

South Shawnigan Creek Water Quality Monitoring Study Draft Terms of Reference

The Ministry of Environment (also referred to as the “ministry”) is proposing that an intensive water quality monitoring study (referred to hereafter as the “monitoring study”) on South Shawnigan Creek be conducted with input/engagement from Cowichan Valley Regional District (CVRD), First Nations, other agencies, and local stakeholder representatives (also referred to as “interested parties”). This Terms of Reference (TOR) outlines the overall purpose and process for the development and implementation of the monitoring study and will be used to solicit proposals (in a competitive bid process) from independent¹ qualified professionals to design and implement the monitoring study. The monitoring study will be completely separate from the on-site monitoring activities taking place on Stebbings Road Lot 21 and Lot 23 under the Cobble Hill Holdings Ltd. *Environmental Management Act* permit.

Summary

- It is proposed that an independent qualified professional with pertinent knowledge, experience and credentials, be hired in early 2016 to develop, implement and report out on a monitoring study on South Shawnigan Creek near Stebbings Road.
- The qualified professional will be contracted by the ministry and will operate in an independent manner, meaning that data and analysis will be reported simultaneously to the ministry and all interested parties.
- The purpose of the study is to get an assessment of water quality on South Shawnigan Creek including the vicinity of South Island Aggregates/Cobble Hill Holdings Ltd. properties on Stebbings Road and associated key tributaries. The assessment will provide data and analysis on how surface water quality does or does not degrade along South Shawnigan Creek, particularly at points where water quality degradation is suspected of occurring.
- The program will focus on sampling the mainstem of South Shawnigan Creek and the major flows coming off of Lot 23 (ephemeral stream), 21 (seepage) and other key tributaries such as Van Horne Creek.
- The ministry will use an independent facilitator to engage all interested parties in the development of the monitoring study. Interested parties will be invited to contribute ideas, identify key concerns, and comment on the draft study design.
- The qualified professional will provide summary reports and a year-end report with recommendations for future monitoring to the ministry and all interested parties.

¹ For these purposes, “independent” is defined as a qualified professional who has not previously been contracted to work on issues related to the South Island Aggregates/Cobble Hill Holdings Ltd. properties on Stebbings Road or any other properties held by these companies. As well, “independent” means that the qualified professional who undertakes this work will report data and analysis simultaneously to the ministry and all interested parties.

Background

In 2013, the Ministry of Environment issued a permit to Cobble Hill Holdings Ltd. (formerly South Island Aggregates) for a contaminated soil treatment facility and landfill on Stebbings Road in the Shawnigan Lake Watershed. The permit decision was appealed and the permit was upheld by the Environmental Appeal Board; however, local stakeholders including the Shawnigan Residents Association (SRA), CVRD, and First Nations including Malahat First Nations and Cowichan Tribes are concerned about the safety of the ongoing operation. Community and politicians are questioning the data provided by the company and are highly suspect of limited monitoring undertaken by the ministry. Primary concerns relate to EMA-permitted activities on Lot 23, but other concerns exist around the adjacent Lot 21.

As part of the ministry's mandate to manage water bodies, the ministry has Water Quality Objectives (WQO) and a WQO Attainment Monitoring Program for a number of water bodies, including Shawnigan Lake. The purpose of the WQO Attainment Monitoring Program is to accumulate the baseline data necessary to assess and report on both the current state of water quality and long-term trends, on a waterbody specific basis. The reports provide a list of objectives to protect water quality that are tailored to the specific waterbody for which they have been created, taking into account natural water quality, water uses, water movement, and waste discharges. While the WQOs currently have no legal standing, they can direct resource managers aiming to protect the waterbody in question and are used as a standard against which to measure the water quality of that waterbody. Once objectives have been developed, periodic monitoring (every three to five years) is undertaken to determine whether objectives are being met. In Shawnigan Lake, WQOs attainment monitoring was conducted between 2006 and 2014. The updated WQOs attainment report for Shawnigan Lake is expected to be completed in April.

As part of their permit, Cobble Hill Holdings Ltd. is also required to carry out sampling and monitoring on contaminated soils and ash; water treatment system and settling pond discharge; ground water quality; surface water quality; and air quality.

While the existing monitoring programs implemented by the Ministry of Environment and Cobble Hill Holdings Ltd. provide data that is relevant to the concerns raised by local stakeholders and First Nations, concerns have continued to be expressed regarding the safety of drinking water.

Purpose

The purpose of the proposed South Shawnigan Creek Monitoring Study is to get an assessment of water quality along South Shawnigan Creek including the vicinity of South Island Aggregates/Cobble Hill Holdings Ltd. properties on Stebbings Road and associated key tributaries. This data will augment the water quality data being collected in Shawnigan Lake as part of the existing WQO attainment monitoring program. Data will be used to:

- Establish current water quality at the monitoring sites.

- Assess water quality along South Shawnigan Creek including key tributaries – in particular, assess how surface water quality does or does not degrade along South Shawnigan Creek and how surface water quality compares to BC water quality guidelines.
- Determine if existing permitted activities on Stebbings Road Lot 23 or historical activities on Lot 21 are impacting downstream water quality.
- Determine if other activities in the watershed are impacting water quality in South Shawnigan Creek.
- Augment data already being collected by the ministry and the Permittee to assess effectiveness of the EMA Permit.
- Inform potential updates (if necessary) to Shawnigan Lake Community Watershed and Tributaries WQO.

