



Public Utilities Commission

Application to Commit
Energy Efficiency/Peak Demand
Reduction Programs
(Mercantile Customers Only)

Case No.: 12-0192-EL-EEC

Mercantile Customer: Robinson Memorial Hospital

Electric Utility: Ohio Edison Company

Program Title or
Description: Facility Retrofits

Rule 4901:1-39-05(F), Ohio Administrative Code (O.A.C.), permits a mercantile customer to file, either individually or jointly with an electric utility, an application to commit the customer's existing demand reduction, demand response, and energy efficiency programs for integration with the electric utility's programs. The following application form is to be used by mercantile customers, either individually or jointly with their electric utility, to apply for commitment of such programs in accordance with the Commission's pilot program established in Case No. 10-834-EL-POR

Completed applications requesting the cash rebate reasonable arrangement option (Option 1) in lieu of an exemption from the electric utility's energy efficiency and demand reduction (EEDR) rider will be automatically approved on the sixty-first calendar day after filing, unless the Commission, or an attorney examiner, suspends or denies the application prior to that time. Completed applications requesting the exemption from the EEDR rider (Option 2) will also qualify for the 60-day automatic approval so long as the exemption period does not exceed 24 months. Rider exemptions for periods of more than 24 months will be reviewed by the Commission Staff and are only approved up the issuance of a Commission order.

Complete a separate application for each customer program. Projects undertaken by a customer as a single program at a single location or at various locations within the same service territory should be submitted together as a single program filing, when possible. Check all boxes that are applicable to your program. For each box checked, be sure to complete all subparts of the question, and provide all requested additional information. Submittal of incomplete applications may result in a suspension of the automatic approval process or denial of the application.

Any confidential or trade secret information may be submitted to Staff on disc or via email at ee-pdr@puc.state.oh.us.

Section 1: Mercantile Customer Information

Name: Robinson Memorial Hospital

Principal address: 6847 North Chestnut Street, Ravenna Ohio, 44266

Address of facility for which this energy efficiency program applies: 6847 North Chestnut Street, Ravenna Ohio, 44266

Name and telephone number for responses to questions: Robert Zelma, (330) 297-2463

Electricity use by the customer (check the box(es) that apply):

- ☒ The customer uses more than seven hundred thousand kilowatt hours per year at the above facility. (Please attach documentation.)
- ☐ The customer is part of a national account involving multiple facilities in one or more states. (Please attach documentation.)

Section 2: Application Information

A) The customer is filing this application (choose which applies):

- ☐ Individually, without electric utility participation.
- ☒ Jointly with the electric utility.

B) The electric utility is: Ohio Edison Company

C) The customer is offering to commit (check any that apply):

- ☐ Energy savings from the customer's energy efficiency program. (Complete Sections 3, 5, 6, and 7.)
- ☐ Capacity savings from the customer's demand response/demand reduction program. (Complete Sections 4, 5, 6, and 7.)
- ☒ Both the energy savings and the capacity savings from the customer's energy efficiency program. (Complete all sections of the Application.)

Section 3: Energy Efficiency Programs

A) The customer's energy efficiency program involves (check those that apply):

- ☒ Early replacement of fully functioning equipment with new equipment. (Provide the date on which the customer replaced fully functioning equipment, and the date on which the customer would have replaced such equipment if it had not been replaced early. Please include a brief explanation for how the customer determined this future replacement date (or, if not known, please explain why this is not known)). If Checked, Please see Exhibit 1 and Exhibit 2
- ☐ Installation of new equipment to replace equipment that needed to be replaced. The customer installed new equipment on the following date(s): _____.
- ☐ Installation of new equipment for new construction or facility expansion. The customer installed new equipment on the following date(s): _____.
- ☐ Behavioral or operational improvement.

B) Energy savings achieved/to be achieved by the energy efficiency program:

- 1) If you checked the box indicating that the project involves the early replacement of fully functioning equipment replaced with new equipment, then calculate the annual savings [(kWh used by the original equipment) - (kWh used by new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: 1,453,578 kWh

- 2) If you checked the box indicating that the customer installed new equipment to replace equipment that needed to be replaced, then calculate the annual savings [(kWh used by less efficient new equipment) - (kWh used by the higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: _____ kWh

Please describe any less efficient new equipment that was rejected in favor of the more efficient new equipment. Please see Exhibit 1 if applicable

- 3) If you checked the box indicating that the project involves equipment for new construction or facility expansion, then calculate the annual savings [(kWh used by less efficient new equipment) - (kWh used by higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: _____ kWh

Please describe the less efficient new equipment that was rejected in favor of the more efficient new equipment. Please see Exhibit 1 if applicable

- 4) If you checked the box indicating that the project involves behavioral or operational improvements, provide a description of how the annual savings were determined.

Section 4: Demand Reduction/Demand Response Programs

A) The customer's program involves (check the one that applies):

- ☒ Coincident peak-demand savings from the customer's energy efficiency program.
- ☐ Actual peak-demand reduction. (Attach a description and documentation of the peak-demand reduction.)
- ☐ Potential peak-demand reduction (check the one that applies):

- ☒ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a tariff of a regional transmission organization (RTO) approved by the Federal Energy Regulatory Commission.

- ☐ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a program that is equivalent to an RTO program, which has been approved by the Public Utilities Commission of Ohio.

B) On what date did the customer initiate its demand reduction program?

See Attached Application

C) What is the peak demand reduction achieved or capable of being achieved (show calculations through which this was determined):

182 kW

Section 5: Request for Cash Rebate Reasonable Arrangement (Option 1) or Exemption from Rider (Option 2)

Under this section, check the box that applies and fill in all blanks relating to that choice.

Note: If Option 2 is selected, the application will not qualify for the 60-day automatic approval. All applications, however, will be considered on a timely basis by the Commission.

A) The customer is applying for:

☐ Option 1: A cash rebate reasonable arrangement.

OR

☒ Option 2: An exemption from the energy efficiency cost recovery mechanism implemented by the electric utility.

OR

☐ Commitment payment

B) The value of the option that the customer is seeking is:

Option 1: A cash rebate reasonable arrangement, which is the lesser of (show both amounts):

☐ A cash rebate of \$____. (Rebate shall not exceed 50% project cost. Attach documentation showing the methodology used to determine the cash rebate value and calculations showing how this payment amount was determined.)

Option 2: An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider.

☐ An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for ____ months (not to exceed 24 months). (Attach calculations showing how this time period was determined.)

OR

☐ A commitment payment valued at no more than \$____. (Attach documentation and calculations showing how this payment amount was determined.)

OR

- ☒ Ongoing exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for an initial period of 24 months because this program is part of the customer's ongoing efficiency program. (Attach documentation that establishes the ongoing nature of the program.) In order to continue the exemption beyond the initial 24 month period, the customer will need to provide a future application establishing additional energy savings and the continuance of the organization's energy efficiency program.)

Section 6: Cost Effectiveness

The program is cost effective because it has a benefit/cost ratio greater than 1 using the (choose which applies):

- ☐ Total Resource Cost (TRC) Test. The calculated TRC value is: _____ (Continue to Subsection 1, then skip Subsection 2)
- ☒ Utility Cost Test (UCT) . The calculated UCT value is: **See Exhibit 3** (Skip to Subsection 2.)

Subsection 1: TRC Test Used (please fill in all blanks).

The TRC value of the program is calculated by dividing the value of our avoided supply costs (generation capacity, energy, and any transmission or distribution) by the sum of our program overhead and installation costs and any incremental measure costs paid by either the customer or the electric utility.

The electric utility's avoided supply costs were _____.

Our program costs were _____.

The incremental measure costs were _____.

Subsection 2: UCT Used (please fill in all blanks).

We calculated the UCT value of our program by dividing the value of our avoided supply costs (capacity and energy) by the costs to our electric utility (including administrative costs and incentives paid or rider exemption costs) to obtain our commitment.

Our avoided supply costs were See Exhibit 3

The utility's program costs were See Exhibit 3

The utility's incentive costs/rebate costs were See Exhibit 3

Section 7: Additional Information

Please attach the following supporting documentation to this application:

- Narrative description of the program including, but not limited to, make, model, and year of any installed and replaced equipment.
- A copy of the formal declaration or agreement that commits the program or measure to the electric utility, including:
 - 1) any confidentiality requirements associated with the agreement;
 - 2) a description of any consequences of noncompliance with the terms of the commitment;
 - 3) a description of coordination requirements between the customer and the electric utility with regard to peak demand reduction;
 - 4) permission by the customer to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peak-demand reductions resulting from your program; and,
 - 5) a commitment by the customer to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.
- A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results. Additionally, identify and explain all deviations from any program measurement and verification guidelines that may be published by the Commission.



Public Utilities Commission

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Case No.: 12-0192-EL-EEC

State of Ohio :

, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

Robinson Memorial Hospital

[insert customer or EDU company name and any applicable name(s) doing business as]

2. I have personally examined all the information contained in the foregoing application, including any exhibits and attachments. Based upon my examination and inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete.
3. I am aware of fines and penalties which may be imposed under Ohio Revised Code Sections 2921.11, 2921.31, 4903.02, 4903.03, and 4903.99 for submitting false information.

Signature of Affiant & Title

Sworn and subscribed before me this 20th day of October, 2011 Month/Year

Signature of official administering oath

LINDA T. KALEY

Notary Public, State of Ohio

My commission expires on Sept. 2, 2012

Revised October 28th, 2010

FE Rev 4.25.11

Stephen Colecchi, President & CEO
Print Name and Title

UPGRADE CONTROLS

1. EBI Front End - Furnish and Install the following:

- a. One new EBI R400 front end, 12500-point License, Bacnet & XL5000 interface, LNS Server, DSA
- b. Two Dell Workstations, Windows 2003 Operating System
- c. One Acronis True Image 9.5, Echo Server Back-Up
- d. One Lexmark Color Laser Printer
- e. One Q7055C1009 Building Network Adapter
- f. Migrate all existing XBS points to EBI and convert all graphics
- g. Add Control Points for Patient Rooms Set-Back
- h. Add Control Points for VFD for AHUS 7 and 8
- i. Include all required Project Mgmt, Engineering and Programming hours
- j. Exclusion
- i. Any third party commissioning

2. Energy Manager & Monitoring – Furnish and Install the following:

- a. One Energy Manager Base License (25 Meters) with Demand Management and Advanced Modeling Modules
- b. One Dell Pro-Server for Energy Manager, Windows 2003 Operating System
- c. One Acronis True Image 9.5, Echo Server Back-Up
- d. Five Lantronix UDS-1100 Modbus TCP/IP Routers for Meters and Generator Monitoring
- e. Two H8436VBS Veris Wall-mount, 208-600V Power Meters, Modbus Output
- f. Six H68122000A Veris Current Transformers
- g. Include all Set-up and Programming hours
- h. Exclusion
- i. Any third party commissioning
- ii. Gas Meter for monitoring to be provided by owner and utility company

3. Patient Rooms – Furnish and Install the following:

- a. Wireless Pneumatic Thermostats, Single-Pipe, Direct-Acting, for 206 Patient Rooms (2nd/3rd Floor) for Set-Back Capabilities
- b. Thirty WPT-800 Wall-Powered Wireless Repeaters
- c. Two WPT-800 USB Hubs with Bacnet Servers to interface with EBI Front End
- d. Fiber-Optic Homerun Cable from Patient Rooms Area to Engineering Office for Stand-Alone Communication between EBI Front End and WPT Network System
- e. Four XL800 Controllers with Cabinets, Sub-panels, I/O Modules, Terminal Sockets, Power Supplies, Relays and Transformers to connect 206 Electric Damper Actuators in Induction Units of Patient Rooms for Set-Back Capabilities (Damper Actuators to be furnished and installed by Mechanical Contractor)
- f. 206 Passive Infrared, Ceiling-Mount, 24VAC Occupancy Sensors for Patient Rooms
- g. All Labor and Programming required for installation of all control devices and tie-in into EBI Front End
- h. Exclusion
- i. Any third party commissioning

4. Air Handling Units 7/8/9 – Furnish and Install the following:

- a. Six MP9181006 Pneumatic Damper Actuators – 3-13 Psi spring range
- b. Four V5013B1003 Hot/Chilled Water Valves, 2.5" Pipe, 3-Way Mixing
- c. Four MP953C1489 Pneumatic Valve Actuators – 4-11 Psi spring range
- d. Six 50001774 Stainless-Steel Thermo-wells with C7041D2001 Immersion Sensors – 20K Ohm
- e. Nine C7041B2013 Duct Sensors – 20K Ohm, 12 Inch
- f. Three C7041J2007 Averaging Duct Sensors - 12 Ft, 20K Ohm
- g. Six L48A1004 Dual-Switch freeze Stat – 20-60F, 15-55 degrees F, 5F Differential, 20 ft Capillary, 2SPST, Manual Reset

- h. Two P643A1007 Pressuretrol Pneumatic/Electric Switches to control DX Condensers for Air Handling Units 7 and 8
- i. Twenty-two H709 Current Sensors for Status points
- j. Nine RIBU1C Relays for Start/Stop points
- k. Seven AFS-222 Differential Pressure Switches – 0.05-12 inch
- l. Two AFS-460 SPST Switches w/manual reset – 0.4-12 inch
- m. Two H7625A1008 Wall-Mount Humidity Sensors – 2% RH Accuracy, 20K Ohm Temp Output, mA output selectable
- n. Two H7625B1006 Duct-Mount Humidity Sensors - 2% RH Accuracy, 20K Ohm Temp Output, mA output selectable
- o. Two H7635C1002 OD Humidity Sensors - 3% RH Accuracy, 20K Ohm Temp Output, mA output selectable
- p. Miscellaneous ¼” Pneumatic Tubing and Transducers
- q. All Labor to disconnect/reconnect power and control wiring for the replacement of AHUS
- r. All Engineering, Project Management and Tech Hours to reconnect new AHUS to existing Honeywell XL100 Controllers
- s. Exclusions
- i. Any third party commissioning

5. AHU-2 – Furnish and Install the following:

- a. Two MP9181006 Pneumatic Damper Actuators - 3-13 Psi spring range
- b. One V5013B1003 Hot/Chilled Water Valves, 2.5” Pipe, 3-Way Mixing
- c. One MP953C1489 Pneumatic Valve Actuators – 4-11 Psi spring range
- d. Two 50001774 Stainless-Steel Thermo-wells with C7041D2001 Immersion Sensors – 20K Ohm
- e. Two C7041B2013 Duct Sensors – 20K Ohm, 12 Inch
- f. One C7041J2007 Averaging Duct Sensors - 12 Ft, 20K Ohm
- g. Two L48A1004 Dual-Switch freeze Stat – 20-60F, 15-55 degrees F, 5F Differential, 20 ft Capillary, 2SPST, Manual Reset
- h. Eight H709 Current Sensors for Status points
- i. Two RIBU1C Relays for Start/Stop points
- j. Two AFS-222 Differential Pressure Switches – 0.05-12 inch
- k. Miscellaneous ¼” Pneumatic Tubing and Transducers
- l. All Labor to disconnect/reconnect power and control wiring for the replacement of AHU
- m. All Engineering, Project Management and Tech Hours to reconnect new unit to existing Honeywell XL100 Controller
- n. Exclusion
- i. Any third party commissioning

6. AHU-4 - Furnish and Install the following:

- a. Two MP9181006 Pneumatic Damper Actuators - 3-13 Psi spring range
- b. One V5013B1003 Hot/Chilled Water Valves, 2.5” Pipe, 3-Way Mixing
- c. One MP953C1489 Pneumatic Valve Actuators – 4-11 Psi spring range
- d. Two 50001774 Stainless-Steel Thermo-wells with C7041D2001 Immersion Sensors – 20K Ohm
- e. Two C7041B2013 Duct Sensors – 20K Ohm, 12 Inch
- f. One C7041J2007 Averaging Duct Sensors - 12 Ft, 20K Ohm
- g. Two L48A1004 Dual-Switch freeze Stat – 20-60F, 15-55 degrees F, 5F Differential, 20 ft Capillary, 2SPST, Manual Reset
- h. Five H709 Current Sensors for Status points
- i. Two RIBU1C Relays for Start/Stop points
- j. Two AFS-222 Differential Pressure Switches – 0.05-12 inch
- k. Miscellaneous ¼” Pneumatic Tubing and Transducers
- l. All Labor to disconnect/reconnect power and control wiring for the replacement of AHU
- m. All Engineering, Project Management and Tech Hours to reconnect new unit to existing Honeywell

XL100 Controller

n. Exclusion

i. Any third party commissioning

7. AHU-5 - Furnish and Install the following:

- a. Two MP9181006 Pneumatic Damper Actuators - 3-13 Psi spring range
- b. Two V5013B1003 Hot/Chilled Water Valves, 2.5" Pipe, 3-Way Mixing
- c. Two MP953C1489 Pneumatic Valve Actuators – 4-11 Psi spring range
- d. Two 50001774 Stainless-Steel Thermo-wells with C7041D2001 Immersion Sensors – 20K Ohm
- e. Three C7041B2013 Duct Sensors – 20K Ohm, 12 Inch
- f. One C7041J2007 Averaging Duct Sensors - 12 Ft, 20K Ohm
- g. One TR21 Wall Module – 20K Ohm, Temp Sensor only no network jack
- h. Two L48A1004 Dual-Switch freeze Stat – 20-60F, 15-55 degrees F, 5F Differential, 20 ft Capillary, 2SPST, Manual Reset
- i. Three H709 Current Sensors for Status points
- j. Two RIBU1C Relays for Start/Stop points
- k. Two AFS-222 Differential Pressure Switches – 0.05-12 inch
- l. Miscellaneous ¼" Pneumatic Tubing and Transducers
- m. All Labor to disconnect/reconnect power and control wiring for the replacement of AHU
- n. All Engineering, Project Management and Tech Hours to reconnect new unit to existing Honeywell XL100 Controller
- o. Exclusions
- i.

8. AHU-6 - Furnish and Install the following:

- a. Two MP9181006 Pneumatic Damper Actuators - 3-13 Psi spring range
- b. One V5013B1003 Hot/Chilled Water Valves, 2.5" Pipe, 3-Way Mixing
- c. One MP953C1489 Pneumatic Valve Actuators – 4-11 Psi spring range
- d. Two 50001774 Stainless-Steel Thermo-wells with C7041D2001 Immersion Sensors – 20K Ohm
- e. Two C7041B2013 Duct Sensors – 20K Ohm, 12 Inch
- f. One C7041J2007 Averaging Duct Sensors - 12 Ft, 20K Ohm
- g. Two L48A1004 Dual-Switch freeze Stat – 20-60F, 15-55 degrees F, 5F Differential, 20 ft Capillary, 2SPST, Manual Reset
- h. Six H709 Current Sensors for Status points
- i. Two RIBU1C Relays for Start/Stop points
- j. Two AFS-222 Differential Pressure Switches – 0.05-12 inch
- k. Miscellaneous ¼" Pneumatic Tubing and Transducers
- l. All Labor to disconnect/reconnect power and control wiring for the replacement of AHU
- m. All Engineering, Project Management and Tech Hours to reconnect new unit to existing Honeywell XL100 Controller

