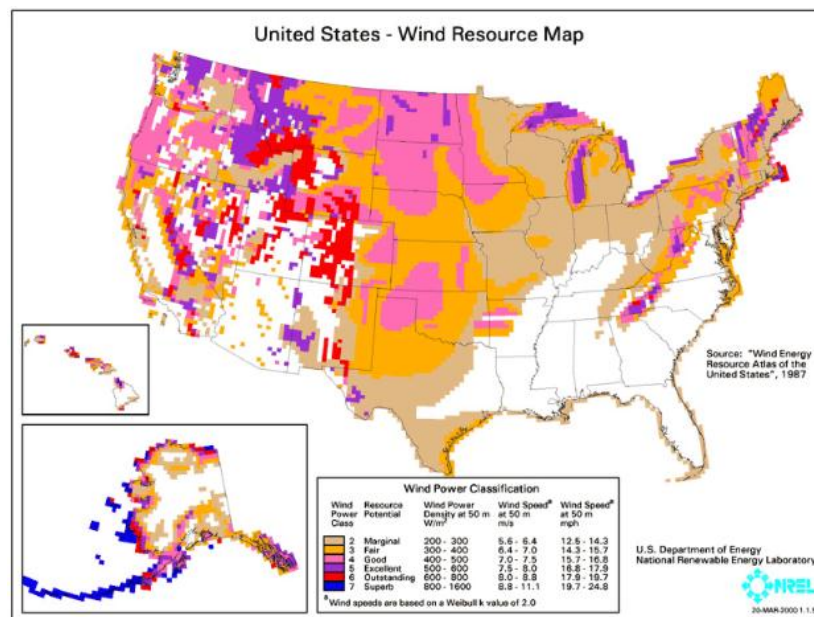
Several options exist for using active solar thermal systems for space heating. The most common method is called a passive solar hot water system involves using glazed collectors to heat a liquid held in a storage tank (similar to an active solar hot water system described above which requires pumping). The most practical system would transfer the heat from the panels to thermal storage tanks and then use the pre-heated water for domestic hot water production. DHW is presently produced by natural gas fired water heaters and, therefore, this measure would offer natural gas utility savings. Unfortunately, the amount of domestic hot water that is currently used by this building is very small. Installing a solar domestic hot water system is not recommended due to the limited amount of domestic hot water presently consumed by the building.

This measure is not recommended due to the relatively low domestic hot water usage and year round operation of the facility.

7.2 Wind Powered Turbines

Wind power is the conversion of kinetic energy from wind into mechanical power that is used to drive a generator which creates electricity by means of a wind turbine. A wind

turbine consists of rotor and blades connected to a gearbox and generator that are mounted onto a tower. Newer wind turbines also use advanced technology to generate electricity at a variety of frequencies depending on the wind speed, convert it to DC and then back to AC before sending it to the grid. Wind turbines range from 50 – 750 kW for utility scale turbines down to below 50 kW for residential use. On a scale of 1 (the lowest) to 7 (the highest), Class 3 and above (wind speeds of 13 mph or greater) are generally considered “good wind resource” according to the Wind Energy Development Programmatic EIS Information Center hosted by the Bureau of Land Management. According to the map below, published by NREL, Newark, NJ is classified as Class 1 at 50m, meaning the city would not be a good candidate for wind power.



This measure is not recommended due to the location of the building.

7.3 Combined Heat and Power Plant

Combined heat and power (CHP), 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 the 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. Based on a utility analysis, this building has sufficient electrical load; however, due to use of the building (outpatient care), there does not seem to be

adequate year round thermal load to support a CHP. Additionally, to implement a CHP system the current (relatively new) DX chillers would need to be replaced/supplemented by an absorption chiller and associated piping, which would add significant first cost.

This measure is therefore not recommended at this time. Should the hospital consider replacing the steam boilers or change the use to a more traditional 24/7 operation, a CHP analysis should be reviewed as a potential option.

7.4 Demand Response Curtailment

Presently, electricity is delivered by Atlantic City Electric, which receives the electricity from regional power grid RFC. Atlantic City Electric 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 utility provider's regional transmission organization and an approved Curtailment Service Provider (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 utility provider 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 emergency generators during high electrical demand conditions or during emergencies. Part of the program also will require that program participants reduce their required load or run emergency generators with notice to test the system.

A pre-approved CSP will require a minimum of 100 kW of load reduction to participate in any curtailment program. From May 2014 through April 2015 the following table summarizes the electricity load profile for the building.

Building Electric Load Profile

Peak Demand kW	Min Demand kW	Avg Demand kW	Onsite Generation Y/N	Eligible? Y/N
1288.8	752.4	1027.1	Y	N

*the demand is estimated from one month bill

This measure is not recommended due to the 24/7 operation of the emergency room and the presence of connected life support equipment. The generator is believed to be connected to mainly the life support systems; which could cause danger to the patients and thus, would not be suitable for demand response curtailment.

8.0 CONCLUSIONS & RECOMMENDATIONS

The following section summarizes the LGEA energy audit conducted by CHA for Inspira Health Center Bridgeton.

The following projects should be considered for implementation:

- Extend DDC system to air handling units and RCx
- Install return air ductwork and reduce outdoor air volume to 1958 Tower
- Convert DX systems to chilled water
- Install premium efficiency motors and add variable frequency drives
- Install a kitchen hood control system
- Install a walk-in cooler/freezer control system
- Install an ozone laundry disinfection system
- Lighting Replacements with Controls (Occupancy Sensors)

The following operations & maintenance measures should be considered for implementation:

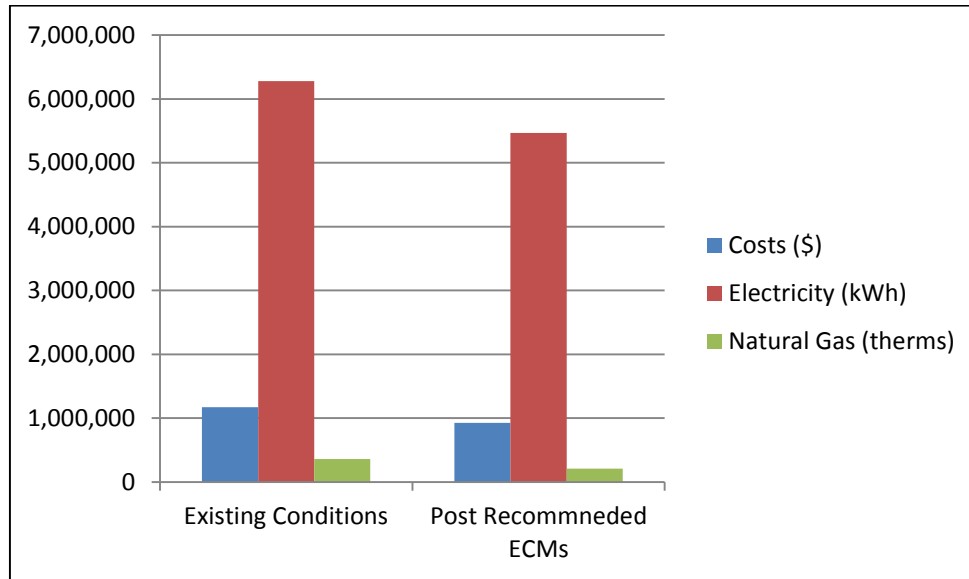
- Clean all heat transfer coils- how water ,steam, cooling and condenser coils
- Change filter regularly
- Maintain sweeps and seals on exterior doors
- Manually turn equipment off in areas that are not used
- Request the vending machine company to provide energy efficient vending machines
- Conduct a steam trap survey

The potential annual energy and cost savings for the recommended ECMs are shown in the following table.

Electric Savings (kWh)	Natural Gas Savings (therms)	Total Savings (\$)	Payback (years)
811,365	150,055	237,587	7.2

If the Inspira Health Network implements the recommended ECMs, energy savings would be as follows:

	Existing Conditions	Post Recommended ECMs	Percent Savings
Costs (\$)	1,175,048	937,461	20%
Electricity (kWh)	6,280,176	5,468,811	13%
Natural Gas (therms)	358,982	228,525	36%
Site EUI (kbtu/SF/Yr)	216.3	156.6	



Next Steps: This energy audit has identified several areas of potential energy savings. Inspira Health Network can use this information to pursue incentives offered by the NJBPU's NJ Clean Energy Program. Additional meetings will be scheduled with staff members to review possible options.

APPENDIX A

Utility Usage Analysis and Alternate Utility Suppliers

Utility Bills: Account Numbers

<u>Account Number</u>	<u>Building</u>	<u>Location</u>	<u>Type</u>	<u>Notes</u>
0507 7019 9995	South Jersey Hospital Bridgeton	Irving & Magnolia Ave. Bridgeton, NJ	Electricity	
4787630000	South Jersey Hospital Bridgeton	Irving & Magnolia Ave. Bridgeton, NJ	Natural Gas	

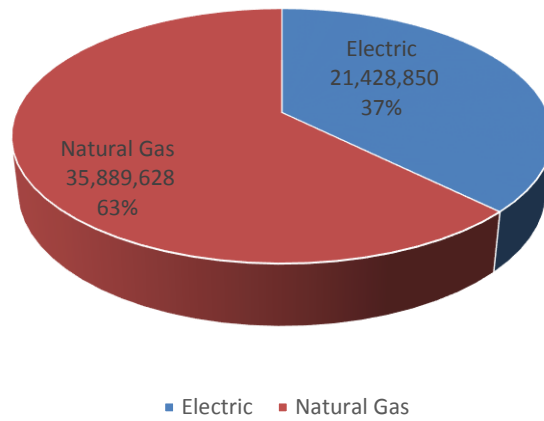
South Jersey Hospital Bridgeton
Irving & Magnolia Ave. Bridgeton, NJ

Annual Utilities
12-month Summary

Electric		
Annual Usage	6,280,176	kWh/yr
Annual Cost	808,552	\$
Blended Rate	0.129	\$/kWh
Consumption Rate	0.115	\$/kWh
Demand Rate	7.25	\$/kW
Peak Demand	1,288.8	kW
Min. Demand	752.4	kW
Avg. Demand	1,000.5	kW
Natural Gas		
Annual Usage	358,982	Therms/yr
Annual Cost	366,496	\$
Rate	1.021	\$/Therm
Energy Summary		
Building Area	265,000	SF
Energy Usage Intensity (EUI)	216	kBtu/SF/yr
Energy Cost Index (ECI)	4.434	\$/SF/yr
Total Annual Utility Costs	1,175,048	\$

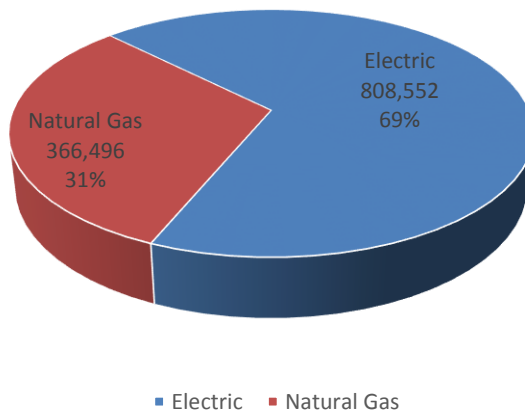
Utility	kBtu	%
Electric	21,428,850	37%
Natural Gas	35,889,628	63%
	57,318,478	100%

Energy Usage by Utility



Utility	\$	%
Electric	808,552	69%
Natural Gas	366,496	31%
	1,175,048	100%

Energy Cost By Utility



South Jersey Hospital Bridgeton
Irving & Magnolia Ave. Bridgeton, NJ

Electric Service

For Service at: Irving & Magnolia Ave

Account No.: 0507 7019 9995

Meter No.:

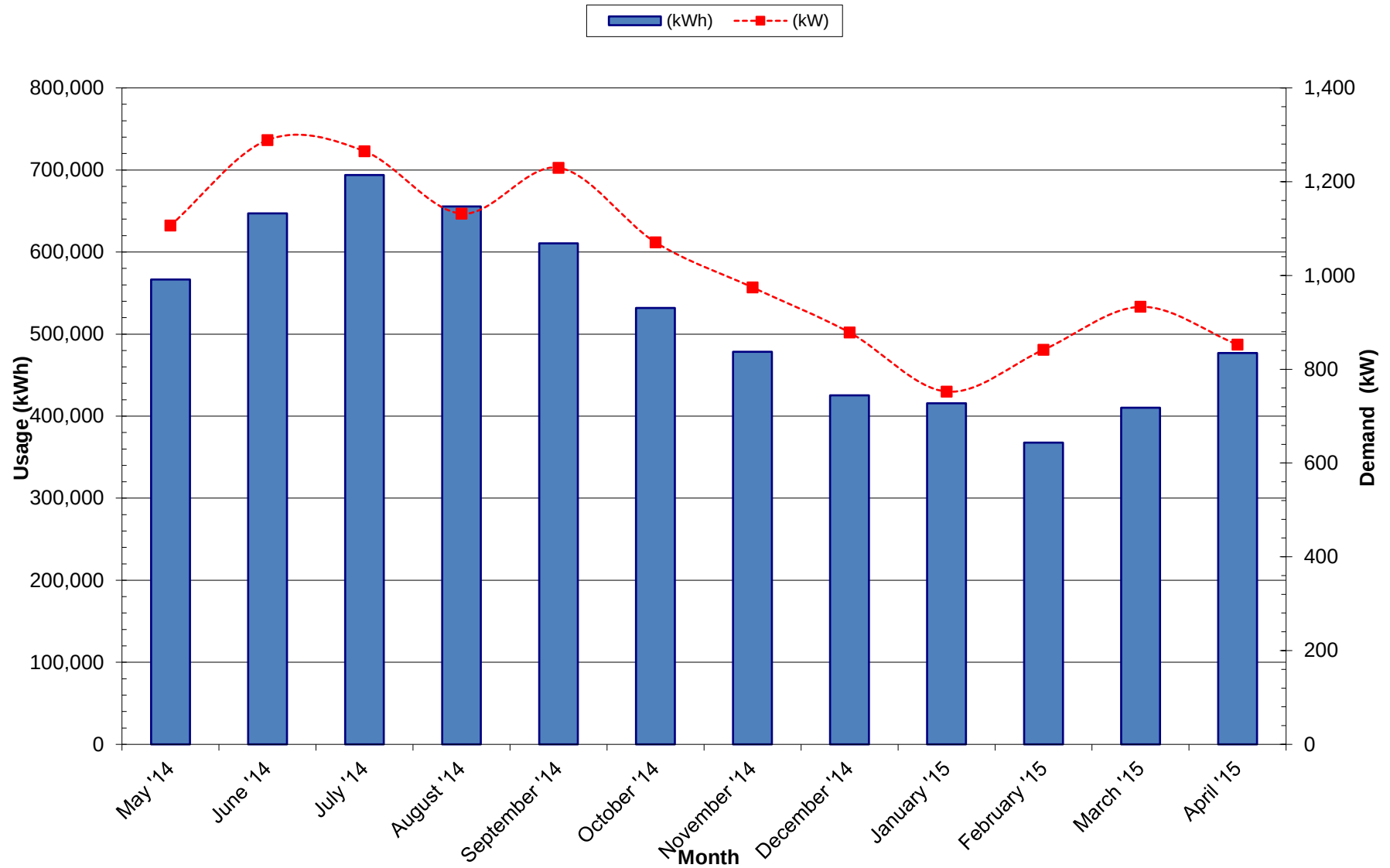
Delivery - Atlantic City Electric

Supplier - Atlantic City Electric

			Provider Charges			Usage (kWh) vs. Demand (kW) Charges		Unit Costs				
Month	Consumption (kWh)	Demand (kW)	Delivery (\$)	Supplier (\$)	Total (\$)	Consumption (\$)	Demand (\$)	Delivery (\$/kWh)	Supplier (\$/kWh)	Consumption Rate (\$/kWh)	Demand (\$/kW)	Blended Rate (\$/kWh)
January '14	443,019	887.04	24180.68	34506.75	58687.43	50671.63	8015.80	0.055	0.078	0.114	9.037	0.132
February '14	392,714	916.56	21587.93	32025.83	53613.76	46364.00	7249.76	0.055	0.082	0.118	7.910	0.137
March '14	443,361	923.76	24215.69	69119.98	93335.67	85296.94	8038.73	0.055	0.156	0.192	8.702	0.211
April '14	459,953	954.72	24526.30	39165.00	63691.30	55910.67	7780.63	0.053	0.085	0.122	8.150	0.138
May '14	566,664	1,106.64	28565.32	48251.44	76816.76	68780.99	8035.77	0.050	0.085	0.121	7.261	0.136
June '14	647,213	1,288.80	28375.62	55110.19	83485.81	75346.79	8139.02	0.044	0.085	0.116	6.315	0.129
July '14	693,789	1,265.04	29924.61	59076.13	89000.74	80717.21	8283.53	0.043	0.085	0.116	6.548	0.128
August '14	655,613	1,131.84	27903.75	56566.29	84470.04	77045.52	7424.52	0.043	0.086	0.118	6.560	0.129
September '14	610,630	1,229.76	27290.00	52685.16	79975.16	71778.40	8196.76	0.045	0.086	0.118	6.665	0.131
October '14	531,893	1,070.64	20915.91	36373.06	57288.97	49906.01	7382.96	0.039	0.068	0.094	6.896	0.108
November '14	478,570	974.52	20915.91	36373.06	57288.97	50037.60	7251.37	0.044	0.076	0.105	7.441	0.120
December '14	425,247	878.40	21269.30	35872.89	57142.19	50022.41	7119.78	0.050	0.084	0.118	8.105	0.134
January '15	415,773	752.40	20954.13	0.00	20954.13	13846.02	7108.11	0.050	0.000	0.033	9.447	0.050
February '15	367,819	841.60	18651.64	63470.84	82122.48	75729.66	6392.82	0.051	0.173	0.206	7.596	0.223
March '15	410,128	933.12	20794.47	35385.84	56180.31	49051.01	7129.30	0.051	0.086	0.120	7.640	0.137
April '15	476,837	852.56	22684.61	41141.50	63826.11	56926.79	6899.32	0.048	0.086	0.119	8.092	0.134
Total (All)	8,019,223	1,288.8	\$382,755.87	\$695,123.96	\$1,077,879.83	\$957,431.65	\$120,448.18	\$0.05	\$0.09	\$0.12	\$7.52	\$0.13
Total (12 Months)	6,280,176	1,288.8	\$288,245.27	\$520,306.40	\$808,551.67	\$719,188.41	\$89,363.26	\$0.05	\$0.08	\$0.11	\$7.25	\$0.13
Notes	1	2	3	4	5			6	7			8

- 1.) Number of kWh of electric energy used per month
- 2.) Number of kW of power measured
- 3.) Electric charges from Delivery provider
- 4.) Electric charges from Supply provider - note, includes 8.875% tax
- 5.) Total charges (Delivery + Supplier)
- 6.) Delivery Charges (\$) / Consumption (kWh)
- 7.) Supplier Charges (\$) / Consumption (kWh)
- 8.) Total Charges (\$) / Consumption (kWh)
- 9.) Data shown in RED are approximate values since bills were not available for these months.

Inspira Health Bridgeton - Electric Usage



South Jersey Hospital Bridgeton
Irving & Magnolia Ave. Bridgeton, NJ

Natural Gas Service

For Service at: Irving & Magnolia Ave. Bridgeton, NJ

Account No.: 4787630000

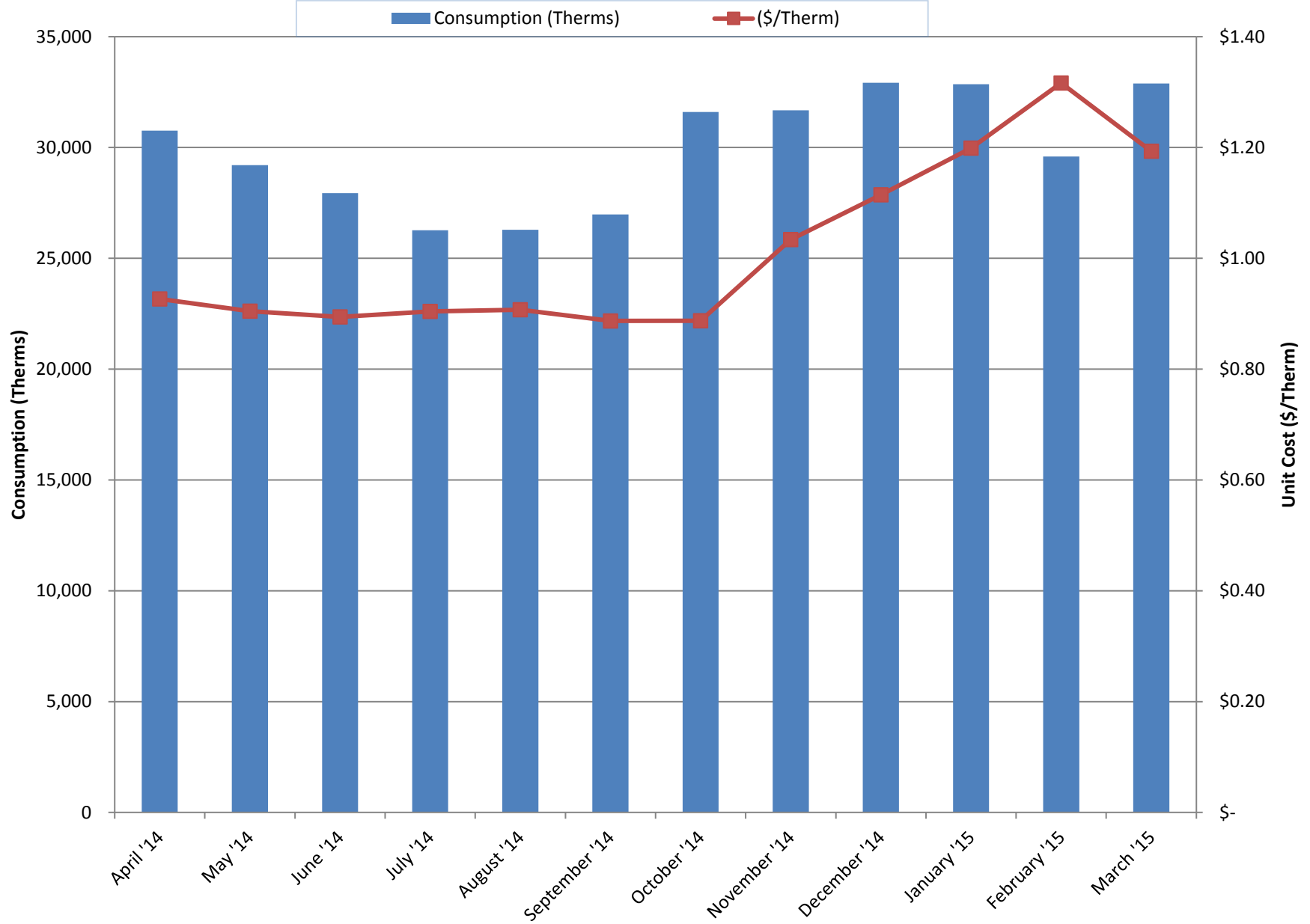
Meter No.:

Delivery: South Jersey Gas

Supplier: Hess/Direct Energy

Month	Consumption (Therms)	Charges			Unit Costs		
		Delivery (\$)	Supply (\$)	Total (\$)	Delivery (\$/Therm)	Supply (\$/Therm)	Total (\$/Therm)
January '14	32,736	\$ 19,236.73	\$ 31,374.15	\$ 50,610.88	\$ 0.59	\$ 0.96	\$ 1.55
February '14	29,400	\$ 9,063.92	\$ 31,596.80	\$ 40,660.72	\$ 0.31	\$ 1.07	\$ 1.38
March '14	32,488	\$ 8,906.91	\$ 27,456.58	\$ 36,363.49	\$ 0.27	\$ 0.85	\$ 1.12
April '14	30,765	\$ 7,670.92	\$ 20,831.72	\$ 28,502.64	\$ 0.25	\$ 0.68	\$ 0.93
May '14	29,202	\$ 7,462.88	\$ 18,947.26	\$ 26,410.14	\$ 0.26	\$ 0.65	\$ 0.90
June '14	27,936	\$ 7,294.35	\$ 17,690.94	\$ 24,985.29	\$ 0.26	\$ 0.63	\$ 0.89
July '14	26,262	\$ 7,071.57	\$ 16,669.50	\$ 23,741.07	\$ 0.27	\$ 0.63	\$ 0.90
August '14	26,290	\$ 7,075.30	\$ 16,770.40	\$ 23,845.70	\$ 0.27	\$ 0.64	\$ 0.91
September '14	26,980	\$ 7,167.13	\$ 16,766.54	\$ 23,933.67	\$ 0.27	\$ 0.62	\$ 0.89
October '14	31,598	\$ 7,721.90	\$ 20,308.35	\$ 28,030.25	\$ 0.24	\$ 0.64	\$ 0.89
November '14	31,680	\$ 8,280.94	\$ 24,471.98	\$ 32,752.92	\$ 0.26	\$ 0.77	\$ 1.03
December '14	32,922	\$ 8,655.97	\$ 28,034.39	\$ 36,690.36	\$ 0.26	\$ 0.85	\$ 1.11
January '15	32,860	\$ 9,574.85	\$ 29,815.60	\$ 39,390.45	\$ 0.29	\$ 0.91	\$ 1.20
February '15	29,596	\$ 8,254.63	\$ 30,706.20	\$ 38,960.83	\$ 0.28	\$ 1.04	\$ 1.32
March '15	32,891	\$ 8,101.59	\$ 31,151.50	\$ 39,253.09	\$ 0.25	\$ 0.95	\$ 1.19
Total (12 - Month)	358,982	\$ 94,332.03	\$ 272,164.37	\$ 366,496.40	\$ 0.26	\$ 0.76	\$ 1.02

Inspira Health Bridgeton - Natural Gas Usage



ATLANTIC CITY ELECTRIC SERVICE TERRITORY
Last Updated: 12/11/14

***CUSTOMER CLASS - R – RESIDENTIAL C – COMMERCIAL I – INDUSTRIAL**

Supplier	Telephone & Web Site	*Customer Class
Abest Power & Gas of NJ, LLC 202 Smith Street Perth Amboy, NJ 08861	(888) 987-6937 www.AbestPower.com	R/C/I ACTIVE
AEP Energy, Inc. f/k/a BlueStar Energy Services 309 Fellowship Road 2 nd Fl. Mount Laurel, NJ 08054	(866)258-3782 www.aepenergy.com	R/C/I ACTIVE
Alpha Gas and Electric, LLC 641 5 th Street Lakewood, NJ 08701	(855) 553-6374 www.alphagasandelectric.com	R/C ACTIVE
Ambit Northeast, LLC 103 Carnegie Center, Suite 300 Princeton, NJ 08540	(877) 30-AMBIT (877) 302-6248 www.ambitenergy.com	R/C ACTIVE
American Powernet Management, LP 437 Grove Street Berlin, NJ 08009	(877) 977-2636 www.americanpowernet.com	C/I ACTIVE
AP Gas & Electric, LLC 10 North Park Place Suite 420 Morristown, NJ 07960	(855) 544-4895 www.apge.com	R/C/I ACTIVE
Astral Energy LLC 16 Tyson Place Bergenfield, NJ 07621	(201) 384-5552	R/C/I ACTIVE
BBPC, LLC d/b/a Great Eastern Energy 116 Village Blvd. Suite 200 Princeton, NJ 08540	(888) 651-4121 www.greateasternenergy.com	C/I ACTIVE
Blue Pilot Energy, LLC 197 State Rte., 18 South Ste. 3000 East Brunswick, NJ 08816	(800) 451-6956 www.bluepilotenergy.com	R/C ACTIVE

Brick Standard, LLC 235 Hudson Street Suite 1 Hoboken, NJ 07030	(201) 706-8101 www.standardalternative.com	C/I ACTIVE
CCES LLC dba Clean Currents Energy Services 566 Terhune Street Teaneck, NJ 07666	(877) 933-2453 www.cleancurrents.com	R/C ACTIVE
Champion Energy Services, LLC 1200 Route 22 East Bridgewater, NJ 08807	(888) 653-0093 www.championenergyservices.com	R/C/I ACTIVE
Choice Energy, LLC 4257 US Highway 9, Suite 6C Freehold, NJ 07728	(888)-565-4490 www.4choiceenergy.com	R/C ACTIVE
Clearview Electric, Inc. 1744 Lexington Avenue Pennsauken, NJ 08110	(888) CLR-VIEW (800) 746- 4702 www.clearviewenergy.com	R/C/I ACTIVE
Community Energy Inc. 51 Sandbrook Headquarters Road Stockton, NJ 08559	(866)946-3123 www.communityenergyinc.com	R/C/I ACTIVE
ConEdison Solutions Cherry Tree Corporate Center 535 State Highway, Suite 180 Cherry Hill, NJ 08002	(888) 665-0955 www.conedsolutions.com	C/I ACTIVE
Constellation New Energy, Inc. 116 Village Blvd., Suite 200 Princeton, NJ 08540	800-785-4373 www.constellation.com	R/C/I ACTIVE
Constellation Energy 116 Village Blvd., Suite 200 Princeton, NJ 08540	800-785-4373 www.constellation.com	R/C/I ACTIVE
Direct Energy Business, LLC 120 Wood Avenue Suite 611 Iselin, NJ 08830	(888) 925-9115 http://www.business.directenergy.com/	C/I ACTIVE

Direct Energy Business Marketing, LLC (fka Hess Energy Marketing) 1 Hess Plaza Woodbridge, NJ 07095	(800) 437-7872 http://www.business.directenergy.com/	C/I ACTIVE
Direct Energy Services, LLC 120 Wood Avenue, Suite 611 Iselin, NJ 08830	(866) 547-2722 www.directenergy.com	C/I INACTIVE
Direct Energy Small Business, LLC 1 Hess Plaza Woodbridge, NJ 07095	(888) 464-4377 http://www.business.directenergy.com/	C/I ACTIVE
Discount Energy Group, LLC 811 Church Road, Suite 149 Cherry Hill, NJ 08002	(800) 282-3331 www.discountenergygroup.com	R/C ACTIVE
DTE Energy Supply, Inc. One Gateway Center, Suite 2600 Newark, NJ 07102	(877) 332-2450 www.dtesupply.com	C/I ACTIVE
Energy Plus Holdings LLC 309 Fellowship Road East Gate Center, Suite 200 Mt. Laurel, NJ 08054	(877) 866-9193 www.energypluscompany.com	R/C ACTIVE
Energy.me Midwest LLC 90 Washington Blvd Bedminster, NJ 07921	(855)243-7270 www.energy.me	R/C/I ACTIVE
EnerPros, LLC 522 Highway 9 North, Unit 200 Manalapan, NJ 07726	(732) 391-6161 www.enerpros.com	R/C/I ACTIVE
Ethical Electric Benefit Co. d/b/a Ethical Electric 100 Overlook Center, 2 nd Fl. Princeton, NJ 08540	(888) 444-9452 www.ethicalelectric.com	R/C ACTIVE
FirstEnergy Solutions Corp.	(800) 977-0500	C/I

150 West State Street Trenton, NJ 08608	www.fes.com	ACTIVE
Gateway Energy Services Corporation 120 Wood Avenue Suite 611 Iselin, NJ 08830	(800) 313-8333 Residential (800) 715-8777 Commercial www.gesc.com	R/C ACTIVE
GDF SUEZ Energy Resources NA, Inc. 333 Thornall Street, Sixth Floor Edison, New Jersey 08819	(866) 999-8374 www.gdfsuezenenergyresources.com	C/I ACTIVE
GDF Suez Retail Energy Solutions LLC d/b/a THINK ENERGY 333 Thornall St. Sixth Floor Edison, NJ 08819	1-866-252-0078 www.mythinkenergy.com	R/C/I ACTIVE
Glacial Energy of New Jersey, Inc. 21 Pine Street, Suite 237 Rockaway, NJ 07866	(888) 452-2425 www.glacialenergy.com	C/I ACTIVE
Global Energy Marketing LLC 129 Wentz Avenue Springfield, NJ 07081	(800) 542-0778 www.globalp.com	R/C/I ACTIVE
Green Mountain Energy Company 211 Carnegie Center Drive Princeton, NJ 08540	(866) 767-5818 www.greenmountain.com/commercial-home	C/I ACTIVE
Hess Corporation 1 Hess Plaza Woodbridge, NJ 07095	(800) 437-7872 www.hess.com	C/I ACTIVE
HIKO Energy, LLC 655 Suffern Road Teaneck, NJ 07666	(888) 264-4908 www.hikoenergy.com	R/C/I ACTIVE
IDT Energy, Inc. 550 Broad Street Newark, NJ 07102	(877) 887-6866 www.idtenergy.com	R/C ACTIVE
Independence Energy Group, LLC 211 Carnegie Center Princeton, NJ 08540	(877) 235-6708 www.chooseindependence.com	R/C ACTIVE

Inspire Energy Holdings LLC 923 Haddonfield Road 3 rd Fl. Building B2 Cherry Hill, NJ 08002	(866) 403-2620 www.inspireenergy.com	R/C/I
Integrlys Energy Services, Inc. 33 Wood Avenue, South Suite 610 Iselin, NJ 08830	(800) 536-0151 www.integrlysenergy.com	C/I ACTIVE
Liberty Power Delaware, LLC 3000 Atrium Way, Suite 273 Mt. Laurel, NJ 08054	(866) 769-3799 www.libertypowercorp.com	R/C/I ACTIVE
Liberty Power Holdings, LLC 3000 Atrium Way, Suite 273 Mt. Laurel, NJ 08054	(866) 769-3799 www.libertypowercorp.com	R/C/I ACTIVE
Linde Energy Services 575 Mountain Avenue Murray Hill, NJ 07974	(800) 247-2644 www.linde.com	C/I ACTIVE
Mondre Energy, Inc. 15 N.Osborne Avenue Margate, NJ 08402	(888) 988-8360 www.mondreenergy.com	R/C ACTIVE
MP2 Energy NJ, LLC 111 River Street, Suite 1204 Hoboken, NJ 07030	(877) 238-5343 www.mp2energy.com	R/C/I ACTIVE
NATGASCO (Supreme Energy, Inc.) 532 Freeman St. Orange, NJ 07050	(800) 840-4427 www.supremeenergyinc.com	R/C ACTIVE
NextEra Energy Services New Jersey, LLC 651 Jernee Mill Road Sayreville, New Jersey 08872	(877) 528-2890 Commercial (800) 882-1276 Residential www.nexteraenergyservices.com	R/C/I ACTIVE
New Jersey Gas & Electric 10 North Park Place Suite 420 Morristown, New Jersey 07960	(866) 568-0290 www.NJGandE.com	R/C/I ACTIVE

Noble Americas Energy Solutions The Mac-Cali Building 581 Main Street, 8th fl. Woodbridge, NJ 07095	(877) 273-6772 www.noblesolutions.com	C/I ACTIVE
Nordic Energy Services, LLC 50 Tice Boulevard, Suite 340 Woodcliff Lake, NJ 07677	(877) 808-1027 www.nordiceenergy.us.com	R/C/I ACTIVE
North American Power and Gas, LLC 222 Ridgedale Ave. Cedar Knolls, NJ 07927	(888) 313-9086 www.napower.com	R/C/I ACTIVE
North Eastern States, Inc. d/b/a Entrust Energy 90 Washington Valley Road Bedminster, NJ 07921	(888) 535-6340 www.entrustenergy.com	R/C/I ACTIVE
Palmco Power NJ, LLC One Greentree Centre 10,000 Lincoln Drive East Suite 201 Marlton, NJ 08053	(877) 726-5862 www.PalmcoEnergy.com	R/C/I ACTIVE
Park Power, LLC 1200 South Church St. Suite 23 Mount Laurel, NJ 08054	(856)-778-0079 www.parkpower.com	R/C/I ACTIVE
Power Management Co., LLC 1600 Mosely Road Victor, NY 14564	(585) 249-1360 www.powermanagementco.com	C/I ACTIVE
PPL EnergyPlus, LLC 811 Church Road Cherry Hill, NJ 08002	(800) 281-2000 www.pplenergyplus.com	C/I ACTIVE
PPL EnergyPlus Retail, LLC 788 Shrewsbury Avenue, Suite 220 Tinton Falls, NJ 07724	(732) 741-0505 – 2000 www.pplenergyplus.com	C/I ACTIVE
Prospect Resources Inc. 208 W. State Street Trenton, NJ 08608-1002	(847) 673-1959 www.prospectresources.com	C ACTIVE

Public Power & Utility of New Jersey, LLC One International Blvd, Suite 400 Mahwah, NJ 07495	(888) 354-4415 www.ppandu.com	R/C/I ACTIVE
Reliant Energy 211 Carnegie Center Princeton, NJ 08540	(877) 297-3795 (877) 297-3780 www.reliant.com	R/C/I ACTIVE
ResCom Energy LLC 18C Wave Crest Ave. Winfield Park, NJ 07036	(888) 238-4041 http://rescomenergy.com	R/C/I ACTIVE
Residents Energy, LLC 550 Broad Street Newark, NJ 07102	(888) 828-7374 www.residentsenergy.com	R/C ACTIVE
Respond Power LLC 1001 East Lawn Drive Teaneck, NJ 07666	(877) 973-7763 www.respondpower.com	R/C/I ACTIVE
Save on Energy, LLC 1101 Red Ventures Drive Fort Mill, SC 29707	1 (877)658-3183 www.saveonenergy.com	R/C ACTIVE
SFE Energy One Gateway Center Suite 2600 Newark, NJ 07012	1 (877) 316-6344 www.sfeenergy.com	R/C/I ACTIVE
SIMEC, LLC 116 Village Blvd. Suite 200 Princeton, NJ 08540	(917) 620-0249 www.simecenergy.com	R/C/I ACTIVE
SmartEnergy Holdings, LLC 100 Overlook Center 2 nd Floor Princeton, NJ NJ 08540	(800) 443-4440 www.smartenergy.com	R/C/I ACTIVE
South Jersey Energy Company 1 South Jersey Plaza, Route 54 Folsom, NJ 08037	(800) 266-6020 www.southjerseyenergy.com	R/C/I ACTIVE
Sperian Energy Corp. 1200 Route 22 East, Suite 2000 Bridgewater, NJ 08807	(888) 682-8082 www.sperianenergy.com	R/C/I ACTIVE
Starion Energy PA Inc. 101 Warburton Avenue Hawthorne, NJ 07506	(800) 600-3040 www.starionenergy.com	R/C/I ACTIVE

