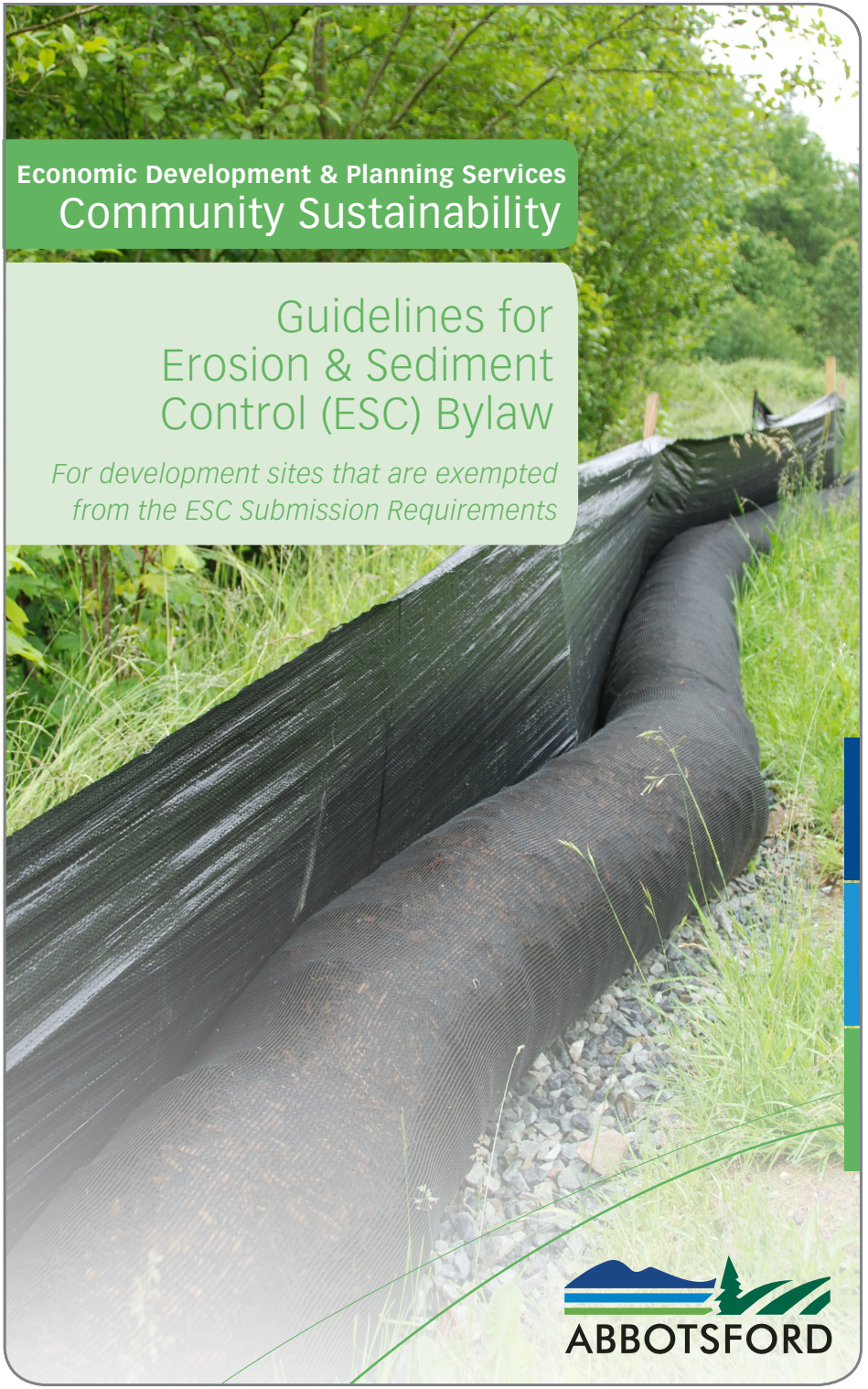


Economic Development & Planning Services

Community Sustainability

Guidelines for Erosion & Sediment Control (ESC) Bylaw

For development sites that are exempted from the ESC Submission Requirements

ABBOTSFORD

Community Sustainability

Erosion & Sediment Control (ESC)

The City of Abbotsford has adopted a new Erosion and Sediment Control (ESC) Bylaw to help reduce the amount of sediment-laden water entering the City drainage system. The Bylaw requires the implementation of Best Management Practices (BMPs) on construction sites to ensure that site discharge water quality standards are met.