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	What date would you have replaced your equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	Lighting Retrofit - Interior	Complete Lighting Retrofit1. Honeywell furnished and installed a lighting retrofit project as detailed in Exhibit A-1 attached. Generally speaking, the project consists of converting existing T12 lamps, T8 lamps, and magnetic ballast to energy efficient 25 watt T8 lamps and high efficiency electronic ballast, either through retrofit or replacement of fixtures; the elimination of energy abusive incandescent fixtures to compact fluorescent or halogen fixtures where hours of operation are significant and/or where the existing fixture type is appropriate for a retrofit or replacement of fixtures. Non LED type exit signs will be replaced with new LED type signs, and the installation of occupancy sensors appropriate spaces to further eliminate waste. Refer to Exhibit A-1 for specific information as to location of fixture and treatment (i.e., replacement or retrofit or new installation. Lighting Upgrade Specifics a. 30,000 hour, 25 watt T8 lamps will be used. b. Lenses will be dry wiped to remove dust and debris at time of installation. c. In compliance with federal regulations, recycled all lamps and PCB laden ballasts. A manifest will be provided to the Hospital at the end of the job stating the number of lamps and ballasts that were recycled.	The energy cost avoidance determination for this ECM is isolated to the lighting system retrofit. The retrofit isolation approach (IPMVP, option A) was selected to determine the energy unit displacement and cost avoidance. This is a cost effective approach providing an acceptable balance between the costs of doing MBV versus the quantity of projected Cost Avoidance. This method analyzes energy use within the isolated boundary of this particular ECM retrofit and not the building as a whole at the utility meter. Energy cost savings for this measure are achieved through improvement of the lighting fixture efficiency. The determination of Cost Avoidance will utilize the following baseline – actual formula: Pre retrofit fixture kW* hours* unit cost Minus Post retrofit fixture kW* hours* unit cost. The monitoring and sampling plan results will confirm future savings by fixture type. Utility unit costs will be evaluated based on utility rate analysis. All other operating parameters (including hours) used in avoidance calculations are agreed upon and stipulated for the duration of the performance period.	The lamps and ballasts were replaced as they failed. Ongoing replacements as necessary.	N/A
2	AHU 5 Replacement- High Efficiency Motor and Air Handler 7,8,9 Replacement High Efficiency Motor	REPLACE AIR HANDLER UNIT 5 1. Remove existing air handler and accessories. Remove from site and legally dispose of unit. 2. Furnish and install new equivalent air handler with High Effici Motor. Match current chilled water coil capacity. 3. Modify existing roof curbs as necessary to adapt to new unit. 4. Exclusions: a. This is intended to be an in-kind equipment replacement. We exclude any work required as a result of a courier interpretation by the local code official having jurisdiction. REPLACE AIR HANDLER UNITS 7 1. Remove existing air handler and accessories. Remove from site and legally dispose of unit. 2. Furnish and install new equivalent air handler. Match current chilled water and dx coil capacities. 3. Unit shall have two supply and two return fans for redundancy. 4. Provide and install VFDs on each supply and return fan. VFDs shall be controlled based on duct static pressure. 5. Remove existing dx condensing units and legally dispose of units. 6. Provide and install new equivalent condensing dx unit. 7. Modify existing roof curbs as necessary to adapt to new unit. 8. REPLACE AIR HANDLER UNITS 8 1. Remove existing air handler and accessories. Remove from site and legally dispose of unit. 2. Furnish and install new equivalent air handler. Match current chilled water and dx coil capacities. 3. Unit shall have two supply and two return fans for redundancy. 4. Provide and install VFDs on each supply and return fan. VFDs shall be controlled based on duct static pressure. 5. Remove existing dx condensing units and legally dispose of units. 6. Provide and install new equivalent condensing dx unit. 7. Modify existing roof curbs as necessary to adapt to new unit. K. REPLACE AIR HANDLER UNIT 9 1. Remove existing air handler and accessories. Remove from site and legally dispose of unit. 2. Furnish and install new equivalent air handler. Match current chilled water and heating coil capacities. 3. Modify existing roof curbs as necessary to adapt to new unit.	IPMVP Option A, was selected to determine the energy and cost avoidance for the Hospital included in Mechanical Retrofit activities as a cost effective approach providing an acceptable balance between the cost of doing Measurement and Verification (M&V) versus the quantity of projected Cost Avoidance. This method analyzes energy use within the building based on standard engineering practices and principals. Pre retrofit energy (electric) * unit cost Minus Post retrofit energy (electric) * unit cost. The monitoring and sampling plan results will indicate energy and cost avoidance. Savings based on improved motor eff percentage.	Less than 5 years	N/A
3	Energy Management Systems and Control Savings Server Room Setback	ORANKE COMMERCIAL 1. EBI Front End - Furnish and install the following: a. One new EBI R400 front end, 12500-point License, Bacnet & XL5000 interface, LNS Server, DSA b. Two Dell Workstations, Windows 2003 Operating System c. One Aconis True Image 9.5, Echo Server Back-Up d. One Leemark Color Laser Printer e. One Q755C1009 Building Network Adapter f. Migrate all existing XBS points to EBI and convert all graphics g. Add Control Points for Patient Rooms Set-Back h. Add Control Points for VFD for AHUS 7 and 8 i. Include all required Project Mgmt, Engineering and Programming hours j. Exclusion k. Any third party commissioning 2. Energy Manager & Monitoring – Furnish and install the following: a. One Energy Manager Base License (25 Meters) with Demand Management and Advanced Modeling Modules b. One Dell Pro-Server for Energy Manager, Windows 2003 Operating System c. One Aconis True Image 9.5, Echo Server Back-Up d. Five Lantronix UDS-1100 Modbus TCP/IP Routers for Meters and Generator Monitoring e. Two HANSONVES Versa Wall-mount, 208-600V Power Meters, Modbus Output f. Six H68122000A Versa Current Transformers g. Include all Set-up and Programming hours h. Exclusion i. Any third party commissioning j. Gas Meter for monitoring to be provided by owner and utility company 3. Patient Rooms – Furnish and install the following: a. Wireless Pneumatic Thermostats, Single-Pipe, Direct-Acting, for 206 Patient Rooms (2nd/3rd Floor) for Set-Back Capabilities	IPMVP Option A, was selected to determine the energy and cost avoidance for the Hospital included in HVAC controls upgrade activities as a cost effective approach providing an acceptable balance between the cost of doing Measurement and Verification (M&V) versus the quantity of projected Cost Avoidance. This method analyzes energy use within the building based on standard engineering practices and principals. Pre retrofit energy (electric) * unit cost Minus Post retrofit energy (electric) * unit cost. The monitoring and sampling plan results will indicate energy and cost avoidance. Savings based on improved R value and reduced air infiltration. See attached calculation sheet.	Less than 5 years	N/A
4	Variable Speed Drives and Ventilation Control	MODIFY INDUCTION UNITS- AHU 7 and AHU 8??? 1. Provide and install two hundred eight (208) two-position dampers in the duct serving each induction unit in the original patient rooms on the second and third floor. 2. Provide and install two hundred eight (208) motion sensors to determine occupancy mode. 3. Modify or replace lay in grille as required to allow damper to fit in the existing cabinet. 4. Provide engineering design and documents as required to facilitate the installation of the modifications. Provide and install VFDs on each supply and return fan. VFDs shall be controlled based on duct static pressure.	IPMVP Option A, was selected to determine the energy and cost avoidance for the Hospital included in Mechanical Retrofit activities as a cost effective approach providing an acceptable balance between the cost of doing Measurement and Verification (M&V) versus the quantity of projected Cost Avoidance. This method analyzes energy use within the building based on standard engineering practices and principals. Pre retrofit energy (electric) * unit cost Minus Post retrofit energy (electric) * unit cost. The monitoring and sampling plan results will indicate energy and cost avoidance. Savings based on improved R value and reduced air infiltration. See attached calculation sheet.	Less than 5 years	N/A

Exhibit 2

Customer Legal Entity Name: Robinson Memorial Hospital

Site: Robinson Memorial Hospital

Principal Address: 6847 North Chestnut Street

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C)	Note 1
2010	15,789,289	15,789,289	15,789,289	
2009	9,746,612	9,746,612	9,746,612	
2008	16,037,441	16,037,441	16,037,441	
Average	13,857,781	13,857,781	13,857,781	

Project Number	Project Name	In-Service Date	Project Cost \$	KWh Saved/Year Counting towards Utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW
1	Lighting Retrofit - Interior	04/01/2011	\$298,505	1,058,176	1,058,176	175
2	AHU 5 Replacement- High Efficiency Motor and Air Handler 7,8,9 Replacement High Efficiency Motor	07/01/2011	\$1,059,967	57,518	57,518	7
3	Energy Management Systems and Control Savings Server Room Setback	09/01/2011	\$67,550	145,796	145,796	-
4	Variable Speed Drives and Ventilation Control	07/01/2011	\$151,319	192,088	192,088	0
				-	-	-
				-	-	-
				-	-	-
Total				1,453,578	1,453,578	182

Docket No. 12-0192

Site: 6847 North Chestnut Street

**Savings as percent of
usage** **10.5%** Note 2

**= Total (D) divided by
Average (C)**

**Customer Eligible for
Exemption Until** **Feb-2020** Note 3

Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission. Depending on the Commission's order, periods greater than 24 months may be capped at 24 months.

Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost \$/MWh (B)	Utility Avoided Cost \$ (C)	Utility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Total Utility Cost \$ (G)	UCT (H)
1	1,058	\$ 308	\$ 326,214	\$ 887	\$0	\$10,582	\$ 11,468	28.4
2	58	\$ 308	\$ 17,732	\$ 887	\$0	\$575	\$ 1,462	12.13
3	146	\$ 308	\$ 44,946	\$ 887	\$0	\$1,458	\$ 2,344	19.17
4	192	\$ 308	\$ 59,217	\$ 887	\$0	\$1,921	\$ 2,807	21.09
Total	1,454	\$ 308	448,109	3,546	\$0	\$14,536	18,082	24.8

Notes

(A) From Exhibit 2, = kWh saved / 1000

(B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).

(C) = (A) * (B)

(D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.

(E) This is the amount of the cash rebate paid to the customer for this project.

(F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.

(G) = (D) + (E) + (F)

(H) = (C) / (G)

Robinson Memorial Hospital ~ Robinson Memorial Hospital
Docket No. 12-0192

Site: 6847 North Chestnut Street

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																
03-Aug-10	LIGHTING SURVEY DATA SHEET																
PAGE 1																	
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts		Fixture Watts	Total Watts		Annual Hours	Annual Hours				
	Fixture Type	Curr.	Prop.	Qty	Proposed	Before	Before	KW Before	After	After	After	Before	After	Used	KWH Savings	KWH Rate	Annual Savings
*** 3RD FLOOR ***																	
300 WING																	
ROOM 3000	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.0705	87.98
ROOM 3000	2X4 LAY-IN UT T12	2	2	1	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP UT	85	85	0.085	54	54	0.054	6000	6000	510.0	186.0	0.0705	13.11
ROOM 3001-3034	2X4 LAY-IN T8	4	4	68	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	7616	7.616	86	5848	5.848	6000	6000	45696.0	10608.0	0.0705	747.86
ROOM 3001-3034 PB	4' WALLMOUNT	3	3	68	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	5780	5.780	64	4352	4.352	6000	6000	34680.0	8568.0	0.0705	604.04
ROOM 3001-3034 RESTROOM	2' WALLMOUNT	2	2	34	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	1122	1.122	29	986	0.986	6000	4800	6732.0	1999.2	0.0705	140.94
OFFICE 30395	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.0705	43.99
SHOWER 30394	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	3200	400.0	342.4	0.0705	24.14
ROOM 30393	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.0705	23.12
PANTRY 30392	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.0705	11.00
LOUNGE 30386	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.0705	43.99
NURSE STATION	2X4 LAY-IN PAR T8	4	4	9	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1008	1.008	86	774	0.774	6000	6000	6048.0	1404.0	0.0705	98.98
NURSE STATION	INC CAN	1	1	11	NEW CREE LR6 LED CAN RETROFIT	100	1100	1.100	12	132	0.132	6000	6000	6600.0	5808.0	0.0705	409.46
ROOM 30359	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00
ROOM 30384	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00
ROOM 30362	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00
ROOM 30383	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00
ROOM 3000 HALLWAY	2X4 LAY-IN T8	2	2	46	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	2576	2.576	43	1978	1.978	6000	6000	15456.0	3588.0	0.0705	252.95
ROOM 30378	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.0705	23.12
ROOM 30386	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.0705	23.12
ROOM 30368	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.0705	23.12
ROOM 30364 RESTROM	2' WALLMOUNT	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	33	0.033	29	29	0.029	6000	6000	198.0	24.0	0.0705	1.69
ROOM 30382	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.0705	65.99
ROOM 30376	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.0705	11.00
TOTAL							23404	23.404		16995	16.995			139424.0	38831.6		2726.63

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 2																		
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual					
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours	KWH	KWH	KWH	Annual	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
STAIRWELL	4' WRAP T8	2	2	2	RL 4' 2-LAMP FIXTURE W/ 25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.0705	11.00	
ROOM 30372	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/ 25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.0705	11.00	
ROOM 30370	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/ 25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00	
DICTATION DESK	4' UCAB T12	1	1	2	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	86	172	0.172	48	96	0.096	6000	6000	1032.0	456.0	0.0705	32.15	
ROOM 30354	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.0705	23.12	
ROOM 30398 RESTROOM	2' WALLMOUNT	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	33	0.033	29	29	0.029	6000	6000	198.0	24.0	0.0705	1.69	
ROOM 30396	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/ 25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.0705	65.99	
ROOM 30346	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/ 25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00	
ROOM 30345	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/ 25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.0705	65.99	
REGENCY HALLWAY	2X4 LAY-IN T8	2	2	6	RL 4' 2-LAMP FIXTURE W/ 25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.0705	32.99	
ROOM 30343	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/ 25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.0705	65.99	
*** RHC ***																		
RHC HALLWAY	2X4 LAY-IN T8	3	3	17	RL 4' 3-LAMP FIXTURE W/ 25 WATT T8 LAMPS	85	1445	1.445	64	1088	1.088	6000	6000	8670.0	2142.0	0.0705	151.01	
ROOM 31030 EXAM	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/ 25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.0705	17.77	
ROOM 31208 STORAGE	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/ 25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.0705	17.77	
PHARMACY	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/ 25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.0705	43.99	
ROOM 31204 SHOWER	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.0705	23.12	
ROOM 31202 UTILITY	4' WRAP T12	2	2	1	RL 4' 2-LAMP FIXTURE W/ 25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.0705	5.50	
ROOM 31042	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/ 25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.0705	32.99	
ROOM 31042	2X2 LAY-IN T12	2	2	2	RL 4' 2-LAMP FIXTURE W/ 25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.0705	11.00	
ROOM 31044	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/ 25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.0705	32.99	
ROOM 31044	2X2 LAY-IN UT T8	2	2	3	***LEAVE AS IS***	56	168	0.168	54	162	0.162	6000	6000	1008.0	36.0	0.0705	2.54	
ROOM 31201	2X2 LAY-IN UT T8	2	2	4	***LEAVE AS IS***	56	224	0.224	54	216	0.216	6000	6000	1344.0	48.0	0.0705	3.38	
ROOM 3120	2X2 LAY-IN UT T8	2	2	2	***LEAVE AS IS***	56	112	0.112	54	108	0.108	6000	6000	672.0	24.0	0.0705	1.69	
TOTAL							7006	7.006		5302	5.302			41636.0	9896.0		686.67	
PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 3																		
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual					
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours	KWH	KWH	KWH	Annual	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
ROOM 31199 MEDICATION	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/ 25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.0705	11.00	
ROOM 32198 NOUR.	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/ 25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.0705	8.88	
ROOM 3105-3117	2X4 LAY-IN T8	4	4	24	RL 4' 4-LAMP FIXTURE W/ 25 WATT T8 LAMPS	112	2688	2.688	86	2064	2.064	6000	6000	16128.0	3744.0	0.0705	263.95	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

ROOM 3105-3117 PB	4' WALLMOUNT	3	3	24	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	2040	2.040	64	1536	1.536	6000	6000	12240.0	3024.0	0.0705	213.19
ROOM 3105-3117 PB	INC CAN	1	1	12	NEW CREE LR6 LED CAN RETROFIT	100	1200	1.200	12	144	0.144	6000	6000	7200.0	6336.0	0.0705	446.69
ROOM 3105-3117 RESTROOM	2' WALLMOUNT	2	2	12	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	396	0.396	29	348	0.348	6000	4800	2376.0	705.6	0.0705	49.74
NURSES STATION	2X4 PAR T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.0705	32.99
ROOM 32197	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00
ROOM 32192 STAFF	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00
ROOM 31184 RESTROOM	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	4800	672.0	259.2	0.0705	18.27
ROOM 32146	4' WRAP T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.0705	5.50
ROOM 32148 RESTROOM	2' WALLMOUNT	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	33	0.033	29	29	0.029	6000	4800	198.0	58.8	0.0705	4.15
ROOM 32144	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00
ROOM 32142	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00
ROOM 31182	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.0705	23.12
ROOM 31180 ELECT	INC	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	3200	400.0	342.4	0.0705	24.14
STAIRWELL	4' WRAP T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.0705	11.00
ROOM 32132	2X4 LAY-IN T12	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00
ROOM 32126	2X4 LAY-IN PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00
ROOM 32126	1X4 LAY-IN T12	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.0705	5.50
ROOM 32128	2X4 LAY-IN PAR T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.0705	43.99
MEDICAL RECORDS	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00
MEDICAL RECORDS	4' WALLMOUNT T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.0705	17.77
MEDICAL RECORDS RESTROOM	2' WALLMOUNT	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	33	0.033	29	29	0.029	6000	4800	198.0	58.8	0.0705	4.15
MEDICAL RECORDS HALLWAY	2X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00
ROOM 32158	4' WRAP T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.0705	5.50
TOTAL							9925	9.925		6743	6.743			59150.0	19368.8		1360.00
PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																
03-Aug-10	LIGHTING SURVEY DATA SHEET																
PAGE 4																	
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual				
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours	KWH	KWH	KWH	Annual
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings
ROOM 32110	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00
ROOM 32100	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00
AKRON CHILDRENS																	
ROOM 3201-3210 PR	2X4 LAY-IN T8	3	3	10	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	850	0.850	64	640	0.640	6000	6000	5100.0	1260.0	0.0705	88.83
ROOM 3201-3210	INC CAN	1	1	20	NEW CREE LR6 LED CAN RETROFIT	100	2000	2.000	12	240	0.240	6000	6000	12000.0	10560.0	0.0705	744.48
ROOM 3201-3210	4' WALLMOUNT	3	3	20	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1700	1.700	64	1280	1.280	6000	6000	10200.0	2520.0	0.0705	177.66
ROOM 3201-3210 R	2' WALLMOUNT	2	2	10	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	330	0.330	29	290	0.290	6000	6000	1980.0	240.0	0.0705	16.92
ROOM 32110 D	2X4 LAY-IN T8	3	3	3	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	6000	1530.0	378.0	0.0705	26.65
ROOM 32110 D	2X2 LAY-IN UT 8	2	2	1	***LEAVE AS IS**	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.0705	0.00
ROOM 32150	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.0705	17.77
ROOM 32152	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.0705	8.88
ROOM 32154	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.0705	8.88

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

[illegible]

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
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		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual					
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours	KWH	KWH	KWH	Annual	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
ROOM 33404	2X4 LAY-IN T8	4	4	2	2 RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00	
STORAGE	1X4 LAY-IN T8	2	2	2	2 RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	4800	672.0	259.2	0.0705	18.27	
WAITING ROOM	2X4 LAY-IN T8	2	2	6	6 RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.0705	32.99	
ROOM 33006	2X4 LAY-IN T8	2	2	18	18 RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	1008	1.008	43	774	0.774	6000	6000	6048.0	1404.0	0.0705	98.98	
33398 RESTROOM	2' WALLMOUNT	2	2	1	1 RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	33	0.033	29	29	0.029	6000	4800	198.0	58.8	0.0705	4.15	
ROOM 33396	2X4 LAY-IN T8	4	4	1	1 RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.0705	11.00	
ROOM 33344	2X4 LAY-IN T8	4	4	1	1 RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.0705	11.00	
ROOM 33392	2X4 LAY-IN T8	4	4	2	2 RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00	
ROOM 33394	2X4 LAY-IN T8	4	4	2	2 RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00	
ROOM 3300-3334 PR	2X4 LAY-IN T8	4	4	68	68 RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	7616	7.616	86	5848	5.848	6000	6000	45696.0	10608.0	0.0705	747.86	
ROOM 3300-3334 PR	4' WALLMOUNT	3	3	68	68 RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	5780	5.780	64	4352	4.352	6000	6000	34680.0	8568.0	0.0705	604.04	
ROOM 3300-3334 RR	3' WALLMOUNT	2	2	34	34 RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	1904	1.904	43	1462	1.462	6000	6000	11424.0	2652.0	0.0705	186.97	
ROOM 33390	1X4 LAY-IN T8	2	2	2	2 RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.0705	11.00	
ROOM 33388	INC SQ	1	1	1	1 CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.0705	23.12	
ROOM 33392	INC SQ	1	1	1	1 CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.0705	23.12	
ROOM 33386	2X4 LAY-IN T8	4	4	2	2 RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00	
NURSES STATION	2X4 LAY-IN T8 PAR	2	2	9	9 RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	504	0.504	43	387	0.387	6000	6000	3024.0	702.0	0.0705	49.49	
NURSES STATION	INC CAN	1	1	10	10 NEW CREE LR6 LED CAN RETROFIT	100	1000	1.000	12	120	0.120	6000	6000	6000.0	5280.0	0.0705	372.24	
NURSES STATION	4' VND CAB T12	1	1	2	2 RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	86	172	0.172	48	96	0.096	6000	6000	1032.0	456.0	0.0705	32.15	
ROOM 33381	2X4 LAY-T8	4	4	2	2 RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00	
ROOM 33378	2X4 LAY-T8	4	4	2	2 RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00	
ROOM 33356	1X4 LAY-IN T8	2	2	2	2 RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.0705	11.00	
ROOM 33377	2X4 LAY-IN T8	4	4	2	2 RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00	
ROOM 33358	2' WALLMOUNT	2	2	1	1 RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	33	0.033	29	29	0.029	6000	6000	198.0	24.0	0.0705	1.69	
ROOM 33376	2X4 LAY-IN T8	4	4	2	2 RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.0705	22.00	
ROOM 33374	INC SQ	1	1	1	1 CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.0705	23.12	
ROOM 33364	INC SQ	1	1	1	1 CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.0705	23.12	
TOTAL							21138	21.138		15233	15.233			126028.0	34912.0		2461.30	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 6																			
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual						
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours	KWH	KWH	KWH	Annual		
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings		
ROOM 33302	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.071	23.12		
ROOM 33372	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
STAIRWELL	4' WRAP	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 33368	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 33366	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 33302	2X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 33350	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.071	23.12		
3300 HALLWAY	2X4 LAY-IN T8	2	2	46	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	2576	2.576	43	1978	1.978	6000	6000	15456.0	3588.0	0.071	252.95		
*** 2ND FLOOR ***																			
WAITING ROOM	2X4 LAY-IN T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.071	32.99		
SOCIAL WORK	2X4 LAY-IN T8	2	2	11	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	616	0.616	43	473	0.473	6000	6000	3696.0	858.0	0.071	60.49		
SOCIAL WORK LOUNGE	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 20412 RESTROOM	2' WALLMOUNT	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	33	0.033	29	29	0.029	6000	4800	198.0	58.8	0.071	4.15		
ROOM 20410	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99		
ROOM 20344	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 2001-2034	2X4 LAY-IN T8	4	4	68	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	7616	7.616	86	5848	5.848	6000	6000	45696.0	10608.0	0.071	747.86		
ROOM 2001-2034	4' WALLMOUNT	3	3	68	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	5780	5.780	64	4352	4.352	6000	6000	34680.0	8568.0	0.071	604.04		
ROOM 2001-2034	INC CAN	1	1	68	NEW CREE LR6 LED CAN RETROFIT	100	6800	6.800	12	816	0.816	6000	6000	40800.0	35904.0	0.071	2531.23		
ROOM 2001-2034 RESTROOM	2' WALLMOUNT	2	2	68	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	2244	2.244	29	1972	1.972	6000	4800	13464.0	3998.4	0.071	281.89		
STORAGE	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27		
ROOM 20406	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.071	23.12		
ROOOM 20404	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.071	23.12		
ROOM 20354	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.071	23.12		
ROOM 20402	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	78.0	0.071	5.50		
ROOM 20390	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99		
ROOM 20300	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
TOTAL							28741	28.741		17536	17.536			171446.0	68836.4		4852.97		