Stream Energy New Jersey, LLC 309 Fellowship Road, Suite 200 Mt. Laurel, NJ 08054	(877) 369-8150 www.streamenergy.net	R/C ACTIVE
Summit Energy Services, Inc. 10350 Ormsby Park Place Suite 400 Louisville, KY 40223	1 (800) 90-SUMMIT www.summitenergy.com	C/I ACTIVE
Supernova Partners, LLC d/b/a Affordable Gas & Electric 10749 E. Garden Road Mt. Vernon, IL 62864	(615) 205-0115 www.agellc.com	R/C/I ACTIVE
Texas Retail Energy LLC Park 80 West Plaza II, Suite 200 Saddle Brook, NJ 07663 Attn: Chris Hendrix	(866) 532-0761 www.texasretailenergy.com	C/I ACTIVE
TransCanada Power Marketing Ltd. 190 Middlesex Essex Turnpike, Suite 200 Iselin, NJ 08830	(877) MEGAWAT www.transcanada.com/powermarketing	C/I ACTIVE
TriEagle Energy, LP 90 Washington Valley Rd Bedminster, NJ 07921	(877) 933-2453 www.trieagleenergy.com	R/C/I ACTIVE
UGI Energy Services, Inc. dba UGI Energy Link 224 Strawbridge Drive Suite 107 Moorestown, NJ 08057	(800) 427-8545 www.ugienergylink.com	C/I ACTIVE
Verde Energy USA, Inc. 2001 Route 46 Waterview Plaza Suite 301 Parsippany, NJ 07054	(800) 388-3862 www.lowcostpower.com	R/C ACTIVE
Viridian Energy 2001 Route 46 Waterview Plaza, Suite 310 Parsippany, NJ 07054	(866) 663-2508 www.viridian.com	R/C/I ACTIVE
XOOM Energy New Jersey, LLC 744 Broad Street. 16th Floor	(888) 997-8979	R/C/I

Newark, NJ 07102	www.xoomenergy.com	ACTIVE
YEP Energy 89 Headquarters Plaza North #1463 Morristown, NJ 07960	(855) 363-7736 www.yepenergyNJ.com	R/C/I ACTIVE
Your Energy Holdings, LLC One International Boulevard Suite 400 Mahwah, NJ 07495-0400	(855) 732-2493 www.thisisyourenergy.com	R/C/I ACTIVE

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SOUTH JERSEY GAS SERVICE TERRITORY

Last Updated: 12/11/14

***CUSTOMER CLASS - R – RESIDENTIAL C – COMMERCIAL I - INDUSTRIAL**

Supplier	Telephone & Web Site	Customer Class
Alpha Gas and Electric, LLC 641 5 th Street Lakewood, NJ 08701	855-553-6374 www.alphagasandelectric.com	R/C ACTIVE
Ambit Northeast, LLC d/b/a Ambit Energy 103 Carnegie Center, Suite 300 Princeton, NJ 08540	877-282-6284 www.ambitenergy.com	R/C ACTIVE
Astral Energy LLC 16 Tyson Place Bergenfield, NJ 07621	201- 384-5552 www.astralenergyllc.com	R/C/I ACTIVE
BBPC, LLC d/b/a Great Eastern Energy 116 Village Blvd. Suite 200 Princeton, NJ 08540	888-651-4121 www.greateasternenergy.com	C ACTIVE
Choice Energy, LLC 4257 US Highway 9, Suite 6C Freehold, NJ 07728	(888) 565-4490 www.4choiceenergy.com	R/C/I
Clearview Electric Inc. d/b/a Clearview Gas 1744 Lexington Ave. Pennsauken, NJ 08110	800-746-4720 www.clearviewenergy.com	R/C ACTIVE
Colonial Energy, Inc. 83 Harding Road Wyckoff, NJ 07481	845-429-3229 www.colonialgroupinc.com	C/I ACTIVE
Compass Energy Services, Inc. 33 Wood Avenue South, Suite 610 Iselin, NJ 08830	866-867-8328 www.compassenergy.net	C/I ACTIVE
Compass Energy Gas Services, LLC 33 Wood Avenue South	866-867-8328	C/I

Suite 610 Iselin, NJ 08830	www.compassenergy.net	ACTIVE
ConocoPhillips Company 224 Strawbridge Drive, Suite 107 Moorestown, NJ 08057	800-646-4427 www.conocophillips.com	C/I ACTIVE
Consolidated Edison Solutions, Inc. Cherry Tree Corporate Center 535 State Highway 38, Suite 140 Cherry Hill, NJ 08002	888-665-0955 www.conedsolutions.com	C/I ACTIVE
Constellation Energy Gas Choice, Inc. 116 Village Blvd., Suite 200 Princeton, NJ 08540	800-785-4373 www.constellation.com	R/C/I ACTIVE
Constellation NewEnergy-Gas Division, LLC 116 Village Boulevard, Suite 200 Princeton, NJ 08540	800-785-4373 www.constellation.com	C/I ACTIVE
Core Energy Inc. 37 West 55 th Street, Suite 200 Ocean City, NJ 08226	877-329-3495 www.core-energy.net	R/C ACTIVE
Direct Energy Business, LLC 120 Wood Avenue, Suite 611 Iselin, NJ 08830	(888) 925-9115 http://www.business.directenergy.com/	R ACTIVE
Direct Energy Business Marketing, LLC (fka Hess Energy Business Marketing, LLC) One Hess Plaza Woodbridge, NJ 07095	(800) 437-7872 http://www.business.directenergy.com/	C/I ACTIVE
Direct Energy Services, LLC 120 Wood Avenue, Suite 611 Iselin, NJ 08830	(888) 925-9115 www.directenergy.com	R INACTIVE
Direct Energy Small Business, LLC (fka Hess Small Business Services, LLC) One Hess Plaza Woodbridge, NJ 07095	(888) 464-4377 http://www.directenergy.com/	C/I ACTIVE

Energy Plus Natural Gas LP 309 Fellowship Road, East Gate Center, Suite 200 Mt. Laurel, NJ 08054	877-866-9193 www.energypluscompany.com	R/C ACTIVE
Gateway Energy Services Corp. 120 Wood Avenue Suite 611 Iselin, NJ 08830	800-313-8333 Residential 800-715-8777 Commercial www.gesc.com	R/C ACTIVE
UGI Energy Services, Inc. d/b/a GASMARK 224 Strawbridge Drive, Suite 107 Moorestown, NJ 08057	856-273-9995 www.ugienergyservices.com	C/I ACTIVE
Glacial Energy of New Jersey, Inc. 21 Pine Street, Suite 237 Rockaway, NJ 07866	888-452-2425 www.glacialenergy.com	C/I ACTIVE
Global Energy Marketing LLC 129 Wentz Avenue Springfield, NJ 07081	800-542-0778 www.globalp.com	C/I ACTIVE
Great Eastern Energy 116 Village Blvd., Suite 200 Princeton, NJ 08540	888-651-4121 www.greateastern.com	R/C/I ACTIVE
Greenlight Energy 330 Hudson Street, Suite 4 Hoboken, NJ 07030	718-204-7467 www.greenlightenergy.us	R/C ACTIVE
Hess Energy, Inc. One Hess Plaza Woodbridge, NJ 07095	800-437-7872 www.hess.com	C/I ACTIVE
HIKO Energy, LLC 655 Suffern Road Teaneck, NJ 07666-1808	888-264-4908 www.hikoenergy.com	R/C/I ACTIVE
IDT Energy, Inc. 550 Broad Street Newark, NJ 07102	877-887-6866 www.idtenergy.com	R/C ACTIVE
Infinite Energy dba Intelligent Energy 1200 Route 22 East Suite 2000 Bridgewater, NJ 08807-2943	(800) 927-9794 www.InfiniteEnergy.com	R/C/I ACTIVE

Integrys Energy Services-Natural Gas, LLC 101 Eisenhower Parkway Suite 300 Roseland, NJ 07068	800-536-0151 www.integrysenergy.com	C/I ACTIVE
Major Energy Services, LLC 1001 East Lawn Drive Teaneck NJ 07666	(888) 625-6760 www.majorenergy.com	R/C/I ACTIVE
NATGASCO (Supreme Energy, Inc.) 532 Freeman Street Orange, NJ 07050	800-840-4427 www.supremeenergyinc.com	R/C/I ACTIVE
New Jersey Gas & Electric 10 North Park Place Suite 420 Morristown, NJ 07960	866-568-0290 www.njgande.com	R/C ACTIVE
North American Power & Gas, LLC d/b/a North American Power 197 Route 18 South Ste. 300 New Brunswick, NJ 08816	888-313-8086 www.napower.com	R/C/I ACTIVE
North Eastern States, Inc. d/b/a Entrust Energy 90 Washington Valley Road Bedminster, NJ 07921	888-535-6340 www.entrustenergy.com	R/C/I ACTIVE
Palmco Energy NJ, LLC One Greentree Centre 10,000 Lincoln Drive East, Suite 201 Marlton, NJ 08053	877-726-5862 www.PalmcoEnergy.com	R/C/I ACTIVE
Public Power & Utility of New Jersey, LLC 39 Old Ridgebury Rd. Suite 14 Danbury, CT 06810	(888) 354-4415 www.ppandu.com	R/C/I ACTIVE
Plymouth Rock Energy, LLC 338 Maitland Avenue Teaneck, NJ 07666	855-32-POWER (76937) www.plymouthenergy.com	R/C/I ACTIVE
PPL EnergyPlus, LLC Shrewsbury Executive Offices 788 Shrewsbury Avenue Suite 2200 Tinton Falls, NJ 07724	(732) 741-0505 www.pplenergyplus.com	C/I ACTIVE

PPL EnergyPlus Retail, LLC Shrewsbury Executive Offices 788 Shrewsbury Avenue, Suite 220 Tinton Falls, NJ 07724	(732) 741-0505 – 2000 www.pplenergyplus.com	C/I ACTIVE
Residents Energy, LLC 550 Broad Street Newark, NJ 07102	(888) 828-7374 www.residentsenergy.com	R/C
SFE Energy One Gateway Center Suite 2600 Newark, NJ 07012	1 (877) 316-6344 www.sfeenergy.com	R/C/I ACTIVE
Shell Energy North America (US) L.P. 17 Denison Street, Room 101B Highland Park, NJ 08904	800-281-2824 www.shell.com/us/energy	C/I ACTIVE
South Jersey Energy Company 1 South Jersey Plaza, Route 54 Folsom, NJ 08037	800-266-6020 www.southjerseyenergy.com	R/C/I ACTIVE
SouthStar Energy d/b/a New Jersey Energy 1085 Morris Avenue, Suite 155 Union, NJ 07083	(866) 477-8823 www.newjerseyenergy.com	R/C ACTIVE
Sperian Energy Corp. Bridgewater Center 1200 Route 22 East Bridgewater, NJ 08807	888-682-8082 www.sperianenergy.com	R/C/I ACTIVE
Sprague Energy Corp. 12 Ridge Road Chatham Township, NJ 07928	855-466-2842 www.spragueenergy.com	C/I ACTIVE
Stream Energy New Jersey, LLC 309 Fellowship Road Suite 200 Mt. Laurel, NJ 08054	(877) 369-8150 www.streamenergy.net	R/C ACTIVE
Tiger Natural Gas, Inc. 234 20 th Avenue Brick, NJ 08724	(888) 875-6122 www.tigernaturalgas.com	R/C/I
UGI Energy Services, Inc. dba UGI Energy Link 224 Strawbridge Drive Suite 107	800-427-8545	C/I

Moorestown, NJ 08057	www.ugienergylink.com	ACTIVE
Verde Energy USA, Inc. 2001 Route 46 Waterview Plaza Suite 301 Parsippany, NJ 070543	(800) 388-3862 www.lowcostpower.com	R/C/I ACTIVE
Viridian Energy PA LLC 2001 Route 46, Waterview Plaza Suite 230 Parsippany, NJ 07054	866-663-2508 www.viridian.com	R/C ACTIVE
Vista Energy Marketing, L.P. 197 State Route 18 South, Suite 3000, South Wing East Brunswick, NJ 08816	888-508-4782 www.vistaenergymarketing.com	R/C/I ACTIVE
Woodruff Energy US LLC 73 Water Street, P.O. Box 777 Bridgeton, NJ 08302	800-557-1121 www.woodruffenergy.com	C/I ACTIVE
XOOM Energy New Jersey, LLC 744 Broad Street. 16th Floor Newark, NJ 07102	888-997-8979 www.xoomenergy.com	R/C/I ACTIVE
Your Energy Holdings, LLC One International Boulevard Suite 400 Mahwah, NJ 07495-0400	855-732-2493 www.thisisyourenergy.com	R/C/I ACTIVE

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APPENDIX B

Equipment Inventory

CHA Project # 30212 - Inspira Health Network
NJBPU Municipal Audit Program
Appendix B - Inventory of Major Equipment - Bridgeton Hospital

Description	QTY	Manufacturer Name	Model No.	Serial No.	Equipment Type / Utility	Capacity/Size	Efficiency	Location	Areas/Equipment Served	Date Installed	Remaining Useful Life (years)
AHU-3	1	No Tag	No Tag	No Tag	Air Handling Unit	No Tag / 100% OA	-	1984 Roof	Kitchen / Dining Hall / First Floor	1984	-16
AHU-4	1	-	-	-	Air Handling Unit	No Tag / 100% OA	-	1984 Roof	Vacant 1984 Wing	1984	-16
EF-9	1	-	-	-	Exhaust Fan	2 HP	-	1984 Roof	Kitchen / Dining Hall / First Floor	1984	-16
EF-10	1	-	-	-	Exhaust Fan	2 HP	-	1984 Roof	Kitchen / Dining Hall / First Floor	1984	-16
EF-11	1	-	-	-	Exhaust Fan	2 HP	-	1984 Roof	Kitchen / Dining Hall / First Floor	1984	-16
EF-6	1	-	-	-	Exhaust Fan	1 HP	-	1984 Roof	1984 Wing	1984	-16
HEX-1	2	-	-	-	Steam To HHW Heat Exchanger	15 PSI max	-	1978 Roof MER	-	2012	12
HHWP-1	2	-	-	-	Heating Hot Water Pumps	5.0 HP	VFD	1978 Roof MER	1978 Wing	2012	12
CHWP-1	2	Bell & Gossett	1510 BF 7.375	C154211-02J21	Chilled Water Pumps	3.0 HP / 80 GPM	VFD	1978 Roof MER	1978 Wing	2012	12
RTAH-80	1	Daikin/Mcquay	0AH045GDAC	FB0U120900859	Air Handling Unit	22,000 CFM	-	1978 Roof MER	1978 Wing	2012	12
CU	1	Carrier	38AE012-500	X694654	Split System Condensing Unit	12,000 btu/hr	-	1978 Roof MER	1978 Wing	2012	12
AC-1	1	Carrier	38AKS024---620	0703F16511	cooling only Rooftop Unit	20 Tons / Cooling Only	10.2 EER	1978 Roof	Endoscopy	1997	-3
AHU-1	1	No Tag	No Tag	No Tag	Air Handling Unit	Cooling	-	1978 Roof	1978 Wing	1978	-22
AHU-2	1	No Tag	No Tag	No Tag	Air Handling Unit	Cooling	-	1978 Roof	1978 Wing	1978	-22
AHU-3	1	No Tag	No Tag	No Tag	Air Handling Unit	Cooling	-	1978 Roof	1978 Wing	1978	-22
AHU-4	1	No Tag	No Tag	No Tag	Air Handling Unit	Cooling	-	1978 Roof	1978 Wing	1978	-22
HEX-2	2	-	-	-	Steam To HHW Heat Exchanger	-	-	1958 Roof MER	1958 Wing	2011	11
P-58-1,2	2	Bell & Gossett	-	-	Heating Hot Water Pumps	5.0 HP	89.5%	1958 Roof MER	1958 Wing	2011	11
P-58-6,7	2	Bell & Gossett	-	-	Chilled Water Supply Pumps	10 HP	91.7%	1958 Roof MER	1958 Wing	2011	11
P-58-3,4,5	3	Bell & Gossett	JVL182TTDB6026AAH	GT0010	Chilled Water Return Pumps	5.0 HP	88.5%	1958 Roof MER	1958 Wing	2011	11
EVAP-58-1,2	2	-	-	-	Evaporator (separated from Chillers CH-58-1,2)	-	-	1958 Roof MER	1958 Wing	2011	11
AHU	1	Carrier	39LA1821718	211052700200	Air Handling Unit	20 HP / 22,000 CFM	-	1958 Roof MER	3rd Floor Accounting Offices	2011	11
Comp-1	1	Marathon	8VD145TTDR5631BD	00966370-041901	Pneumatic Compressor	3/4 HP	-	1958 Roof MER	Pneumatic Controls System	2011	11
AHU-1 (AC-1/RF-1)	1	Carrier	39LC1021719	211052700200	Air Handling Unit	2 HP	-	1984 Ground Floor MER	1984 Wing	1984	-16
Comp-2	2	-	-	-	Refrigerator / Freezer Compressors	2 HP	-	1984 Ground Floor MER	Kitchen Coolers/Freezer	1984	-16
HEX-3	2	-	-	-	Steam To HHW Heat Exchanger	-	-	1984 Ground Floor Steam HTG Room	1984 Wing	1984	-16
HHWP-2	2	Westinghouse	1635B01G52	8402	Heating Hot Water Pumps	1.0 HP	84%	1984 Ground Floor Steam HTG Room	1984 Wing	1984	-16
P-2	1	-	-	-	Dual Temperature Pump	5.0 HP	86.5%	1984 Ground Floor Steam HTG Room	1984 Wing	1984	-16
CHWP-2	2	-	-	-	Chilled Water Pumps	30 HP	91%	1984 Ground Floor Steam HTG Room	AHU-1,2,3,4	1984	-16
TC-1	1	-	-	-	Condensate Pump	1.5 HP		1984 Ground Floor Steam HTG Room	Steam Heating System	1984	-16
AHU-2	1	-	-	-	Air Handling Unit	CHW / Steam Coils / Electric Reheat		1984 Ground Floor MER	Gym / Physical Therapy	1984	-16
DHW-1	1	Bradford White	M1120243SF44	YE002771	Electric Domestic Hot Water Heater	119 Gallons / 24 kW		1984 Ground Floor MER	1984 Wing	2011	11
TAC-2	1	-	-	-	Duplex TAC + Compressor	-		1978 MER	1978 Wing	1984	-16
AHU-1	1	Carrier	50TJ-008-611GA	1697G30448	Air Handling Unit	8.5 Tons Cooling / 5.0 HP	-	1978 MER	X-Ray Wing	1984	-16
P-78-5	1	-	-	-	Heating Hot Water Pumps	15 HP	VFD	1978 MER	Fan Coil Units	2011	11
P-78-6	1	-	-	-	Heating Hot Water Pumps	15 HP	VFD	1978 MER		2011	11
P-78-7	1	-	-	-	Heating Hot Water Pumps	15 HP	VFD	1978 MER	Reheat Units	2011	11
P-78-1	1	-	-	-	Chilled Water Pumps	15 HP	VFD	1978 MER	Primary Loop	2011	11
P-78-2	1	-	-	-	Chilled Water Pumps	15 HP	VFD	1978 MER	Primary Loop	2011	11
P-78-3	1	-	-	-	Chilled Water Pumps	15 HP	VFD	1978 MER	AHU	2011	11
P-78-4	1	-	-	-	Chilled Water Pumps	15 HP	VFD	1978 MER	AHU	2011	11
HEX-4	1	-	-	-	Steam to DHW heat exchanger	-	-	1958 MER	DHW System	2011	11
HEX-5	1	-	-	-	Steam To HHW Heat Exchanger	-	-	1958 MER	HHW System	2011	11
P-58-1,2	2	-	-	-	Heating Hot Water Pumps	7.5 HP	-	1958 MER	HHW System	2011	11
AHU-2	1	Centraire	M1420	22996002	Air Handling Unit	5 HP	-	1958 MER	1958 Wing	2013	13
RF-2	1				Return Fan	2 HP	-	1958 MER	1958 Wing	2013	13
AHU-73-1	1	Trane	MCCB008UA0B0UB	K02E79371	Air Handling Unit	3 HP	-	1973 MER	1973 Wing	1973	-27
AHU-73-2	1	Trane	MCCA008GAG0BBB000E0CAA00BAA0000AA000D0000	K94D26289	Air Handling Unit	3 HP	-	1973 MER	1973 Wing	1973	-42
AHU-73-3	1	Mcquay	E887672220	5578AF	Air Handling Unit	3 HP	-	1973 Third Floor MER	1973 Wing	1973	-42
AHU-73-4	1	Mcquay	924579-110	MSI-108CV	Air Handling Unit	3 HP / 100% OA	-	1973 Fourth Floor MER	4th Floor	1973	-42
AHU-73-5	1	Mcquay	No Tag	No Tag	Air Handling Unit	3 HP / 100% OA	-	1973 Fourth Floor MER	5th Floor	1973	-42
CU	1	Carrier	38AKS034-501	1607Q06517	Condensing Unit	-	-	Central Plant	Central Plant	2011	-4
Dryers	4	Speed Queen	ST270FB	R0010004146	Laundry Gas Dryers	-	-	Central Plant	Laundry	1984	-31
Washers	1	Washex	FV5800.02.067F	190810	Steam Washer	-	-	Central Plant	Laundry	1984	-31
Washers	4	Floataire	46776 FLA-P4	12121	Steam + HW Washer	-	-	Central Plant	Laundry	1984	-31
Washers	1	Washex	46176 FLA-P4	12121	1-9105	-	-	Central Plant	Laundry	1985	-30
B-1	1	Cleaver Brooks	CB-200-150	C-54859	High Pressure Steam Boiler	150 HP	80%	Central Plant	Hospital	1972	-43
B-2	1	Cleaver Brooks	CB-200-150	C-54857	High Pressure Steam Boiler	150 HP	80%	Central Plant	Hospital	1972	-43
B-3	1	Cleaver Brooks	CB-200-150	C-54858	High Pressure Steam Boiler	150 HP	80%	Central Plant	Hospital	1972	-43

CHA Project # 30212 - Inspira Health Network
NJBPU Municipal Audit Program
Appendix B - Inventory of Major Equipment - Bridgeton Hospital

Description	QTY	Manufacturer Name	Model No.	Serial No.	Equipment Type / Utility	Capacity/Size	Efficiency	Location	Areas/Equipment Served	Date Installed	Remaining Useful Life (years)
B-4	2	Aerco	Water Wizard B+II	-	Steam Boilers	125 GPM / 150 PSIG Steam input	-	Central Plant	Hospital/Laundry	2011	-4
BP-1	1	Armstrong	-	-	DCW Booster Pump	25 HP	VFD	Central Plant	DCW/DHW Systems		-2015
CH-1	1	York	YVAA0178CNV46AAVNXXXT AXLXXXXXX45XOSXXV196X 1SXSA2BMXVXXNXXXXXXB XSX	2FXM012085	Air Cooled Chiller	175 Tons / 10.4 EER	VFD	1978 Roof	Building	2011	-4
CH-2	1	York	YVAA0178CNV46AAVNXXXT AXLXXXXXX45XOSXXV196X 1SXSA2BMXVXXNXXXXXXB XSX	2FXM012084	Air Cooled Chiller	175 Tons / 10.4 EER	VFD	1978 Roof	Building	2011	-4
CH-3	1	York	YVAA0178CNV46AAVNXXXT AXLXXXXXX45XOSXXV196X 1SXSA2BMXVXXNXXXXXXB XSX	2FXM012086	Air Cooled Chiller	175 Tons / 10.4 EER	VFD	1978 Roof	Building	2011	-4
CH-4	1	Carrier	30RBA1306--087-3	2306Q81690	Air Cooled Chiller	130 Tons	VFD	1978 Roof	Building	2011	-4
GEN-1,2,3	3	Caterpillar	-	-	Emergency Generator	-	-	Back Of House	Building	2015	0
EF-3	1	No Tag	No Tag	No Tag	Exhaust Fan	1.5 HP	-	1978 Roof	1978 Wing	1978	-37
CU	2	Carrier	38CKB036500	2595E13491	Condensing Unit	36,000 Btu/hr	-	1978 Roof	Office	1990	-25
CU	1	Sanyo	CL1812	0059404	Condensing Unit	17,700 Btu/hr	-	1978 Roof	Office	1990	-25
CU	2	Sanyo	CL2422	0030544	Condensing Unit	24,000 btu/hr	-	1978 Roof	Office	1990	-25
AH-4	1	Centraire	M2418	7602H04	Air Handling Unit	36,000 btu/hr	-	1978 Roof	ER/Waiting Room	1990	-25
CU	1	Carrier	38CK036330	1694E14498	Condensing Unit	36,000 Btu/hr	-	1978 Roof	1978 Wing	1990	-25
CU	1	Sanyo	C3622	0061053	Condensing Unit	36,600 Btu/hr	-	1978 Roof	Office	1990	-25
RTU	1	Trane	-	-	Air Handling Unit	-	-	1978 Roof	1978 Wing	1978	-37
ACH-1	1	Trane	RAUCC604BV13AB0000010	C02E03823	Air Cooled Chiller	5 Tons	-	1978 Roof	AHU-4 / ER+Waiting Room	2010	-5
AC-3	1	Carrier	38AKS028-601	1808Q08917	Air Cooled Chiller	25 Tons	-	1978 Roof	1978 Wing	2011	-4
RTU	1	Carrier	50TM-014-A-601	1005G50704	Packaged Rooftop Unit	12.5 Tons	11.0 EER	1978 Roof	1978 Wing	2011	-4
ACH-2	1	Carrier	30GT-025---610	0296F85805	Air Cooled Chiller	25 Tons	-	1978 Roof	Dialysis	2011	-4
RTU-78-2	1	Carrier	39MW12D022F2Q11XPS	1614U14697	Packaged Rooftop Unit	61 Tons	-	1978 Roof	ER Treatment Area	2011	-4
CU	1	Carrier	38AUZA16A0A0C0	2914P45569	DX Condensing Unit	61 Tons	-	1978 Roof	RTU-78-2	2011	-4
CU	1	Trane	2TTB0030A1000AA	3301S8U5F	DX Condensing Unit	30,000 Btu/hr	10.0 EER	1978 Roof	Office	2011	-4
RTU	1	Addison	DFC064H03F	000102401001A	Packaged Rooftop Unit	64,000 Btu/hr		1978 Roof	Crisis Area	2000	-15
MUA-24	1	Mcquay	0AH006GDAC	FB0U121000575	Makeup Air Unit	3500 CFM	-	1924 Roof	1924 Wing	2001	-14
RTU-24-1	1	Trane	T05ZFC00A2A	N1G4993193	Packaged Rooftop Unit	5 Tons	-	1958 Roof	1958 Wing	2001	-14
CH-58-1	1	McQuay	AGZ080DBSNN-ER10	STNU121000158	Air Cooled Chiller	80 Tons	-	1958 Roof	1958 Wing	2011	-4
CH-58-2	1	McQuay	AGZ080DBSNN-ER10	STNU121000146	Air Cooled Chiller	80 Tons	-	1958 Roof	1958 Wing	2011	-4
RCU-1	4	SnyderGeneral	SK-0300-L5B-2	85C05117G85	Condensing Unit (kitchen refrigeration)	11.1 Amps	-	1984 Ground Floor MER	Kitchen Coolers/Freezer	1984	-31

Cost of Electricity:

\$0.115	\$/kWh
\$7.25	\$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	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)	Retrofit control device	Notes
143LED	Exterior	Outdoor Lighting	3	HPS 100 POLE	HPS100/1	138	0.41	PHC	4380	1,813	None	
227LED	Exterior	Outdoor Lighting	5	70 W MH Wall Pack	MH70/1	95	0.48	PHC	4380	2,081	None	
261	Exterior	Outdoor Lighting	11	PAR 38 SP	H100/1	100	1.10	PHC	4380	4,818	None	
40LED	Loading Dock	Outdoor Lighting	4	T 32 R F 2 (ELE)	F42LL	60	0.24	PHC	4380	1,051	None	
40LED	Mental Health	Patient Room	8	T 32 R F 2 (ELE)	F42LL	60	0.48	PHC	5824	2,796	None	
117	Mechanical Equipment Room 1958 Wing	Mechanical Room	6	CF 23	CFS23/1	23	0.14	SW	8736	1,206	None	
202	3rd Floor Elevator	Linen/Utility/Wet/Janitorial/Electrical	4	2T 17 R F 4 (ELE)	F24ILL	61	0.24	SW	2000	488	None	
88	Patient Room 310	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
202	Patient Room 310	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	Dimmer	5824	711	None	
135	Patient Room 310	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 310	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	2000	30	None	
88	Patient Room 301	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 301	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 301	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 301	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 302	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 302	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 302	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 302	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 303	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 303	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 303	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 303	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 304	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 304	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 304	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 304	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 305	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 305	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 305	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 305	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 306	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 306	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 306	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 306	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 307	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 307	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 307	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 307	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 308	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 308	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 308	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 308	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 309	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 309	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 309	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 309	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 311	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 311	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 311	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 311	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 312	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 312	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 312	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 312	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 313	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	C-OCC	5824	87	None	
202	Patient Room 313	Patient Room	1	2T 17 R F 4 (ELE)	F24ILL	61	0.06	SW	5824	355	None	
135	Patient Bathroom 313	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 314	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 314	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 314	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 314	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 315	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 315	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 315	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 315	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 316	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 316	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	

Cost of Electricity:

\$0.115	\$/kWh
\$7.25	\$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	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)	Retrofit control device	Notes
135	Patient Room 316	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 316	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 317	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 317	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 317	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 317	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
88	Patient Room 318	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	OCC	5824	87	None	
202	Patient Room 318	Patient Room	2	2T 17 R F 4 (ELE)	F24ILL	61	0.12	2 SW	5824	711	None	
135	Patient Room 318	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	5824	87	None	
135	Patient Bathroom 318	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	2000	30	None	
55LED	Staff Lounge	Staff Lounge	4	2T 17 R F 3 (ELE)	F23ILL	47	0.19	SW	4368	821	C-OCC	
55LED	Staff Bathroom	Restroom	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	3120	147	None	
220	Staff Bathroom	Restroom	1	S 17 C F 1(ELE)	F21ILL	20	0.02	OCC	3120	62	None	
135	Patient Bathroom	Restroom	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	OCC	3120	94	None	
55LED	Soiled Utility	Linen/Utility/Wet/Janitorial/Electrical	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	2000	188	C-OCC	
55LED	Med Room	Meds	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	2000	188	C-OCC	
55LED	Nurses Station	Nursing Station	4	2T 17 R F 3 (ELE)	F23ILL	47	0.19	SW	7300	1,372	None	
55LED	Laundry	Laundry	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	C-OCC	3640	171	None	
55LED	Laundry	Laundry	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	C-OCC	3640	171	None	
135	Shower	Shower	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	C-OCC	8760	263	None	
135	Shower	Shower	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	C-OCC	8760	263	None	
40LED	Mechanical	Mechanical Room	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8736	524	None	
117	Mechanical	Mechanical Room	2	CF 23	CFS23/1	23	0.05	SW	8736	402	None	
55LED	EVS	Linen/Utility/Wet/Janitorial/Electrical	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	2000	94	None	
135	Shower	Shower	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	SW	8760	263	None	
135	Seclusion	Patient Room	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	SW	5824	175	None	
135	Room	Patient Room	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	SW	5824	175	None	
135	Room	Patient Room	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	SW	5824	175	None	
135	Bathroom	Restroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	3120	47	None	
55LED	Hallway	Hallways	39	2T 17 R F 3 (ELE)	F23ILL	47	1.83	SW	8760	16,057	None	
55LED	Locker	Locker W/OCC	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	C-OCC	2000	94	None	
55LED	Crisis	Patient Room	4	2T 17 R F 3 (ELE)	F23ILL	47	0.19	SW	5824	1,095	None	
55LED	Data Room	Linen/Utility/Wet/Janitorial/Electrical	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	2000	188	None	
198LED	Consultation	Patient Room	2	2T 17 R F 2 (ELE)	F22LL	31	0.06	SW	5824	361	None	
117	Bathroom	Restroom	2	CF 23	CFS23/1	23	0.05	C-OCC	3120	144	None	
277	Dining Room	Cafeteria_ Other	12	24WT5HO	F22GL	35	0.42	Dimmer	4368	1,835	None	
15LED	Pantry	Storage Areas	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	2000	240	C-OCC	
220	Pantry	Storage Areas	1	S 17 C F 1(ELE)	F21ILL	20	0.02	SW	2000	40	C-OCC	
277	Conference	Conference Room	7	24WT5HO	F22GL	35	0.25	Dimmer	4500	1,103	None	
277	Reflection	General Common	2	24WT5HO	F22GL	35	0.07	Dimmer	5096	357	None	
277	Activity Room	General Common	4	24WT5HO	F22GL	35	0.14	Dimmer	5096	713	None	
277	Consultation	Patient Room	2	24WT5HO	F22GL	35	0.07	Dimmer	5824	408	None	
277	Elevator Lobby	Hallways	2	24WT5HO	F22GL	35	0.07	Dimmer	8760	613	None	
277	Clinition	Offices	3	24WT5HO	F22GL	35	0.11	Dimmer	4680	491	None	
277	Clinition	Offices	3	24WT5HO	F22GL	35	0.11	Dimmer	4680	491	None	
277	Hallway	Hallways	10	24WT5HO	F22GL	35	0.35	Dimmer	8760	3,066	None	
117	Bathroom	Restroom	1	CF 23	CFS23/1	23	0.02	Dimmer	3120	72	None	
57	Bathroom	Restroom	1	S 34 C F 1 (MAG)	F41EE	43	0.04	OCC	3120	134	None	
277	Nurse MGR	Offices	2	24WT5HO	F22GL	35	0.07	Dimmer	4680	328	None	
277	Nurse MGE	Offices	2	24WT5HO	F22GL	35	0.07	Dimmer	4680	328	None	
277	Clinical	Patient Room	4	24WT5HO	F22GL	35	0.14	Dimmer	5824	815	None	
277	Clinical	Patient Room	4	24WT5HO	F22GL	35	0.14	Dimmer	5824	815	None	
277	Clinical	Patient Room	4	24WT5HO	F22GL	35	0.14	Dimmer	5824	815	None	
277	Clinical	Patient Room	4	24WT5HO	F22GL	35	0.14	Dimmer	5824	815	None	
277	Clinical	Patient Room	4	24WT5HO	F22GL	35	0.14	Dimmer	5824	815	None	
277	Director	Offices	2	24WT5HO	F22GL	35	0.07	Dimmer	4680	328	None	
277	Excel Director	Offices	4	24WT5HO	F22GL	35	0.14	Dimmer	4680	655	None	
117	Bathroom	Restroom	1	CF 23	CFS23/1	23	0.02	Dimmer	3120	72	None	
50	Bathroom	Restroom	1	W 32 W P 2 (ELE)	F42LL	60	0.06	Dimmer	3120	187	None	
277	Closet	Storage Areas	1	24WT5HO	F22GL	35	0.04	Dimmer	2000	70	None	
277	Conference	Conference Room	4	24WT5HO	F22GL	35	0.14	Dimmer	4500	630	None	
277	Hallway	Hallways	2	24WT5HO	F22GL	35	0.07	Dimmer	8760	613	None	
277	Office	Offices	4	24WT5HO	F22GL	35	0.14	Dimmer	4680	655	None	
277	Office	Offices	6	24WT5HO	F22GL	35	0.21	Dimmer	4680	983	None	
277	Office	Offices	4	24WT5HO	F22GL	35	0.14	Dimmer	4680	655	None	
277	Office	Offices	3	24WT5HO	F22GL	35	0.11	Dimmer	4680	491	None	
277	Office	Offices	2	24WT5HO	F22GL	35	0.07	Dimmer	4680	328	None	

Cost of Electricity:

\$0.115	\$/kWh
\$7.25	\$/kW

EXISTING CONDITIONS												Retrofit Control
Field Code	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	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)	Retrofit control device	Notes
277	Hallway	Hallways	2	24WT5HO	F22GL	35	0.07	SW	8760	613	None	
218LED	Hallway	Hallways	11	W 32 C F 3 (ELE)	F43ILL/2	90	0.99	SW	8760	8,672	None	
218LED	Computer Room	General Common	8	W 32 C F 3 (ELE)	F43ILL/2	90	0.72	SW	5096	3,669	None	
202	Bathroom	Restroom	1	2T 17 R F 4 (ELE)	F24ILL	61	0.06	SW	3120	190	C-OCC	
196LED	Conference	Conference Room	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4500	1,008	C-OCC	
196LED	Office	Offices	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	4680	2,097	C-OCC	
196LED	Office	Offices	10	W 32 C F 4 (ELE)	F44ILL	112	1.12	SW	4680	5,242	C-OCC	
196LED	Conference	Conference Room	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	4500	2,016	C-OCC	
196LED	Office	Offices	6	W 32 C F 4 (ELE)	F44ILL	112	0.67	SW	4680	3,145	C-OCC	
218LED	Payroll	Offices	6	W 32 C F 3 (ELE)	F43ILL/2	90	0.54	SW	4680	2,527	C-OCC	
196LED	Office	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
196LED	Office	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
196LED	File Room	Storage Areas	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	2000	448	C-OCC	
196LED	Corridor	Hallways	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	Dimmer	8760	981	None	
196LED	Office	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	Dimmer	4680	1,048	None	
196LED	Office	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	Dimmer	4680	1,048	None	
196LED	Payroll	Offices	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	4680	2,097	C-OCC	
196LED	Break Room	Break/Lunch Rooms	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	3102.5	695	C-OCC	
196LED	Office	Offices	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	Dimmer	4680	2,097	None	
196LED	Payroll	Offices	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	Dimmer	4680	2,097	None	
55LED	Activity Room	General Common	10	2T 17 R F 3 (ELE)	F23ILL	47	0.47	Dimmer	5096	2,395	None	
55LED	Hallway	Hallways	19	2T 17 R F 3 (ELE)	F23ILL	47	0.89	SW	8760	7,823	None	
55LED	Electrical	Linen/Utility/Wet/Janitorial/Electrical	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	2000	94	None	
55LED	EVS	Linen/Utility/Wet/Janitorial/Electrical	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	2000	94	C-OCC	
50LED	Patient Room 156	Patient Room	2	W 32 W F 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	
135	Patient Room 154	Patient Room	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	SW	5824	175	None	
88	Patient Room 154	Patient Room	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	SW	5824	87	None	
135	Bathroom	Restroom	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	SW	3120	94	None	
15LED	Patient Room 158	Patient Room	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	5824	349	None	
135	Patient Room 158	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	5824	87	None	
135	Patient Room 158	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	2000	30	None	
88	Patient Room 158	Patient Room	2	CF 13 1 LAMP	CFQ13/1-L	15	0.03	SW	5824	175	None	
15LED	Patient Room 156	Patient Room	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	5824	349	None	
135	Patient Room 156	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	5824	87	None	
135	Patient Room 156	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	2000	30	None	
88	Patient Room 156	Patient Room	2	CF 13 1 LAMP	CFQ13/1-L	15	0.03	SW	5824	175	None	
15LED	Patient Room 154	Patient Room	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	5824	349	None	
135	Patient Room 154	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	5824	87	None	
135	Patient Room 154	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	2000	30	None	
88	Patient Room 154	Patient Room	2	CF 13 1 LAMP	CFQ13/1-L	15	0.03	SW	5824	175	None	
15LED	Patient Room 150	Patient Room	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	5824	349	None	
135	Patient Room 150	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	5824	87	None	
135	Patient Room 150	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	2000	30	None	
88	Patient Room 150	Patient Room	2	CF 13 1 LAMP	CFQ13/1-L	15	0.03	SW	5824	175	None	
15LED	Patient Room 148	Patient Room	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	5824	349	None	
135	Patient Room 148	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	5824	87	None	
135	Patient Room 148	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	2000	30	None	
88	Patient Room 148	Patient Room	2	CF 13 1 LAMP	CFQ13/1-L	15	0.03	SW	5824	175	None	
15LED	Patient Room 146	Patient Room	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	5824	349	None	
135	Patient Room 146	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	5824	87	None	
135	Patient Room 146	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	2000	30	None	
88	Patient Room 146	Patient Room	2	CF 13 1 LAMP	CFQ13/1-L	15	0.03	SW	5824	175	None	
15LED	Patient Room 144	Patient Room	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	5824	349	None	
135	Patient Room 144	Patient Room	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	5824	87	None	
135	Patient Room 144	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	2000	30	None	
88	Patient Room 144	Patient Room	2	CF 13 1 LAMP	CFQ13/1-L	15	0.03	SW	5824	175	None	
135	Shower	Shower	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	SW	8760	263	None	
135	Shower	Shower	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	SW	8760	263	None	
135	shower	Shower	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	SW	8760	263	None	
135	Comfort	General Common	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	SW	5096	153	None	
88	Comfort	General Common	1	CF 13 1 LAMP	CFQ13/1-L	15	0.02	SW	5096	76	None	
135	Bathroom	Restroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	3120	47	None	
247LED	Treatment	Treatment	1	T 40 R F 3 (MAG)	F43SE	136	0.14	SW	3640	495	None	
40LED	Treatment	Treatment	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	3640	218	None	
55LED	Laundry	Laundry	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	3640	171	C-OCC	
135	Isolation Corridor	Hallways	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	SW	8760	263	None	
135	Bathroom	Restroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	3120	47	C-OCC	
135	Rooms	Patient Room	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	SW	5824	175	None	

