

Polishing Wetland

The Regional District of Okanagan-Similkameen (RDOS) is actively working on the commissioning of a polishing wetland, using the natural functions of vegetation, soil and organisms to support enhanced wastewater treatment at its Okanagan Falls Wastewater Treatment Plant (WWTP). The polishing wetland project has been a future component in wastewater treatment since the idea was initially discussed during the development of the 'Okanagan Falls Sewage Treatment Plant – Strategic Review' in 2005.

Although the WWTP currently discharges high quality (low nutrient, sanitized) effluent to the Okanagan River that consistently exceeds the required targets of the Operation Certificate, the addition of a polishing wetland represents an opportunity for innovation, using natural ecosystem processes and phytoremediation to further improve discharge water prior to introduction to the Okanagan river. In addition to serving a valuable role in wastewater treatment, the wetland also has the potential to act as a research, education and interpretation site.

The primary purpose of the polishing wetland is enhanced treatment. A treatment wetland is a human-made, engineered system that uses wetland elements (i.e., plants, water and soils) to improve water quality. It has the potential to remove contaminants that are beyond the current capability of wastewater treatment plants.

In 2015, the Regional District purchased a property for developing a wetland system.

The following figure shows the location of the property in relation to the wastewater treatment plant:

Current site of wetland prior to construction



Wastewater Treatment Plant





Current site of wetland under construction

The construction of the polishing wetland was completed by the end of February 2020 and is currently undergoing a commissioning period including plant establishment and operational testing. Initial wetland seeding took place in the spring and summer of 2020, after construction was complete. Commissioning of the polishing wetland necessitates a multi-year period of water level management (during both the growing and dormant seasons’) to encourage wetland plants to grow.

The commissioning process began in March 2020 and is estimated to take two to three years to complete.



Funding for the \$1.06 million wetland system project comes from two different sources. The project received \$361K from the Regionally Significant Projects (UBCM Grant) and \$700K from the Area ‘D’ Community Works fund.

Native Plant Solutions, a branch of Ducks Unlimited Canada, designed the wetlands and oversaw the construction and commissioning. Once the wetlands are commissioned there is very little operational effort required to maintain the process, mainly involving opening and closing of the wetlands drain and supply valves for change over from dormant winter period to the active summer period and vice versa.

Okanagan Falls Polished Wetland lush vegetation is home to a wonderful diversity of species, see photos below:

