

March 19, 2018

Report To: Mayor and Council

From: Travis Rob, Manager of Operations and Facilities

RE: Budget Request – Purchase of a New Grader

In the 2018 Capital Budget, the Operations and Facilities Division proposed the replacement of a 1999 grader including wing whereby the existing grader will be traded in on the new unit with a budgeted cost of \$300,000.00.

Direction was received at the February 5 budget meeting to investigate refurbishing the existing unit as opposed to replacing. The idea would be to have the unit fully gone through to bring to a suitable level of reliability as this is a front-line piece of equipment. Currently the issues with this unit are as follows:

1. Transmission receiving engine oil
2. Rusted Cab, rims, frame and driveline
3. Rusted wing and moldboard
4. One set of drive wheels to be replaced
5. Hydraulic system issues
6. Engine due for rebuild.

In addition to these one of the two hydraulic pumps was replace already this year as well as the entire exhaust system. The replacement of the hydraulic pump did not totally fix the hydraulic problems, the systems are still slow and the source of the problem has yet to be found. The Mechanics have been slowly working through the entire complement of hydraulic cylinders repacking them as the seals are starting to fail on all of these. The engine oil is leaking in to the transmission and the crank shaft journals and seals have already been replaced and that has not solved the problem. This requires our mechanics to change both the engine and transmission oils more frequently to try to limit damage to those systems. In addition, the unit has 10178 hours which means that the engine is due for a rebuild including pistons, rings and cylinder sleeves. The manufacturer has indicated, given the issues we are having and hours on this engine, they would not rebuild this component they would completely replace it. This grader is smaller than our other grader and as a result has issues pushing snow at times and is not always able to clear the entire half of the road width. This unit is operated continuously through the winter months as well as frequently through the summer grading lanes and gravel roadways. This unit operates in the salt all winter being washed infrequently if at all. This leads to corrosion of the steel as well as drying out of the hydraulic lines and seals as well as pitting of the hydraulic cylinders.

A cost estimate for a full refurbishment was requested from Volvo, the Supplier, however they were unable to provide an estimate without first having the machine and starting disassembly. The wing and moldboard parts were quoted alone in excess of \$20,000.00. Attached to this report you will find pictures of the various deteriorated areas of the machine. When this machine broke down this winter just before one of our larger snow storms, we were left trying to rent a replacement machine to ensure we would be able to meet our legal obligations to remove the snow from our roads. We were not able to get a grader with a wing to rent. When we were able to find one it was much smaller than ours and could not push the snow we needed to and was therefore useless to us.

This unit is a front-line piece of equipment and its reliability is directly tied to our ability to handle snow removal from the Town streets, further it is the oldest piece of equipment within our fleet. No level of refurbishment will address the impact 19 years of hard municipal use that this machine has seen. This is one area where a band aid solution simply will not work.

Respectfully Submitted

A handwritten signature in black ink, appearing to read "Travis Rob", with a stylized flourish at the end.

Travis Rob, P.Eng
Manager of Operations and Facilities