REPORT

Construction Environmental Management Plan

Submitted to:

Six Cedars Contracting

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Chilliwack, BC, V2R 5M5

Submitted by:

WSP Canada Inc.

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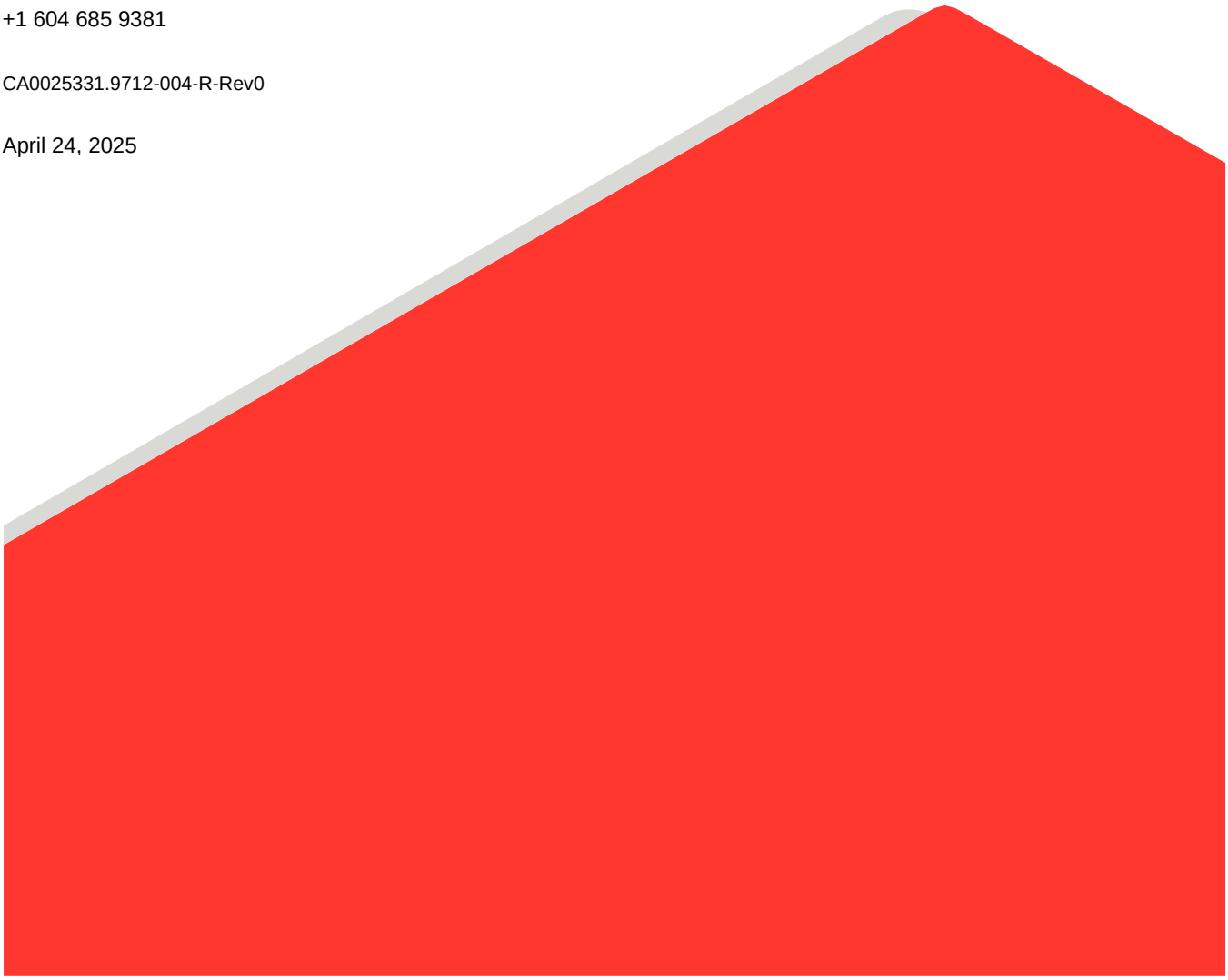
April 24, 2025



Distribution List

e-copy: Six Cedars Contracting

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1.0 INTRODUCTION

1.1 Overview

WSP Canada Inc. (WSP) was retained by Six Cedars Contracting Ltd. (Six Cedars) to develop a Construction Environmental Management Plan (CEMP) for Phase 4 of the proposed housing development known as the Cedarbrook Project (the Project), located in the Skway Indian Reserve #5 (Shxwha;y Village; 'the Property') in Chilliwack BC (Figure 1). Phase 4 involves the construction of one six-storey apartment building (Building 4) in the northeastern corner of the Property (the Project Area). Project related construction activities have the potential to adversely impact the surrounding environment through erosion and sedimentation, accidental spills or release of deleterious materials, increase in artificial light, noise and vibrations, clearing of critical habitat for species listed on Schedule 1 of the *Species at Risk Act* (SARA), removal of vegetation, proliferation of invasive plants, physical changes to habitat resulting from construction, and potential injury or mortality. This CEMP outlines measures that are consistent with accepted best practices to avoid and reduce potential negative effects from Project construction activities on the environment.

The contents of this CEMP are organized as follows:

- **Section 1.0: Introduction** – Provides overview of the Project and the purpose and organization of the CEMP.
- **Section 2.0: Environmental Setting** – Provides summary of the physical, biological, and social/cultural setting of the Study area.
- **Section 3.0: Regulatory Setting** – Summarizes the environmental regulatory framework on which the development of this CEMP and corresponding mitigation measures have been based.
- **Section 4.0: Roles, Responsibilities, and Communication** – Describes roles, responsibilities, and reporting relationships of the contracting authority, the Environmental Monitor (EM), and the Contractor(s) as they relate to implementation of environmental management and mitigation measures.
- **Section 5.0: Environmental Management Activities and Controls** – Summarizes measures that will be undertaken to protect the environment and describes environmental site inspection and monitoring activities that will be undertaken to assess and document that environmental management goals set for the Project are being met.

The overall objective of this CEMP is to provide a framework for the management of potential environmental effects during Project construction activities through the implementation of environmental protection measures (**Section 5.0**). These measures have been developed to meet obligations around environmental protection and are based on relevant environmental regulatory requirements, industry standards, and best management practices for environmental protection.

1.2 Project Description

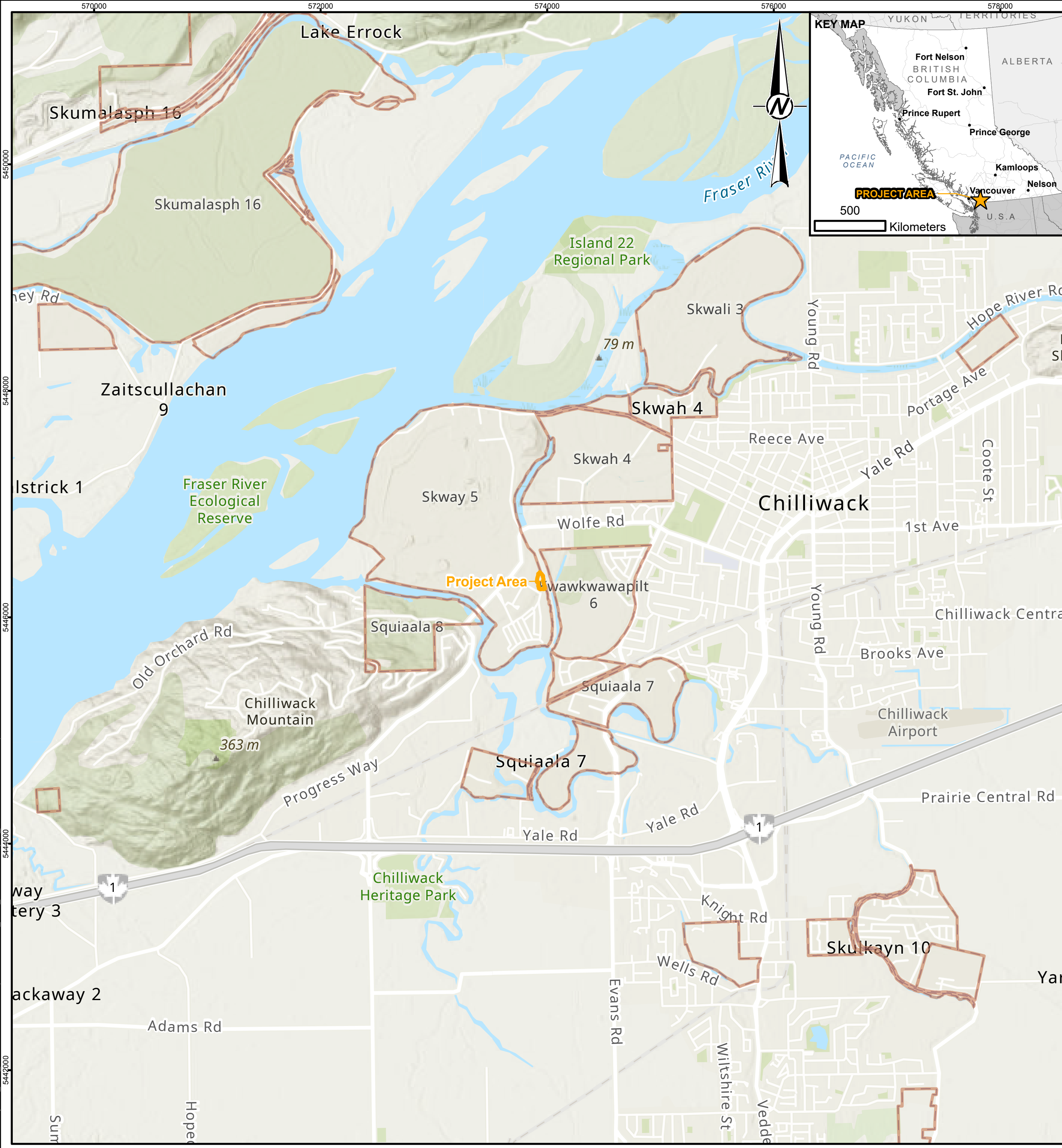
Six Cedars is proposing to one six-storey apartment buildings as the final phase (Phase 4 Building) of the Cedarbrook Housing Project (the Project Area).

Construction activities will include:

- Clearing vegetated areas
- Civil installation
- Rapid impact compaction for geotechnical support
- Groundworks will be required. approximately 10,00 m^3 of soils will be excavated on Site. The excavation area is approximately 3,000m^2 at a depth to approximately 3.8 m.
- Parkade construction
- Building the structure
- Landscaping

Construction is anticipated to start in 2026 and be complete by 2028.

The land available for development within the reserve is limited and features a slough, proximity to floodplains, and existing roadways. The housing is proposed to reduce the local housing crisis.



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PROJECT AREA
RESERVE LANDS

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REFERENCE(S)

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CLIENT
SIX CEDARS CONTRACTING

PROJECT
CEDARBROOK PHASE 4

TITLE
REGIONAL OVERVIEW FIGURE

CONSULTANT

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PROJECT NO. CA0025331.97122.2 CONTROL REV. 0 FIGURE 1

2.0 ENVIRONMENTAL SETTING

An Environmental Overview Assessment (EOA) was prepared for a mixed-use (i.e., residential, commercial and industrial) development located on the Skway Indian Reserve #5 (Shxwha:y Village) by Hatfield Consultants Ltd in 2019 (Hatfield, 2019).

The west and south Property boundaries are contiguous with Chilliwack Creek, which flows north into the Fraser River approximately 2 km downstream of the Property. The east Property boundary is contiguous with Kwah Kwah A Pilt Slough and the north Property boundary is defined by Schweyey Road. The Property is located primarily within agricultural lands and previously disturbed areas. Historically, the Property was also the site of a landfill which was closed and capped in 1993 (Golder 2013). Coco-Oppelo Slough and the historical landfill bisect the Property into north and south segments (Hatfield 2019).

The Project Area will be located in areas already heavily affected by anthropogenic disturbances associated with the historical and existing land use activities (i.e., agriculture and landfill) which limits habitat value for wildlife or the capability to sustain listed ecological communities. High-value habitat features with the capability of supporting species at risk are limited to forested habitat (i.e., Oregon forestsnail critical habitat) and riparian areas of Kwah Kwah A Pilt Slough.

The Project will remove the forested habitat for Oregon forestsnail (OFS) and project activities will be adjacent to Kwah Kwah A Pilt Slough riparian area as described further in Section 2.3.

2.1 Vegetation Resources

The Project Area is located in the Fraser Lowland Ecosection of the Lower Mainland Ecoregion, within the Coastal Western Hemlock Dry Maritime (CWHdm) subzone and Eastern Very Dry Maritime (CWHxm1) variant (Gov BC 2025). There Project Area is affected by anthropogenic disturbances such as agriculture, residential development and past activities.

The Invasive Alien Plant Program (IAPP) has no records of an invasive plant species overlapping the Project Area (Government of BC 2025). One invasive plant species, Himalayan blackberry (*Rubus armeniacus*), was recorded in the Project Area during a field assessment conducted by WSP on May 24, 2024 (Appendix A: *Technical Memorandum - Cedarbrook Project, Oregon Forestsnail Habitat Assessment And species detection Survey*).

2.2 Wildlife Resources

Wetted portions of Kwah Kwah A Pilt Slough provide potential amphibian breeding habitat while overwintering habitat can occur in these wetted regions as well as the riparian area of Kwah Kwah A Pilt Slough. Based on habitat requirements and range, the Project Area has the potential to support amphibian species (Hatfield 2019; Gov BC 2025).

Passerine bird species are expected to forage on available crops, fruit, seeds, and insects within the Project Area and may nest in trees, shrubs, and grasses in the forested habitat and within the riparian area of Kwah Kwah A Pilt Slough. Woodpecker species and cavity nesting species may use large diameter trees and snags within and adjacent to the Project Area as nesting habitat. Raptors may perch on trees and tall structures and forage on small mammals and other prey items in open areas in and adjacent to the Project Area.

Invertebrate species have the potential to occur in moist vegetated habitats within the Project Area. Federally designated critical habitat for the Oregon forestsnail (OFS)occurs in the forested habitat in the northeastern corner of the Project Area (Gov BC 2025). WSP completed OFS (*Allogona townsendiana*) habitat suitability assessments and species presence surveys on May 24, 2024 to provide additional baseline information. These assessments were conducted in the proposed clearing footprint that is located in proposed OFS Critical Habitat (Critical Habitat ID: 141394; Clearing Footprint) and in the proposed offsetting habitat located in a No Build Easement under the City of Chilliwack, which overlaps with proposed OFS Critical Habitat (Critical Habitat ID: 141821). The Clearing Footprint consists of a 3,530 m^2 area of a young forest dominated by black cottonwood (*Populus trichocarpa)* and red alder *(Alnus rubra)* with a few mature big leaf maples *(Acer macrophyllum).* Methodology and results of the habitat suitability assessment are available in the Technical Memorandum in Appendix A (*Cedarbrook Project – Oregon Forestsnail Habitat Assessment And species detection Survey).*

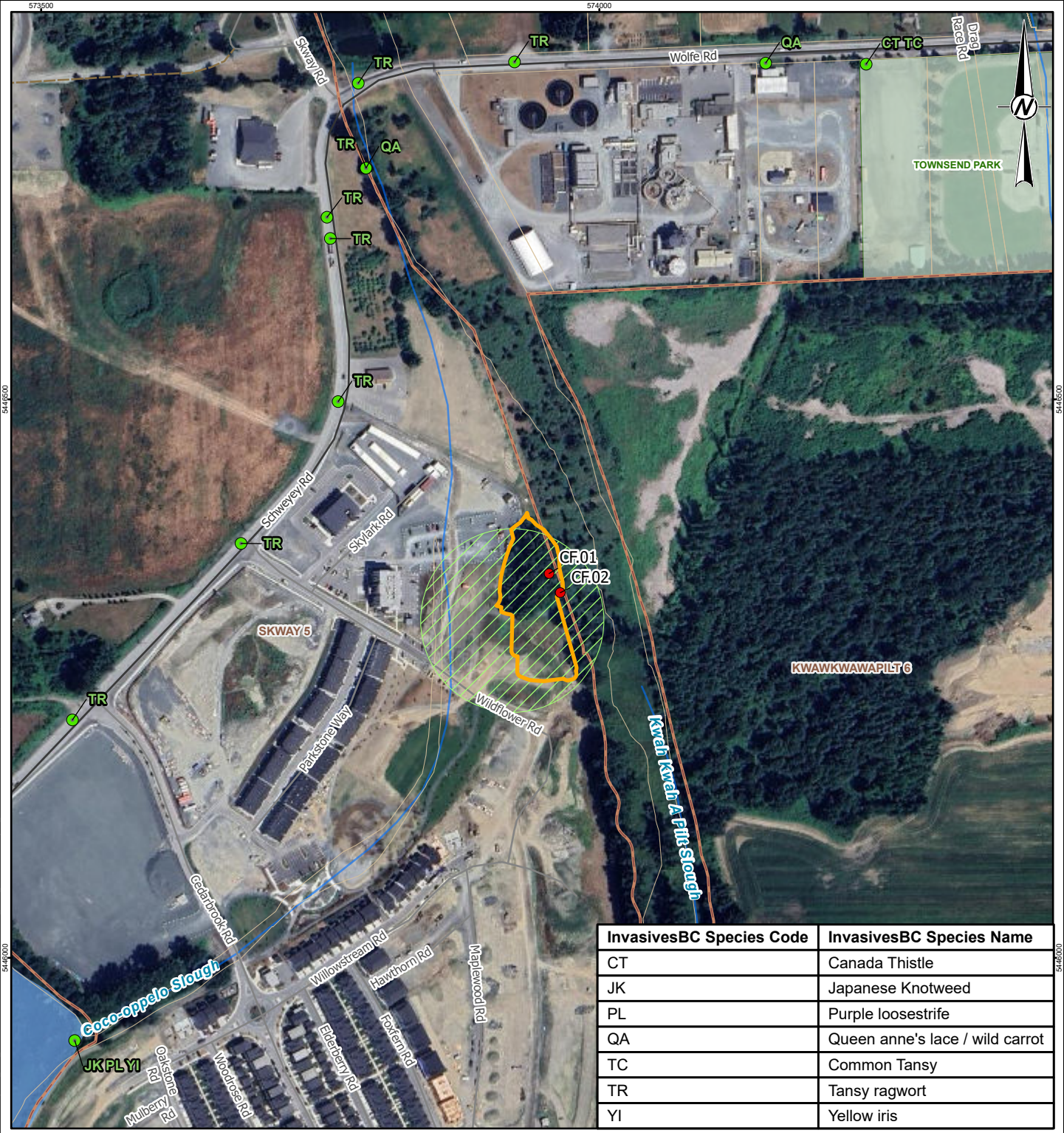
A SARA permit application [SARA Permit Application ID: #4102] for the translocation of OFS individuals has been submitted to the Environment and Climate Change Canada (ECCC) and is currently under review.

