

CONSTRUCTION UPDATE

Rutherford Stormwater Management Facility Aeration System Installation Pilot Project

JUNE 2022

BACKGROUND

The Rutherford Stormwater Management Facility is located just south of the MacEwan Road and Ellerslie Road SW intersection. For several years, the stormwater facility has experienced uncontrolled duckweed growth, which has affected the aesthetic appearance. Duckweed is a native, free-floating plant that can be seen on the surface, and is a bright, vibrant green.

As part of the integrated drainage system, stormwater facilities have several roles to fulfill; primarily, to reduce the risk of neighborhood flooding by managing runoff and improving water quality. The facilities also filter pollutants that flush off streets and yards, which reduces contaminants from entering our creeks and river. These manmade systems are constructed to emulate natural wetlands and many of their ecological processes. The wetland vegetation is important to the natural treatment of stormwater before it enters the river.

Stormwater facilities tend to develop their own ecosystems over time based on a number of factors. In the case of the Rutherford facility, duckweed has established itself throughout the facility and is causing the current appearance.

Algae come in many forms and may look like underwater moss, thick stringy mats or floating slimy scum. Duckweed are tiny aquatic plants with a grainy texture.

It is important to note that duckweed does not respond to standard algae control mitigation measures. Thus far, the duckweed in Rutherford has been resistant to all attempts at mitigation.

CURRENT STATUS

In summer 2020, a pilot project was developed in consultation with Algae Control Canada to address the duckweed growth. The project involved the installation of an aeration system with hoses in the facility with the goal of circulating the stagnant duckweed growth. These hoses introduce more oxygen to the pond and attempt to restore appropriate oxygen levels.

Duckweed growth has continued to persist since the installation of the aeration hoses. As previously communicated, there may be increased short term growth as the trapped nutrients are released from the decomposing muck layer on the bottom.

2021 was not an ideal year for stormwater management facilities due to the extreme heat and low rainfall volume. This, in addition to the facility's tendency for duckweed growth, has further exacerbated the issue.



Aeration Device Installation and Duckweed Growth (2020)

THE PATH FORWARD

Complete control of the duckweed will be very difficult as the facility is designed to mimic the natural wetland ecosystem. Manual removal of the duckweed has also proven ineffective in the past, as the plants returned within days of the removal.

It is important to note that stormwater management facilities are part of the watershed system, with all flows eventually leading to the North Saskatchewan River. Therefore, chemical treatments cannot be utilized to control the duckweed.

MORE INFORMATION

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In 2022, EPCOR will continue to add products supplied to us by Algae Control Canada in an effort to breakdown the organic debris and muck at the bottom of the facility to improve the water quality and clarity. This will be in addition to running the aeration devices until cold temperatures prevent.

EPCOR assets have an operational requirement and costs associated with those assets are funded by ratepayers. The facility is functioning as designed and the current duckweed issue is only aesthetic in nature. As such, we will not be undertaking any further mitigation measures on the facility while the pilot project is underway. As mentioned previously, other mitigation measures have proved ineffective in addition to costing rate payers.

We ask for your patience as it will take time until we may be able to see the effect of the pilot aeration system.