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 7																			
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts		Fixture Watts	Total Watts		Annual Hours	Annual Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	After	After	Used	KWH	KWH	KWH	Annual Savings	
NURSES STATION	2X4 LAY-IN PAR T8	2	2	9	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	504	0.504	43	387	0.387	6000	6000	3024.0	702.0	0.071	49.49		
NURSES STATION	INC CAN	1	1	11	NEW CREE LR6 LED CAN RETROFIT	100	1100	1.100	12	132	0.132	6000	6000	6600.0	5808.0	0.071	409.46		
NURSES STATION	4' UND CAB T12	1	1	2	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	86	172	0.172	48	96	0.096	6000	6000	1032.0	456.0	0.071	32.15		
ROOM 20361	2X4LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 20388	2X4LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 20364	2X4LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 20386	4' WRAP T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50		
ROOM 20366 RESTROOM	2' WALLMOUNT	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	33	0.033	29	29	0.029	6000	4800	198.0	58.8	0.071	4.15		
ROOM 20370	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.071	23.12		
ROOM 20382	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.071	23.12		
ROOM 20380 LOUNGE	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
STAIRWELL	4' WRAP	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 20372	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 20352	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
2000 HALLWAY	2X4 LAY-IN T8	2	2	46	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	2576	2.576	43	1978	1.978	6000	6000	15456.0	3588.0	0.071	252.95		
ELEVATOR HALLWAY	2X4 LAY-IN T8	2	2	9	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	504	0.504	43	387	0.387	6000	6000	3024.0	702.0	0.071	49.49		
2300 HALLWAY	2X4 LAY-IN T8	2	2	46	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	2576	2.576	43	1978	1.978	6000	6000	15456.0	3588.0	0.071	252.95		
ROOM 23006	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99		
ROOM 20424	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 23404	2' WALLMOUNT	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	33	0.033	29	29	0.029	6000	6000	198.0	24.0	0.071	1.69		
ROOM 23402	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 23344	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071	65.99		
ROOM 23398	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 23400	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 23396	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 2301-2334	2X4 LAY-IN T8	4	4	34	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	3808	3.808	86	2924	2.924	6000	6000	22848.0	5304.0	0.071	373.93		
TOTAL							14698	14.698		10427	10.427			87788.0	25332.8		1785.96		

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Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 8																			
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual						
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	KWH	Rate	Savings	
ROOM 2301-2334	4' WALLMOUNT T12	3	3	34	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	2890	2.890	64	2176	2.176	6000	6000	17340.0	4284.0	0.071		302.02	
ROOM 2301-2334 RESTROOM	2' WALLMOUNT	2	2	34	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	1122	1.122	29	986	0.986	6000	4800	6732.0	1999.2	0.071		140.94	
ROOM 2301-2334	INC SCONCE	1	1	68	CFL SCREW IN 18 WATT	100	6800	6.800	18	1224	1.224	4000	4000	27200.0	22304.0	0.071		1572.43	
ROOM 23392	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 23394	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.071		23.12	
ROOM 23390	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
NURSES STATION	2X4 LAY-IN PAR T8	2	2	9	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	504	0.504	43	387	0.387	6000	6000	3024.0	702.0	0.071		49.49	
NURSES STATION	INC CAN	1	1	11	NEW CREE LR6 LED CAN RETROFIT	100	1100	1.100	12	132	0.132	6000	6000	6600.0	5808.0	0.071		409.46	
NURSES STATION	UND CAB T12	1	1	2	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	56	112	0.112	29	58	0.058	6000	6000	672.0	324.0	0.071		22.84	
ROOM 23386	2X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 23385	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 23382	1X4 LAY-IN T8	2	2	2	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	86	172	0.172	48	96	0.096	6000	6000	1032.0	456.0	0.071		32.15	
ROOM 23360	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
ROOM 23378	4' WRAP T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
ROOM 23364	2' WALLMOUNT	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	33	0.033	29	29	0.029	6000	6000	198.0	24.0	0.071		1.69	
ROOM 23370	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.071		23.12	
ROOM 23368	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
ROOM 23376	INC SQ	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.071		23.12	
ROOM 23178	1X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
STAIRWELL	4' WRAP T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
ROOM 23372	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
ROOM 23351	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
* BIRTHING CENTER *																			
LOBBY COVE	4' STRIP	2	2	12	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	672	0.672	43	516	0.516	6000	6000	4032.0	936.0	0.071		65.99	
LOBBY COVE	3' STRIP	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
ROOM 22268	2X4 LAY-IN T8	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071		35.53	
TOTAL							15725	15.725		7204	7.204			80150.0	40665.2			2866.90	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 9																		
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours	KWH	KWH	KWH	Annual Savings	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
ROOM 22266	2X4 PAR LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
ROOM 22264	2X4 PAR LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
ROOM 22268 HALLWAY	2X2 LAY-IN PAR T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
REG DESK	2X4 PAR LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
LOCKER ROOM	2X2 LAY-IN	2	2	2	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	66	0.066	29	58	0.058	6000	4800	396.0	117.6	0.071	8.29	
ROOM 22217	2X2 PAR LAY-IN T8	3	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	33	0.033	29	29	0.029	6000	6000	198.0	24.0	0.071	1.69	
ROOM 22215	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
ROOM 22218	3' WALLMOUNT	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
HALL COVE	4' STRIP	2	2	125	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	7000	7.000	43	5375	5.375	6000	6000	42000.0	9750.0	0.071	687.38	
MENS LOCKER ROOM	2X2 LAY-IN PAR	3	3	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	4800	672.0	134.4	0.071	9.48	
MENS LOCKER ROOM	2X4 LAY-IN PAR	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	4800	510.0	202.8	0.071	14.30	
ROOM 22257	2X4 LAY-IN PAR	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88	
ROOM 22221	2X2 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
ROOM 22221	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
ROOM 22254	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
ROOM 22252	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
NURSES STATION	2X4 LAY-IN PAR T8	3	3	3	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	6000	1530.0	378.0	0.071	26.65	
NURSES STATION	2X2 LAY-IN PAR	3	2	3	***LEAVE AS IS***	56	168	0.168	56	168	0.168	6000	6000	1008.0	0.0	0.071	0.00	
NURSERY	IND PENDANTS T8	3	3	12	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1020	1.020	64	768	0.768	6000	6000	6120.0	1512.0	0.071	106.60	
ROOM 22246	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
ROOM 22244	2X4 LAY-IN PAR	3	3	6	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	510	0.510	64	384	0.384	6000	6000	3060.0	756.0	0.071	53.30	
ROOM 2201-2208	2X4 LAY-IN T8	4	4	16	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1792	1.792	86	1376	1.376	6000	6000	10752.0	2496.0	0.071	175.97	
ROOM 2201-2208	2X2 LAY-IN BIAx	2	2	24	***LEAVE AS IS***	56	1344	1.344	56	1344	1.344	6000	6000	8064.0	0.0	0.071	0.00	
ROOM 2201-2208 RR	2X4 LAY-IN T8	2	2	8	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	448	0.448	43	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
NURSE STATION 11	2X4 PAR T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88	
ROOM 2209-2211	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
TOTAL							15139	15.139		11972	11.972			90834.0	19282.8		1359.44	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 10																			
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours	KWH	KWH	KWH	Annual Savings		
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings		
ROOM 2209-2211	2' WALLMOUNT T8	2	2	3	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	99	0.099	29	87	0.087	6000	6000	594.0	72.0	0.071	5.08		
ROOM 2209-2211 RESTROOM	2' WALLMOUNT T8	2	2	3	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	99	0.099	29	87	0.087	6000	4800	594.0	176.4	0.071	12.44		
STAIRWELL	4' WRAP T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
KITCHEN SITE	2X4 LAY-IN PAR T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88		
ROOM 22116 HALLWAY	2X4 LAY-IN PAR T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88		
ROOM 22116 HALLWAY	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 2212-2215	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071	87.98		
ROOM 2212-2215	2X2 LAY-IN BIAx	2	2	12	***LEAVE AS IS***	56	672	0.672	56	672	0.672	6000	6000	4032.0	0.0	0.071	0.00		
ROOM 2212-2215 RESTROOM	2X2 LAY-IN BIAx	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	4800	1344.0	268.8	0.071	18.95		
ROOM 22240	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50		
ROOM 22236	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50		
OR HALLWAY	2X4 LAY-IN T8	4	4	13	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1456	1.456	86	1118	1.118	6000	6000	8736.0	2028.0	0.071	142.97		
ROOM 22232	2X2 LAY-IN BIAx	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071	0.00		
ROOM 22230	2X2 LAY-IN BIAx	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071	0.00		
ROOM 22144	2X4 LAY-IN T8	4	4	13	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1456	1.456	86	1118	1.118	6000	6000	8736.0	2028.0	0.071	142.97		
ROOM 22147	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50		
ROOM 22149	2X4 LAY-IN T8	4	4	13	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1456	1.456	86	1118	1.118	6000	6000	8736.0	2028.0	0.071	142.97		
ROOM 22150	2X4 LAY-IN T8	4	4	18	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	2016	2.016	86	1548	1.548	6000	6000	12096.0	2808.0	0.071	197.96		
HALL COVE	3' STRIP	2	2	12	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	672	0.672	43	516	0.516	6000	6000	4032.0	936.0	0.071	65.99		
ROOM 2216-2221	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071	65.99		
ROOM 2216-2221	2X2 LAY-IN BIAx	2	2	12	***LEAVE AS IS***	56	672	0.672	56	672	0.672	6000	6000	4032.0	0.0	0.071	0.00		
ROOM 2216-2221 RESTROOM	2' WALLMOUNT	2	2	6	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	198	0.198	29	174	0.174	6000	4800	1188.0	352.8	0.071	24.87		
*** 1ST FLOOR ***																			
MAMMOGRAM ROOM 3	2X2 LAY-IN T8	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071	0.00		
MAMMOGRAM ROOM 2	2X2 LAY-IN T8	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071	0.00		
DARK ROOM	INC	1	1	6	CFL SCREW IN 18 WATT	100	600	0.600	18	108	0.108	4000	4000	2400.0	1968.0	0.071	138.74		
TOTAL							12198	12.198		9497	9.497			71988.0	15804.0		1114.18		

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 11																		
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours	KWH	KWH	KWH	Annual	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
ROOM 1	2X2 LAY-IN T8	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00	
OPEN DESK	2X2 LAY-IN T8	2	2	7	***LEAVE AS IS***	56	392	0.392	56	392	0.392	6000	6000	2352.0	0.0	0.071	0.00	
lkr MAMMOGRAM WAIT	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
WOMENS RESTROOM 1,2 & 3	2X4 LAY-IN T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	4800	1008.0	388.8	0.071	27.41	
X-RAY WAITING	2X2 LAY-IN T8	2	2	7	***LEAVE AS IS***	56	392	0.392	56	392	0.392	6000	6000	2352.0	0.0	0.071	0.00	
RECEPTIONIST	2X2 LAY-N T8 PAR	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071	0.00	
RECEPTIONIST	INC CAN	1	1	6	NEW CREE LR6 LED CAN RETROFIT	100	600	0.600	12	72	0.072	6000	6000	3600.0	3168.0	0.071	223.34	
FILE HALLWAY	2X2 LAY-IN T8	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00	
BENTON OFFICE	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90	
BENTON OFFICE	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
LIBRARY	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
COPY ROOM	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
FILE ROOM	2X4 LAY-IN T8	3	3	27	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	2295	2.295	64	1728	1.728	6000	6000	13770.0	3402.0	0.071	239.84	
FILM HALLWAY	2X2 LAY-IN T8	1	1	8	***LEAVE AS IS***	56	448	0.448	56	448	0.448	6000	6000	2688.0	0.0	0.071	0.00	
X-RAY RESTROOM	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88	
RESTROOM 1, 2 & 3	2X2 LAY-IN T8 UT	2	2	3	***LEAVE AS IS***	56	168	0.168	56	168	0.168	6000	4800	1008.0	201.6	0.071	14.21	
NURSE STATION	2X2 LAY-IN T8 UT	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071	0.00	
NURSE STATION	2X2 LAY-IN T8 UT	4	4	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071	0.00	
X-RAY 1 & 2	2X2 LAY-IN T8	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00	
X-RAY 1 & 2	2X4 LAY-IN T8	3	3	5	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	425	0.425	64	320	0.320	6000	6000	2550.0	630.0	0.071	44.42	
X-RAY 1 & 2	INC CAN DIM	1	1	8	NEW CREE LR6 LED CAN RETROFIT	100	800	0.800	12	96	0.096	6000	6000	4800.0	4224.0	0.071	297.79	
X-RAY COPY	2X2 LAY-IN T8	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00	
CLEAN UTILITY	2X2 LAY-IN UT T8	2	2	3	***LEAVE AS IS***	56	168	0.168	56	168	0.168	6000	6000	1008.0	0.0	0.071	0.00	
X-RAY PATIENT AREA	2X4 LAY-IN T8 1/O	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
X-RAY PATIENT AREA	2X2 LAY-IN T8	2	2	3	***LEAVE AS IS***	56	168	0.168	56	168	0.168	6000	6000	1008.0	0.0	0.071	0.00	
TOTAL							8641	8.641		6085	6.085			51846.0	15692.4		1106.31	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																
03-Aug-10	LIGHTING SURVEY DATA SHEET																
PAGE 12																	
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual				
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours	KWH	KWH	KWH	Annual
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings
X-RAY WAITING AREA	2X2 LAY-IN T8	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071	0.00
X-RAY WAITING HALLWAY	2X2 LAY-IN T8	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00
FILM ROOM BACK	2X2 LAY-IN T8	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00
FILM ROOM BACK	INC CAN	1	1	3	NEW CREE LR6 LED CAN RETROFIT	100	300	0.300	12	36	0.036	6000	6000	1800.0	1584.0	0.071	111.67
FULMER OFFICE	2X4 LAY-IN T12 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00
FULMER OFFICE	INC CAN	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90
VJAY VARGIN OFFICE	INC CAN	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90
VJAY VARGIN OFFICE	2X4LAY-IN T12 PAR	2	2	4	RB/RL W/T-8 & L.W ELECT. 4' 2 LAMP	86	344	0.344	48	192	0.192	6000	6000	2064.0	912.0	0.071	64.30
WISNIEWSKI OFFICE	2X4LAY-IN T12 PAR	2	2	4	RB/RL W/T-8 & L.W ELECT. 4' 2 LAMP	86	344	0.344	48	192	0.192	6000	6000	2064.0	912.0	0.071	64.30
WISNIEWSKI OFFICE	INC CAN	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90
SPECIAL PROCEDURE HALL	2X2 LAY-IN T8	2	2	18	***LEAVE AS IS***	56	1008	1.008	56	1008	1.008	6000	6000	6048.0	0.0	0.071	0.00
RESTROOM	2X2 LAY-IN T8	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071	0.00
SLOP CLOSET	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77
PRISLIPSKY OFFICE	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00
PRISLIPSKY OFFICE	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90
RADIOLOGY R-N'S	INC CAN DIM1	1	4	12	NEW CREE LR6 LED CAN RETROFIT	100	1200	1.200	12	144	0.144	6000	6000	7200.0	6336.0	0.071	446.69
RADIOLOGY R-N'S	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00
SPECIAL PROCEDURE	2X2 LAY-IN T8	2	2	3	***LEAVE AS IS***	56	168	0.168	56	168	0.168	6000	6000	1008.0	0.0	0.071	0.00
SPECIAL PROCEDURE	INC CAN	1	1	6	NEW CREE LR6 LED CAN RETROFIT	100	600	0.600	12	72	0.072	6000	6000	3600.0	3168.0	0.071	223.34
SPECIAL PROCEDURE X-RAY	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77
X-RAY HALLWAY	2X2 LAY-IN T8	2	2	3	***LEAVE AS IS***	56	168	0.168	56	168	0.168	6000	6000	1008.0	0.0	0.071	0.00
SPECIAL PROCEDURE	2X4 LAY-IN T8	3	3	13	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1105	1.105	64	832	0.832	6000	6000	6630.0	1638.0	0.071	115.48
SPECIAL PROCEDURE	INC CAN DIM	1	1	12	NEW CREE LR6 LED CAN RETROFIT	100	1200	1.200	12	144	0.144	6000	6000	7200.0	6336.0	0.071	446.69
RADIOLOGY ROOMS 1 & 2	2X4 LAY-IN T8	3	3	12	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1020	1.020	64	768	0.768	6000	6000	6120.0	1512.0	0.071	106.60
RADIOLOGY ROOMS 1 & 2	2X2 LAY-IN T8	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00
TOTAL							10909	10.909		5528	5.528			65454.0	32286.0		2276.16

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 13																		
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual					
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours	KWH	KWH	KWH	Annual	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
RADIOLOGY ROOMS 1 & 2	INC CAN	1	1	5	NEW CREE LR6 LED CAN RETROFIT	100	500	0.500	12	60	0.060	6000	6000	3000.0	2640.0	0.071	186.12	
STORAGE	2X2 LAY-IN T8	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	4800	672.0	134.4	0.071	9.48	
STORAGE	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	4800	2400.0	2169.6	0.071	152.96	
RADIOLOGY OPEN AREA	2X2 LAY-IN T8	2	2	8	***LEAVE AS IS***	56	448	0.448	56	448	0.448	6000	6000	2688.0	0.0	0.071	0.00	
RADIOLOGY ROOMS 3 & 4	INC CAN DIM	1	1	5	CFL SCREW IN 18 WATT	100	500	0.500	18	90	0.090	4000	4000	2000.0	1640.0	0.071	115.62	
RADIOLOGY ROOMS 3 & 4	2X2 LAY-IN T8	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00	
RADIOLOGY ROOMS 3 & 4	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
FAMILY CONSULT	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
SOILED UTILITY	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	4800	1020.0	405.6	0.071	28.59	
PATIENT PREP	2X4 LAY-IN T8 I/O	4	4	5	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	560	0.560	86	430	0.430	6000	6000	3360.0	780.0	0.071	54.99	
PATIENT PREP	2X2 LAY-IN T8	2	2	11	***LEAVE AS IS***	56	616	0.616	56	616	0.616	6000	6000	3696.0	0.0	0.071	0.00	
PATIENT PREP RESTROOM	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88	
READING ROOM 1-5	2X2 LAY-IN T8	2	2	11	***LEAVE AS IS***	56	616	0.616	56	616	0.616	6000	6000	3696.0	0.0	0.071	0.00	
OFFICE 1 & 2	2X4 LAY-IN T8 I/O	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
OFFICE 1 & 2	INC CAN DIM	1	1	8	NEW CREE LR6 LED CAN RETROFIT	100	800	0.800	12	96	0.096	6000	6000	4800.0	4224.0	0.071	297.79	
READING ROOM OPEN	INC CAN DIM	1	1	10	NEW CREE LR6 LED CAN RETROFIT	100	1000	1.000	12	120	0.120	6000	6000	6000.0	5280.0	0.071	372.24	
READING RECEPTIONIST	2X2 LAY-IN T8	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071	0.00	
CT3	2X2 LAY-IN T8	2	2	5	***LEAVE AS IS***	56	280	0.280	56	280	0.280	6000	6000	1680.0	0.0	0.071	0.00	
CT3	INC CAN DIM	1	1	5	NEW CREE LR6 LED CAN RETROFIT	100	500	0.500	12	60	0.060	6000	6000	3000.0	2640.0	0.071	186.12	
CT3	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88	
CT CONTROL	2X4 LAY-IN T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071	16.50	
CT CONTROL	INC CAN DIM	1	1	6	NEW CREE LR6 LED CAN RETROFIT	100	600	0.600	12	72	0.072	6000	6000	3600.0	3168.0	0.071	223.34	
CT4	4' IND T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
CONFERENCE	2X4 LAY-IN T8 AV	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	5400	1344.0	415.2	0.071	29.27	
CONFERENCE	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	5400	2400.0	2140.8	0.071	150.93	
STAFF LOUNGE	2X2 LAY-IN T8	2	2	8	***LEAVE AS IS***	56	448	0.448	56	448	0.448	6000	6000	2688.0	0.0	0.071	0.00	
RESTROOM	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	4800	510.0	202.8	0.071	14.30	
TOTAL							10001	10.001		5303	5.303			59006.0	27922.4		1968.53	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 14																		
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual					
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours	KWH	KWH	KWH	Annual	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
SHOWER	INC SQ	1	1	2	CFL SCREW IN 18 WATT	100	200	0.200	18	36	0.036	4000	3200	800.0	684.8	0.071	48.28	
MRI HALLWAY	2X2 LAY-IN T8	2	2	8	***LEAVE AS IS***	56	448	0.448	56	448	0.448	6000	6000	2688.0	0.0	0.071	0.00	
MRI WAITING	2X4 LAY-IN T8 AV	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
MRI WAITING	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90	
DRESSING	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	4800	510.0	202.8	0.071	14.30	
DRESSING	2X2 LAY-IN T8	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	4800	336.0	67.2	0.071	4.74	
RESTROOM	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	4800	510.0	202.8	0.071	14.30	
HOLDING	2X2 LAY-IN T8	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00	
MRI STORAGE	2X2 LAY-IN T8	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	4800	1344.0	268.8	0.071	18.95	
MRI LOBBY	2X2 LAY-IN T8	2	2	12	***LEAVE AS IS***	56	672	0.672	56	672	0.672	6000	6000	4032.0	0.0	0.071	0.00	
MRI LOBBY	INC CAN DIM	1	1	12	NEW CREE LR6 LED CAN RETROFIT	100	1200	1.200	12	144	0.144	6000	6000	7200.0	6336.0	0.071	446.69	
CONTROL	INC CAN DIM	1	1	6	NEW CREE LR6 LED CAN RETROFIT	100	600	0.600	12	72	0.072	6000	6000	3600.0	3168.0	0.071	223.34	
STORAGE	4' IND	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	4800	2016.0	777.6	0.071	54.82	
MRI #1	INC CAN	1	1	6	NEW CREE LR6 LED CAN RETROFIT	100	600	0.600	12	72	0.072	6000	6000	3600.0	3168.0	0.071	223.34	
CT 2 & 1	2X2 LAY-IN T8	2	2	10	***LEAVE AS IS***	56	560	0.560	56	560	0.560	6000	6000	3360.0	0.0	0.071	0.00	
CT 2 & 1	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
CT 2 & 1	INC CAN DIM	1	1	10	NEW CREE LR6 LED CAN RETROFIT	100	1000	1.000	12	120	0.120	6000	6000	6000.0	5280.0	0.071	372.24	
CONTROL	INC CAN DIM	1	1	6	NEW CREE LR6 LED CAN RETROFIT	100	600	0.600	12	72	0.072	6000	6000	3600.0	3168.0	0.071	223.34	
CONTROL	2X2 LAY-IN T8	2	2	3	***LEAVE AS IS***	56	168	0.168	56	168	0.168	6000	6000	1008.0	0.0	0.071	0.00	
CT HALLWAY	2X2 LAY-IN T8	2	2	6	***LEAVE AS IS***	56	336	0.336	56	336	0.336	6000	6000	2016.0	0.0	0.071	0.00	
TELEPHONE	2X4 LAY-IN T8	3	3	8	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	680	0.680	64	512	0.512	6000	4800	4080.0	1622.4	0.071	114.38	
ELECTRICAL	2X4 LAY-IN T8	3	3	8	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	680	0.680	64	512	0.512	6000	4800	4080.0	1622.4	0.071	114.38	
CLASSROOM	2X4 LAY-IN T8 AV	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
CLASSROOM	INC CAN DIM	1	1	9	NEW CREE LR6 LED CAN RETROFIT	100	900	0.900	12	108	0.108	6000	6000	5400.0	4752.0	0.071	335.02	
COMP SOILED UTILITY	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	4800	1344.0	518.4	0.071	36.55	
MILEY OFFICE	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
CLASSROOM HALLWAY	2X2 LAY-IN T8	2	2	8	***LEAVE AS IS***	56	448	0.448	56	448	0.448	6000	6000	2688.0	0.0	0.071	0.00	
TOTAL							11568	11.568		6034	6.034			69008.0	35139.2		2477.31	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 15																		
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts		Fixture Watts	Total Watts		Annual Hours	Annual Hours					
	Fixture	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
CLASSROOM HALLWAY	2X2 LAY-IN UT T18	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00	
CLASSROOM HALLWAY	4' STRIP T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
MILEY HALLWAY	2X2 LAY-IN T8	2	2	10	***LEAVE AS IS***	56	560	0.560	56	560	0.560	6000	6000	3360.0	0.0	0.071	0.00	
ULTRA SOUND 1 & 2	2X4 LAY-IN T8	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071	35.53	
ULTRA SOUND CONTROL	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88	
V.S. RESTROOM	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	4800	510.0	202.8	0.071	14.30	
STAFF LOUNGE	2X4 LAY-IN T8	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	4800	1344.0	268.8	0.071	18.95	
STAFF LOCKER	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	4800	1020.0	405.6	0.071	28.59	
OLESKY OFFICE	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
MINK	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
COMPUTER ROOM	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
TRANSCRIPTION	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
VOLUNTEER HALLWAY	2X4 LAY-IN T8	3	3	15	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1275	1.275	64	960	0.960	6000	6000	7650.0	1890.0	0.071	133.25	
VOLUNTEER LOUNGE	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
HASKELL	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
VOLUNTEER SERVICE	2X4 LAY-IN T8 PAR	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071	65.99	
VOLUNTEER SERVICE RR	2' VAN T12	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	33	0.033	29	29	0.029	6000	6000	198.0	24.0	0.071	1.69	
MONTGOMERY OFFICE	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
MENS & WOMENS RR	1X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	4800	1344.0	518.4	0.071	36.55	
MENS & WOMENS RR	2' VAN	2	2	2	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	66	0.066	29	58	0.058	6000	4800	396.0	117.6	0.071	8.29	
CR 3A & B	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071	87.98	
CR 3A & B	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90	
CR4	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90	
CR4	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071	65.99	
CR 4 HALLWAY	2X4 LAY-IN T8	2	2	9	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	504	0.504	43	387	0.387	6000	6000	3024.0	702.0	0.071	49.49	
TOTAL							8680	8.680		6360	6.360			52080.0	14695.2		1036.01	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 16																			
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts		Fixture Watts	Total Watts		Annual Hours	Annual Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	After	After	Used	KWH	KWH	KWH	Annual Savings	
CR5	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99		
CR5	IN CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90		
DIR PER IMP	2X4 LAY-IN T8	4	4	12	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1344	1.344	86	1032	1.032	6000	6000	8064.0	1872.0	0.071	131.98		
MECH ROOM	2X4 LAY-IN T8	4	4	12	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1344	1.344	86	1032	1.032	6000	4800	8064.0	3110.4	0.071	219.28		
ELECTRICAL ROOM	2X4 LAY-IN T8	4	4	12	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1344	1.344	86	1032	1.032	6000	4800	8064.0	3110.4	0.071	219.28		
ELECT. ROOM	2X4 LAY-IN T8	4	4	5	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	560	0.560	86	430	0.430	6000	4800	3360.0	1296.0	0.071	91.37		
15166 OFFICE	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77		
PER IMP OFFICE	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
PER IMP OFFICE	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
NEFF OFFICE	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 15206 OPEN	2X4 LAY-IN T8	4	4	18	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	2016	2.016	86	1548	1.548	6000	6000	12096.0	2808.0	0.071	197.96		
OFFICE 1	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
OFFICE 2 (BIG)	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99		
OFFICE 3	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
OFFICE 4	2X4 LAY-IN T8 I/O	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99		
DATA PROCESS	2X4 LAY-IN T8	4	4	18	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	2016	2.016	86	1548	1.548	6000	6000	12096.0	2808.0	0.071	197.96		
COMPUTER ROOM	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	4800	1344.0	518.4	0.071	36.55		
OFFICE 1-3	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99		
DATA PROCESS HALLWAY	2X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
TESTING HALLWAY	2X4 LAY-IN T8	2	2	12	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	672	0.672	43	516	0.516	6000	6000	4032.0	936.0	0.071	65.99		
TESTING HALLWAY	2X2 LAY-IN UT T8	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071	0.00		
RECEPTIONIST	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071	65.99		
EXAM 1-4	2X4 LAY-IN T8 I/O	4	4	12	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1344	1.344	86	1032	1.032	6000	6000	8064.0	1872.0	0.071	131.98		
LAB DRAW 2	2X4 LAY-IN T8 I/O	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99		
SINK	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
STORAGE	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27		
TOTAL							15970	15.970		12014	12.014			95820.0	27038.4		1906.21		