Cost of Electricity:

\$0.115	\$/kWh
\$7.25	\$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	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)	Retrofit control device	Notes
135	Rooms	Patient Room	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	SW	5824	175	None	
135	Patient Room 140	Patient Room	4	SP 13 R C F 1	CFQ13/1-L	15	0.06	SW	5824	349	None	
135	Patient Bathroom 140	Patient Bathroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	2000	30	None	
55LED	Nurses Station	Nursing Station	8	2T 17 R F 3 (ELE)	F23ILL	47	0.38	SW	7300	2,745	None	
55LED	Clean Utility	Linen/Utility/Wet/Janitorial/Electrical	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	2000	94	C-OCC	
55LED	Soiled Utility	Linen/Utility/Wet/Janitorial/Electrical	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	2000	188	C-OCC	
55LED	Staff Lounge	Staff Lounge	6	2T 17 R F 3 (ELE)	F23ILL	47	0.28	SW	4368	1,232	C-OCC	
55LED	Activity Room	Classrooms	6	2T 17 R F 3 (ELE)	F23ILL	47	0.28	SW	4368	1,232	C-OCC	
55LED	School	Classrooms	4	2T 17 R F 3 (ELE)	F23ILL	47	0.19	Dimmer	4368	821	None	
135	Closet	Storage Areas	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	Dimmer	2000	30	None	
55LED	Closet	Storage Areas	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	C-OCC	2000	94	None	
135	Bathroom	Restroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	C-OCC	3120	47	None	
55LED	Hallway	Hallways	8	2T 17 R F 3 (ELE)	F23ILL	47	0.38	Dimmer	8760	3,294	None	
117	Closet	Storage Areas	1	CF 23	CFS23/1	23	0.02	SW	2000	46	C-OCC	
117	Art Room	Classrooms	4	CF 23	CFS23/1	23	0.09	Dimmer	4368	402	None	
135	Visitor Conference	Conference Room	6	SP 13 R C F 1	CFQ13/1-L	15	0.09	SW	4500	405	C-OCC	
277	Office	Offices	2	24WT5HO	F22GL	35	0.07	Dimmer	4680	328	None	
277	Office	Offices	3	24WT5HO	F22GL	35	0.11	Dimmer	4680	491	None	
277	Office	Offices	4	24WT5HO	F22GL	35	0.14	Dimmer	4680	655	None	
277	Office	Offices	5	24WT5HO	F22GL	35	0.18	Dimmer	4680	819	None	
277	HR Hallway	Hallways	10	24WT5HO	F22GL	35	0.35	SW	8760	3,066	None	
277	File Room	Storage Areas	2	24WT5HO	F22GL	35	0.07	SW	2000	140	C-OCC	
277	HR Director	Offices	4	24WT5HO	F22GL	35	0.14	SW	4680	655	C-OCC	
277	HR Director	Offices	5	24WT5HO	F22GL	35	0.18	SW	4680	819	C-OCC	
277	HR Director	Offices	6	24WT5HO	F22GL	35	0.21	SW	4680	983	C-OCC	
277	HR Director	Offices	7	24WT5HO	F22GL	35	0.25	SW	4680	1,147	C-OCC	
277	Storage	Storage Areas	1	24WT5HO	F22GL	35	0.04	SW	2000	70	C-OCC	
277	EVS	Linen/Utility/Wet/Janitor/Electrical	1	24WT5HO	F22GL	35	0.04	SW	2000	70	None	
277	Office	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Office	Offices	3	24WT5HO	F22GL	35	0.11	SW	4680	491	C-OCC	
277	Office	Offices	4	24WT5HO	F22GL	35	0.14	SW	4680	655	C-OCC	
277	HR Conference	Conference Room	6	24WT5HO	F22GL	35	0.21	SW	4500	945	C-OCC	
277	HR Conference	Conference Room	7	24WT5HO	F22GL	35	0.25	SW	4500	1,103	C-OCC	
277	Storage	Storage Areas	1	24WT5HO	F22GL	35	0.04	SW	2000	70	C-OCC	
135	HR Hallway	Hallways	2	SP 13 R C F 1	CFQ13/1-L	15	0.03	SW	8760	263	None	
277	Hallway	Hallways	14	24WT5HO	F22GL	35	0.49	SW	8760	4,292	None	
277	Adolescent Hall	Hallways	8	24WT5HO	F22GL	35	0.28	SW	8760	2,453	None	
196LED	Office	Offices	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	4680	2,097	C-OCC	
196LED	Staff Conference Room	Conference Room	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	4500	2,016	C-OCC	
196LED	Office	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
196LED	Bathroom	Restroom	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	3120	699	C-OCC	
196LED	Group Rooms	General Common	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	5096	2,283	None	
277	Break Room	Break/Lunch Rooms	2	24WT5HO	F22GL	35	0.07	SW	3102.5	217	C-OCC	
277	Timeout Room	Classrooms	1	24WT5HO	F22GL	35	0.04	SW	4368	153	None	
196LED	Group Room 1	Classrooms	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4368	489	C-OCC	
277	Group Room 1	Classrooms	6	24WT5HO	F22GL	35	0.21	SW	4368	917	C-OCC	
196LED	Group Room 2	Classrooms	3	W 32 C F 4 (ELE)	F44ILL	112	0.34	SW	4368	1,468	C-OCC	
196LED	Nurses Station	Nursing Station	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	7300	818	None	
117	Bathroom	Restroom	1	CF 23	CFS23/1	23	0.02	SW	3120	72	None	
40LED	Patient Room 101	Patient Room	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	
198LED	Patient Room 101	Restroom	1	2T 17 R F 2 (ELE)	F22LL	31	0.03	SW	3120	97	None	
117	Patient Room 101	Patient Room	1	CF 23	CFS23/1	23	0.02	SW	5824	134	None	
40LED	Patient Room 102	Patient Room	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	
198LED	Patient Room 102	Restroom	1	2T 17 R F 2 (ELE)	F22LL	31	0.03	SW	3120	97	None	
117	Patient Room 102	Patient Room	1	CF 23	CFS23/1	23	0.02	SW	5824	134	None	
40LED	Patient Room 103	Patient Room	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	
198LED	Patient Room 103	Restroom	1	2T 17 R F 2 (ELE)	F22LL	31	0.03	SW	3120	97	None	
117	Patient Room 103	Patient Room	1	CF 23	CFS23/1	23	0.02	SW	5824	134	None	
40LED	Patient Room 104	Patient Room	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	
198LED	Patient Room 104	Restroom	1	2T 17 R F 2 (ELE)	F22LL	31	0.03	SW	3120	97	None	
117	Patient Room 104	Patient Room	1	CF 23	CFS23/1	23	0.02	SW	5824	134	None	
40LED	Patient Room 105	Patient Room	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	
198LED	Patient Room 105	Restroom	1	2T 17 R F 2 (ELE)	F22LL	31	0.03	SW	3120	97	None	
117	Patient Room 105	Patient Room	1	CF 23	CFS23/1	23	0.02	SW	5824	134	None	
40LED	Patient Room 106	Patient Room	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	
198LED	Patient Room 106	Restroom	1	2T 17 R F 2 (ELE)	F22LL	31	0.03	SW	3120	97	None	
117	Patient Room 106	Patient Room	1	CF 23	CFS23/1	23	0.02	SW	5824	134	None	
40LED	Patient Room 107	Patient Room	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	

Cost of Electricity:

\$0.115	\$/kWh
\$7.25	\$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	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)	Retrofit control device	Notes
198LED	Patient Room 107	Restroom	1	2T 17 R F 2 (ELE)	F22LL	31	0.03	SW	3120	97	None	
117	Patient Room 107	Patient Room	1	CF 23	CFS23/1	23	0.02	SW	5824	134	None	
50LED	Hallway	Hallways	34	W 32 W F 2 (ELE)	F42LL	60	2.04	SW	8760	17,870	None	
117	Mechanical Equipment Room	Mechanical Room	2	CF 23	CFS23/1	23	0.05	SW	8736	402	None	
142	Solitary Corridor	Hallway	3	MH 100	MH100/1	128	0.38	SW	3000	1,152	None	
142	Solitary 1	Patient Room	2	MH 100	MH100/1	128	0.26	SW	5824	1,491	None	
142	Solitary 1	Patient Room	2	MH 100	MH100/1	128	0.26	SW	5824	1,491	None	
40LED	Solitary 2	Patient Room	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	5824	349	None	
142	Bathroom	Restroom	1	MH 100	MH100/1	128	0.13	SW	3120	399	None	
96	Bathroom	Restroom	1	W 17 C F 2	F22ILL	33	0.03	SW	3120	103	None	
196LED	Laundry	Laundry	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	3640	408	C-OCC	
40LED	Storage	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2000	120	C-OCC	
196LED	Pantry	Storage Areas	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2000	224	C-OCC	
196LED	Clean Linen	Storage Areas	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2000	224	C-OCC	
196LED	Soiled Linen	Storage Areas	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2000	224	C-OCC	
117	Closet	Storage Areas	1	CF 23	CFS23/1	23	0.02	SW	2000	46	C-OCC	
218LED	Break Room	Break/Lunch Rooms	2	W 32 C F 3 (ELE)	F43ILL/2	90	0.18	SW	3102.5	558	C-OCC	
218LED	Bathroom	Restroom	1	W 32 C F 3 (ELE)	F43ILL/2	90	0.09	SW	3120	281	C-OCC	
117	Nurses Station	Nursing Station	11	CF 23	CFS23/1	23	0.25	SW	7300	1,847	None	
218LED	Nurses Station	Nursing Station	4	W 32 C F 3 (ELE)	F43ILL/2	90	0.36	SW	7300	2,628	None	
218LED	Nurse's Prep Room	Nursing Station	1	W 32 C F 3 (ELE)	F43ILL/2	90	0.09	SW	7300	657	None	
218LED	Nurse's Prep Room	Nursing Station	1	W 32 C F 3 (ELE)	F43ILL/2	90	0.09	SW	7300	657	None	
15LED	Hallway	Hallways	14	S 32 C F 2 (ELE)	F42LL	60	0.84	SW	8760	7,358	None	
7LED	Hallway	Hallways	2	2T 32 R F 2 (U)	FU2LL	60	0.12	SW	8760	1,051	None	
247LED	Conference	Conference Room	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4500	1,224	C-OCC	
247LED	Directors Office	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
247LED	Directors Office	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
40LED	Closet	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2000	120	None	
247LED	Classroom	Classrooms	8	T 40 R F 3 (MAG)	F43SE	136	1.09	SW	4368	4,752	C-OCC	
247LED	Closet	Storage Areas	1	T 40 R F 3 (MAG)	F43SE	136	0.14	SW	2000	272	None	
247LED	Exam	Exam Room	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	5000	1,360	None	
247LED	Exam	Exam Room	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	5000	1,360	None	
247LED	Therapist	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
247LED	Classroom	Classrooms	6	T 40 R F 3 (MAG)	F43SE	136	0.82	SW	4368	3,564	C-OCC	
40LED	Classroom	Classrooms	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4368	262	C-OCC	
247LED	Comfort Room	General Common	1	T 40 R F 3 (MAG)	F43SE	136	0.14	SW	5096	693	C-OCC	
40LED	Rec Room	General Common	12	T 32 R F 2 (ELE)	F42LL	60	0.72	SW	5096	3,669	C-OCC	
40LED	Rec Room	General Common	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	5096	917	C-OCC	
40LED	Bathroom	Restroom	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	3120	187	C-OCC	
40LED	Bathroom	Restroom	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	3120	187	C-OCC	
40LED	Closet	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2000	120	None	
40LED	Rec Room	General Common	9	T 32 R F 2 (ELE)	F42LL	60	0.54	SW	5096	2,752	C-OCC	
40LED	Rec Room	General Common	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	5096	917	C-OCC	
40LED	Closets	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2000	120	None	
40LED	Closets	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2000	120	None	
40LED	Closets	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2000	120	None	
40LED	Kitchen	Kitchen	9	T 32 R F 2 (ELE)	F42LL	60	0.54	SW	4914	2,654	None	
40LED	Dietary Hallway	Hallways	12	T 32 R F 2 (ELE)	F42LL	60	0.72	SW	8760	6,307	None	
40LED	Pantry	Storage Areas	5	T 32 R F 2 (ELE)	F42LL	60	0.30	SW	2000	600	C-OCC	
40LED	Pantry	Storage Areas	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2000	240	C-OCC	
7LED	Kitchen	Kitchen	2	2T 32 R F 2 (U)	FU2LL	60	0.12	SW	4914	590	None	
40LED	Directors Office	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
117	Hoods	Kitchen	7	CF 23	CFS23/1	23	0.16	SW	4914	791	None	
196LED	Office	Offices	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	4680	2,097	C-OCC	
198LED	Serving	Cafeteria_Other	5	2T 17 R F 2 (ELE)	F22LL	31	0.16	SW	4368	677	None	
40LED	Serving	Cafeteria_Other	13	T 32 R F 2 (ELE)	F42LL	60	0.78	SW	4368	3,407	None	
117	Coolers	Cooler/Freezer	1	CF 23	CFS23/1	23	0.02	SW	8760	201	None	
117	Coolers	Cooler/Freezer	1	CF 23	CFS23/1	23	0.02	SW	8760	201	None	
117	Coolers	Cooler/Freezer	1	CF 23	CFS23/1	23	0.02	SW	8760	201	None	
117	Coolers	Cooler/Freezer	1	CF 23	CFS23/1	23	0.02	SW	8760	201	None	
57	Utility	Linen/Utility/Wet/Janitorial/Electrical	1	S 34 C F 1 (MAG)	F41EE	43	0.04	SW	2000	86	None	
57	Utility	Linen/Utility/Wet/Janitorial/Electrical	1	S 34 C F 1 (MAG)	F41EE	43	0.04	SW	2000	86	None	
40LED	Mens BR	Restroom	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	3120	374	C-OCC	
57	Mens BR	Restroom	1	S 34 C F 1 (MAG)	F41EE	43	0.04	SW	3120	134	C-OCC	
40LED	Mens BR	Restroom	1	T 32 R F 2 (ELE)	F42LL	60	0.06	OCC	3120	187	C-OCC	
40LED	Womens BR	Restroom	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	3120	374	C-OCC	
57	Womens BR	Restroom	1	S 34 C F 1 (MAG)	F41EE	43	0.04	SW	3120	134	C-OCC	
40LED	Womens BR	Restroom	1	T 32 R F 2 (ELE)	F42LL	60	0.06	OCC	3120	187	C-OCC	

Cost of Electricity:

\$0.115	\$/kWh
\$7.25	\$/kW

		EXISTING CONDITIONS									Retrofit Control	Notes
Field Code	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	Retrofit Control	
	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	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)	Retrofit control device	
7LED	Cafeteria	Cafeteria_Other	27	2T 32 R F 2 (u)	FU2LL	60	1.62	SW	4368	7,076	None	
202	IS Training 2	Offices	7	2T 17 R F 4 (ELE)	F24ILL	61	0.43	SW	4680	1,998	C-OCC	
202	IS Training 1	Offices	6	2T 17 R F 4 (ELE)	F24ILL	61	0.37	SW	4680	1,713	C-OCC	
7LED	Closet	Storage Areas	1	2T 32 R F 2 (u)	FU2LL	60	0.06	SW	2000	120	None	
196LED	IT Office	Offices	16	W 32 C F 4 (ELE)	F44ILL	112	1.79	SW	4680	8,387	C-OCC	
40LED	Stairway	Stairway	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	None	
7LED	Entrance	Hallways	4	2T 32 R F 2 (u)	FU2LL	60	0.24	SW	8760	2,102	None	
274LED	Waiting Area	Waiting/Family/Play	2	I 100	I100/1	100	0.20	SW	4368	874	None	
202	Waiting Area	Waiting/Family/Play	3	2T 17 R F 4 (ELE)	F24ILL	61	0.18	SW	4368	799	None	
117	Waiting Area	Waiting/Family/Play	2	CF 23	CFS23/1	23	0.05	SW	4368	201	None	
202	Waiting Area	Waiting/Family/Play	8	2T 17 R F 4 (ELE)	F24ILL	61	0.49	SW	4368	2,132	None	
40LED	Hallway	Hallways	28	T 32 R F 2 (ELE)	F42LL	60	1.68	SW	8760	14,717	None	
57	Hallway	Hallways	4	S 34 C F 1 (MAG)	F41EE	43	0.17	SW	8760	1,507	None	
7LED	Hallway	Hallways	5	2T 32 R F 2 (u)	FU2LL	60	0.30	SW	8760	2,628	None	
196LED	Gym	Gymnasium	15	W 32 C F 4 (ELE)	F44ILL	112	1.68	SW	3640	6,115	None	
196LED	Men's Bathroom	Restroom	3	W 32 C F 4 (ELE)	F44ILL	112	0.34	SW	3120	1,048	C-OCC	
196LED	Women's Bathroom	Restroom	3	W 32 C F 4 (ELE)	F44ILL	112	0.34	SW	3120	1,048	C-OCC	
7LED	Radiology Hall	Hallways	7	2T 32 R F 2 (u)	FU2LL	60	0.42	SW	8760	3,679	None	
7LED	Hallway	Hallways	16	2T 32 R F 2 (u)	FU2LL	60	0.96	SW	8760	8,410	None	
7LED	Rear Exit	Hallways	4	2T 32 R F 2 (u)	FU2LL	60	0.24	SW	8760	2,102	None	
7LED	Gym	Gymnasium	6	2T 32 R F 2 (u)	FU2LL	60	0.36	SW	3640	1,310	C-OCC	
196LED	Radiology Hall	Hallways	6	W 32 C F 4 (ELE)	F44ILL	112	0.67	SW	8760	5,887	None	
196LED	Cat Scan	Procedure	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	4300	1,926	None	
196LED	Cat Scan Office	Offices	7	W 32 C F 4 (ELE)	F44ILL	112	0.78	SW	4680	3,669	None	
196LED	Waiting Room	Waiting/Family/Play	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4368	489	None	
196LED	Storage	Storage Areas	3	W 32 C F 4 (ELE)	F44ILL	112	0.34	SW	2000	672	None	
7LED	Closet	Storage Areas	1	2T 32 R F 2 (u)	FU2LL	60	0.06	SW	2000	120	None	
7LED	Closet	Storage Areas	1	2T 32 R F 2 (u)	FU2LL	60	0.06	SW	2000	120	None	
196LED	Office	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4680	524	C-OCC	
117	Bathroom	Restroom	1	CF 23	CFS23/1	23	0.02	SW	3120	72	C-OCC	
117	Bathroom	Restroom	1	CF 23	CFS23/1	23	0.02	SW	3120	72	C-OCC	
196LED	Closet	Storage Areas	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2000	224	None	
117	MER	Mechanical Room	3	CF 23	CFS23/1	23	0.07	SW	8736	603	None	
196LED	Office	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4680	524	C-OCC	
196LED	Office	Offices	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	4680	2,097	C-OCC	
196LED	Rehab Hallway	Hallways	10	W 32 C F 4 (ELE)	F44ILL	112	1.12	SW	8760	9,811	None	
135	Bathroom	Restroom	3	SP 13 R C F 1	CFQ13/1-L	15	0.05	SW	3120	140	C-OCC	
135	Bathroom	Restroom	3	SP 13 R C F 1	CFQ13/1-L	15	0.05	SW	3120	140	C-OCC	
196LED	Rehab Suite	Patient	15	W 32 C F 4 (ELE)	F44ILL	112	1.68	SW	4380	7,358	None	
40LED	Whirlpool	Exercise	6	T 32 R F 2 (ELE)	F42LL	60	0.36	SW	4914	1,769	None	
198LED	Closet	Storage Areas	2	2T 17 R F 2 (ELE)	F22LL	31	0.06	SW	2000	124	None	
198LED	Closet	Storage Areas	2	2T 17 R F 2 (ELE)	F22LL	31	0.06	SW	2000	124	None	
196LED	Closet	Storage Areas	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	2000	448	None	
40LED	Waiting Room	Waiting/Family/Play	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	4368	786	None	
196LED	Reception	Offices	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	4680	2,097	C-OCC	
196LED	Records	Storage Areas	9	W 32 C F 4 (ELE)	F44ILL	112	1.01	SW	2000	2,016	C-OCC	
196LED	HIM Transcription	Offices	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	4680	2,097	C-OCC	
196LED	Closet	Storage Areas	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2000	224	None	
40LED	Hallway	Hallways	7	T 32 R F 2 (ELE)	F42LL	60	0.42	SW	8760	3,679	None	
7LED	Hallway	Hallways	11	2T 32 R F 2 (u)	FU2LL	60	0.66	SW	8760	5,782	None	
196LED	Hallway	Hallways	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	8760	1,962	None	
135	IT Hallways	Hallways	11	SP 13 R C F 1	CFQ13/1-L	15	0.17	SW	8760	1,445	None	
198LED	IT Hallways	Hallways	2	2T 17 R F 2 (ELE)	F22LL	31	0.06	SW	8760	543	None	
40LED	Hallway	Hallways	29	T 32 R F 2 (ELE)	F42LL	60	1.74	SW	8760	15,242	None	
40LED	MER - Rear	Mechanical Room	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	8736	1,048	None	
196LED	Guidance	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
196LED	Occupational Health Waiting Room	Waiting/Family/Play	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4368	978	None	
196LED	Occupational Health Suite	Patient Room	8	W 32 C F 4 (ELE)	F44ILL	112	0.90	SW	5824	5,218	None	
40LED	Bathroom	Restroom	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	3120	187	C-OCC	
40LED	Exam	Exam	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2184	262	None	
40LED	Exam	Exam	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2184	262	None	
40LED	Exam	Exam	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2184	262	None	
196LED	Break Room	Break/Lunch Rooms	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	3102.5	695	C-OCC	
196LED	Procedure	Procedure	5	W 32 C F 4 (ELE)	F44ILL	112	0.56	SW	4300	2,408	None	
196LED	Procedure	Procedure	5	W 32 C F 4 (ELE)	F44ILL	112	0.56	SW	4300	2,408	None	
196LED	Procedure	Procedure	5	W 32 C F 4 (ELE)	F44ILL	112	0.56	SW	4300	2,408	None	
196LED	Storage	Storage Areas	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2000	224	C-OCC	
40LED	Suite	Patient Room	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	5824	349	None	

Cost of Electricity:

\$0.115	\$/kWh
\$7.25	\$/kW

		EXISTING CONDITIONS									Retrofit Control	Notes
Field Code	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	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)	Retrofit control device	
7LED	Lab Waiting Room	Waiting/Family/Play	4	2T 32 R F 2 (u)	FU2LL	60	0.24	SW	4368	1,048	None	
7LED	Reception	Waiting/Family/Play	1	2T 32 R F 2 (u)	FU2LL	60	0.06	SW	4368	262	None	
40LED	Reception	Waiting/Family/Play	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4368	262	None	
40LED	Lab Office	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4680	562	None	
7LED	Blood Draw	Procedure	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	4300	516	None	
40LED	Bathroom	Restroom	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	3120	187	C-OCC	
40LED	Lab	Lab	20	T 32 R F 2 (ELE)	F42LL	60	1.20	SW	3000	3,600	None	
40LED	Vacant Lab	Lab	6	T 32 R F 2 (ELE)	F42LL	60	0.36	SW	3000	1,080	None	
40LED	Lab	Lab	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	3000	360	None	
40LED	Lab Admin	Lab	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	3000	540	None	
40LED	Glass Washing	Lab	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	3000	360	C-OCC	
40LED	Store Room	Storage Areas	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2000	240	C-OCC	
40LED	Hisiology	Lab	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	3000	540	C-OCC	
40LED	Refrigerator	Cooler/Freezer	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	8760	1,051	None	
40LED	Manager	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4680	281	C-OCC	
133	Bathroom	Restroom	2	CF 26	CFQ26/1-L	27	0.05	SW	3120	168	C-OCC	
40LED	Break Room	Break/Lunch Rooms	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	3102.5	372	C-OCC	
40LED	Triage 1	Waiting/Family/Play	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
135	Security	Offices	3	SP 13 R C F 1	CFQ13/1-L	15	0.05	SW	4680	211	C-OCC	
135	Waiting ER	Waiting/Family/Play	10	SP 13 R C F 1	CFQ13/1-L	15	0.15	SW	4368	655	None	
7LED	Bathroom	Restroom	3	2T 32 R F 2 (u)	FU2LL	60	0.18	SW	3120	562	C-OCC	
7LED	Bathroom	Restroom	3	2T 32 R F 2 (u)	FU2LL	60	0.18	SW	3120	562	C-OCC	
40LED	Reception	Waiting/Family/Play	5	T 32 R F 2 (ELE)	F42LL	60	0.30	SW	4368	1,310	C-OCC	
40LED	Security	Offices	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	4680	842	C-OCC	
196LED	ER Reception	Waiting/Family/Play	12	W 32 C F 4 (ELE)	F44ILL	112	1.34	SW	4368	5,871	None	
7LED	ER Reception	Waiting/Family/Play	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	4368	524	None	
196LED	Room 1	Patient Room	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	5824	1,305	None	
196LED	Room 2	Patient Room	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	5824	1,305	None	
196LED	Room 3	Patient Room	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	5824	1,305	None	
40LED	Bathroom	Restroom	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	3120	187	C-OCC	
196LED	Office	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
135	Shower	Shower	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	8760	131	None	
196LED	Crisis Center	Exam (emergency)	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	2184	489	None	
7LED	Crisis Center	Exam (emergency)	5	2T 32 R F 2 (u)	FU2LL	60	0.30	SW	2184	655	None	
196LED	Open Bed Area	Patient Room	3	W 32 C F 4 (ELE)	F44ILL	112	0.34	SW	5824	1,957	None	
7LED	Open Bed Area	Patient Room	8	2T 32 R F 2 (u)	FU2LL	60	0.48	SW	5824	2,796	None	
198LED	Bathroom	Restroom	1	2T 17 R F 2 (ELE)	F22LL	31	0.03	SW	3120	97	C-OCC	
220	Bathroom	Restroom	1	S 17 C F 1(ELE)	F21ILL	20	0.02	SW	3120	62	C-OCC	
196LED	Bed area	Patient Room	3	W 32 C F 4 (ELE)	F44ILL	112	0.34	SW	5824	1,957	None	
135	Bed area	Patient Room	3	SP 13 R C F 1	CFQ13/1-L	15	0.05	SW	5824	262	None	
40LED	Bed 15	Patient Room	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	
40LED	Closet	Storage Areas	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2000	240	None	
40LED	Soiled Utility	Linen/Utility/Wet/Janitorial/Electrical	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2000	240	C-OCC	
40LED	Soiled Utility	Linen/Utility/Wet/Janitorial/Electrical	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2000	240	C-OCC	
196LED	Bed 14	Patient Room	6	W 32 C F 4 (ELE)	F44ILL	112	0.67	SW	5824	3,914	None	
40LED	Closet	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2000	120	None	
196LED	Break Room	Break/Lunch Rooms	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	3102.5	695	C-OCC	
40LED	Break Room	Break/Lunch Rooms	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	3102.5	186	C-OCC	
220	Bathroom	Restroom	1	S 17 C F 1(ELE)	F21ILL	20	0.02	SW	3120	62	C-OCC	
40LED	MEDS	Meds	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2000	120	C-OCC	
40LED	Closet	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2000	120	None	
40LED	Fire Pump	Linen/Utility/Wet/Janitorial/Electrical	4	T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2000	480	None	
57	Water Pump	Linen/Utility/Wet/Janitorial/Electrical	2	S 34 C F 1 (MAG)	F41EE	43	0.09	SW	2000	172	None	
40LED	Maintenance	Offices	16	T 32 R F 2 (ELE)	F42LL	60	0.96	SW	4680	4,493	C-OCC	
247LED	Storage	Storage Areas	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	2000	544	None	
40LED	Office	Offices	5	T 32 R F 2 (ELE)	F42LL	60	0.30	SW	4680	1,404	C-OCC	
117	Closet	Storage Areas	1	CF 23	CFS23/1	23	0.02	SW	2000	46	None	
57	New IT Offices	Offices	2	S 34 C F 1 (MAG)	F41EE	43	0.09	SW	4680	402	None	
40LED	New IT Offices	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4680	562	None	
7LED	New IT Offices	Offices	4	2T 32 R F 2 (u)	FU2LL	60	0.24	SW	4680	1,123	None	
196LED	New IT Offices	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	None	
277	New IT Offices	Offices	5	24WT5HO	F22GL	35	0.18	SW	4680	819	None	
135	Mens Bathroom	Restroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	3120	47	None	
220	Mens Bathroom	Restroom	1	S 17 C F 1(ELE)	F21ILL	20	0.02	SW	3120	62	None	
117	Mens Bathroom	Restroom	1	CF 23	CFS23/1	23	0.02	SW	3120	72	None	
135	Womens Bathroom	Restroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	SW	3120	47	None	

Cost of Electricity:

\$0.115	\$/kWh
\$7.25	\$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	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)	Retrofit control device	Notes
220	Womens Bathroom	Restroom	1	S 17 C F 1(ELE)	F21ILL	20	0.02	SW	3120	62	None	
117	Womens Bathroom	Restroom	1	CF 23	CFS23/1	23	0.02	SW	3120	72	None	
198LED	IT Conference	Conference Room	14	2T 17 R F 2 (ELE)	F22LL	31	0.43	SW	4500	1,953	C-OCC	
15LED	Bathroom	Restroom	1	S 32 C F 2 (ELE)	F42LL	60	0.06	OCC	3120	187	None	
135	Bathroom	Restroom	1	SP 13 R C F 1	CFQ13/1-L	15	0.02	OCC	3120	47	None	
277	IT Transformer Room	Linen/Utility/Wet/Janitorial/Electrical	4	24WT5HO	F22GL	35	0.14	Dimmer	2000	280	None	
135	IT Transformer Room	Linen/Utility/Wet/Janitorial/Electrical	4	SP 13 R C F 1	CFQ13/1-L	15	0.06	Dimmer	2000	120	None	
40LED	Closet	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2000	120	C-OCC	
40LED	MER	Mechanical Room	4	T 32 R F 2 (ELE)	F42LL	60	0.24	SW	8736	2,097	None	
117	MER	Mechanical Room	4	CF 23	CFS23/1	23	0.09	SW	8736	804	None	
57	MER	Mechanical Room	6	S 34 C F 1 (MAG)	F41EE	43	0.26	SW	8736	2,254	None	
40LED	Trash	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2000	120	None	
40LED	Linen	Linen/Utility/Wet/Janitorial/Electrical	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2000	360	C-OCC	
40LED	Closet	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2000	120	None	
40LED	Closet	Storage Areas	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2000	240	None	
40LED	Call Room	Offices	18	T 32 R F 2 (ELE)	F42LL	60	1.08	SW	4680	5,054	C-OCC	
196LED	Records	Storage Areas	21	W 32 C F 4 (ELE)	F44ILL	112	2.35	SW	2000	4,704	C-OCC	
40LED	Office	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
40LED	Office	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
40LED	Office	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
40LED	Locker	Locker	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8736	524	None	
275LED	Nurses Station	Nursing Station	4	I 150	I150/1	150	0.60	SW	7300	4,380	None	
218LED	Hallway	Hallways	11	W 32 C F 3 (ELE)	F43ILL/2	90	0.99	SW	8760	8,672	None	
7LED	Hallway	Hallways	1	2T 32 R F 2 (u)	FU2LL	60	0.06	SW	8760	526	None	
7LED	Changing Rooms	Locker	4	2T 32 R F 2 (u)	FU2LL	60	0.24	SW	8736	2,097	None	
135	Xray	Exam Room	3	SP 13 R C F 1	CFQ13/1-L	15	0.05	SW	5000	225	None	
196LED	Xray lounge	Staff Lounge	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	4368	1,957	None	
196LED	Xray lounge	Staff Lounge	3	W 32 C F 4 (ELE)	F44ILL	112	0.34	SW	4368	1,468	None	
135	Xray 1	Exam Room	3	SP 13 R C F 1	CFQ13/1-L	15	0.05	SW	5000	225	None	
135	Xray 2	Exam Room	3	SP 13 R C F 1	CFQ13/1-L	15	0.05	SW	5000	225	None	
135	Xray 3	Exam Room	3	SP 13 R C F 1	CFQ13/1-L	15	0.05	SW	5000	225	None	
40LED	Storage	Storage Areas	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2000	240	C-OCC	
40LED	Office	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
40LED	Office	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
40LED	Office	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
40LED	Mamogram	Exam Room	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	5000	900	None	
7LED	Mamogram	Exam Room	1	2T 32 R F 2 (u)	FU2LL	60	0.06	SW	5000	300	None	
7LED	Nursing offices	Offices	5	2T 32 R F 2 (u)	FU2LL	60	0.30	SW	4680	1,404	None	
196LED	Nursing offices	Offices	54	W 32 C F 4 (ELE)	F44ILL	112	6.05	SW	4680	28,305	None	
40LED	Nursing offices	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4680	281	None	
196LED	Offices	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	None	
196LED	Offices	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	None	
196LED	Offices	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	None	
196LED	Offices	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
40LED	MER 1	Mechanical Room	6	T 32 R F 2 (ELE)	F42LL	60	0.36	SW	8736	3,145	None	
40LED	Elec 1	Mechanical Room	4	T 32 R F 2 (ELE)	F42LL	60	0.24	SW	8736	2,097	None	
40LED	Elec 2	Mechanical Room	6	T 32 R F 2 (ELE)	F42LL	60	0.36	SW	8736	3,145	None	
196LED	Mail Room	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4680	524	C-OCC	
40LED	Mail Room	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4680	281	C-OCC	
196LED	Conference	Conference Room	6	W 32 C F 4 (ELE)	F44ILL	112	0.67	SW	4500	3,024	C-OCC	
196LED	Conference	Conference Room	6	W 32 C F 4 (ELE)	F44ILL	112	0.67	SW	4500	3,024	C-OCC	
57	Electrical Closet	Linen/Utility/Wet/Janitorial/Electrical	1	S 34 C F 1 (MAG)	F41EE	43	0.04	SW	2000	86	None	
196LED	Insurance	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
7LED	Patient Financial Assesing	Offices	9	2T 32 R F 2 (u)	FU2LL	60	0.54	SW	4680	2,527	C-OCC	
202	Lobby Break Room	Break/Lunch Rooms	8	2T 17 R F 4 (ELE)	F24ILL	61	0.49	SW	3102.5	1,514	C-OCC	
40LED	Front Office	Offices	7	T 32 R F 2 (ELE)	F42LL	60	0.42	SW	4680	1,966	None	
7LED	Front Office	Offices	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	4680	562	None	
40LED	Bathroom	Restroom	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	3120	374	C-OCC	
40LED	Engineers Office	Offices	6	T 32 R F 2 (ELE)	F42LL	60	0.36	SW	4680	1,685	C-OCC	
40LED	IT Closet	Linen/Utility/Wet/Janitorial/Electrical	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2000	240	C-OCC	
40LED	Maintenance	Offices	11	T 32 R F 2 (ELE)	F42LL	60	0.66	SW	4680	3,089	C-OCC	
40LED	Maintenance	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
196LED	Office 1	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
7LED	Office 1	Offices	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	4680	562	C-OCC	
196LED	Office 2	Offices	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	4680	2,097	C-OCC	
191	Exterior	Outdoor Lighting	8	S 60 C F 2 (ELE) 8'	F82EE	123	0.98	SW	4380	4,310	None	

Cost of Electricity:

\$0.115	\$/kWh
\$7.25	\$/kW

EXISTING CONDITIONS												Retrofit Control
Field Code	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	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)	Retrofit control device	Notes
57	Ground Floor - 1 Cube Farm	Offices	4	S 34 C F 1 (MAG)	F41EE	43	0.17	SW	4680	805	None	
57	Ground Floor - 1 Cube Farm	Offices	1	S 34 C F 1 (MAG)	F41EE	43	0.04	SW	4680	201	None	
57	Ground Floor - 1 Cube Farm	Offices	2	S 34 C F 1 (MAG)	F41EE	43	0.09	SW	4680	402	None	
X4	Ground Floor - 1 Cube Farm	Offices	50	CF26W	CF26/4-L	108	5.40	SW	4680	25,272	None	
277	Ground Floor - 2	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 3	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 4	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 5	Offices	4	24WT5HO	F22GL	35	0.14	SW	4680	655	C-OCC	
277	Ground Floor - 6	Break/Lunch Rooms	4	24WT5HO	F22GL	35	0.14	SW	3102.5	434	C-OCC	
277	Ground Floor - 7	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 8	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 9	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 10	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 11	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 12	Offices	4	24WT5HO	F22GL	35	0.14	SW	4680	655	C-OCC	
277	Ground Floor - 13	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 14	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 15	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 16	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 17	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 18	Conference Room	4	24WT5HO	F22GL	35	0.14	SW	4500	630	C-OCC	
277	Ground Floor - 19	Offices	4	24WT5HO	F22GL	35	0.14	SW	4680	655	C-OCC	
277	Ground Floor - 20	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 21	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 22	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 23	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - Corridor	Hallways	15	24WT5HO	F22GL	35	0.53	SW	8760	4,599	None	
277	Ground Floor - 24	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 25	Offices	16	24WT5HO	F22GL	35	0.56	SW	4680	2,621	C-OCC	
277	Ground Floor - 26	Offices	2	24WT5HO	F22GL	35	0.07	SW	4680	328	C-OCC	
277	Ground Floor - 27	Offices	4	24WT5HO	F22GL	35	0.14	SW	4680	655	C-OCC	
277	Ground Floor - 28	Offices	9	24WT5HO	F22GL	35	0.32	SW	4680	1,474	C-OCC	
277	Ground Floor - 28 Conference Room	Conference Room	4	24WT5HO	F22GL	35	0.14	SW	4500	630	C-OCC	
15LED	Ground Floor - 30 Gym	Gymnasium	12	S 32 C F 2 (ELE)	F42LL	60	0.72	SW	3640	2,621	None	
7LED	Ground Floor - 30	Gymnasium	12	2T 32 R F 2 (u)	FU2LL	60	0.72	SW	3640	2,621	None	
15LED	Ground Floor - 31 Phys	Offices	15	S 32 C F 2 (ELE)	F42LL	60	0.90	SW	4680	4,212	C-OCC	
7LED	Ground Floor - Corridor	Hallways	4	2T 32 R F 2 (u)	FU2LL	60	0.24	SW	8760	2,102	None	
15LED	Ground Floor - 32	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
202	Ground Floor - 33 Waiting	Waiting/Family/Play	7	2T 17 R F 4 (ELE)	F24ILL	61	0.43	SW	4368	1,865	C-OCC	
96	Ground Floor - Corridor	Hallways	4	W 17 C F 2	F22ILL	33	0.13	SW	8760	1,156	None	
1	Ground Floor - Corridor	Hallways	2	SQ 13 W CF 2 (MAG)	CFQ13/2	31	0.06	SW	8760	543	None	
261	Ground Floor - 33	Waiting/Family/Play	7	PAR 38 SP	H100/1	100	0.70	SW	4368	3,058	C-OCC	
196LED	4th Floor - 1	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
196LED	4th Floor - 2	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
196LED	4th Floor - 3	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
196LED	4th Floor - 4	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
15LED	4th Floor - 5	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	4th Floor - 6	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	4th Floor - 7	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	4th Floor - 8	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	4th Floor - 9	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	4th Floor - 10	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
50	4th Floor - 11	Offices	1	W 32 W P 2 (ELE)	F42LL	60	0.06	SW	4680	281	C-OCC	
15LED	4th Floor - 12	Mechanical Room	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	8736	1,048	None	Off
198LED	4th Floor - 13	Storage Areas	2	2T 17 R F 2 (ELE)	F22LL	31	0.06	SW	2000	124	C-OCC	
57	4th Floor - 14	Offices	2	S 34 C F 1 (MAG)	F41EE	43	0.09	SW	4680	402	C-OCC	
57	4th Floor - 15	Waiting/Family/Play	8	S 34 C F 1 (MAG)	F41EE	43	0.34	SW	4368	1,503	C-OCC	
89	4th Floor - 16	Treatment	1	CF 13 2 LAMP	CFQ13/2-L	28	0.03	SW	0	-	C-OCC	Off
89	4th Floor - 17	Treatment	1	CF 13 2 LAMP	CFQ13/2-L	28	0.03	SW	0	-	C-OCC	Off
89	4th Floor - 18	Treatment	1	CF 13 2 LAMP	CFQ13/2-L	28	0.03	SW	0	-	C-OCC	Off
15LED	4th Floor - 19	Conference Room	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4500	540	C-OCC	
15LED	4th Floor - 20	Break/Lunch Rooms	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	3102.5	372	C-OCC	
15LED	4th Floor - 21	Treatment	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	0	-	C-OCC	Off
15LED	4th Floor - 22	Storage Areas	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	0	-	C-OCC	Off
15LED	4th Floor - 23	Offices	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	4680	281	C-OCC	
15LED	4th Floor - 24	Offices	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	4680	281	C-OCC	
15LED	4th Floor - 25	Offices	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	4680	281	C-OCC	
196LED	4th Floor - 26	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4680	524	C-OCC	

Cost of Electricity:

\$0.115	\$/kWh
\$7.25	\$/kW

EXISTING CONDITIONS												Retrofit Control
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	Usage Describe Usage Type using Operating Hours	No. of Fixtures before the retrofit	Standard Fixture Code Lighting Fixture Code	Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Fixt No.)	Exist Control Pre-inst. control device	Annual Hours Estimated annual hours for the usage group	Annual kWh (kW/space) * (Annual Hours)	Retrofit control device	Notes
196LED	4th Floor - 27	Offices	3	W 32 C F 4 (ELE)	F44ILL	112	0.34	SW	4680	1,572	C-OCC	
196LED	4th Floor - 28	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4680	524	C-OCC	
196LED	4th Floor - 28	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4680	524	C-OCC	
196LED	4th Floor - 29	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
15LED	4th Floor - 30	Offices	4	S 32 C F 2 (ELE)	F42LL	60	0.24	SW	4680	1,123	C-OCC	
15LED	4th Floor - 31	Offices	4	S 32 C F 2 (ELE)	F42LL	60	0.24	SW	4680	1,123	C-OCC	
15LED	4th Floor - 32	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	4th Floor - 33	Offices	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	4680	281	C-OCC	
15LED	4th Floor - Corridor A	Hallways	19	S 32 C F 2 (ELE)	F42LL	60	1.14	SW	8760	9,986	None	50% Are on 24/7
15LED	4th Floor - Corridor B	Hallways	21	S 32 C F 2 (ELE)	F42LL	60	1.26	SW	8760	11,038	None	50% Are on 24/7
15LED	4th Floor - Corridor C	Hallways	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	8760	1,051	None	50% Are on 24/7
196LED	5th Floor - 1	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4680	524	C-OCC	
15LED	5th Floor - 2	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
247LED	5th Floor - 3	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
247LED	5th Floor - 4	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
247LED	5th Floor - 5	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
247LED	5th Floor - 6	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
247LED	5th Floor - 7	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
247LED	5th Floor - 8	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
247LED	5th Floor - 9	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
247LED	5th Floor - 10	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
196LED	5th Floor - 11	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4680	524	C-OCC	
15LED	5th Floor - 12	Mechanical Room	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	8736	1,048	None	
220	5th Floor - 13	Storage Areas	2	S 17 C F 1(ELE)	F21ILL	20	0.04	SW	2000	80	C-OCC	
220	5th Floor - 14	Treatment	1	S 17 C F 1(ELE)	F21ILL	20	0.02	SW	3640	73	C-OCC	
196LED	5th Floor - 15	Break/Lunch Rooms	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	3102.5	347	C-OCC	
277	5th Floor - 16	Offices	3	24WT5HO	F22GL	35	0.11	SW	4680	491	C-OCC	
89	5th Floor - 17	Offices	1	CF 13 2 LAMP	CFQ13/2-L	28	0.03	SW	4680	131	C-OCC	
89	5th Floor - 18	Offices	1	CF 13 2 LAMP	CFQ13/2-L	28	0.03	SW	0	-	C-OCC	Off
15LED	5th Floor - 19	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	0	-	C-OCC	Off
15LED	5th Floor - 20	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	0	-	C-OCC	Off
15LED	5th Floor - 21	Offices	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	4680	281	C-OCC	
15LED	5th Floor - 22	Offices	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	4680	281	C-OCC	
196LED	5th Floor - 23	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
247LED	5th Floor - 24	Offices	1	T 40 R F 3 (MAG)	F43SE	136	0.14	OCC	4680	636	C-OCC	
247LED	5th Floor - 25	Offices	1	T 40 R F 3 (MAG)	F43SE	136	0.14	SW	4680	636	C-OCC	
196LED	5th Floor - 26	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4680	524	C-OCC	
15LED	5th Floor - 27	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	5th Floor - 28	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	5th Floor - 29	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	5th Floor - 30	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
247LED	5th Floor - 31	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
247LED	5th Floor - 32	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
247LED	5th Floor - 33	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
247LED	5th Floor - 34	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
247LED	5th Floor - 35	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
247LED	5th Floor - 36	Offices	2	T 40 R F 3 (MAG)	F43SE	136	0.27	SW	4680	1,273	C-OCC	
15LED	5th Floor - Corridor A	Hallways	19	S 32 C F 2 (ELE)	F42LL	60	1.14	SW	8760	9,986	None	50% on 24/7
15LED	5th Floor - Corridor B	Hallways	21	S 32 C F 2 (ELE)	F42LL	60	1.26	SW	8760	11,038	None	50% on 24/7
15LED	5th Floor - Corridor C	Hallways	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	8760	1,051	None	50% on 24/7
196LED	2nd Floor - 1	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
196LED	2nd Floor - 2	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
196LED	2nd Floor - 3	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	4680	1,048	C-OCC	
196LED	2nd Floor - 4	Mechanical Room	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	8736	1,957	None	
40LED	2nd Floor - 5	Offices	16	T 32 R F 2 (ELE)	F42LL	60	0.96	SW	4680	4,493	C-OCC	
196LED	2nd Floor - 6	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4680	524	C-OCC	
196LED	2nd Floor - 7	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4680	524	C-OCC	
196LED	2nd Floor - 8	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4680	524	C-OCC	
196LED	2nd Floor - 9	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4680	524	C-OCC	
136	2nd Floor - 10	Offices	1	I 40 RED	I40/1	40	0.04	SW	0	-	C-OCC	Off
196LED	2nd Floor - 11	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	0	-	C-OCC	Off
196LED	2nd Floor - 12	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	0	-	C-OCC	Off
196LED	2nd Floor - 13	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	0	-	C-OCC	Off
196LED	2nd Floor - 14	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	0	-	C-OCC	Off
196LED	2nd Floor - 15	Offices	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	4680	524	C-OCC	Off
15LED	2nd Floor - 16	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	2nd Floor - 17	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	2nd Floor - 18	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	

Cost of Electricity:

\$0.115	\$/kWh
\$7.25	\$/kW

		EXISTING CONDITIONS									Retrofit Control	Notes
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	Usage Describe Usage Type using Operating Hours	No. of Fixtures before the retrofit	Standard Fixture Code Lighting Fixture Code	Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Fixt No.)	Exist Control Pre-inst. control device	Annual Hours Estimated annual hours for the usage group	Annual kWh (kW/space) * (Annual Hours)	Retrofit control device	
15LED	2nd Floor - 19	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	2nd Floor - 20	Lab	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	3000	180	None	
15LED	2nd Floor - 21	Lab	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	3000	360	None	
15LED	2nd Floor - 22	Lab	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	3000	360	None	
15LED	2nd Floor - 23	Lab	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	3000	180	None	
15LED	2nd Floor - 24	Treatment	24	S 32 C F 2 (ELE)	F42LL	60	1.44	SW	3640	5,242	None	
15LED	2nd Floor - 25	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	2nd Floor - 26	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	2nd Floor - 27	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	2nd Floor - 28	Waiting/Family/Play	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	4368	262	C-OCC	
15LED	2nd Floor - Corridor A	Hallways	28	S 32 C F 2 (ELE)	F42LL	60	1.68	SW	8760	14,717	None	50% on 24/7
15LED	2nd Floor - Corridor B	Hallways	12	S 32 C F 2 (ELE)	F42LL	60	0.72	SW	8760	6,307	None	50% on 24/7
15LED	2nd Floor - Corridor C	Hallways	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	8760	1,051	None	50% on 24/7
40LED	2nd Floor - Corridor D	Hallways	8	T 32 R F 2 (ELE)	F42LL	60	0.48	SW	8760	4,205	None	50% on 24/7
1	2nd Floor - Corridor E	Hallways	5	SQ 13 W CF 2 (MAG)	CFQ13/2	31	0.16	SW	8760	1,358	None	50% on 24/7
50	2nd Floor - 29	Sleep Patient Room	2	W 32 W P 2 (ELE)	F42LL	60	0.12	SW	5096	612	None	
50	2nd Floor - 30	Sleep Patient Room	2	W 32 W P 2 (ELE)	F42LL	60	0.12	SW	5096	612	None	
50	2nd Floor - 31	Sleep Patient Room	2	W 32 W P 2 (ELE)	F42LL	60	0.12	SW	5096	612	None	
50	2nd Floor - 32	Sleep Patient Room	2	W 32 W P 2 (ELE)	F42LL	60	0.12	SW	5096	612	None	
50	2nd Floor - 33	Sleep Patient Room	2	W 32 W P 2 (ELE)	F42LL	60	0.12	SW	5096	612	None	
50	2nd Floor - 34	Patient Room	2	W 32 W P 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	Off
50	2nd Floor - 35	Patient Room	2	W 32 W P 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	Off
50	2nd Floor - 36	Patient Room	2	W 32 W P 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	Off
50	2nd Floor - 37	Patient Room	2	W 32 W P 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	Off
50	2nd Floor - 38	Patient Room	2	W 32 W P 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	Off
50	2nd Floor - 39	Patient Room	2	W 32 W P 2 (ELE)	F42LL	60	0.12	SW	5824	699	None	Off
7LED	2nd Floor - 40	Patient Room	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	5824	699	None	Wing Closed
7LED	2nd Floor - 41	Patient Room	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	5824	699	None	Wing Closed
7LED	2nd Floor - 42	Patient Room	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	5824	699	None	Wing Closed
7LED	2nd Floor - 43	Patient Room	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	5824	699	None	Wing Closed
7LED	2nd Floor - 44	Patient Room	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	5824	699	None	Wing Closed
7LED	2nd Floor - 45	Patient Room	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	5824	699	None	Wing Closed
7LED	2nd Floor - 46	Patient Room	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	5824	699	None	Wing Closed
7LED	2nd Floor - 47	Patient Room	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	5824	699	None	Wing Closed
7LED	2nd Floor - 48	Patient Room	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	5824	699	None	Wing Closed
7LED	2nd Floor - 49	Patient Room	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	5824	699	None	Wing Closed
7LED	2nd Floor - 50	General Common	6	2T 32 R F 2 (u)	FU2LL	60	0.36	SW	5096	1,835	C-OCC	Wing Closed
7LED	2nd Floor - 51	Nursing Station	4	2T 32 R F 2 (u)	FU2LL	60	0.24	SW	7300	1,752	None	Wing Closed
7LED	2nd Floor - 52	Offices	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	4680	562	C-OCC	
7LED	2nd Floor - 53	Offices	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	4680	562	C-OCC	
7LED	2nd Floor - 54	Offices	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	4680	562	C-OCC	
7LED	2nd Floor - 55	Offices	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	4680	562	C-OCC	
7LED	2nd Floor - 56	Offices	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	4680	562	C-OCC	
7LED	2nd Floor - 57	Offices	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	4680	562	C-OCC	
7LED	2nd Floor - 58	Offices	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	4680	562	C-OCC	
7LED	2nd Floor - 59	Offices	2	2T 32 R F 2 (u)	FU2LL	60	0.12	SW	4680	562	C-OCC	
7LED	2nd Floor - 60	Offices	1	2T 32 R F 2 (u)	FU2LL	60	0.06	SW	4680	281	C-OCC	
7LED	2nd Floor - 61	Offices	1	2T 32 R F 2 (u)	FU2LL	60	0.06	SW	4680	281	C-OCC	
15LED	2nd Floor - 62	Foster Care	4	S 32 C F 2 (ELE)	F42LL	60	0.24	SW	5824	1,398	None	
15LED	2nd Floor - 63	Foster Care	4	S 32 C F 2 (ELE)	F42LL	60	0.24	SW	5824	1,398	None	
15LED	2nd Floor - 64	Foster Care	8	S 32 C F 2 (ELE)	F42LL	60	0.48	SW	5824	2,796	None	
15LED	2nd Floor - 65	Foster Care	4	S 32 C F 2 (ELE)	F42LL	60	0.24	SW	5824	1,398	None	
196LED	2nd Floor - 66	Foster Care	8	W 32 C F 4 (ELE)	F44ILL	112	0.90	SW	5824	5,218	None	
196LED	2nd Floor - 67	Foster Care	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	5824	1,305	None	
196LED	2nd Floor - 68	Foster Care	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	5824	1,305	None	
196LED	2nd Floor - 69	Foster Care	2	W 32 C F 4 (ELE)	F44ILL	112	0.22	SW	5824	1,305	None	
196LED	2nd Floor - 70	Abandoned Space	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	8760	3,924	None	Closed
196LED	2nd Floor - 71	Abandoned Space	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	8760	3,924	None	Closed
196LED	2nd Floor - 72	Abandoned Space	4	W 32 C F 4 (ELE)	F44ILL	112	0.45	SW	8760	3,924	None	Closed
15LED	2nd Floor - 73	Offices	4	S 32 C F 2 (ELE)	F42LL	60	0.24	SW	4680	1,123	C-OCC	
15LED	2nd Floor - 74	Offices	4	S 32 C F 2 (ELE)	F42LL	60	0.24	SW	4680	1,123	C-OCC	
15LED	2nd Floor - 75	Offices	4	S 32 C F 2 (ELE)	F42LL	60	0.24	SW	4680	1,123	C-OCC	
15LED	2nd Floor - 76	Offices	4	S 32 C F 2 (ELE)	F42LL	60	0.24	SW	4680	1,123	C-OCC	
x4	2nd Floor - 77	Storage Areas	1	CF26W	CF26/4-L	108	0.11	SW	2000	216	None	
15LED	2nd Floor - 78	Offices	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	4680	562	C-OCC	
15LED	2nd Floor - 79	Conference Room	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	4500	270	C-OCC	
15LED	2nd Floor - 80	Storage Areas	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	2000	120	None	
15LED	2nd Floor - 81	General Common	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	5096	612	C-OCC	

Cost of Electricity:

\$0.115	\$/kWh
\$7.25	\$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	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)	Retrofit control device	Notes
15LED	2nd Floor - B2	Hallways	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	8760	1,051	None	On 24/7
196LED	2nd Floor - B3	Hallways	1	W 32 C F 4 (ELE)	F44ILL	112	0.11	SW	8760	981	None	On 24/7
1	2nd Floor - Corridor F	Hallways	4	SQ 13 W CF 2 (MAG)	CFQ13/2	31	0.12	SW	8760	1,086	None	On 24/7
15LED	2nd Floor - Corridor B	Hallways	6	S 32 C F 2 (ELE)	F42LL	60	0.36	SW	8760	3,154	None	50% on 24/7
15LED	2nd Floor - Corridor B	Hallways	8	S 32 C F 2 (ELE)	F42LL	60	0.48	SW	8760	4,205	None	50% on 24/7
	Total	Total Total	2,549				163.48			872,100		

APPENDIX C

ECM Calculations

Utility Costs		Yearly Usage	Metric Ton Carbon Dioxide Equivalent	Building Area	Annual Utility Cost		
\$0.129	\$/kWh blended		0.000420205	265,000	Electric	Natural Gas	Fuel Oil
\$ 0.115	\$/kWh supply	6,280,176	0.000420205		\$ 808,552	\$ 366,496	
\$ 7.25	\$/kW	1,288.8	0				
\$ 1.02	\$/Therm	358,982	0.00533471				
	\$/kgals		0				
	\$/Gal						

Bridgeton Health Center																							
Recommend? Y or N		Item	Savings						Cost	Simple Payback	Life Expectancy	Equivalent CO (Metric tons)	NJ Smart Start Incentives	Direct Install Eligible (Y/N)	Payback w/ Incentives	Simple Projected Lifetime Savings				ROI	NPV	IRR	
			kW	kWh	therms	No. 2 Oil gal	Water kgal	\$								kW	kWh	therms	kgal/yr				\$
Y	ECM-1	Extend DDC system to air handling units and RCx	0.0	214,707	35,123	0	0	63,501	\$ 904,273	14.2	15	277.6	\$ -	N	14.2	0.0	3,220,607	526,851	0	\$ 952,521	5%	(\$146,197)	0.7%
Y	ECM-2	Install return air ductwork and reduce outdoor air volume to 1958 Tower	0.0	103,847	33,459	0	0	47,529	\$ 88,692	1.9	30	222.1	\$ -	N	1.9	0.0	3,115,424	1,003,756	0	\$ 1,425,868	1508%	\$842,896	53.6%
Y	ECM-3	Convert DX systems to chilled water	0.0	40,289	0	0	0	5,187	\$ 102,402	19.7	20	16.9	\$ -	N	19.7	0.0	805,777	0	0	\$ 103,741	1%	(\$25,232)	0.1%
Y	ECM-4	Install premium efficiency motors and add variable frequency drives	3.7	46,747	0	0	0	5,678	\$ 51,533	9.1	18	19.6	\$ 1,800	N	8.8	67.2	841,444	0	0	\$ 114,180	122%	\$28,362	9.0%
Y	ECM-5	Install a kitchen hood control system	0.0	49,307	12,662	0	0	19,275	\$ 41,228	2.1	15	88.3	\$ 1,900	N	2.0	0.0	739,601	189,933	0	\$ 289,130	601%	\$190,780	48.9%
Y	ECM-6	Install a walk-in cooler/freezer control system	0.0	12,429	0	0	0	1,600	\$ 22,275	13.9	15	5.2	\$ -	N	13.9	0.0	186,431	0	0	\$ 24,002	8%	(\$3,172)	0.9%
Y	ECM-7	Install an ozone laundry disinfection system	0.0	510	49,213	0	0	50,309	\$ 86,827	1.7	15	262.8	\$ -	N	1.7	0.0	7,644	738,192	0	\$ 754,628	769%	\$513,754	57.9%
N	ECM-L1	Lighting Replacements / Upgrades	58.0	300,651	0	0	0	39,480	\$ 375,211	9.5	10	126.3	\$ 12,275	N	9.2	580.5	3,006,509	0	0	\$ 437,583	17%	(\$26,162)	1.6%
N	ECM-L2	Install Lighting Controls (Add Occupancy Sensors)	0.0	43,299	0	0	0	5,575	\$ 61,560	11.0	10	18.2	\$ 7,980	N	9.6	0.0	432,989	0	0	\$ 55,746	-9%	(\$6,028)	0.7%
Y	ECM-L3	Lighting Replacements with Controls (Occupancy Sensors)	59.4	343,529	0	0	0	44,507	\$ 434,988	9.8	10	144.4	\$ 20,030	N	9.3	593.9	3,435,294	0	0	\$ 493,952	14%	(\$35,304)	1.3%
Recommended Measures (highlighted green above)			63.1	811,365	130,457	0	0	\$ 237,587	\$ 1,732,217	7.3	17.3	1,037	\$ 23,730	0	7.2	661	12,352,222	2,458,732	-	\$ 4,158,023	1.4	1,365,886	11.8%
% of Existing			5%	13%	36%	0	0																

City: Philadelphia, PA						
Occupied Hours/Week			168			
			Hospital	Office 1	Building	Classrooms
			Operating	Occupied	Occupied	Occupied
Temp	Enthalpy h (Btu/lb)	Bin Hours	Hours	Hours	Hours	Hours
102.5	0.0	0				
97.5	33.1	3	3	1	0	0
92.5	38.0	33	33	8	0	0
87.5	36.2	123	123	29	0	0
82.5	33.8	477	477	114	0	0
77.5	32.7	656	656	156	0	0
72.5	31.0	742	742	177	0	0
67.5	28.1	784	784	187	0	0
62.5	24.6	983	983	234	0	0
57.5	21.2	625	625	149	0	0
52.5	18.3	540	540	129	0	0
47.5	16.0	457	457	109	0	0
42.5	14.4	671	671	160	0	0
37.5	12.5	1,067	1,067	254	0	0
32.5	10.5	685	685	163	0	0
27.5	8.5	389	389	88	0	0
22.5	7.0	321	321	76	0	0
17.5	5.3	184	184	44	0	0
12.5	3.8	40	40	10	0	0
7.5	0.0	0	0	0	0	0
2.5	0.0	0	0	0	0	0
-2.5	0.0	0				
-7.5	0.0	0				
8,760			8,760			

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

Heating System Efficiency	75%
Cooling Eff (kW/ton)	1.2

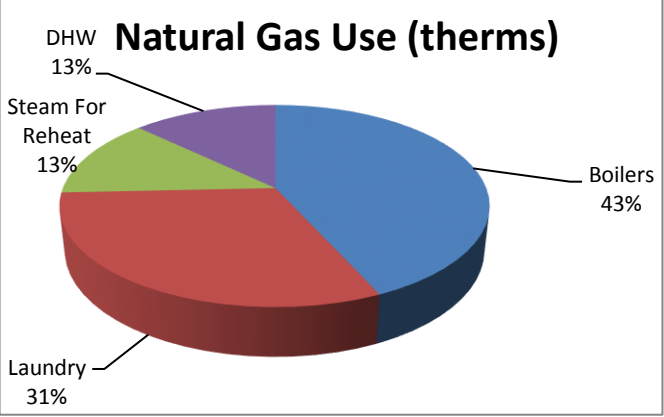
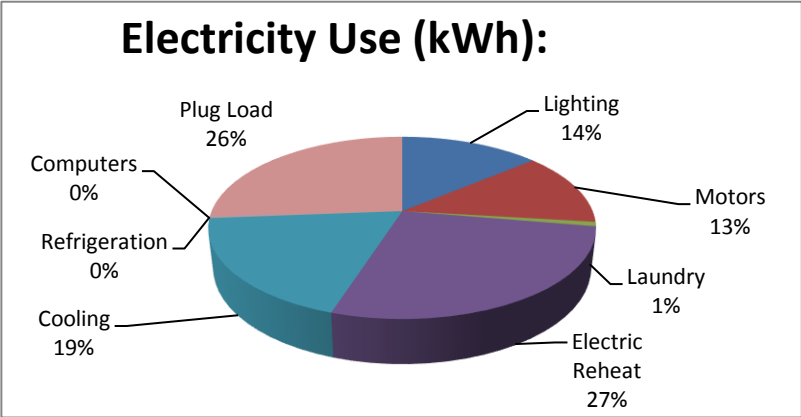
Heating	
Hours	4,334 Hrs
Weighted Avg	38 F
Avg	33 F

Cooling	
Hours	4,428 Hrs
Weighted Avg	68 F
Avg	78 F

Utility End Use Analysis		
Electricity Use (kWh):		Notes/Comments:
6,280,176	Total	Based on utility analysis
872,100	Lighting	From Lighting Calculations
817,526	Motors	Estimated based on EF's, Pump Motors, AHUs
48,703	Laundry	From Vendor Calculation
1,713,584	Electric Reheat	Estimated
1,177,212	Cooling	Calculated based on runtime and equipment Eff
5,000	Computers	Estimated
13,205	Refrigeration	Based on calculation
1,632,845	Plug Load	Remaining
Natural Gas Use (Therms):		Notes/Comments:
358,982	Total	Based on utility analysis
155,258	Boilers	Estimated
111,420	Laundry	Based on vendor calculation
46,152	Steam For Reheat	Based on utility analysis (summer load)
46,152	DHW	Based on utility analysis (summer load)

14%
13%
1%
27%
19%
0%
0%
26%
100%

43%
31%
13%
13%
100%



ECM-1: Re-Commission Building Controls System

Summary: The building has partial johnson Controls DDC which controls newer vintage equipment. Approximately 75% of the building is either pneumatic controlled or electric controls. None of the controls provide night set-back and generally operate the equipment in occupied mode 24/7. This ECM evaluates the savings for Rretro-commissioning the existing Johnson Metasys controls as well as extending the DDC system to all major HVAC equipment. Control improvements include Dday/ night set-back economizer cooling, OA damper modulation based on CO2 (DCV), optimum start/ stop. The enhanced system will also provide for trending and alarming.

Building Information:

265,000	Sq Footage	\$0.13	\$/kWh Blended
		\$1.02	\$/Therm

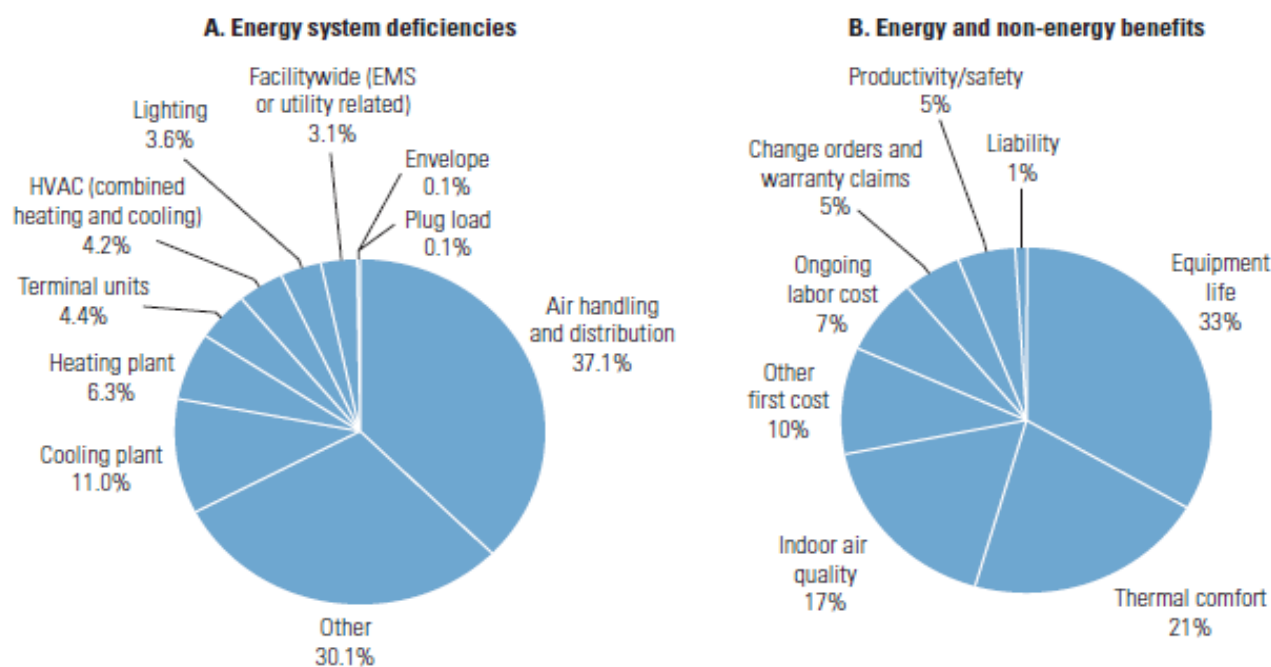
EXISTING CONDITIONS		
Existing Facility Total Electric usage	6,280,176	kWh
Existing Facility Total Gas usage	358,982	Therms
Existing Facility Cooling Electric usage	1,177,212	kWh ¹
Existing Facility Heating Natural Gas usage	155257.57	Therms ²
PROPOSED CONDITIONS		
Proposed Facility Cooling Electric Savings	117,721	kWh
Proposed Facility Natural Gas Savings	15525.757	Therms
SAVINGS		
Retro-Commissioning Electric Savings	117,721	kWh
Retro-Commissioning Natural Gas Savings	15,526	Therms
Total cost savings	\$ 31,006.96	

Assumptions

- 19% of facility total electricity dedicated to Cooling based on Building Utility Analysis
- 43% of facility total natural gas dedicated to Heating based on Building Utility Analysis
- 10% Typical Savings associated with Retro-Commissioning of controls based on EPA Energy Star Report (CH 5 - Retrocommissioning)

Figure 5.2: Retrocommissioning results

Building energy system deficiencies: A recent study of retrocommissioning revealed a wide variety of problems—those related to the overall HVAC system were the most common type (A). Energy and non-energy benefits: Retrocommissioning provided both energy and non-energy benefits—the most common of these, noted in one-third of the buildings surveyed, was the extension of equipment life (B).



Note: EMS = energy management system.

Courtesy: E SOURCE; data from Lawrence Berkeley National Laboratory, Portland Energy Conservation Inc., and Energy Systems Laboratory, Texas A&M University

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

ECM-1 Expand DDC Controls for Night Setback

The building has partial johnson Controls DDC which controls newer vintage equipment. Approximately 75% of the building is either pneumatic controlled or electric controls. None of the controls provide night set-back and generally operate the equipment in occupied mode 24/7. This ECM evaluates the savings for Rretro-commissioning the existing Johnson Metasys controls as well as extending the DDC system to all major HVAC equipment. Control improvements include Dday/ night set-back economizer cooling, OA damper modulation based on CO2 (DCV), optimum start/ stop. The enhanced system will also provide for trending and alarming.

Utility Costs

Electric Rate \$ 0.13 /kWh
Natural Gas Rate \$ 1.02 /therm

Building Design Parameters:

Outdoor Winter Design DB Temperature
Outdoor Summer Design DB Temperature
Outdoor Summer Design WB Temperature
Outdoor Summer Humidity Ratio

70 °F
95 °F
73 °F
0.0127 ##

Indoor Winter Design DB Temperature
Indoor Summer Design DB Temperature
Indoor Summer Design WB Temperature
Indoor Air (70°F) Humidity Ratio

72 °F
70 °F
60 °F
0.0079 ##

Desc.	Make	Estimated SA CFM	Estimated OA(CFM)**	Cooling Load (tons)*	Heating Load (MBH)	Area Served	Candidates for Night Setback
HW System	Boiler	150,000	130,000	1,026	5,021	Building	Yes
Totals		150,000	130,000	1,026	5,021		

Building Footprint	265,000	SF	Ex Occupied Cing Temp.	72	°F	Ex Occupied Htg Temp.	70	°F	Heating Energy Savings	19,598	therms
Heating Efficiency	75%		Ex Unoccupied Cing Temp.	72	°F	Ex Unoccupied Htg Temp.	70	°F	Cooling Energy Savings	96,986	kWh
Cooling Efficiency	1.2	kW/ton	Prop Occupied Cing Temp.	72	°F	Prop Occupied Htg Temp.	70	°F			
Building Balance Temp.	55	°F	Prop Unoccupied Cing Temp.	74	°F	Prop Unoccupied Htg Temp.	66	°F			
Internal Gains	2,458,950	btu/h	Occupied Cooling UA	-492,624	btu/hr/°F	Occupied Heating UA	52,302	btu/hr/°F			
Unocc Internal Gain factor	0.51		Unoccupied Cooling UA	-492,624	btu/hr/°F	Unoccupied Heating UA	52,302	btu/hr/°F			
Ave Occ Internal Gain Factor	1.8		Cooling Occ Enthalpy Setpoint	26.8	Btu/lb						
			Cooling Unocc Enthalpy Setpoint	29.4	Btu/lb						
			Cooling Unocc Enthalpy Setpoint	29.4	Btu/lb						

Internal Load Calculator

Lights	1.50	w/sf x	265,000	Occ Area =	397.5	kW x 3.4x	1.0	RAF =	1,356,668	Btu/h
Plug Load	1.00	w/sf x	265,000	Occ Area =	265.0	kW x 3.4x	1.0	RAF =	904,443	Btu/h
People	120	people x	255	btu/person x	100%	time in space =			30,600	Btu/h
Computer Work Stations				Units x	120	W/Unit x	3.413 =		163,824	Btu/h
Equipment									3,413	Btu/h
Misc.									1	Btu/h
Total Internal Load									2,458,950	Btu/h

					EXISTING LOADS								PROPOSED LOADS											
					Occupied			Unoccupied			Occupied			Unoccupied										
Avg Outdoor Air Temp. Bins °F	Avg Outdoor Air Enthalpy	Existing Equipment Bin Hours	Occupied Equipment Bin Hours	Unoccupied Equipment Bin Hours	Envelope Load BTUH	Ventilation Load BTUH	Internal Gain BTUH	Unoccupied Envelope Load BTUH	Ventilation Load BTUH	Internal Gain BTUH	Envelope Load BTUH	Ventilation Load BTUH	Internal Gain BTUH	Unoccupied Envelope Load BTUH	Ventilation Load BTUH	Internal Gain BTUH	Existing Cooling Energy kWh	Proposed Cooling Energy kWh	Existing Heating Energy therms	Proposed Heating Energy therms				
A		B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	K	L	M	N				
97.5	33	3	1	2	-12,561,912	-3,707,573	-4,426,109	-12,561,912	-2,186,573	-1,254,064	-12,561,912	-3,707,573	-4,426,109	-11,576,664	-2,186,573	-1,254,064	5,136	4,911		0	0			
92.5	38	33	8	25	-10,098,792	-6,537,565	-4,426,109	-10,098,792	-5,016,565	-1,254,064	-10,098,792	-6,537,565	-4,426,109	-9,113,544	-5,016,565	-1,254,064	57,706	55,229		0	0			
87.5	36	123	29	94	-7,635,672	-5,527,996	-4,426,109	-7,635,672	-4,006,996	-1,254,064	-7,635,672	-5,527,996	-4,426,109	-6,650,424	-4,006,996	-1,254,064	172,374	163,141		0	0			
82.5	34	477	114	363	-5,172,552	-4,113,859	-4,426,109	-5,172,552	-2,592,859	-1,254,064	-5,172,552	-4,113,859	-4,426,109	-4,187,304	-2,592,859	-1,254,064	483,529	447,722		0	0			
77.5	33	656	156	500	-2,709,432	-3,424,852	-4,426,109	-2,709,432	-1,903,852	-1,254,064	-2,709,432	-3,424,852	-4,426,109	-1,724,184	-1,903,852	-1,254,064	458,199	408,955		0	0			
72.5	31	742	177	565	-246,312	-2,449,216	-4,426,109	-246,312	-928,216	-1,254,064	-246,312	-2,449,216	-4,426,109	0	0	-1,254,064	0	0		0	0			
67.5	28	784	187	597	130,755	351,000	-4,426,109	130,755	351,000	-1,254,064	130,755	351,000	-4,426,109	0	0	-1,254,064	0	0		0	0			
62.5	25	983	234	749	392,266	1,053,000	-4,426,109	392,266	1,053,000	-1,254,064	392,266	1,053,000	-4,426,109	183,057	491,400	-1,254,064	0	0		0	0			
57.5	21	625	149	476	653,776	1,755,000	-4,426,109	653,776	1,755,000	-1,254,064	653,776	1,755,000	-4,426,109	444,568	1,193,400	-1,254,064	0	0		0	0			
52.5	18	540	129	411	915,286	2,457,000	-4,426,109	915,286	2,457,000	-1,254,064	915,286	2,457,000	-4,426,109	706,078	1,895,400	-1,254,064	0	0		0	0			
47.5	16	457	108	348	1,176,797	3,159,000	-4,426,109	1,176,797	3,159,000	-1,254,064	1,176,797	3,159,000	-4,426,109	967,589	2,597,400	-1,254,064	0	0		0	0			
42.5	14	671	160	511	1,438,307	3,861,000	-4,426,109	1,438,307	3,861,000	-1,254,064	1,438,307	3,861,000	-4,426,109	1,229,099	3,299,400	-1,254,064	0	0		22,076	18,135			
37.5	12	1,067	254	813	1,699,818	4,563,000	-4,426,109	1,699,818	4,563,000	-1,254,064	1,699,818	4,563,000	-4,426,109	1,490,609	4,001,400	-1,254,064	0	0		45,385	39,119			
32.5	10	685	163	522	1,961,328	5,265,000	-4,426,109	1,961,328	5,265,000	-1,254,064	1,961,328	5,265,000	-4,426,109	1,752,120	4,703,400	-1,254,064	0	0		35,737	31,714			
27.5	9	369	88	281	2,222,839	5,967,000	-4,426,109	2,222,839	5,967,000	-1,254,064	2,222,839	5,967,000	-4,426,109	2,013,630	5,405,400	-1,254,064	0	0		22,806	20,639			
22.5	7	321	76	245	2,484,349	6,669,000	-4,426,109	2,484,349	6,669,000	-1,254,064	2,484,349	6,669,000	-4,426,109	2,275,141	6,107,400	-1,254,064	0	0		22,932	21,047			
17.5	5	184	44	140	2,745,859	7,371,000	-4,426,109	2,745,859	7,371,000	-1,254,064	2,745,859	7,371,000	-4,426,109	2,536,651	6,809,400	-1,254,064	0	0		14,918	13,837			
12.5	4	40	10	30	3,007,370	8,073,000	-4,426,109	3,007,370	8,073,000	-1,254,064	3,007,370	8,073,000	-4,426,109	2,798,161	7,511,400	-1,254,064	0	0		3,628	3,394			
7.5	0	0	0	0	3,268,880	8,775,000	-4,426,109	3,268,880	8,775,000	-1,254,064	3,268,880	8,775,000	-4,426,109	3,059,672	8,213,400	-1,254,064	0	0		0	0			
2.5	0	0	0	0	3,530,391	9,477,000	-4,426,109	3,530,391	9,477,000	-1,254,064	3,530,391	9,477,000	-4,426,109	3,321,182	8,915,400	-1,254,064	0	0		0	0			
-2.5	0	0	0	0	3,791,901	10,179,000	-4,426,109	3,791,901	10,179,000	-1,254,064	3,791,901	10,179,000	-4,426,109	3,582,693	9,617,400	-1,254,064	0	0		0	0			
TOTALS		8,760	2,086	6,674													1,176,944	1,079,958	167,482	147,884				

NIGHT SETBACK SAVINGS SUMMARY				
	Electric Demand (kW)	Electric Usage (kWh)	Natural Gas Usage (Therms)	Maint. (\$)
Savings	0	96,986	19,598	\$0

	Total Cost (\$)
Savings	\$32,494

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

ECM-1: Re-Commission Building Controls System - Cost

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
									\$ -	
Controls and Sensors Retro-Commissioning	265000	SF	\$ 0.27	INC	INC	\$ 73,482	INC	INC	\$ 73,482	EPA Estimate
Additional Controls Points	500	Points	\$ 500	\$ 500		\$ 256,750	\$ 311,500	INC	\$ 568,250	\$1000/point
Programming	1	LS		\$ 25,000		\$ -	\$ 28,100	INC	\$ 28,100	

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

\$ 669,832	Subtotal
\$ 234,441	35% Contingency
\$ 904,273	Total

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

ECM-2: Install return air ducting on to the 1958 Tower air handling units and reduce outdoor air volume

Description:

The 1958 air handling units (AHU-1 to AHU-2) currently provide 100% outdoor air , 24/7. This ECM calculates the kWh and thermal savings associated with reducing the percentage of outdoor air to 30% by installing return air ducting to each unit. Savings will result from the avoided heating and cooling of excessive outside air.

