

## **Project Brief - 2021 Tax Supported Capital Budget and Forecast**

### **Project:**

Grandview Lodge HVAC Upgrade

### **Authority - Council Resolution:**

December 14, 2020 Council Meeting

1. WHEREAS Haldimand County owns and operates Grandview Lodge which is a 128 bed long-term care facility;
2. AND WHEREAS an updated HVAC system would improve air quality and circulation within the long-term care facility and aid in infection prevention and control related to communicable disease, specifically COVID-19;
3. AND WHEREAS the federal and provincial governments have released the Investing in Canada Infrastructure Program (ICIP), specifically related to COVID-19 infrastructure in long-term care,
4. NOW THEREFORE BE IT RESOLVED THAT staff be directed to submit an ICIP grant application by the deadline of December 18, 2020 for the \$3,000,000 cost of replacing the current HVAC system at Grandview Lodge.

### **Description:**

The objective of this project is to improve air quality and HVAC controls in the existing building to maximize infection prevention and control measures within our facility. All of the air handling units will be replaced with equipment that meets the standards of CSA C317.2 – Special requirements for HVAC Systems in Healthcare Facilities. The current air handling units are failing and were part of the overall Facility Condition Assessment completed in 2020, which identified the immediate need for replacement. Operational costs are budgeted specifically to HVAC equipment for general repair and maintenance annually. To date we have not had catastrophic equipment failures that have impacted Grandview Lodge however, we continue to invest dollars in this equipment year over year to maintain fully functioning systems.

As identified in the Facility Condition Assessment, the scope of this project includes:

- Assessing required exchange/ventilation rates for proper HVAC design and replacement
- Upgrading all HVAC systems controls and software automation
- Improving air filtration to MERV-13
- Upgrading cooling throughout the home
- Maintaining humidity of the home within standards of 40-60% relative humidity

All of the rooftop HVAC systems throughout Grandview Lodge are original to the facility in 2006. Rooftop air handlers have a recommended lifespan of 15 years. All of the equipment has surpassed recommended life expectancy and is currently in poor condition due to normal operational lifecycle. All 13 current rooftop units no longer meet current CSA design standards for HVAC systems in healthcare facilities. Up until now, a replacement plan had not been identified or budgeted related to the infrastructure of Grandview Lodge. The replacement of these systems is at a critical point.

**Timeframe:**

2021-2022

**Estimated Cost:**

Planning, Consulting & Design - \$180,000.00

Construction and Installation - \$3,043,000.00

Total Cost - \$3,223,000.00

**Budget Impact:**

In December 2020, an application to the Investing in Canada Infrastructure Program (ICIP) was submitted for the estimated cost of \$3,223,000. Approval of this application could result in full funding of this project or partial funding to an unknown degree.

The Investing in Canada Infrastructure Program (ICIP) is a cost-shared infrastructure funding program between the federal government, provinces and territories, and ultimate recipients. This program will provide up to \$100 Million in combined federal and provincial funding for the *Long-term Care sub-stream*, all allocated in the 2021-22 fiscal year, including up to \$80 million in federal funding and \$20 million in provincial contribution for retrofitting projects such as, improvements to Heating Ventilation Air-Conditioning (HVAC), sprinkler systems and to support new safety measures for physical distancing. Project construction can begin when federal approval is received, which is expected in spring 2021.

Should the ICIP funding application be denied, then the HVAC Replacement Project would be phased over the next 5 years (2021-2025) at an annual cost of \$644,600 and be funded from CRR-General Reserve. It should be noted that funding this project through CRR-General will result in a negative reserve balance of approximately \$595,000 by 2023, and is projected to remain in a negative balance until the end of the 10 year forecast. However, phasing the project affords time to seek out other funding opportunities as well as realize savings within existing projects to mitigate the impacts on the reserve.

Similarly, if the ICIP funding application is only partially approved, the HVAC Replacement Project would still be phased in over an appropriate timeframe, with the portion of the project not funded by the grant being funded through the CRR-General Reserve. The timing of the project and the impact on the reserve would be contingent on how much funding is actually received.

An assumption can be made that pending the completion of this project, the current capital budget line item: compressor replacement of \$12,000 /year can be eliminated, resulting in a savings of \$120,000 over the 10 year forecast.

It should be noted that recent work to identify life cycle costing and replacement using an asset management approach indicates that there will be further pressure on the reserve in the coming years, as a fully sustainable replacement strategy is introduced into the budget for the Grandview Lodge facility.

**Operating Cost Impacts:**

With the installation of new HVAC equipment and a new building automation system, we will be provided with full control and building insight over all of our building systems. Overall this project will provide Grandview Lodge with energy efficiencies and realized cost savings annually.

An annual year over year preventative maintenance service agreement will be required of the building automation system. We estimate an annual cost of \$8,200, which is reflective of the current cost for preventative maintenance of a similar system in the Haldimand County Administration Building.

At this time, it is difficult to quantify the amount of operational cost savings related to a reduction in energy costs and reduced maintenance/repair costs to outdated equipment; however, this savings will assist in offsetting the impact of the preventative maintenance service agreement.

**Impact on Other Projects:**

With the installation of a building automation system, GVL will have the ability to add system monitoring and controls of future equipment replacements and upgrades.

**Impact on Staff Workload:**

Can be accommodated in 2021-2022 work plan with limited impact on staff workload.

**Other Considerations:**

The Long Term Care Act and Ontario Regulation 79/10 stipulates that every licensee of a long-term care home shall ensure that the home is maintained at a minimum temperature of 22 degrees Celsius.

Minimum design standards for heating, ventilation and air-conditioning in long term care homes are further outlined as follows:

There must be a mechanical system to cool air temperatures in all corridors, lounges, program/activity areas, all dining areas, the kitchen and the laundry space. The remaining areas of the long-term care home, including resident bedrooms, resident bath and shower rooms and resident washrooms, must have a system for tempering the air to keep air temperatures at a level that considers resident needs and comfort.

There must be negative air pressurization of the washrooms, soiled utility space, kitchen and laundry areas to contain odors. All of these rooms must have mechanical ventilation to exhaust air from these areas.

The natural aging process and physiological response to some diseases are known to compromise the body's thermoregulation system; for this reason, it is important to ensure that environmental controls are in place to regulate temperature, humidity and air purification to combat the susceptibility of our resident population to related adverse health issues and to promote a comfortable and dignified living space.