



# REQUEST FOR DECISION

Meeting: June 9, 2025

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## Variable Frequency Drive Replacement (VFD)

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### DESCRIPTION/BACKGROUND:

The following information was presented to the Facility & Infrastructure Planning Committee (FIPC) on June 3, 2025 for their review, input and direction to be presented to Council.

**Historical Variable Frequency Drive Operation and Maintenance:** A variable frequency drive (VFD) is a device that controls the speed of a pump motor. This allows for precise control over the motor's speed and torque, making it suitable for various applications in the water treatment process. The Water Treatment Plant (WTP) and Highway Pump Station (HPS), pumps use a total of 25 VFD's in this application.

The 15-year-old SVX VFD drives have become obsolete and expensive to repair if parts are available. VFD's are a crucial part of the water treatment and distribution process to ensure potable water is supplied to the residents of Claresholm, Airport and Hamlet of Granum.

With guidance from MPE Engineering's electrical department, EATON Electrical Services and Systems Canada will provide testing and commissioning services, acceptance testing guidelines for the electrical equipment. Detailed written reports will be provided upon completion of the work. Below is a list of the equipment that includes the scope of work:

- 100HP 480V VFD @ 2 WTP
- 60HP 480V VFD @ 7 WTP/HPS
- 40HP 480V VFD @ 4 WTP
- 30HP 480V VFD @ 4 WTP/HPS
- 25HP 480V VFD @ 2 WTP
- 15HP 480V VFD @ 2 WTP
- 7.5HP 480V VFD @ 4 WTP

### DISCUSSION/OPTIONS:

The cost to supply, install and commission the 480V DG1 variable frequency drives at the Regional Water Treatment Plant (\$297,400.00) and Highway Pump Station (\$83,000.00).

The estimated total cost of the project is **\$380,400.00** as of May 14<sup>th</sup>, 2025. Cost of this project may decrease if all VFD's are replaced at the same time or increased as future costs are unforeseeable.

As of December 31, 2025, the Water & Sewer Capital Reserve has \$2.7M in it. Looking at the approved 2025 projects and proposed capital projects out to 2030, including the estimated annual transfers to the reserve, there would be funds available to complete this project in 2025.

As the Utility Services Manager has been working with MPE Engineering on this and the above information is based on MPE's recommendation to move forward with Cutler Hammer as the installer as

the parts are only supplied by EATON and if the Town were to hire another electrician and they purchased the VFDs, while it may be slightly cheaper, it would require CSA approval, which it already has through EATON. Therefore, EATON's work would be considered a replacement rather than new hardware. More details from MPE have been attached to this report.

Town staff and contractors continue working together to solve problems ensuring ongoing maintenance to VFD's. Currently there are 2 VFD's offline and waiting to be replaced. It would be in the Towns best interest to consider changing out the VFD's in stages or all at once sooner rather than later.

Based on this information, FIPC made the below motion:

- Moved by Councillor Cutler to recommend that the Variable Frequency Drive replacement plan as presented be recommended to Council for approval with funding from the Water and Sewer Capital Reserve. CARRIED

**PROPOSED RESOLUTIONS:**

Moved by Councillor \_\_\_\_\_ that Administration proceed with the replacement of all 25 Variable Frequency Drives at the Water Treatment Plant in the amount of \$380,400 to be funded from the Water and Sewer Capital Reserve.

**ATTACHMENTS:**

- 1.) MPE Recommendations

PREPARED BY: Brad Burns, Utility Services Manager & Jennifer Place, Director of Corporate Services

APPROVED BY: Abe Tinney, CAO

DATE: June 4, 2025