	Total CFM	O.A. CFM	O.A. %	
Org. scheduled CFM	25,000	25,000	100%	From drawings
Derated CFM	25,000	7,500	30%	Based on 15 CFM/ per
SA Enthalpy	26.7	BTU/lbma		
SA Set point, Winter	68.0	°F		
SA Set point, Summer	72.0	°F		
Heating "On" Point	55.0	°F		
Cooling System Eff.	1.20	kW/Ton		(Includes ancillary equi
Heating System Eff.	75%			(Includes distribution lo

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
			Existing					Proposed reduced Ventilation					Savings	
Avg. DB Bin Temp °F	OA Enthalpy Btu/lb	Occupied Bin HOURS	OA CFM	Cooling Load MBH	Heating Load MBH	Cooling kWh	Heating therms	Derated O.A. CFM	Cooling Load MBH	Heating Load MBH	Cooling kWh	Heating therms	Cooling kWh	Heating therms
97.5	33.1	3	25,000	724	0	217	-	7,500	217	0	65	-	152	-
92.5	38.0	33	25,000	1,268	0	4,186	-	7,500	381	0	1,256	-	2930	-
87.5	36.2	123	25,000	1,074	0	13,214	-	7,500	322	0	3,964	-	9250	-
82.5	33.8	477	25,000	802	0	38,273	-	7,500	241	0	11,482	-	26791	-
77.5	32.7	656	25,000	670	0	43,944	-	7,500	201	0	13,183	-	30761	-
72.5	31.0	742	25,000	482	0	35,783	-	7,500	145	0	10,735	-	25048	-
67.5	28.1	784	25,000	162	0	12,736	-	7,500	49	0	3,821	-	8915	-
62.5	24.6	983	25,000	0	0	0	-	7,500	0	0	0	-	0	-
57.5	21.2	625	25,000	0	0	0	-	7,500	0	0	0	-	0	-
52.5	18.3	540	25,000	0	419	0	3,013	7,500	0	126	0	904	0	2,109
47.5	16.0	457	25,000	0	554	0	3,373	7,500	0	166	0	1,012	0	2,361
42.5	14.4	671	25,000	0	689	0	6,160	7,500	0	207	0	1,848	0	4,312
37.5	12.5	1,067	25,000	0	824	0	11,716	7,500	0	247	0	3,515	0	8,201
32.5	10.5	685	25,000	0	959	0	8,754	7,500	0	288	0	2,626	0	6,128
27.5	8.5	369	25,000	0	1094	0	5,380	7,500	0	328	0	1,614	0	3,766
22.5	7.0	321	25,000	0	1229	0	5,258	7,500	0	369	0	1,577	0	3,681
17.5	5.3	184	25,000	0	1364	0	3,345	7,500	0	409	0	1,004	0	2,342
12.5	3.8	40	25,000	0	1499	0	799	7,500	0	450	0	240	0	559
7.5	0	0	25,000	0	1634	0	-	7,500	0	490	0	-	0	-
2.5	0	0	25,000	0	1769	0	-	7,500	0	531	0	-	0	-
-2.5	0	0	25,000	0	1904	0	-	7,500	0	571	0	-	0	-
-7.5	0	0	25,000	0	2039	0	-	7,500	0	612	0	-	0	-
Total		8,760		5,184		148,354	47,798		1,555		44,506	14,339	103,847	33,459

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

ECM-2 Install return air ductwork and reduce outdoor air volume to 1958 Tower

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
Ductwork	4	EA	\$ 5,000	\$ 5,000	\$ -	\$ 20,540	\$ 24,920	\$ -	\$ 45,460	RS Means 2012
Controls Programming	4	EA	\$ 1,000	\$ 500	\$ -	\$ 4,108	\$ 2,492	\$ -	\$ 6,600	RS Means 2012
Electric	4	EA	\$ 500	\$ 500		\$ 2,054	\$ 2,492	\$ -	\$ 4,546	Estimated
General cosntruction	4	EA	\$ 1,000	\$ 1,000		\$ 4,108	\$ 4,984	\$ -	\$ 9,092	Estimated
						\$ -	\$ -	\$ -	\$ -	
						\$ -	\$ -	\$ -	\$ -	

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

\$ 65,698	Subtotal
\$ 22,994	35% Contingency
\$ 88,692	Total

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

ECM-3 Convert DX systems to chilled water

Several air handling units on the 1978 roof and the 1958 roof utilize direct expansion cooling coils with remote condensing units. Replacing these with units that have chilled water coils which would be connected to the main chilled water systems would be more efficient than the current DX arrangement. The air cooled chiller units on the roof have the capacity to add cooling load to serve new chilled water coils.

ASSUMPTIONS			Comments
Electric Cost	\$0.129	/ kWh	
Average run hours per Week	168	Hours	24/7 Operation
Space Balance Point	55	F	
Space Temperature Setpoint	65	deg F	setpoint
BTU / Hr Rating of existing AC units	1,229,700	Btu / Hr	Total BTU/H of DX units
Average EER	9.0		Estimated

Item	Value	Units	Comments
Existing Annual Electric Usage	161,155	kWh	
Proposed EER	12.0		Connected to Chiller
Proposed Annual Electric Usage	120,867	kWh	Unit will cycle on w/ temp of room. Possible ope

ANNUAL SAVINGS		
Annual Savings	40,289	kWh
Annual Cost Savings	\$5,187	

OAT - DB Bin Temp F	Annual Hours	Cooling Hrs at Temp Above balance point	Assumed % of time of operation	Assumed hrs of Operation
102.5	0	0	100%	0
97.5	3	3	89%	3
92.5	33	33	79%	26
87.5	123	123	68%	84
82.5	477	477	58%	276
77.5	656	656	47%	311
72.5	742	742	37%	273
67.5	784	784	26%	206
62.5	983	0	0%	0
57.5	625	0	0%	0
52.5	540	0	0%	0
47.5	457	0	0%	0
42.5	671	0	0%	0
37.5	1067	0	0%	0
32.5	685	0	0%	0
27.5	369	0	0%	0
22.5	321	0	0%	0
17.5	184	0	0%	0
12.5	40	0	0%	0
7.5	0	0	0%	0
2.5	0	0	0%	0
-2.5	0	0	0%	0
-7.5	0	0	0%	0
Total	8,760	2,818	42%	1179

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

ECM-3 Convert DX systems to chilled water - Cost

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
24"x36" CHW Coil	8	EA	\$ 1,850	\$ 200	\$ -	\$ 15,200	\$ 1,994	\$ -	\$ 17,193	RS Means 2012
Piping & Misc.	8	EA	\$ 3,500	\$ 3,000		\$ 28,756	\$ 29,904	\$ -	\$ 58,660	Estimated
						\$ -	\$ -	\$ -	\$ -	
						\$ -	\$ -	\$ -	\$ -	
						\$ -	\$ -	\$ -	\$ -	

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

\$ 75,853	Subtotal
\$ 26,549	35% Contingency
\$ 102,402	Total

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

ECM-4 Install premium efficiency motors and add variable frequency drives

Variable Inputs

Supply Electric Rate	\$0.115
Demand Rate	\$7.250
Heating System "On" Point	55
VFD Efficiency	98.5%

Electric Savings	22,156
Demand Savings	0.2
Cost Savings	\$ 2,554

This measure looks at installing variable frequency drive on the HHW pump motors. The calculation is based on the HHW rule of thumb. A hydraulic calculation should be carried out to size the pump and motor properly if this measure is approved by the Inspira Health Network.

PUMP SCHEDULE							
Pump ID	Qty	HP	Total HP	Existing Motor Motor Eff.	New Motor Motor Eff.	Exist. Motor kW Note 1	New Motor kW Note 2
DT-1	1	5.0	5.0	87.5%	89.5%	3.41	3.33
HHWP-1	1	7.5	7.5	89.5%	91.7%	5.00	4.88
					Total:	8.41	8.22

SAVINGS ANALYSIS								
OAT - DB Avg Temp F	Annual Hours in Bin	Heating Hours Bin	Pump Load %	Existing Pump kWh	Proposed Pump kW	Speed efficiency %	Proposed Pump kWh	Proposed Savings kWh
(A)	(B)	(C) =IF(A>TP,0,C)	(D) =0.5+0.5*(55-A)/(55-12) See Note 4	(E) =D*AA	(F) =BB*E^3.0/CC See Note 5	(G)	(H) =C*F/G	(I) =E-H
See Note 3	See Note 3							
102.5	0	0	0%	0	0.0	0.0%	0	0
97.5	3	0	0%	0	0.0	0.0%	0	0
92.5	33	0	0%	0	0.0	0.0%	0	0
87.5	123	0	0%	0	0.0	0.0%	0	0
82.5	477	0	0%	0	0.0	0.0%	0	0
77.5	656	0	0%	0	0.0	0.0%	0	0
72.5	742	0	0%	0	0.0	0.0%	0	0
67.5	784	0	0%	0	0.0	0.0%	0	0
62.5	983	0	0%	0	0.0	0.0%	0	0
57.5	625	0	0%	0	0.0	0.0%	0	0
52.5	540	540	53%	4,542	1.2	84.3%	793	3,749
47.5	457	457	59%	3,844	1.7	89.2%	870	2,974
42.5	671	671	65%	5,644	2.3	93.2%	1,626	4,018
37.5	1,067	1,067	71%	8,975	2.9	96.4%	3,247	5,728
32.5	685	685	76%	5,762	3.7	98.7%	2,589	3,173
27.5	369	369	82%	3,104	4.7	100.0%	1,719	1,385
22.5	321	321	88%	2,700	5.7	100.0%	1,839	861
17.5	184	184	94%	1,548	7.0	100.0%	1,279	268
12.5	40	40	100%	336	8.3	99.0%	337	0
7.5	0	0	0%	0	0.0	0.0%	0	0
2.5	0	0	0%	0	0.0	0.0%	0	0
-2.5	0	0	0%	0	0.0	0.0%	0	0
-7.5	0	0	0%	0	0.0	0.0%	0	0
	8,760	4,334		36,455			14,299	22,156

Notes:

- 1) Existing motor power was determined using motor nameplate data. Formula: Motor HP x 0.746 x 0.8 / Exist. Motor Eff.
- 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 Philadelphia PA
- 4) The pump load is estimated at 100% at 12 deg. OAT and 50% at 55 deg. OAT and varies linearly in between.
- 5) The required VFD motor draw is based on a 3 power relationship to load.

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

ECM-4 Install premium efficiency motors and add variable frequency drives

Variable Inputs

Supply Electric Rate	\$0.115
Demand Rate	\$7.250
Cooling System "On" Point	55
VFD Efficiency	98.5%

Electric Savings	7,069
Demand Savings	0.0
Cost Savings	\$ 810

This measure looks at installing variable frequency drive on the HHW pump motors. The calculation is based on the HHW rule of thumb. A hydraulic calculation should be carried out to size the pump and motor properly if this measure is approved by the Inspira Health Network.

PUMP SCHEDULE							
Pump ID	Qty	HP	Total HP	Existing Motor Motor Eff.	New Motor Motor Eff.	Exist. Motor kW Note 1	New Motor kW Note 2
DT-2	1	5.0	5.0	89.5%	89.5%	3.33	3.33
CHWP-1,2	1	30.0	30.0	91.0%	91.0%	19.67	19.67
					Total:	23.01	23.01

SAVINGS ANALYSIS								
OAT - DB Avg Temp F	Annual Hours in Bin	Cooling Hours Bin	Pump Load %	Existing Pump kWh	Proposed Pump kW	Speed efficiency %	Proposed Pump kWh	Proposed Savings kWh
(A)	(B)	(C) =IF(A>TP,0,C)	(D) =0.5+0.5*(55-A)/(55-12) See Note 4	(E) =D*AA	(F) =BB*E^3.0/CC See Note 5	(G)	(H) =C*F/G	(I) =E-H
See Note 3	See Note 3							
102.5	0	0	0%	0	0.0	0.0%	0	0
97.5	3	3	30%	10	0.6	56.7%	3	7
92.5	33	33	30%	110	0.6	56.7%	37	73
87.5	123	123	30%	410	0.6	56.7%	137	273
82.5	477	477	30%	1,590	0.6	56.7%	531	1,060
77.5	656	656	30%	2,187	0.6	56.7%	730	1,457
72.5	742	742	30%	2,474	0.6	56.7%	825	1,648
67.5	784	784	35%	2,614	1.0	64.2%	1,253	1,361
62.5	983	983	41%	3,277	1.6	71.8%	2,233	1,045
57.5	625	625	47%	2,084	2.4	78.5%	1,939	145
52.5	540	0	0%	0	0.0	0.0%	0	0
47.5	457	0	0%	0	0.0	0.0%	0	0
42.5	671	0	0%	0	0.0	0.0%	0	0
37.5	1,067	0	0%	0	0.0	0.0%	0	0
32.5	685	0	0%	0	0.0	0.0%	0	0
27.5	369	0	0%	0	0.0	0.0%	0	0
22.5	321	0	0%	0	0.0	0.0%	0	0
17.5	184	0	0%	0	0.0	0.0%	0	0
12.5	40	0	0%	0	0.0	0.0%	0	0
7.5	0	0	0%	0	0.0	0.0%	0	0
2.5	0	0	0%	0	0.0	0.0%	0	0
-2.5	0	0	0%	0	0.0	0.0%	0	0
-7.5	0	0	0%	0	0.0	0.0%	0	0
	8,760	4,426		14,757			7,687	7,069

- Notes:
- 1) Existing motor power was determined using motor nameplate data. Formula: Motor HP x 0.746 x 0.8 / Exist. Motor Eff.
 - 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 Philadelphia PA
 - 4) The pump load is estimated at 100% at 12 deg. OAT and 50% at 55 deg. OAT and varies linearly in between.
 - 5) The required VFD motor draw is based on a 3 power relationship to load.

Inspira Health Network
CHA Project Numer:: 30212
Bridgeton Health Center

ECM-4: Upgrade to Premium Efficiency Motors and Install Variable Speed Drives - Air Handling Units

Description: This ECM evaluates the energy (electrical) savings associated with replacing existing motors with high efficiency motors (based on ASHRAE 2010 NEMA ratings) and adding variable frequency drives to control motor speed based on actual load verses constant volume / constant flow.

Variable Inputs

Electric Rate \$0.13 \$/kWh
Demand Rate \$7.25 \$/kW

MOTOR SCHEDULE										Savings Factor		Existing Motor Energy		Proposed Motor Energy		Energy Savings	
Motor ID	Motor Type	Qty	HP	Total HP	Upgrade Motor	Load Factor	Existing Motor Eff.	New Motor Eff.	Annual Hours	Demand Savings Factor	Energy Savings Factor	Demand Savings (kW)	Energy Savings (kWh)	Demand Savings (kW)	Energy Savings (kWh)	Peak Demand Savings (kW)	Annual Energy Savings (kWh)
AC-1	AF/BI	1	5.0	5.0	Y	0.75	87.5%	89.5%	4,426	0.448	0.475	-	-	1.9	8,761	1.9	8,761
AHU-2	AF/BI	1	5.0	5.0	Y	0.75	87.5%	89.5%	4,426	0.448	0.475	-	-	1.9	8,761	1.9	8,761
Total:																3.7	17,521.1
																\$ 325	\$ 2,256
																\$	2,581

Savings calculation formulas are taken from NJ Protocols document for VFDs

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.00

- Cost

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
						\$ -	\$ -	\$ -	\$ -	
						\$ -	\$ -	\$ -	\$ -	
VFD (30 HP)	1	ea	\$ 4,909	\$ 1,024		\$ 5,041	\$ 1,276	\$ -	\$ 6,317	
Motor (30 HP)	1	ea	\$ 1,496	\$ 147		\$ 1,537	\$ 183	\$ -	\$ 1,720	
VFD (7.5 HP)	1	ea	\$ 2,021	\$ 509		\$ 2,076	\$ 635	\$ -	\$ 2,710	
Motor (7.5 HP)	1	ea	\$ 536	\$ 84		\$ 550	\$ 105	\$ -	\$ 655	
VFD (5 HP)	4	ea	\$ 1,706	\$ 431		\$ 7,009	\$ 2,146	\$ -	\$ 9,155	RS Means 2012
Motor (5 HP)	4	ea	\$ 373	\$ 79		\$ 1,531	\$ 392	\$ -	\$ 1,924	
Electrical - misc.	1	ls	\$ 1,000	\$ 2,000		\$ 1,027	\$ 2,492	\$ -	\$ 3,519	RS Means 2012
2-Way Valves	20	ea	\$ 200	\$ 100		\$ 4,108	\$ 2,492	\$ -	\$ 6,600	Estimated
Control/Programming	1	ea	\$ 3,000	\$ 2,000		\$ 3,081	\$ 2,492	\$ -	\$ 5,573	RS Means 2012
						\$ -	\$ -	\$ -	\$ -	
						\$ -	\$ -	\$ -	\$ -	

\$ 38,172	Subtotal
\$ 13,360	35% Contingency
\$ 51,533	Total

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

ECM-5 Install Kitchen Hood Control System

Description: This ECM evaluates the thermal and electrical energy savings associated with the implementation of a variable flow controlled exhaust hood (Fan) and make-up air unit. The Hood controller uses infrared heat sensors to detect the level of smoke produced by the cooking operations and automatically adjsutes the exhasut fan and make-up air fan to provide the proper amount of air flow needed to remove the particulate from the hood. The system uses a default minimum air flow value to ensure that smoke particulate is removed at all times during cooking operations.

Item	Value	Units	Formula/Comments	
Fuel Cost	\$ 1.02	/ Therm		
Electricity Cost	\$ 0.13	/kWh		
FORMULA CONSTANTS				
Conversion	0.746	HP/kW		
Constant	24	hrs/day		
Constant	1.08	(btu/hr)/CFM-F		
Conversion	3,412	btu/kWh		
ELECTRIC FAN SAVINGS				
Facility Type	Other			
Quantity of Kitchen Hood Fan Motors	1			Q
Kitchen Hood Fan Motor HP	20.0	HP	From Submittals (20 HP Fan)	HP
Motor Load Factor	0.90		NJ Protocols	LF
Efficiency of Fan Motor(s)	86.5%			FEFF
Kitchen Hood Fan Run Hours	5,250			RH
Fan Motor Power Reduction (From VFD)	0.584			PR
Fan Electricity Savings	47,589	kWh		
HEATING SAVINGS				
Kitchen is Heated?	Y			
Square Footage of Kitchen	2,500	ft²	Estimated	SF
Code Required Ventilation Rate	0.70	CFM/ft²	NJ Protocols	CFM/SF
Ventilation Oversize Factor	1.40		NJ Protocols	OF
Flow Reductuion (from VFD/Control)	0.310			FR
Heating Degree Day	4,824		NJ Protocols Table - Philadelphia, PA - Health Care	HDD
Heating System Efficiency	75%		AFUE (%)	HEFF
Heating Savings	1,266	MMbtu		
Heating Savings	12,662.19	Therms		
COOLING SAVINGS				
Kitchen is Cooled?	Y			
Cooling Degree Day	893		NJ Protocols Table	CDD
Cooling System Efficiency	3.00		COP	CEFF
Cooling Savings	1,717	kWh		
TOTAL SAVINGS				
Electricity Savings	49,307	kWh		
Fuel Savings	12,662	Therms		
Cost Savings	\$ 19,275			

Savings calculation formulas are taken from NJ Protocols document for Kitchen Hood

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

ECM-5 Install Kitchen Hood Control System - Cost

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
MeLink Kitchen Hood Control System	1	ea	\$ 15,000	\$ 5,000		\$ 15,405	\$ 6,230	\$ -	\$ 21,635	Vendor Est
2.0 HP Motor	1	ea	\$ 295	\$ 79		\$ 303	\$ 98	\$ -	\$ 401	RS Means 2012
Electrical - misc.	1	ls	\$ 1,000	\$ 6,000		\$ 1,027	\$ 7,476	\$ -	\$ 8,503	RS Means 2012
						\$ -	\$ -	\$ -	\$ -	
						\$ -	\$ -	\$ -	\$ -	

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

\$ 30,539	Subtotal
\$ 10,689	35% Contingency
\$ 41,228	Total

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

ECM-6 Install a walk-in cooler/freezer control system

ECM Description :

For kitchens that contain walk-in coolers and freezers, CoolTrol is a controller that reduces energy consumption by controlling off of dewpoint temperature. Compressor cycling is reduced and the evaporator fans run 25% to 80% less. Door and frame heaters are also installed and controlled by store dew point temperature; this can reduce run time by up to 95% in coolers and 60% in freezers. The evaporator fan motors are also replaced with hi-efficiency fan motors saving 40% to 70% in energy. The proposed system comprises of an anti-sweat door controller, evaporator fan motor replacement and CoolTrol Cooler Control System.

Utility Cost

\$0.13 \$/kWh Blended

EXISTING CONDITIONS		
Walk-In Freezer(s)		
Existing Freezer Controls?	N	
Quantity of Walk-In Freezers	1	
Nameplate Amps of Freezer Evaporator Fan	1.8	AmpsEF
Nameplate Volts of Freezer Evaporator Fan	208	VoltsEF
Phase of Evaporator Fan	1	PhaseEF
Power Factor of Evaporator Fan	0.55	PFEF
Operating Hours	8,760	hrs
Load Reduction	65%	LR
Electricity Savings (Evaporator Fan)	1,173	kWhEF
Electricity Savings (Evaporator Fan Reduced Heat)	525	kWhRH
Total Walk-In Freezer(s) Electricity Savings	1,698	kWh
Walk-In Cooler(s)		
Existing Cooler Controls?	N	
Quantity of Walk-In Coolers	3	
Nameplate Amps of Cooler Evaporator Fan	3.4	
Nameplate Volts of Cooler Evaporator Fan	232	
Phase of Evaporator Fan	1	
Power Factor of Evaporator Fan	0.55	
Operating Hours	8,760	hrs
Load Reduction	65%	
Electricity Savings (Evaporator Fan)	7,411	kWh
Electricity Savings (Evaporator Fan Reduced Heat)	3,320	kWh
Total Walk-In Cooler(s) Electricity Savings	10,731	kWh
SAVINGS		
Total Electricity Savings	12,429	kWh
Total Cost Savings	\$ 1,600	
Estimated Cost	\$ 22,275	
Simple Payback	13.9	years

Savings calculation formulas are taken from NJ Protocols document for Walk-in Controller

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

ECM-6 Install a walk-in cooler/freezer control system - Cost

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
									\$ -	
Turnkey Walk-In Controller & Equipment	1	EA	\$ 10,000	\$ 5,000	\$ -	\$ 10,270	\$ 6,230	\$ -	\$ 16,500	Vendor Estimate
						\$ -	\$ -	\$ -	\$ -	

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

\$ 16,500	Subtotal
\$ 5,775	35% Contingency
\$ 22,275	Total

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

ECM-7 Install an ozone laundry disinfection system

ECM Description :
An Ozone laundry system uses chemicals to form the compound and sanitize laundry with cold water. Not using hot water results in a significant natural gas savings and hot water load reduction for the entire building. Machine cycle times are also lower with ozone systems, which results in an electrical energy savings from reduced machine runtime. Reduced hot water usage also reduces textile fiber breakdown and extends the life of purchased linens. This is a vendor calculation.

Volume Estimation	EXISTING	PROPOSED	
General Linen	66,385	66,385	lbs/week
Cost Per Month	\$ 19,200	\$ 15,014	\$/month
Labor	8.2	8.2	hours/day
Man hours per week	980.0	974.1	hours/week

Operating Cost Estimation			
Overall Laundry Operation	\$ 633.03	\$ 494.99	per day
	\$ 4,431	\$ 3,465	per week
	\$ 19,200	\$ 15,014	per month
Cost per pound laundry	0.067	0.052	\$/lb

Energy Required - Based on selected equipment			
Electrical	133.8	132.4	kWh/day
Natural gas	306.1	170.9	Therms/day
Water	43330	43330	Gallons/day
Steam	8591.8	2347	Lbs/day

Annual Usage			Savings	Cost
Days Per week	7	7		
Weeks Per Year	52	52		
Electric (kWh)	48,703	48,194	510	\$ 66
Natural Gas (therms)	111,420	62,208	49213	\$ 50,243
System Cost Estimation		\$ 86,827		

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

ECM-7 Install an ozone laundry disinfection system - Cost

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
Articlean Ozone Generation System	1		\$ 42,000	\$ 17,000	\$ -	\$ 43,134	\$ 21,182	\$ -	\$ 64,316	From Vendor

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

\$ 64,316	Subtotal
\$ 22,511	35% Contingency
\$ 86,827	Total

Inspira Health Network
CHA Project Numer: 30212
Bridgeton Health Center

New Jersey Pay For Performance Incentive Program

Note: The following calculation is based on the New Jersey Pay For Performance Incentive Program per April, 2012.
Building must have a minimum average electric demand of 100 kW. This minimum is waived for buildings owned by local governments or non-profit organizations.

At a minimum, all recommended measures were used for this calculation. To qualify for P4P incentives, the following P4P requirements must be met:

- At least 15% source energy savings
- No more than 50% savings from lighting measures
- Scope includes more than one measure
- Project has at least a 10% internal rate of return
- At least 50% of the source energy savings must come from investor-owned electricity and/or natural gas (note: exemption for fuel conversions)

Total Building Area (Square Feet)	265,000
Is this audit funded by NJ BPU (Y/N)	Yes

Incentive #1		
Audit is funded by NJ BPU	\$0.05	\$/sqft

Board of Public Utilites (BPU)	Annual Utilities	
	kWh	Therms
Existing Cost (from utility)	\$808,552	\$366,496
Existing Usage (from utility)	6,280,176	358,982
Proposed Savings	811,365	130,457
Existing Total MMBtus	57,332	
Proposed Savings MMBtus	15,815	
% Energy Reduction	27.6%	
Proposed Annual Savings	\$237,587	

	Min (Savings = 15%)		Increase (Savings > 15%)		Max Incentive		Achieved Incentive	
	\$/kWh	\$/therm	\$/kWh	\$/therm	\$/kWh	\$/therm	\$/kWh	\$/therm
Incentive #2	\$0.09	\$0.90	\$0.005	\$0.05	\$0.11	\$1.25	\$0.11	\$1.25
Incentive #3	\$0.09	\$0.90	\$0.005	\$0.05	\$0.11	\$1.25	\$0.11	\$1.25

	Incentives \$		
	Elec	Gas	Total
Incentive #1	\$0	\$0	\$13,250
Incentive #2	\$89,250	\$163,071	\$252,321
Incentive #3	\$89,250	\$163,071	\$252,321
Total All Incentives	\$178,500	\$326,142	\$517,893

Total Project Cost	\$1,732,217
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	Allowable Incentive	
% Incentives #1 of Utility Cost*	1.1%	\$13,250
% Incentives #2 of Project Cost**	14.6%	\$252,321
% Incentives #3 of Project Cost**	14.6%	\$252,321
Total Eligible Incentives***	\$517,893	
Project Cost w/ Incentives	\$1,214,324	

Project Payback (years)	
w/o Incentives	w/ Incentives
7.3	5.1

* Maximum allowable incentive is 50% of annual utility cost if not funded by NJ BPU, and %25 if it is.
** Maximum allowable amount of Incentive #2 is 25% of total project cost.
Maximum allowable amount of Incentive #3 is 25% of total project cost.
*** Maximum allowable amount of Incentive #1 is \$50,000 if not funded by NJ BPU, and \$25,000 if it is.
Maximum allowable amount of Incentive #2 & #3 is \$1 million per gas account and \$1 million per electric account; maximum 2 million per project

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS						
Field Code	Area Description Unique description of the location - Room number/Room name- Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code "Lighting Fixture Code" Example 40 R F U = 2x2' Troff 40 w Recess. Floor 2 lamps U shape	Fixture Code 2T Code from Table of Standard Fixture Wattages	Watts per Fixture from Table of Standard Fixture Wattages	WWSpace (Watts/Fsq) (Ft No.)	Exist Control Pre-inst. control device	Annual Hours for the usage group	Annual kWh (Annual Hours)	No. of fixtures after the retrofit	Standard Fixture Code* Example Lighting Fixture Code* Example 2T 40 R F U = 2x2' Troff 40 w Recess. Floor 2 lamps U shape	Fixture Code from Table of Standard Fixture Wattages	Watts per Fixture from Table of Standard Fixture Wattages	WWSpace (Watts/Fsq) (Number of Fixtures)	Retrofit Control device	Estimated Annual hours for the usage group	Annual kWh (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual \$ Saved (Annual \$ Saved) * (\$/kWh)	Retrofit Cost Cost for renovations to lighting system	Prescriptive Lighting Measures	Length of time for renovations cost to be recovered	Simple Payback With Out Incentive Length of time for renovations cost to be recovered		
143LED	Exterior	3	HPS 100 POLE	HPS1000	138	0.4	PHC	4380	1,813	3	ALED02	60	0.2	PHC	4,380	780	1,028 0.2	\$	137.73	\$	2,318.60	\$525	18.8	13.0		
271LED	Exterior	3	10' x 18" Wt Wall Pack	HPS1000	99	0.5	PHC	4380	2,061	3	ALED01	36	0.1	PHC	4,380	284	1,884 0.1	\$	158.41	\$	2,118.19	\$500	33.3	20.7		
261	Exterior	11	PAR 38 SP	H1001	100	1.1	PHC	4,380	4,818	11	PAR 38 SP	100	0.0	PHC	4,380	4,818	0	\$	-	\$	-	-	-	-		
401LED	Loading Dock	8	1 T 1 R F 2 (ELE)	F40LL	60	0.2	PHC	4,380	1,054	4	1 T 8 R LED	28	0.0	PHC	4,380	890	288 0.1	\$	51.80	\$	465.00	\$0	18.2	18.2		
402LED	Mental Health	8	1 T 1 R F 2 (ELE)	F40LL	60	0.2	PHC	4,380	1,054	4	1 T 8 R LED	28	0.0	PHC	4,380	890	288 0.1	\$	51.80	\$	465.00	\$0	18.2	18.2		
117	Mechanical Equipment Room 1958 Wing	6	CF 28	CF28F1	23	0.1	SW	8736	1,206	6	CF 28	23	0.0	SW	8,736	1,206	0	\$	-	\$	-	-	-	-		
202	1st Floor Elevator	4	2T 17 R F 4 (ELE)	F24LL	61	0.2	SW	2,000	488	4	2T 17 R F 4 (ELE)	F24LL	61	0.2	SW	2,000	488	0	\$	-	\$	-	-	-	-	
60	Patient Room 310	1	CF 13 L LAMP	CFQ13L1	15	0.0	Dimmer	5824	87	1	CF 13 L LAMP	CFQ13L1	15	0.0	Dimmer	5,824	87	0.0	\$	-	\$	-	-	-	-	
202	Patient Room 310	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	Dimmer	5824	232	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	Dimmer	5,824	232	0.0	\$	-	\$	-	-	-	-	
135	Patient Room 310	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5,824	87	0.0	\$	-	\$	-	-	-	-	
135	Patient Room 301	1	CF 13 L LAMP	CFQ13L1	15	0.0	Dimmer	2,000	30	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	2,000	30	0.0	\$	-	\$	-	-	-	-	
202	Patient Room 301	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5,824	711	0.0	\$	-	\$	-	-	-	-	
135	Patient Room 301	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5,824	87	0.0	\$	-	\$	-	-	-	-	
135	Patient Bathroom 301	1	SP 13 R C F 1	CFQ13L1	15	0.0	C-COCC	2,000	30	1	SP 13 R C F 1	CFQ13L1	15	0.0	C-COCC	2,000	30	0.0	\$	-	\$	-	-	-	-	
202	Patient Room 302	1	CF 13 L LAMP	CFQ13L1	15	0.0	C-COCC	5824	87	1	CF 13 L LAMP	CFQ13L1	15	0.0	C-COCC	5,824	87	0.0	\$	-	\$	-	-	-	-	
202	Patient Room 302	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5,824	711	0.0	\$	-	\$	-	-	-	-	
135	Patient Room 302	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5,824	87	0.0	\$	-	\$	-	-	-	-	
135	Patient Bathroom 302	1	SP 13 R C F 1	CFQ13L1	15	0.0	C-COCC	2,000	30	1	SP 13 R C F 1	CFQ13L1	15	0.0	C-COCC	2,000	30	0.0	\$	-	\$	-	-	-	-	
60	Patient Room 303	1	CF 13 L LAMP	CFQ13L1	15	0.0	C-COCC	5824	87	1	CF 13 L LAMP	CFQ13L1	15	0.0	C-COCC	5,824	87	0.0	\$	-	\$	-	-	-	-	
202	Patient Room 303	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5,824	711	0.0	\$	-	\$	-	-	-	-	
135	Patient Room 303	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5,824	87	0.0	\$	-	\$	-	-	-	-	
135	Patient Bathroom 303	1	SP 13 R C F 1	CFQ13L1	15	0.0	C-COCC	2,000	30	1	SP 13 R C F 1	CFQ13L1	15	0.0	C-COCC	2,000	30	0.0	\$	-	\$	-	-	-	-	
202	Patient Room 304	1	CF 13 L LAMP	CFQ13L1	15	0.0	C-COCC	5824	87	1	CF 13 L LAMP	CFQ13L1	15	0.0	C-COCC	5,824	87	0.0	\$	-	\$	-	-	-	-	
202	Patient Room 304	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5,824	711	0.0	\$	-	\$	-	-	-	-	
135	Patient Bathroom 304	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5,824	87	0.0	\$	-	\$	-	-	-	-	
135	Patient Room 305	1	CF 13 L LAMP	CFQ13L1	15	0.0	C-COCC	2,000	30	1	SP 13 R C F 1	CFQ13L1	15	0.0	C-COCC	2,000	30	0.0	\$	-	\$	-	-	-	-	
202	Patient Room 305	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5,824	711	0.0	\$	-	\$	-	-	-	-	
135	Patient Bathroom 305	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5,824	87	0.0	\$	-	\$	-	-	-	-	
135	Patient Room 306	1	CF 13 L LAMP	CFQ13L1	15	0.0	C-COCC	5824	87	1	CF 13 L LAMP	CFQ13L1	15	0.0	C-COCC	5,824	87	0.0	\$	-	\$	-	-	-	-	
202	Patient Room 306	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5,824	711	0.0	\$	-	\$	-	-	-	-	
135	Patient Bathroom 306	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5,824	87	0.0	\$	-	\$	-	-	-	-	
135	Patient Room 307	1	CF 13 L LAMP	CFQ13L1	15	0.0	C-COCC	2,000	30	1	SP 13 R C F 1	CFQ13L1	15	0.0	C-COCC	2,000	30	0.0	\$	-	\$	-	-	-	-	
202	Patient Room 307	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5,824	711	0.0	\$	-	\$	-	-	-	-	
135	Patient Bathroom 307	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5,824	87	0.0	\$	-	\$	-	-	-	-	
135	Patient Bathroom 307	1	SP 13 R C F 1	CFQ13L1	15	0.0	C-COCC	2,000	30	1	SP 13 R C F 1	CFQ13L1	15	0.0	C-COCC	2,000	30	0.0	\$	-	\$	-	-	-	-	
202	Patient Room 308	1	CF 13 L LAMP	CFQ13L1	15	0.0	C-COCC	5824	87	1	CF 13 L LAMP	CFQ13L1	15	0.0	C-COCC	5,824	87	0.0	\$	-	\$	-	-	-	-	
202	Patient Room 308	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5,824	711	0.0	\$	-	\$	-	-	-	-	
135	Patient Room 308	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13L1	15	0.0	Dimmer	5,824	87	0.0	\$	-	\$	-	-	-	-	
135	Patient Bathroom 308	1	SP 13 R C F 1	CFQ13L1	15	0.0	C-COCC	2,000	30	1	SP 13 R C F 1	CFQ13L1	15	0.0	C-COCC	2,000	30	0.0	\$	-	\$	-	-	-	-	
202	Patient Room 309	1	CF 13 L LAMP	CFQ13L1	15	0.0	C-COCC	5824	87	1	CF 13 L LAMP	CFQ13L1	15	0.0	C-COCC	5,824	87	0.0	\$	-	\$	-	-	-	-	
202	Patient Room 309	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24LL	61	0.1	2 SW	5,824	711	0.0	\$	-	\$	-	-	-	-	
135	Patient Room 309	1	SP 13 R C F 1	CFQ13L1	15	0.0																				

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS						
Field Code	Area Description Unique description of the location - Room number/Room name- Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code "Lighting Fixture Code" Example 40 R F U = 2x2' Troit 40 w Recess. Floor 2 lamps U shape	Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Exist Control Pre-inst. control device	Estimated daily hours for the usage group	Annual kWh (Annual Hours)	No. of fixtures after the retrofit	Standard Fixture Code* Example 21 40 R F U (Watt/Fixt) = 2x2' Troit 40 w Recess. Floor 2 lamps U shape	Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	(Watts/Fixt)* (Number of Fixtures)	Retrofit Control control device	Estimated Annual hours for the usage group	Annual kWh (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kW Saved (Original Annual kW) - (Retrofit Annual kW)	Annual \$ Saved (Annual \$ Saved)* (\$/kWh)	Retrofit Cost Cost for renovations to lighting system	No Smart Start Lighting Incentive	Simple Payback With Out Incentive Length of time for renovations cost to be recovered	Simple Payback Length of time for renovations cost to be recovered		
136	Patent Room 150	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,824	87	0.0	\$	-	\$	-	-	-	-	
136	Patent Room 150	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	2000	30	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	2,000	30	0.0	\$	-	\$	-	-	-	-	
86	Patent Room 150	2	CF 13 L LAMP	CFQ131-L	15	0.0	SW	5824	175	2	CF 13 L LAMP	CFQ131-L	15	0.0	SW	5,824	175	0.0	\$	-	\$	-	-	-	-	
15LEID	Patent Room 148	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	5824	349	1	S1LED4	S1LED4	40	0.0	SW	5,824	233	116.00	\$	15.08	\$	356.70	23.7	20.7		
136	Patent Room 148	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,824	87	0.0	\$	-	\$	-	-	-	-	
86	Patent Room 148	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	2000	30	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	2,000	30	0.0	\$	-	\$	-	-	-	-	
15LEID	Patent Room 146	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	5824	349	1	S1LED4	S1LED4	40	0.0	SW	5,824	233	116.00	\$	15.08	\$	356.70	23.7	20.7		
136	Patent Room 146	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,824	87	0.0	\$	-	\$	-	-	-	-	
136	Patent Room 146	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	2000	30	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	2,000	30	0.0	\$	-	\$	-	-	-	-	
15LEID	Patent Room 144	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	5824	349	2	S1LED4	S1LED4	40	0.0	SW	5,824	466	232.00	\$	30.16	\$	713.40	23.7	20.7		
136	Patent Room 144	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,824	87	0.0	\$	-	\$	-	-	-	-	
136	Patent Room 144	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	2000	30	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	2,000	30	0.0	\$	-	\$	-	-	-	-	
86	Patent Room 144	2	CF 13 L LAMP	CFQ131-L	15	0.0	SW	5824	175	2	CF 13 L LAMP	CFQ131-L	15	0.0	SW	5,824	175	0.0	\$	-	\$	-	-	-	-	
136	Shower	2	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	175	2	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,824	175	0.0	\$	-	\$	-	-	-	-	
136	Shower	2	SP 13 R C F 1	CFQ131-L	15	0.0	SW	2000	30	2	SP 13 R C F 1	CFQ131-L	15	0.0	SW	2,000	60	0.0	\$	-	\$	-	-	-	-	
136	Shower	2	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	175	2	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,824	175	0.0	\$	-	\$	-	-	-	-	
86	Corridor	1	CF 13 L LAMP	CFQ131-L	15	0.0	SW	5096	78	1	CF 13 L LAMP	CFQ131-L	15	0.0	SW	5,096	78	0.0	\$	-	\$	-	-	-	-	
136	Shower	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,824	87	0.0	\$	-	\$	-	-	-	-	
247LEID	Treatment	1	1 40 R F 3 (MAG)	F43SE	136	0.1	SW	3640	456	1	1 59 R LED	R1LED38	38	0.0	SW	3,640	138	357.01	\$	49.38	\$	236.25	4.8	4.8		
40LEID	Treatment	1	1 40 R F 3 (ELE)	F42LL	60	0.1	SW	3640	232	1	1 39 R LED	R1LED38	38	0.0	SW	3,640	138	80.00	\$	11.08	\$	236.25	21.3	11.3		
56LEID	Laundry	1	2T 17 R F 3 (ELE)	F22LL	175	0.2	SW	3640	175	1	2T 25 R LED	R1LED38	38	0.0	SW	3,640	91	80.00	\$	11.08	\$	202.50	18.3	18.3		
136	Isolation Corridor	2	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	263	2	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	263	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-	-	-	
136	Isolation Corridor	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5824	87	1	SP 13 R C F 1	CFQ131-L	15	0.0	SW	5,760	87	0.0	\$	-	\$	-	-			

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS						
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code "Lighting Fixture Code" Example 40 R FUL = 2x2' Troit 40 w Recess. Floor 2 lamps U shape	Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	(Watts/Fix)* (No.)	Pre-inst. control device	Annual Hours Estimated daily hours for the usage group	Annual kWh (Annual Hours)	No. of fixtures after the retrofit	Standard Fixture Code* Example 2' 40 R FUL = 2x2' Troit 40 w Recess. Floor 2 lamps U shape	Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	(Watts/Fix)* (Number of Fixtures)	Retrofit control device	Annual Hours Estimated annual hours for the usage group	Annual kWh (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kWh Saved (kWh Saved)* (\$/kWh)	Retrofit Cost Cost for renovations to lighting system	Prescriptive Lighting Measures	Length of time for renovations cost to be recovered	Simple Payback Length of time for renovations cost to be recovered			
7LED	Hallway	5	2' 32 R F 2 (u)	FU2LL	60	0.3	SW	8760	2,628	5	2' 25 R LED	2RTLED	25	0.1	SW	8,760	1,095	1,533.0	0.2	\$	190.78	\$	1,012.50	80	5.3	5.3
196LED	Men's Bathroom	15	W 32 C F 4 (ELE)	F4ALL	112	1.7	SW	3640	5,460	15	1' 74 R LED	R1LED50	50	0.8	SW	3,640	2,730	3,385.0	0.9	\$	468.58	\$	3,543.75	80	7.6	7.6
196LED	Women's Bathroom	3	W 32 C F 4 (ELE)	F4ALL	112	0.3	SW	3,120	1,040	3	1' 74 R LED	R1LED50	50	0.2	SW	3,120	468	580.0	0.2	\$	82.64	\$	708.75	80	6.6	6.6
7LED	Radiology Hall	7	2' 32 R F 2 (u)	F2ULL	60	0.4	SW	8,760	6,132	7	2' 25 R LED	2RTLED	25	0.1	SW	8,760	1,095	5,037.0	0.2	\$	82.64	\$	708.75	80	6.6	6.6
7LED	Hallway	16	2' 32 R F 2 (u)	F2ULL	60	1.0	SW	8760	8,410	16	2' 25 R LED	2RTLED	25	0.4	SW	8,760	3,564	4,846.0	0.6	\$	610.50	\$	3,240.00	80	5.3	5.3
7LED	Rest Area	2	2' 32 R F 2 (u)	F2ULL	60	2.00	SW	2,000	4,000	2	2' 25 R LED	2RTLED	25	0.2	SW	2,000	500	3,500.0	0.2	\$	152.01	\$	810.00	80	5.3	5.3
7LED	Gym	6	2' 32 R F 2 (u)	F2ULL	60	0.9	SW	3640	3,101	6	2' 25 R LED	2RTLED	25	0.2	SW	3,640	564	764.0	0.2	\$	105.61	\$	1,215.00	80	11.5	11.5
196LED	Radiology Hall	6	W 32 C F 4 (ELE)	F4ALL	112	0.7	SW	8760	1,860	6	1' 74 R LED	R1LED50	50	0.3	SW	8,760	1,638	2,638.0	0.4	\$	270.36	\$	1,412.50	80	3.5	3.5
196LED	Car Scan	4	W 32 C F 4 (ELE)	F4ALL	112	0.4	SW	4,300	1,926	4	1' 74 R LED	R1LED50	50	0.2	SW	4,300	860	1,066.0	0.2	\$	143.70	\$	945.00	80	6.6	6.6
196LED	Car Scan Office	7	W 32 C F 4 (ELE)	F4ALL	112	0.8	SW	4,680	3,699	7	1' 74 R LED	R1LED50	50	0.4	SW	4,680	1,638	2,043.0	0.4	\$	270.36	\$	1,653.75	80	6.1	6.1
196LED	Waiting Room	1	W 32 C F 4 (ELE)	F4ALL	112	0.1	SW	4,368	469	1	1' 74 R LED	R1LED50	50	0.1	SW	4,368	218	271.0	0.1	\$	36.41	\$	236.25	80	6.5	6.5
196LED	Storage	3	W 32 C F 4 (ELE)	F4ALL	112	0.3	SW	2,000	672	3	1' 74 R LED	R1LED50	50	0.2	SW	2,000	300	372.0	0.2	\$	58.78	\$	708.75	80	12.1	12.1
7LED	Close	1	2' 32 R F 2 (u)	F2ULL	60	0.1	SW	2,000	120	1	2' 25 R LED	2RTLED	25	0.0	SW	2,000	50	70.0	0.0	\$	11.06	\$	202.50	80	18.3	18.3
196LED	Close	1	2' 32 R F 2 (u)	F2ULL	60	0.1	SW	2,000	120	1	2' 25 R LED	2RTLED	25	0.0	SW	2,000	50	70.0	0.0	\$	11.06	\$	202.50	80	18.3	18.3
196LED	Close	1	W 32 C F 4 (ELE)	F4ALL	112	0.1	SW	4,680	524	1	1' 74 R LED	R1LED50	50	0.1	SW	4,680	234	290.0	0.1	\$	38.62	\$	236.25	80	6.1	6.1
117	Bathroom	1	CF 23	CF23F1	23	0.0	SW	3,120	72	1	CF 23	CF23F1	23	0.0	SW	3,120	72	0.0	0.0	\$	-	-	-	-	-	-
117	Close	1	W 32 C F 4 (ELE)	F4ALL	112	0.0	SW	3,120	72	1	1' 74 R LED	R1LED50	50	0.0	SW	3,120	72	0.0	0.0	\$	-	-	-	-	-	-
117	MEIR	3	CF 23	CF23F1	23	0.1	SW	8736	603	3	CF 23	CF23F1	23	0.1	SW	8,736	603	0.0	0.0	\$	-	-	-	-	-	-
196LED	Office	1	W 32 C F 4 (ELE)	F4ALL	112	0.1	SW	4,680	520	1	1' 74 R LED	R1LED50	50	0.1	SW	4,680	234	290.0	0.1	\$	38.62	\$	236.25	80	6.1	6.1
196LED	Office	4	W 32 C F 4 (ELE)	F4ALL	112	0.4	SW	4,680	2,097	4	1' 74 R LED	R1LED50	50	0.2	SW	4,680	936	1,161.0	0.2	\$	154.49	\$	945.00	80	6.1	6.1
196LED	Radiology Hallway	10	2' 32 R F 2 (ELE)	F4ALL	112	1.1	SW	8760	9,917	10	2' 25 R LED	R1LED50	50	0.5	SW	8,760	2,580	5,437.0	0.6	\$	675.91	\$	2,362.50	80	3.5	3.5
196LED	Bathroom	3	SP 13 R C F 1	CFQ13FL	15	0.0	SW	3,120	140	3	SP 13 R C F 1	CFQ13FL	15	0.0	SW	3,120	140	0.0	0.0	\$	-	-	-	-	-	-
135	Relax Suite	15	W 32 C F 4 (ELE)	F4ALL	112	1.7	SW	4,680	2,580	15	1' 74 R LED	R1LED50	50	0.8	SW	4,680	3,389	4,077.0	0.9	\$	547.39	\$	3,543.75	80	6.5	6.5
40LED	Whirlpool	6	1' 32 R F 2 (ELE)	F4ALL	60	0.4	SW	4,614	1,769	6	1' 38 R LED	R1LED38	38	0.2	SW	4,614	1,120	649.0	0.1	\$	86.77	\$	1,412.50	80	18.5	18.5
196LED	Close	2	2' 17 R F 2 (ELE)	F2ULL	31	0.1	SW	2,000	200	2	2' 25 R LED	2RTLED	25	0.1	SW	2,000	100	110.0	0.0	\$	10.98	\$	202.50	80	18.3	18.3
196LED	Close	2	2' 17 R F 2 (ELE)	F2ULL	31	0.1	SW	2,000	200	2	2' 25 R LED	2RTLED	25	0.1	SW	2,000	100	24.0	0.0	\$	3.19	\$	405.00	80	108.8	108.8
196LED	Close	2	W 32 C F 4 (ELE)	F4ALL	112	0.2	SW	4,680	468	2	1' 74 R LED	R1LED50	50	0.2	SW	4,680	234	290.0	0.2	\$	45.91	\$	236.25	80	11.5	11.5
40LED	Waiting Room	3	1' 32 R F 2 (ELE)	F4ALL	60	0.2	SW	4,368	786	3	1' 38 R LED	R1LED38	38	0.1	SW	4,368	498	288.0	0.1	\$	38.76	\$	708.75	80	18.3	18.3
196LED	Reception	4	W 32 C F 4 (ELE)	F4ALL	112	0.4	SW	4,680	2,097	4	1' 74 R LED	R1LED50	50	0.2	SW	4,680	936	1,161.0	0.2	\$	154.49	\$	945.00	80	6.1	6.1
196LED	Records	9	W 32 C F 4 (ELE)	F4ALL	112	1.0	SW	4,680	2,109	9	1' 74 R LED	R1LED50	50	0.5	SW	4,680	2,300	1,309.0	0.6	\$	143.63	\$	945.00	80	6.1	6.1
196LED	HIM Transcription	4	W 32 C F 4 (ELE)	F4ALL	112	0.4	SW	4,680	2,097	4	1' 74 R LED	R1LED50	50	0.2	SW	4,680	936	1,161.0	0.2	\$	154.49	\$	945.00	80	6.1	6.1
196LED	Close	1	W 32 C F 4 (ELE)	F4ALL	112	0.1	SW	2,000	122	1	1' 74 R LED	R1LED50	50	0.1	SW	2,000	100	124.0	0.1	\$	19.59	\$	236.25	80	12.1	12.1
40LED	Hallway	7	1' 32 R F 2 (ELE)	F4ALL	60	0.4	SW	8760	3,679	7	1' 38 R LED	R1LED38	38	0.3	SW	8,760	2,330	1,348.0	0.2	\$	167.89	\$	1,653.75	80	9.9	9.9
196LED	Hallway	2	W 32 C F 4 (ELE)	F4ALL	112	0.6	SW	4,680	2,400	2	1' 74 R LED	R1LED50	50	0.3	SW	4,680	1,095	1,249.0	0.3	\$	167.89	\$	1,653.75	80	9.9	9.9
196LED	Hallway	2	W 32 C F 4 (ELE)	F4ALL	112	0.2	SW	8760	1,962	2	1' 74 R LED	R1LED50	50	0.1	SW	8,760	876	1,086.0	0.1	\$	135.18	\$	472.50	80	3.5	3.5
135	IT Hallways	11	SP 13 R C F 1	CFQ13FL	15	0.2	SW	8760	1,445	11	SP 13 R C F 1	CFQ13FL	15	0.2	SW	8,760	1,445	0.0	0.0	\$	-	-	-	-	-	-
196LED	2 IT Hallways	2	2' 17 R F 2 (ELE)	F2ULL	31	0.1	SW	8760	242	2	2' 25 R LED	2RTLED	25	0.1	SW	8,760	430	130.0	0.0	\$	13.08	\$	405.00	80	9.0	9.0
40LED	Hallway	29	1' 32 R F 2 (ELE)	F4ALL	60	1.7	SW	8760	15,242	29	1' 38 R LED	R1LED38	38	1.1	SW	8,760	9,654	5,								

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EXISTING CONDITIONS										RETROFIT CONDITIONS				COST & SAVINGS ANALYSIS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Area Description		No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	Watt/Space	Watt/Space	Watt/Space	Watt/Space	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh

EXISTING CONDITIONS										RETROFIT CONDITIONS				COST & SAVINGS ANALYSIS						
Area Description		No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	Watt/Space	kW/Space	Annual kWh	Annual kWh	Annual kWh Saved	Annual \$ Saved	Retrofit Cost	Lighting Incentive	Simple Payback	Simple Payback					
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of fixtures before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Wattages (Watts/Fix)	(Watt/Space) (Watts/Fix) * (Fix No.)	(kW/Space) (Watts/Fix) * (Fix No.)	Estimated annual hours for the usage group	Annual kWh (Annual Hours * Annual kWh)	Annual kWh (Retrofit Annual kWh)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Cost for renovations to lighting system	With Out Start	Length of time for renovations cost to be recovered	Length of time for renovations cost to be recovered					
135	Patient Room 150	1	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	5824	87.4	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Patient Room 150	1	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	2000	30.0	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
88	Patient Room 150	1	CF 13 LAMP	CFQ131-L	15	0.0	0.0	None	5824	174.7	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
151	Patient Room 148	1	S 32 C F 2 (ELE)	F48LL	60	0.1	0.1	None	5824	349.4	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Patient Room 148	1	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	5824	87.4	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Patient Room 148	1	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	2000	30.0	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
88	Patient Room 148	2	CF 13 LAMP	CFQ131-L	15	0.0	0.0	None	5824	174.7	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
151	Patient Room 146	1	S 32 C F 2 (ELE)	F48LL	60	0.1	0.1	None	5824	349.4	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Patient Room 146	1	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	5824	87.4	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Patient Room 146	1	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	2000	30.0	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
88	Patient Room 146	2	CF 13 LAMP	CFQ131-L	15	0.0	0.0	None	5824	174.7	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
151	Patient Room 144	1	S 32 C F 2 (ELE)	F48LL	60	0.1	0.1	None	5824	349.4	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Patient Room 144	1	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	5824	87.4	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Patient Room 144	1	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	2000	30.0	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
88	Patient Room 144	2	CF 13 LAMP	CFQ131-L	15	0.0	0.0	None	5824	174.7	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Shower	2	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	8760	262.8	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Shower	2	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	8760	262.8	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Comfit	2	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	8760	262.8	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Comfit	2	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	5096	152.9	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
88	Comfit	1	CF 13 LAMP	CFQ131-L	15	0.0	0.0	None	5096	76.4	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Bathroom	1	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	3120	46.8	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
247	Treatment	1	T 40 R F 3 (MAG)	F43SE	136	0.1	0.1	None	3640	456.0	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
40	Treatment	1	T 32 R F 2 (ELE)	F42LL	60	0.1	0.1	None	3640	238.4	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
56	Laundry	1	2T 17 R F 3 (ELE)	F28LL	47	0.0	0.0	C-COCC	1500	70.5	100.6	0.0	\$11.52	\$270.00	\$35.00 23.4					
135	Isolation Corridor	2	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	8760	262.8	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Bathroom	1	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	8760	131.2	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Room	2	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	5824	174.7	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Room	2	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	5824	174.7	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Patient Room 140	4	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	5824	349.4	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Patient Bathroom 140	1	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	2000	30.0	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
56	Nurses Station	8	2T 17 R F 3 (ELE)	F28LL	47	0.4	0.4	None	7300	2,744.8	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
56	Clean Utility	1	2T 17 R F 3 (ELE)	F28LL	47	0.0	0.0	C-COCC	1500	75.2	18.8	0.0	\$2.15	\$270.00	\$35.00 125.4					
56	Solbed Utility	2	2T 17 R F 3 (ELE)	F28LL	47	0.1	0.1	C-COCC	1500	150.4	37.6	0.0	\$4.53	\$270.00	\$35.00 146.2					
56	Staff Lounge	6	2T 17 R F 3 (ELE)	F28LL	47	0.3	0.3	C-COCC	3276	923.8	307.9	0.0	\$8.26	\$270.00	\$35.00 7.7					
56	Activity Room	6	2T 17 R F 3 (ELE)	F28LL	47	0.3	0.3	C-COCC	3484.4	948.4	328.5	0.0	\$8.26	\$270.00	\$35.00 9.8					
56	School	4	2T 17 R F 3 (ELE)	F28LL	47	0.2	0.2	None	4388	821.2	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Shower	2	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	8760	131.2	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
56	Closet	1	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	2000	30.0	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
135	Bathroom	1	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	3120	46.8	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
56	Hallway	9	2T 17 R F 3 (ELE)	F28LL	47	0.4	0.4	None	8760	2,353.8	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
117	Closet	1	CF 23	CF5231	23	0.0	0.0	C-COCC	1400	32.7	11.8	0.0	\$1.58	\$270.00	\$35.00 170.8					
117	Al Room	4	CF 23	CF5231	23	0.1	0.1	C-COCC	3120	46.8	16.5	0.0	\$0.00	\$0.00	\$0.00	#DIV/0!				
135	Visitor Conference	6	SP 13 R C F 1	CFQ131-L	15	0.1	0.1	C-COCC	3900	324.0	81.0	0.0	\$9.26	\$270.00	\$35.00 29.1					
277	Office	4	24WTHSO	F22SL	35	0.1	0.1	None	4680	927.6	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
277	Office	1	24WTHSO	F22SL	35	0.1	0.1	None	4680	461.4	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
277	Office	4	24WTHSO	F22SL	35	0.1	0.1	None	4680	927.6	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
277	Office	1	24WTHSO	F22SL	35	0.2	0.2	None	4680	461.4	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
277	HR Director	10	24WTHSO	F22SL	35	0.4	0.4	None	6760	3,056.0	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
277	HR Director	2	24WTHSO	F22SL	35	0.1	0.1	C-COCC	3144	427.0	42.0	0.0	\$4.43	\$270.00	\$35.00 56.1					
277	HR Director	4	24WTHSO	F22SL	35	0.1	0.1	C-COCC	3144	524.2	131.0	0.0	\$15.01	\$270.00	\$35.00 18.0					
277	HR Director	6	24WTHSO	F22SL	35	0.2	0.2	C-COCC	3144	655.2	163.8	0.0	\$22.51	\$270.00	\$35.00 24.4					
277	HR Director	7	24WTHSO	F22SL	35	0.2	0.2	C-COCC	3144	767.2	198.8	0.0	\$22.51	\$270.00	\$35.00 12.0					
277	Storage	1	24WTHSO	F22SL	35	0.2	0.2	C-COCC	3144	517.3	229.3	0.0	\$26.26	\$270.00	\$35.00 10.3					
277	Storage	1	24WTHSO	F22SL	35	0.0	0.0	C-COCC	3144	410.0	21.0	40.0	0.0	\$27.00	\$270.00	\$35.00 112.3				
277	EVS	1	24WTHSO	F22SL	35	0.0	0.0	None	2000	30.0	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
277	Office	3	24WTHSO	F22SL	35	0.1	0.1	C-COCC	3144	382.0	65.5	0.0	\$7.50	\$270.00	\$35.00 36.0					
277	Office	3	24WTHSO	F22SL	35	0.1	0.1	C-COCC	3144	393.1	68.3	0.0	\$11.25	\$270.00	\$35.00 24.0					
277	HR Conference	6	24WTHSO	F22SL	35	0.2	0.2	C-COCC	3144	524.2	114.0	0.0	\$15.01	\$270.00	\$35.00 18.0					
277	HR Conference	1	24WTHSO	F22SL	35	0.2	0.2	C-COCC	3144	524.2	114.0	0.0	\$15.01	\$270.00	\$35.00 12.0					
277	HR Conference	7	24WTHSO	F22SL	35	0.2	0.2	C-COCC	3144	517.3	229.3	0.0	\$26.26	\$270.00	\$35.00 10.3					
277	Storage	1	24WTHSO	F22SL	35	0.0	0.0	C-COCC	3144	410.0	21.0	40.0	0.0	\$27.00	\$270.00	\$35.00 112.3				
135	HR Hallway	2	SP 13 R C F 1	CFQ131-L	15	0.0	0.0	None	8760	262.8	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
277	Hallway	14	24WTHSO	F22SL	35	0.5	0.5	None	8760	2,420.4	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
277	Addressess Hall	8	24WTHSO	F22SL	35	0.3	0.3	None	8760	2,420.4	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
196	Office	4	W 32 C F 4 (ELE)	F44LL	112	0.4	0.4	C-COCC	3144	1,677.3	413.3	0.0	\$48.02	\$270.00	\$35.00 5.6					
196	Staff Conference Room	4	W 32 C F 4 (ELE)	F44LL	112	0.4	0.4	C-COCC	3144	1,677.3	413.3	0.0	\$48.02	\$270.00	\$35.00 5.6					
196	Office	2	W 32 C F 4 (ELE)	F44LL	112	0.2	0.2	C-COCC	3144	838.7	206.7	0.0	\$24.01	\$270.00	\$35.00 11.2					
196	Bathroom	2	W 32 C F 4 (ELE)	F44LL	112	0.2	0.2	C-COCC	3144	838.7	206.7	0.0	\$24.01	\$270.00	\$35.00 11.2					
196	Group Rooms	4	W 32 C F 4 (ELE)	F44LL	112	0.4	0.4	None	5096	2,385.0	0.0	0.00	\$0.00	\$0.00	#DIV/0!					
277	Break Room	2	24WTHSO	F22SL	35	0.1														

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Area Description		No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	Watt/Space	Watt/Space	Watt/Space	Watt/Space	Watt/Space	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh

EXISTING CONDITIONS										RETROFIT CONDITIONS				COST & SAVINGS ANALYSIS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Area Description		No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	Watt/Fix ¹ (Watts/Fix)	Watt/Fix ¹ (Watts/Fix)	Watt/Fix ¹ (Watts/Fix)	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh	Annual kWh

		EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS						
	Area Description	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exst Control	Annual Hours	Annual kWh		Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual kW Saved	Annual \$ Saved	Retrofit Cost	NJ Smart Start Incentive	Simple Payback					
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated daily hours for the usage group	(kW/Space) * (Annual Hours)	No. of fixtures after the retrofit	Lighting Fixture Code	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	(kW/Space) * (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(Original Annual kW) - (Retrofit Annual kW)	(kWh Saved) * (\$/kWh)	Cost for renovations to lighting system	Prescriptive Lighting Measures	Length of time for renovations cost to be recovered	Simple Payback				
143LED	Exterior	3	HPS100 POLE	HPS100/1	138	0.4	PHC	4380	1,813	3	ALED52	ALED52	60	0.2	None	4,380	788	1,025	0.2	\$ 137.73	\$ 2,316.60	\$ 525	16.8	13.0				
227LED	Exterior	5	70 W MH Wall Pack	MH70/1	95	0.5	PHC	4380	2,081	5	FXLED18	FXLED18/1	18	0.1	None	4,380	394	1,686	0.4	\$ 226.61	\$ 2,116.13	\$ 500	9.3	7.1				
261	Exterior	11	PAR 38 SP	H100/1	100	1.1	PHC	4380	4,818	11	PAR 38 SP	H100/1	100	1.1	None	4,380	4,818	0.0	\$	\$	\$	-	-					
40LED	Loading Dock	4	T 32 R F 2 (ELE)	F42LL	60	0.2	PHC	4380	1,051	4	T 38 R LED	RTLED38	38	0.2	None	4,380	666	385	0.1	\$ 51.80	\$ 945.00	\$	-	18.2				
40LED	Mental Health	8	T 32 R F 2 (ELE)	F42LL	60	0.5	PHC	5824	2,796	8	T 38 R LED	RTLED38	38	0.3	None	5,824	1,770	1,025	0.2	\$ 132.70	\$ 1,890.00	\$	-	14.2				
117	Mechanical Equipment Room 1958 Wing	6	CF 23	CF523/1	23	0.1	SW	8736	1,206	6	CF 23	CF523/1	23	0.1	None	8,736	1,206	0.0	\$	\$	\$	-	-					
202	3rd Floor Elevator	4	2T 17 R F 4 (ELE)	F24ILL	61	0.2	SW	2000	488	4	2T 17 R F 4 (ELE)	F24ILL	61	0.2	None	2,000	488	-0.0	\$	\$	\$	-	-					
88	Patient Room 310	1	CF 13 LAMP	CFQ13/1-L	15	0.0	Dimmer	5824	87	1	CF 13 LAMP	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
202	Patient Room 310	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	Dimmer	5824	711	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	None	5,824	711	-0.0	\$	\$	\$	-	-					
135	Patient Room 310	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
135	Patient Bathroom 310	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	Dimmer	2000	30	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	2,000	30	-0.0	\$	\$	\$	-	-					
88	Patient Room 301	1	CF 13 LAMP	CFQ13/1-L	15	0.0	OCC	5824	87	1	CF 13 LAMP	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
202	Patient Room 301	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	None	5,824	711	-0.0	\$	\$	\$	-	-					
135	Patient Room 301	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	OCC	2000	30	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
135	Patient Bathroom 301	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	C-OCC	2000	30	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	2,000	30	-0.0	\$	\$	\$	-	-					
88	Patient Room 302	1	CF 13 LAMP	CFQ13/1-L	15	0.0	OCC	5824	87	1	CF 13 LAMP	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
202	Patient Room 302	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	None	5,824	711	-0.0	\$	\$	\$	-	-					
135	Patient Room 302	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
135	Patient Bathroom 302	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	C-OCC	2000	30	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	2,000	30	-0.0	\$	\$	\$	-	-					
88	Patient Room 303	1	CF 13 LAMP	CFQ13/1-L	15	0.0	OCC	5824	87	1	CF 13 LAMP	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
202	Patient Room 303	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	None	5,824	711	-0.0	\$	\$	\$	-	-					
135	Patient Room 303	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
135	Patient Bathroom 303	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	C-OCC	2000	30	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	2,000	30	-0.0	\$	\$	\$	-	-					
88	Patient Room 304	1	CF 13 LAMP	CFQ13/1-L	15	0.0	OCC	5824	87	1	CF 13 LAMP	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
202	Patient Room 304	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	None	5,824	711	-0.0	\$	\$	\$	-	-					
135	Patient Room 304	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
135	Patient Bathroom 304	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	C-OCC	2000	30	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	2,000	30	-0.0	\$	\$	\$	-	-					
88	Patient Room 305	1	CF 13 LAMP	CFQ13/1-L	15	0.0	OCC	5824	87	1	CF 13 LAMP	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
202	Patient Room 305	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	None	5,824	711	-0.0	\$	\$	\$	-	-					
135	Patient Room 305	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
135	Patient Bathroom 305	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	C-OCC	2000	30	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	2,000	30	-0.0	\$	\$	\$	-	-					
88	Patient Room 306	1	CF 13 LAMP	CFQ13/1-L	15	0.0	OCC	5824	87	1	CF 13 LAMP	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
202	Patient Room 306	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	None	5,824	711	-0.0	\$	\$	\$	-	-					
135	Patient Room 306	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
135	Patient Bathroom 306	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	C-OCC	2000	30	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	2,000	30	-0.0	\$	\$	\$	-	-					
88	Patient Room 307	1	CF 13 LAMP	CFQ13/1-L	15	0.0	OCC	5824	87	1	CF 13 LAMP	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
202	Patient Room 307	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	2 SW	5824	711	2	2T 17 R F 4 (ELE)	F24ILL	61	0.1	None	5,824	711	-0.0	\$	\$	\$	-	-					
135	Patient Room 307	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	Dimmer	5824	87	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
135	Patient Bathroom 307	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	C-OCC	2000	30	1	SP 13 R C F 1	CFQ13/1-L	15	0.0	None	2,000	30	-0.0	\$	\$	\$	-	-					
88	Patient Room 308	1	CF 13 LAMP	CFQ13/1-L	15	0.0	OCC	5824	87	1	CF 13 LAMP	CFQ13/1-L	15	0.0	None	5,824	87	-0.0	\$	\$	\$	-	-					
202</																												

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EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS										
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Watts/Fixt) * (Fixt No.)	Pre-Inst. control device	Annual Hours	Annual kWh	Number of Fixtures after the retrofit	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Watts/Fixt) * (Number of Fixtures)	Retrofit Control device	Annual Hours	Annual kWh	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kW Saved (Original Annual kW) - (Retrofit Annual kW)	Annual \$ Saved (kWh Saved) * (\$/kWh)	Retrofit Cost	Cost for renovations to lighting system	Prescriptive Lighting Measures	Simple Payback With Incentive	Simple Payback			
196LED	Group Rooms	4	W 32 C F 4 (ELE)	F44ILL	112	0.4	SW		5096	2,283	4	T 74 R LED	RTLED50	50	0.2	None		5,096	1,019	1,264	0.2	\$	166.30	\$	945.00	\$	-	5.7	5.7	
277	Break Room	2	24W TSHO	F22GL	35	0.1	SW		3102.5	217	2	24W TSHO	F22GL	35	0.1	C-OCC	1,500		105	112	0.0	\$	12.85	\$	270.00	\$	35	21.0	18.3	
277	Timeout Room	1	24W TSHO	F22GL	35	0.0	SW		4368	153	1	24W TSHO	F22GL	35	0.0	None		4,368	153			\$	-	\$						
196LED	Group Room 1	1	W 32 C F 4 (ELE)	F44ILL	112	0.1	SW		4368	489	1	T 74 R LED	RTLED50	50	0.1	C-OCC	3,494		175	314	0.1	\$	41.41	\$	506.25	\$	35	12.2	11.4	
277	Group Room 1	6	24W TSHO	F22GL	35	0.2	SW		4368	917	6	24W TSHO	F22GL	35	0.2	C-OCC	3,494		734	1,201	0.0	\$	21.01	\$	270.00	\$	35	12.9	11.2	
196LED	Group Room 2	3	W 32 C F 4 (ELE)	F44ILL	112	0.3	SW		4368	1,468	3	T 74 R LED	RTLED50	50	0.2	C-OCC	3,494		524	943	0.2	\$	124.23	\$	978.75	\$	35	7.9	7.6	
196LED	Nurses Station	1	W 32 C F 4 (ELE)	F44ILL	112	0.1	SW		7300	818	1	T 74 R LED	RTLED50	50	0.1	None		7,300	365	453	0.1	\$	57.22	\$	236.25	\$	-	4.1	4.1	
117	Bathroom	1	CF 23	CFS23V1	23	0.0	SW		3120	72	1	CF 23	CFS23V1	23	0.0	None		3,120	72			\$	-	\$						
40LED	Patient Room 101	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW		5824	699	2	T 38 R LED	RTLED38	38	0.1	None		5,824	443	256	0.0	\$	33.17	\$	472.50	\$	-	14.2	14.2	
198LED	Patient Room 101	1	2T 17 R F 2 (ELE)	F22LL	31	0.0	SW		3120	97	1	2T 25 R LED	2RTLED	25	0.0	None		3,120	78	19	0.0	\$	2.67	\$	202.50	\$	-	76.0	76.0	
117	Patient Room 101	1	CF 23	CFS23V1	23	0.0	SW		5824	134	1	CF 23	CFS23V1	23	0.0	None		5,824	134			\$	-	\$						
40LED	Patient Room 102	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW		5824	699	2	T 38 R LED	RTLED38	38	0.1	None		5,824	443	256	0.0	\$	33.17	\$	472.50	\$	-	14.2	14.2	
198LED	Patient Room 102	1	2T 17 R F 2 (ELE)	F22LL	31	0.0	SW		3120	97	1	2T 25 R LED	2RTLED	25	0.0	None		3,120	78	19	0.0	\$	2.67	\$	202.50	\$	-	76.0	76.0	
117	Patient Room 102	1	CF 23	CFS23V1	23	0.0	SW		5824	134	1	CF 23	CFS23V1	23	0.0	None		5,824	134			\$	-	\$						
40LED	Patient Room 103	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW		5824	699	2	T 38 R LED	RTLED38	38	0.1	None		5,824	443	256	0.0	\$	33.17	\$	472.50	\$	-	14.2	14.2	
198LED	Patient Room 103	1	2T 17 R F 2 (ELE)	F22LL	31	0.0	SW		3120	97	1	2T 25 R LED	2RTLED	25	0.0	None		3,120	78	19	0.0	\$	2.67	\$	202.50	\$	-	76.0	76.0	
117	Patient Room 103	1	CF 23	CFS23V1	23	0.0	SW		5824	134	1	CF 23	CFS23V1	23	0.0	None		5,824	134			\$	-	\$						
40LED	Patient Room 104	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW		5824	699	2	T 38 R LED	RTLED38	38	0.1	None		5,824	443	256	0.0	\$	33.17	\$	472.50	\$	-	14.2	14.2	
198LED	Patient Room 104	1	2T 17 R F 2 (ELE)	F22LL	31	0.0	SW		3120	97	1	2T 25 R LED	2RTLED	25	0.0	None		3,120	78	19	0.0	\$	2.67	\$	202.50	\$	-	76.0	76.0	
117	Patient Room 104	1	CF 23	CFS23V1	23	0.0	SW		5824	134	1	CF 23	CFS23V1	23	0.0	None		5,824	134			\$	-	\$						
40LED	Patient Room 105	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW		5824	699	2	T 38 R LED	RTLED38	38	0.1	None		5,824	443	256	0.0	\$	33.17	\$	472.50	\$	-	14.2	14.2	
198LED	Patient Room 105	1	2T 17 R F 2 (ELE)	F22LL	31	0.0	SW		3120	97	1	2T 25 R LED	2RTLED	25	0.0	None		3,120	78	19	0.0	\$	2.67	\$	202.50	\$	-	76.0	76.0	
117	Patient Room 105	1	CF 23	CFS23V1	23	0.0	SW		5824	134	1	CF 23	CFS23V1	23	0.0	None		5,824	134			\$	-	\$						
40LED	Patient Room 106	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW		5824	699	2	T 38 R LED	RTLED38	38	0.1	None		5,824	443	256	0.0	\$	33.17	\$	472.50	\$	-	14.2	14.2	
198LED	Patient Room 106	1	2T 17 R F 2 (ELE)	F22LL	31	0.0	SW		3120	97	1	2T 25 R LED	2RTLED	25	0.0	None		3,120	78	19	0.0	\$	2.67	\$	202.50	\$	-	76.0	76.0	
117	Patient Room 106	1	CF 23	CFS23V1	23	0.0	SW		5824	134	1	CF 23	CFS23V1	23	0.0	None		5,824	134			\$	-	\$						
40LED	Patient Room 107	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW		5824	699	2	T 38 R LED	RTLED38	38	0.1	None		5,824	443	256	0.0	\$	33.17	\$	472.50	\$	-	14.2	14.2	
198LED	Patient Room 107	1	2T 17 R F 2 (ELE)	F22LL	31	0.0	SW		3120	97	1	2T 25 R LED	2RTLED	25	0.0	None		3,120	78	19	0.0	\$	2.67	\$	202.50	\$	-	76.0	76.0	
117	Patient Room 107	1	CF 23	CFS23V1	23	0.0	SW		5824	134	1	CF 23	CFS23V1	23	0.0	None		5,824	134			\$	-	\$						
50LED	Hallway	34	W 32 W F 2 (ELE)	F42LL	60	2.0	SW		8760	17,870	34	4 ft LED Tube	200732G2	30	1.0	None		8,760	8,935	8,935	1.0	\$	1,111.98	\$	5,553.90	\$	-	5.0	5.0	
117	Mechanical Equipment Room	2	CF 23	CFS23V1	23	0.0	SW		8736	402	2	CF 23	CFS23V1	23	0.0	None		8,736	402			\$	-	\$						
142	Solitary Corridor	3	MH 100	MH100V1	128	0.4	SW		3000	1,152	3	MH 100	MH100V1	128	0.4	None		3,000	1,152			\$	-	\$						
142	Solitary 1	2	MH 100	MH100V1	128	0.3	SW		5824	1,491	2	MH 100	MH100V1	128	0.3	None		5,824	1,491			\$	-	\$						
142	Solitary 1	2	MH 100	MH100V1	128	0.3	SW		5824	1,491	2	MH 100	MH100V1	128	0.3	None		5,824	1,491			\$	-	\$						
40LED	Solitary 2	1	T 32 R F 2 (ELE)	F42LL	60	0.1	SW		5824	349	1	T 38 R LED	RTLED38	38	0.1	None		5,824	221	128	0.0	\$	16.59	\$	236.25	\$	-	14.2	14.2	
142	Bathroom	1	MH 100	MH100V1	128	0.1	SW		3120	399	1	MH 100	MH100V1	128	0.1	None		3,120	399			\$	-	\$						

