

Planning & Development Services

Guidelines for Erosion & Sediment Control (ESC) Bylaw

For development sites that are
2000m² or larger



Erosion & Sediment Control (ESC)



The City of Abbotsford has adopted an 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 (e.g. 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 2000m² 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 2000m² require the Property Owner/Agent to submit an ESC Submission (see brochure 'How the ESC Bylaw Applies to Development Sites 2000m² 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.



*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.

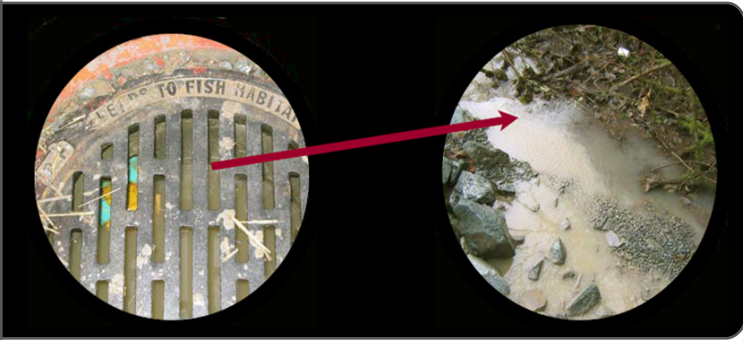
How does sediment affect Abbotsford's stormwater infrastructure and streams?

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;
- 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).
- Extended periods of poor water quality in a stream may reduce the production of plants due to reduced sunlight.



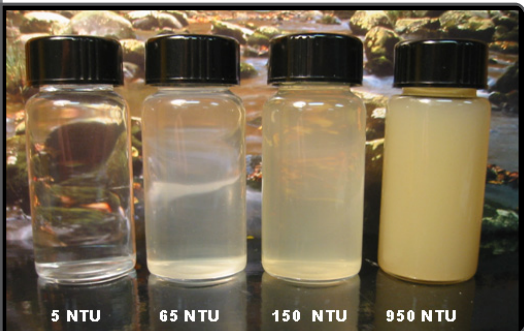
Sediment-laden water draining into a catch basin ends up flowing into local streams that contain aquatic life, including salmon.

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. DFO states that turbidity shall not exceed:

- 25 Nephelometric Turbidity Units (NTU's) during normal weather conditions (less than 25 mm of rain in the 24 hours prior).
- 100 Nephelometric Turbidity Units (NTU's) during significant rainfall events (equal to or greater than 25 mm of rain in the 24 hours prior).



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.

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).

The ESC Submission Process

Every person who proposes to carry out Development having a Developable Area of 2000 m² or larger shall first (1) obtain a Permit from the City, (2) submit an ESC Submission to the City, and (3) post signage.

Please ensure that your ESC Submission package is complete, as incomplete or missing information will delay the process. All Submissions must:

- Include a completed ESC Submission Form;
- Have an attached ESC Plan, prepared by an ESC Supervisor; and
- Include an ESC Supervisor's Letter of Appointment form.

Your application will be reviewed by City staff. Following initial review, city staff will contact you regarding the status of your application and may ask for further information or plan revisions if your ESC Plan does not meet the specified requirements.

Once the Permit is issued a sign must be posted at the entrance of the Development site, which:

- a. indicates that the information provided is for Erosion and Sediment Control concerns;
- b. displays the name and telephone number of the responsible ESC Supervisor;
- c. is posted at the entrance of the Development site on a post;
- d. is a minimum size of 60 cm by 90 cm; and
- e. has lettering that is a minimum 5 cm high.

The acceptance of an ESC Submission by the City doesn't certify the performance or capacity of the proposed BMPs specified in the ESC Plan to achieve the discharge requirement of the bylaw; it ensures that the project has addressed the principle requirements of the bylaw. The ESC Supervisor and applicant are ultimately held accountable regarding the implementation and performance of the ESC works specified by the plan and for ensuring that the site achieves the discharge target set by the Bylaw.

What is Required in an ESC Submission?