The Project Area is expected to support a variety of mammal species associated with urban areas. Small mammals, including rodents, are expected to forage on berry and seed-producing plants in riparian vegetation surrounding Kwah Kwah A Pilt Slough while bats may use the Project Area for foraging and as a travel corridor. (BC CDC 2025).

2.3 Aquatic Resources

The proposed Project activities will require work adjacent to Kwah Kwah A Pilt Slough. Phase 4 of the Project is near a section of Kwah Kwah A Pilt Slough riparian habitat (Figure 2). No construction activities will take place below the high-water mark of Kwah Kwah A Pilt Slough, and no clearing of riparian habitat will take place within 30 m of Kwah Kwah A Pilt Slough. Disturbance to riparian areas will be avoided.

Kwah Kwah A Pilt Slough is a tributary to Chilliwack Creek which contains critical habitat for Salish sucker (*Catostomus* sp. cf. *Catostomus).* Kwah Kwah A Pilt Slough is contiguous with the east Property boundary. Groundwater is shallow in the upstream reaches of this slough; however, surface water was only observed near the confluence of Chilliwack Creek. Based on results from Hatfield's 2019 EOA, the channel of Kwah Kwah A Pilt slough was comprised primarily of reed canary grass (*Phalaris arundinacea*) and likely backwaters during periods of high flow in Chilliwack Creek (e.g., spring freshet). Connectivity to Chilliwack Creek is only expected downstream of the Project Area during seasonal high flows. While fish species recorded in Chilliwack Creek have the potential to occur in the Kwah Kwah A Pilt Slough during high flow conditions, their presence is not expected during the proposed construction period (July 1 to October 15) (Hatfield, 2019).



InvasivesBC Species Code	InvasivesBC Species Name
CT	Canada Thistle
JK	Japanese Knotweed
PL	Purple loosestrife
QA	Queen anne's lace / wild carrot
TC	Common Tansy
TR	Tansy ragwort
YI	Yellow iris

LEGEND

- POINT SEARCH LOCATION
- INVASIVES BC LISTED SPECIES
- PROJECT AREA
- OREGON FORESTSNAIL CRITICAL HABITAT

BASE DATA

- MAJOR ROAD
- ROAD
- TRAIL
- WATERCOURSE
- WATERBODY
- PARCEL
- LOCAL AND REGIONAL GREENSPACE
- RESERVE LANDS

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REFERENCE(S)

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CLIENT
SIX CEDARS CONTRACTING

PROJECT
CEDARBROOK PHASE 4

TITLE
OREGON FORESTSNAIL CLEARING FOOTPRINT WITHIN THE PROJECT AREA AND OTHER ENVIRONMENTAL FEATURES

CONSULTANT

wsp

YYYY-MM-DD	2025-04-24
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PREPARED	TM | JG
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APPROVED	AF

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3.0 REGULATORY SETTING

The Property is considered federal land as it is situated on a First Nations Reserve.

The federal and provincial environmental legislation and municipal bylaws summarized in Table 1 provide the framework for the procedures described in Section 5.0 of this CEMP. This section is not necessarily exhaustive or all inclusive; it is the Contractor's responsibility to understand the regulatory context governing their activities and to act accordingly. Should clarification of any environmental issue be required, the Contractor should consult the original regulation or legislative document.

The Fisheries Act regulates activities that cause or may cause potential harmful alteration, disruption or destruction of fish habitat (HADD). Based on the current proposed Project layout, all works will be compliant with measures to protect fish and fish habitat (DFO 2023). It is not anticipated that any permitting will be required under the Fisheries Act as no works will take place within the 30 m riparian buffer from the high-water mark of Kwah Kwah A Pilt Slough.

Table 1: Relevant Federal and Provincial Environmental Legislation and Municipal Bylaws

Act, Regulation or Bylaw	Description	Potential Applicability to the Project
Federal		
Fisheries Act	The *Fisheries Act* prohibits any works, undertakings, or activities that result in the death of fish by means other than fishing or the unauthorized harmful alteration, disruption or destruction of fish habitat (Government of Canada 1985). Section 36(3) prohibits the deposition of a deleterious substance of any type in water frequented by fish or in any place where the deleterious substance may enter any such water.	No fish or fish habitat was identified within the Project Area therefore project activities are not expected to trigger the fish and fish habitat protection provisions of the *Fisheries Act*. Care should still be taken during construction to prevent sediment laden water from being discharged to receptors via drainage structures such as sediment fencing, culverts, catch basins and ditches to avoid potential contravention of Section 36(3).
Migratory Birds Convention Act (MBCA)	The MBCA prohibits the deposit of substances harmful to migratory birds. It also prohibits the killing, capturing, injuring, taking, or disturbing of migratory birds or the damaging, destroying, removing, or disturbing of their nests.	Vegetation clearing and grubbing should be undertaken during the appropriate "least risk window" outlined in *Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Development in British Columbia* (BC MOE 2014), the general bird nesting season occurs between 1 March to 31 August. If vegetation clearing is to occur during the bird nesting season, a pre-clearing bird nest survey would be recommended.
Species at Risk Act (SARA)	SARA contains prohibitions against the killing, harming, harassing of individuals of endangered, threatened, and extirpated species in Schedule 1 of the Act. The Act also contains a prohibition against the damage or destruction of their residences (e.g., nest or den) and critical habitat. These prohibitions apply to all endangered, threatened, and extirpated species listed in Schedule 1 of SARA when found on federal lands. All endangered, threatened, and extirpated migratory	A SARA permit application [SARA Permit Application ID: #4102] for the clearing of OFS critical habitat and translocation of OFS individuals has been submitted to ECCC and is currently under review.

Act, Regulation or Bylaw	Description	Potential Applicability to the Project
	birds listed in Schedule 1 of SARA and covered by the MBCA are protected anywhere they occur including private and provincial lands. When critical habitat, other than that referred to above, is located on private lands, provincial lands or lands within a territory and is not protected through stewardship agreements under SARA or other federal legislation or provincial/territorial laws, the prohibition may be applied.	
Transportation of Dangerous Goods Act, 1992	Regulates the transport of dangerous goods in Canada, whether by rail, road, air, or water, and establishes safety standards and documentation to be complied with such that all containers, packages, and means of transport are clearly marked with prescribed safety marks. The Act also establishes requirements regarding emergency response assistance plans.	Dangerous goods (e.g., hydrocarbons) may be transported during this Project.
Provincial		
Water Sustainability Act (WSA): Section 11	The WSA is the principal law for regulating streams, aquifers, and associated water resources in BC. Generally, any work that is likely to change the nature of a stream or stream channel must be authorized under the Act. Section 11 of the WSA pertains to changes in and about a stream and includes work or activities that occur in the stream channel, meaning the bed of the stream and the banks, both above and below the natural boundary, are likely to modify the stream or stream channel over time; or occur at, or are planned under, the bed of the stream and are likely to influence the bed of the stream over time.	Works in or about a stream generally require authorization under the WSA. As there is no instream work anticipated, permitting under the WSA is not anticipated. Stormwater ditches that may be temporarily disturbed during project development are considered drainage corridors and not streams as defined under the WSA, meaning no permitting requirements are expected under the WSA.
Wildlife Act	Section 34 prohibits possessing, taking or destroying: (i) A bird or its egg. (ii) The nest of an eagle, peregrine falcon, gyrfalcon, osprey, heron or burrowing owl. (iii) The nest of a bird not mentioned in (ii), when the nest is occupied by a bird or its egg unless authorized under permit. Section 75 describes the requirement to report accidental killing of wildlife: (1) A person who kills or wounds wildlife, other than prescribed wildlife, either by accident or for the protection of life or property, must promptly report to an officer. (a) The killing or wounding. (b) The location of the wildlife.	If vegetation clearing is to occur during the bird breeding season (i.e., 1 March to 31 August), a pre-clearing bird nest survey should be undertaken. A “no work” buffer would be implemented around the active nest. The size of the “no work” buffer would vary depending upon the species observed. A permit would be required for an amphibian salvage or if an inactive protected nest requires removal.

Act, Regulation or Bylaw	Description	Potential Applicability to the Project
	(2) A person who fails to report as required under subsection (1) commits an offence.	
Environmental Management Act Spill Reporting Regulation	Regulates the discharge or emission of effluent, waste or contaminants and requires spill reporting for certain substances. Prohibits causing pollution	No permits or approvals are required; however, there is a requirement to report spills. The Spill Reporting Regulation applies to spills of a listed substance, other than natural gas, if the spill enters, or is likely to enter, a body of water, or the quantity of the substance spilled is or is likely to be equal to or greater than the listed quantify for the listed substance.
Environmental Management Act Contaminated Sites Regulation EMA Part 4 CSR Sections 58 and 59	The Contaminated Sites Regulation (CSR) contains soil quality standards that are recognized by industry for soil management and disposal purposes.	If soil is relocated to a property on provincial land during future re-development, the CSR standards and the Ministry of Environment and Climate Change Strategy (BC ENV) protocols related to soil quality and relocation may become applicable. Furthermore, Canadian Council of Ministers of the Environment (CCME) guidelines, commonly used for assessing environmental quality on federal lands, currently do not include vapour guidelines as they are still under development. Consequently, the BC CSR vapour standards may be applied to assess and verify soil vapour quality.
Weed Control Act	*The Weed Control Act* mandates a duty to control noxious weeds by landowners.	The Project Area falls within federal land; however, if noxious weeds are removed from site, they must be disposed according to provincial Best Management Practices (BMPs).
Heritage Conservation Act	Archaeological sites that predate AD 1846 are automatically protected. Heritage wrecks, consisting of the remains of vessels or aircraft after two or more years have passed since they sank, crashed, or were abandoned, are also protected under the Act.	Project activities are not anticipated to interact with potential archaeological sites or materials.
Municipal		
City of Chilliwack's *Community Standards Bylaw 2021*	Mandates time and day restrictions for construction noise within the City of Chilliwack.	Project activities are not anticipated to contravene the noise bylaw.

4.0 ROLES, RESPONSIBILITIES, AND COMMUNICATION

This section describes the roles and responsibilities of the Prime Contractor for implementing, inspecting, and reporting on the effectiveness of the environmental mitigation measures.

4.1 The Owner

Six Cedars is the Owner and is responsible for the overall compliance with federal, provincial, and municipal legislation. The role of Six Cedars is to coordinate the overall Project. The responsibilities of the owner include:

- Manage the Project's schedule and budget.
- Maintain effective communication links with the Engineers and Environmental team.
- Procure required environmental permits and document compliance with terms and conditions of regulatory permits and approvals as mandated under federal and provincial legislation.
- Documenting that copies of regulatory permit and approvals and required spill response procedures are always maintained and available on site.
- Manage and communicate with regulatory agencies, interested and potentially affected public stakeholders, and Indigenous Peoples, as required.
- Review the Environmental Monitoring reports prepared by the Environmental Monitor (EM).
- Assist in emergency situations or incidents to minimize adverse environmental effects.

4.2 Prime Contractor

The Prime Contractor will implement construction plans and management of subcontractors. The Prime Contractor will undertake all reasonable actions to have environmental protection measures in place and working effectively throughout the Project works, including:

- Adhere to conditions or requirements prescribed by agencies or set out in any applicable regulatory authorizations, approvals and permits, and contract requirements, including this CEMP.
- Undertake effective communication with work crews such that environmental responsibilities and requirements are understood prior to the commencement of work and are implemented during the work. This includes effectively communicating environmental responsibilities to subcontractors and overseeing that they are adhered to.
- Use equipment and implement work procedures and controls to prevent and/or reduce work-related disturbance to physical, biological, and social and cultural resources within or near the Project Area.
- Take preventative and corrective measures in response to non-conformance with regulatory and contractual requirements, including this CEMP.
- Verify that emergency spill response materials are available on site for immediate use and appropriately stocked.

- Notify the EM of all spills of deleterious substances and other emergencies.
- Immediately respond to environmental incidents including leaks and spills (defined in Section 5.8).

4.3 Environmental Monitor

An EM will be appointed to facilitate and document compliance with relevant environmental regulatory requirements, conditions of permits and approvals, and requirements of this CEMP. All environmental monitoring will be conducted by or under the supervision of a Qualified Environmental Professional (QEP). For the purposes of this CEMP, a QEP is defined as a person who is registered and/or licensed in the relevant jurisdiction with his or her appropriate professional association and/or licensing authority, acts under that professional association's and/or licensing authority's code of ethics, and is subject to disciplinary action by that professional association and/or licensing authority, and through suitable education, experience, accreditation, and knowledge can be reasonably relied on to provide advice within his or her area of expertise.

In general, the responsibilities of the EM include the following:

- Provide an Environmental Orientation to Contractor and construction crew members prior to the commencement of works. This will communicating environmental sensitivities and environmental requirements of the work to onsite crew including the Contractor.
- The EM will be available for advice by the Contractor on all environmental permit compliance and regulations during Project Construction.
- Where applicable, assist in the isolation of the OFS clearing area using applicable ESC measures for nearby or adjacent sensitive environmental receptors prior to the commencement of works.
- Supervise the OFS survey and potential translocation
- Report spills including detailed information such as time of day, staff involved, nature, cause, and degree of spill, recovery process deployed, and agencies notified.
- Evaluate effectiveness of the mitigation measures being applied.
- Have authority to stop work if deemed necessary to address risks to the environment during OFS habitat clearing or any other environmentally sensitive works.

5.0 ENVIRONMENTAL MANAGEMENT ACTIVITIES AND CONTROLS

Potential effects of the Project on environmental resources can be avoided, mitigated, or managed through implementation of recommended measures described in the sections below, which have been developed from the following Best Management Practices (BMP) guidelines, industry standards and other documents:

- Canadian Council of Ministers of the Environment (CCME) Canadian Environmental Quality Guidelines (2025);
- DFO's Measures to Protect Fish and Fish Habitat (DFO 2023)Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Developments in British Columbia (BC MOE 2014);
- Guidelines to Avoid Harm to Migratory Birds (ECCC 2023);
- Guidelines for Raptor Conservation during Urban and Rural Land Development in British Columbia: A companion document to Develop with Care (BC MOE 2013);
- A Field Guide to Fuel Handling, Transportation & Storage (BC MWLAP 2002);
- Workplace Hazardous Material Information System (WHMIS 2015); and
- BC Fire Code (BC Fire Code 2024).

5.1 Wildlife Protection

The following measures will be implemented to mitigate potential Project impacts to wildlife and wildlife habitat:

- Existing roads and cleared areas will be used to avoid disturbance to vegetated areas.
- Conduct vegetation clearing and grubbing during the appropriate "least risk window" outlined in *Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Development in British Columbia* (BC MOE 2014), where feasible. This avoidance mechanism is the first priority for reducing risk of potential contravention of Section 34 of the BC *Wildlife Act*, and the Canada *Migratory Birds Convention Act* for the protection of migratory birds and their nests. "Least risk windows" are provided in the bullets below.
  - Passerines: September 1 – February 28
  - Bald eagles: September 1 – December 31
  - Other raptors: October 1 – February 28
  - Great blue heron: September 15 – January 15
- Works not possible to schedule within the least risk window can still be conducted; however, there is the need for additional survey effort, mitigation measures, and/or other avoidance measures to be undertaken as described herein.
- If vegetation clearing and grubbing cannot be conducted during the least risk window, it will be necessary for the EM to conduct pre-works nest surveys no more than 7-days prior to the initiation of works and apply no disturbance buffers around any occupied bird nests that are identified.

- If any tree clearing is required, a pileated woodpecker survey should be conducted no more than 7-days prior to clearing and no disturbance buffers applied to around any identified nest cavities.
- If any stick nests or other raptor nests are identified prior to or during construction, appropriate setbacks should be established in accordance with *Develop with Care: Environmental Guidelines for Urban and Rural Land Developments in British Columbia* (BC MOE 2014), and a nest management plan should be developed by an appropriately qualified biologist if construction activities will occur in the setbacks buffer. Osprey, eagle, heron, and peregrine falcon nests are protected year-round under the BC *Wildlife Act*, whether occupied or not.
    - Bald Eagle nest [BAEA-204-060] is located approximately 600 m south of the Project Area, across Chilliwack Creek. The nest was active in 2008 (WHITS 2023), however this nest was not verified during the 2019 Hatfield report or the May 2024 WSP OFS survey. It is not anticipated that project activities for Phase 4 will have impacts to this Bald Eagle nest due to distance.
- Sightings of potential problem wildlife will be reported to an EM who should use the information to adapt work activities as appropriate to minimize interaction with workers and wildlife.
- Store garbage, refuse, and materials that could attract wildlife in an appropriate containment or remove from the Project Area daily. Household wastes, such as foods, will be removed from site daily.
- Fuels and lubricants can attract wildlife. Excess fuels and lubricants will not be left unattended overnight.
- Ensure proper Erosion and Sediment Management procedures, as outlined in Section 5.5, are followed to minimize potential effects on the terrestrial and aquatic environment.
- Ensure proper Spill Prevention and Spill Response measures are in place, as outlined in Sections 5.7.1 and are followed to minimize potential effects on the terrestrial and aquatic environment.

5.1.1 Oregon Forestsnail Critical Habitat

Oregon forestsnail critical habitat occurs in the forested habitat in the northeastern corner of the Project Area.

Recommendations for protection of OFS individuals located in the clearing footprint were provided in Section 4.0 of Appendix A and outlined within an Appendix B (*Information Request from Canadian Wildlife Service on the SARA permit ID: #4102*).

