Reducing Water Contamination And Loss At The Edmonton Fire Rescue Services Training Facility

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Report Summary

The primary objectives of the project were to evaluate ways to reduce current water usage at the Poundmaker Training Facility for the Edmonton Fire Rescue Services, as well as investigate possible chlorine decontamination options. This project addresses a number of City of Edmonton goals, including three from The Way We Green and one from The Way Ahead. Over the course of the project, water usage at Poundmaker and research into the potential for wetlands on site, was also looked at.

The results in this paper outline the water usage for Poundmaker for three types of training, Rescue, Pump, and Ladder trucks. Accurate measurements were made for rescue and pump training by using an EPCOR installed meter on site. Rescue training is estimated to use 383 cubic meters of water over 39 days of the summer. Pump training is estimated to use 6951 cubic meters of water over 48 days of the summer. This brings the total estimated water usage for Rescue and Pump training alone to seven million liters.

Software was used by a City of Edmonton hired consultant to map the potential areas for wetlands. There were two potential areas, but those must be confirmed by a wetland ecologist. For the City of Edmonton to develop on those lands, $15,125 is an estimated expense.

There are two suggested types of solutions; option 1 is a filter water solution, and option 2 is a water reuse system solution. Both solutions would allow the firefighters to continue training in the same manner. Cost estimates for option 1 ranged from $174,000-360,000, this includes wetland compensation, an infiltration trench with a storage capacity of 780 m3, and an additional hydrant on site connected to the existing grid. Option 2 would cost $500,000-1,000,000 for the addition of a hydrant alone. The reason the cost for the addition of a hydrant is more expensive in option 2 relative to option 1 is due to the added cost of running separate lines on site.

As a result, there are three steps I recommend going forward. First, is to do an accurate measurement of the water usage for ladder training. Second, if it is decided to develop in the area surrounding Poundmaker, ensure a wetland ecologist confirms the presence of wetlands for the value and the procedure moving forward. Third, to further progress work on the two types of solutions. The contents of this report should serve as a building block for work that will be done at Poundmaker on water usage reduction, or decontamination.