

Authorizing Point and Non-Point Source Discharges to Ground



This factsheet summarizes the Ministry's approach to authorizing point source and non-point source industrial effluent discharges to ground under the *Environmental Management Act* (EMA). Proper assessment and management of these discharges will help ensure ongoing protection of the provincial groundwater resource.

What are discharges to ground?

"Discharges to ground" refers to effluent that is released to the environment via the ground surface or subsurface (i.e. to ground-water). Two types of discharges are considered:

Point Source (PS): Discernible, confined and discrete conveyance of effluent through a final discharge point (e.g. an engineered structure designed to infiltrate effluent to ground).

Non-Point Source (NPS): Discharge of effluent that does not meet the definition for PS discharge. NPS discharge is effluent that is not collected and discharged through a final discharge point, but rather the effluent infiltrates to ground at unknown volumes, locations and times (e.g. a waste pile).

How does this approach compare to existing assessment frameworks?

The ministry's approach to reviewing and authorizing discharges to ground is very similar to the approach used for discharges to surface water. Both approaches occur within the ministry's Structured Application Process (SAP).

How are applications for Point Source discharges to ground evaluated?

PS discharge applications should be based around a Conceptual Site Model framework, which relies on understanding the source-pathway-receptor linkages. The framework should include the following components:

1. Effluent characterization and identification of potential contaminants of concern (https://www2.gov.bc.ca/assets/gov/environment/waste-management/industrial-waste/industrial-waste/mining-smelt-energy/guidance-documents/parameter_of_concern_fs.pdf)
2. Environmental effects prediction
3. Best Achievable Technology evaluation (https://www2.gov.bc.ca/assets/gov/environment/waste-management/waste-discharge-authorization/guides/bat_assessment_steps.pdf)

The relevant permit conditions may include:

- Discharge limits, volumes, period and authorized works
- Effluent and groundwater monitoring
- Annual reporting

How are Non-Point Source discharges to ground evaluated?

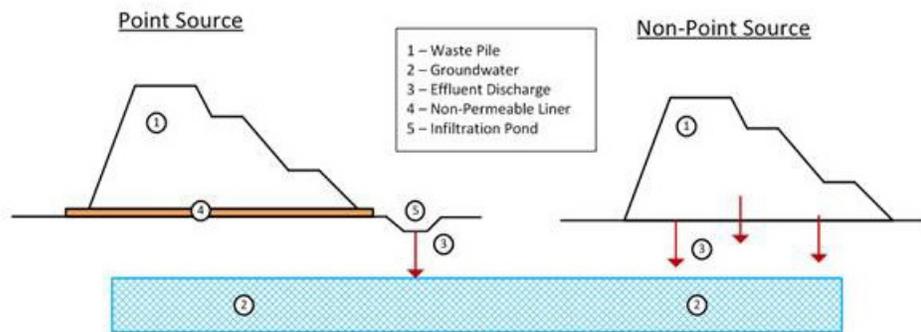
NPS discharge applications should also be based around the Conceptual Site Model framework (summarized above). However, the permit conditions will differ. Due to the NPS discharge variables (see the definition), the permitting is focused on groundwater monitoring. That monitoring includes development of trigger-level groundwater quality limits that are linked to a Trigger Response Plan. The plan describes the trigger limits and escalating management measures if the limits are exceeded. The annual reporting requirements are the same.

Are there other considerations?

As part of the pre-application phase of SAP, an Information Requirement Table (IRT) will be developed. This is where more details about the groundwater assessment will be outlined (https://www2.gov.bc.ca/assets/gov/environment/waste-management/industrial-waste/industrial-waste/mining-smelt-energy/2019_09_24_information_requirements_table.pdf).

Since every discharge application has its own unique components and intricacies, it is not possible or appropriate to be completely prescriptive about application information requirements or authorization conditions. Additional sources of information that may inform the application review process include but are not limited to: environmental sensitivity, cumulative effects, environmental impact assessments, local air and watershed plans, Indigenous group's interests, other guidelines, and

Examples of Point Source and Non-point sources of discharge to ground.



stakeholder input. Proponents should expect to explore the potential applicability of these types of information as part of the Preliminary Application Phase (IRT discussions).

To enter the EMA authorization application process, proponents should review information on the Ministry's Waste Discharge Authorizations website (<https://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization>) and submit a preliminary application form to the ministry. To engage with Ministry of Environment and Climate Change Strategy authorizations staff prior to submitting a preliminary application form, proponents can submit a question via the Support Centre link on the ministry's website (<https://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/contact>).

Application of Discharge to Ground into EMA applications.

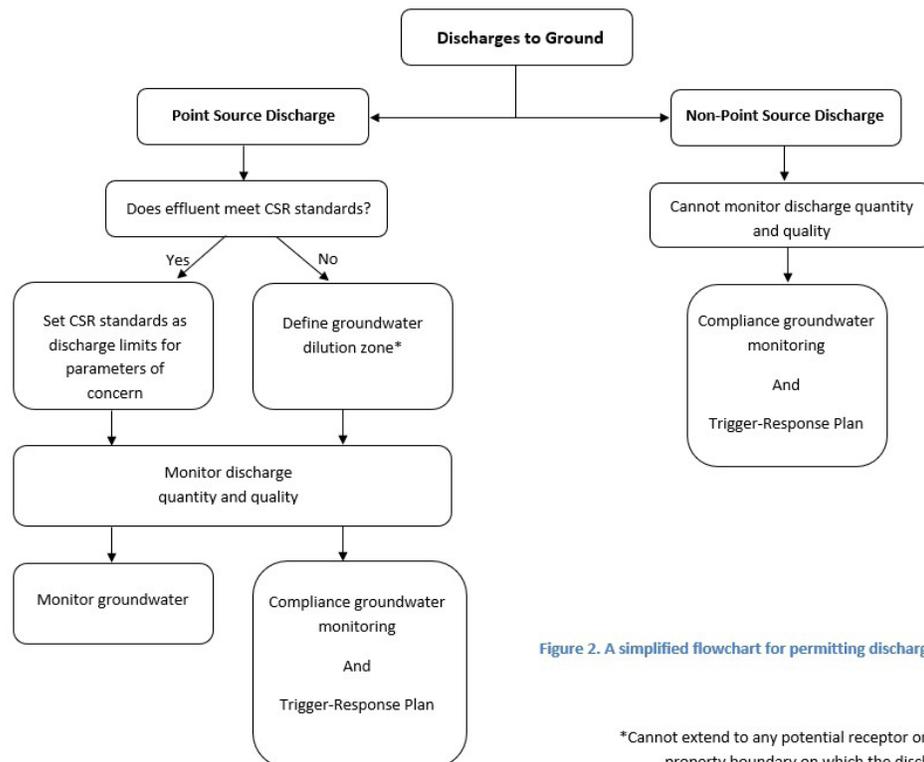


Figure 2. A simplified flowchart for permitting discharges to ground.

*Cannot extend to any potential receptor or beyond the property boundary on which the discharge occurs