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																
03-Aug-10	LIGHTING SURVEY DATA SHEET																
PAGE 17																	
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours	KWH	KWH	KWH	Annual
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings
RECEPTIONIST	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99
RECEPTIONIST	INC TRACK	1	1	4	CFL SCREW IN 18 WATT	100	400	0.400	18	72	0.072	4000	4000	1600.0	1312.0	0.071	92.50
RECEPTIONIST	INC CAN	1	1	2	NEW CREE LR6 LED CAN RETROFIT	100	200	0.200	12	24	0.024	6000	6000	1200.0	1056.0	0.071	74.45
STAFF LOUNGE	2X4 LAY-IN T12	2	2	1	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	86	86	0.086	48	48	0.048	6000	4800	516.0	285.6	0.071	20.13
STAFF LOUNGE	2X2 LAY-IN T8 UT	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	4800	336.0	67.2	0.071	4.74
SUPPLY ROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27
RESTROOM	2' VAN T12	2	2	1	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	56	56	0.056	29	29	0.029	6000	4800	336.0	196.8	0.071	13.87
LAB DRAW 1	2X4 LAY-IN T8 I/O	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00
DESK LAMP	INC	1	1	3	CFL SCREW IN 18 WATT	100	300	0.300	18	54	0.054	4000	4000	1200.0	984.0	0.071	69.37
STAFF RESTROOM	2' VAN T12	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	33	0.033	29	29	0.029	6000	6000	198.0	24.0	0.071	1.69
OFFICE	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00
PRE-AD WAITING	2X4 LAY-INT8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00
*** IMAGE WING ***																	
IMAGING HALLWAY	2X2 LAY-IN T8 UT	2	2	6	***LEAVE AS IS***	56	336	0.336	56	336	0.336	6000	6000	2016.0	0.0	0.071	0.00
IMAGE ROOM	2X2 LAY-IN T8 UT	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071	0.00
IMAGE 1	1X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071	22.00
IMAGE 1	INC CAN DIM	1	1	5	NEW CREE LR6 LED CAN RETROFIT	100	500	0.500	12	60	0.060	6000	6000	3000.0	2640.0	0.071	186.12
IMAGE 2	INC CAN DIM	1	1	2	NEW CREE LR6 LED CAN RETROFIT	100	200	0.200	12	24	0.024	6000	6000	1200.0	1056.0	0.071	74.45
HOT LAB	2X4 LAY-IN T8 PAR	3	3	12	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1020	1.020	64	768	0.768	6000	6000	6120.0	1512.0	0.071	106.60
COMPUTER ROOM	INC CAN	1	1	1	NEW CREE LR6 LED CAN RETROFIT	100	100	0.100	12	12	0.012	6000	4800	600.0	542.4	0.071	38.24
COMPUTER ROOM	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	4800	1020.0	405.6	0.071	28.59
OFFICE	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77
STORAGE	2X4 LAY-IN T8 PAR	3	3	6	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	510	0.510	64	384	0.384	6000	4800	3060.0	1216.8	0.071	85.78
RESTROOM	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	4800	510.0	202.8	0.071	14.30
DRESSING ROOM	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	4800	510.0	202.8	0.071	14.30
TOTAL							5595	5.595		3282	3.282			32170.0	13775.2		971.15

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 18																		
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours	KWH	KWH	KWH	Annual	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
STAFF LONGE	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	4800	1020.0	405.6	0.071	28.59	
CONFERENCE ROOM	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	4800	1020.0	405.6	0.071	28.59	
UPTAKE	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88	
DOSE ROOM	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88	
ROOM 17140	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88	
DOSE HALL	2X2 LAY-IN UT T8	2	2	7	***LEAVE AS IS***	56	392	0.392	56	392	0.392	6000	6000	2352.0	0.0	0.071	0.00	
WAITING ROOM 1&2	2X2 LAY-IN UT T8	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071	0.00	
WAITING ROOM	MR16 TRACK	1	1	3	LED 6 WATT MR16 REPLACEMENT	50	150	0.150	6	18	0.018	6000	6000	900.0	792.0	0.071	55.84	
WAITING HALLWAY	2X2 LAY-IN UT T8	2	2	14	***LEAVE AS IS***	56	784	0.784	56	784	0.784	6000	6000	4704.0	0.0	0.071	0.00	
RECEPTIONIST	2X4 LAY-IN T8	3	3	11	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	935	0.935	64	704	0.704	6000	6000	5610.0	1386.0	0.071	97.71	
FUTURE NUCLEAR	2X4 LAY-IN T8	3	3	33	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	2805	2.805	64	2112	2.112	6000	6000	16830.0	4158.0	0.071	293.14	
IMAGE 4 RESTROOM	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88	
IMAGE 4	2X4 LAY-IN T8	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071	35.53	
IMAGE 4	2X2 LAY-IN UT T8	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071	0.00	
IMAGE 4	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90	
EKG TECHS	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
EKG HALLWAY	2X2 LAY-IN UT T8	2	2	29	***LEAVE AS IS***	56	1624	1.624	56	1624	1.624	6000	6000	9744.0	0.0	0.071	0.00	
STRESS 1-3	2X4 LAY-IN T8	3	3	12	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1020	1.020	64	768	0.768	6000	6000	6120.0	1512.0	0.071	106.60	
STRESS 1-3	INC CAN	1	1	18	NEW CREE LR6 LED CAN RETROFIT	100	1800	1.800	12	216	0.216	6000	6000	10800.0	9504.0	0.071	670.03	
VASCULAR 6	INC CAN	1	1	5	NEW CREE LR6 LED CAN RETROFIT	100	500	0.500	12	60	0.060	6000	6000	3000.0	2640.0	0.071	186.12	
VASCULAR 6	2X4 LAY-IN T8	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071	35.53	
5-TILT	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
5-TILT	INC CAN	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90	
12 EKG	INC CAN	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90	
12 EKG	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
CLEAN UTILITY	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	4800	510.0	202.8	0.071	14.30	
TOTAL							13333	13.333		8462	8.462			79998.0	29610.0		2087.51	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 19																		
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours	KWH	KWH	KWH	Annual	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
SOILED UTILITY	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	4800	510.0	202.8	0.071	14.30	
8-7-VASCULAR	2X4 LAY-IN T8	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071	35.53	
8-7-VASCULAR	INC CAN	1	1	8	NEW CREE LR6 LED CAN RETROFIT	100	800	0.800	12	96	0.096	6000	6000	4800.0	4224.0	0.071	297.79	
RESTROOM	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88	
CONNER	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
C PRIANO	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
M TAGGERT	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
STAFF LOUNGE	2X4 LAY-IN T8 PAR	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	4800	1344.0	518.4	0.071	36.55	
MANLEY	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
EMPTY OFFICE	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
HOLTER ANY.	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
9-PACEMAKER	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
9-PACEMAKER	INC CAN DIM	1	1	6	NEW CREE LR6 LED CAN RETROFIT	100	600	0.600	12	72	0.072	6000	6000	3600.0	3168.0	0.071	223.34	
10-ECHO	2X4 LAY-IN T8 I/O	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
10-ECHO	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90	
10-ECHO RESTROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27	
11-STRESS	2X4 LAY-IN T8 I/O	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
11-STRESS	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90	
11- STRESS RESTROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27	
4-STRESS	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
4-STRESS	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071	65.99	
RESTROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27	
INTERPRETATION	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
INTERPRETATION	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90	
EXERCISE HALL	2X2 LAY-IN T8	2	2	11	***LEAVE AS IS***	56	616	0.616	56	616	0.616	6000	6000	3696.0	0.0	0.071	0.00	
EXERCISE HALL	3' STRIP T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
TOTAL							8106	8.106		4660	4.660			48636.0	21268.8		1499.45	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																
03-Aug-10	LIGHTING SURVEY DATA SHEET																
PAGE 20																	
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours	KWH	KWH	KWH	Annual
	Fixture																
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings
REHAB RESTROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27
STAFF ONLY	2X4 LAY-IN T8	4	4	12	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1344	1.344	86	1032	1.032	6000	6000	8064.0	1872.0	0.071	131.98
CONFERENCE	2X4 LAY-IN T8	3	3	3	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	6000	1530.0	378.0	0.071	26.65
EXERCISE ROOM	2X4 LAY-IN T8	3	3	21	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1785	1.785	64	1344	1.344	6000	6000	10710.0	2646.0	0.071	186.54
EXERCISE ROOM	4' COVE T8	1	2	14	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	784	0.784	43	602	0.602	6000	6000	4704.0	1092.0	0.071	76.99
EXERCISE ROOM	4' COVE T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50
EXAM	2X4 LAY-IN T8	3	3	3	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	6000	1530.0	378.0	0.071	26.65
WOMENS & MENS LOCKER ROOM	2X4 LAY-IN T8	3	3	6	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	510	0.510	64	384	0.384	6000	4800	3060.0	1216.8	0.071	85.78
WOMENS & MENS RESTROOM	2X2 LAY-IN T8 UT	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	4800	672.0	134.4	0.071	9.48
CR	2X4 LAY-IN T8	3	3	6	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	510	0.510	64	384	0.384	6000	6000	3060.0	756.0	0.071	53.30
CARDIAC CATH LAB	PL CAN	1	1	6	***LEAVE AS IS***	23	138	0.138	23	138	0.138	6000	6000	828.0	0.0	0.071	0.00
ANGIE SLATE HALL	4' COVE T8	2	2	28	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	1568	1.568	43	1204	1.204	6000	6000	9408.0	2184.0	0.071	153.97
ANGIE SLATE HALL	4' COVE T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00
COPY	PL CAN	1	7	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071	0.00
HOLDING ROOM	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99
HOLDING ROOM RESTROOM	2X2 LAY-IN T8	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	4800	336.0	67.2	0.071	4.74
CONTROL	INC CAN DIM	1	1	8	NEW CREE LR6 LED CAN RETROFIT	100	800	0.800	12	96	0.096	6000	6000	4800.0	4224.0	0.071	297.79
ANGIO ROOM	4' COVE	2	2	13	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	728	0.728	43	559	0.559	6000	6000	4368.0	1014.0	0.071	71.49
INC	INC CAN DIM	1	7	9	NEW CREE LR6 LED CAN RETROFIT	100	900	0.900	12	108	0.108	6000	6000	5400.0	4752.0	0.071	335.02
SINK ROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00
STORAGE 1 & 2	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00
ANGIO HALL	2X2 LAY-IN T8	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071	0.00
OFFICE	2X4 LAY-IN T8 1/O	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00
OFFICE	2X4 LAY-IN T8 1/O	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00
RESTROOM	2X4 LAY-IN T8	2	2	20	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	1120	1.120	43	860	0.860	6000	4800	6720.0	2592.0	0.071	182.74
TOTAL							12601	12.601		8648	8.648			75606.0	25515.6		1798.85

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 21																		
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours	KWH	KWH	KWH	Annual	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
RECEPT	2X4 LAY-IN T8 1/O	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
RECEPT	2X2 LAY-IN T8 UT	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071	0.00	
RECEPT HALLWAY	2X2 LAY-IN T8 UT	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071	0.00	
ER TRAUMA HALLWAY	2X2 LAY-IN T8 UT	2	2	15	***LEAVE AS IS***	56	840	0.840	56	840	0.840	6000	6000	5040.0	0.0	0.071	0.00	
ER TRAUMA HALLWAY	3' STRIP T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
ELECT CLOSET	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	4800	5376.0	2073.6	0.071	146.19	
11B, 10B, 9B, 8B	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071	87.98	
SOILED UTILITY	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	4800	510.0	202.8	0.071	14.30	
ROOM 12B	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
ROOM 12B	1X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
NURSE STATION	2X2 LAY-IN UT T8	2	2	16	***LEAVE AS IS***	56	896	0.896	56	896	0.896	6000	6000	5376.0	0.0	0.071	0.00	
NURSE STATION	2X4 LAY-IN T8	3	3	11	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	935	0.935	64	704	0.704	6000	6000	5610.0	1386.0	0.071	97.71	
JANITOR	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88	
RESTROOM	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	4800	510.0	202.8	0.071	14.30	
SINK ROOM	2X4 LAY-IN T8	3	3	3	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	6000	1530.0	378.0	0.071	26.65	
SUPPLY ROOM	2X2 LAY-IN UT T8	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00	
ROOM 14C	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
ROOM C15	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
ROOM 16C	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
ROOMS 14C, 15C, 16C	1X4 LAY-IN T8	4	4	5	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	560	0.560	86	430	0.430	6000	6000	3360.0	780.0	0.071	54.99	
ROOMS 14C, 15C, 16C	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
ROOM 17C	1X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
ROOM 17C	1X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
ROOM 17C	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
CLEAN UTILITY	2X2 LAY-IN T8 UT	2	2	3	***LEAVE AS IS***	56	168	0.168	56	168	0.168	6000	4800	1008.0	201.6	0.071	14.21	
TOTAL							9341	9.341		7697	7.697			56046.0	11044.8		778.66	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 22																		
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual					
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours	KWH	KWH	KWH	Annual	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
DECONTAMINATION	2X4 LAY-IN T8	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071	35.53	
EMS	INC CAN DIM	1	1	2	NEW CREE LR6 LED CAN RETROFIT	100	200	0.200	12	24	0.024	6000	6000	1200.0	1056.0	0.071	74.45	
EMS	2X2 LAY-IN UT T8	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00	
EMS HALLWAY	2X2 LAY-IN UT T8	2	2	7	***LEAVE AS IS***	56	392	0.392	56	392	0.392	6000	6000	2352.0	0.0	0.071	0.00	
ROOM 18D	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
ROOM 18D	1X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
ROOM 19D	2X4 R T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
RESTROOM	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	4800	510.0	202.8	0.071	14.30	
ROOM 20D	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
ROOM 20D	1X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
ROOM 20D	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
SOILED UTILITY	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	4800	510.0	202.8	0.071	14.30	
ROOM 21D HALLWAY	2X2 LAY-IN UT T12	2	2	6	***LEAVE AS IS***	56	336	0.336	56	336	0.336	6000	6000	2016.0	0.0	0.071	0.00	
ROOM 21D	2X4 LAY-IN T8	4	4	12	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1344	1.344	86	1032	1.032	6000	6000	8064.0	1872.0	0.071	131.98	
ROOM 21D	1X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
ROOM 21D	1X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
ROOM 22D	1X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
ROOM 22D	1X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
ROOM 22D	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
CONSULTATION ROOM	2X2 LAY-IN T8	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00	
D HALLWAY	2X2 LAY-IN T8	2	2	6	***LEAVE AS IS***	56	336	0.336	56	336	0.336	6000	6000	2016.0	0.0	0.071	0.00	
D HALLWAY	3' STRIP T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
ROOM 1A	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
ROOM 1A	1X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
ROOM 1A	1X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
OPEN	2X2 LAY-IN T8	2	2	5	***LEAVE AS IS***	56	280	0.280	56	280	0.280	6000	6000	1680.0	0.0	0.071	0.00	
TOTAL							6926	6.926		5597	5.597			41556.0	8127.6		573.00	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 23																			
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual						
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours	KWH	KWH	KWH	Annual		
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings		
ROOM 2A	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 2A	1X4 LAY-IN T8	2	2	5	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	280	0.280	43	215	0.215	6000	6000	1680.0	390.0	0.071	27.50		
RESTROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27		
ROOM 3A	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 3A	1X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 4A	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 4A	1X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 5A	1X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 5A	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 6A	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 6A	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 7B	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 7B	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 7B HALLWAY	2X2 LAY-IN UT T8	2	2	3	***LEAVE AS IS***	56	168	0.168	56	168	0.168	6000	6000	1008.0	0.0	0.071	0.00		
ROOM 7B BOYS RESTROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27		
ER LOBBY	4' COVER T8	4	4	25	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	2800	2.800	86	2150	2.150	6000	6000	16800.0	3900.0	0.071	274.95		
ER LOBBY	4' COVER T8	2	2	18	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	1008	1.008	43	774	0.774	6000	6000	6048.0	1404.0	0.071	98.98		
RECEPTIONIST DESK	4' COVER T8	2	2	10	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	560	0.560	43	430	0.430	6000	6000	3360.0	780.0	0.071	54.99		
TRIAGE	2X2 LAY-IN T8	2	2	22	***LEAVE AS IS***	56	1232	1.232	56	1232	1.232	6000	6000	7392.0	0.0	0.071	0.00		
SECURITY	PL CAN	1	1	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00		
RESTROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27		
ER HALLWAY	2X2 LAY-IN UT T8	2	2	26	***LEAVE AS IS***	56	1456	1.456	56	1456	1.456	6000	6000	8736.0	0.0	0.071	0.00		
ER HALLWAY	3' STRIP T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071	87.98		
ROOM 17301	2X4 LAY-IN T8	2	2	12	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	672	0.672	43	516	0.516	6000	6000	4032.0	936.0	0.071	65.99		
ROOM 17299	2X4 LAY-IN T8	2	2	12	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	672	0.672	43	516	0.516	6000	6000	4032.0	936.0	0.071	65.99		
ROOM 17299 HALLWAY	2X2 LAY-IN T8	2	2	5	***LEAVE AS IS***	56	280	0.280	56	280	0.280	6000	6000	1680.0	0.0	0.071	0.00		
TOTAL							12488	12.488		10369	10.369			74928.0	13023.6		918.16		