Note that while the study will provide data and analysis on where degradation may be occurring along South Shawnigan Creek and what sectors may be contributing to the degradation (e.g. mining, agriculture, residential development etc.), providing data and analysis on specific sources is beyond the scope of the current study, except for the specific focus on whether permitted activities on Stebbings Road are contributing to degradation. The ministry is focusing the study on Stebbings Road activities because the activities are regulated by a provincial permit and because there are outstanding community concerns regarding these activities.

Program Delivery

The consultant should be a Qualified Professional registered with a professional association in BC. They should have extensive knowledge and experience in designing and implementing water quality monitoring and impact assessment studies, and must have the abilities and capacity to fully implement the monitoring program, including data analysis and reporting.

Responsibilities for the consultant will include:

- Prepare a draft study design that will fulfill the purpose of the monitoring study as described above.
- Ensure that sampling frequency will be appropriate to compare to BC water quality guidelines and Shawnigan Lake WQOs.
- Present draft study design to the ministry and interested parties during a facilitated meeting (either a face-to-face meeting in Shawnigan Lake area or teleconference).
- Incorporate input from the ministry and interested parties into draft study design.
- Finalize study design and submit it to the ministry and interested parties.
- Plan and execute fieldwork – use accredited lab for lab analysis.
- Receive, analyze and summarize data on a quarterly basis and report results to the ministry and all interested parties. In addition, the consultant will likely be asked to present results and interpretation to two meetings with representatives from interested parties (e.g. presentation after 6 months and 12 months of data collection) and may need to update their results report with additional analyses based on discussion at these meetings.

- Prepare draft and final summary report at the end of the year that:
 - compares water quality monitoring locations to BC water quality guidelines (aquatic life and human health guidelines);
 - compares water quality between the monitoring locations to show whether and where water quality degradation is occurring; and,
 - recommends additional monitoring to further investigate any outstanding questions around water quality degradation (including questions that are both related or not related to the permitted activities on Stebbings Road).

Proposed Study Design

Sites:

At the conceptual level, sampling should be conducted near the permitted activities and any other site in the area with the potential to contribute to degraded water quality on South Shawnigan Creek including: near the seepage area of Lot 21; the ephemeral creek on Lot 23; and additional sites upstream and downstream of the main flows (e.g. upstream and downstream of Lot 21 seepage; upstream and downstream of Lot 23 ephemeral creek; and upstream and downstream of key tributaries to South Shawnigan Creek such as Van Horne Creek). Additionally, sampling should include (if possible) a site to measure natural background levels (e.g. a site as far upstream as possible in South Shawnigan Creek). It is anticipated that there will be a total of 6-8 sampling sites.

Sampling Schedule and Parameters:

The independent qualified professional will propose a sampling schedule as well as what parameters should be sampled at each site. Parameters will be compared to existing BC water quality guidelines. It is anticipated that sampling will occur on a monthly basis for 12 months, with an additional 4 weekly samples in both late summer low flows and fall rains (i.e. 5 consecutive weekly samples in 30 days, “5/30”), to capture variability during the critical time periods.

Facilitated Engagement on Monitoring Study

The ministry is using an independent facilitator to engage all interested parties in the development of the monitoring study.

Engagement on this TOR was done through 1-on-1 interviews between the independent facilitator and the interested party. The facilitator worked with the ministry to make additions and changes to the draft TOR in response to the input received and a revised draft TOR was distributed back to interviewees by the facilitator for any further written comments. The final TOR is issued by the ministry within an Invitation to Quote for an independent qualified professional to design and implement the monitoring study.

Engagement on the draft monitoring study design will be done through an independently facilitated meeting (either face-to-face or teleconference). The facilitator will provide draft and final meeting notes

to all interested parties on feedback heard at the meeting. The monitoring study design will then be updated by the independent qualified professional based on the feedback given at the meeting and the available budget for the study (budget is provided by the ministry). For those that cannot participate in a workshop or teleconference, written comments can be provided to the qualified professional on the draft monitoring study design. Depending on interest, the ministry will also organize further engagement meetings for the independent qualified professional to present results and interpretation to representatives of interested parties.

The intent of this engagement is to inform the development and implementation of a monitoring study that will answer the key water quality monitoring questions of concern of all interested parties with a reasonable degree of certainty. In the event that interested parties do not agree on an aspect of the monitoring study design, the independent qualified professional will be asked to make a recommendation that in his/her professional opinion, best addresses the interests of all parties within the available budget for the study. The ministry will have final approval of the monitoring study design.

Organizations invited to participate in engagement interviews on the draft TOR and meetings on the monitoring study include, but are not necessarily limited to the following:

- Ministry of Environment
- Ministry of Energy and Mines
- Cowichan Valley Regional District
- Shawnigan Residents Association
- Department of Fisheries and Oceans and/or Environment Canada
- Malahat First Nation
- Cowichan Tribes
- Cobble Hill Holdings Ltd.
- South Island Resource Management Ltd.
- Vancouver Island Health Authority