

# **St. Joseph's Continuing Care Centre**

(The Religious Hospitallers of St. Joseph of Cornwall, Ontario)

## **Energy Conservation and Demand Management Plan**



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## **1. Facility Description**

### **1.1 General**

SJCCC is a modern combination Long Term Care (117,000 ft<sup>2</sup>)/Continuing Complex Care 37,000 ft<sup>2</sup>) constructed over a 4-year period commencing with the completion of the Hospital wing in July 2009. Totalling 154,000 ft<sup>2</sup> of floor space, it is located at 14 York Street in Cornwall, Ontario.

The SJCCC is part of the Catholic Health International, a network of hospitals and long-term care homes in Ontario, New Brunswick, Nova Scotia, Illinois, Wisconsin and the Dominican Republic.

While this CDM Plan is only legislated for the hospital portion of the Centre's operation (Complex Continuing Care), SJCCC has decided to look at Energy savings measures for the whole building. Much of the energy consuming infrastructure of the building is actually shared between both operations, and it is for that reason that it makes sense to look at the whole building's energy consumption.

### **1.2 Space Utilization**

The SJCCC is split into three separate areas: administration/service, continuing complex care (CCC) and long term care (LTC):

- Administration and Service Areas

The administration and service area comprises staff rooms, mechanical service areas and the logistics services required operating a facility like SJCCC. The administration and service areas occupy approximately 20% of the floor area

- Long Term Care

The main section of the SJCCC is its 150-bed long term care facility. This space provides for residents who require 24-hour availability of nursing and/or personal care but do not require full hospital services. The SJCCC provides a more relaxing and welcoming home with the personal level of care that hospitals aren't typically able to provide. This space comprises approximately 50% of the total floor space in the building.

- Continuing Complex Care

In addition to the long term care space, the SJCCC also has a 58-bed Continuing Complex Care (CCC) wing constructed in 2009. CCC is provided for transitional care and focusing on Geriatric Rehabilitation and Palliative Care requiring skilled, technology-based care not available either at home or in a typical long term care facility. In most operational concerns, this space would be akin to an acute care wing of a typical hospital and has high airflow rates and plug loads to suit. This space comprises the remaining 30% of the floor space.

### **1.3 Space Occupancy**

Due to the presence of operations and nursing staff on a constant basis, all spaces are considered to be occupied at all times.

## 2. Utility Data Analysis

This section presents the results of the analysis of electricity, natural gas and water consumption data over the most recent full year of data and includes the following:

- Baseline energy use
- Energy end-use estimates
- Utility rates.

The results of these analyses yielded valuable insights into all aspects of building energy performance and efficiency and helped to identify and quantify the proposed energy-efficiency measures.

### 2.1 Baseline Energy & Water Use

A review of the baseline energy and water cost profiles reveals that:

*f*The total annual utility costs for the site are approximately \$429,169. Electricity costs amount to \$273,635 (60% of total costs), natural gas accounts for \$148,627 (38% of total costs), and water accounts for \$18,020 (2% of total costs).*f*

The annual electrical consumption is 2,143 MWh and the annual natural gas consumption is 3,358 eMWh, resulting in a total site energy intensity of 35.72 ekWh/ ft<sup>2</sup>/yr.

This energy intensity places the facility below an average Long Term Care facility energy intensity of 44.7 ekWh/ ft<sup>2</sup>/yr. The GHG emissions factor for electricity is very low due to the hydroelectric source – measures which displace electricity to replace with natural gas will result in a GHG emissions increase.

## 3. SJCCC Energy Conservation Goals and Objectives (2014-2019)

In consultation with SJCCC's Environmental Management Team, the following goals have been established for the organization:

1. 4. Continue to track and report monthly on all utilities consumed by the organization. This monthly process should include reporting and trending data which is circulated to the Manager of Environmental Services and Director, Information and Support Services.
2. Include a standing agenda item on the Environmental Management Team agenda to discuss Green initiatives and potential areas for improvement.
3. Provide ongoing staff education on concrete ways to reduce the organization's GHG emissions through responsible practices (lighting, heat, water consumption, etc.).
4. Implement a number of the infrastructure changes recommended by the Green Hospital Energy Audit:
  - a. Continually investigate improvements to the Building automation system to further decrease energy consumption. Recommendations like turning off circulation pumps when boilers are inactive and disabling pumps on Dishwasher DHW systems during non-use periods will be investigated.

- b. The Centre is almost complete of its total migration to LED lighting throughout the facility. This has been a multi-year project which is nearing completion and should be finalized in approximately 2027 with the last fluorescent lamps in the facility being decommissioned.
- c. The overall building envelope needs to be protected and the organization will investigate a complete building envelope recaulking of all potential air gaps around windows and other potential gaps. This will be completed during the span of this plan.
- d. The residents council of the facility will be consulted and education will be provided about their role in energy conservation and responsible use. This has the potential to increase awareness at the organization.

#### **4. Renewable Energy Generation**

The organization currently has no renewable energy sources in use in the building (solar, ground source heating, etc.).