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 24																			
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	KWH	Rate	Savings	
WOMENS & MENS RESTROOM	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	4800	672.0	259.2	0.071		18.27	
WOMENS & MENS RESTROOM	2' VAN T12	2	2	2	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	66	0.066	29	58	0.058	6000	4800	396.0	117.6	0.071		8.29	
ICU WAITING	2X2 LAY-IN T8 PAR	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071		43.99	
ICU WAITING	INC CAN DIM	1	1	6	NEW CREE LR6 LED CAN RETROFIT	100	600	0.600	12	72	0.072	6000	6000	3600.0	3168.0	0.071		223.34	
ICU HALLWAY	2X4 LAY-IN T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.071		32.99	
STAIRS	4' WRAP T8	2	2	5	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	280	0.280	43	215	0.215	6000	6000	1680.0	390.0	0.071		27.50	
CALL ROOMS 1 & 2	1X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
CALL ROOMS 1 & 2 RESTROOM	2' VAN T12	2	2	2	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	66	0.066	29	58	0.058	6000	4800	396.0	117.6	0.071		8.29	
SINK ICU	2X2 LAY-IN UT T8	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071		0.00	
BOWLING OFFICE	1X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
ROOM 1001-16	INC CAN DIM	1	1	16	NEW CREE LR6 LED CAN RETROFIT	100	1600	1.600	12	192	0.192	6000	6000	9600.0	8448.0	0.071		595.58	
ROOM 1001-16	CORNER WR T8	3	3	16	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1360	1.360	64	1024	1.024	6000	6000	8160.0	2016.0	0.071		142.13	
ROOM 1001-16	2' VAN	2	2	16	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	56	896	0.896	29	464	0.464	6000	6000	5376.0	2592.0	0.071		182.74	
STAFF ONLY RESTROOM	2' VAN	2	2	8	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	56	448	0.448	29	232	0.232	6000	4800	2688.0	1574.4	0.071		111.00	
SOILED UTILITY	1X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	4800	336.0	129.6	0.071		9.14	
CLEAN UTILITY	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	4800	4032.0	1555.2	0.071		109.64	
WAITING ROOM	2X2 LAY-IN UT T8	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071		0.00	
OPEN AREA	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
OPEN AREA	2X4 LAY-IN T8	2	2	36	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	2016	2.016	43	1548	1.548	6000	6000	12096.0	2808.0	0.071		197.96	
OPEN AREA	INC CAN	1	1	2	NEW CREE LR6 LED CAN RETROFIT	100	200	0.200	12	24	0.024	6000	6000	1200.0	1056.0	0.071		74.45	
RESTROOM 1 & 2	2' VAN T12	2	2	2	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	56	112	0.112	29	58	0.058	6000	4800	672.0	393.6	0.071		27.75	
IV TUBING	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071		87.98	
ELECTRICAL ROOM 5	2X4 LAY-IN T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	4800	2016.0	777.6	0.071		54.82	
SINK ROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
LEE OFFICE	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
WAITING ROOM	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
TOTAL							11340	11.340		6809	6.809			68040.0	28756.8			2027.35	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 25																			
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual						
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	KWH	KWH	KWH	Annual	Savings
SOILED UTILITY	1X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	4800	336.0	129.6	0.071		9.14	
WAITING ROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
ENTRY	2X4 LAY-IN T12 PAR	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
DESK BOOTHS	INC CAN	1	1	2	NEW CREE LR6 LED CAN RETROFIT	100	200	0.200	12	24	0.024	6000	6000	1200.0	1056.0	0.071		74.45	
PASTORAL / COVE HALL	2X4 LAY-IN T8	2	2	5	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	280	0.280	43	215	0.215	6000	6000	1680.0	390.0	0.071		27.50	
AUDIOLOGY HALLWAY	2X4 LAY-IN T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071		16.50	
AUDIOLOGY LOBBY	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
FILE ROOM	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071		65.99	
ROOM 13110	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071		32.99	
ROOM 13116	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
ROOM 13116	INC CAN DIM	1	1	3	NEW CREE LR6 LED CAN RETROFIT	100	300	0.300	12	36	0.036	6000	6000	1800.0	1584.0	0.071		111.67	
SUPPLY	2X4 LAY-IN T8	3	3	3	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	4800	1530.0	608.4	0.071		42.89	
M DIRECTOR	2X4 LAY-IN T8 PAR	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
STAFF OFFICE	2X4 LAY-IN T8 PAR	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071		65.99	
PULMONARY FUNCTION	2X4 LAY-IN T8 PAR	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
CLOSET	2X4 LAY-IN T8 PAR	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
ROOM 13130	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 13128	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
RESTROOM	2' VAN T12	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	56	56	0.056	29	29	0.029	6000	6000	336.0	162.0	0.071		11.42	
NEUROLOGY 1	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071		148.90	
NEUROLOGY 1	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
MANAGER	2X4 LAY-IN T8 PAR	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
MANAGER	DESK LAMPS	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	4000	400.0	328.0	0.071		23.12	
NEUROLOGY 2	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071		148.90	
AUDILOLOGY	2X4 LAY-IN T8	3	3	3	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	6000	1530.0	378.0	0.071		26.65	
WORKING PARTNERS HALL	2X4 LAY-IN T8	2	2	12	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	672	0.672	43	516	0.516	6000	6000	4032.0	936.0	0.071		65.99	
TOTAL							6334	6.334		3941	3.941			37804.0	14476.0			1020.56	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 26																			
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual						
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	KWH	Rate	Savings	
WORKING PARTNERS LOBBY	2X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
WORKING PARTNERS LOBBY	2X2 LAY-IN UT T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
RESTROOM 1	2' VAN T12	2	2	2	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	56	112	0.112	29	58	0.058	6000	4800	672.0	393.6	0.071		27.75	
RESTROOM 2	2' VAN T12	2	2	2	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	56	112	0.112	29	58	0.058	6000	4800	672.0	393.6	0.071		27.75	
RESTROOM 2	2X2 LAY-IN BIAx	3	3	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	4800	336.0	67.2	0.071		4.74	
ROOM 13242	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071		32.99	
ROOM 13240	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
ROOM 13240	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 13236	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071		32.99	
ROOM 13232	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071		32.99	
ROOM 13248	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 13248	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071		148.90	
ROOM 13252 OPEN	2X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 13252	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071		17.77	
ROOM 13254	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071		17.77	
ROOM 13208	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071		17.77	
ROOM 13206	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
CENTRAL SCHEDULING	2X4 LAY-IN T8	2	2	5	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	280	0.280	43	215	0.215	6000	6000	1680.0	390.0	0.071		27.50	
FRASE OFFICE	1X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
ROOM 13214	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
FITNESS ROOM	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071		87.98	
ROOM 13218	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
MILLER OFFICE	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
LAB LOBBY	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071		8.88	
WALKER	2X4 LAY-IN T8 I/O	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071		17.77	
WALKER	2X4 LAY-IN T8 I/O	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071		17.77	
TOTAL							5479	5.479		3891	3.891			32874.0	9734.4			686.28	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 27																			
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours	KWH	KWH	KWH	Annual		
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings		
ROOM 13358 LAB 1	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071	87.98		
ROOM 13356 LAB 2	2X4 LAY-IN T8	4	4	9	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1008	1.008	86	774	0.774	6000	6000	6048.0	1404.0	0.071	98.98		
ROOM 13356 HALLWAY	2X4 LAY-IN T8	2	2	11	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	616	0.616	43	473	0.473	6000	6000	3696.0	858.0	0.071	60.49		
ROOM 13342	2' VAN T12	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	56	56	0.056	29	29	0.029	6000	6000	336.0	162.0	0.071	11.42		
MORGE/FORMALDEHYDE	2X4 LAY-IN T8	4	4	9	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1008	1.008	86	774	0.774	6000	6000	6048.0	1404.0	0.071	98.98		
MORGE/FORMALDEHYDE	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90		
MORGUE WAITING	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99		
RESTROOM 1 & 2	4' VAN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	4800	672.0	259.2	0.071	18.27		
ROOMS 13332 & 13338	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 13334	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99		
ROOM 13330	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99		
ROOM 13330 HALLWAY	2X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
MICROBIOLOGY LAB	2X4 LAY-IN T8	4	4	20	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	2240	2.240	86	1720	1.720	6000	6000	13440.0	3120.0	0.071	219.96		
ROOM 13322	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 13345	2X4 LAY-IN T8 I/O	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071	35.53		
ROOM 13343	2X4 LAY-IN T8 I/O	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071	35.53		
ROOM 13361	2X4 LAY-IN T8 I/O	3	3	6	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	510	0.510	64	384	0.384	6000	6000	3060.0	756.0	0.071	53.30		
ROOM 13363	2X4 LAY-IN T8 I/O	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071	35.53		
OPEN LAB	2X4 LAY-IN T8	4	4	76	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	8512	8.512	86	6536	6.536	6000	6000	51072.0	11856.0	0.071	835.85		
ROOM 13316	2X4 LAY-IN T8 I/O	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77		
ROOM 13314	2X4 LAY-IN T8 I/O	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77		
EXAM ROOM	2X2 LAY-IN UT T8 PAR	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00		
EXAM RESTROOM	2X2 LAY-IN UT T8 PAR	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	4800	672.0	134.4	0.071	9.48		
HALL CORRIDOR	2X4 LAY-IN T8	3	3	12	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1020	1.020	64	768	0.768	6000	6000	6120.0	1512.0	0.071	106.60		
ENDOSCOPY HALLWAY	2X4 LAY-IN T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071	16.50		
ROOM 12148	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99		
TOTAL							20482	20.482		15489	15.489			122892.0	30195.6		2128.79		

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 28																		
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual					
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours	KWH	KWH	KWH	Annual	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
ROOM 12150	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
ROOM 12152	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
RESTROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
ROOM 12158 RESTROOM	2' VAN T12	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	56	56	0.056	29	29	0.029	6000	4800	336.0	196.8	0.071	13.87	
ROOM 12160	2X4 LAY-IN T8 I/O	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
ROOM 12162	2X4 LAY-IN T8 I/O	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
ROOM 12164	2X4 LAY-IN T8	4	4	12	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1344	1.344	86	1032	1.032	6000	6000	8064.0	1872.0	0.071	131.98	
ENDOSCOPY HALLWAY	2X4 LAY-IN T8	2	2	8	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	448	0.448	43	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
OUTPATIENT SURGICAL	2X4 LAY-IN T8	4	4	21	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	2352	2.352	86	1806	1.806	6000	6000	14112.0	3276.0	0.071	230.96	
OUTPATIENT SURGICAL	2X2 LAY-IN T12 UT	2	2	10	***LEAVE AS IS***	56	560	0.560	56	560	0.560	6000	6000	3360.0	0.0	0.071	0.00	
ROOM 12134	2X4 LAY-IN T8 I/O	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
ROOM 12134	4' WALLMOUNT	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
ROOM 12136	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
ROOM 12138	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
ROOM 12142 & RESTROOM	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	4800	672.0	259.2	0.071	18.27	
RECOVERY ROOM	2X4 LAY-IN T8	4	4	21	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	2352	2.352	86	1806	1.806	6000	6000	14112.0	3276.0	0.071	230.96	
ROOMS 12338 & 12336	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
ROOMS 12334 & 12330	2X2 LAY-IN T12	2	2	2	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	86	172	0.172	48	96	0.096	6000	6000	1032.0	456.0	0.071	32.15	
ROOMS 12334 & 12330	2X4 LAY-IN T12	2	2	4	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	86	344	0.344	48	192	0.192	6000	6000	2064.0	912.0	0.071	64.30	
ANESTHESIA	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
OUTPATIENT PREP	2X4 LAY-IN T8	4	4	9	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1008	1.008	86	774	0.774	6000	6000	6048.0	1404.0	0.071	98.98	
OUTPATIENT PREP RESTROOM	2' VAN T12	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	56	56	0.056	29	29	0.029	6000	6000	336.0	162.0	0.071	11.42	
PREP HALL	2X4 LAY-IN T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
LOUNGE	1X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
ROOM 12290	2X4 LAY-IN T8	4	4	16	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1792	1.792	86	1376	1.376	6000	6000	10752.0	2496.0	0.071	175.97	
ROOM 12288 HALLWAY	2X4 RT8	4	4	9	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1008	1.008	86	774	0.774	6000	6000	6048.0	1404.0	0.071	98.98	
TOTAL							14460	14.460		11097	11.097			86760.0	20316.0		1432.28	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 29																		
	Fixture	No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours					
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	After	After	Used	KWH	KWH	KWH	Annual Savings
ROOM 12284	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
SURGERY 5	2X4 LAY-IN T8	4	4	16	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1792	1.792	86	1376	1.376	6000	6000	10752.0	2496.0	0.071	175.97	
SURGERY 5 OPEN	2X4 LAY-IN T8	2	2	11	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	616	0.616	43	473	0.473	6000	6000	3696.0	858.0	0.071	60.49	
ELECT ROOM	2X4 LAY-IN T8	2	2	5	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	280	0.280	43	215	0.215	6000	4800	1680.0	648.0	0.071	45.68	
SLOP CLOSET	INC	1	1	1	CFL SCREW IN 18 WATT	100	100	0.100	18	18	0.018	4000	3200	400.0	342.4	0.071	24.14	
ROOM 12266	1X4 LAY-IN T12	2	2	1	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	86	86	0.086	48	48	0.048	6000	6000	516.0	228.0	0.071	16.07	
SURGERY 4	2X4 LAY-IN T8	4	4	16	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1792	1.792	86	1376	1.376	6000	6000	10752.0	2496.0	0.071	175.97	
SURGERY 3	2X4 LAY-IN T8	4	4	16	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1792	1.792	86	1376	1.376	6000	6000	10752.0	2496.0	0.071	175.97	
SURGERY 3 HALLWAY	2X4 R T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071	65.99	
SURGERY 2	2X4 LAY-IN T8	4	4	16	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1792	1.792	86	1376	1.376	6000	6000	10752.0	2496.0	0.071	175.97	
ROOM 12252	1X4 T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
ROOM 12254	1X4 T8	2	2	14	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	784	0.784	43	602	0.602	6000	6000	4704.0	1092.0	0.071	76.99	
ROOM 12256	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
SURGERY HALLS	2X4 LAY-IN T8	2	2	20	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	1120	1.120	43	860	0.860	6000	6000	6720.0	1560.0	0.071	109.98	
SURGERY 7	2X4 LAY-IN T8	4	4	16	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1792	1.792	86	1376	1.376	6000	6000	10752.0	2496.0	0.071	175.97	
SURGERY 1 HALLWAY	2X4 R T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071	65.99	
SURGERY 1	2X4 LAY-IN T8	4	4	16	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1792	1.792	86	1376	1.376	6000	6000	10752.0	2496.0	0.071	175.97	
ROOM 12234	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
ROOM 12130	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
ROOM 12232	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071	65.99	
ROOM 12230	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
ROOM 12228	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
SURGERY 8	2X4 LAY-IN T8	4	4	16	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1792	1.792	86	1376	1.376	6000	6000	10752.0	2496.0	0.071	175.97	
ROOM 12314	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
ROOM 12319	2X4 LAY-IN T8 PAR	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071	16.50	
HALL & LOCKERS	1X4 LAY-IN T12	2	2	4	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	86	344	0.344	48	192	0.192	6000	4800	2064.0	1142.4	0.071	80.54	
TOTAL							20130	20.130		15308	15.308			120580.0	29270.8		2063.59	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 30																		
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts		Fixture Watts	Total Watts		Annual Hours	Annual Hours					
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	KWH	Rate	Savings
MENS RESTROOM	2X4 LAY-IN T12	2	2	2	RB/RL W/T-8 & LW ELECT. 4' 2' LAMP	86	172	0.172	48	96	0.096	6000	4800	1032.0	571.2	0.071	40.27	
MENS RESTROOM	4' WALLMOUNT T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	4800	336.0	129.6	0.071	9.14	
ROOM 1224	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
OPEN RECOVERY	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
OPEN RECOVERY	1X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
STORAGE	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	4800	672.0	259.2	0.071	18.27	
ROOM 12214	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
ROOM 12218	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
CONTROL HALL	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
WOMENS LOCKER ROOM	1X4 LAY-IN T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	4800	2016.0	777.6	0.071	54.82	
WOMENS RESTROOM	1X4 LAY-IN T8	2	2	8	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	448	0.448	43	344	0.344	6000	4800	2688.0	1036.8	0.071	73.09	
CENTRAL STERILE	2X4 LAY-IN T8	4	4	13	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1456	1.456	86	1118	1.118	6000	6000	8736.0	2028.0	0.071	142.97	
SAFETY SHOWER	1X4 WRAP T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	4800	336.0	129.6	0.071	9.14	
OPEN STERILE	1X4 LAY-IN T8	2	2	8	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	448	0.448	43	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
OPEN STERILE	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071	65.99	
LAUNDRY FOLDING	2X4 LAY-IN T8	4	4	12	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1344	1.344	86	1032	1.032	6000	6000	8064.0	1872.0	0.071	131.98	
ROOM 12408	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
CLEAN SUPPLIES	2X4 LAY-IN T8	4	4	10	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1120	1.120	86	860	0.860	6000	4800	6720.0	2592.0	0.071	182.74	
EQUIPMENT STORAGE	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	4800	2016.0	777.6	0.071	54.82	
ROOM 12402	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
HALLWAY	2X4 LAY-IN T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
ROOM 12416	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
ROOM 12430	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
RESTROOM	2X2 VAN T12	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	56	56	0.056	29	29	0.029	6000	4800	336.0	196.8	0.071	13.87	
LAUNDRY ENTRY	2X4 LAY-IN T8 PAR	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
LAUNDRY	2X4 LAY-IN T8	4	4	26	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	2912	2.912	86	2236	2.236	6000	6000	17472.0	4056.0	0.071	285.95	
TOTAL							12660	12.660		9671	9.671			75960.0	20354.4		1434.99	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 31																			
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual						
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours	KWH	KWH	KWH	Annual		
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings		
REC OFFICE	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
REC OFFICE ENTRY	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
RECEIVING	2X4 STRIP T8	4	4	7	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	784	0.784	86	602	0.602	6000	6000	4704.0	1092.0	0.071	76.99		
ROOMS 12560 & 12562	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99		
STAIRS	4' WRAP T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.071	32.99		
SOILED LINEN	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
SOILED LINEN HALLWAY	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
PRINT SHOP	2X4 LAY-IN T8	4	4	5	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	560	0.560	86	430	0.430	6000	6000	3360.0	780.0	0.071	54.99		
PRINT SHOP BACK	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99		
ROOM 12538	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 12536	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 12540	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 12534	2X4 LAY-IN T8 PAR	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 12544	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 12532	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 12536	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 12405 STAIRS	4' WRAP T8	2	2	8	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	448	0.448	43	344	0.344	6000	6000	2688.0	624.0	0.071	43.99		
PHARMACY LOBBY	2X4 LAY-IN T8	3	3	3	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	6000	1530.0	378.0	0.071	26.65		
ROOM 12504	2X4 LAY-IN T8 PAR	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99		
ROOM 12506	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 12508	2X4 LAY-IN T8 PAR	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99		
ROOM 12512	2X2 LAY-IN T12	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50		
OPEN PHARMACY	2X4 LAY-IN T8	3	3	30	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	2550	2.550	64	1920	1.920	6000	6000	15300.0	3780.0	0.071	266.49		
OPEN PHARMACY	2X2 LAY-IN T8 UT	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071	0.00		
ROOM 12520	2X4 LAY-IN T8	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071	35.53		
ROOM 12513	2X4 LAY-IN T8 PAR	4	4	5	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	560	0.560	86	430	0.430	6000	6000	3360.0	780.0	0.071	54.99		
TOTAL							10089	10.089		7713	7.713			60534.0	14256.0		1005.05		

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 32																			
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual						
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	KWH	KWH	KWH	Annual	
BACK	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 12524	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
COORIDOR HALLWAY	2X4 LAY-IN T8	2	2	13	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	728	0.728	43	559	0.559	6000	6000	4368.0	1014.0	0.071	71.49		
ROOM 11512	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 11510	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
WOMENS LOCKER ROOM	2X4 LAY-IN T8	3	3	12	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1020	1.020	64	768	0.768	6000	4800	6120.0	2433.6	0.071	171.57		
ROOM 11504	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88		
ROOM 11502 ANDREWS	2X4 LAY-IN T8	3	3	6	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	510	0.510	64	384	0.384	6000	6000	3060.0	756.0	0.071	53.30		
ROOM 11502 COORDIOR	2X4 LAY-IN T8	2	2	15	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	840	0.840	43	645	0.645	6000	6000	5040.0	1170.0	0.071	82.49		
ENTRY	INC CAN	1	1	1	NEW CREE LR6 LED CAN RETROFIT	100	100	0.100	12	12	0.012	6000	6000	600.0	528.0	0.071	37.22		
BILLING	2X4 LAY-IN T8	3	3	20	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1700	1.700	64	1280	1.280	6000	6000	10200.0	2520.0	0.071	177.66		
ROOMS 11596 & 11594	2X4 LAY-IN T8	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071	35.53		
ROOM 11598	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88		
ROOM 11580	2X4 LAY-IN T8	3	3	6	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	510	0.510	64	384	0.384	6000	6000	3060.0	756.0	0.071	53.30		
ROOM 11580 HALLWAY	2X4 LAY-IN T8	2	2	9	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	504	0.504	43	387	0.387	6000	6000	3024.0	702.0	0.071	49.49		
INFORMATION LAB	2X4 LAY-IN T8 PAR I/O	3	3	18	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1530	1.530	64	1152	1.152	6000	6000	9180.0	2268.0	0.071	159.89		
ROOMS 11602 & 11604	2X4 LAY-IN T8 PAR I/O	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071	35.53		
VISITING NURSE HOSPICE	2X4 LAY-IN T8	3	3	14	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1190	1.190	64	896	0.896	6000	6000	7140.0	1764.0	0.071	124.36		
ROOM 11608	2X4 LAY-IN T8 I/O	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77		
ROOM 11610	2X4 LAY-IN T8 I/O	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77		
ROOM 11612	2X4 LAY-IN T8 I/O	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77		
ROOM 11614 ELECT	2X4 LAY-IN T8 I/O	3	3	12	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1020	1.020	64	768	0.768	6000	4800	6120.0	2433.6	0.071	171.57		
ROOM 11616	2X4 LAY-IN T8 I/O	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77		
ROOMS 11622, 11618, 11620	2X4 LAY-IN T8 I/O	3	3	6	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	510	0.510	64	384	0.384	6000	6000	3060.0	756.0	0.071	53.30		
OPEN	2X4 LAY-IN T8	3	3	36	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	3060	3.060	64	2304	2.304	6000	6000	18360.0	4536.0	0.071	319.79		
OPEN	1X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50		
TOTAL							15704	15.704		11806	11.806			94224.0	25231.2		1778.80		