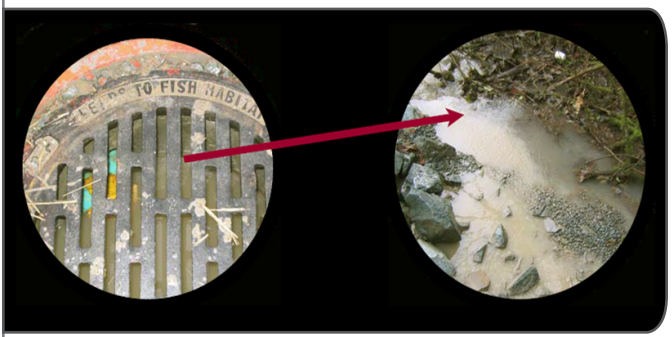
The Bylaw applies to all sites where development activities are occurring which may cause sediment or sediment-laden water to enter the City drainage system. Except where a farm activity is regulated by a City bylaw, (i.e. Building Permit or Soil Removal and Deposit Permit) this bylaw does not apply to development within the Agricultural Land Reserve.

Exemptions from the ESC Bylaw submission requirements are provided when:

- The Developable Area is less than 2000m^2 or
- The proposed development is unlikely to negatively affect the Drainage System.* (Which includes streams, ditches and storm sewers.)

Exempted sites are still required to utilize the BMPs included in the City publication *Erosion and Sediment Control (ESC) Bylaw, Best Management Practices* to ensure the water quality standard is met.

Construction sites with a developable area equal to or greater than 2000m^2 require the Property Owner/Agent to submit an ESC Submission (see brochure *Guidelines for ESC Bylaw for Development Sites 2000m^2 or Larger*). They are also required to hire an ESC Supervisor to (1) develop an ESC plan, and (2) inspect, monitor and report on the ESC facilities.



Sediment-laden water draining into a catch basin ends up flowing into local streams that contain aquatic life, including salmon.

**to be determined by City staff*

'Development' is defined as:

a. removal, alteration, disruption or destruction of vegetation;
b. disturbance of soils, including landscaping;
c. construction;
d. creation of nonstructural impervious or semi-impervious surfaces;
e. flood protection works;
f. construction of roads, trails, docks, wharves and bridges;
g. installation or Construction of sewer and water services;
h. installation or Construction of drainage systems; or
i. installation or Construction of utility corridors.

How does sediment affect Abbotsford's stormwater infrastructure and streams?

Without proper control practices, construction activities can contribute large amounts of sediment to local drainage systems, including streams and storm sewers.

Sediment causes water conveyance issues, which can increase flood risks. Storm sewers or channels can have a reduced capacity due to sediment accumulation which may result in storm water not being able to discharge adequately from the area. The City spends hundreds of thousands of dollars each year removing accumulated sediment from storm sewers, ditches and streams.

Sediment in streams also causes numerous problems to aquatic life, including salmon, plants and insects:

- Fish are impacted through the reduction in food (insects), infilling of gravel spawning areas, reduced feeding (from inability to visually target their prey), increased stress (decreased survival rates due to a number of factors such as reduced growth rates and decreased immune system), and gill abrasion;
- Extended periods of poor water quality in a stream may reduce the production of plants due to reduced sunlight;
- Insect production declines due to a reduction in their food (plants), loss of habitat (many like to live in gravel, which would be covered by sediment), and impaired feeding (sediment clogs their filter feeding mechanisms).

What is turbidity?