The following mitigation measures, based on protocols in the Oregon Forestsnail BMP Guidebook (ENV 2016, will be in place to reduce potential effects to OFS individuals during clearing activities and operations:

- The OFS critical habitat area will be clearly marked off by flagging tape. No machinery or construction workers are allowed into this area until salvage activities are complete.
- Silt fencing lined with copper wire mesh on the outside (exclusion fencing for gastropods) will be installed along the eastern edge of the clearing footprint, for approximately 100m, to reduce the potential for snails to the east of the clearing footprint entering into this area. The habitat west of the clearing footprint has been degraded due to past land activities and does not provide suitable OFS habitat. As such it is unlikely that snail populations occur in these areas or are expected to move into the clearing area. The habitats north, west and

south of the clearing footprint are paved with little to no vegetation cover and therefore do not provide OFS habitat and do not require isolation fencing.

- Fencing will be checked daily by Contractors for damage and repaired immediately when damage is identified. This copper mesh wire fencing will maintained in place until the Construction phase of the Project is complete.
- If snails are observed then a QEP will be informed.
- While live snails have not be recorded in the past two surveys, their presence can not be precluded. As such a salvage will be conducted prior to work in OFS critical habitat to reduce potential mortality. The methods and protocols are included in Appendix B:
  - The methods and protocols for salvage and translocation of Oregon Forestsnail will be based on the Oregon Forestsnail BMP Guidebook (SCCP 2018) and the Recovery Strategy for Oregon Forestsnail in Canada (ENV 2016). A salvage team consisting of a minimum of two people will conduct a survey of the clearing area immediately prior to the construction. Brush clearing may be required to provide access to areas of dense shrub growth. If brushing is required, it will be done by hand and above ground as to avoid impacting OFS. The survey will be conducted in transects across the clearing area to maximize coverage. Live OFS will be translocated to the proposed offsetting footprint (Figure 3 of Appendix B).
  - The collection of Oregon Forestsnails for translocation will occur during the peak activity period of the species in April – June. Collection of snails during wet periods in early fall (September) is also possible, but translocations will not be conducted after late-September or early October, which is too close to the onset of hibernation. The snails will be processed on site and kept at a shaded location in ventilated plastic containers with moist leaf litter and/or moss from their habitat in small groups. Snails will be processed and released the same day if live individuals are found. Processing of snails will consist of measuring their shell width, noting the condition of the shell, such as cracks or wear, marking them with individual identification, and taking a photograph of the marked snails for reference

5.2 Vegetation Protection

Vegetation protection measures are recommended for application throughout the Project Area, in the event that vegetation disturbance is required:

- Measures to control and avoid the proliferation of invasive and noxious plants is described in Section 5.4.
- Native vegetation, particularly trees, should be retained where possible. Minimize disturbance to retained vegetation by physically delineating equipment and machinery operational limits and lay down areas with snow fencing or another visible barrier during works. Vegetation outside the Project Area should not be disturbed.
- If vegetation removal is required, measures outlined in Section 5.1 should be followed to minimize impacts to birds and other wildlife.
- Disturbed areas should be re-vegetated as quickly as possible after completion of the Project. Seeding should be timed to allow establishment to occur before the end of the growing season. If there is insufficient time remaining in the growing season for seeds to germinate, the site should be stabilized (e.g., cover exposed

areas with erosion control blankets to keep the soil in place and prevent erosion) and re-vegetated the following spring. Use mulches and other organic stabilizers to reduce potential for erosion until vegetation is established on sensitive soils. Disturbed areas within the Project Area where bare soils are exposed should be hand seeded or hydroseeded with an appropriate local grass seed mix (See Section 5.14).

5.2.1 Tree Protection Plan

The Contractor(s) should conduct their operations and operate their equipment in such a manner that the destruction, scarring, or defacing of trees, the native shrubbery, and other plants is reduced to the extent possible.

All trees that are to be retained that are in close proximity to construction activities should be protected from mechanical damage to the trunk and root system. This protection can be achieved through the following BMPs:

- Physical barriers (i.e., snow fencing) and “Tree Protection” signage should be installed around trees that are to be protected prior to the commencement of the construction phase of the Project.
- Barrier fencing should be checked by the EM throughout construction.
- Activities such as storage of materials or equipment, stockpiling of soil or excavated materials, burning, excavation or trenching, or cutting of roots or branches should be avoided within tree protection areas.
- Any trees in question that are located along the Project area boundary that may potentially require further protection will be assessed by an Arborist to ensure tree health during and after construction.
- Vehicle traffic should be restricted to designated access routes and travel lanes to avoid soil compaction and vegetation disturbances.

5.3 Aquatic Protection

The Project Area is near Kwah Kwah A Pilt Slough which is a tributary of Chilliwack Creek.

- The Contractor should hold a pre-construction kick off meeting with all Project personnel to confirm construction footprints.
- No-go zones will be flagged prior to work commencing and will include areas outside of the construction footprint.
- The Project Area including access routes must be clearly marked on-site prior to starting work to minimize disturbance to vegetation.
- When possible, avoid using surrounding areas for laydown and staging to protect trees and plants on adjacent land.
- Felling must be carried out by someone who is appropriately qualified (e.g., a professional forester) to assess and mitigate the impact of the activities or works.
- If any rare or endangered species are detected, a special management program will need to be developed.

5.3.1 Fish and Fish Habitat Protection

The following measures will be implemented to mitigate potential project impacts to fish and fish habitat:

- No instream works will be conducted.
- No machinery will be located within 30 m buffer of Kwah Kwah A Pilt Slough. Measures will be taken to prevent spills as listed in Section 5.7. Daily visual vehicle inspections will include confirmation that adequate spill prevention and response equipment are present (e.g., spill kits, spill trays under stationary machinery, etc.).
- Refueling and servicing of machinery will be done at a minimum 30 m away from any watercourses / waterbodies.
- Spill of potentially deleterious materials will be cleaned up immediately. During any spills, works will cease, and the Spill Prevention and Emergency Response procedure (Section 5.7) will be followed.
- An EM will be on site for all works within the riparian habitat or other environmentally sensitive activities.
- Works will stop immediately if any fish mortality is observed, and appropriate mitigations will be initiated. Fish mortality will be considered an environmental incident and will be managed according to the measures outlined in Section 5.15.

5.3.2 Amphibian Protection

The following measures will be implemented to mitigate potential project impacts to amphibians:

- Erosion and Sediment Control measures (Section 5.5) that will be used on site (i.e. silt fences) will have a dual purpose of an amphibian fence to prevent the movement of frogs and toads into the Project Area. The EM will inspect silt fences are properly installed during each visit.
- If works are required within riparian areas or waterbodies during the amphibian breeding season (February 1 to September 31) then an amphibian salvage should be conducted in advance to reduce the risk of incidental mortality of amphibians (MECCS 2020).
- No permits have been issued for amphibian collection for the project. No amphibian salvage is anticipated in the Project Area, but the handling of amphibians is not permitted without a permit.

5.4 Invasive Plant Management

For the purposes of this project, invasive plants are plant species listed under the *Weed Control Act*. To mitigate the spread and proliferation of invasive and non-native plant species the following mitigation measures will be adhered to:

- Machinery and equipment will be checked before it arrives on-site to make sure it is clean (i.e., free of mud and plants) to avoid potential for introduction of invasive plant species.
- Inspect clothing and vehicle/equipment undercarriages for plant parts or propagules if working in an area known to contain invasive plants.

- Remove plant seeds or propagules from clothes and/or equipment and contain washing fluids (i.e., water or mud) on-site at designated cleaning stations.
- Re-vegetate any disturbed soils with a locally appropriate seed mix.
- Where required, use only clean soil or other fill material free of non-native plants or seeds.
- Educate staff and Contractor(s) to identify invasive plants that have the potential to establish at the site.
- The amount of soil disturbance will be minimized to only those areas required for the Project. Cover exposed soil stockpiles with a tarp or geotextile to minimize invasive plant proliferation.
- Invasive plant material will be treated and/or properly disposed of to prevent further invasion of naturally vegetated areas. Material containing invasive plants should not be stored or piled at or near the Project Area

5.5 Erosion and Sediment Control (ESC)

The following erosion and sediment control measures will be implemented by the Contractor and verified by the EM to reduce potential erosion and sediment generation:

- Sediment (silt) fences, gravel check dams, straw wattles and/or other erosion and sediment control measures will be installed as required to reduce potential for soils or sediment-laden water to enter Kwah Kwah A Pilt Slough. Silt fences will follow the ground contour and will be properly keyed-in.
- Erosion and sediment control requirements will be evaluated throughout construction and identified issues will be resolved as soon as practical.
- Erosion and sediment control measures will be inspected by the EM, and repaired or replaced by the Contractor within 48 hours, as required. If required, erosion and sediment control measures will be added or adjusted to ensure they are working effectively and comply with this CEMP and these ESC mitigation measures.
- The Contractor will have the appropriate equipment to maintain site cleanliness and for reducing potential for soils or sediment laden water to be transported into surrounding drainage ditches, sewers, etc. (e.g., portable submersible pumps, wet-dry vacuums, street sweeping equipment).
- Potential suspension or limitation of work during significant rainfall events to prevent sediment-laden runoff to adjacent watercourses and or storm water drainages. Heavy rainfall or a significant rainfall event is defined as any precipitation event which meets or exceeds the intensity of 25 mm in a 24-hour period.
- If sediment or other potentially deleterious substance enters a drainage ditch or catch basin, the Contractor will immediately take remedial steps to control and contain the release and be responsible for making necessary modifications to its erosion and sediment control measures to ensure compliance with environmental requirements and contact the EM.
- The EM will have authority to immediately suspend work without compensation to the Contractor, for activities that are resulting, or which could imminently result, in the release of sediment or other deleterious substances into surrounding watercourses, including drainage ditches and sewers.

5.6 Water Quality Management

The following measures will be implemented to mitigate potential Project impacts to water quality in a manner appropriate for the work activity:

- Discharge of water from construction activities to drainage ditches, watercourses, or waterbodies is not permitted.
- Deleterious materials must not enter any surface drainage pathways located in or surrounding the Site area. Silt-laden runoff water for construction activities at the Site must not enter any nearby streams (See Section 5.5).

5.7 Spill Prevention and Emergency Response

The release of deleterious substances, such as hydrocarbons, can impact soil and water quality, aquatic birds, mammals, and fish as well as vegetation and other wildlife. This section describes the spill prevention and emergency response measures that will be implemented, where appropriate or as requested by the QEP.

5.7.1 Spill Prevention

To reduce the potential for a spill or release of cement, concrete wash water, hydrocarbons or other hazardous materials, spill prevention mitigation shall be implemented during all refuelling of construction machinery and during the storage and handling of hazardous materials. The following is a list of spill prevention measures:

- Prior to the commencement of Project activities, the Emergency Response Procedures and Emergency Contact List (Table 3) must be revised by the Contractor to include the names and telephone numbers of persons and organizations that may be contacted in the event of an environmental incident. The Emergency Response Procedures must be posted in a location that is visible and accessible in the event of an environmental incident.
- Vehicles and machinery will arrive on-site in a clean and washed condition and will be maintained such that they are free of fluid leaks. Equipment will be inspected by the Contractor prior to start up at the beginning of each day, and by the EM when on-site. Any leaks identified will be brought to the machine operators' attention and dealt with immediately. Daily visual vehicle inspections will include confirmation that adequate spill prevention and response equipment are present (e.g., spill kits, spill trays under stationary machinery).
- Equipment used by construction crews will be maintained in good working order, without leaks or excess grease, including at lubrication points.
- Any stationary equipment such as pumps or generators should have their own containment, and mobile equipment parked for more than 24 hours should have drip trays placed beneath the equipment.
- Fuel, oils, or other flammable and combustible products must be stored in appropriate containment or removed from the Project Area daily.
- Where on-site fueling or maintenance of vehicles and equipment is required, the mitigation measures, as described in Section 5.7.4, will be implemented.

5.7.2 Spill Response

- Immediately report all spills of deleterious substances, no matter how small, to the EM and to the Contractor. Spills exceeding volumes listed in Table 2 must be reported to Environmental Management BC administered by the Environmental Emergency Program (EEP) (1-800-663-3456)
- A spill containment kit shall be readily accessible onsite in the event of an accidental release of a deleterious substance to the environment. Ensure all construction personnel are sufficiently trained in the use of spill response materials including locations of spill response materials.
- Spill containment kits must be available on every piece of portable or heavy equipment and contain sufficient materials for addressing the anticipated maximum spill from a given piece of equipment. Equipment containing ethylene glycol (e.g., antifreeze) or other water-soluble chemicals will carry an appropriate number of water-soluble chemical absorbent pads in addition to absorbent pads used for petroleum products.
- Spill containment kit contents will be consistent with requirement outlined in Table 9.3 of A Field Guide to Fuel handling, Transportation and Storage (BC MWLAP 2002).
- Inspections will be completed by the EM at regular intervals throughout the Project to compare current contents of spill containment kits with required contents, whenever a spill kit is used, and whenever a new piece of equipment comes on-site.
- Employees will be trained in the use of spill response equipment, including the location, type, and correct deployment of spill response equipment relating to the nature and location of work and potential for spills, and distinguishing between grey absorbent pads used for water soluble chemicals and white pads used for petroleum products.
- Spills occurring on dry land will be contained, scraped and stored for disposal upon project completion at appropriate facilities as soon as practical and should not be stored on site. Contaminated material will be stored on polyurethane tarps and covered to prevent mobilization and will be disposed of in accordance with the regulations outlined in the BC *Environmental Management Act* (2003) and BC *Spill Reporting Regulation*.

Table 2: Spill Reporting Matrix

Substance[1]	Quantity[2]	External Reporting Requirement[3]	Internal Reporting Requirement[4]
All spills, regardless of quantity, are to be reported to Six Cedars			
Any Spill	Any amount in aquatic habitat[2]	EEP[3]	Six Cedars
Gasoline, Diesel, Oil and Waste Oil	>100 litres[2]	EEP[3]	Six Cedars
	<100 litres[2]	-	Six Cedars
A substance not covered by Items 1 to 23 of the Spill Reporting Regulation that can cause pollution	200 kg or 200 L[2]	EEP[3]	Six Cedars

[1] Substances represent selected excerpts from *Spill Reporting Regulations* (BC Reg. 263/90). This is not an inclusive list and the spill reporting regulation includes other substances. If a spill occurs and the substance is not included on the list, refer to the Schedule in the *Spill Reporting Regulation* to confirm quantity (B.C. Reg 187/2017).
[2] Amounts are based on *Spill Reporting Regulations* (BC Reg. 263/90) of the *Environmental Management Act*.
[3] EEP = Environmental Emergency Program;

5.7.3 Emergency Response Procedures

If an environmental incident occurs, including a spill of fuels, oils, lubricants or other harmful substances, the following procedures will be implemented, as described below:

1) MAKE THE AREA SAFE

2) STOP THE FLOW/ENVIRONMENTAL EFFECTS (when possible and safe to do so)

3) REPORT THE SPILL

4) SECURE THE AREA

5) CONTAIN SPILLS

6) NOTIFICATION (EEP 1-800-663-3456)

7) CLEAN-UP

8) INCIDENT REPORT

1. MAKE THE AREA SAFE

- Evaluate risk to personnel/public and environmental safety.
- Wear appropriate Personal Protective Equipment.
- Never rush in, always determine the product spilled before taking action.
- Warn people in the immediate vicinity.
- Verify that no ignition sources are present if a spill of a flammable material has occurred.

2. STOP THE FLOW/ENVIRONMENTAL EFFECTS (when possible and safe to do so)

- Act quickly to reduce the risk of environmental effects.
- Close valves shut off pumps or plug holes/leaks.
- If a spill has occurred, stop the flow or the spill at its source.

3. REPORT THE SPILL

- Notify the Site Supervisor and the EM or alternate of incident (provide details).

4. SECURE THE AREA

- Limit access to the area of the environmental incident.
- Prevent unauthorized entry onto the Site.
- Assess the situation (type of spill, volume spilled, potential safety and environmental issues).
- If the spill is beyond your level of training and experience, seek assistance from a spill response specialist.

5. CONTAIN SPILLS

- Act within your ability using resources (hand tools, heavy equipment and spill response equipment) at hand to minimize the spread and impact of the spill until additional resources and expertise arrive.
- Due to the hazardous nature of gasoline, volatile gases will be allowed to dissipate before attempts are made to contain or mop up a gasoline spill.
- Spills to Land
  - Determine extent of spill.
  - Contain spills away from watercourses.
  - Block off and protect drainage systems, e.g., drains, ditches, and culverts.
  - Mark the perimeter of the spill, dig recovery ditches around the perimeter and recovery pits (sumps) within the spill area.
  - Soak up all free products with absorbent pads, booms, and other materials.
  - Recover the product from the containment area, treat or dispose of appropriately.
  - Monitor ditches and recovery pits to ensure the collection system is effective.
- Spill to Water
  - In a ditch or stream, contain the spill using whatever surface water containment system possible.
  - Divert and corral the spilled product to the containment system using absorbent booms or other methods.
  - Continue to sweep and corral the spilled product to one corner for recovery.
  - Soak up all free products with absorbent pads, booms, and other materials.
  - Place used absorbent materials in a heavy-duty plastic bag or other suitable container for disposal or recycling. Mix stained soil with loose absorbents or commercial bioremediation agents
  - Collect water samples to characterize the nature and extent of release.

6. NOTIFICATION

Within 24 hours of discovery, determine appropriate internal and regulatory notification obligations and notify appropriate personnel. Immediately notify the EM to initiate reporting procedures and appropriate containment and recovery actions. **The first call must be made to the Proponent. Additionally, should spills meet or exceed spill reporting quantities listed in the Schedule, contact the Provincial Emergency Program (EEP) at 1-800-663-3456 (24 hour).** Subsequent reports would be made to the appropriate ministries/agencies, according to Appendix D [Facts on the Management of Environmental Emergencies] to allow for immediate response. For spills to aquatic habitat, collection of water samples will be undertaken to characterize the nature and extent of the release.

7. CLEAN-UP

- Determine cleanup options.
- Mobilize recovery equipment and cleanup crew and direct cleanup activities.