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 33																			
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts		Fixture KW	Total Watts		Annual Hours	Annual Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	KWH	KWH	KWH	Annual Savings
ROOM 11624	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
2ND FLOOR	2X4 LAY-IN T8 PAR	3	3	7	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	595	0.595	64	448	0.448	6000	6000	3570.0	882.0	0.071		62.18	
2ND FLOOR	2X4 LAY-IN T8 PAR I/O	3	3	6	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	510	0.510	64	384	0.384	6000	6000	3060.0	756.0	0.071		53.30	
ROOM 11628	2X4 LAY-IN T8 PAR I/O	3	3	3	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	6000	1530.0	378.0	0.071		26.65	
ROOM 11630	2X4 LAY-IN T8 PAR I/O	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071		17.77	
ROOM 11519	1X4 LAY-IN T8	2	2	8	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	448	0.448	43	344	0.344	6000	6000	2688.0	624.0	0.071		43.99	
ROOM 11519 RESTROOM	4' WALLMOUNT T12	2	2	1	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	85	85	0.085	48	48	0.048	6000	4800	510.0	279.6	0.071		19.71	
ROOM 11519 ENTRY	1X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
HOUSEKEEPING	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	4800	2688.0	1036.8	0.071		73.09	
STORAGE	2X4 LAY-IN T8	4	4	12	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1344	1.344	86	1032	1.032	6000	4800	8064.0	3110.4	0.071		219.28	
WOMENS RESTROOM	2' VAN T12	2	2	2	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	56	112	0.112	29	58	0.058	6000	4800	672.0	393.6	0.071		27.75	
ROOM 11534	2X4 LAY-IN T8 PAR	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 11536	2X4 LAY-IN T8 PAR	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071		43.99	
ROOM 11537 MAPS	2X4 LAY-IN T8 PAR	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 11537 OFFICE	2X4 LAY-IN T8 PAR	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071		43.99	
ROOM 11540	2X4 LAY-IN T8 PAR	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 11541	2X4 LAY-IN T8 PAR	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
ROOM 11544 WOOD SHOP	4' IND T8	2	2	12	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	672	0.672	43	516	0.516	6000	6000	4032.0	936.0	0.071		65.99	
OPEN MAINTENANCE	4' IND T8	2	2	17	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	952	0.952	43	731	0.731	6000	6000	5712.0	1326.0	0.071		93.48	
LAMP & BALLAST ROOM	4' IND T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.071		32.99	
ROOM 11522	4' IND T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071		16.50	
ROOM 11554	4' VAP T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071		16.50	
ROOM 11558	4' IND T8	2	2	5	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	280	0.280	43	215	0.215	6000	6000	1680.0	390.0	0.071		27.50	
ROOM 11560	4' IND T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.071		32.99	
ROOM 11564	4' IND T8	2	2	12	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	672	0.672	43	516	0.516	6000	6000	4032.0	936.0	0.071		65.99	
ROOM 11568	4' IND T8	2	2	12	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	672	0.672	43	516	0.516	6000	6000	4032.0	936.0	0.071		65.99	
TOTAL							10015	10.015		7622	7.622			60090.0	16136.4			1137.62	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 34																			
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual						
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	KWH	KWH	KWH	Annual	Savings
ROOM 11566	4' IND T8	2	2	9	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	504	0.504	43	387	0.387	6000	6000	3024.0	702.0	0.071		49.49	
ROOM 11570	4' IND T8	2	2	19	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	1064	1.064	43	817	0.817	6000	6000	6384.0	1482.0	0.071		104.48	
ROOM 11570	MHHB	1	6	3	NEW 6-LAMP T8 HIGH BAY W/REFLECTOR	465	1395	1.395	224	672	0.672	6000	6000	8370.0	4338.0	0.071		305.83	
ROOM 11524	2X4 LAY-IN T12	2	2	2	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	86	172	0.172	48	96	0.096	6000	6000	1032.0	456.0	0.071		32.15	
ROOM 11524 HALLWAY	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
BIOMED HALLWAY	4' VAPOR T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
BIOMED HALLWAY	2X4 SURFACE	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
ROOM 12600 BIOMED ENG	2X4 LAY-IN T8	4	4	15	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1680	1.680	86	1290	1.290	6000	6000	10080.0	2340.0	0.071		164.97	
ROOM 12610 PAINT	4' IND T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071		16.50	
MAP PLANS	4' IND T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
ROOM 12614	4' IND T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 12616	4' IND T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
KITCHEN	2X4 LAY-IN T8	4	4	33	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	3696	3.696	86	2838	2.838	6000	6000	22176.0	5148.0	0.071		362.93	
WASH LINE	2X4 LAY-IN T8	4	4	22	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	2464	2.464	86	1892	1.892	6000	6000	14784.0	3432.0	0.071		241.96	
ROOM 11414	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 11416	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071		43.99	
ROOM 11414	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071		32.99	
ROOM 11428	1X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
CAFETERIA	2X2 LAY-IN 9C T8 UT	2	2	27	***LEAVE AS IS***	56	1512	1.512	56	1512	1.512	6000	6000	9072.0	0.0	0.071		0.00	
CAFETERIA	2X2 LAY-IN T8	2	2	6	***LEAVE AS IS***	56	336	0.336	56	336	0.336	6000	6000	2016.0	0.0	0.071		0.00	
ROOM 11304	INC CAN DIM	1	1	9	NEW CREE LR6 LED CAN RETROFIT	100	900	0.900	12	108	0.108	6000	6000	5400.0	4752.0	0.071		335.02	
ROOM 11304	2X2 LAY-IN T8	4	4	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071		0.00	
ROOM 11308	2X4 LAY-IN T8	4	4	33	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	3696	3.696	86	2838	2.838	6000	6000	22176.0	5148.0	0.071		362.93	
ROOM 11312	2X4 LAY-IN T8	4	4	22	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	2464	2.464	86	1892	1.892	6000	6000	14784.0	3432.0	0.071		241.96	
ROOM 11316	2X2 LAY-IN UT T12	2	2	18	***LEAVE AS IS***	56	1008	1.008	56	1008	1.008	6000	6000	6048.0	0.0	0.071		0.00	
ROOM 11316	INC CAN	1	1	15	NEW CREE LR6 LED CAN RETROFIT	100	1500	1.500	12	180	0.180	6000	6000	9000.0	7920.0	0.071		558.36	
TOTAL							24799	24.799		17767	17.767			148794.0	42192.0			2974.54	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 35																			
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts		Fixture Watts	Total Watts		Annual Hours	Annual Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	KW Before	After	After	After	After	After	Used	KWH Savings	KWH Rate	Annual Savings		
ROOM 11316	INC TRACK	1	1	6	CFL SCREW IN 18 WATT	100	600	0.600	18	108	0.108	4000	4000	2400.0	1968.0	0.071	138.74		
ROOM 11424	INC CAN DIM	1	1	24	NEW CREE LR6 LED CAN RETROFIT	100	2400	2.400	12	288	0.288	6000	6000	14400.0	12672.0	0.071	893.38		
ROOM 11424	4' COVE	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071	87.98		
ROOM 11394	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 11404	2X4 LAY-IN T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071	16.50		
ROOM 11400	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 11398	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 11396	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 11384	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99		
ROOM 11386	2X4 LAY-IN T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071	16.50		
ROOM 11388	2X4 LAY-IN T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071	16.50		
ROOM 11390	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 11502	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 11500	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
MENS RESTROOM	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	4800	672.0	259.2	0.071	18.27		
ROOM 11374 HOUSEKEEPING	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 11368	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 11368 ENTRY	INC CAN	1	1	1	NEW CREE LR6 LED CAN RETROFIT	100	100	0.100	12	12	0.012	6000	6000	600.0	528.0	0.071	37.22		
POLICE HALLWAY	2X4 LAY-IN T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.071	32.99		
POLICE	2X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 11364	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
LOCKER ROOM	2X4 LAY-IN T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	4800	1008.0	388.8	0.071	27.41		
LOBBY	INC DESK LAMP	1	1	4	CFL SCREW IN 18 WATT	100	400	0.400	18	72	0.072	4000	4000	1600.0	1312.0	0.071	92.50		
ROOM 11356	2X4 LAY-IN T8 PAR I/O	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 11358	2X4 LAY-IN T8 PAR I/O	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 11352	2X4 LAY-IN T8 PAR I/O	4	4	12	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1344	1.344	86	1032	1.032	6000	6000	8064.0	1872.0	0.071	131.98		
TOTAL							8988	8.988		4694	4.694			51928.0	24382.0		1718.93		

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 36																		
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours					
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	KWH	KWH	KWH	Annual Savings
ROOM 11344	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
ROOMS 11350 & 11346	2X4 LAY-IN T8 I/O	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
CONFERENCE	2X4 LAY-IN T8 I/O	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
HR LOBBY	2X4 LAY-IN T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
ROOMS 11334 & 11336	2X4 LAY-IN T8 I/O	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
ROOMS 11338, 11340, 11342	2X4 LAY-IN T8 I/O	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071	65.99	
ROOM 11326	2X4 LAY-IN T8 I/O	4	4	9	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1008	1.008	86	774	0.774	6000	6000	6048.0	1404.0	0.071	98.98	
ROOM 11324	2X4 LAY-IN T8 I/O	4	4	9	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1008	1.008	86	774	0.774	6000	6000	6048.0	1404.0	0.071	98.98	
LIBRARY	2X4 LAY-IN T8 I/O	4	4	11	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1232	1.232	86	946	0.946	6000	6000	7392.0	1716.0	0.071	120.98	
ROOM 11236	2X4 LAY-IN T8 I/O	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
LIBRARY	2X4 LAY-IN T8 I/O	4	4	12	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1344	1.344	86	1032	1.032	6000	6000	8064.0	1872.0	0.071	131.98	
MENS RESTROOM	2' VAN T12	2	2	1	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	56	56	0.056	30	30	0.030	6000	4800	336.0	192.0	0.071	13.54	
STAIRS	4' WRAP T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
LIBRARY HALLWAY	2X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
MEDICAN RECORDS HALLWAY	2X4 LAY-IN T8	2	2	11	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	616	0.616	43	473	0.473	6000	6000	3696.0	858.0	0.071	60.49	
OFFICE	2X4 LAY-IN T8	4	4	21	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	2352	2.352	86	1806	1.806	6000	6000	14112.0	3276.0	0.071	230.96	
ROOM 11280	2X4 LAY-IN T8 PAR	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071	16.50	
ROOM 11278	2X4 LAY-IN T8 PAR	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
ROOM 11276	2X4 LAY-IN T8 PAR	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
ROOM 11272	2X4 LAY-IN T8 PAR	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
ROOM 11274	2X4 LAY-IN T8 PAR	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
RECEPT	2X4 LAY-IN T8 PAR	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
MEDICAL RECORDS	2X4 LAY-IN T8	4	4	42	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	4704	4.704	86	3612	3.612	6000	6000	28224.0	6552.0	0.071	461.92	
MEDICAL RECORDS	2X2 LAY-IN T8 UT	2	2	5	***LEAVE AS IS***	56	280	0.280	56	280	0.280	6000	6000	1680.0	0.0	0.071	0.00	
TRANSCRIPTION	2X4 LAY-IN T8 PAR	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
ROOM 11284	2X4 LAY-IN T8 PAR	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
TOTAL							17528	17.528		13511	13.511			105168.0	24138.0		1701.73	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 37																			
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual						
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	KWH	KWH	KWH	Rate	Annual
ROOM 11282	2X4 LAY-IN T8 PAR	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071			
ROOM 11286	2X4 LAY-IN T8 PAR	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071			
MENS & WOMENS RR 11242	2' VAN T12	2	2	2	RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	56	112	0.112	30	60	0.060	6000	4800	672.0	384.0	0.071			
REGISTRATION WAITING	2X2 LAY-IN T8 UT	2	2	12	***LEAVE AS IS***	56	672	0.672	56	672	0.672	6000	6000	4032.0	0.0	0.071			
ROOMS 11264 & 11262	2X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071			
ROOM 11260	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071			
ROOMS 11258 & 11256	2X4 LAY-IN T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071			
ROOM 11252	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071			
ROOM 11253	2X2 LAY-IN T8 UT	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071			
ELEVATOR LOBBY	INC TRACK	1	1	7	NEW LED TRACK HEAD AND TRACK	75	525	0.525	13	91	0.091	6000	6000	3150.0	2604.0	0.071			
MAIN LOBBY	INC TRACK	1	1	19	NEW LED TRACK HEAD AND TRACK	75	1425	1.425	13	247	0.247	6000	6000	8550.0	7068.0	0.071			
ROOM 15106 HALLWAY	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071			
ROOM 15108	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071			
ROOM 15110	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071			
ROOM 15112	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071			
ROOM 15114	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071			
ROOMS 15126, 15116, 15128	2X4 LAY-IN T8	4	4	5	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	560	0.560	86	430	0.430	6000	6000	3360.0	780.0	0.071			
ROOM 15118	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071			
ROOM 15120	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071			
RESTROOM	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	4800	336.0	129.6	0.071			
ROOM 15124	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071			
CHAPEL	INC CAN DIM	1	1	8	CFL SCREW IN 18 WATT	100	800	0.800	18	144	0.144	4000	3200	3200.0	2739.2	0.071			
COAT ROOM	2X2 LAY-IN T8 UT	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	4800	336.0	67.2	0.071			
ELEVATOR COORIDOR	2X4 LAY-IN T8	4	4	7	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	784	0.784	86	602	0.602	6000	6000	4704.0	1092.0	0.071			
ROOM 12112	2X4 LAY-IN T8	4	4	7	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	784	0.784	86	602	0.602	6000	6000	4704.0	1092.0	0.071			
MENS & WOMENS RR	4' WALLMOUNT T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	4800	672.0	259.2	0.071			
TOTAL							9024	9.024		5466	5.466			52544.0	20445.2				1441.39

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																
03-Aug-10	LIGHTING SURVEY DATA SHEET																
PAGE 38																	
		No. of	No. of			Fixture	Total		Fixture	Total		Annual	Annual				
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours	KWH	KWH	KWH	Annual
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings
MENS & WOMENS RR	2' VAN T8	2	2	2	2 RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	33	66	0.066	29	58	0.058	6000	4800	396.0	117.6	0.071	8.29
MENS & WOMENS RR	1X4 LAY-IN T12	2	2	2	2 RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	86	172	0.172	48	96	0.096	6000	4800	1032.0	571.2	0.071	40.27
MENS & WOMENS RR	2' VAN T12	2	2	2	2 RL 2' 2-LAMP FIXTURE W/ WM T8 LAMPS	56	112	0.112	30	60	0.060	6000	4800	672.0	384.0	0.071	27.07
ROOM 11206	2X4 LAY-IN T8	3	3	12	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1020	1.020	64	768	0.768	6000	6000	6120.0	1512.0	0.071	106.60
CAFETERIA HALLWAY	2X4 LAY-IN T8	2	2	18	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	1008	1.008	43	774	0.774	6000	6000	6048.0	1404.0	0.071	98.98
MEDICAL ARTS BLDG.														0			
3RD FLOOR														0			
STAIRS A	2X4 LAY-IN T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071	16.50
CLOSET 1 & 2	2X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	4800	1344.0	518.4	0.071	36.55
MENS & WOMENS RESTROOM	2X2 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	4800	1344.0	518.4	0.071	36.55
SUITE 300	DESK LAMP	1	1	2	CFL SCREW IN 18 WATT	100	200	0.200	18	36	0.036	4000	4000	800.0	656.0	0.071	46.25
SUITE 300	DESK LAMP	1	1	2	CFL SCREW IN 18 WATT	100	200	0.200	18	36	0.036	4000	4000	800.0	656.0	0.071	46.25
LAB	2X4 LAY-IN T8 PAR	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00
EXAM 1-4	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071	87.98
PANEL ROOM	2X2 LAY-IN T8 PAR	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00
PANEL HALLWAY	2X2 LAY-IN T8 PAR	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071	65.99
NURSE STATION	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77
RESTROOM	2X2 LAY-IN T8 PAR	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27
OFFICE	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77
ADAMSON OFFICE	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77
EDGELL OFFICE	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77
CONFERENCE	2X4 LAY-IN T8 PAR	3	3	3	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	4800	1530.0	608.4	0.071	42.89
CONFERENCE HALLWAY	2X2 LAY-IN T8 PAR	4	4	12	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1344	1.344	86	1032	1.032	6000	6000	8064.0	1872.0	0.071	131.98
EXAM 5-8	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071	87.98
EXAM 9	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00
EXAM 9	INC CAN DIM	1	1	4	NEW CREE LR6 LED CAN RETROFIT	100	400	0.400	12	48	0.048	6000	6000	2400.0	2112.0	0.071	148.90
RESTROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27
TOTAL							9097	9.097		6407	6.407			53782.0	16590.4		1169.62