An ESC Submission comprises the following components:

1. ESC Submission Form

Parts 1 and 2 of the Submission Form must indicate the registered owner of the land and any agent acting as the owner of the Land. If there are more than one registered owners, then all owners' names must be provided. An ESC Supervisor must be named in Part 3 of the Submission Form. Part 4 of the Submission Form requires civic and legal description of the property where the work is to occur. ESC Submission Forms can be found online at: www.abbotsford.ca/ESC

2. ESC Plan

The ESC Plan must be designed by an ESC Supervisor in accordance with Fisheries and Oceans Canada's Land Development Guidelines, all requirements of the City's ESC Bylaw, and all Best Management Practices. Every ESC Plan shall:

- a. be prepared by an ESC Supervisor;
- b. consist of a multi-stage plan that conforms to the City's CAD Drawing format and shows the measures for erosion and sediment control during the following phases (where applicable):
 - i. land clearing, grubbing and grading;
 - ii. the installation of services or infrastructure;
 - iii. the building construction; and
 - iv. the Warranty Period, and
- c. include the following information:
 - i. proposed measures to address the erosion and sediment control requirements for clearing limits, cover measures, perimeter protection, traffic area stabilization (including detailed design of any necessary wheel washes), Sediment retention, surface water control and dust control, with source controls being the primary method of erosion and sediment control;
 - ii. location(s) of limits of disturbance for each of the phases of Development;
 - iii. the location of all proposed ESC Facilities to be implemented on site, including site access locations, Sediment ponds and any necessary wheel wash facilities;
 - iv. for each ESC Facility, the design and installation specifications and maintenance requirements;
 - v. for ESC Plans utilizing Treatment Chemicals, technical specifications including ecological toxicity data from the Treatment Chemical manufacturer;
 - vi. the proposed methods to restore disturbed areas following the completion of Development;

- vii. all other details pertaining to the proposed Development, describing how the ESC Facilities will meet the water quality requirements and Turbidity levels established under this Bylaw;
- viii. locations of property line(s) and other legal designations of the subject property or properties;
- ix. location(s) of existing underground services, as well as any proposed connections to existing services from the site;
- x. location(s) of existing drainage infrastructure and the proposed measures to protect it;
- xi. location(s) of existing and proposed watercourses, ditches, swales or other bodies of water within 50m of the site boundaries, along with the proposed protection measures;
- xii. location(s) of existing and proposed buildings, including residential buildings or ancillary buildings or structures; and
- xiii. existing and proposed contours and relevant spot elevations.

3. ESC Letter of Appointment

The ESC Supervisor must sign a Letter of Appointment as part of the ESC Submission (available online at www.abbotsford.ca/ESC or from the City of Abbotsford Planning and Development Services Department).

“Permit” includes any of the following:

- a. an Environmental Development Permit;
- b. a Building Permit issued under the City’s Building Bylaw;
- c. a Development Agreement;
- d. a Servicing Agreement;
- e. a contract with the City; or
- f. a Soil Removal and Deposit Permit issued under the City’s Soil Removal and Deposit Bylaw.



Who is qualified to be an ESC Supervisor?

An ESC Supervisor is a Qualified Professional who:

- a. is registered and in good standing with one or more of the following professional organizations: Association of Professional Engineers and Geoscientists; Association of BC Forest Professionals; College of Applied Biology; Applied Science Technologists and Technicians of BC; BC Institute of Agrologists; EnviroCert International (Certified Professional in Erosion and Sediment Control); or BC Society of Landscape Architects;
- b. is acting under that organization's code of ethics and subject to disciplinary action by that organization;
- c. has an area of expertise that is generally recognized in the field of Erosion and Sediment Control as one that is acceptable for the purpose of providing all or part of the design and monitoring of ESC Facilities in respect of a Development proposal; and
- d. is acting within their area of expertise.

Inspection, Monitoring and Reporting Requirements

It is the responsibility of the Property Owner/Agent to ensure that all of the ESC Facilities described within the approved ESC Plan are constructed, implemented, installed and maintained for the duration of the construction until such time as the ESC Supervisor delivers written notice to the City that all development at the development site is completed, the site is stable and under control and no longer poses a threat to the drainage system, and the ESC Facilities may now be safely removed.

The appointed ESC Supervisor is responsible for inspecting, directing maintenance, monitoring and reporting on the ESC Facilities in accordance with the City guideline, Erosion and Sediment Control (ESC) Bylaw: Responsibilities of the ESC Supervisor. These guidelines are available online at www.abbotsford.ca/ESC. The ESC Supervisor must visually monitor any receiving waters, including watercourses, ditches, swales or bodies of water during and immediately following each significant rainfall event, and at least once per month in the dry season and once per week in the wet season.

The inspection must cover:

- **Water quality:** Turbidity of all water leaving the site must be measured at dedicated monitoring locations.
- **Condition of ESC Facilities:** The ESC Supervisor must inspect for damaged, malfunctioning or inadequate ESC Facilities.