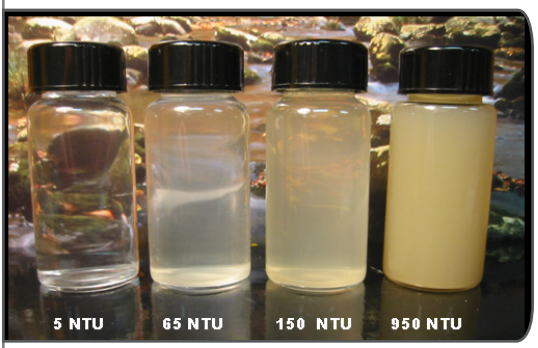
It is a measure of the lack of clarity or degree of transparency of water caused by inorganic and organic suspended or dissolved substances. Turbidity values are generally reported in Nephelometric Turbidity Units (NTU).

What are the Water Quality Discharge Standards?

The City's ESC Bylaw is performance based. All sites (regardless of whether or not they are exempted from the ESC Bylaw Submission Requirements) are required to meet specified discharge water quality standards. How developers or property owners choose to achieve that water quality is up to them or the ESC Supervisor they hire to create their ESC Plan.

The water quality standards set in the City ESC Bylaw are those recommended by Fisheries and Oceans Canada (DFO) for turbidity. Turbidity shall not exceed:

- 25 Nephelometeric Turbidity Units (NTU's) during normal weather conditions (less than 25 mm of rain in the 24 hours prior).
- 100 Nephelometeric Turbidity Units (NTU's) during significant rainfall events (equal to or greater than 25 mm of rain in the 24 hours prior). *Applicable only to sites with an ESC Supervisor hired.*



The photograph provides an example of water samples that contain different amounts of sediment. The amount of sediment in the sample affects the turbidity (i.e. cloudiness) of the water.

Best Management Practices (BMPs) for exempted sites

The existing contour of the land and the existing vegetative cover serve to intercept, convey or store stormwater. Most construction activities alter the existing state of the land and this may result in erosion when rainwater encounters the exposed soils.

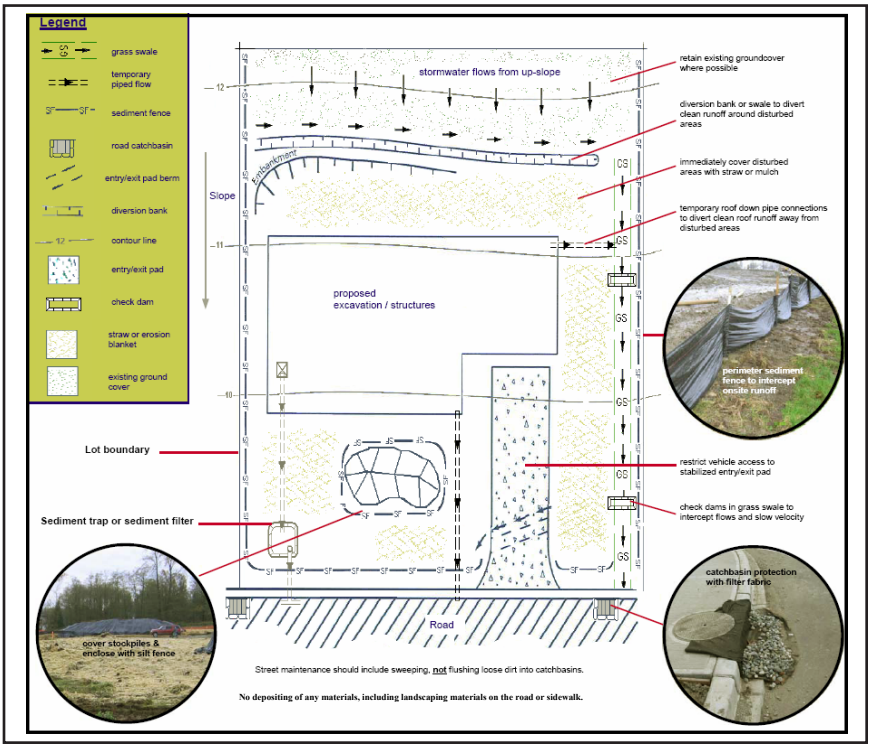
There are techniques that you can employ on your site to control the erosion and sediment problems you may encounter. These techniques have been identified as "Best Management Practices" (BMPs). Erosion control techniques prevent erosion from occurring within the construction site through placing materials (e.g., poly tarps, straw) over exposed soils, whereas sediment control techniques capture eroded sediments or sediment-laden water and prevent them from leaving the site. **Erosion control is more effective, less expensive and requires less maintenance.** Sediment control is very difficult, as many areas have till soils with a high fraction of clay, which can take years to settle out of water. As such, you should not disturb more of the construction site than is absolutely necessary.