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 39																		
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours	KWH	KWH	KWH	Annual Savings	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
RESTROOM	2X2 LAY-IN T8 PAR	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27	
FILE & REC	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
FILE & REC	2X4 LAY-IN T8 PAR	3	3	6	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	510	0.510	64	384	0.384	6000	6000	3060.0	756.0	0.071	53.30	
OB GYN OFFICE	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
PHYSICIAN OFFICE	2X4 LAY-IN T8 PAR I/O	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071	35.53	
OB 1 & 2	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
OB 1 & 2	2X2 LAY-IN T8 UT	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00	
OB 1 & 2	INC CAN	1	1	2	NEW CREE LR6 LED CAN RETROFIT	100	200	0.200	12	24	0.024	6000	6000	1200.0	1056.0	0.071	74.45	
OB4	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
OB4	INC CAN	1	1	2	NEW CREE LR6 LED CAN RETROFIT	100	200	0.200	12	24	0.024	6000	6000	1200.0	1056.0	0.071	74.45	
EXAM 2	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
EXAM 2 & 3	2X2 LAY-IN T8 UT	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00	
EXAM 1	2X2 LAY-IN T8 UT	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071	0.00	
EXAM 1	2X4 LAY-IN T8 PAR	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071	8.88	
NURSE DESK	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
HALLWAY	2X2 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
RESTROOM	2X2 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27	
OPEN OFFICE	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
OPEN OFFICE	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
FILE ROOM	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
LOBBY	2X2 LAY-IN UT T8	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071	0.00	
REC.	2X4 LAY-IN T8	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071	35.53	
SUITE 325 RECEPT	2X4 LAY-IN T8	3	3	5	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	425	0.425	64	320	0.320	6000	6000	2550.0	630.0	0.071	44.42	
EXAM 3	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
EXAM 1 & 2	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
EXAM 1 & 2	2X2 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
TOTAL							5864	5.864		4346	4.346			35184.0	9314.4		656.67	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 40																			
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual						
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	KWH	KWH	KWH	Annual	
EXAM 4	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
TEWARI OFFICE	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071		17.77	
KUZMAN	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071		17.77	
WHITE	2X4 LAY-IN T8 PAR	3	3	3	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	6000	1530.0	378.0	0.071		26.65	
RESTROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071		18.27	
KITCHEN	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
UTILITY	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
HALLWAY	2X2 LAY-IN T8	4	4	9	***LEAVE AS IS***	56	504	0.504	56	504	0.504	6000	6000	3024.0	0.0	0.071		0.00	
CHILD ADVOCACY	2X4 LAY-IN T8	3	3	7	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	595	0.595	64	448	0.448	6000	6000	3570.0	882.0	0.071		62.18	
CHILD ADVOCACY OFFICE	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071		17.77	
SUITE 330 EXAM 1-6	2X4 LAY-IN T8	4	4	12	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1344	1.344	86	1032	1.032	6000	6000	8064.0	1872.0	0.071		131.98	
CLOSET	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071		18.27	
SOILED ROOM	2X2 LAY-IN T8 PAR	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	4800	336.0	67.2	0.071		4.74	
WEISS OFFICE	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071		17.77	
DORSETT	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071		17.77	
KITCHEN	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071		17.77	
FRYE	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071		17.77	
FILE ROOM	2X4 LAY-IN T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.071		32.99	
STAFF RESTROOM	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	4800	336.0	129.6	0.071		9.14	
HALLWAY	2X2 LAY-IN UT T8	2	2	14	***LEAVE AS IS***	56	784	0.784	56	784	0.784	6000	6000	4704.0	0.0	0.071		0.00	
NURSE STATION	2X2 LAY-IN UT T8	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071		0.00	
NURSE STATION	2X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
330 LOBBY	INC DESK LAMP	1	1	3	CFL SCREW IN 18 WATT	100	300	0.300	18	54	0.054	4000	4000	1200.0	984.0	0.071		69.37	
STAIRS B	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
330 MAIN HALLWAY	1X4 LAY-IN T8 PAR	2	2	16	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	896	0.896	43	688	0.688	6000	6000	5376.0	1248.0	0.071		87.98	
330 MAIN HALLWAY	1X4 LAY-IN T8 PAR	1	1	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
TOTAL							7380	7.380		5785	5.785			43680.0	9403.2			662.93	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 41																		
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours					
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	After	After	Used	KWH	KWH	KWH	Annual Savings
COORDIDOR	2X2 LAY-IN T8	4	4	5	***LEAVE AS IS***	56	280	0.280	56	280	0.280	6000	6000	1680.0	0.0	0.071	0.00	
STAIRS B	4' WRAP T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
STAIRS B	4' WALLMOUNT T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
*** 2ND FLOOR ***													0					
CLOSET 1 & 2	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
MENS & WOMENS RR	2X2 LAY-IN T8 PAR	4	4	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	4800	672.0	134.4	0.071	9.48	
PEDIATRICS OPEN EXAM 1	2X2 LAY-IN T8 UT	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071	0.00	
PEDIATRICS OPEN EXAM 2	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
SLOP CLOSET	4' STRIP T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	4800	336.0	129.6	0.071	9.14	
EXAM 14, 15, 16 ,17	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071	87.98	
EXAM 13	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
SOILED UTILITY	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	4800	1344.0	518.4	0.071	36.55	
RESTROOM	2X2 LAY-IN T8	4	4	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	4800	336.0	67.2	0.071	4.74	
HABO OFFICE	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
BILLECE	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
BILLECE HALLWAY	2X2 LAY-IN T8	4	4	5	***LEAVE AS IS***	56	280	0.280	56	280	0.280	6000	6000	1680.0	0.0	0.071	0.00	
SANICKY	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
EXAM 12, 11, 10, 9	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071	87.98	
BABY EXAM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
BABY EXAM HALLWAY	2X2 LAY-IN T8	4	4	6	***LEAVE AS IS***	56	336	0.336	56	336	0.336	6000	6000	2016.0	0.0	0.071	0.00	
KEMMER OFFICE	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
BORISHCAK	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
BALTER	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
EXAM 8, 7, 6, 5	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071	87.98	
SOILED UTILITY	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	4800	1344.0	518.4	0.071	36.55	
CLEAN UTILITY	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	4800	2688.0	1036.8	0.071	73.09	
TOTAL							6958	6.958		5598	5.598			41748.0	9238.8		651.34	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 42																		
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours	KWH	KWH	KWH	Annual	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
EMPLOYEE ONLY	4' STRIP T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
WEIGHT ROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
WEIGHT ROOM HALLWAY	2X2 LAY-IN T8	4	4	6	***LEAVE AS IS***	56	336	0.336	56	336	0.336	6000	6000	2016.0	0.0	0.071	0.00	
OFFICE	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
RANX	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
RANX HALLWAY	2X2 LAY-IN T8	4	4	12	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1344	1.344	86	1032	1.032	6000	6000	8064.0	1872.0	0.071	131.98	
RESTROOM	2X2 LAY-IN T8	4	4	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071	0.00	
EXAM 4, 3, 2	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071	65.99	
EXAM 1	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
STAFF RESTROOM	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	4800	336.0	129.6	0.071	9.14	
FILE	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071	87.98	
FILE	2X2 LAY-IN T8 UT	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071	0.00	
COPY ROOM	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
EXAM 1 HALLWAY	2X2 LAY-IN T8	4	4	6	***LEAVE AS IS***	56	336	0.336	56	336	0.336	6000	6000	2016.0	0.0	0.071	0.00	
PEDIATRIC WAITING	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
PEDIATRIC WAITING	1X4 LAY-IN T8	1	1	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071	22.00	
DESK HELP	2X2 LAY-IN T8	4	4	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00	
MAIN HALLWAY	1X4 LAY-IN T8	2	2	16	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	896	0.896	43	688	0.688	6000	6000	5376.0	1248.0	0.071	87.98	
MAIN HALLWAY	1X4 LAY-IN T8	1	1	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
COORIDOR HALLWAY	2X2 LAY-IN T8	4	4	5	***LEAVE AS IS***	56	280	0.280	56	280	0.280	6000	6000	1680.0	0.0	0.071	0.00	
EXAM 1	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
RECEPTIONIST	2X4 LAY-IN T8	3	3	6	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	510	0.510	64	384	0.384	6000	6000	3060.0	756.0	0.071	53.30	
EXAM 2, 3, 4	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071	65.99	
OFFICE	2X4 LAY-IN T8 PAR	3	3	3	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	6000	1530.0	378.0	0.071	26.65	
RESTROOM	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	4800	672.0	259.2	0.071	18.27	
TOTAL							8889	8.889		7121	7.121			53334.0	10762.8		758.78	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 43																			
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual						
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	KWH	Rate	Savings	
ELEVATOR 1 & 2	4' STRIP T12	1	1	4	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	56	224	0.224	33	132	0.132	8760	8760	1962.2	805.9	0.071	56.82		
ELEVATOR 1 & 2	2' STRIP T12	1	1	4	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	33	132	0.132	29	116	0.116	8769	8769	1157.5	140.3	0.071	9.89		
*** 1ST FLOOR ***																			
CLOSET 1 & 2	2X2 LAY-IN T8	4	4	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	4800	672.0	134.4	0.071	9.48		
MENS & WOMENS RESTROOM	2X2 LAY-IN T8	4	4	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	4800	672.0	134.4	0.071	9.48		
SPEECH LOBBY	2X2 LAY-IN T8 UT	2	2	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00		
RECEPTIONIST	2X4 LAY-IN T8	3	3	3	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	6000	1530.0	378.0	0.071	26.65		
FILE ROOM	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
FILE ROOM	2X2 LAY-IN T8	4	4	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	6000	336.0	0.0	0.071	0.00		
FILE HALLWAY	2X2 LAY-IN T8	4	4	3	***LEAVE AS IS***	56	168	0.168	56	168	0.168	6000	6000	1008.0	0.0	0.071	0.00		
ROOM 146	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
JOE OFFICE	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
NURSE OFFICE	2X4 LAY-IN T8 PAR	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77		
ROOM 140	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
OFFICE	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
MENS & WOMENS LKR RM	2X2 LAY-IN T8	4	4	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	4800	1344.0	268.8	0.071	18.95		
MENS & WOMENS LKR RM	4' COVE T8	2	2	12	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	672	0.672	43	516	0.516	6000	4800	4032.0	1555.2	0.071	109.64		
MENS & WOMENS LKR RM	3' COVE T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	45	270	0.270	40	240	0.240	6000	4800	1620.0	468.0	0.071	32.99		
RESTROOM	2X2 LAY-IN T8	4	4	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	4800	336.0	67.2	0.071	4.74		
BACK WASH ROOM	2X2 LAY-IN T8	4	4	4	***LEAVE AS IS***	56	224	0.224	56	224	0.224	6000	6000	1344.0	0.0	0.071	0.00		
BACK WASH ROOM	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99		
ROOM 130	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 129	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
ROOM 150 1 & 2	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071	22.00		
ROOM 150 1 & 2	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00		
OPEN EXERCISE	2X2 LAY-IN T8	4	4	26	***LEAVE AS IS***	56	1456	1.456	56	1456	1.456	6000	6000	8736.0	0.0	0.071	0.00		
TOTAL							6371	6.371		5504	5.504			39209.7	7012.2		494.36		

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																	
03-Aug-10	LIGHTING SURVEY DATA SHEET																	
PAGE 44																		
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts	KW	Fixture Watts	Total Watts	KW	Annual Hours	Annual Hours	KWH	KWH	KWH	Annual	
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings	
OPEN EXERCISE	2X4 LAY-IN T8	3	3	38	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	3230	3.230	64	2432	2.432	6000	6000	19380.0	4788.0	0.071	337.55	
OPEN EXERCISE	4' COVE T8	2	2	26	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	1456	1.456	43	1118	1.118	6000	6000	8736.0	2028.0	0.071	142.97	
REHAB POOL	MHHB	1	6	18	NEW 6-LAMP T8 HIGH BAY W/REFLECTOR	465	8370	8.370	224	4032	4.032	6000	6000	50220.0	26028.0	0.071	1834.97	
STORAGE	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071	17.77	
ROOM 150	2X4 LAY-IN T8	3	3	12	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	1020	1.020	64	768	0.768	6000	6000	6120.0	1512.0	0.071	106.60	
ROOM 150	INC CAN DIM	1	1	30	NEW CREE LR6 LED CAN RETROFIT	100	3000	3.000	12	360	0.360	6000	6000	18000.0	15840.0	0.071	1116.72	
ROOM 150	INC TRACK	1	1	6	NEW LED TRACK HEAD AND TRACK	75	450	0.450	13	78	0.078	6000	6000	2700.0	2232.0	0.071	157.36	
MAIN HALLWAY	1X4 LAY-IN T8	2	2	16	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	896	0.896	43	688	0.688	6000	6000	5376.0	1248.0	0.071	87.98	
MAIN HALLWAY	1X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071	5.50	
COORIDOR	2X2 LAY-IN T8	4	4	5	***LEAVE AS IS***	56	280	0.280	56	280	0.280	6000	6000	1680.0	0.0	0.071	0.00	
REHAB PLAY ROOM	2X4 LAY-IN T8	4	4	5	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	560	0.560	86	430	0.430	6000	6000	3360.0	780.0	0.071	54.99	
BALL ROOM	INC CAN	1	1	2	NEW CREE LR6 LED CAN RETROFIT	100	200	0.200	12	24	0.024	6000	6000	1200.0	1056.0	0.071	74.45	
*** ADMIN AREA ***																		
ROOM 1011	INC CAN	1	1	20	CFL SCREW IN 18 WATT	100	2000	2.000	18	360	0.360	4000	4000	8000.0	6560.0	0.071	462.48	
ROOM 1011	2X2 LAY-IN T8	4	4	20	***LEAVE AS IS***	56	1120	1.120	56	1120	1.120	6000	6000	6720.0	0.0	0.071	0.00	
ROOM 11180	2X4 LAY-IN T8 PAR	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071	32.99	
ROOM 11180 HALLWAY	1X4 LAY-IN T8	1	1	3	RL 4' 1-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	51	153	0.153	6000	6000	1008.0	90.0	0.071	6.35	
LOBBY	2X4 LAY-IN T8 PAR	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
LOBBY	2X2 LAY-IN T8	4	4	10	***LEAVE AS IS***	56	560	0.560	56	560	0.560	6000	6000	3360.0	0.0	0.071	0.00	
RESTROOM 1 & 2	2X2 LAY-IN T8	4	4	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	4800	672.0	134.4	0.071	9.48	
ROOM 1009	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
ROOM 1009	INC CAN DIM	1	1	6	NEW CREE LR6 LED CAN RETROFIT	100	600	0.600	12	72	0.072	6000	6000	3600.0	3168.0	0.071	223.34	
ROOM 1009	1X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071	11.00	
LOBBY	INC CAN	1	1	1	NEW CREE LR6 LED CAN RETROFIT	100	100	0.100	12	12	0.012	6000	6000	600.0	528.0	0.071	37.22	
ROOM 1008	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071	43.99	
TOTAL							26140	26.140		14146	14.146			152840.0	68818.4		4851.70	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 45																			
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual						
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	KWH	KWH	KWH	Annual	
ROOM 1007	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 1006	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071		43.99	
ROOM 1005	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071		43.99	
ROOM 1004	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071		43.99	
ROOM 1003	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 1002	2X4 LAY-IN T8	2	2	12	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	672	0.672	43	516	0.516	6000	6000	4032.0	936.0	0.071		65.99	
ROOM 11146 HALLWAY	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
ROOM 1003	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
ROOM 11150	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071		32.99	
ROOM 11152	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071		32.99	
MAIL ROOM	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
FILE ROOM	2X4 LAY-IN T8	4	4	8	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	896	0.896	86	688	0.688	6000	6000	5376.0	1248.0	0.071		87.98	
BREAK ROOM	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	4800	2688.0	1036.8	0.071		73.09	
BREAK ROOM	DESK LAMP	1	1	2	CFL SCREW IN 18 WATT	100	200	0.200	18	36	0.036	4000	3200	800.0	684.8	0.071		48.28	
ROOM 11134	2X4 LAY-IN T8 PAR	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071		43.99	
ROOM 11128	2X4 LAY-IN T8 PAR	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071		32.99	
COORDINATOR	2X4 LAY-IN T8 PAR	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
COORDINATOR	1X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
CPS OFFICE	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
CPS HALLWAY	2X4 LAY-IN T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071		16.50	
MED. ARTS BASEMENT																			
SUITE 10 LOBBY	2X4 LAY-IN T8	3	3	6	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	510	0.510	64	384	0.384	6000	6000	3060.0	756.0	0.071		53.30	
RECEPTIONIST	2X4 LAY-IN T8	3	3	5	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	425	0.425	64	320	0.320	6000	6000	2550.0	630.0	0.071		44.42	
RECEPTIONIST HALLWAY	2X2 LAY-IN T8	4	4	12	***LEAVE AS IS***	56	672	0.672	56	672	0.672	6000	6000	4032.0	0.0	0.071		0.00	
ROOM 22	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071		17.77	
EXAM 1 & 2	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071		43.99	
TOTAL							8641	8.641		6657	6.657			51446.0	12017.6			847.24	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 46																			
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual						
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	KWH	KWH	KWH	Annual	
NURSE STATION	2X4 LAY-IN T8	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071		35.53	
MOLD ROOM	2X4 LAY-IN T8	4	4	4	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	448	0.448	86	344	0.344	6000	6000	2688.0	624.0	0.071		43.99	
ROOM 35	2X4 LAY-IN T8	4	4	2	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	224	0.224	86	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
WAITING	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
CHANGE ROOM 1 & 2	2X2 LAY-IN T8	4	4	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071		0.00	
RESTROOM	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	4800	336.0	129.6	0.071		9.14	
ROOM 45	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071		11.00	
X-RAY	2X2 LAY-IN T8 UT	2	2	8	***LEAVE AS IS***	56	448	0.448	56	448	0.448	6000	6000	2688.0	0.0	0.071		0.00	
X-RAY	INC CAN DIM	1	1	7	NEW CREE LR6 LED CAN RETROFIT	100	700	0.700	12	84	0.084	6000	6000	4200.0	3696.0	0.071		260.57	
ROOM 46	2X2 LAY-IN T8 UT	2	2	10	***LEAVE AS IS***	56	560	0.560	56	560	0.560	6000	6000	3360.0	0.0	0.071		0.00	
ROOM 46	INC CAN DIM	1	1	10	NEW CREE LR6 LED CAN RETROFIT	100	1000	1.000	12	120	0.120	6000	6000	6000.0	5280.0	0.071		372.24	
CONFERENCE	INC CAN DIM	1	1	8	NEW CREE LR6 LED CAN RETROFIT	100	800	0.800	12	96	0.096	6000	4800	4800.0	4339.2	0.071		305.91	
CONFERENCE	2X4 LAY-IN T5	2	2	8	***LEAVE AS IS***	56	448	0.448	56	448	0.448	6000	4800	2688.0	537.6	0.071		37.90	
PUMP ROOM	4' STRIP T8	2	2	14	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	784	0.784	43	602	0.602	6000	6000	4704.0	1092.0	0.071		76.99	
STORAGE	4' STRIP T8	2	2	10	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	560	0.560	43	430	0.430	6000	6000	3360.0	780.0	0.071		54.99	
HEATER	4' STRIP T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071		16.50	
PUMP ROOM	4' VAPOR T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071		22.00	
MAIN HALLWAY	1X4 T8	2	2	16	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	896	0.896	43	688	0.688	6000	6000	5376.0	1248.0	0.071		87.98	
MAIN HALLWAY	1X4 T8	1	1	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
ELECT ROOM	4' STRIP T8	2	2	8	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	448	0.448	43	344	0.344	6000	6000	2688.0	624.0	0.071		43.99	
DATA ROOM	4' STRIP T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
SEWING ROOM	4' STRIP T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071		5.50	
JANITOR STORAGE	4' STRIP T8	2	2	10	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	560	0.560	43	430	0.430	6000	6000	3360.0	780.0	0.071		54.99	
BOILER ROOM	4' IND T8	2	2	11	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	616	0.616	43	473	0.473	6000	6000	3696.0	858.0	0.071		60.49	
WOMENS LOCKER ROOM	2X2 LAY-IN T8	2	2	1	***LEAVE AS IS***	56	56	0.056	56	56	0.056	6000	4800	336.0	67.2	0.071		4.74	
WOMENS LOCKER ROOM	1X4 LAY-IN T8	2	2	23	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	1288	1.288	43	989	0.989	6000	4800	7728.0	2980.8	0.071		210.15	
TOTAL							11128	11.128		7297	7.297			66768.0	24944.4			1758.58	

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																		
03-Aug-10	LIGHTING SURVEY DATA SHEET																		
PAGE 47																			
		No.of Lamps	No.of Lamps			Fixture Watts	Total Watts		Fixture Watts	Total Watts		Annual Hours	Annual Hours						
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	KW	After	After	After	Before	After	Used	Savings	KWH	KWH	Rate	Annual Savings
WOMENS LKR RM LOUNGE	2X4 LAY-IN T8	4	4	3	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	336	0.336	86	258	0.258	6000	6000	2016.0	468.0	0.071			32.99
*** GIFT SHOP ***																			
LOBBY	MR 16 TRACK	1	1	34	LED 6 WATT MR16 REPLACEMENT	50	1700	1.700	6	204	0.204	6000	6000	10200.0	8976.0	0.071			632.81
LOBBY DISPLAY	INC CANS	1	1	44	NEW CREE LR6 LED CAN RETROFIT	100	4400	4.400	12	528	0.528	6000	6000	26400.0	23232.0	0.071			1637.86
CANDY DISPLAY	4' STRIP T12	2	2	2	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	86	172	0.172	48	96	0.096	6000	6000	1032.0	456.0	0.071			32.15
KITCHEN	2X2 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071			11.00
BACK STORAGE	2X2 LAY-IN T8	2	2	6	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	336	0.336	43	258	0.258	6000	6000	2016.0	468.0	0.071			32.99
BACK STORAGE	2X4 LAY-IN T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071			5.50
OFFICE	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071			17.77
ROOM 15164 UPS	4' IND T12	2	2	1	RB/RL W/T-8 & LW ELECT. 4' 2 LAMP	86	86	0.086	48	48	0.048	6000	6000	516.0	228.0	0.071			16.07
ROM 15158 ELECT	4' IND T8	2	2	1	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	56	0.056	43	43	0.043	6000	6000	336.0	78.0	0.071			5.50
ROOM 15156 MECH	4' IND T8	2	2	3	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	168	0.168	43	129	0.129	6000	6000	1008.0	234.0	0.071			16.50
ROOM M15 15218	2X4 LAY-IN T8	4	4	14	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1568	1.568	86	1204	1.204	6000	6000	9408.0	2184.0	0.071			153.97
ROOM 15220	2X4 LAY-IN T8	2	2	2	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	112	0.112	43	86	0.086	6000	6000	672.0	156.0	0.071			11.00
ROOMS 15222 & 15224	2X4 LAY-IN T8	2	2	4	RL 4' 2-LAMP FIXTURE W/25 WATT T8 LAMPS	56	224	0.224	43	172	0.172	6000	6000	1344.0	312.0	0.071			22.00
OPEN AREA	2X4 LAY-IN T8	4	4	10	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	1120	1.120	86	860	0.860	6000	6000	6720.0	1560.0	0.071			109.98
ROOM M15 15356	2X4 LAY-IN T8	4	4	1	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	112	0.112	86	86	0.086	6000	6000	672.0	156.0	0.071			11.00
OPEN	2X4 LAY-IN T8	4	4	6	RL 4' 4-LAMP FIXTURE W/25 WATT T8 LAMPS	112	672	0.672	86	516	0.516	6000	6000	4032.0	936.0	0.071			65.99
ER ADMIN HALLWAY	2X2 LAY-IN UT T8	2	2	8	***LEAVE AS IS***	56	448	0.448	56	448	0.448	6000	6000	2688.0	0.0	0.071			0.00
ER ADMIN HALLWAY	2X4 LAY-IN T8	3	3	4	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	340	0.340	64	256	0.256	6000	6000	2040.0	504.0	0.071			35.53
DIRECTOR	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071			17.77
PATIENT CARE	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071			17.77
SECRETARY	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071			17.77
LOUNGE	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071			17.77
LOCKER ROOM	2X4 LAY-IN T8	3	3	1	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	85	0.085	64	64	0.064	6000	6000	510.0	126.0	0.071			8.88
BARTOS	2X4 LAY-IN T8	3	3	2	RL 4' 3-LAMP FIXTURE W/25 WATT T8 LAMPS	85	170	0.170	64	128	0.128	6000	6000	1020.0	252.0	0.071			17.77
TOTAL							13123	13.123		6153	6.153			78738.0	41820.0				2948.31

Attachment B - Robinson Memorial Hospital Lighting Calculations

Lighting calculations

PROJECT NAME:	ROBINSON MEMORIAL HOSPITAL																
03-Aug-10	LIGHTING SURVEY DATA SHEET																
PAGE 48																	
		No.of	No.of			Fixture	Total		Fixture	Total		Annual	Annual				
	Fixture	Lamps	Lamps			Watts	Watts	KW	Watts	Watts	KW	Hours	Hours	KWH	KWH	KWH	Annual
Building Area	Type	Curr.	Prop.	Qty	Proposed	Before	Before	Before	After	After	After	Before	After	Used	Savings	Rate	Savings
RESTROOM 1 & 2	2X2 LAY-IN T8 UT	2	2	2	***LEAVE AS IS***	56	112	0.112	56	112	0.112	6000	6000	672.0	0.0	0.071	0.00
EMS ELEVATOR	2X4 LAY-IN T8	3	3	3	RL 4' 3-LAMP FIXTURE W/ 25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	6000	1530.0	378.0	0.071	26.65
PHYSICIANS	2X4 LAY-IN T8	3	3	3	RL 4' 3-LAMP FIXTURE W/ 25 WATT T8 LAMPS	85	255	0.255	64	192	0.192	6000	6000	1530.0	378.0	0.071	26.65
EXIT SIGNS				12	NEW LED EXIT SIGN W/ EM HEAD	40	480	0.480	4	48	0.048	8760	8760	4204.8	3784.3	0.071	296.44
WALL SENSOR				389	WALL MOTION SENSOR DT		0	0.000	4	1556	1.556			0.0	0.0	0.071	0.00
CEILING SENSOR				142	CEILING MOTIONS SENSOR DT 1000		0	0.000		0	0.000			0.0	0.0	0.071	0.00
CEILING SENSOR				18	CEILING MOTIONS SENSOR DT 2000		0	0.000		0	0.000			0.0	0.0	0.071	0.00
WALL SENSOR				42	WALL MOTION SENSOR STEP		0	0.000		0	0.000			0.0	0.0	0.071	0.00
HID BALLAST RECYCLING				1	HID BALLAST RECYCLING		0	0.000		0	0.000			0.0	0.0	0.071	0.00
4' BALLAST RECYCLING				1	4' BALLAST RECYCLING		0	0.000		0	0.000			0.0	0.0	0.071	0.00
8' BALLAST RECYCLING				1	8' BALLAST RECYCLING		0	0.000		0	0.000			0.0	0.0	0.071	0.00
HID LAMP RECYCLING				1	HID LAMP RECYCLING		0	0.000		0	0.000			0.0	0.0	0.071	0.00
4' LAMP RECYCLING				1	4' LAMP RECYCLING		0	0.000		0	0.000			0.0	0.0	0.071	0.00
8' LAMP RECYCLING				1	8' LAMP RECYCLING		0	0.000		0	0.000			0.0	0.0	0.071	0.00
MATERIAL DISPOSAL				1	MATERIAL DISPOSAL		0	0.000		0	0.000			0.0	0.0	0.071	0.00
PROJECT MANAGEMENT				1	PROJECT MANAGEMENT		0	0.000		0	0.000			0.0	0.0	0.071	0.00
					<< ENTER PRODUCT CODE >>					0							
TOTAL							1102	1.102			2.100			7936.8	4540.3		349.74
Note: Highlighted rooms scheduled to have motion sensor controls.										2100							
>>> BUILDING TOTALS							1502	1.502			2.172			9536.8	5852.3		442.23
>>> BUILDING TOTALS							563155	563.155		390540	388.440			3349913.7	1058176.2		74507.94