- Dispose of all equipment and/or material used in clean up (e.g., used sorbent, oil containment materials, etc.) in accordance with Ministry of Environment and Climate Change Strategy requirements. Disposal of hazardous wastes (e.g., material with > 3% oil by mass) and contaminated soil must comply with the *Hazardous Waste Regulation*.
- Replenish spill response kits and equipment.

8. ENVIRONMENT INCIDENT REPORTING

Provide the required information about the incident to the EM, including mitigation to be put in place to avoid further incidents. The update to Minister/End-of-Spill Report form related to externally reportable spills is provided in Appendix C and the list of emergency contacts is summarized in Table 3.

Emergency Contact List

An emergency contact list will be posted in a visible and accessible location on the Project site. General emergency contact numbers are outlined in Table 3.

Table 3: Emergency Contact List

Organization	Contact Information
Environmental Emergency Program BC (EEP)	1-800-663-3456
Emergency Response Services	911
WorkSafeBC	1-604-276-3100 (Lower Mainland) OR 1-888-621-7233
Project Manager – To be determined	Email or phone #
Site Supervisor – To be determined	Email or phone #
Six Cedars Project Manager – To be determined	Email or phone #
Environmental Monitor – To be determined	Email or phone #

Emergency Response Equipment

Emergency response equipment to be available on-site will consist of the following:

- Fire Extinguisher
- First-aid Kit
- Spill Kit (Located in all vehicles and in portable containers, present in work areas)
- Portable Water Pump

At a minimum, spill kits will be maintained and fully stocked with materials suitable to respond to the volumes of hazardous substances located within the construction work areas. Spill kits are to be made available in suitable locations and stored within known, readily available containers.

5.7.4 Equipment Fueling and Maintenance

Requirements for equipment fueling and maintenance are as follows:

- Transportation of fuels will be conducted in accordance with Transport Canada's *Transportation of Dangerous Goods Regulations* (2001) and BC's *Transportation of Dangerous Goods Regulation* (2002). Fuel storage and handling will comply with A Field Guide to Fuel Handling, Transportation and Storage (BC MWLAP 2002).
- Equipment will be inspected by equipment operators prior to start up at the beginning of each day, and by the EM when on-site.
- Equipment used by construction crews will be maintained in good working order, without leaks or excess grease, including at lubrication points.
- Any leaks identified will be brought to the equipment operators' attention and dealt with immediately.
- If fueling or maintenance of equipment and machinery is required, it will be completed within secondary containment (e.g., a drip tray or pan will be used to collect excess fuel, oil, or other hazardous materials to avoid contamination of soils).
- A designated refuelling and maintenance area should be established at the site.
- Service vehicles used for fueling will be equipped with automatic shut-off valves or drip-free dispensing nozzles, where applicable.
- Valves will be in the closed position and locked and secured when not in use.
- Vehicles will not be left running during refueling. Fire extinguishers and spill kits must be kept in the area of fuel storage and handling.
- Personnel shall not leave equipment unattended during refuelling to prevent the overfilling of the equipment.
- No ignition sources will be permitted within the fueling area.
- Used oil, filters, and grease cartridge lubrication containers and other products of equipment maintenance will be collected and kept in a secure receptacle for appropriate disposal.

5.8 Materials Storage, Handling and Hazardous Waste Management

The following mitigation measures should be implemented on-site by the Contractor as required:

- All reasonable efforts will be made to reduce, reuse and/or recycle to reduce the amount of material being disposed of. All wastes will be disposed of in compliance with applicable legislation.
- Maintain a daily inventory of all dangerous goods and controlled substances.
- Maintain Safety Data Sheets (SDS) for all products used on the Project.
- Fuels, oils, or other flammable and combustible products transported or stored at the job site will be placed within appropriate containers that are clearly labelled and controlled in accordance with the Workplace Hazardous Material Information System (WHMIS 2015), BC Fire Code (BC Fire Code 2024) and the *Transportation of Dangerous Goods Regulations*.

- Hazardous materials including “Dangerous Goods” (as defined under the *Transportation of Dangerous Goods Act*) and “Controlled Substances” (as defined under the *Occupational Health & Safety Regulation*) used during the works will be stored and handled to avoid loss and to allow containment and recovery in the event of a spill.
- Where works result in the generation of “Hazardous Wastes” as defined under the *Hazardous Waste Regulation* of the *Environment Management Act*, or unused “Controlled Substances” as defined under the *Occupational Health & Safety Regulation*, then these hazardous wastes will be kept separate from non-hazardous construction wastes and refuse and disposed of in compliance with the requirements of the *Hazardous Waste Regulation* and *Environmental Management Act*.
- If activities involve the handling, storage, and removal of hazardous wastes, the following records will be maintained: (1) Inventories of types and quantities of Hazardous Wastes generated, stored, or removed; (2) Manifests identifying Hazardous Waste haulers and disposal destinations; and (3) Disposal certification documents.

The following mitigation measures will be implemented specifically for use of hydrocarbon-based materials:

- Plastic containers used to carry petroleum products will be designed for that purpose and will not be more than five years old.
- Containers will be fitted with a proper fitting cap or lid.
- All containers containing hydrocarbon products are to be stored 30 m away from storm drains and water bodies.
- Refueling of equipment will occur 30 m away from storm drains and water bodies.
- Containers under 23 L (5 gallons) will be stored and transported in the equipment box of a vehicle that can contain the total quantity of the fuel in the container will it leak or spill.
- Containers greater than 23 L (5 gallons), including 205 L (45 gallon) drums, must be transported upright and secured to prevent shifting and toppling.

5.9 Solid Waste Management

The following measures will be implemented to manage Project related waste:

- Construction wastes and debris will be disposed of at an approved disposal facility in compliance with the *Environmental Management Act* and applicable municipal bylaws.
- Safe area for temporary waste storage will be designated and waste materials will be categorized and labelled appropriately (e.g., common garbage, food waste, hazardous waste). Food waste will be collected daily from work areas and will be disposed off-site in an appropriate and safe manner. Domestic garbage will be centralized into a common facility daily and removed to appropriate off-site facilities as required.
- An appropriate quantity and placement of garbage receptacles and recycling containers will be used to promote work-site cleanliness and sustainable practices.
- On-site burial or burning of solid waste will not occur.
- Temporary sanitary facilities (i.e., portable toilets) will be available on-site for the use of workers.

5.10 Stockpile Management

Groundworks will occur in the Project Area (Section 1.2). The following measures will be implemented to manage Project related stockpiled materials:

- Stockpiles of material generated during excavation should be sorted according to type of material (i.e., construction debris, soil).
- Stockpiles should be located more than 30 m from waterbodies / waterways including sewers and ditches.
- All stockpiles with the potential to result in mobilization of sediment-laden water into waterways, including sewers and ditches, will be covered with tarpaulins, polyethylene sheeting, or other suitable cover materials.
- Where possible, stockpiles should be placed on impervious surfaces (i.e., paved areas).

5.10.1 Contaminated Soils

A Phase One Environmental Site Assessment of the Mixed-Use Development, Schweyey Road, Chilliwack, BC was completed by GeoWest Engineering in 2020. The historical review indicates that most of the Site has been farmland for several decades. Trees lined the banks of the water courses surrounding the Site. A former landfill extends southwest from the northeast corner of the Site to near the west side of the Site. The extent of the former landfill is understood to approximately correspond to the 10 m elevation contour shown on the City of Chilliwack on-line GIS map (Geowest 2020). The proposed Project Area is outside the historical landfill boundary.

Should contaminated material be observed, the stockpiles must be placed on a layer of polyethylene sheeting or other suitable material and should be covered immediately. Where there is a potential of for run-off (e.g., wet material) there must be a berm placed around the stockpile to prevent run-off migrating from the stockpile area. The contaminated stockpile must not be moved or added to until QEP has been contacted and has approved of the activity.

5.11 Air Quality and Dust Control

Potential effects on terrestrial resources (i.e., wildlife) and local communities resulting from dust and other airborne emissions associated with the Project can be mitigated by implementing the following strategies:

- Reducing equipment emissions by operating equipment at optimum rated loads, following routine equipment maintenance procedures, and turning off equipment, if practical, when not in use.
- Regularly clean (i.e., street sweeping) paved public roadways, as required.
- Prohibiting the burning of refuse or other materials.
- Removing and/or properly store construction debris and materials.

5.12 Noise Management

Potential effects on terrestrial resources (i.e., wildlife) and local communities resulting from noise associated with the Project can be mitigated by implementing the following strategies:

- As per the City of Chilliwack's *Community Standards Bylaw 2021, No. 5041* (City of Chilliwack, 2023), Construction noise is permitted Monday-Saturday, 7:00 a.m. – 9:00 p.m.
- Construction noise is not permitted at any time on Sundays, or Monday-Saturday before 7:00 a.m. or after 9:00 p.m.
- The Contractor will act reasonably to reduce noise through the use of "Best Available Control Technology" noise control on construction equipment as well as noise level regulations or guidelines established by the WorkSafe BC and other regulatory agencies and jurisdictions having authority for noise levels.
- Idling of construction vehicles and equipment are to be minimized during periods of inactivity and while stopped within a queue formed under the direction of a traffic control person or device.
- Construction equipment must be operated with exhaust systems in good condition to minimize noise.
- Make sure that noise control devices (i.e., mufflers and silencers) on construction equipment are properly maintained.
- Limit unnecessary idling of equipment and machinery.
- Implementing drive-through pathways for material drop off or pick-up to reduce use of back-up alarms.
- Implementing a speed limit to slow vehicles and reduce noise generation.

5.13 Archaeological and Heritage Resource Management Plan

Archaeological sites are locations where physical evidence of past human activity has been found, typically represented by artifacts or archaeological features. Artifacts are portable objects manufactured or modified by people and may include chipped or ground stone objects or implements made from bone, antler, wood, or shell. Archaeological features are non-portable items created by human activity and may include cultural depressions (i.e., house pits, cache pits, roasting pits), culturally modified trees, rock art (i.e., pictographs or petroglyphs), trails, or hearth features. Archaeological sites may also be represented by shell midden, burial locations (e.g., rock cairns), ancestral remains, and spiritually significant areas.

As the Project is located on Skway Indian Reserve #5 (considered to be federal land) it is not under the jurisdiction of the Province of British Columbia. As such, the BC Heritage Conservation Act (HCA) does not apply, which would typically provide the legislative requirements to follow should an archaeological site be encountered in BC. While there is no mandated federal legislation for regulating the management and protection of archaeological sites on federal lands, the Impact Assessment Act (IAA) does indicate that projects should not cause adverse effects or impacts to archaeological resources. These impacts are further defined as follows: "with respect to the Indigenous peoples of Canada, an impact – occurring in Canada and resulting from any change to the environment – on (i) physical and cultural heritage, (ii) the current use of lands and resources for traditional purposes, or (iii) any structure, site of thing that is of historical, archaeological, paleontological or architectural significance" [IAA S.C:2019, c. 28, s. 1 (section 7)]. Most relevant to the Project, with regards to incidental findings

of archaeological sites, is the Stó:lō Heritage Policy Manual (Section 8.1) and the Shxwha:y Village Subdivision, Development and Servicing Law (Section 7.1); both provided in Appendix E of this document.

If known or suspected archaeological materials or features (either intact or disturbed) are encountered, the below procedure should be followed**:**

- Stop work immediately in the vicinity of the finding, leave the find in place, and secure the area from inadvertent impacts while the steps outlined here are followed. Soils previously disturbed or excavated from the vicinity of the find should also be left in place until it can be confirmed that additional archaeological materials are not present.
- Contact the Sto:lo Research & Resource Management Center's (SRRMC) Senior Archaeologist for further guidance. Do not handle or photograph the find unless instructed to do so by the SRRMC archaeologist.

Depending on the nature of the find, one of the following responses by the SRRMC archaeologist may occur:

- Following a review of the find based on a description of the find, context it was found in, and review of any requested photos or video, it may be decided that there are no further concerns, allowing construction to continue as planned.
- A field visit by the SRRMC archaeologist may be recommended to confirm if the find is archaeological in nature.

Should the find be determined to be archaeological, guidance from the SRRMC archaeologist should also be sought on how to proceed.

5.14 Landscape Plan

A landscape plant species list has been developed for the overall Property (See Appendix F). The plants included in this planting plan will be planted directly around the building grounds, otherwise Six Cedars will use native plant native species the proposed perimeter nature path wherever possible.

The following measures will be implemented upon completion of the project to allow for site restoration to occur:

- Removal of surplus materials and wastes from the work site(s), and subsequent disposal in appropriately authorized facilities.

Upon completion of Project Works, disturbed areas outside the planting plan will be replanted with native trees and shrubs. Disturbed vegetated areas must be restored with suitable species to restore the vegetative cover and prevent surface erosion. This may include hydroseeding or hand-broadcasting using a suitable native grass seed mix.

- Topsoil must be protected from compaction and admixing. Topsoil must be replaced over root networks at a stable angle of repose without compaction at the completion of the Works.
- Revegetation must include a diverse mix of native ecologically suitable trees, shrubs and herbaceous plants.
- All equipment, supplies, and non-biodegradable materials must be removed from the Site and disposed of at an approved facility. This includes non-permanent sediment control works once they are no longer required.

- Soil amendments and/or mulch must be used where appropriate to promote growth of newly planted vegetation particularly in well drained soils.
- Regular watering will be conducted where appropriate until plants become established.

5.15 Environmental Incidents

An environmental incident is an event that has caused, or has the potential to cause, one or more of the following:

- Damage or harmful effects to aquatic habitat and/or fish (e.g., direct effects to water quality including discharge of deleterious substances or a frac-out event).
- Damage or harmful effects to terrestrial habitat and/or wildlife.
- Adverse/harmful effects to other environmental resources.
- Adverse publicity associated with impacts on the environment.
- Violation of statutes or regulatory authorizations.

If any of the above environmental incidents occur, the EM will be contacted to provide guidance on corrective actions, notify Six Cedars, and prepare an environmental incident report.

6.0 LIMITATIONS

This is document has been prepared for the exclusive use of Six Cedars, its assignees, and its representatives during the Phase 4 of the Cedarbrook Project. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. WSP accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

This report was prepared, based in part, on information obtained from historic information sources and information provided by Six Cedars. In evaluating the subject Site, WSP has relied in good faith on information provided. We accept no responsibility for any deficiency or inaccuracy contained in this report as a result of our reliance on the aforementioned information.

The findings and conclusions documented in this report have been prepared for the specific application to this project and have been developed in a manner consistent with that level of care normally exercised by environmental professionals currently practicing under similar conditions in the jurisdiction.

With respect to regulatory compliance issues, regulatory statutes are subject to interpretation. These interpretations may change over time, these should be reviewed.

If new information is discovered during future work, the conclusions of this report should be re-evaluated and the report amended, as required, prior to any reliance upon the information presented herein.

7.0 CLOSURE

We trust this information is sufficient for your needs at this time. Should you have any questions or concerns, please do not hesitate to contact the undersigned.

WSP Canada Inc.

Allison Flaherty, MSc, RPBio
Experienced Biologist

Ilya Povalyaev , BSc, RPBio
Senior Wildlife Biologist

Kate Moss, RPBio
Principal Biologist

AF/IP/KM/asd

https://wsponlinecan.sharepoint.com/sites/CA-CA00253319712/Shared Documents/06. Deliverables/3.0_ISSUED/CA0025331.9712-004-R-Rev0/CA0025331.9712-004-R-Rev0-Cedarbrook_p4_CEMP 24APR_25.docx

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APPENDIX A

Technical Memorandum - Cedarbrook Project, Oregon Forestsnail Habitat Assessment And species detection Survey, WSP 2024

TECHNICAL MEMORANDUM

DATE October 18, 2024 **Reference No.** CA00025331.9712-001-TM-Rev0

TO Gregory Wallace
Westbow Construction Group

CC

FROM Kaitlin Broadhurst, Kate Moss **EMAIL Kaitlin.Broadhurst@wsp.com; Kate.Moss@wsp.com**

CEDARBROOK PROJECT – OREGON FORESTSNAIL HABITAT ASSESSMENT AND SPECIES DETECTION SURVEY

1.0 INTRODUCTION

WSP Canada Inc. (WSP) was retained by Westbow Construction Group (Westbow) to provide environmental services for a proposed residential and/or commercial development known as the Cedarbrook Project (the Project), located in the Skway Indian Reserve #5 (Shxwha;y Village; Property or Site) in Chilliwack BC (Figure 1). As part of these environmental services, WSP completed Oregon forestsnail (*Allogona townsendiana;* OFS*)* habitat suitability assessments and species presence surveys on May 24, 2024 to provide additional baseline information. These assessments were conducted in the proposed clearing footprint that is located in proposed OFS Critical Habitat (Critical Habitat ID: 141394; Clearing Footprint) and in the proposed offsetting habitat located in a No Build Easement under the City of Chilliwack, which overlaps with proposed OFS Critical Habitat (Critical Habitat ID: 141821; Figure 2; Offsetting Footprint; Attachment 2; Government of BC 2024).

2.0 METHODS

The habitat assessment and species presence field surveys were conducted on May 24, 2024, by a two-person crew. The species presence surveys were conducted using point searches along meander or parallel transects within the Clearing Footprint and Offsetting Footprint and habitat assessment surveys were conducted simultaneously, based on methods outlined in the *Oregon forestsnail Best Management Practices Guidebook* (SCCP 2018). Data on habitat suitability and searches for species presence were conducted in concert.

Habitat information and chance wildlife encounters were recorded during the survey. Habitat information collected included notes and georeferenced photos to document the biophysical attributes of critical habitat, as outlined in Section 4.1.1 of the *Recovery Strategy for the Oregon Forestsnail (Allogona townsendiana) in Canada* (Environment Canada 2016). Habitat and microhabitat features were characterized at point search locations in the Clearing Footprint and Offsetting Footprint. Biophysical attributes of critical habitat included:

- Intact deciduous and/or mixed wood and/or dense shrub herbaceous canopy
- Patches of stinging nettle (*Urtica dioica*)

- Dense understory vegetation
- Coarse woody debris (CWD) and leaf litter

Site information was also collected during the habitat assessment, following the methods presented in Appendix 1 of the *Oregon Forestsnail Best Management Practices Guidebook* (SCCP 2018). Site information collected consisted of:

- Habitat type and landscape context
- Structure and composition of vegetation communities
- Substrate
- Soil condition and moisture
- Chance encounters with wildlife and wildlife sign
- Weather conditions

Searches for OFS were conducted at point search locations where at least three biophysical attributes of Critical Habitat outlined in the recovery strategy were present (Environment Canada 2016). Searches were conducted within a 5-metre radius around the point search location for a duration of 8 minutes. Snails and incidental wildlife observations were recorded.

