



TSAWWASSEN FIRST NATION
s'cəwaθən məsteyəx^w

Community Governance Act

RECLAIMED WATER REUSE REGULATION

Date Enacted: 3 June 2013

Order Number: O.065-2013

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Authority

- 1 (1) Tsawwassen First Nation has the authority to make laws applicable on Tsawwassen Lands to manage, protect, preserve and conserve the Environment including laws in respect of waste management, including wastewater as set out in Chapter 15, Clause 1 b of the *Tsawwassen First Nation Final Agreement*.
- (2) This regulation is made pursuant to section 3 of the *Community Governance Act* (Tsawwassen), which authorizes the Executive Council to provide services on Tsawwassen Lands, establish conditions on the provision of those services, and apply fees to recover costs associated with the delivery of those services.

Definitions and interpretation

- 2 (1) In this regulation,
 - “**Act**” means the *Community Governance Act* (Tsawwassen);
 - “**Environment**” means the components of the earth and includes:
 - (a) air, land, and water;
 - (b) all layers of the atmosphere;
 - (c) all organic and inorganic matter and living organisms; and
 - (d) interacting natural systems that include the components referred to in (a), (b) or (c);
 - “**operating permits**” means any permits or registration issued by the Ministry of Environment that permit the operation of the sewage treatment plant;
 - “**reclaimed water**” means effluent produced by the sewage treatment plant that meets the standards that apply to effluent that is categorized as having greater exposure potential as defined by the *Municipal Wastewater Regulation* (British Columbia);
 - “**service area**” means Tsawwassen Lands; and
 - “**sewage treatment plant**” means the sewage treatment plant to be located at PID: 009-182-322, Lot 10 District Lots 108 and 109, Group 2, New Westminster District, Plan 3033.
- (2) Unless specifically provided otherwise in these regulations, the terms used have the same meaning as defined in the Act.
- (3) This regulation is deemed to be equivalent to a local service area bylaw for the purposes of interpreting the application of section 105 (3) [*Authorization to provide reclaimed water*] of the *Municipal Wastewater Regulation* (British Columbia) to the use of reclaimed water produced by a sewage treatment plant operating on Tsawwassen Lands, within the jurisdiction of the Tsawwassen First Nation.

Application of Municipal Wastewater Regulation

- 3 For greater certainty, the *Municipal Wastewater Regulation* (British Columbia) applies to the sewage treatment plant being constructed or operating on Tsawwassen Lands and the operation of the plant, and the use of any reclaimed water, must comply with the *Municipal Wastewater Regulation* (British Columbia).

Services and cost recovery

- 4 (1) The sewage treatment plant will provide sewerage services to land within the service area.

- (2) The capital cost of construction of the sewage treatment plant, net of any grants, shall be recovered through offsite levies, imposed pursuant to the *Offsite Levies Regulation* (Tsawwassen), while the cost of the services provided by the sewage treatment plant may be recovered by the application of property taxes, utility charges, or both, to land within the service area.

Use of reclaimed water

- 5 (1) This regulation authorizes the reuse of reclaimed water for use in a constructed wetland, generally as set out in Schedule A.
- (2) This regulation may also provide for uses of reclaimed water other than that set out in subsection (1) provided that they are
 - (a) consistent with the requirements for reclaimed water categorized as having greater exposure potential as defined by the *Municipal Wastewater Regulation* (British Columbia),
 - (b) approved by order of Executive Council, and
 - (c) approved by the British Columbia Ministry of Environment.

Operation and maintenance of sewage treatment plant

- 6 (1) Proper operation and maintenance of the sewage treatment plant, and maintenance of the outfall and constructed wetland, will occur throughout the operating life of the plant in order to comply with the *Municipal Wastewater Regulation* (British Columbia).
- (2) The Executive Council may, by order
 - (a) impose conditions on the constructed wetland outfall to restrict access to the outfall in a manner consistent with the required operating permits,
 - (b) enter into operation and maintenance agreements with a qualified third-party to manage the operation of the sewage treatment plant in accordance with the required operating permits, and
 - (c) enter into appropriate contracts for maintenance of the outfall and constructed wetland, including any required emergency response plans.
- (3) For greater certainty, all operations and maintenance, whether provided directly by Tsawwassen First Nation or by contract with a qualified third-party, must be included in the Tsawwassen First Nation annual budget.

Schedule A – General Description of Constructed Wetland

Pursuant to section 5 of this Regulation, Tsawwassen First Nation authorizes the use of reclaimed water to augment existing wetland at the north end of the Tsawwassen Marsh, as set out in the figure below.

The concept for the constructed wetland will incorporate effluent discharge to a non-fishing bearing receiving water, and there will be a designed barrier to prevent fish from accessing the wetland. The reclaimed water will contribute water and nutrients to the constructed wetland, thereby, supporting a more complex and diverse habitat than is currently existing or available on Tsawwassen Lands.

The wetland design will provide enhanced habitat for waterfowl and shorebirds by increasing the area of open water, and increased quantity and diversity of marine shoreline vegetation. Secondary benefits include opportunities for recreation, nature appreciation and traditional cultural use as a consequence of more diverse bird habitat, enriched regional landscape character and viewing and interpretation facilities.

The wetland will be defined by the existing breakwater structure, the Tsawwassen Drive dike and a constructed vegetated berm that will form a fish barrier. A permeable layer on top of the fish barrier will allow for diffused overflow to the tidal marsh.

The wetland will consist of open water with vegetation along the edges of the existing dikes and at islands to maximize habitat for waterfowl and shore birds. In order to promote habitat diversity, the wetland will include deep zones (depth range from about 1.0 m to 0.45 m), medium depth zones (0.45 m to 0.15 m) and shallow zones (less than 0.15 m).

The controlled water level and the “fresher” quality of water in the wetland compared to the adjacent tidal marsh will result in the provision of habitat types that are currently limited or have been reduced by development of adjacent lands.

Facilities such as benches, viewing platforms and interpretive signage will be considered for inclusion with the constructed wetland project to support enhanced recreational, cultural and educational use and habitat appreciation by Tsawwassen Members and the general public.

The reclaimed water is expected to provide the following enhancements to marsh habitat:

- The discharge of reclaimed water from the current wastewater treatment plant will no longer be directed into Brandrith Channel located in the southern end of the marsh area.
- More open water habitat will provide more utilization opportunities for various species of birds (waterfowl, shorebirds, etc.).
- Additional habitat complexes will provide opportunities for wildlife species which currently do not utilize the tidal marsh.
- There will be no physical or acoustic construction disturbance by laying of pipe for a deep water outfall location in critical killer whale habitat.
- Ancillary benefits include support for recreation, nature appreciation and traditional cultural use as a consequence of more diverse waterfowl and shorebird habitat, enriched regional landscape character and viewing and interpretation/education facilities.

STP PREDESIGN



- Legend**
- Reserve Boundary
 - Dike Walking Trail
 - Proposed Outfall from Wastewater Treatment Plant
 - Existing Dike Slope
 - Constructed Vegetated Berm
 - Woody Plant Zones
 - Emergent Plant Zones
 - Submergent Plant Zones

THIS PLAN IS A CONSULTING ENGINEER'S PRELIMINARY DESIGN. IT IS NOT TO BE USED FOR CONSTRUCTION. IT IS THE CLIENT'S RESPONSIBILITY TO OBTAIN ALL NECESSARY PERMITS AND APPROVALS. URBAN SYSTEMS IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS. ALL INFORMATION IS BASED ON THE BEST AVAILABLE DATA.

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