Exhibit G-7
Robinson Memorial Hospital - Ravenna, OH
Air Handler 5 Replacment

Facility	Projected Energy Savings				Guaranteed Energy Savings		
	Electric	Annual	Utility	Eng	Electric	Annual	Utility
	kWh	kW	\$	SF	kWh	kW	\$
Hospital	5,229	7.2	\$368	85%	4,445	6.1	\$313
Total	5,229	7.2	\$368		4,445	6.1	\$313

Facility	Item	Serves	Qty	Existing Motor Details				Existing Hours	Proposed Hours	Proposed Motor		kW Savings	Annual kW Savings	kWh Savings	Cost Savings
				HP	Motor Effic.	Motor Loading	Actual kW			Motor Effic.	Actual kW				
Hospital	AHU-5	Café	1	10	83%	70%	6.29	8,760	8,760	92%	5.69	0.60	7.16	5,229	\$368
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			0	0	0%	0%	0.00	0	0	50%	0.00	0.00	0.00	0	\$0
			1	10			6.291566				5.694656	0.59691	7.162917	5,229	\$368

Attachment D - Robinson Memorial Hospital Air Handler Replacement Calculations

Robinson Memorial Hospital - Ravenna, OH

Air Handler 7, 8, 9 Replacement

Facility	Projected Energy Savings				Guaranteed Energy Savings			
	Electric		Utility		Electric		Utility	
	kWh	kW	\$	SF	kWh	kW	\$	
Hospital	52,289	71.6	\$3,678	85%	44,446	60.9	\$3,126	
Total	52,289	71.6	\$3,678		44,446	60.9	\$3,126	

Existing Motor Details									
Facility	Item	Serves	Qty	HP	Motor Effic.	Motor Loading	Actual kW		
Hospital	AHU-7	Core	1	40	88%	70%	23.74		
Hospital	AHU-7	Core	1	5	77%	70%	3.39		
Hospital	AHU-8	Patient	1	20	83%	70%	12.58		
Hospital	AHU-8	Patient	1	7.5	83%	70%	4.72		
Hospital	AHU-9	Patient	1	50	88%	70%	29.67		
Hospital	AHU-9	Patient	1	7.5	83%	70%	4.72		
				130			78.81821		

Proposed Motor				
Motor Effic.	Actual kW	Proposed Hours	kW Savings	Annual kW Savings
94%	22.20	8,760	1.54	18.46
90%	2.92	8,760	0.47	5.68
92%	11.30	8,760	1.28	15.36
90%	4.34	8,760	0.38	4.52
94%	27.75	8,760	1.92	23.08
90%	4.34	8,760	0.38	4.52
			5.969085	71.62902
			72.84912	52.289

Cost Savings
\$948
\$292
\$789
\$232
\$1,185
\$232
\$3,678

Attachment E - Robinson Memorial Hospital Variable Speed Drives and Ventilation Control Calculations

Robinson Memorial Hospital - Ravenna, OH Variable Speed Drives/Ventilation Control – Savings Calculations Induction Units

Facility	kWh Savings	Gas Savings	Fuel Oil Savings	Cost Savings	Safety Factor	Guaranteed Savings			
						kWh Savings	Gas Savings	Fuel Oil Savings	Cost Savings
Hospital	192,089	1,617.1	0.0	\$30,653	85%	163,275	1,374.5	0.0	\$26,055
Total	192,089	1,617.1	0.0	\$30,653		163,275	1,374.5	0.0	\$26,055

Facility	Item	kWh Savings	Gas Savings	Fuel Oil Savings	Cost Savings	Safety Factor	Guaranteed Savings			
							kWh Savings	Gas Savings	Fuel Oil Savings	Cost Savings
Hospital	AHU-7	122,194	789	0	\$16,956	85%	103,865	670.5	0.0	\$14,413
Hospital	AHU-8	69,894	828	0	\$13,697	85%	59,410	704.1	0.0	\$11,642

Attachment F - Robinson Memorial Hospital Energy Management System & Controls Calculations

Exhibit G-7

Energy Management System and Controls – Savings Calculations										Server Room Setback			
Facility	Item	Serves	Qty	HP	Existing Effic.	Motor Loading	Actual kW	Existing Hours	Proposed Hours	kWh Savings	Gas Savings	Fuel Oil Savings	Cost Savings
Hospital	AHU-RMABII-A	RMABII	1	60	89%	70%	35.20	8,760	7,766	34,993			\$2,461
Hospital	AHU-RMABII-A	RMABII	1	25	88%	70%	14.84	8,760	7,766	14,746			\$1,037
Hospital	AHU-RMABII-B	RMABII	1	60	89%	70%	35.20	8,760	7,766	34,993			\$2,461
Hospital	AHU-RMABII-B	RMABII	1	25	88%	70%	14.84	8,760	7,766	14,746			\$1,037
Hospital			0	1	75%	70%	-	8,760	8,760	0			\$0
Hospital			0	1	75%	70%	-	8,760	8,760	0			\$0
Hospital			0	1	75%	70%	-	8,760	8,760	0			\$0
Hospital			0	1	75%	70%	-	8,760	8,760	0			\$0
Hospital			0	1	75%	70%	-	8,760	8,760	0			\$0
Hospital			0	1	75%	70%	-	8,760	8,760	0			\$0
Hospital			0	1	75%	70%	-	8,760	8,760	0			\$0
Hospital			0	1	75%	70%	-	8,760	8,760	0			\$0
Hospital			0	1	75%	70%	-	8,760	8,760	0			\$0
Hospital			0	1	75%	70%	-	8,760	8,760	0			\$0
Hospital			0	1	75%	70%	-	8,760	8,760	0			\$0
Hospital			0	1	75%	70%	-	8,760	8,760	0			\$0
Hospital	Occupancy Control									0	0.0	0.0	\$0
Hospital	Ventilation Load Saving Reduction in unoccupied operation									45,385	0.0	0.0	\$3,192
Hospital	Ventilation Load Saving Reduction in unoccupied operation									0	0.0	0.0	\$0
Hospital	DDC Setback Savings									932	0.0	0.0	\$66
Hospital	DDC Setback Savings										0.0	0.0	\$0
Hospital	Subtotal									145,796	0.0	0.0	\$10,254

Mercantile Customer Project Commitment Agreement
Exemption Option

THIS MERCANTILE CUSTOMER PROJECT COMMITMENT AGREEMENT ("Agreement") is made and entered into by and between Ohio Edison Company, its successors and assigns (hereinafter called the "Company") and Robinson Memorial Hospital, its permitted successors and assigns (hereinafter called the "Customer") (collectively the "Parties" or individually the "Party") and is effective on the date last executed by the Parties as indicated below.

WITNESSETH

WHEREAS, the Company is an electric distribution utility and electric light company, as both of these terms are defined in R.C. § 4928.01(A); and

WHEREAS, Customer believes that it is a mercantile customer, as that term is defined in R.C. § 4928.01(A)(19), doing business within the Company's certified service territory; and

WHEREAS, R.C. § 4928.66 (the "Statute") requires the Company to meet certain annual energy efficiency and peak demand reduction ("EE&PDR") benchmarks; and

WHEREAS, when complying with certain EE&PDR benchmarks the Company may include the effects of mercantile customer-sited EE&PDR projects; and

WHEREAS, Customer has certain customer-sited demand reduction, demand response, or energy efficiency project(s) as set forth in attached Exhibit A (the "Customer Energy Project(s)") that it desires to commit to the Company for integration into the Company's Energy Efficiency & Peak Demand Reduction Program Portfolio Plan ("Company Plan") that the Company will implement in order to comply with the Statute; and

WHEREAS, the Customer, pursuant to and consistent with the Statute, desires to pursue exemption from paying charges included in the Company's then current cost recovery mechanism (hereinafter, "Rider DSE") as approved by the Public Utilities Commission of Ohio ("Commission") for recovery of the DSE2 costs associated with the Company Plan; and

WHEREAS, Customer's decision to commit its Customer Energy Project(s) to the Company for inclusion in the Company Plan has been reasonably encouraged by the possibility of an exemption; and

WHEREAS, in consideration of, and upon receipt of, said exemption, Customer has consented to committing the Customer Energy Project(s) to the Company and complying with all other terms and conditions set forth herein, including without limitation, the submission of an annual report on the energy savings and/or peak-demand reductions achieved by the Customer Energy Project(s).

NOW THEREFORE, in consideration of the mutual promises set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties, intending to be legally bound, do hereby agree as follows:

1. **Customer Energy Projects.** Customer hereby commits to the Company and Company accepts for integration into the Company Plan the Customer Energy Project(s) set forth on attached Exhibit 1. Said commitment shall be for the life of the Customer Energy Project(s). Company will incorporate said project(s) into the Company Plan to the extent that such projects qualify. In so committing, Customer acknowledges that the information provided to the Company about the Customer Energy Project(s) is true and accurate to the best of its knowledge.

- a. By committing the Customer Energy Project(s) to the Company, Customer acknowledges and agrees that the Company shall control the use of the kWh and/or kW reductions resulting from said projects for purposes of complying with the Statute. It is expressly agreed that Customer may use any and all energy related and other attributes created from the Customer Energy Project(s) to the extent permitted by state or federal laws or regulations, provided, and to the extent, that such uses by Customer do not conflict with said compliance by the Company.
 - b. The Company acknowledges that some of Customer's Energy Projects contemplated in this paragraph may have been performed under certain other federal and/or state programs in which certain parameters are required to be maintained in order to retain preferential financing or other government benefits (individually and collectively as applicable, "Benefits"). In the event that the use of any such project by the Company in any way affects such Benefits, and upon written request from the Customer, Company will release said Customer's Energy Project(s) to the extent necessary for Customer to meet the prerequisites for such Benefits. Customer acknowledges that such release (i) may affect Customer's exemption benefits discussed in Article 3 below; and (ii) will not affect any of Customer's other requirements or obligations, including without limitation any reporting requirements, as set forth herein.
 - c. Any future Customer Energy Project(s) committed by Customer shall be subject to a separate application and, upon approval by the Commission, said projects shall become part of this Agreement.
 - d. Customer will provide Company or Company's agent(s) with reasonable assistance in the preparation of a joint application for approval of this Agreement ("Joint Application") that will be filed with the Commission, with such Joint Application being consistent with then current Commission requirements.
 - e. Upon written request and reasonable advance notice, Customer will grant employees or authorized agents of either the Company or the Commission reasonable, pre-arranged access to the Customer Energy Project(s) for purposes of measuring and verifying energy savings and/or peak demand reductions resulting from the Customer Energy Project(s). It is expressly agreed that consultants of either the Company or the Commission are their respective authorized agents.
2. **Joint Application to the Commission.** The Parties will submit the Joint Application using the Commission's standard "Application to Commit Energy Efficiency/Peak Demand Reduction Programs" in which they will seek the Commission's approval of (i) this Agreement; (ii) the commitment of the Customer Energy Project(s) for inclusion in the Company Plan; and (iii) the Customer's exemption from paying the DSE2 charge of the Company's Rider DSE.

The Joint Application shall include all information as set forth in the Commission's standard form which, includes without limitation:

- i. A narrative description of the Customer Energy Project(s), including but not limited to, make, model and year of any installed and/or replaced equipment;
- ii. A copy of this Agreement; and
- iii. A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results.

3. **Customer Exemption and Annual Report.** Upon Commission approval of the request for exemption, the Company will exempt Customer from paying any Rider DSE charges consistent with any Commission directives as set forth in the Commission's Finding and Order approving the Joint Application. Such exempt status shall apply to those accounts identified by Customer that pertain to those Customer sites with one or more Customer Energy Project(s) approved for integration into the Company Plan by the Commission in the Joint Application.
- a. For purposes of this Agreement, a "site" shall be a single location with one or more facilities. As examples only, a site includes an industrial plant, a hospital complex or a university located on one or more parcels of land, provided that said parcels are contiguous.
 - b. For purposes of this Agreement, an "account" shall be as defined by the Company through its normal business practices. Any account identified by Customer shall be eligible for exemption, provided that said account pertains to a specific site with at least one Customer Energy Project that qualifies Customer for exemption from paying Rider DSE charges.
 - c. Any new accounts created at a site on which there is already an approved Customer Energy Project shall, at the option of the Customer, be included within the exemption granted under said project, and shall be included for purposes of calculating future eligibility for exemption under the project. Any such election shall become effective in the first billing cycle after March 15th following identification of said account in the annual report required under Section 3(d)(iii) below.
 - d. Customer acknowledges and agrees that if it desires to pursue such exempt status, as evidenced in the Joint Application, Customer is obligated to provide to the Company an annual report on the energy savings and peak-demand reductions achieved by the Customer Energy Project(s) on a calendar year basis. Company shall provide Customer with such information as it may require, that is in Company's possession, for the purposes of preparing such report. Company shall provide a template for Customer to use in preparing the annual report and shall make available a designated Company representative to answer questions.
 - i. Said report shall be submitted annually on or before January 31 of each year after Commission approval of the Joint Application.
 - ii. Said report shall provide all information required under the Rules, and where the requirements of the Rules conflict with a requirement under this Agreement or the Joint Application, the requirements of the Rules shall control.
 - iii. Said report shall, at a minimum, include the following information for each Customer Energy Project that has been approved by the Commission:
 - 1. A demonstration that the energy savings and peak-demand reductions associated with the Customer Energy Project(s) meet the total resource cost test or that the Company's avoided cost exceeds the cost to the Company for the Customer's program;
 - 2. A statement distinguishing programs implemented before and after January 1 of the current year;
 - 3. A quantification of the energy savings or peak-demand reductions for programs initiated prior to 2009 in the baseline period;

4. A recognition that the Company's baselines have been increased by the amount of mercantile customer energy savings and demand reductions;
5. A listing and description of the Customer Energy Projects that have been implemented, which provides the detail required by the Rules;
6. An accounting of expenditures made by the mercantile customer for each program and its component energy savings and peak-demand reduction attributes; and
7. A timeline showing when each Customer Energy Project went into effect and when the energy savings and peak-demand reductions occurred.
8. Any other information reasonably necessary for the Company to (i) verify Customer's continued eligibility for exemption from paying Rider charges; and (ii) report in the Company's annual status report to the Commission the EE&PDR results related to each Customer Energy Project.

e. Customer's exemption shall automatically terminate:

- i. At the end of the exemption period as determined by the Commission
 - ii. Upon order of the Commission or pursuant to any Commission rule;
 - iii. If Customer fails to comply with the terms and conditions set forth in the Company's then current Rider DSE, or its equivalent, as amended from time to time by the Commission, within a reasonable period of time after receipt of written notice of such non-compliance;
 - iv. If it is discovered that Customer knowingly falsified any documents provided to the Company or the Commission in connection with this Agreement or the Joint Application. In such an instance, Company reserves the right to recover any exempted rider charges from the date of approval of the Joint Application through the date said exemption is terminated; or
 - v. If Customer fails to submit the annual report required in (d) above. In such an instance, Company reserves the right to recover any exempted rider charges from the date of approval of the Joint Application through the date said exemption is terminated. It is expressly agreed that this provision shall not apply should said report contain errors, provided that the submission of said report is made in good faith. It is further agreed that the Company will provide written notice of the date on which said report is due at least thirty (30) days prior thereto.
- f. Company reserves the right to recover from Customer any Rider DSE charges incurred by Customer after the date Customer's exemption terminates.

4. **Termination of Agreement.** This Agreement shall automatically terminate:

- a. If the Commission fails to approve this Agreement through the Joint Application;
- b. Upon order of the Commission; or

- c. At the end of the life of the last Customer Energy Project subject to this Agreement.

Customer shall also have an option to terminate this Agreement should the Commission not approve the Customer's exemption, provided that Customer provides the Company with written notice of such termination within ten days of either the Commission issuing a final appealable order or the Ohio Supreme Court issuing its opinion should the matter be appealed.

Customer acknowledges that if a Customer Project is withdrawn pursuant to Paragraph 1(b) of this Agreement, the exemption or a portion of such exemption may be affected. Should Customer elect to withdraw a project pursuant to Paragraph 1(b), Customer shall provide Company with reasonable assistance in preparing any documentation that may be required by the Commission and, upon reasonable request, shall provide documentation supporting the necessity to withdraw such project.

5. **Confidentiality.** Each Party shall hold in confidence and not release or disclose to any person any document or information furnished by the other Party in connection with this Agreement that is designated as confidential and proprietary ("Confidential Information"), unless: (i) compelled to disclose such document or information by judicial, regulatory or administrative process or other provisions of law; (ii) such document or information is generally available to the public; or (iii) such document or information was available to the receiving Party on a non-confidential basis at the time of disclosure.
- a. Notwithstanding the above, a Party may disclose to its employees, directors, attorneys, consultants and agents all documents and information furnished by the other Party in connection with this Agreement, provided that such employees, directors, attorneys, consultants and agents have been advised of the confidential nature of this information and through such disclosure are deemed to be bound by the terms set forth herein.
 - b. A Party receiving such Confidential Information shall protect it with the same standard of care as its own confidential or proprietary information.
 - c. A Party receiving notice or otherwise concluding that Confidential Information furnished by the other Party in connection with this Agreement is being sought under any provision of law, to the extent it is permitted to do so under any applicable law, shall endeavor to: (i) promptly notify the other Party; and (ii) use reasonable efforts in cooperation with the other Party to seek confidential treatment of such Confidential Information, including without limitation, the filing of such information under a valid protective order.
 - d. By executing this Agreement, Customer hereby acknowledges and agrees that Company may disclose to the Commission or its Staff any and all Customer information, including Confidential Information, related to a Customer Energy Project, provided that Company uses reasonable efforts to seek confidential treatment of the same.
6. **Taxes.** Customer shall be responsible for all tax consequences (if any) arising from the application of the exemption.
7. **Notices.** Unless otherwise stated herein, all notices, demands or requests required or permitted under this Agreement must be in writing and must be delivered or sent by overnight express mail, courier service, electronic mail or facsimile transmission addressed as follows:

If to the Company:

FirstEnergy Service Company
76 South Main Street
Akron, OH 44308
Attn: Victoria Nofziger
Telephone: 330-384-4684
Fax: 330-761-4281
Email: vmnofziger@firstenergycorp.com

If to the Customer:

Robinson Memorial Hospital
6847 North Chestnut Street
Ravenna, OH 44266
Attn: Bob Zelma
Telephone: (330) 297-2463
Fax:
Email: RZemla@rmh2.org

or to such other person at such other address as a Party may designate by like notice to the other Party. Notice received after the close of the business day will be deemed received on the next business day; provided that notice by facsimile transmission will be deemed to have been received by the recipient if the recipient confirms receipt telephonically or in writing.

8. **Authority to Act.** The Parties represent and warrant that they are represented by counsel in connection with this Agreement, have been fully advised in connection with the execution thereof, have taken all legal and corporate steps necessary to enter into this Agreement, and that the undersigned has the authority to enter into this Agreement, to bind the Parties to all provisions herein and to take the actions required to be performed in fulfillment of the undertakings contained herein.
9. **Non-Waiver.** The delay or failure of either party to assert or enforce in any instance strict performance of any of the terms of this Agreement or to exercise any rights hereunder conferred, shall not be construed as a waiver or relinquishment to any extent of its rights to assert or rely upon such terms or rights at any later time or on any future occasion.
10. **Entire Agreement.** This Agreement, along with related exhibits, and the Company's Rider DSE, or its equivalent, as amended from time to time by the Commission, contains the Parties' entire understanding with respect to the matters addressed herein and there are no verbal or collateral representations, undertakings, or agreements not expressly set forth herein. No change in, addition to, or waiver of the terms of this Agreement shall be binding upon any of the Parties unless the same is set forth in writing and signed by an authorized representative of each of the Parties. In the event of any conflict between Rider DSE or its equivalent and this document, the latter shall prevail.
11. **Assignment.** Customer may not assign any of its rights or obligations under this Agreement without obtaining the prior written consent of the Company, which consent will not be unreasonably withheld. No assignment of this Agreement will relieve the assigning Party of any of its obligations under this Agreement until such obligations have been assumed by the assignee and all necessary consents have been obtained.
12. **Severability.** If any portion of this Agreement is held invalid, the Parties agree that such invalidity shall not affect the validity of the remaining portions of this Agreement, and the Parties further agree to substitute for the invalid portion a valid provision that most closely approximates the economic effect and intent of the invalid provision.
13. **Governing Law.** This Agreement shall be governed by the laws and regulations of the State of Ohio, without regard to its conflict of law provisions.
14. **Execution and Counterparts.** This Agreement may be executed in multiple counterparts, which taken together shall constitute an original without the necessity of all parties signing the same page or the same documents, and may be executed by signatures to electronically or telephonically transmitted counterparts in lieu of original printed or photocopied documents. Signatures transmitted by facsimile shall be considered original signatures.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized officers or representatives as of the day and year set forth below.

Robinson Memorial Hospital
(Customer)

By: Richard E. Clegg
Title: Chief Operating Officer
Date: 11-8-2011

Ohio Edison Company
(Company)

By: John C. Dargatzis
Title: V.P. Energy Services
Date: 12-14-11

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Case No(s). 12-0192-EL-EEC

Summary: Application to Commit Energy Efficiency/Peak Demand Reduction Programs of Ohio Edison Company and Robinson Memorial Hospital electronically filed by Ms. Jennifer M. Sybyl on behalf of Ohio Edison Company and Robinson Memorial Hospital