The results of the habitat assessment and OFS searches were used to provide a general habitat suitability ranking for OFS. The presence of biophysical attributes of critical habitat was used to rate habitat suitability in the Clearing Footprint and Offsetting Footprint. General habitat suitability ranking criteria are presented in Table 1.

Table 1: General Habitat Suitability Ranking used for OFS Habitat within Clearing Footprints

Number of Biophysical Attributes[1]	Habitat Rating
0 to 1	Nil
2	Low
3 to 4	Suitable

1. intact deciduous and/or mixed wood and/or dense shrub herbaceous canopy, patches of stinging nettle, presence of understory vegetation, presence of coarse woody debris (CWD) and leaf litter

LEGEND

- POINT SEARCH LOCATION
- CLEARING FOOTPRINT/ SURVEY AREA

BASE DATA

- RESERVE LANDS
- MAJOR ROAD
- WATERCOURSE
- MUNICIPALITY
- PARCEL
- LOCAL AND REGIONAL GREENSPACE

0 75 150
1:5,000 METERS

REFERENCE(S)

1. BASE DATA CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENSE – BRITISH COLUMBIA.
2. IMAGERY COPYRIGHT © 20240918 ESRI AND ITS LICENSORS. SOURCE: CITY OF CHILLIWACK, MAXAR. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N

CLIENT
WESTBOW CONSTRUCTION GROUP

PROJECT
CEDARBROOK HOUSING DEVELOPEMENT

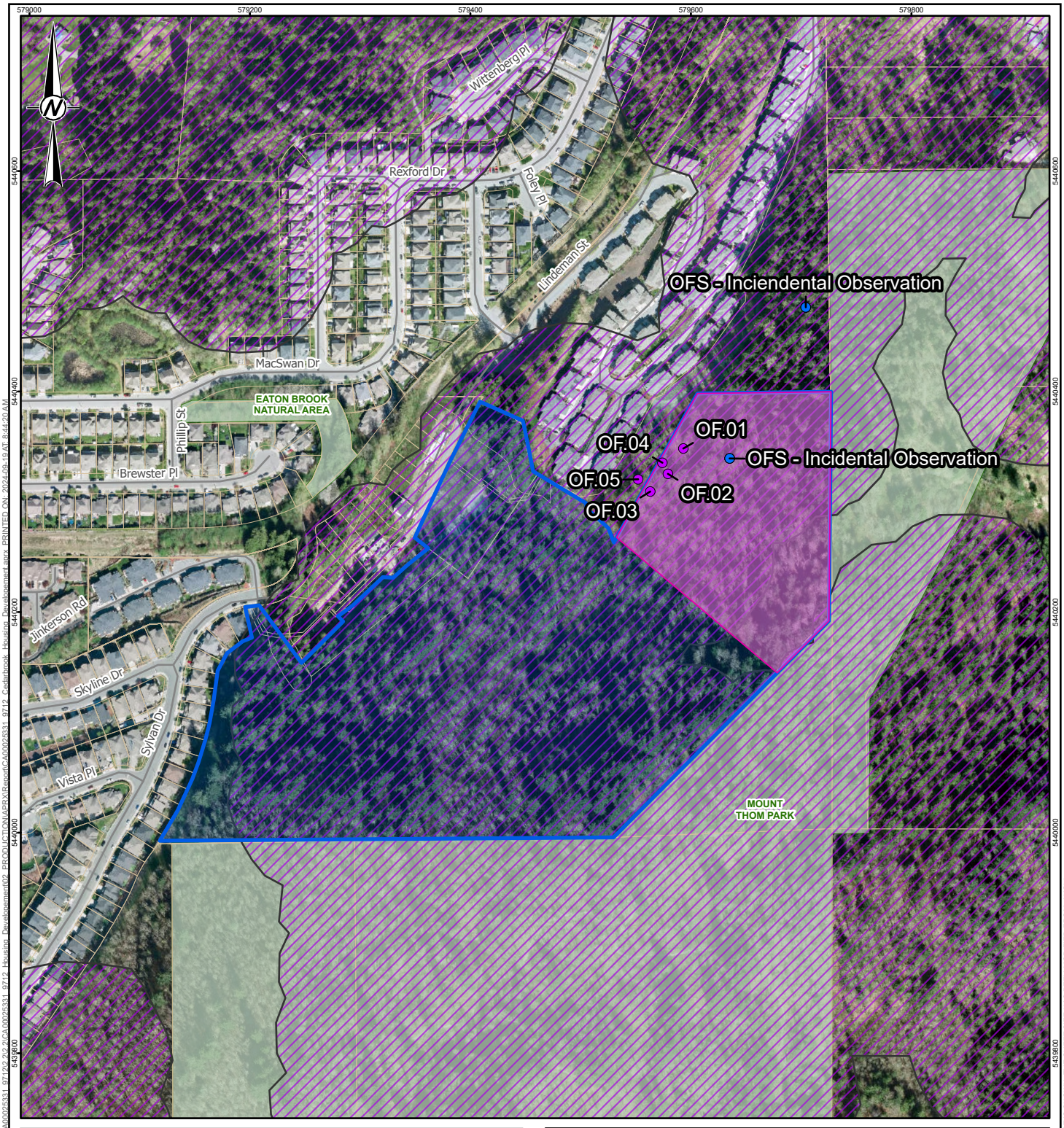
TITLE
OREGON FORESTSNAIL HABITAT ASSESSMENT AND SPECIES DETECTION SURVEY LOCATIONS WITHIN CLEARING FOOTPRINT

CONSULTANT

wsp

YYYY-MM-DD	2024-09-18
DESIGNED	MM
PREPARED	KS
REVIEWED	
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
CA00025331.9712	2.2	A	1



LEGEND

- OFS INCIDENTAL OBSERVATION
- POINT SEARCH LOCATIONS
- CITY OF CHILLIWACK - NO BUILD EASEMENT
- OFFSETTING FOOTPRINT/ SURVEY AREA
- OREGON FORESTSNAIL PROPOSED CRITICAL HABITAT

BASE DATA

- PARCEL
- LOCAL AND REGIONAL GREENSPACE

0 75 150
1:5,000 METERS

REFERENCE(S)

1. BASE DATA CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENSE – BRITISH COLUMBIA.
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PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N

CLIENT
WESTBOW CONSTRUCTION GROUP

PROJECT
CEDARBROOK HOUSING DEVELOPEMENT

TITLE
OREGON FORESTSNAIL HABITAT ASSESSMENT AND SPECIES DETECTION SURVEY LOCATIONS WITHIN OFFSETTING FOOTPRINT

CONSULTANT

wsp

YYYY-MM-DD	2024-09-19
DESIGNED	MM
PREPARED	KS
REVIEWED	
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
CA00025331.9712	2.2	A	2

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25mm
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3.0 RESULTS

3.1 Habitat Suitability Assessment

3.1.1 Clearing Footprint

The Clearing Footprint consisted of a 3,530 m^2 area of a young forest dominated by black cottonwood (*Populus trichocarpa)* and red alder *(Alnus rubra)* with a few mature big leaf maples *(Acer macrophyllum)* scattered along the eastern boundary, a developed understory, a limited developed leaf litter layer, and minimal coarse woody debris. The understory was dominated by Himalayan blackberry (*Rubus armeniacus*; Attachment 1: Photograph 1 and 3). The two point search locations in the Clearing Footprint were the only two area where stinging nettle (*Urtica dioica)* was observed (e.g. cluster of five individual plants at each location; Figure 1; Attachment 1; Photograph 2). Habitat suitability for OFS in the Clearing Footprint was assessed as Low, with two out of four attributes of critical habitat present (Table 2). Although both a leaf litter layer and coarse woody debris were present, the leaf litter was not well-developed (i.e., >5 cm deep) and coarse woody debris was present in insufficient amounts to provide adequate cover and substrate for aestivation and nesting (SCCP 2018). In addition, the canopy was not well developed as the Clearing Footprint being dominated by young deciduous trees.

3.1.2 Offsetting Footprint

The Offsetting Footprint consisted of a 34,000 m^2 area located on the western side of Mount Thom, east of Lindeman Street in Chilliwack BC (Figure 2) and consisted of a mature mixed forest dominated by western hemlock *(Tsuga heterophylla*), red alder, and big leaf maple. This area had a developed understory, leaf litter layer, and coarse woody debris. The understory was dominated by shrub species, including stinging nettle, thimbleberry *(Rubus parviflorus),* elderberry sp. *(Sambucus sp.),* devil's club (*Oplopanax horridus),* fringe cup *(Tellima grandiflora),* and Oregon grape *(Mahonia aquifolium*; Attachment 1, Photograph 7 and 8). Habitat suitability for OFS within OF.02 was assessed as suitable, with all four attributes of critical habitat present (Table 2).

Table 2 summarizes habitat suitability for OFS within each polygon.

Table 2: Summary of Suitability for Oregon Forestsnail Habitat within Clearing Footprints

Polygon	Suitability Rating	Number of Attributes of Critical Habitat	Rationale
Clearing Footprint	Low	2	Sparse deciduous canopy concentrated around edges of footprint, Himalayan blackberry dominated understory vegetation, two limited areas with stinging nettle, limited leaf litter and CWD present.
Offsetting Footprint	Suitable	4	Dense mixed forest with a well-developed canopy and understory vegetation, stinging nettle, developed leaf litter and CWD present.

Note: CWD= Coarse Woody Debris

3.2 Point Search Surveys

Two and five point searches were conducted in the Clearing Footprint and Offsetting Footprint on May 24, 2024, respectively, for a total of seven point search locations. At each point search location, a total of 16 minutes were spent searching by field crew, for an overall search effort of 112 minutes. Point searches were not conducted within the western portion of the Clearing Footprint as this area did not contain any attributes of OFS critical habitat.

Four snail species were observed during this survey, including Oregon lancetooth snail (*Ancotrema hybridum*), grove snail (*Cepaea nemoralis*), Northwest Hesperian snail (*Vespericola columbiana*), and OFS (Attachment 1: Photograph 4 to 6 and Photograph 9 to 12). Within the Clearing Footprint, point search location CF.02 observed one OFS shell. Incidental observations of live OFS were observed in two different locations, one within the Offsetting Footprint and one within 50 m of the Offsetting Footprint (Figure 1; Figure 2; Attachment 1: Photograph 4 to 5 and Photograph 9 to 12). The incidental observations were observed along a meandering survey between point search locations and while accessing Offsetting Footprint; one within the Offsetting Footprint and one within 50 m of the Offsetting Footprint, respectively. No live OFS were observed in the Clearing Footprint. Results from the point search surveys are presented in Table 3.

Table 3: Summary of point search survey results

Point Search Location	Date	Oregon Lancetooth Snail (*Ancotrema hybridum*)		Grove Snail (*Cepaea nemoralis*)		Northwest Hesperian Snail (*Vespericola columbiana*)		Oregon Forestsnail (*Allogona townsendiana*)	
		Shell	Live	Shell	Live	Shell	Live	Shell	Live
Clearing Footprint									
CF.01	**24-May-24**			3					
CF.02	**24-May-24**			5	2			1	
Offsetting Footprint									
OF.01	**24-May-24**	5	1			1			
OF.02	**24-May-24**	1	1						
OF.03	**24-May-24**	4	1						
OF.04	**24-May-24**		1			1	1		
OF.05	**24-May-24**	1							

Note: empty cells indicate a zero value.

4.0 CONCLUSION AND RECOMMENDATIONS

Live OFS were not encountered during the field survey in the Clearing Footprint and one empty shell was encountered at a point survey location. This observation does not, by itself, confirm OFS presence or presence of suitable habitat in or surrounding the point search location (SCCP 2018). The presence of empty shells may suggest a few alternative possibilities, including:

1) the area once supported OFS, but no longer supports the species

2) the shell may have been transported to this location by flood waters

3) the shell may have been transported to this location by predators

Based on historical data, OFS presence in the Clearing Footprint was initially observed in 2011 (eight individuals were observed; two live and six shells; Government of BC 2024). Hatfield observed 20 empty OFS shells within the Clearing Footprint during an environmental assessment survey on August 28, 2019 (Hatfield 2019). This suggests that the OFS population in the Clearing Footprint may have declined potentially due to habitat degradation (i.e. propagation of Himalayan blackberry) and that habitat in the Clearing Footprint may no longer be suitable to sustain OFS. Although live OFS were not detected during the 24 May 2024 survey, presence cannot be precluded. Based on the survey results and historical observations, it is still required that *Species at Risk* Permit is obtained prior to clearing and recommended that a salvage be conducted by a Qualified Environmental Professional (QEP) prior to clearing based upon best management practices in *Oregon forestsnail Best Management Practices Guidebook* (SCCP 2018).

The Offsetting Footprint was assessed as suitable for OFS based on the presence of biophysical attributes of OFS critical habitat. Although OFS were not encountered during the formal field survey, a live OFS was incidentally observed within the Offsetting Footprint. In addition, an incidental observation of OFS was recorded near the Offsetting Footprint which suggest that an established population of OFS may exist in the Offsetting Footprint and surrounding areas. As a result, the Offsetting Footprint would be a suitable location to relocate OFS from the Clearing Footprint during a salvage.

5.0 LIMITATIONS

WSP has prepared this technical memorandum for the exclusive use of the Westbow, its assignees and representatives, and is intended to provide additional baseline information on Oregon forestsnail presence and habitat suitability for the Cedarbrook Project, located in the Skway Indian Reserve #5 (Shxwha;y Village) in Chilliwack, BC. This technical memorandum is not intended to identify or evaluate potential effects outside of the Project scope.

The inferences concerning the baseline environmental conditions are based on information obtained from a limited review of available literature, and a field assessment conducted by WSP staff on May 24, 2024. In developing this technical memorandum, WSP has relied in good faith on information provided by government databases, publicly available resources, and Westbow. WSP accepts no responsibility for any deficiency or inaccuracy contained in this report as a result of our reliance on the aforementioned information.

The findings and conclusions documented in this technical memorandum have been prepared for specific application to this Project and have been developed in a manner consistent with the level of care normally exercised by environmental professionals currently practicing under similar conditions in the jurisdiction. WSP makes no other warranty, expressed or implied.

Any use which a third party makes of this technical memorandum, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. WSP accepts no responsibility for damages, if any suffered, by any third party as a result of decisions made or actions based on this technical memorandum.

6.0 CLOSURE

We trust that this memo summarizing results from the OFS habitat assessments and species detection surveys meets your present needs. Please do not hesitate to contact the undersigned if you have questions or require further information.

WSP CANADA INC.

Kaitlin Broadhurst, BSc
Envrionmental Scientist

Kate Moss, RPBio
Principal, Biologist

KB//KM/lih

Attachment 1: Photo Log

https://wsponlinecan.sharepoint.com/sites/ca-ca00253319712/shared documents/06. deliverables/3.0_issued/ca0025331.9712-001-tm-rev0/ca0025331.9712-001-tm-rev0-ofs survey 18oct_24.docx

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ATTACHMENT 1

Photo Log

Representative photos from the planned clearing footprint and the planned offsetting footprint (Clearing Footprint, Offsetting Footprint), and incidental Oregon forestsnail observations taken during the field surveys on 24 May 2024, are presented below.

1.0 POLYGONS

1.1 Clearing Footprint

Photograph 1: Representative vegetation composition within Clearing Footprint, 24 May 2024.

Photograph 2: Representative vegetation composition within Clearing Footprint, 24 May 2024.

Photograph 3: Representative leaf litter layer along the eastern border of Clearing Footprint, 24 May 2024.

Photograph 4: Oregon forestsnail (*Allogona townsendiana)* shell observed at point search location: CF.02, 24 May 2024.

Photograph 5: Oregon forestsnail (*Allogona townsendiana)* shell observed at point search location: CF.02, 24 May 2024.

Photograph 6: Grove snail (*Cepaea nemoralis)* observed at point search location: CF.02, 24 May 2024.

1.2 Offsetting Footprint

Photograph 7: Representative vegetation composition within Offsetting Footprint, 24 May 2024.

Photograph 8: Representative leaf litter layer within Offsetting Footprint, 24 May 2024.

Photograph 9: Oregon forestsnail (*Allogona townsendiana)* Incidental Observation: outside of the Offsetting Footprint: Incidental Observation, 24 May 2024.

Photograph 10: Oregon forestsnail (*Allogona townsendiana)* Incidental observation outside of the Offsetting Footprint: Incidental Observation, 24 May 2024.

Photograph 11: Oregon forestsnail (*Allogona townsendiana)* Incidental Observation inside of the Offsetting Footprint: Incidental Observation, 24 May 2024.

Photograph 12: Oregon forestsnail (*Allogona townsendiana)* Incidental observation inside of the Offsetting Footprint: Incidental Observation, 24 May 2024.