EXISTING CONDITIONS												RETROFIT CONDITIONS												COST & SAVINGS ANALYSIS									
Area Description		No. of Fixtures before the retrofit	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Pre-inst. control device	Annual Hours	Annual kWh	No. of fixtures after the retrofit	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Retrofit Control device	Annual Hours	Annual kWh	Annual kWh Saved	Annual kWh Saved	Annual \$ Saved	Retrofit Cost	Lighting Incentive	Simple Payback	Simple Payback									
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt.) * (Fixt No.)		Estimated daily hours for the usage group	(kWhSpace) * (Annual Hours)	No. of fixtures after the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt.) * (Number of Fixtures)		Estimated annual hours for the usage group	(kWhSpace) * (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(Original Annual kW) - (Retrofit Annual kW)	(kWh Saved) * (\$/kWh)	Cost for renovations to lighting system	Prescriptive Lighting Measures	Length of time for renovations cost to be recovered	Simple Payback									
7LED	Closet	1	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	2000	120	1	2T 25 R LED	2RTLED	25	0.0	None	2,000	50	70	0.0	\$ 11.06	\$ 202.50	\$ -	18.3	18.3									
196LED	Office	1	W 32 C F 4 (ELE)	F44ILL	112	0.1	SW	4680	524	1	T 74 R LED	RTLED50	50	0.1	C-OCC	3,744	187	337	0.1	\$ 43.98	\$ 506.25	\$ 35	11.5	10.7									
117	Bathroom	1	CF 23	CFS23/1	23	0.0	SW	3120	72	1	CF 23	CFS23/1	23	0.0	C-OCC	2,184	50	22	0.0	\$ 2.47	\$ 270.00	\$ 35	109.5	95.3									
117	Bathroom	1	CF 23	CFS23/1	23	0.0	SW	3120	72	1	CF 23	CFS23/1	23	0.0	C-OCC	2,184	50	22	0.0	\$ 2.47	\$ 270.00	\$ 35	109.5	95.3									
196LED	Closet	1	W 32 C F 4 (ELE)	F44ILL	112	0.1	SW	2000	224	1	T 74 R LED	RTLED50	50	0.1	None	2,000	100	124	0.1	\$ 15.59	\$ 236.25	\$ -	12.1	12.1									
117	MER	3	CF 23	CFS23/1	23	0.1	SW	8736	603	3	CF 23	CFS23/1	23	0.1	None	8,736	603	-	0.0	\$ -	\$ -	\$ -	-	-									
196LED	Office	1	W 32 C F 4 (ELE)	F44ILL	112	0.1	SW	4680	524	1	T 74 R LED	RTLED50	50	0.1	C-OCC	3,744	187	337	0.1	\$ 43.98	\$ 506.25	\$ 35	11.5	10.7									
196LED	Office	4	W 32 C F 4 (ELE)	F44ILL	112	0.4	SW	4680	2,097	4	T 74 R LED	RTLED50	50	0.2	C-OCC	3,744	749	1,348	0.2	\$ 175.93	\$ 1,215.00	\$ 35	6.9	6.7									
196LED	Rehab Hallway	10	W 32 C F 4 (ELE)	F44ILL	112	1.1	SW	8760	9,811	10	T 74 R LED	RTLED50	50	0.5	None	8,760	4,380	5,431	0.6	\$ 675.91	\$ 2,362.50	\$ -	3.5	3.5									
135	Bathroom	3	SP 13 R C F 1	CFQ13/1-L	15	0.0	SW	3120	140	3	SP 13 R C F 1	CFQ13/1-L	15	0.0	C-OCC	2,184	98	42	0.0	\$ 4.82	\$ 270.00	\$ 35	56.0	48.7									
135	Bathroom	3	SP 13 R C F 1	CFQ13/1-L	15	0.0	SW	3120	140	3	SP 13 R C F 1	CFQ13/1-L	15	0.0	C-OCC	2,184	98	42	0.0	\$ 4.82	\$ 270.00	\$ 35	56.0	48.7									
196LED	Rehab Suite	15	W 32 C F 4 (ELE)	F44ILL	112	1.7	SW	4380	7,358	15	T 74 R LED	RTLED50	50	0.8	None	4,380	3,285	4,073	0.9	\$ 547.39	\$ 3,543.75	\$ -	6.5	6.5									
40LED	Whirlpool	6	T 32 R F 2 (ELE)	F42LL	60	0.4	SW	4914	1,769	6	T 38 R LED	RTLED38	38	0.2	None	4,914	1,120	649	0.1	\$ 85.77	\$ 1,417.50	\$ -	16.5	16.5									
196LED	Closet	2	2T 17 R F 2 (ELE)	F22LL	31	0.1	SW	2000	124	2	2T 25 R LED	2RTLED	25	0.1	None	2,000	100	24	0.0	\$ 3.79	\$ 405.00	\$ -	106.8	106.8									
196LED	Closet	2	2T 17 R F 2 (ELE)	F22LL	31	0.1	SW	2000	124	2	2T 25 R LED	2RTLED	25	0.1	None	2,000	100	24	0.0	\$ 3.79	\$ 405.00	\$ -	106.8	106.8									
196LED	Closet	2	W 32 C F 4 (ELE)	F44ILL	112	0.2	SW	2000	448	2	T 74 R LED	RTLED50	50	0.1	None	2,000	200	248	0.1	\$ 39.19	\$ 472.50	\$ -	12.1	12.1									
40LED	Waiting Room	3	T 32 R F 2 (ELE)	F42LL	60	0.2	SW	4368	786	3	T 38 R LED	RTLED38	38	0.1	None	4,368	498	288	0.1	\$ 38.76	\$ 708.75	\$ -	18.3	18.3									
196LED	Reception	4	W 32 C F 4 (ELE)	F44ILL	112	0.4	SW	4680	2,097	4	T 74 R LED	RTLED50	50	0.2	C-OCC	3,744	749	1,348	0.2	\$ 175.93	\$ 1,215.00	\$ 35	6.9	6.7									
196LED	Records	9	W 32 C F 4 (ELE)	F44ILL	112	1.0	SW	2000	2,016	9	T 74 R LED	RTLED50	50	0.5	C-OCC	3,744	630	1,385	0.6	\$ 207.27	\$ 2,396.25	\$ 35	11.6	11.4									
196LED	HIM Transcription	4	W 32 C F 4 (ELE)	F44ILL	112	0.4	SW	4680	2,097	4	T 74 R LED	RTLED50	50	0.2	C-OCC	3,744	749	1,348	0.2	\$ 175.93	\$ 1,215.00	\$ 35	6.9	6.7									
196LED	Closet	1	W 32 C F 4 (ELE)	F44ILL	112	0.1	SW	2000	224	1	T 74 R LED	RTLED50	50	0.1	None	2,000	100	124	0.1	\$ 15.59	\$ 236.25	\$ -	12.1	12.1									
40LED	Hallway	7	T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,679	7	T 38 R LED	RTLED38	38	0.3	None	8,760	2,330	1,349	0.2	\$ 167.89	\$ 1,663.75	\$ -	9.9	9.9									
7LED	Hallway	11	2T 32 R F 2 (u)	FU2LL	60	0.7	SW	8760	5,782	11	2T 25 R LED	2RTLED	25	0.3	None	8,760	2,409	3,373	0.4	\$ 419.72	\$ 2,227.50	\$ -	5.3	5.3									
196LED	Hallway	2	W 32 C F 4 (ELE)	F44ILL	112	0.2	SW	8760	1,962	2	T 74 R LED	RTLED50	50	0.1	None	8,760	876	1,086	0.1	\$ 135.18	\$ 472.50	\$ -	3.5	3.5									
135	IT Hallways	15	SP 13 R C F 1	CFQ13/1-L	15	0.2	SW	8760	1,445	15	SP 13 R C F 1	CFQ13/1-L	15	0.2	C-OCC	3,744	1,445	-	0.0	\$ -	\$ -	\$ -	-	-									
198LED	IT Hallways	2	2T 17 R F 2 (ELE)	F22LL	31	0.1	SW	8760	543	2	2T 25 R LED	2RTLED	25	0.1	None	8,760	438	105	0.0	\$ 13.08	\$ 405.00	\$ -	31.0	31.0									
40LED	Hallway	29	T 32 R F 2 (ELE)	F42LL	60	1.7	SW	8760	15,242	29	T 38 R LED	RTLED38	38	1.1	None	8,760	9,654	5,589	0.6	\$ 695.53	\$ 6,851.25	\$ -	9.9	9.9									
40LED	MER - Rear	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8736	1,048	2	T 38 R LED	RTLED38	38	0.1	None	8,736	664	384	0.0	\$ 47.85	\$ 472.50	\$ -	9.9	9.9									
196LED	Guidance	2	W 32 C F 4 (ELE)	F44ILL	112	0.2	SW	4680	1,048	2	T 74 R LED	RTLED50	50	0.1	C-OCC	3,744	374	674	0.1	\$ 87.96	\$ 742.50	\$ 35	8.0	8.0									
196LED	Occupational Health Waiting Room	2	W 32 C F 4 (ELE)	F44ILL	112	0.2	SW	4368	978	2	T 74 R LED	RTLED50	50	0.1	None	4,368	437	542	0.1	\$ 72.81	\$ 472.50	\$ -	6.5	6.5									
196LED	Occupational Health Suite	8	W 32 C F 4 (ELE)	F44ILL	112	0.9	SW	5824	5,218	8	T 74 R LED	RTLED50	50	0.4	None	5,824	2,330	2,889	0.5	\$ 373.96	\$ 1,890.00	\$ -	5.1	5.1									
40LED	Bathroom	1	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	3120	187	1	T 38 R LED	RTLED38	38	0.0	C-OCC	2,184	83	104	0.0	\$ 13.85	\$ 506.25	\$ 35	36.6	34.0									
40LED	Exam	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2184	262	2	T 38 R LED	RTLED38	38	0.1	None	2,184	166	96	0.0	\$ 14.83	\$ 472.50	\$ -	31.9	31.9									
40LED	Exam	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2184	262	2	T 38 R LED	RTLED38	38	0.1	None	2,184	166	96	0.0	\$ 14.83	\$ 472.50	\$ -	31.9	31.9									
40LED	Exam	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2184	262	2	T 38 R LED	RTLED38	38	0.1	None	2,184	166	96	0.0	\$ 14.83	\$ 472.50	\$ -	31.9	31.9									
196LED	Break Room	2	W 32 C F 4 (ELE)	F44ILL	112	0.2	SW	3102.5	695	2	T 74 R LED	RTLED50	50	0.1	C-OCC	1,500	150	545	0.1	\$ 73.20													

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS									
Field Code	Area Description	No. of Fixtures before the retrofit	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exst. Control	Annual Hours	Annual kWh	No. of Fixtures after the retrofit	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kW Saved (Original Annual kW) - (Retrofit Annual kW)	Annual \$ Saved (kWh Saved) * (\$/kWh)	Retrofit Cost	Cost for renovations to lighting system	N3 Smart Start Lighting Incentive	Simple Payback With Incentive	Simple Payback Length of time for renovations cost to be recovered	Simple Payback Length of time for renovations cost to be recovered			
40LED	Call Room	18	T 32 R F 2 (ELE)	F42LL	60	1.1	SW	4680	5,054	18	T 38 R LED	RTLED38	38	0.7	C-OCC	3,744	2,561	2,494	0.4	\$ 320.00	\$ 4,522.50	\$ 35	14.1	14.0					
196LED	Records	21	W 32 C F 4 (ELE)	F44ILL	112	2.4	SW	2000	4,704	21	T 74 R LED	RTLED50	50	1.1	C-OCC	1,400	1,470	3,234	1.3	\$ 483.63	\$ 5,231.25	\$ 35	10.8	10.7					
40LED	Office	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	4680	562	2	T 38 R LED	RTLED38	38	0.1	C-OCC	3,744	285	35.56	\$ 742.50	\$ 35	20.9	19.9							
40LED	Office	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	4680	562	2	T 38 R LED	RTLED38	38	0.1	C-OCC	3,744	285	35.56	\$ 742.50	\$ 35	20.9	19.9							
40LED	Office	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	4680	562	2	T 38 R LED	RTLED38	38	0.1	C-OCC	3,744	285	35.56	\$ 742.50	\$ 35	20.9	19.9							
40LED	Locker	1	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8736	524	1	T 38 R LED	RTLED38	38	0.0	None	8,736	332	23.92	\$ 286.25	\$ -	9.9	9.9							
275LED	Nurses Station	4	I 150/1	I150/1	150	0.6	SW	7300	4,380	4	22A21	22A21	19	0.1	None	7,300	555	3,825	0.5	\$ 483.64	\$ 280.00	\$ -	0.6	0.6					
218LED	Hallway	11	W 32 C F 3 (ELE)	F43LL/2	90	1.0	SW	8760	8,672	11	4 T LED Tube	200732/3	45	0.5	None	8,760	4,336	4,336	0.5	\$ 539.64	\$ 3,544.20	\$ 560	6.6	5.5					
7LED	Hallway	1	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	8760	526	1	2T 25 R LED	2RTLED	25	0.0	None	8,760	219	38.16	\$ 202.50	\$ -	5.3	5.3							
7LED	Changing Rooms	4	2T 32 R F 2 (u)	FU2LL	60	0.2	SW	8736	2,097	4	2T 26 R LED	2RTLED	25	0.1	None	8,736	874	1,223	0.1	\$ 152.24	\$ 810.00	\$ -	5.3	5.3					
135	Xray	3	SP 13 R C F 1	CFQ131/L	15	0.0	SW	5000	225	3	SP 13 R C F 1	CFQ131/L	15	0.0	None	5,000	225	-	0.0	\$ -	\$ -	\$ -	-	6.5	6.5				
196LED	Xray lounge	4	W 32 C F 4 (ELE)	F44ILL	112	0.4	SW	4368	1,957	4	T 74 R LED	RTLED50	50	0.2	None	4,368	874	1,083	0.2	\$ 145.63	\$ 945.00	\$ -	6.5	6.5					
196LED	Xray lounge	3	W 32 C F 4 (ELE)	F44ILL	112	0.3	SW	4368	1,468	3	T 74 R LED	RTLED50	50	0.2	None	4,368	655	812	0.2	\$ 109.22	\$ 708.75	\$ -	6.5	6.5					
135	Xray 1	3	SP 13 R C F 1	CFQ131/L	15	0.0	SW	5000	225	3	SP 13 R C F 1	CFQ131/L	15	0.0	None	5,000	225	-	0.0	\$ -	\$ -	\$ -	-	6.5	6.5				
135	Xray 2	3	SP 13 R C F 1	CFQ131/L	15	0.0	SW	5000	225	3	SP 13 R C F 1	CFQ131/L	15	0.0	None	5,000	225	-	0.0	\$ -	\$ -	\$ -	-	6.5	6.5				
135	Xray 3	3	SP 13 R C F 1	CFQ131/L	15	0.0	SW	5000	225	3	SP 13 R C F 1	CFQ131/L	15	0.0	None	5,000	225	-	0.0	\$ -	\$ -	\$ -	-	6.5	6.5				
40LED	Storage	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2000	240	2	T 38 R LED	RTLED38	38	0.1	C-OCC	1,400	106	134	0.0	\$ 19.13	\$ 742.50	\$ 35	38.8	37.0					
40LED	Office	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	4680	562	2	T 38 R LED	RTLED38	38	0.1	C-OCC	3,744	285	277	0.0	\$ 35.56	\$ 742.50	\$ 35	20.9	19.9					
40LED	Office	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	4680	562	2	T 38 R LED	RTLED38	38	0.1	C-OCC	3,744	285	35.56	\$ 742.50	\$ 35	20.9	19.9							
40LED	Office	2	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	4680	562	2	T 38 R LED	RTLED38	38	0.1	C-OCC	3,744	285	35.56	\$ 742.50	\$ 35	20.9	19.9							
40LED	Mamogram	3	T 32 R F 2 (ELE)	F42LL	60	0.2	SW	5000	900	3	T 38 R LED	RTLED38	38	0.1	None	5,000	570	43.53	\$ 708.75	\$ -	16.3	16.3							
7LED	Mamogram	1	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	5000	300	1	2T 26 R LED	2RTLED	25	0.0	None	5,000	125	23.09	\$ 202.50	\$ -	8.8	8.8							
7LED	Nursing offices	5	2T 32 R F 2 (u)	FU2LL	60	0.3	SW	4680	1,404	5	2T 25 R LED	2RTLED	25	0.1	None	4,680	585	819	0.2	\$ 109.02	\$ 1,012.50	\$ -	9.3	9.3					
196LED	Nursing offices	54	W 32 C F 4 (ELE)	F44ILL	112	6.0	SW	4680	28,305	54	T 74 R LED	RTLED50	50	2.7	None	4,680	12,636	15,669	5.3	\$ 2,085.62	\$ 12,757.50	\$ -	6.1	6.1					
40LED	Nursing offices	1	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	4680	281	1	T 38 R LED	RTLED38	38	0.0	None	4,680	178	143.54	\$ 1,417.50	\$ -	9.9	9.9							
196LED	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.2	SW	4680	1,048	2	T 74 R LED	RTLED50	50	0.1	None	4,680	468	580	0.1	\$ 77.25	\$ 472.50	\$ -	6.1	6.1					
196LED	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.2	SW	4680	1,048	2	T 74 R LED	RTLED50	50	0.1	None	4,680	468	580	0.1	\$ 77.25	\$ 472.50	\$ -	6.1	6.1					
196LED	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.2	SW	4680	1,048	2	T 74 R LED	RTLED50	50	0.1	None	4,680	468	580	0.1	\$ 77.25	\$ 472.50	\$ -	6.1	6.1					
196LED	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.2	SW	4680	1,048	2	T 74 R LED	RTLED50	50	0.1	None	4,680	468	580	0.1	\$ 77.25	\$ 472.50	\$ -	6.1	6.1					
196LED	Offices	2	W 32 C F 4 (ELE)	F44ILL	112	0.2	SW	4680	1,048	2	T 74 R LED	RTLED50	50	0.1	None	4,680	468	580	0.1	\$ 77.25	\$ 472.50	\$ -	6.1	6.1					
40LED	MER 1	2	T 32 R F 2 (ELE)	F42LL	60	0.2	SW	8736	3,145	6	T 38 R LED	RTLED38	38	0.2	None	8,736	1,328	769	0.1	\$ 95.69	\$ 945.00	\$ -	9.9	9.9					
40LED	Elec 1	4	T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8736	2,097	4	T 38 R LED	RTLED38	38	0.2	None	8,736	1,328	769	0.1	\$ 95.69	\$ 945.00	\$ -	9.9	9.9					
40LED	Elec 2	6	T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8736	3,145	6	T 38 R LED	RTLED38	38	0.2	None	8,736	1,992	1,153	0.1	\$ 143.54	\$ 1,417.50	\$ -	9.9	9.9					
196LED	Mail Room	1	W 32 C F 4 (ELE)	F44ILL	112	0.1	SW	4680	524	1	T 74 R LED	RTLED50	50	0.1	C-OCC	3,744	187	43.98	\$ 506.25	\$ 35	11.5	10.7							
40LED	Mail Room	1	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	4680	281	1	T 38 R LED	RTLED38	38	0.0	C-OCC	3,744	142	139	0.0	\$ 17.78	\$ 506.25	\$ 35	28.5	26.5					
196LED	Conference	6	W 32 C F 4 (ELE)	F44ILL	112	0.7	SW	4500	3,024	6	T 74 R LED	RTLED50	50	0.3	C-OCC	3,600	1,080	1,944	0.4	\$ 254.99	\$ 1,687.50	\$ 35	6.6	6.5					
196LED	Conference	6	W 32 C F 4 (ELE)	F44ILL	112	0.7	SW	4500	3,024	6	T 74 R LED	RTLED50	50	0.3	C-OCC	3,600	1,080	1,944	0.4	\$ 254.99	\$ 1,687.50	\$ 35	6.6	6.5					
57	Electrical Closet	1	S 34 C F 1 (MAG)	F41EE	43	0.0	SW	2000	86	1	S 28 C F 1	F41SSILL	26	0.0	None	2,000	52	34	0.0	\$ 5.37	\$ 141.75	\$ -	26.4	26.4					
196LED	Insurance	2	W 32 C F 4 (ELE)	F44ILL	112	0.2	SW	4680																					

			EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS									
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code	Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Annual Hours Estimated daily hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	No. of fixtures after the retrofit	Standard Fixture Code Lighting Fixture Code	Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit Control Retrofit control device	Annual Hours Estimated annual hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kW Saved (Original Annual kW) - (Retrofit Annual kW)	Annual \$ Saved (kWh Saved) * (\$/kWh)	Retrofit Cost Cost for renovations to lighting system	N3 Smart Start Lighting Incentive Prescriptive Lighting Measures	Simple Payback With Out Incentive Length of time for renovations cost to be recovered	Simple Payback Length of time for renovations cost to be recovered								
15LED	2nd Floor - 27	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	4680	562	2	T 74 R LED	RTLED50	50	0.1	C-OCC	3,744	374	187	0.0	\$ 23.18	\$ 742.50	\$ 35	32.0	30.5								
15LED	2nd Floor - 28	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	4368	262	1	STLED4	STLED4	40	0.2	C-OCC	2,000	320	(58)	(0.1)	\$ (15.33)	\$ 1,696.80	\$ 215										
15LED	2nd Floor - Corridor A	28	S 32 C F 2 (ELE)	F42LL	60	1.7	SW	8760	14,717	28	STLED4	STLED4	40	0.2	None	8,760	1,402	13,315	1.5	\$ 1,657.07	\$ 1,426.80	\$ 180	0.9	0.8								
15LED	2nd Floor - Corridor B	12	S 32 C F 2 (ELE)	F42LL	60	0.7	SW	8760	6,307	12	STLED4	STLED4	40	0.1	None	8,760	701	5,006	0.6	\$ 697.71	\$ 713.40	\$ 90	1.0	0.9								
15LED	2nd Floor - Corridor C	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	8760	1,051	2	STLED4	STLED4	40	0.0	None	8,760	350	701	0.1	\$ 87.21	\$ 356.70	\$ 45	4.1	3.6								
40LED	2nd Floor - Corridor D	8	T 32 R F 2 (ELE)	F42LL	60	0.5	SW	8760	4,205	8	STLED4	STLED4	40	0.8	None	8,760	6,658	(2,453)	(0.3)	\$ (305.25)	\$ 6,777.30	\$ 855										
1	2nd Floor - Corridor E	5	SQ 13 W CF 2 (MAG)	CFQ13/2	31	0.2	SW	8760	1,358	5	STLED4	STLED4	40	0.8	None	8,760	7,358	(6,001)	(0.7)	\$ (746.77)	\$ 7,490.70	\$ 945										
50	2nd Floor - 29	2	W 32 W P 2 (ELE)	F42LL	60	0.1	SW	5096	612	2	STLED4	STLED4	40	0.1	None	5,096	408	204	0.0	\$ 26.82	\$ 713.40	\$ 90	26.6	23.2								
50	2nd Floor - 30	2	W 32 W P 2 (ELE)	F42LL	60	0.1	SW	5096	612	2	T 74 R LED	RTLED50	50	0.1	None	5,096	255	357	0.1	\$ 46.94	\$ 236.25	\$ -	5.0	5.0								
50	2nd Floor - 31	2	W 32 W P 2 (ELE)	F42LL	60	0.1	SW	5096	612	2	STLED4	STLED4	40	0.1	None	5,096	408	204	0.0	\$ 26.82	\$ 713.40	\$ 90	26.6	23.2								
50	2nd Floor - 32	2	W 32 W P 2 (ELE)	F42LL	60	0.1	SW	5096	612	2	T 59 R LED	RTLED38	38	0.1	None	5,096	387	224	0.0	\$ 29.51	\$ 472.50	\$ -	16.0	16.0								
50	2nd Floor - 33	2	W 32 W P 2 (ELE)	F42LL	60	0.1	SW	5096	612	2	T 59 R LED	RTLED38	38	0.1	None	5,096	387	224	0.0	\$ 29.51	\$ 472.50	\$ -	16.0	16.0								
50	2nd Floor - 34	2	W 32 W P 2 (ELE)	F42LL	60	0.1	SW	5824	699	2	T 59 R LED	RTLED38	38	0.1	None	5,824	443	256	0.0	\$ 33.17	\$ 472.50	\$ -	14.2	14.2								
50	2nd Floor - 35	2	W 32 W P 2 (ELE)	F42LL	60	0.1	SW	5824	699	2	T 59 R LED	RTLED38	38	0.1	None	5,824	443	256	0.0	\$ 33.17	\$ 472.50	\$ -	14.2	14.2								
50	2nd Floor - 36	2	W 32 W P 2 (ELE)	F42LL	60	0.1	SW	5824	699	2	T 59 R LED	RTLED38	38	0.1	None	5,824	443	256	0.0	\$ 33.17	\$ 472.50	\$ -	14.2	14.2								
50	2nd Floor - 37	2	W 32 W P 2 (ELE)	F42LL	60	0.1	SW	5824	699	2	T 59 R LED	RTLED38	38	0.1	None	5,824	443	256	0.0	\$ 33.17	\$ 472.50	\$ -	14.2	14.2								
50	2nd Floor - 38	2	W 32 W P 2 (ELE)	F42LL	60	0.1	SW	5824	699	2	T 59 R LED	RTLED38	38	0.1	None	5,824	443	256	0.0	\$ 33.17	\$ 472.50	\$ -	14.2	14.2								
50	2nd Floor - 39	2	W 32 W P 2 (ELE)	F42LL	60	0.1	SW	5824	699	2	T 59 R LED	RTLED38	38	0.1	None	5,824	443	256	0.0	\$ 33.17	\$ 472.50	\$ -	14.2	14.2								
7LED	2nd Floor - 40	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	5824	699	2	T 74 R LED	RTLED50	50	0.1	None	5,824	291	408	0.1	\$ 52.78	\$ 236.25	\$ -	4.5	4.5								
7LED	2nd Floor - 41	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	5824	699	2	STLED4	STLED4	40	0.1	None	5,824	466	233	0.0	\$ 30.16	\$ 713.40	\$ 90	23.7	20.7								
7LED	2nd Floor - 42	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	5824	699	2	S 17 C F 1 (ELE)	F21ILL	20	0.0	None	5,824	233	466	0.1	\$ 60.32	\$ -	\$ -	0.0	0.0								
7LED	2nd Floor - 43	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	5824	699	2	S 17 C F 1 (ELE)	F21ILL	20	0.0	None	5,824	116	582	0.1	\$ 75.40	\$ -	\$ -	0.0	0.0								
7LED	2nd Floor - 44	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	5824	699	2	T 74 R LED	RTLED50	50	0.1	None	5,824	291	408	0.1	\$ 52.78	\$ 236.25	\$ -	4.5	4.5								
7LED	2nd Floor - 45	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	5824	699	2	24WTSHO	F22GL	35	0.1	None	5,824	612	113	0.1	\$ 11.31	\$ -	\$ -	0.0	0.0								
7LED	2nd Floor - 46	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	5824	699	2	CF 13 L LAMP	CFQ13/2-L	28	0.0	None	5,824	163	536	0.1	\$ 69.36	\$ -	\$ -	0.0	0.0								
7LED	2nd Floor - 47	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	5824	699	2	CF 13 L LAMP	CFQ13/2-L	28	0.0	None	5,824	163	536	0.1	\$ 69.36	\$ -	\$ -	0.0	0.0								
7LED	2nd Floor - 48	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	5824	699	2	STLED4	STLED4	40	0.1	None	5,824	466	233	0.0	\$ 30.16	\$ 713.40	\$ 90	23.7	20.7								
7LED	2nd Floor - 49	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	5824	699	2	STLED4	STLED4	40	0.1	None	5,824	466	233	0.0	\$ 30.16	\$ 713.40	\$ 90	23.7	20.7								
7LED	2nd Floor - 50	6	2T 32 R F 2 (u)	FU2LL	60	0.6	SW	5096	1,835	6	STLED4	STLED4	40	0.0	C-OCC	4,077	163	1,671	0.3	\$ 219.26	\$ 626.70	\$ 80	2.9	2.5								
7LED	2nd Floor - 51	4	2T 32 R F 2 (u)	FU2LL	60	0.2	SW	7300	1,752	4	STLED4	STLED4	40	0.0	None	7,300	292	1,460	0.2	\$ 184.60	\$ 356.70	\$ 45	1.9	1.7								
7LED	2nd Floor - 52	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	4680	562	2	T 74 R LED	RTLED50	50	0.1	C-OCC	3,744	374	187	0.0	\$ 23.18	\$ 742.50	\$ 35	32.0	30.5								
7LED	2nd Floor - 53	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	4680	562	2	T 59 R LED	RTLED38	38	0.0	C-OCC	3,744	142	419	0.1	\$ 55.15	\$ 506.25	\$ 35	9.2	8.5								
7LED	2nd Floor - 54	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	4680	562	2	T 59 R LED	RTLED38	38	0.0	C-OCC	3,744	142	419	0.1	\$ 55.15	\$ 506.25	\$ 35	9.2	8.5								
7LED	2nd Floor - 55	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	4680	562	2	T 74 R LED	RTLED50	50	0.1	C-OCC	3,744	187	374	0.1	\$ 48.97	\$ 506.25	\$ 35	10.3	9.6								
7LED	2nd Floor - 56	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	4680	562	2	STLED4	STLED4	40	0.1	C-OCC	3,744	300	262	0.0	\$ 33.49	\$ 983.40	\$ 125	29.4	25.6								
7LED	2nd Floor - 57	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	4680	562	2	STLED4	STLED4	40	0.1	C-OCC	3,744	300	262	0.0	\$ 33.49	\$ 983.40	\$ 125	29.4	25.6								
7LED	2nd Floor - 58	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	4680	562	2	STLED4	STLED4	40	0.1	C-OCC	3,744	300	262	0.0	\$ 33.49	\$ 983.40	\$ 125	29.4	25.6								
7LED	2nd Floor - 59	2	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	4680	562	2	STLED4	STLED4	40	0.1	C-OCC	3,744	300	262	0.0	\$ 33.49	\$ 983.40	\$ 125	29.4	25.6								
7LED	2nd Floor - 60	1	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	4680	261	1	T 59 R LED	RTLED38	38	0.1	C-OCC	3,744	285	(4)	(0.0)	\$ (1.82)	\$ 742.50	\$ 35										
7LED	2nd Floor - 61	1	2T 32 R F 2 (u)	FU2LL	60	0.1	SW	4680	261	1	T 59 R LED	RTLED38	38	0.1	C-OCC	3,744	285	(4)	(0.0)	\$ (1.82)	\$ 742.50	\$ 35										
15LED	2nd Floor - 62	4	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	5824	1,398	4	T 59 R LED	RTLED38	38	0.1	None	5,824	443	955	0.2	\$ 123.65	\$ 472.50	\$ -	3.8	3.8								
15LED	2nd Floor - 63	4	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	5824	1,398	4	T 59 R LED	RTLED38	38	0.1	None	5,824	443	955	0.2	\$ 123.65	\$ 472.50	\$ -	3.8	3.8								
15LED	2nd Floor - 64	8	S 32 C F 2 (ELE)	F42LL	60	0.5	SW	5824	2,796	8	T 59 R LED	RTLED38	38	0.1	None	5,824	443	2,353	0.4	\$ 304.60	\$ 472.50	\$ -	1.6	1.6								
15LED	2nd Floor - 65	4	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	5824	1,398	4	T 59 R LED	RTLED38	38	0.1	None	5,824	443	955	0.2	\$ 123.65												

APPENDIX D

New Jersey Board of Public Utilities Incentives

- i. Smart Start**
 - ii. Direct Install**
 - iii. Pay for Performance (P4P)**
 - iv. Energy Savings Improvement Plan (ESIP)**
-

I. SMART START



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NJ SmartStart Buildings

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SBC CREDIT PROGRAM



With New Jersey SmartStart Buildings ...

... A smart start now means better performance later! Whether you're starting a commercial or industrial project from the ground up, renovating existing space, or upgrading equipment, there are unique opportunities to upgrade the energy efficiency of the project.

Special Notice

Enhanced incentives are available for NJ SmartStart Building upgrades in buildings impacted by Hurricane Sandy. Eligible projects receive an additional 50% and new incentives have been added for high efficiency food service equipment.

Visit the Sandy web page for details and important links.

New Jersey SmartStart Buildings can provide a range of support — at no cost to you — for substantial energy savings, both now and for the future. Learn more about:

[Project Categories](#)

[Custom Measures](#)

[Incentives for Qualifying Equipment and Projects](#)

[Program Terms and Conditions](#)

[Find a Trade Ally](#)

Please note: pre-approval is required for almost all energy efficiency incentives. To receive an incentive, you must submit an application form (and applicable worksheets) and receive an approval letter from the program before any equipment is installed (click here for complete Terms and Conditions). Upon receipt of an approval letter, you may proceed to install the equipment listed on your approved application. Equipment installed prior to the date of the approval letter is not eligible for an incentive. **Any customer and/or agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Getting Started

Submit your project application form as soon as you know you will be doing a construction project or replacing/adding equipment.

PAST PROGRAMS**TOOLS AND RESOURCES****PROGRAM UPDATES****CONTACT US**

Apply for pre-approval by submitting an application for the type of equipment you have or plan to install. The application should be accompanied by a related worksheet, where applicable, manufacturer's specification sheet (refer to the specific program requirements on the background application for specs needed for your project) for the equipment you are planning to install. (Program representatives will review your application package and approve it, reject it, or advise you of upgrades in equipment that will save energy costs and/or increase your incentive.)

Support for Custom Energy-Efficiency Measures

Custom measures allows program participants the opportunity to receive an incentive for energy-efficiency measures that are not on the prescriptive equipment Incentive list, but are project/facility specific.

Incentives for Qualifying Equipment and Projects

Financial incentives are available for large and small projects. These incentives offset some or maybe even all! — of the added cost to purchase qualifying energy-efficient equipment, and provides significant long-term energy savings. Ranges of incentives are available for qualifying equipment (depending on type, size, and efficiency) in several categories.

Find out more about equipment incentives

For specific details on equipment requirements and financial incentives, including incentives for equipment not listed here, contact a program representative. Fiscal year financial incentives will be limited to a maximum of \$500,000 per customer utility account and are available as long as permits are obtained.

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Equipment Incentives

Special Notice

Enhanced incentives are available for NJ SmartStart Building upgrades in buildings impacted by Hurricane Sandy. Eligible projects receive an additional 50% and new incentives have been added for high efficiency food service equipment.

Visit the Sandy web page for details and important links.

More reasons for a smart start on your next project!

New Jersey SmartStart Buildings provides **financial incentives for qualifying equipment**. These incentives were developed to help our customers offset some of the added cost to purchase qualifying energy-efficient equipment, which provides significant long-term energy savings. A wide range of incentives are available for qualifying equipment (depending on type, size and efficiency).

Listed below are the types of qualifying equipment and ranges of incentives. For details on equipment requirements and full listings of incentives, refer to the **online application forms**.

Please note that almost all equipment incentives require pre-approval before equipment is installed. (click for exceptions) To start the pre-approval process, submit an Equipment Application, and appropriate Equipment Worksheets, for the type of equipment you are planning to install along with equipment specification sheets (refer to the specific program requirements on the back of the application for specific information needed for your project) and a current utility bill(s).

In order to be eligible to receive financial incentives under this Program, Applicants must receive electric and/or gas service from one of the regulated electric and/or gas utilities in the State of New Jersey. They are: Atlantic City Electric, Jersey Central Power & Light, Rockland Electric Company, New Jersey Natural Gas, Elizabethtown Gas, PSE&G, and South Jersey Gas.



Electric Chillers

Water-cooled chillers (\$12 - \$170 per ton)
Air-cooled chillers (\$8 - \$52 per ton)

Gas Cooling

Gas absorption chillers (\$185-\$450 per ton)
Gas Engine-Driven Chillers (Calculated through Custom Measure F

PAST PROGRAMS**TOOLS AND RESOURCES****PROGRAM UPDATES****CONTACT US****Desiccant Systems** (\$1.00 per cfm - gas or electric)**Electric Unitary HVAC**

Unitary AC and split systems (\$73 - \$92 per ton)
 Air-to-air heat pumps (\$73 - \$92 per ton)
 Water-source heat pumps (\$81 per ton)
 Packaged terminal AC & HP (\$65 per ton)
 Central DX AC Systems (\$40 - \$72 per ton)
 Dual Enthalpy Economizer Controls (\$250)
 Occupancy Controlled Thermostats (\$75 each)
 A/C Economizing Controls (\$85 - \$170 each)

Ground Source Heat Pumps

Closed Loop (\$450-750 per ton)

Gas Heating

Gas-fired boilers < 300 MBH (\$300 per unit)
 Gas-fired boilers ≥ 300 MBH - 1500 MBH (\$1.75 per MBH)
 Gas-fired boilers ≥ 1500 MBH - ≤ 4000 MBH (\$1.00 per MBH)
 Gas-fired boilers > 4000 MBH (Calculated through Custom Measure)
 Gas furnaces (\$300-\$400 per unit)
 Gas infrared heaters - indoor only (\$300 - \$500 per unit)
 Boiler economizing controls (\$1,200 - \$2,700 per unit)

Variable Frequency Drives

Variable air volume (\$65 - \$155 per hp)
 Chilled-water pumps (\$60 per hp)
 Compressors (\$5,250 to \$12,500 per drive)

Natural Gas Water Heating

Gas water heaters ≤ 50 gallons (\$50 per unit)
 Gas-fired water heaters > 50 gallons (\$1.00 - \$2.00 per MBH)
 Tankless water heaters replacing a free standing water heater > 82 energy factor (\$300 per heater)
 Gas-fired booster water heaters (\$17 - \$35 per MBH)

Premium Motors

Three-phase motors (\$45 - \$700 per motor) (**Incentive was discontinued effective March 1, 2013 except for buildings impacted by Hurricane Sandy. Approved applications will have the standard timeframe from the program commitment date to complete the installation.**)

Refrigerator/Freezer Case Premium Efficiency Motors (ECM)

Fractional (< 1 HP) Electronic Commutated Motors (ECM) (\$40 per for replacement of existing shaded-pole motor in refrigerated/freezer case)

Prescriptive Lighting

New Linear Fluorescent

T-12, HID and Incandescent to T-5 and T-8 (\$25 - \$200 per fixture) **(Note: T12 replacements are only available for buildings impacted by Hurricane Sandy)**

New Induction (\$70 per replaced HID fixture)

New LED

Screw-in/Plug-in (\$10 - \$20 per lamp)

Refrigerator/Freezer Case (\$30 - \$65 per fixture)

Outdoor pole/arm/wall-mounted luminaires (\$100 - \$175 per fixture)

Display case (\$30 per case)

Shelf-mounted display and task (\$15 per linear foot)

Wall-wash, desk, recessed (\$20 - \$35 per fixture)

Parking garage luminaires (\$100 per fixture)

Track or Mono-Point directional (\$50 per fixture)

Stairwell and Passageway luminaires (\$40 per fixture)

High-Bay, Low-Bay (\$150 per fixture)

Bollard (\$50 per fixture)

Luminaires for Ambient Lighting of Interior Commercial Space
Linear panels (\$50 per fixture)

Fuel pump canopy (\$100 per fixture)

LED retrofit kits (custom measures)

New Pulse-Start Metal Halide (\$25 per fixture)

Linear Fluorescent Retrofit (\$10 - \$20 per fixture)

Induction Retrofit (\$50 per retrofitted HID fixture)

New Construction/Complete Renovation (performance-based)

Note: Incentives for T-12 to T-5 and T-8 lamps with electronic ballast in facilities (\$10 per fixture, 1-4 lamps) and T-5/T-8 high bay fixtures (\$16 - per fixture) were discontinued effective March 1, 2013 for T-12 retrofits replacements except for buildings impacted by Hurricane Sandy. Approved applications will have the standard timeframe of one year from the project commitment date to complete the installation

Lighting Controls

Occupancy Sensors

Wall mounted (\$20 per control)

Remote mounted (\$35 per control)

Daylight dimmers (\$25 per fixture controlled, \$50 per fixture for office applications only)

Occupancy controlled hi-low fluorescent controls (\$25 per fixture controlled)

HID or Fluorescent Hi-Bay Controls

Occupancy hi-low (\$35 per fixture controlled)

Daylight dimming (\$45 per fixture controlled)

Refrigeration

Covers and Doors

Energy-Efficient doors for open refrigerated doors/covers (\$100 per door)

Aluminum Night Curtains for open refrigerated cases (\$3.50 per linear foot)

Controls

Door Heater Control (\$50 per control)

Electric Defrost Control (\$50 per control)

Evaporator Fan Control (\$75 per control)

Novelty Cooler Shutoff (\$50 per control)

Food Service Equipment

Cooking

Combination Electric Oven/Steamer (\$1,000 per oven)
 Combination Gas Oven/Steamer (\$750 per oven)
 Electric Convection Oven (\$350 per oven)
 Gas Convection Oven (\$500 per oven)
 Gas Rack Oven (\$1,000 single, \$2,000 double)
 Gas Conveyor Oven (\$500 small deck, \$750 large deck)
 Electric Fryer (\$200 per vat)
 Gas Fryer (\$749 per vat)
 Electric Large Vat Fryer (\$200 per vat)
 Gas Large Vat Fryer (\$500 per vat)
 Electric Griddle (\$300 per griddle)
 Gas Griddle (\$125 per griddle)
 Electric Steam Cooker (\$1,250 per steamer)
 Gas Steam Cooker (\$2,000 per steamer)

Holding

Full Size Insulated Cabinets (\$300 per cabinet)
 Three Quarter Size Insulated Cabinets (\$250 per cabinet)
 Half Size Insulated Cabinets (\$200 per cabinet)

Cooling

Glass Door Refrigerators (\$75 - \$150 per unit)
 Solid Door Refrigerators (\$50 - \$200 per unit)
 Glass Door Freezers (\$200 - \$1,000 per unit)
 Solid Door Freezers (\$100 - \$600 per unit)
 Ice Machines (\$50 - \$500 per unit)

Cleaning

Dishwashers (\$400 - \$1,500 per unit)

Other Equipment Incentives*

Performance Lighting (\$1.00 per watt per square foot below program incentive threshold, currently 5% more energy efficient than ASHRAE 2007 for New Construction only.)

Custom electric and gas equipment incentives (not prescriptive)

*Equipment incentives are calculated based on type, efficiency, size, and application and are evaluated on a case-by-case basis. Contact us for details.

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II. DIRECT INSTALL



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NEW JERSEY'S CLEAN ENERGY PROGRAM

DIRECT Install

Let us pay up to 70% of your energy efficiency upgrade.

Sometimes, the biggest challenge to improving energy efficiency is knowing where to and how to get through the process. Created specifically for existing small to medium facilities, Direct Install is a turnkey solution that makes it easy and affordable to upgrade high efficiency equipment. Direct Install is designed to cut your facility's energy costs replacing lighting, HVAC and other outdated operational equipment with energy efficient alternatives. The program pays up to 70% of retrofit costs, dramatically improving your payback on the project. There is a \$125,000 incentive cap on each project.

ELIGIBILITY



Existing small to mid-sized commercial and industrial facilities with a peak electric demand that did not exceed 200 kW in any of the preceding 12 months are eligible to participate in Direct Install. Applicants will submit the last 12 months of electric utility bills indicating that they are below the demand threshold and have occupied the building during that time. Buildings must be located in New Jersey and served by the state's public, regulated electric or natural gas utility companies.

SYSTEMS & EQUIPMENT ADDRESSED BY THE PROGRAM

Lighting
Heating, Cooling & Ventilation (HVAC)
Refrigeration
Motors
Natural Gas
Variable Frequency Drives



Measures eligible for Direct Install are limited to specific equipment categories, types and capacities. Boilers may not exceed 500,000 Btuh and furnaces may not exceed 140,

III. PAY FOR PERFORMANCE (P4P)



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Pay for Performance - Existing Buildings

Download program applications and incentive forms.

The Greater the Savings, the Greater Your Incentives

Take a comprehensive, whole-building approach to saving energy in your existing facility. Earn incentives that are directly linked to your savings. Pay for Performance relies on a



program partners who provide technical services under direct contract to you. Acting as your energy expert, your partner will develop a whole-building energy reduction plan for each project with a whole-building technical component of a traditional energy audit, a financial plan for full implementation of energy efficient measures and a construction schedule for installation.

Eligibility

Existing commercial, industrial and institutional buildings with a peak demand over 100 kW for any of the preceding twelve months are eligible to participate including hotels and casinos, large office buildings, family buildings, supermarkets, manufacturing facilities, schools, shopping malls and restaurants. Buildings that fall into the following customer classes are not required to meet the 100 kW demand threshold to participate in the program: hospitals, public colleges and universities, 501(c)(3) non-profit organizations, affordable multifamily housing, and local governmental entities. Your energy reduction plan will define a comprehensive package of measures capable of reducing the existing energy consumption of your building by 15% or more.

Exceptions to the 15% threshold requirement may be made for certain industrial, manufacturing, water treatment and datacenter building types whose annual energy consumption is heavily weighted on process loads. Details are available in the high energy intensity section of this page.

ENERGY STAR Portfolio Manager

Pay for Performance takes advantage of the ENERGY STAR Program with Portfolio Manager, EPA's interactive tool that allows facility managers to track and evaluate energy and water consumption across all of their buildings. The tool provides the opportunity to load in the characteristics and energy usage of your buildings and determine an energy performance benchmark score. You can then assess energy management goals over time, identify strategic opportunities for savings, and receive EPA recognition for superior energy performance.



This rating system assesses building performance by tracking and scoring energy use in your facilities and comparing it to similar buildings. That can be a big help in locating opportunities for cost-justified energy efficiency upgrades. And, based on our findings, you may be invited to participate in the Building Performance with ENERGY STAR initiative and receive special recognition as an industry leader in energy efficiency.

Incentives

**OIL, PROPANE & MUNICIPAL
ELECTRIC CUSTOMERS**

Pay for Performance incentives are awarded upon the satisfactory completion of three p milestones:

EDA PROGRAMS

Incentive #1 - Submittal of complete energy reduction plan prepared by an app program partner - Contingent on moving forward, incentives will be between \$5 \$50,000 based on approximately \$.10 per square foot, not to exceed 50% of th annual energy expense.

SBC CREDIT PROGRAM

Incentive #2 - Installation of recommended measures - Incentives are based on the projected level of electricity and natural gas savings resulting from the installation of comprehensive energy-efficiency measures.

PAST PROGRAMS

TOOLS AND RESOURCES

Incentive #3 - Completion of Post-Construction Benchmarking Report - A completed report verifying energy reductions based on one year of post-

PROGRAM UPDATES

implementation results. Incentives for electricity and natural gas savings will be based on actual savings, provided that the minimum performance threshold of savings has been achieved.

CONTACT US

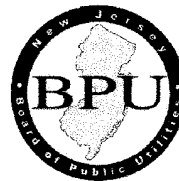


A detailed Incentive Structure document is available on the applications and form

Steps to Participation

[Click here](#) for a step-by-step description of the program.

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PAY FOR PERFORMANCE APPLICATION FORM

July 1, 2014 – June 30, 2015

Utility Serving Applicant:

☐ New Jersey Natural Gas	☐ Atlantic City Electric	☐ Jersey Central Power & Light	☐ PSE&G
☐ Other Electric Service Provider (please specify): _____	☐ Elizabethtown Gas	☐ Rockland Electric Co.	☐ South Jersey Gas
☐ Other Fuel Provider: _____	☐ Oil: _____	☐ Other (Please specify): _____	

Instructions

1. Read the program material to determine project qualification.
2. Read the Participation Agreement and sign where indicated.
3. Fill out all applicable spaces on this form.
4. Provide a copy of the customer's company W-9 form.
5. Provide the most recent consecutive 12 month period of utility bills for the project for all accounts, organized in chronological order and separated by account. Utilize Utility Tool for applications with multiple accounts to organize data.

6. Provide brief description of facility, noting any special or unusual circumstances and/or site conditions.
7. Partner must submit the application package via e-mail, mail or fax DIRECTLY to the Market Manager – see back of this form.

Approval of this Application is not an approval of the project's scope of work. Scope of work is only approved upon approval of the Energy Reduction Plan. See application and program guidelines for more information.

Customer/Owner Information (payment will be made to entity entered here)

Company Name		Project Contact/Title	
Company Address		City	State
		Zip	
Phone/Fax	E-mail	Federal ID/SSN	

Partner Information

Company Name		Project Contact/Title	
Company Address		City	State
		Zip	
Phone	Fax	E-mail	

Project Information

Project Name			
Building Address		City	State
		Zip	
Utility Account Number(s): Electric		Gas	
* Note: Please use the back of this page for additional utility accounts if quantity exceeds space allotment.			
Annual Peak kW Demand	Building Type		Number of Buildings
Size of Building(s) (gross sq/ft)		Direct, Master or Sub Metered	

Funding

☐ Check the box if an Energy Savings Improvement Program (ESIP) will be a source of funding. ESIP allows government agencies to pay for energy related improvements using the value of the resulting energy savings.

Do you expect to receive funding under any other efficiency programs? ☐ No ☐ Yes If Yes, please specify below:

Utility Program #1 – Utility: _____	Program Name: _____
Utility Program #2 – Utility: _____	Program Name: _____
Federal Program #1 – Organization: _____	Program Name: _____
Federal Program #2 – Organization: _____	Program Name: _____
Other Program – Organization: _____	Program Name: _____

Additional Project information

Additional Utility Account(s)

Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number

Additional Comments:

Complete this application form and send it directly to the Commercial/Industrial Market Manager by e-mail, mail or fax.

New Jersey's Clean Energy Program
c/o TRC Energy Services-P4P
900 Route 9 North, Suite 404 • Woodbridge, NJ 07095

Phone: 866-657-6278 • Fax: 732-855-0422

E-mail: P4P@NJCleanEnergy.com

Visit our website: NJCleanEnergy.com/P4P

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*Incentives/Requirements subject to change.

001-FY15-07/14

Pay For Performance-Existing Buildings

Participation Agreement

Definitions:

ADMINISTRATOR – New Jersey Board of Public Utilities (NJBPU)

APPLICATION PROCESS – The Program pays incentives in phases upon satisfactory completion of each of three Program milestones - approval of a complete Energy Reduction Plan, installation of all recommended measures per the Energy Reduction Plan, completion of Post-Construction Benchmarking Report (for incentive amounts, please refer to Incentive Amounts). In order to be eligible for Program Incentives, a Participating Customer or an agent authorized by a Customer, must submit to the Market Manager a properly completed application package – application form, Participating Customer's company W-9, twelve consecutive months of the project's utility bills and executed Participation Agreement. All components of the application package must be filled out completely, truthfully and accurately. This application package must be received on or before June 30, 2015 in order to be eligible for the Fiscal Year 2015 Incentives. The Market Manager will review the application package to determine if the project is eligible for a Program Incentive. When approved, the Participating Customer will receive an approval letter from their Case Manager with the estimated authorized first incentive amount and the date by which the Energy Reduction Plan must be submitted. Upon receipt of the approval letter, the Participating Customer and Partner may proceed with work on the Energy Reduction Plan. The Market Manager or agent thereof reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the Energy Reduction Plan approval letter. Approval of this Application is not an approval of the project's scope of work. Scope of work is only approved upon approval of the Energy Reduction Plan. See application and program guidelines for more information.

CHANGES TO THE PROGRAM – The Program and Participation Agreements may be changed by the Market Manager at any time without notice. Approved applications, however, will be processed to completion under the agreements in effect at the time of the Market Manager's approval.

ELIGIBILITY - Program Incentives are available to existing commercial, industrial and certain multifamily buildings with peak kilowatt demand usage of more than 100 kW in any of the most recent preceding twelve months of utility bills and a customer of the New Jersey Utilities. Market Manager has the discretion to approve applications that fall below the 100 kW minimum by no more than 10%. If the Participant is a municipal electric company customer, and a customer of an investor-owned gas New Jersey Utility, only gas measures will be eligible for incentives under the Program. Similarly, if the Participant is an oil/propane customer and a customer of an investor-owned electric New Jersey Utility, only electricity measures will be eligible for incentives under the Program.

Equipment procured by participating Customer through another program offered by the New Jersey Utilities, as applicable, is not eligible for incentives through this Program. Customers who, from July 1, 2013 – June 30, 2014, have not contributed to the Societal benefits Change of the applicable New Jersey Utility may not be eligible for incentives offered through this program.

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

ENERGY-EFFICIENT MEASURES – Any device eligible to receive a Program Incentive payment through the New Jersey's Clean Energy Commercial and Industrial Program. The total package of measures as presented in the Energy Reduction Plan must have at least a 10% internal rate of return (IRR).

ENERGY REDUCTION PLAN – A document created by the Participating Customer's selected Partner that defines several key aspects of the project including (but not limited to) existing conditions as a result of a whole-building technical analysis, benchmarking summaries, recommended measures, financing plan and implementation schedule.

ENERGY REDUCTION PLAN APPROVAL – After application approval, the Participating Customer and Partner must work together to finalize and submit an Energy Reduction Plan which incorporates a work scope that will achieve the minimum 15% reduction in source energy performance target in accordance with the Program rules and policies along with the Benchmarking Tool, modeling software file, a copy of the executed Partner and Participating Customer contract, an original copy of the executed Installation Agreement and a Request for Incentive #1 Payment form. All components of the submittal package must be filled out completely, truthfully and accurately. The Market Manager, agents thereof and/or the selected Partner must be provided reasonable access to the Participating Customer's facility, staff, tenants and/or others necessary to develop an Energy Reduction Plan that will achieve the minimum 15% performance target as well as the necessary utility billing data as dictated by the Program. The Energy Reduction Plan submittal package will be reviewed and must be approved by the Market Manager prior to payment of Incentive #1. Upon approval of the submittal package, the Customer will receive an Incentive #1 approval letter indicating the date by which all measures in the Energy Reduction Plan must be installed (no later than twelve months following the Energy Reduction Plan submittal approval date).

INCENTIVE AMOUNTS – Incentive #1 - \$0.10 per square foot of the project with a maximum amount of \$50,000 and minimum of \$5,000, not to exceed 50% of the project's annual energy cost and contingent on installation of measures in the Energy Reduction Plan and receipt of a signed Installation Agreement. If installation does not commence within the required timeframe, Incentive #1 may be required to be returned to the program. In the event the project is cancelled and Incentive #1 is not returned, the project may reapply to the program in the future but another Incentive #1 will not be paid. Incentive #2 – 50% of the total performance-based incentive (combination of Incentives #2 and #3) calculated per Program's incentive structure; Incentive #3 – remaining amount based on the realized energy savings of the project. For customers that have successfully participated in the Local Government Energy Audit Program, Incentive #1 will be reduced by 50% to \$0.05 per square foot up to \$25,000. Actual Incentive #1 paid shall not be higher than 5% over the committed amount. Actual Incentive #2 paid shall not be higher than the committed amount, unless the Energy Reduction Plan has been resubmitted due to changes in the work scope. Actual Incentive #3 paid shall be higher or lower than the committed amount based on actual energy savings but shall not be greater than program Incentive Caps.

The Market Manager will provide incentives according to those described in this section or as modified upon notice to Participating Customer. All incentive payments are paid directly to the Participating Customer or the Participating Customer's designee as indicated on the application form. The Program is not bound to pay any incentive unless the submittal package associated with the incentive payment is approved by the Market Manager who reserves the sole discretion of approving or disapproving the submittal packages.

INCENTIVE CAP – Program Incentives #2 and #3 will be capped not to exceed 50% of the total actual project cost. Incentive #1 will be capped not to exceed 50% of the project's annual energy cost. The Market Manager reserves the right to limit the amount of the Program Incentives (Incentive #1, #2 and #3) to \$1M per gas and electric account (limited to \$2M per project) in a program year. Campus style facilities, which are master-metered, are subject to the annual incentive cap of \$1 million per gas and electric account. The Participating Customer will also be subject to an annual Entry Cap of \$4M (Definition of an Entry can be found in the Board Order Docket No. EO07030203).

INSTALLATION AGREEMENT – The Participating Customer must submit an executed Installation Agreement as part of the Request for Incentive #1 Form. By executing the Installation Agreement, the Customer agrees to install all of the measures in the Energy Reduction Plan, which are estimated to result in meeting or exceeding the minimum 15% performance target. The Customer agrees to the performance-based incentives (Incentives #2 & #3) as indicated in the document which are based on the results of the Energy Reduction Plan. Implementation of the measures must commence in the time period twelve months following the approval date of the Energy Reduction Plan. Failure to complete the installation of the measures in the Energy Reduction Plan may result in the repayment of Incentive #1. In the event the project is cancelled and Incentive #1 is not returned, the project may reapply to the program in the future but another Incentive #1 will not be paid.

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

The Market Manager's review and approval of the Energy Reduction Plan cannot be construed to be a determination as to performance, applicability, dollar savings, energy savings, or any other aspect of the proposed project. The Market Manager and Administrator offer no guarantee or warranty of performance of the project's equipment or system. The participant assumes full responsibility and liability for the installation of all equipment, including but not limited to design, specification, all permits, installation, maintenance, performance and financing. By participating in the program and accepting incentive dollars, you agree to hold harmless the Market Manager and Administrator and their respective staffs with respect to the Project.

MARKET MANAGER – TRC Energy Services is responsible for managing the New Jersey Clean Energy Commercial & Industrial Programs.

MEASUREMENT & VERIFICATION APPROVAL – Twelve months subsequent to the Incentive #2 Payment Submittal package submission date, measurement and verification of the projected energy reduction will be conducted by the Participating Customer's Partner using the project's post-installation utility data (supplied by the Customer). The Participating Customer must work with their Partner to submit the Incentive #3 Payment Submittal, consisting of the Post-Construction Benchmarking Pay For Performance-Existing Buildings Report, Benchmarking Tool, and Request for Incentive #3 form. All components of the submittal package must be filled out

completely, truthfully and accurately. Upon review of the submittal package (by the Market Manager or agent thereof), the remaining 50% of the total performance-based incentive (Incentives #2 & #3) will be released to the Participating Customer. If the Post-Construction Benchmarking Report indicates that the project did not meet the minimum performance target, the post-installation completion period may be extended to up to twenty-four months subsequent to the Incentive Payment #2 package submission date. Upon approval of the submittal package, the Customer will receive an Incentive #3 Submittal approval letter indicating successful completion of the program.

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

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

PARTICIPATING CUSTOMER'S CERTIFICATION – Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements per the Program Guidelines. Participating Customer certifies that he/she purchased and installed the equipment listed in the Energy Reduction Plan at their defined New Jersey project location.

PARTNER– An approved professional who provides technical building performance services to Participating Customers, acting as their "energy efficiency expert". Participating Customers are required to hire an approved Pay for Performance Partner to develop the Energy Reduction Plan and facilitate installation of the recommended package of Energy-Efficient Measures. Participants are required to enter into a contractual agreement with a selected Partner which outlines the set of minimum services the Partner will provide to the Participating Customer throughout the life of the project. It is strongly recommended that Participating Customers perform due diligence in selecting a Pay for Performance Partner. Fees charged by the Partner are not regulated by the Program and could vary between Partners.

PERFORMANCE-BASED INCENTIVES – The combination of Incentives #2 and #3, which are based on the projected and actual energy reduction performance of the project.

PERFORMANCE TARGET – A minimum of a 15% annual source energy savings performance target must be achieved in order to participate. The performance target is based on reducing the total energy consumption for the facility. No more than 50% of the total source energy savings may be derived from lighting measures. The total energy savings may not come from a single measure. A 4% performance target may be offered to customers whose annual energy consumption is heavily weighted to manufacturing and process loads. This approach will be reviewed on a case-by-case basis and must be pre-approved by the Market Manager. In order to be considered, the project must involve: A manufacturing facility, including such industries as plastics and packaging, chemicals, petrochemicals, metals, paper and pulp, transportation, biotechnology, pharmaceutical, food and beverage, mining and mineral processing, general manufacturing, equipment manufacturers and data centers; and manufacturing and/or process-related loads, including data center consumption, consume 50% or more of total facility energy consumption. No more than 50% of the total source energy savings may be derived from non-investor owned utilities or fuels.

POST-INSTALLATION APPROVAL – After the complete installation of all measures in the Energy Reduction Plan, the Customer and their Partner must finalize and submit the Incentive #2 Payment Submittal, consisting of the Installation Report, invoices, and Request for Incentive #2 Payment form. All components of the submittal package must be filled out completely, truthfully and accurately. Upon review of the submittal package and verification of the complete installation of all measures in the Energy Reduction Plan (via inspection by the Market Manager or agent thereof), 50% of the total performancebased incentive (Incentives #2 & #3) will be released to the Participating Customer. Upon approval of the submittal package, the Customer will receive an Incentive #2 approval letter indicating the date by which the post-installation Measurement & Verification phase began and will end (twelve months in length).

The Market Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing products or equipment (if applicable) and the Energy-Efficient Measures installed under this Program, either prior to issuing incentives or at a later time. Energy-Efficient Measures must be installed in buildings located within the service territory of one of the New Jersey Utilities (as defined by the Program) as designated on the Participating Customer's Pay for Performance application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program Guidelines. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease.

PRE-INSTALLED MEASURES - An Energy Reduction Plan must be approved by the program and an approval letter sent to the customer in order for incentives to be committed. Upon receipt of an Energy Reduction Plan, all project facilities must be preinspected. Measures installed prior to pre-inspection of the facility shall not be included as part of the ERP scope of work and will not be eligible for incentives. Measure installation undertaken prior to ERP approval, but after pre-inspection, is done at the customer's own risk. In the event that an Energy Reduction Plan is rejected by the program, the customer will not receive any incentives.

PRODUCT INSTALLATION OR EQUIPMENT INSTALLATION – Installation of the Energy-Efficient Measures.

Projects with a contract threshold of \$15,444 are required to pay no less than prevailing wage rate to workers employed in the performance of any construction undertaken in connection with Board of Public Utilities financial assistance, or undertaken to fulfill any condition of receiving Board of Public Utilities financial assistance, including the performance of any contract to construct, renovate or otherwise prepare a facility, the operations of which are necessary for the receipt of Board of Public Utilities financial assistance. By submitting an application, or accepting program incentives, applicant agrees to adhere to New Jersey Prevailing Wage requirements, as applicable.

PROGRAM – New Jersey's Clean Energy Pay for Performance Program offered herein by the New Jersey Board of Public Utilities pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, NJSA 48:3-49, et seq.

PROGRAM GUIDELINES – See Pay for Performance Program Guidelines available from your Partner.

PROGRAM INCENTIVES – Refers to the amount or level of incentive that the Program provides to participating customers pursuant to the Program offered herein (see the description under "Incentive Amount" heading).

PROGRAM OFFER – The Program covers products purchased and/or services rendered on or after July 1, 2014. Program Incentives are available to non-residential retail electric and/or gas service customers of the New Jersey Utilities.

PROJECT – A commercial, industrial or multifamily existing building with peak demand in excess of 100 kW in any of the most recent preceding twelve months of electric usage. Multifamily building(s) must be four (4) stories or greater or three (3) stories and under having central heating, cooling, or metering serving more than one building. The 100 kW requirement is waived for the following customer classes: hospitals, non-profits (as defined by section 501(c)(3) of the Internal Revenue Code), public colleges and universities, local government entities, including K-12 schools, and affordable multifamily customers (defined as low income, subsidized, HUD, etc.)

TAX CLEARANCE CERTIFICATION – Businesses must apply for and receive a Tax Clearance Certificate from the New Jersey Division of Taxation before they can receive any incentive, grant or other financial assistance from the Program.

TAX LIABILITY – The Market Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their federal tax identification number or social security number on the application form in addition to providing a copy of their W-9 form as part of the application package in order to receive a Program Incentive.

TERMINATION – New Jersey's Clean Energy Program reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

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

ACKNOWLEDGEMENT – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Market Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the Pay For Performance Program, including the release of electric and natural gas utility billing information, as well as make available to the public non-sensitive information. I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program. This arrangement supersedes all other communications and representations.

CUSTOMER'S SIGNATURE

PARTNER SIGNATURE

By signing, I certify that I have read, understand and agree to the Participation Agreement listed above.

IV. ENERGY SAVINGS IMPROVEMENT PLAN (ESIP)



Your Power to Save

At Home, for Business, and for the Future

[About Us](#) | [Press Room](#) | [Library](#)

HOME

RESIDENTIAL

COMMERCIAL, INDUSTRIAL
AND LOCAL GOVERNMENT



COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT

HURRICANE SANDY

PROGRAMS

NJ SMARTSTART BUILDINGS

PAY FOR PERFORMANCE

COMBINED HEAT & POWER AND
FUEL CELLS

LOCAL GOVERNMENT ENERGY
AUDIT

LARGE ENERGY USERS PROGRAM

ENERGY SAVINGS IMPROVEMENT
PROGRAM

DIRECT INSTALL

ENERGY BENCHMARKING

OIL, PROPANE & MUNICIPAL
ELECTRIC CUSTOMERS

EDA PROGRAMS

SBC CREDIT PROGRAM

PAST PROGRAMS

TOOLS AND RESOURCES

PROGRAM UPDATES

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Energy Savings Improvement Program

A new State law allows government agencies to make energy related improvements to their facilities and pay for the costs using the value of energy savings that result from the improvements. Under Chapter 4 of the Laws of 2009 (the law), the "Energy Savings Improvement Program" (ESIP), provides all government agencies in New Jersey with a flexible tool to make energy related improvements to their facilities and pay for the costs using the value of energy savings that result from the improvements. The program also allows agencies to reduce energy usage with minimal expenditure of new financial resources.

This Local Finance Notice outlines how local governments can develop and implement an ESIP for their facilities. Below are two sample RFPs:

Local Government
School Districts (K-12)

All RFPs must be submitted to the Board for approval at ESIP@bpu.state.nj.us.

The Board also adopted protocols to measure energy savings:

Measuring Energy Savings
Procedures for Implementation

The ESIP approach may not be appropriate for all energy conservation and energy efficiency improvements. Local units should carefully consider all alternatives to develop an approach that best meets their needs. Local units considering an ESIP should carefully review the Local Finance Notice, the law, and consult with qualified professionals to determine how they should approach the task.

The NJ Board of Public Utilities sponsored Sustainable Jersey in the creation of an ESIP Guidebook that explains how to implement the program. The guidebook also includes a list of successful projects and a list of helpful resources.

FIRST STEP – ENERGY AUDIT

For local governments interested in pursuing an ESIP, the first step is to perform an energy audit as prescribed in P.L.2012 c.55.

ENERGY REDUCTION PLANS

If you have an ESIP plan that needs to be submitted to the Board of Public Utilities, please email it to ESIP@bpu.state.nj.us. Please limit the file size to 3MB (or break it into smaller files).

Frankford Township School District
Northern Hunterdon-Voorhees Regional High School
Manalapan Township (**180 MB** - *Right Click, Save As*)

ESIP PROGRAM

Final version 42413

BPU RULES

1. Public Entity must decide if they will use an ESCO or DIY method or Hybrid thereof prior to issuing the RFP and the RFP must state the intended method. A change in the project procurement model after the RFP closing date will be cause for immediate rejection and disqualification of potential Clean Energy program incentives.
2. RFP procedures shall be adhered to as per the legislation, including the use of BPU approved forms. Any alteration of the forms, without prior approval from the BPU shall be grounds for rejection.
3. RFP must include copy of an audit (ASHRAE Level II w/Level III for lighting) and audit must be prepared by a firm classified by DPMC in the 036 discipline.
4. All firms, including professional services, whether using ESCO or DIY model, must be DPMC classified.
5. If an Architect is engaged by the public entity, the architectural fees are the responsibility of the public entity and must be paid directly to the firm. These fees may be included in the energy cost savings analysis and payback.

ESCO's may contract directly with an architectural firm, in which case the architectural firm serves as a subcontractor to the ESCO and the project related service costs may be included within the project's economic model.

6. Public entity shall conduct pre-bid meetings and site visits per existing statutes.

In the interest of open public bidding transparency, it is a requirement of the BPU that all proposers must attend the pre-proposal bid meeting.

7. There shall be no negative cash flow in any year of the program.
section 7 (1)(a)
"the energy savings resulting from the program will be sufficient to cover the cost of the program's energy conservation measures."
8. SREC values are not permitted to be used in the energy cost savings calculations.
9. Capital cost avoidance values are not to be used in the energy savings calculations.
10. Operational and Maintenance (O&M) cost savings may be permitted in the cost savings calculations, but only with supporting documentation.
11. Blended utility rates shall not be permitted. Use the actual utility tariff or local contracted rates if there is a third party supplier.

For the RFP proposals, the public entity shall define the utility rates in the RFP

12. Contracted third party utility rates may only be used for the term of the contract (5 yr. maximum)
Subsequent years are to be projected at the utility tariff rates plus the annual BPU escalation rates.
13. Public entity shall conduct M&V (measurement and verification) at the one (1) year operational date and shall provide a copy of the M&V report to the Board of Public Utilities.

For the RFP proposals, the ESCO shall provide the cost for the one (1) year M&V only. For comparative purposes, the one year M&V pricing shall be indicated on the proposal Form VI, under the “Annual Service Costs” column. Additional M&V costs are at the discretion of the local unit and are not to be included in the proposal.

14. The decisions made by BPU staff regarding compliance or other issues that arise in connection with the RFP procurement process shall be considered a final decision of the BPU. Any appeal will need to be through the New Jersey Superior Court, Appellate Division.
15. For the RFP proposals only, Demand Response (DR) revenues claimed by ESCO’s can only be projected for a maximum period of three (3) years. DR revenue projections beyond three years will not be permitted. DR revenues must be included and presented under the “Energy Rebates/Incentives” column of FORM VI.
16. ESCO “fees” proposed during the RFP phase of the project cannot increase post-award. ESCO’s are required to maintain the fee percentages through final contract negotiations and construction of the Board approved Energy Savings Plan
17. Public Bid openings shall be held on the due date of the proposal submissions. The public entity shall announce the name of the bidder and the total dollar amount. After award of a contract, all proposals received will be made available by the owner for public inspection
18. Rejection of bids by the public entity shall be conducted in accordance with the appropriate sections of the applicable legislation, as stated in Title 40A:11-13.2. Additionally all proposals must be returned to the respective ESCO’s upon rejection.
19. Field changes that exceed 5% of the project cost require BPU approval.
20. Energy Savings Plans (ESP) that is dependent upon incentives from the Clean Energy Program must review the current program requirements, at the time of application, for each incentive to insure eligibility. If any program incentive is denied, resubmission of all ESIP related forms will be necessary to remain ESIP qualified.

APPENDIX E

Photovoltaic Analysis

Photovoltaic (PV) Solar Power Generation - Screening Assessment

Inspira Health Network Bridgeton Health Center

Cost of Electricity	\$0.129	/kWh
Electricity Usage	6,280,176	kWh/yr
System Unit Cost	\$4,000	/kW

Photovoltaic (PV) Solar Power Generation - Screening Assessment

Budgetary	Annual Utility Savings				Estimated	Total	Federal Tax	New Jersey	Payback	Payback
Cost					Maintenance	Savings	Credit	Renewable	(without	(with
					Savings			** SREC	incentive)	incentive)
\$	kW	kWh	therms	\$	\$	\$	\$	\$	Years	Years
\$400,000	100.0	118,479	0	\$15,254	0	\$15,254	\$0	\$27,250	26.2	9.4

** Estimated Solar Renewable Energy Certificate Program (SREC) SREC for 15 Years= \$230 /1000kwh

Area Output*

1,657 m²
17,836 ft²

Perimeter Output*

61 m
200 ft

Available Roof Space for PV:

(Area Output - 10 ft x Perimeter) x 85%
13,459 ft²

Approximate System Size:

Is the roof flat? (Yes/No) Yes

8 watt/ft²
107,675 DC watts
100 kW Enter into PV Watts

PV Watts Inputs***

Array Tilt Angle 10 Enter into PV Watts (always 20 if flat, if pitched - enter estimated roof angle)
Array Azimuth 180 Enter into PV Watts (default)
Zip Code 08302 Enter into PV Watts
DC/AC Derate Factor 0.83 Enter into PV Watts

PV Watts Output

118,479 annual kWh calculated in PV Watts program

% Offset Calc

Usage 6,280,176 (from utilities)
PV Generation 118,479 (generated using PV Watts)
% offset 2%



* <http://www.freemaptools.com/area-calculator.htm>
** <http://www.flettexchange.com>
*** http://gisatnrel.nrel.gov/PVWatts_Viewer/index.html

APPENDIX F

Photos

APPENDIX F – PHOTOS



1. Existing Air Cooled Chillers and Air Handler on 1978 Roof



2. Air Handler in 1958 Tower



3. Old AC unit with DX coil



4. Hot water pumps in 1958 tower



5. Chilled water pumps and heat exchangers in 1958 tower



6. Kitchen hood and cooking appliances

APPENDIX G

EPA Benchmarking Report



ENERGY STAR® Statement of Energy Performance

69

ENERGY STAR®
Score¹

Inspira Health Center Bridgeton

Primary Property Function: Hospital (General Medical & Surgical)
Gross Floor Area (ft²): 265,000
Built: 1924

For Year Ending: March 31, 2015
Date Generated: July 08, 2015

1. The ENERGY STAR score is a 1-100 assessment of a building's energy efficiency as compared with similar buildings nationwide, adjusting for climate and business activity.

Property & Contact Information

Property Address

Inspira Health Center Bridgeton
333 Irving Ave
Bridgeton, New Jersey 08302

Property Owner

Inspira Health Network
333 Irving Ave
Bridgeton, NJ 08302
() -

Primary Contact

,
() -

Property ID: 4462967

Energy Consumption and Energy Use Intensity (EUI)

Site EUI

221.9 kBtu/ft²

Annual Energy by Fuel

Electric - Grid (kBtu)	21,370,353 (36%)
Natural Gas (kBtu)	37,425,621 (64%)

National Median Comparison

National Median Site EUI (kBtu/ft²)	247.3
National Median Source EUI (kBtu/ft²)	447.4
% Diff from National Median Source EUI	-10%

Source EUI

401.5 kBtu/ft²

Annual Emissions

Greenhouse Gas Emissions (Metric Tons CO2e/year)	4,849
--	-------

Signature & Stamp of Verifying Professional

I _____ (Name) verify that the above information is true and correct to the best of my knowledge.

Signature: _____ Date: _____

Licensed Professional

,
() -



Professional Engineer Stamp
(if applicable)