- **Maintenance and repair:** The ESC Supervisor must track when and where any maintenance or repair work is required, or undertaken. Where work is high risk of causing sediment-laden discharge offsite, the ESC Supervisor should be present to oversee the operation.

The ESC Supervisor is required to keep an up-to-date logbook. The logbook must contain reports of all the inspection items above, as well as the results of all turbidity measurements undertaken. This logbook must be made available for inspection by City staff immediately if requested.

Enforcement and Offences

City staff 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. Should it be determined upon field water quality measurements or ESC Facilities inspection that the site is noncompliant with the Bylaw and/or the Permit, City staff may undertake one of the five basic enforcement actions to ensure compliance. Enforcement action will be selected based on three basic factors: the degree of impact of the Offense, the level of due-diligence of the offender, and whether or not this is a repeat offense or a first offense. Each situation will be analyzed on a case by case basis. Except where there is a risk of immediate or imminent damage to the environment or infrastructure, the offender will be provided with an opportunity to correct the issue prior to the City utilizing a security draw.

The Bylaw provides for the following 5 basic enforcement actions: violation tickets; a notice to comply; security draw, summary conviction and referral to other jurisdictions. Explanations of these actions are summarized on the next page.



- **Violation Tickets:** Where a person fails to comply with the terms and conditions of the Bylaw or of a Permit, staff can issue a violation ticket for each offence.
- **A Notice to Comply:** Where a person fails to comply with the terms and conditions of the Bylaw or of a Permit, staff can issue a Notice to Comply requiring the person to remedy the non-compliance within 24 hours (or longer if deemed necessary) to correct the non compliance issue. All construction works must cease other than those related to remediating the non-compliance issue.
- **Security Draw:** Where damage or sediment release to City drainage works has occurred or is imminent, the Permit's security deposit may be utilized to remediate and prevent future issues. If the amount of the security deposit is insufficient for such purposes, the Developer or the holder of the Permit shall pay any deficiency to the City immediately upon receipt of the City's invoice for the work, failing which, the amount of such costs may be added to the property taxes for the Development site and collected in the same manner and with the same remedies as property taxes.
- **Summary Conviction:** Charges are laid in Provincial Court. 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. Used for cases of gross negligence and repeat offences in contravention of warnings or other City compliance actions previously implemented.
- **Referral to other Jurisdictions:** At any time city staff observes activity that may be contradicting any other municipal, provincial or federal laws, pertinent information will be forwarded to the appropriate agencies.



Frequently Asked Questions

Q: When do I have to have everything installed and my ESC Supervisor in place?

A: Before your pre-construction meeting, you must have had your ESC Plan accepted, your ESC supervisor retained, and your Permit issued.

Q: Who is responsible in developments where all or some of the building lots are sold to builders other than the Developer?

A: The property owner is responsible for the quality of water leaving their own property.

Q: Does an Engineer have to seal my ESC Plan?

A: No, but it must be checked, signed and sealed by an ESC Supervisor.

Resources

City of Abbotsford Web Page: www.abbotsford.ca/esc

Erosion and Sediment Control Association of BC: www.escabc.com

Land Development Guidelines for the Protection of Aquatic Habitat:
www.dfo-mpo.gc.ca/Library/165353.pdf

California Stormwater Best Management Practice Handbooks:
www.casqa.org

Stormwater Management Manual for Western Washington:
www.ecy.wa.gov/programs/wq/stormwater/manual.html

VOI Training: <http://www.voitraining.com/>





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FOR MORE INFORMATION

The staff in the Planning and Development Services department are happy to assist and help you comply with the Erosion and Sediment Control Bylaw. If you have any questions, please contact an Environmental Coordinator at 604-864-5510 or through email at env-info@abbotsford.ca

For more detailed information on how to comply with the bylaw, please refer to the materials available online at 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 दस्तावेज़ में महत्वपूर्ण जानकारी है, कृपया

이 문서에는 중요한 정보가 담겨 있습니다.

번역해서 읽으십시오.

ਇਸ ਦਸਤਾਵੇਜ਼ ਵਿਚ ਜ਼ਰੂਰੀ ਜਾਣਕਾਰੀ ਹੈ, ਕਿਰਪਾ ਕਰਕੇ ਇਸ ਦਾ ਅਨੁਵਾਦ ਕਰਵਾ ਲਿਆ ਜਾਵੇ।