In order to comply with the ESC Bylaw, and other pertinent legislation, the property owner/agent is responsible for ensuring that BMPs are implemented on site.

Acceptable BMPs include those listed. These BMPs are detailed in the City handout *'Erosion and Sediment Control (ESC) Bylaw: Best Management Practices'*, as well as those provided in Fisheries and Oceans Canada's L*and Development Guidelines for the Protection of Aquatic Habitat* (1993).

Required Best Management Practices
(detailed in *'Erosion and Sediment Control (ESC) Bylaw: Best Management Practices'*)

- Clear only the areas necessary (leave vegetation in areas that don't require disturbance).
- Establish a Stabilized Entry/Exit Point.
- Protect the perimeter of the site.
- Divert up-slope water around the work site (keep clean water clean).
- Roughen exposed soils.
- Temporarily stabilize disturbed earth.
- Create temporary sediment detention facilities onsite.
- Install inlet protection measures at all storm system inlets.
- Place soil piles upslope of the perimeter protection and cover with plastic sheeting or erosion control blankets.
- Dewater to a contained part of the site and allow it to infiltrate into the soil.
- Install roof downpipes as soon as practicable after the roof is laid.
- Ensure that all control measures are maintained in good working order.
- Re-vegetate or otherwise permanently stabilize the site.



The illustration provides examples of the planning and implementation of BMPs.

Enforcement and Offences

Designated staff from the City of Abbotsford may enter any site in order to carry out site inspections and collect field measurements of water quality. This is necessary to determine if sites are in compliance with the Bylaw throughout the construction period. If it is determined that the site is in non-compliance with the Bylaw, City staff may do any of the following to ensure compliance:

- Refuse inspection (including forms inspection);
- Issue a Notice to Comply, which requires the property owner/agent to remedy the non-compliance within 24 hours. Work will not be allowed to continue until ESC facilities are in place and inspected; and/or
- Arrange for street sweeping at the builder's expense where failure to employ ESC has caused muddy roads.

Those who commit an offence may be subject to violation tickets of not less than $500 per offence. On summary conviction, all those who commit an offence under the Bylaw may be subject to fines of not less than $2,000 and not more than $10,000 for each day that an offence exists. Each day that the offence continues will be considered as a separate offence with the same applicable fines.

Frequently Asked Questions

Q: When do I have to have everything installed?
A: Before your first (footing forms) inspection. If appropriate ESC control works are not in place, the inspector may refuse your forms inspection. You will be required to install your erosion and sediment control works before any further construction can take place.

Q: Who is responsible on big, multi-builder sites that have an ESC Plan and an ESC Supervisor hired?
A: The property owner/agent is responsible for the quality of water leaving the lot you are working on. You must not discharge muddy water to street or lawn drains. You must implement all applicable BMPs. You are required to keep the street and sidewalk in front of your lot clean by making sure material isn't tracked out and by sweeping or shoveling. DO NOT hose material down the drains. You must be aware of the weather conditions and take appropriate actions in periods of excessive rain.

Q: When and how will this Bylaw be enforced?
A: This Bylaw is now in effect. Builders that continue to work without proper ESC controls will be refused inspections and may face extra fees for work without inspection, street cleaning, and re-inspection.

Q: Must the BMPs be implemented on every site?
A: Yes, unless it can be deemed that they are unnecessary to meet the discharge requirements specified in the ESC Bylaw.

For more information contact:

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www.abbotsford.ca/ESC

This document contains important information, please have it translated if you cannot understand its content.

這文件有重要資料，請先作翻譯。
इस दस्तावेज में महत्वपूर्ण जानकारी है, कृपया
이 문서에는 중요한 정보가 담겨 있습니다.
번역해서 읽으십시오.