

Information Bulletin - Environment Act Proposals for Wastewater Treatment Lagoons – Supplementary Guidelines



These guidelines apply to Environment Act Proposals for the construction of wastewater treatment lagoons.

In addition to the standard information requirements of the Environment Act Proposal, the following information should be provided:

Introduction and Background

1. Existing facilities and issues – organic or hydraulic overloading, extraneous flows, leakage or seepage, maintenance problems, septage or truck haul handling, other.
2. Current and future populations to be served by the facility and corresponding organic and hydraulic loading, including loading from community sewer (gravity or low pressure systems) and truck haul (sewage or septage). Identify industrial or institutional loading and seasonal variations with any loading component. Where applicable, discuss and provide any industrial service agreements relevant to the project.
3. Projected load growth over the estimated life of the new facility.
4. Alternatives considered during project selection and design, including wastewater treatment plants and regional facilities.
5. Community consultation undertaken during project selection and design, and discussion of any concerns identified.

Description of Development

1. Include a land title certificate copy and a copy of a land purchase agreement if additional land is being purchased.
2. Include sealed engineering drawings showing size and configuration of the proposed facility and any related existing and planned components and appurtenances. Plans must include horizontal dimensions and vertical elevations, and show site access details and distance to nearest residences.
3. Include a brief description of how the facility was sized to accommodate existing and projected organic and hydraulic loading. Ensure hydraulic capacity is based on live storage, and does not include dead storage below the invert of the outlet of secondary cells.
4. Include liner or cutoff details – clay soil or synthetic. For synthetic liners, include cover material and gas collection system details. For cutoffs, include dimensions and details of the materials the cutoff extends through and into.
5. Discharge route – describe route and provide a plan from the facility outlet pipe through to a permanent downstream receiving waterway. Use aerial photographs and/or provincial drainage maps to clearly illustrate the location of the lagoon and the drainage route.
6. Operation – describe the operating cycles for the facility.
7. Maintenance – describe seasonal maintenance activities.
8. Decommissioning – describe the decommissioning of any existing facilities done in connection with the project, including the disposal of sludge. The description should address what is being decommissioned, when it will be decommissioned, how it will be decommissioned, and where decommissioned materials will be placed.

Description of the Environment

1. Describe the existing land use, topography, vegetation and soil type of the project area.
2. Describe any existing wildlife use of the project area with particular attention to rare or endangered species.
3. Describe the flow regime (including high and low flows) and water quality conditions of the receiving waterways.
4. Describe fish species and fish habitat found in the receiving waterways.
5. Identify any water users and Water Rights licenses on the receiving waterways.
6. Describe the nature and location of any other municipal or industrial wastewater treatment facilities that discharge to the waterways.

Description of Environmental Effects

1. Describe effects on the terrestrial environment resulting from the construction and operation of the proposed facility.
2. Describe effects on the aquatic environment resulting from the construction and operation of the proposed facility, with particular attention to water quality and fish habitat. Water quality effects should specifically address biochemical oxygen demand, nutrients, salts, metals and any constituents in the incoming wastewater that will not be removed by the facility. Fish habitat effects should specifically address sedimentation, temperature and mortality.

Mitigation and Residual Effects

1. Identify practices to be employed during construction and operation to mitigate terrestrial effects, and any residual effects.
2. Identify practices to be employed during construction and operation to mitigate aquatic effects, and any residual effects.
3. Identify options to mitigate the impacts of nutrient loading to the receiving waterway. The assessment of nutrient reduction strategies should include but is not limited to the following:
 - a) effluent irrigation / land application;
 - b) alternative lagoon design, operation and storage capacity including employing trickle discharge and vegetation harvesting;
 - c) engineered/constructed wetlands; and
 - d) chemical treatment.
4. Identify follow up monitoring for surface water and groundwater protection.

For further information, please contact:

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