APPENDIX B

Information Request from Canadian Wildlife Service on the SARA permit ID: #4102

Comment #	Comment	Applicant Response
1	Context: CWS would like to review the qualifications of the persons who would be involved in the activities described in SARA permit application #4102 to determine they have necessary competency and knowledge to carry out the proposed activity. Request: Please provide CVs or a description of relevant qualifications and experience for the individuals who would be undertaking the activities described in SARA permit application #4102.	Please see the list of relevant qualifications showing the qualifications of the person(s) who will be assisting in the activities described in SARA permit application #4102. All assistants to the study listed in Section 1.2 of permit application #4102, have the following minimum qualifications: - Obtained a Technical Degree, Bachelor of Science or MSc in a related scientific field - Previous professional experience in conducting salvages for amphibians, small mammals, and fish species for small and large projects such as the Coastal Gas Link and OMC4. - All surveyors will be working under qualified biologist with previous experience in OFS critical habitat assessment and translocation management experience (Kate Moss, RPBio). Kate Moss's CV was attached to the original permit application #4102.
2	Context: CWS requires more information to assess whether SARA permit application #4102 meets SARA s.73(3) precondition (a), which asks whether all reasonable alternatives to the proposed activity that would reduce the impact on the species have been considered. Request: Please expand on your response related to precondition (a) (i.e., in Section 4.2, question 'a', of the SARA permit application). Specifically, please describe the following in more detail:	a. The option of not proceeding with the activities was not considered a reasonable alternative as there is a need for housing for Skway First Nation community members. The land available for development within the reserve is limited and features a Slough, proximity to floodplains, and existing roadways. The housing is proposed to reduce the local housing crisis. Habitat for other sensitive species occurs at adjacent potential development sites constraining developable areas and therefore were not deemed appropriate. The chosen location for the development was considered the best option given these constraints. The offsetting footprint was chosen as it is outside of high environmental risk areas and within a 'No-Build Easement'. This location provides suitable Oregon Forestsnail habitat based on vegetation characteristics and surveys completed to date. Westbow has considered reasonable alternatives to the size and configuration of the Project to reduce impacts to the proposed OFS Critical Habitat resulting in the clearing footprint (See Figure 3). This layout is required to optimize the number of residential units possible

Comment #	Comment	Applicant Response
	a. The alternatives to the development that were explored to reduce risk to species at risk (e.g., not undertaking the project altogether, alternative locations). b. The alternative footprints that were assessed to reduce the loss of suitable habitat for Oregon Forestsnail. c. Please also explain why the proposed plan is the best one to reduce impacts to species at risk.	in the available land. Reducing the footprint further would require removing a significant number of the residential units. c. As described in the Application, the Critical Habitat Polygon (ID 141394) is an isolated patch of degraded habitat. Habitat suitability for OFS in the Clearing Footprint (3,530 m^2 area) was assessed as Low, with two out of four attributes of critical habitat present. Live OFS were not encountered during the field survey in the Clearing Footprint and one empty shell was encountered at a point survey location. Given that the Project cannot be reconfigured to avoid Critical Habitat ID 141394, as described under response 2a and 2b, the proposed plan is considered the best to reduce impacts to the species because it will conserve higher quality OFS habitat and translocate remaining live snails, if any from a low quality and isolated proposed critical habitat area (Critical Habitat ID: 141394; See Photo Log attached as Appendix A to Technical Memorandum) to an area of No Build Easement under the City of Chilliwack owned by Westbow. The offsetting footprint also overlaps with proposed OFS critical habitat (Critical Habitat ID: 141821) and is considered suitable habitat for OFS. As the relocation site is in a No Build Easement it will be protected from future development encroachment. Please see Technical Memorandum attached for details. The offsetting footprint consisted of a 3,530 m^2 area located on the western side of Mount Thom, east of Lindeman Street in Chilliwack BC and consisted of a mature mixed forest dominated by western hemlock *(Tsuga heterophylla*), red alder, and big leaf maple. Habitat suitability for OFS was assessed as suitable, with all four attributes of critical habitat present. Although OFS were not encountered during the formal field survey, a live OFS was incidentally observed within the offsetting footprint. In addition, an incidental observation of OFS was recorded near the offsetting footprint, which suggest that an established population of OFS may exist in the offsetting footprint and surrounding areas. As a result, the offsetting footprint would be a suitable location to relocate OFS from the clearing footprint during a salvage.

Comment #	Comment	Applicant Response
3	<u>Context:</u> CWS would like to better understand the location of the translocation area relative to the project area. <u>Request:</u> a. Please update a map or provide a new map that clearly identifies both the salvage location for Oregon Forestsnail and the translocation area. Please also include locations of exclusion fencing, machinery and vehicular access routes, laydown areas, parking areas etc. b. Please provide the estimated distance between the project area and translocation area. c. Rationale for why the proposed translocation area is the best option for translocating individuals, including consideration of distance from the salvage site (e.g., genetics, disease) and whether the land ownership is feasible for long-term conservation of the site.	a. A new map has been created that clearly identifies both the clearing footprint, also referred to as 'salvage location', for Oregon Forestsnail and the offsetting footprint. See Figure 3 attached. Equipment and material staging will be located west of the Critical Habitat polygon in a paved area to reduce additional effects to natural and semi-natural areas. b. The offsetting footprint is located approximately 8 km southeast from the clearing footprint ('salvage location'). See Figure 3 attached. c. This offsetting footprint was selected because it contains suitable habitat for Oregon Forestsnail, is proposed Critical Habitat, and is known to support live snails. Further, the offsetting footprint is accessible so that the salvage team are able to move captured OFS from the clearing footprint to the offsetting footprint within less than 1 hour transfer time (approximately 16km driving route). The offsetting footprint is owned by Westbow and under a No Build Easement under the City of Chilliwack, as such long-term conservation of the site is expected. Please see Technical Memorandum – Oregon Forestsnail Habitat Assessment and Species Detection, attached for details.
4	<u>Context:</u> CWS would like to better understand what mitigation measures are in place to reduce the likelihood that Oregon Forestsnail individuals are directly affected (i.e., injured, killed) project	The current habitat quality for OFS within the clearing footprint is considered Low and no live OFS individuals were encountered during the 2019 or 2024 surveys. The following mitigation measures, based on protocols in the Oregon Forestsnail BMP Guidebook (ENV

Comment #	Comment	Applicant Response
	area while proposed activities are being undertaken. Request: Please confirm if exclusion fencing and copper wire mesh fencing will be used as a mitigation measure in the project area. If so, please provide additional details including where fencing will be installed, the dimensions, and how it will be maintained and monitored throughout the duration of the project.	2018), will be in place to reduce potential effects to OFS individuals during clearing activities and operations: - The OFS critical habitat area will be clearly marked off by flagging tape. No machinery or construction workers are allowed into this area until salvage activities are complete. - Silt fencing lined with copper wire mesh on the outside (exclusion fencing for gastropods) will be installed along the eastern edge of the clearing footprint, for approximately 100m, to reduce the potential for snails to the east of the clearing footprint entering into this area. The habitat east of the clearing footprint has been degraded due to past land activities and does not provide suitable OFS habitat. As such it is unlikely that snail populations occur in these areas or are expected to move into the clearing area. The habitats north, west and south of the clearing footprint are paved with little to no vegetation cover and therefore do not provide OFS habitat and do not require isolation fencing. - Fencing will be checked daily by contractors for damage and repaired immediately when damage is identified. This copper mesh wire fencing will maintained in place until the Construction phase of the Project is complete. - If snails are observed then a QEP will be informed
5	Request In order to meet SARA s.73(3) precondition (b), CWS requires that an Oregon Forestsnail (OFS) Mitigation Plan be developed that includes, but is not limited to, the following: - Methods and protocols for OFS salvage and translocation - OFS post-translocation monitoring methods - Timeline for all monitoring activities	OFS presence in the clearing footprint was initially observed in 2011 (eight individuals were observed; two live and six shells; Government of BC 2024). Subsequent surveys conducted by Hatfield (2019) and WSP (2023) did not record live snails suggesting that the population in the clearing footprint has declined. This could be due to habitat degradation (i.e. propagation of Himalayan blackberry, Photo Log attached as Appendix A to Technical Memorandum). As such habitat in the clearing footprint may no longer be suitable to sustain OFS. While live snails have not be recorded in the past two surveys, their presence can not be precluded. As such a salvage has been proposed to reduce potential mortality.

Comment #	Comment	Applicant Response
	- How the effectiveness of translocation will be assessed	The methods and protocols for salvage and translocation of Oregon Forestsnail outlined in the Application are based on the Oregon Forestsnail BMP Guidebook (ENV 2018). A salvage team consisting of a minimum of two people will conduct a survey of the clearing area immediately prior to the construction. Brush clearing may be required to provide access to areas of dense shrub growth. If brushing is required, it will be done by hand and above ground as to avoid impacting OFS. The survey will be conducted in transects across the clearing area to maximize coverage. Live OFS will be translocated to the proposed offsetting footprint (Figure 3). The collection of Oregon Forestsnails for translocation will occur during the peak activity period of the species in April – June. Collection of snails during wet periods in early fall (September) is also possible, but translocations will not be conducted after late-September or early October, which is too close to onset hibernation. The snails will be processed on site and kept at a shaded location in ventilated plastic containers with moist leaf litter and/or moss from their habitat in small groups. Snails will be processed and released the same day if live individuals are found. Processing of snails will consist of measuring their shell width, noting the condition of the shell, such as cracks or wear, marking them with individual identification, and taking a photograph of the marked snails for reference Release of snails will take place at offsetting footprint in areas when the ground is moist, preferably immediately after or during rainfall events. Snails will be released in sheltered microhabitats, such as base of Bigleaf maples with accumulated leaf litter, by large decaying logs, or sword fern bases. Given the results of previous surveys in the clearing area, live snails may no longer be present in the clearing area. If a live OFS individual(s) is found within the clearing footprint, an individual marking system will be implemented to allow for subsequent monitoring. A post-translocation monitoring program will likely be less successful if only few individuals are captured in the clearing area.

Comment #	Comment	Applicant Response
		If post-translocation monitoring is conducted annual surveys would be undertaken for up to a 3 year period (ENV 2018). Data collected would be submitted to Canadian Wildlife Service. Each survey will be conducted by a qualified biologist surveying transects in the offsetting footprint to locate the snails. When snails are located, they will be processed the same way as when the snails were translocated. The overall health of the snail and GPS location will also be noted. Mortalities will be noted. The first survey session would take place 2 – 3 months after release and then annually during the peak period of snail activity from April – June.

ATTACHMENT

A

TECHNICAL MEMORANDUM CEDARBROOK PROJECT – OREGON FORESTSNAIL HABITAT ASSESSMENT AND SPECIES DETECTION SURVEY

TECHNICAL MEMORANDUM

DATE October 18, 2024 **Reference No.** CA00025331.9712-001-TM-Rev0

TO Gregory Wallace
Westbow Construction Group

CC

FROM Kaitlin Broadhurst, Kate Moss **EMAIL Kaitlin.Broadhurst@wsp.com; Kate.Moss@wsp.com**

CEDARBROOK PROJECT – OREGON FORESTSNAIL HABITAT ASSESSMENT AND SPECIES DETECTION SURVEY

1.0 INTRODUCTION

WSP Canada Inc. (WSP) was retained by Westbow Construction Group (Westbow) to provide environmental services for a proposed residential and/or commercial development known as the Cedarbrook Project (the Project), located in the Skway Indian Reserve #5 (Shxwha;y Village; Property or Site) in Chilliwack BC (Figure 1). As part of these environmental services, WSP completed Oregon forestsnail (*Allogona townsendiana;* OFS*)* habitat suitability assessments and species presence surveys on May 24, 2024 to provide additional baseline information. These assessments were conducted in the proposed clearing footprint that is located in proposed OFS Critical Habitat (Critical Habitat ID: 141394; Clearing Footprint) and in the proposed offsetting habitat located in a No Build Easement under the City of Chilliwack, which overlaps with proposed OFS Critical Habitat (Critical Habitat ID: 141821; Figure 2; Offsetting Footprint; Attachment 2; Government of BC 2024).

2.0 METHODS

The habitat assessment and species presence field surveys were conducted on May 24, 2024, by a two-person crew. The species presence surveys were conducted using point searches along meander or parallel transects within the Clearing Footprint and Offsetting Footprint and habitat assessment surveys were conducted simultaneously, based on methods outlined in the *Oregon forestsnail Best Management Practices Guidebook* (SCCP 2018). Data on habitat suitability and searches for species presence were conducted in concert.

Habitat information and chance wildlife encounters were recorded during the survey. Habitat information collected included notes and georeferenced photos to document the biophysical attributes of critical habitat, as outlined in Section 4.1.1 of the *Recovery Strategy for the Oregon Forestsnail (Allogona townsendiana) in Canada* (Environment Canada 2016). Habitat and microhabitat features were characterized at point search locations in the Clearing Footprint and Offsetting Footprint. Biophysical attributes of critical habitat included:

- Intact deciduous and/or mixed wood and/or dense shrub herbaceous canopy
- Patches of stinging nettle (*Urtica dioica*)

- Dense understory vegetation
- Coarse woody debris (CWD) and leaf litter

Site information was also collected during the habitat assessment, following the methods presented in Appendix 1 of the *Oregon Forestsnail Best Management Practices Guidebook* (SCCP 2018). Site information collected consisted of:

- Habitat type and landscape context
- Structure and composition of vegetation communities
- Substrate
- Soil condition and moisture
- Chance encounters with wildlife and wildlife sign
- Weather conditions

Searches for OFS were conducted at point search locations where at least three biophysical attributes of Critical Habitat outlined in the recovery strategy were present (Environment Canada 2016). Searches were conducted within a 5-metre radius around the point search location for a duration of 8 minutes. Snails and incidental wildlife observations were recorded.

The results of the habitat assessment and OFS searches were used to provide a general habitat suitability ranking for OFS. The presence of biophysical attributes of critical habitat was used to rate habitat suitability in the Clearing Footprint and Offsetting Footprint. General habitat suitability ranking criteria are presented in Table 1.

Table 1: General Habitat Suitability Ranking used for OFS Habitat within Clearing Footprints

Number of Biophysical Attributes[1]	Habitat Rating
0 to 1	Nil
2	Low
3 to 4	Suitable

1. intact deciduous and/or mixed wood and/or dense shrub herbaceous canopy, patches of stinging nettle, presence of understory vegetation, presence of coarse woody debris (CWD) and leaf litter

LEGEND

- POINT SEARCH LOCATION
- CLEARING FOOTPRINT/ SURVEY AREA

BASE DATA

- RESERVE LANDS
- MAJOR ROAD
- WATERCOURSE
- MUNICIPALITY
- PARCEL
- LOCAL AND REGIONAL GREENSPACE

0 75 150
1:5,000 METERS

REFERENCE(S)

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PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N

CLIENT
WESTBOW CONSTRUCTION GROUP

PROJECT
CEDARBROOK HOUSING DEVELOPEMENT

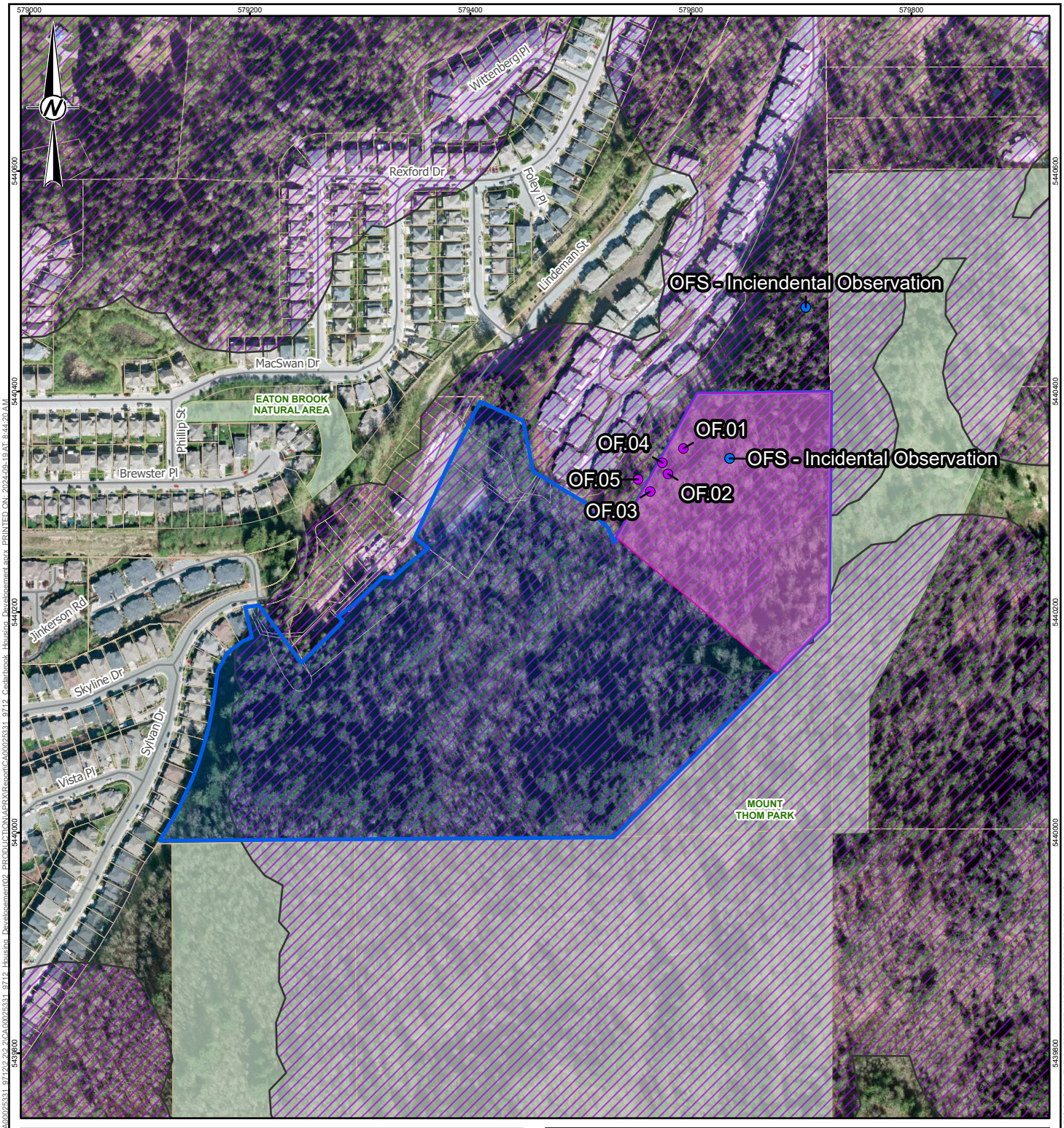
TITLE
OREGON FORESTSNAIL HABITAT ASSESSMENT AND SPECIES DETECTION SURVEY LOCATIONS WITHIN CLEARING FOOTPRINT

CONSULTANT

wsp

YYYY-MM-DD	2024-09-18
DESIGNED	MM
PREPARED	KS
REVIEWED	
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
CA00025331.9712	2.2	A	1



LEGEND

- OFS INCIDENTAL OBSERVATION
- POINT SEARCH LOCATIONS
- CITY OF CHILLIWACK - NO BUILD EASEMENT
- OFFSETTING FOOTPRINT/ SURVEY AREA
- OREGON FORESTSNAIL PROPOSED CRITICAL HABITAT

BASE DATA

- PARCEL
- LOCAL AND REGIONAL GREENSPACE

0 75 150
1:5,000 METERS

REFERENCE(S)

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PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N

CLIENT
WESTBOW CONSTRUCTION GROUP

PROJECT
CEDARBROOK HOUSING DEVELOPEMENT

TITLE
OREGON FORESTSNAIL HABITAT ASSESSMENT AND SPECIES DETECTION SURVEY LOCATIONS WITHIN OFFSETTING FOOTPRINT

CONSULTANT

wsp

YYYY-MM-DD	2024-09-19
DESIGNED	MM
PREPARED	KS
REVIEWED	
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
CA00025331.9712	2.2	A	2

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3.0 RESULTS

3.1 Habitat Suitability Assessment

3.1.1 Clearing Footprint

The Clearing Footprint consisted of a 3,530 m^2 area of a young forest dominated by black cottonwood (*Populus trichocarpa)* and red alder *(Alnus rubra)* with a few mature big leaf maples *(Acer macrophyllum)* scattered along the eastern boundary, a developed understory, a limited developed leaf litter layer, and minimal coarse woody debris. The understory was dominated by Himalayan blackberry (*Rubus armeniacus*; Attachment 1: Photograph 1 and 3). The two point search locations in the Clearing Footprint were the only two area where stinging nettle (*Urtica dioica)* was observed (e.g. cluster of five individual plants at each location; Figure 1; Attachment 1; Photograph 2). Habitat suitability for OFS in the Clearing Footprint was assessed as Low, with two out of four attributes of critical habitat present (Table 2). Although both a leaf litter layer and coarse woody debris were present, the leaf litter was not well-developed (i.e., >5 cm deep) and coarse woody debris was present in insufficient amounts to provide adequate cover and substrate for aestivation and nesting (SCCP 2018). In addition, the canopy was not well developed as the Clearing Footprint being dominated by young deciduous trees.

3.1.2 Offsetting Footprint

The Offsetting Footprint consisted of a 34,000 m^2 area located on the western side of Mount Thom, east of Lindeman Street in Chilliwack BC (Figure 2) and consisted of a mature mixed forest dominated by western hemlock *(Tsuga heterophylla*), red alder, and big leaf maple. This area had a developed understory, leaf litter layer, and coarse woody debris. The understory was dominated by shrub species, including stinging nettle, thimbleberry *(Rubus parviflorus),* elderberry sp. *(Sambucus sp.),* devil's club (*Oplopanax horridus),* fringe cup *(Tellima grandiflora),* and Oregon grape *(Mahonia aquifolium*; Attachment 1, Photograph 7 and 8). Habitat suitability for OFS within OF.02 was assessed as suitable, with all four attributes of critical habitat present (Table 2).

Table 2 summarizes habitat suitability for OFS within each polygon.

Table 2: Summary of Suitability for Oregon Forestsnail Habitat within Clearing Footprints

Polygon	Suitability Rating	Number of Attributes of Critical Habitat	Rationale
Clearing Footprint	Low	2	Sparse deciduous canopy concentrated around edges of footprint, Himalayan blackberry dominated understory vegetation, two limited areas with stinging nettle, limited leaf litter and CWD present.
Offsetting Footprint	Suitable	4	Dense mixed forest with a well-developed canopy and understory vegetation, stinging nettle, developed leaf litter and CWD present.

Note: CWD= Coarse Woody Debris

3.2 Point Search Surveys

Two and five point searches were conducted in the Clearing Footprint and Offsetting Footprint on May 24, 2024, respectively, for a total of seven point search locations. At each point search location, a total of 16 minutes were spent searching by field crew, for an overall search effort of 112 minutes. Point searches were not conducted within the western portion of the Clearing Footprint as this area did not contain any attributes of OFS critical habitat.

Four snail species were observed during this survey, including Oregon lancetooth snail (*Ancotrema hybridum*), grove snail (*Cepaea nemoralis*), Northwest Hesperian snail (*Vespericola columbiana*), and OFS (Attachment 1: Photograph 4 to 6 and Photograph 9 to 12). Within the Clearing Footprint, point search location CF.02 observed one OFS shell. Incidental observations of live OFS were observed in two different locations, one within the Offsetting Footprint and one within 50 m of the Offsetting Footprint (Figure 1; Figure 2; Attachment 1: Photograph 4 to 5 and Photograph 9 to 12). The incidental observations were observed along a meandering survey between point search locations and while accessing Offsetting Footprint; one within the Offsetting Footprint and one within 50 m of the Offsetting Footprint, respectively. No live OFS were observed in the Clearing Footprint. Results from the point search surveys are presented in Table 3.

Table 3: Summary of point search survey results

Point Search Location	Date	Oregon Lancetooth Snail (*Ancotrema hybridum*)		Grove Snail (*Cepaea nemoralis*)		Northwest Hesperian Snail (*Vespericola columbiana*)		Oregon Forestsnail (*Allogona townsendiana*)	
		Shell	Live	Shell	Live	Shell	Live	Shell	Live
Clearing Footprint									
CF.01	**24-May-24**			3					
CF.02	**24-May-24**			5	2			1	
Offsetting Footprint									
OF.01	**24-May-24**	5	1			1			
OF.02	**24-May-24**	1	1						
OF.03	**24-May-24**	4	1						
OF.04	**24-May-24**		1			1	1		
OF.05	**24-May-24**	1							

Note: empty cells indicate a zero value.

4.0 CONCLUSION AND RECOMMENDATIONS

Live OFS were not encountered during the field survey in the Clearing Footprint and one empty shell was encountered at a point survey location. This observation does not, by itself, confirm OFS presence or presence of suitable habitat in or surrounding the point search location (SCCP 2018). The presence of empty shells may suggest a few alternative possibilities, including:

1) the area once supported OFS, but no longer supports the species

2) the shell may have been transported to this location by flood waters

3) the shell may have been transported to this location by predators

Based on historical data, OFS presence in the Clearing Footprint was initially observed in 2011 (eight individuals were observed; two live and six shells; Government of BC 2024). Hatfield observed 20 empty OFS shells within the Clearing Footprint during an environmental assessment survey on August 28, 2019 (Hatfield 2019). This suggests that the OFS population in the Clearing Footprint may have declined potentially due to habitat degradation (i.e. propagation of Himalayan blackberry) and that habitat in the Clearing Footprint may no longer be suitable to sustain OFS. Although live OFS were not detected during the 24 May 2024 survey, presence cannot be precluded. Based on the survey results and historical observations, it is still required that *Species at Risk* Permit is obtained prior to clearing and recommended that a salvage be conducted by a Qualified Environmental Professional (QEP) prior to clearing based upon best management practices in *Oregon forestsnail Best Management Practices Guidebook* (SCCP 2018).

The Offsetting Footprint was assessed as suitable for OFS based on the presence of biophysical attributes of OFS critical habitat. Although OFS were not encountered during the formal field survey, a live OFS was incidentally observed within the Offsetting Footprint. In addition, an incidental observation of OFS was recorded near the Offsetting Footprint which suggest that an established population of OFS may exist in the Offsetting Footprint and surrounding areas. As a result, the Offsetting Footprint would be a suitable location to relocate OFS from the Clearing Footprint during a salvage.

5.0 LIMITATIONS

WSP has prepared this technical memorandum for the exclusive use of the Westbow, its assignees and representatives, and is intended to provide additional baseline information on Oregon forestsnail presence and habitat suitability for the Cedarbrook Project, located in the Skway Indian Reserve #5 (Shxwha;y Village) in Chilliwack, BC. This technical memorandum is not intended to identify or evaluate potential effects outside of the Project scope.

The inferences concerning the baseline environmental conditions are based on information obtained from a limited review of available literature, and a field assessment conducted by WSP staff on May 24, 2024. In developing this technical memorandum, WSP has relied in good faith on information provided by government databases, publicly available resources, and Westbow. WSP accepts no responsibility for any deficiency or inaccuracy contained in this report as a result of our reliance on the aforementioned information.

The findings and conclusions documented in this technical memorandum have been prepared for specific application to this Project and have been developed in a manner consistent with the level of care normally exercised by environmental professionals currently practicing under similar conditions in the jurisdiction. WSP makes no other warranty, expressed or implied.

Any use which a third party makes of this technical memorandum, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. WSP accepts no responsibility for damages, if any suffered, by any third party as a result of decisions made or actions based on this technical memorandum.

6.0 CLOSURE

We trust that this memo summarizing results from the OFS habitat assessments and species detection surveys meets your present needs. Please do not hesitate to contact the undersigned if you have questions or require further information.

WSP CANADA INC.

Kaitlin Broadhurst, BSc
Envrionmental Scientist

Kate Moss, RPBio
Principal, Biologist

KB//KM/lih

Attachment 1: Photo Log

https://wsponlinecan.sharepoint.com/sites/ca-ca00253319712/shared documents/06. deliverables/3.0_issued/ca0025331.9712-001-tm-rev0/ca0025331.9712-001-tm-rev0-ofs survey 18oct_24.docx

7.0 REFERENCES

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ATTACHMENT 1

Photo Log

Representative photos from the planned clearing footprint and the planned offsetting footprint (Clearing Footprint, Offsetting Footprint), and incidental Oregon forestsnail observations taken during the field surveys on 24 May 2024, are presented below.

1.0 POLYGONS

1.1 Clearing Footprint

Photograph 1: Representative vegetation composition within Clearing Footprint, 24 May 2024.

Photograph 2: Representative vegetation composition within Clearing Footprint, 24 May 2024.

Photograph 3: Representative leaf litter layer along the eastern border of Clearing Footprint, 24 May 2024.

Photograph 4: Oregon forestsnail (*Allogona townsendiana)* shell observed at point search location: CF.02, 24 May 2024.

Photograph 5: Oregon forestsnail (*Allogona townsendiana)* shell observed at point search location: CF.02, 24 May 2024.

Photograph 6: Grove snail (*Cepaea nemoralis)* observed at point search location: CF.02, 24 May 2024.

1.2 Offsetting Footprint

Photograph 7: Representative vegetation composition within Offsetting Footprint, 24 May 2024.

Photograph 8: Representative leaf litter layer within Offsetting Footprint, 24 May 2024.

Photograph 9: Oregon forestsnail (*Allogona townsendiana)* Incidental Observation: outside of the Offsetting Footprint: Incidental Observation, 24 May 2024.

Photograph 10: Oregon forestsnail (*Allogona townsendiana)* Incidental observation outside of the Offsetting Footprint: Incidental Observation, 24 May 2024.

Photograph 11: Oregon forestsnail (*Allogona townsendiana)* Incidental Observation inside of the Offsetting Footprint: Incidental Observation, 24 May 2024.

Photograph 12: Oregon forestsnail (*Allogona townsendiana)* Incidental observation inside of the Offsetting Footprint: Incidental Observation, 24 May 2024.

ATTACHMENT

B

FIGURE 3 - OREGON FORESTSNAIL SLAVAGE LOCATION AND TRANSLOCATION LOCATION

LEGEND

- CITY OF CHILLIWACK - NO BUILD EASEMENT
- OFFSETTING FOOTPRINT/ SURVEY AREA
- OREGON FORESTSNAIL PROPOSED CRITICAL HABITAT
- OREGON FORESTSNAIL CRITICAL HABITAT CLEARING FOOTPRINT

BASE DATA

- HIGHWAY
- MAJOR ROAD
- RAILWAY
- WATERCOURSE
- LOCAL AND REGIONAL GREENSPACE
- PARCEL
- RESERVE LANDS

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PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N

CLIENT
WESTBOW CONSTRUCTION GROUP

PROJECT
CA-CEDARBROOK PROJECT - OREGON FORESTSNAIL OFFSETTING AND RELOCATION

TITLE
OREGON FORESTSNAIL SALVAGE LOCATION AND TRANSLOCATION LOCATION

CONSULTANT

wsp

YYYY-MM-DD	2024-12-19
DESIGNED	MM
PREPARED	KS
REVIEWED	AF
APPROVED	KM

PROJECT NO.	CONTROL	REV.	FIGURE
CA00025331.9712	2.2	0	3

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APPENDIX C

End of Spill Report Form

BRITISH COLUMBIA
Ministry of Environment and Climate Change Strategy

Update to Minister/End-of-Spill Report Form

Environmental Emergency Program
SpillReports@gov.bc.ca

This report template can be completed to satisfy the requirements of either the End-of-Spill Report or the Update to Minister Report. Please specify which report you are completing in section I of this form. If any of the fields of this form are not applicable to the spill for which this form is being completed, indicate 'N/A' in the field; reports with incomplete fields will be sent back to the responsible person.

End-of-Spill Report: Section 6 of the Spill Reporting Regulation outlines the requirements for the End-of-Spill Report. Responsible persons must submit a written End-of-Spill Report to the Ministry of Environment and Climate Change Strategy within 30 days following the emergency response completion date of a spill as outlined in section 6 (1) of the Spill Reporting Regulation. Responsible persons must submit a written report to the Ministry of Environment and Climate Change Strategy as soon as practicable if either of the following two conditions are present:

1. The spill entered, or was likely to enter, a body of water as defined in the Spill Reporting Regulation
2. The quantity of the substance spilled was, or was likely to be, equal to or greater than the listed quantity for the listed substance as outlined in the Spill Reporting Regulation

Update to Minister Report: Section 5 of the Spill Reporting Regulation outlines the requirements for the Update to Minister Report. Responsible persons must submit a written report to the Ministry of Environment and Climate Change Strategy as soon as practicable if any of the following three conditions are present:

1. On request of the Minister
2. At least once every 30 days after the date that the spill began
3. At any time that the responsible person has reason to believe that information previously reported in the Initial Report has become inaccurate or incomplete

Complete this form and submit it by email to SpillReports@gov.bc.ca. For additional information, please visit the British Columbia Environmental Emergency Program Report a Spill webpage.

Dangerous Goods Incident Report (DGIR) number:

Section I: Type of report **Sections 5 and 6 of Spill Reporting Regulation**	
This form is completed to satisfy the requirements of the:	
☐ Update to Minister Report	☐ End-of-Spill Report

Section II: Contact information **Section 6 (2) (a) of the Spill Reporting Regulation**	
Details for person filling out the report	Name of company representative:
	Company name:
	Email:
	Address:
	Telephone number:

Details for responsible person Same as above ☐	Name of company representative:
	Company name:
	Email:
	Address:
	Telephone number:
Details for owner of the substance spilled Same as above ☐	Name of company representative:
	Company name:
	Email:
	Address:
	Telephone number:

Section III: Timing of the spill
Section 6 (2) (b) of the Spill Reporting Regulation

Date of spill: Time of spill: Duration of the spill (days):

Date reported: Emergency response completion date[1]:

Section IV: Site description
Section 6 (2) (c) (d) of the Spill Reporting Regulation

Provide a description of the spill site and the sites affected by the spill. The description of the spill site may include a description of the receiving environment, the proximity to a nearby city/town/roadway, the type of vegetation in the area, how densely populated the area is, accessibility to spill site, nearby waterways, and any other defining characteristics of the area.

Latitude: Degrees Minutes Seconds

Longitude: Degrees Minutes Seconds

or

Site civic address or location: Street

City Postal Code

or

DLS or BCNTS (if applicable): Site ID number (if applicable):

[1] For the definition of the *emergency response completion date*, please refer to B.C. Reg. 187/2017 Spill Reporting Regulation

Section V: Description of the source, type, and quantity of the spill **Section 6 (2) (e) (f) of the Spill Reporting Regulation**
Description of the source of the spill (pipeline, rail, truck, facility, etc.):
Type of substance spilled (common name):
United Nations (UN) number of substance spilled (if applicable):
Item number from the table in the Schedule in the Spill Reporting Regulation:
Quantity (in litres or kilograms) of the substance spilled – if the quantity is unknown, provide a reasonable estimate and explain why the quantity is unknown and cannot be determined:

Section VI: Description of the circumstances, cause, and impacts of the spill **Section 6 (2) (g) (i) (ii) (iii) of the Spill Reporting Regulation**
Provide a description of the activity during which the spill occurred (transportation, transfer of cargo, fuelling, cleaning, maintenance, etc.):
Provide a description of the incident leading to the spill (tank rupture, overfill, collision, rollover, derailment, fire, explosion, etc.):
Provide a description of the underlying cause of the spill (human error, external conditions, organizational or management failure, etc.):

Section VII: Impacts to human health, the environment, and infrastructure **Section 6 (2) (g) (iv) (v) of the Spill Reporting Regulation**
Describe any adverse effects of the spill on human health (please state 'N/A' if there were no adverse effects on human health):
Number of people evacuated:
Number of fatalities:
Number of people injured:
Describe any adverse impacts on infrastructure[2] (please state 'N/A' if there were no adverse impacts to infrastructure):
Impacts to water
Was there an impact to a body of water? ◯ Yes ◯ No

[2] For the definition of *infrastructure,* refer to section 91.1 of the *Environmental Management Act 2003*

Description of impact:
Describe the body of water (stream, aquifer, fish habitat, naturally formed body of water, ditch, lake, etc.):
Name of body of water:

Impacts to the environment

Was there an impact on flora (vegetation)? ◯ YES ◯ NO	If yes, list the common and species names:
Provide a description of the impact on flora (oiled, removed, etc.):	
Was there an impact on fauna (animals)? ◯ YES ◯ NO	If yes, list the common and species names:
Provide a description of impact on fauna (include injured, dead, etc.):	
Was there an impact on aquatic and/or terrestrial habitats? ◯ YES ◯ NO	If yes, list the type of habitat (riparian, breeding ground, etc.):
Provide a description of impact on aquatic and terrestrial habitats, including response actions taken to restore any of the impacts listed:	

Section VIII: Spill response actions **Section 6 (2) (h) of the Spill Reporting Regulation**		
Action taken to comply with section 91.2 of the *Environmental Management Act 2003*	Who took the action (company, person, contractor, etc.)	Date that the action was taken (click the arrow or enter the date using the format YYYY-MM-DD)

Section IX: Waste disposal (please state 'N/A' if no waste was produced) **Section 6 (2) (i) of the Spill Reporting Regulation**		
List the type of waste	Method of disposal	Location of disposal

Section X: Attached reports, maps, and photographs **Section 6 (2) (j) (k) of the Spill Reporting Regulation**	
Report of results of sampling, testing, monitoring, and/or assessing carried out during spill response actions (including reports from Qualified Professionals), if applicable	Copy attached ☐
Map of the incident site and areas surrounding the incident site (required)	Copy attached ☐
Photographs of the spill (required)	Copy attached ☐

Section XI: Agencies on scene or notified **Section 6 (2) (l) (m) of the Spill Reporting Regulation**
List the names of all agencies that were at the incident site:

List the names of other persons or agencies that were advised about the spill:

Section XII: Additional comments

Section XIII: Verification of information provided

I confirm that the above information is true and complete.

Name of person completing form: Date completed (YYYY-MM-DD)

Name of responsible person (person or company): Date completed (YYYY-MM-DD)

Section XIV: Approval - For internal use only

Reviewed by: Date completed (YYYY-MM-DD)

Save Reset Form

APPENDIX D

BC Ministry of Environment and Climate Change Strategy, Fact Sheet 03 - Facts on the Management of Environmental Emergencies

March 2021

Spill Reporting

Report spills immediately

If a spill occurs, or is at imminent risk of occurring, responsible persons (spillers) must ensure that it is immediately reported to the Provincial Emergency Program (PEP)/ Emergency Management British Columbia (EMBC) by calling **1-800-663-3456.**

Section 91.2 of *Environmental Management Act* (EMA) identifies the requirements for spill reporting. The Spill Reporting Regulation (SRR) prescribes the information that is required, as well as the time and manner in which it is required, when reporting spills.

This Fact Sheet is designed to provide information for responsible persons on their reporting obligations should they be in possession, charge, or control of a substance when it spills or is at imminent risk of spilling.

Responsible Person

A responsible person has possession, charge or control of a substance or thing when a spill of the substance or thing occurs or is at imminent risk of occurring.

Definition of a Spill

A spill is defined by the *Environmental Management Act* as the introduction into the environment, other than as authorized and whether intentional or unintentional, of a substance or thing that has the potential to cause adverse effects to the environment, human health, or infrastructure.

The SRR identifies three reports that responsible persons must make based on specific criteria: Initial Report; Update to Minister Report; and End-of-Spill Report. Responsible persons may also be required to make a fourth report, a Lessons-Learned Report, if ordered to do so by a director. The purpose of these reports is to ensure that the Ministry of Environment and Climate Change Strategy (the ministry) has the appropriate information necessary to assess spill impacts and fulfil oversight and regulatory roles and responsibilities.

Initial Report

Section 4 of the SRR outlines the information required in the Initial Report. An Initial Report must be made immediately if any of the following occur or is at imminent risk of occurring:

1. **If the volume spilled, or likely to be spilled, is equal to or greater than the minimum quantity outlined in the SRR, the spill is reportable**. A list of substances and their reportable quantities is available in Appendix 2: Prescribed substances and quantities for immediate spill reporting of this Fact Sheet.

2. **If the spill enters, or is likely to enter, a body of water, the spill is reportable.** A body of water is defined in the SRR and includes both marine and fresh bodies of water whether or not they usually

contain water or ice, as well as streams, lakes, ponds, rivers, creeks, springs, aquifers, ravines, gulches, wetlands, and glaciers. The requirement to report a spill of a listed substance of any quantity also includes spills that enter a ditch that is not self-contained and connects to a body of water.

The Initial Report must be made immediately to EMBC by calling 1-800-663-3456. Anyone can make the Initial Report: however, the responsible person must ensure the report has been made and all the information outlined in section 4 of the SRR has been reported. (Appendix 1)

Natural Gas
A release of natural gas is reportable if: 1. The spill is caused by a breakage in a pipeline or fitting operated above 100 pounds per square inch (psi) that results in a sudden release of natural gas; and 2. The amount of the spill is, or is likely to be, equal to or greater than 10 kilograms (kg).

Update to Minister Report

Section 5 of the SRR outlines the requirement for the submission of Update to Minister Reports. Responsible persons must provide an Update to Minister Report:

1. **As soon as possible on request of the minister.**

2. **At least once every 30 days after the date that the spill began** until such time that an End-of-Spill Report is required.

3. **At any time that the responsible person has reason to believe that information that was previously reported as part of the Initial Report, as outlined in Appendix 1, was or has become inaccurate or incomplete.**

If the Update to Minister Report is requested by the Minister or if the spill lasts more than 30 days and the Update to Minister Report is required, an email will be sent by the ministry to the responsible person with instructions on how to complete the report form and how it must be submitted.

If the responsible person believes information previously reported as part of the Initial Report was or has become inaccurate or incomplete, the responsible person can contact the Environmental Emergency Program at SpillReports@gov.bc.ca, stating the Dangerous Goods Incident Report number in the subject line, to advise that an Update to Minister Report is required. Instructions on how to complete the report form and how it must be submitted will be sent to the responsible person by email.

End-of-Spill Report

Section 6 of the SRR outlines the requirement for the submission of End-of-Spill Reports. Responsible persons must submit a written report to the ministry within 30 days following the emergency response completion date of a spill, see information box below. An End-of-Spill Report is required when:

1. **The volume spilled is equal to or greater than the minimum quantity outlined in the SRR.** A list of substances and quantities for immediate spill reporting (is provided in Appendix 2.):

2. **The spill enters, or is likely to enter, a body of water-** 'body of water' is defined in the SRR.

The accountability to adhere to the requirements set out in the SRR is that of the responsible person. All reports, other than the Initial Report, are to be sent to the Environmental Emergency Program at SpillReports@gov.bc.ca.

Emergency Response Completion Date

The emergency response completion date is defined in section 8 of the SRR as the date that all the following criteria are met:

1. The Incident Command Post is disestablished.
2. The source of the spill is under control and is neither spilling nor at imminent risk of spilling.
3. Emergency actions to stabilize, contain, and remove the spill have been taken.
4. The waste has been removed from the spill site.
5. All evacuation notices have expired or been rescinded.
6. All equipment, personnel, and other resources used in emergency spill response actions have been removed from the spill site, other than resources required for sampling, testing, monitoring, assessing the spill site, or for recovery and restoration of the spill site.

Lessons-Learned Report

Section 7 of the SRR outlines the requirements of a Lessons-Learned Report. Within six months following the emergency response completion date of a spill, the director may order a Lessons-Learned Report from the responsible person. This report must be submitted to the director in the manner and form specified by the director. For additional information on the Lessons-Learned Report, please see the Lessons-Learned Fact Sheet.

B.C. Oil and Gas Commission Equivalency

Responsible persons regulated by the B.C. Oil and Gas Commission (the Commission) under the Emergency Management Regulation must provide an Initial Report to EMBC, but are exempt from the following requirements in the SRR:

- Section 5 Update to Minister Report;
- Section 6 End-of-Spill Report; and
- Section 7 Lessons-Learned Report.

Fines and Penalties

It is the responsibility of regulated persons, responsible persons and the owners of substances or things to understand and comply with EMA and its associated regulations.

This document is solely for the convenience of the reader and is intended to assist in understanding the legislation and regulations, not replace them. It does not contain and should not be construed as legal advice. Current legislation and regulations should be consulted for complete information.

Failure to be in compliance can result in convictions of fines and imprisonment, as outlined in *EMA* and its associated regulations.

Additional Fact Sheets

Fact sheets on other relevant topics are published by the Environmental Emergency Program (EEP) and available at:

www.gov.bc.ca/spillresponse

The complete list of available Fact Sheets:

01 Regulated Person
02 Responsible Person
03 Spill Reporting
04 Lessons-Learned Report
05 Cost Recovery
06 Requirement to Provide Information
07 Spill Contingency Planning
08 Testing Spill Contingency Plans
09 Recovery Plan

For more information, contact the Environmental Emergency Program at: SpillReports@gov.bc.ca

Appendix 1: Initial Report content

Report information	Description
1. Contact information of the individual making the report	First and last name, phone number, and email address
2. Contact information of the responsible person	First and last name, phone number, and email address
3. Contact information for the owner of the substance spilled	First and last name, phone number, and email address
4. Location, date, and time of the spill	Provide as much location specific information as possible, including: general directions, description of how to approach the area, latitude and longitude if available, street address, and the date and time in 24-hour clock format
5. Description of the spill site and surrounding area	Provide a description of the receiving environment of the spilled material (for example, the area is wooded and the ground is soft; there are sensitive riparian areas that are at risk of contamination)
6. A description of the source of the spill	The container from which the material spilled (for example, fishing vessel, above- or below-ground storage tank, tanker truck, pipeline, or railcar)
7. Type and quantity of the substance spilled	An estimate of the amount of product spilled and a description of the product type, including product name, UN number, and Safety Data Sheet [SDS] (for example, diesel, UN 1202, 50 liters). If unknown, a description of the spill (for example, sheen or slick approximately 20 meters by 20 meters)
8. Cause and impact of the spill	The circumstances leading to the spill; the immediate cause as well as any contributing factors. May be a combination of the activity and the incident (for example, motor vehicle accident derailment, equipment failure, fire, human error, intentional/unauthorized release, natural occurrence, or unknown)
9. Details of the actions taken or proposed	Provide any necessary/ helpful details of the actions taken or planned (for example, what steps have been taken to contain the spill, which responders have been deployed, and when they will be on scene)
10. The details of further action contemplated or required	Provide any necessary/ helpful details regarding next steps, including response actions, deployment of additional resources, and monitoring activities
11. The names of agencies on scene	Any persons, government, federal government, local government, or Indigenous agencies
12. The names of other persons or agencies advised concerning the spill	Any persons, government, federal government, local government, or Indigenous agencies

Appendix 2: Prescribed substances and quantities for immediate spill reporting[1]

Item	Column 1 Substance Spilled	Column 2 Specified Amount
1	Class 1, Explosives as defined in section 2.9 of the Federal Regulations[2]	50 kg, or less if the substance poses a danger to public safety
2	Class 2.1, Flammable Gases, other than natural gas, as defined in section 2.14 (a) of the Federal Regulations	10 kg
3	Class 2.2 Non-Flammable and Non-Toxic Gases as defined in section 2.14 (b) of the Federal Regulations	10 kg
4	Class 2.3, Toxic Gases as defined in section 2.14 (c) of the Federal Regulations	5 kg
5	Class 3, Flammable Liquids as defined in section 2.18 of the Federal Regulations	100 L
6	Class 4, Flammable Solids as defined in section 2.20 of the Federal Regulations	25 kg
7	Class 5.1, Oxidizing Substances as defined in section 2.24 (a) of the Federal Regulations	50 kg or 50 L
8	Class 5.2, Organic Peroxides as defined in section 2.24 (b) of the Federal Regulations	1 kg or 1 L
9	Class 6.1, Toxic Substances as defined in section 2.27 (a) of the Federal Regulations	5 kg or 5 L
10	Class 6.2, Infectious Substances as defined in section 2.27 (b) of the Federal Regulations	1 kg or 1 L, or less if the waste poses a danger to public safety or the environment
11	Class 7, Radioactive Materials as defined in section 2.37 of the Federal Regulations	Any quantity that could pose a danger to public safety and an emission level greater than the emission level established in section 20 of the Packaging and Transport of Nuclear Substances Regulations, 2015 (Canada)
12	Class 8, Corrosives as defined in section 2.40 of the Federal Regulations	5 kg or 5 L
13	Class 9, Miscellaneous Products, Substances or Organisms as defined in section 2.43 of the Federal Regulations	25 kg or 25 L

[1] If the spill enters, or is likely to enter, a body of water, it is reportable regardless of the quantity
'Federal regulations' refer to the Transportation of Dangerous Goods Regulations under the *Transportation of Dangerous Goods Act 1992*
'Hazardous Waste Regulation' refers to B.C. Reg. 63/88

14	Waste containing dioxin as defined in section 1 of the Hazardous Waste Regulation	1 kg or 1 L, or less if the waste poses a danger to public safety or the environment
15	Leachable toxic waste as defined in section 1 of the Hazardous Waste Regulation	25 kg or 25 L
16	Waste containing polycyclic aromatic hydrocarbons as defined in section 1 of the Hazardous Waste Regulation	5 kg or 5 L
17	Waste asbestos as defined in section 1 of the Hazardous Waste Regulation	50 kg
18	Waste oil as defined in section 1 of the Hazardous Waste Regulation	100 L
19	Waste that contains a pest control product as defined in section 1 of the Hazardous Waste Regulation	5 kg or 5 L
20	PCB wastes as defined in section 1 of the Hazardous Waste Regulation	25 kg or 25 L
21	Waste containing tetrachloroethylene as defined in section 1 of the Hazardous Waste Regulation	50 kg or 50 L
22	Biomedical waste as defined in section 1 of the Hazardous Waste Regulation	1 kg or 1 L, or less if the waste poses a danger to public safety or the environment
23	A hazardous waste as defined in section 1 of the Hazardous Waste Regulation and not covered under items 1 – 22	25 kg or 25 L
24	A substance, not covered by items 1 to 23, that can cause pollution	200 kg or 200 L
25	Natural gas	10 kg, if there is a breakage in a pipeline or fitting operated above 100 psi that results in a sudden and uncontrolled release of natural gas

APPENDIX E

Stó:lō Heritage Policy Manual and Shxwha:y Village Subdivision, Development and Servicing Law.

FILE COPY

SHXWHÁ:Y VILLAGE

SUBDIVISION, DEVELOPMENT AND SERVICING LAW

MARCH, 2015

Approved by Council: June 30, 2015

TABLE OF CONTENTS

PREAMBLE

WHEREAS Shxwhá:y Village has an inherent right to self-government which emanates from our people, culture and land and which is recognized and affirmed by section 35 of the *Constitution Act, 1982*;

AND the Shxwhá:y Village has taken over control and management of Shxwhá:y Village Reserve lands and resources pursuant to the *Framework Agreement on First Nation Land Management* and has enacted the *Shxwhá:y Village Land Code* effective January 8, 2007;

AND under the *Shxwhá:y Village Land Code*, Shxwhá:y Village Council is authorized to pass various laws relating to lands including laws relating to regulation of zoning, subdivision and developments under section 6 of the Code;

NOW THEREFORE this *Shxwhá:y Village Subdivision, Development and Servicing Law* is hereby enacted as a Law of the Shxwhá:y Village.

PART 1.

1. NAME

1.1 This Law may be cited as the *Shxwhá:y Village Subdivision, Development and Servicing Law.*

2. PURPOSE

2.1. The purpose of this Law is to promote environmentally sustainable, healthy, safe, convenient and well planned use of Shxwhá:y Village Land.

3. WHERE THIS LAW APPLIES

3.1. The provisions of this Law apply to the whole area of the Reserve and Shxwhá:y Village Land as defined in the *Shxwhá:y Village Land Code.*

4. DEFINITIONS

4.1. For the purposes of this Law, terms have the same definitions as in the Land Code;

4.2. For the purposes of this Law, the following definitions apply:

"Enforcement Officer" means any person or persons appointed by Council, from time to time, to administer and enforce the provisions of Shxwhá:y Laws enacted by Council, and includes any delegate, the RCMP and any peace officer;

"Lands Manager" means the CEO or another person appointed by Council to manage Shxwhá:y Village Land;

"Person" means any natural person, corporation, and, except where stated otherwise, any person who is a Member of Shxwhá:y Village, and

"Reserve" means the whole of the Skway Reserve No. 5, including, without limiting the generality of the foregoing, any conditionally surrendered lands, designated lands, and lands subject to any form of leasehold interest, allotment, certificate of possession or permit.

5. GENERAL PROVISIONS

5.1. The headings of parts and sections in this Law have been inserted as a matter of convenience and for reference only and in no way define or limit any of its provisions.

5.2. In the event that all or any part of any section or sections of this Law are found by a court of competent jurisdiction to be invalid, such sections shall be severable, and the remaining portions or sections shall remain in full force and effect.

6. SUBDIVISION, DEVELOPMENT AND SERVICING

Prohibited Activities without Authorization

6.1. None of the following are permitted within Shxwhá:y Village Land except in strict conformity with the requirements of this Law and any other applicable Laws:

a) subdivision,

b) stratification or other division of legal interests in lands or structures into strata units, sub-leases or shares,

c) development of any kind,

d) installation of roads, intersections, sewer, water or other infrastructure,

e) construction, alteration, enlargement, addition, demolition or removal of industrial, commercial or residential structures, including signs, and including the installation, demolition or removal of swimming pools and decks, and

f) deposit or removal of more than 10 m3 per year of soil, gravel or other materials

from sources outside of Shxwhá:y Village Land.

6.2. Without limiting the generality of subsection 6.1, the following are prohibited :

a) subdivision or partitioning of one or more parcels of Shxwhá:y Village Land without a survey and subdivision approval by Council;

b) stratification or other division of legal interests in lands or structures into strata units, sub-leases or shares without approval by Council;

c) construction of a street, driveway, laneway or intersection without a permit, and

d) installation or occupation of trailers or temporary structures; and

e) carrying out any of the activities set out in subsections 6.1 c), d), 0 or 6.2 c) without a Development Permit.

Exemptions

6.3. Despite subsections 6.1 and 6.2, the following do not require any approvals under this Law in and of themselves, provided they conform to the BC Building Code (2012) and its successor Codes, although all such structures and activities are required to comply with all other Laws:

a) construction of any non-residential structure the footprint of which is less than 200 square feet,

b) construction or finishing of trails, driveways, or internal roads for single family residential sites on which the internal road or driveway is completely within a single parcel of land, and

c) landscaping, and minor yard work which does not require an excavation deeper than 1.5 m or the removal or deposit of more than 10 m3 of soil, gravel or other material.

7. APPLICATIONS AND APPROVALS

7.1. Every applicant, including developers and contractors, applying for an approval to carry out a project, development, activity or procedure set out in section 6.1 or 6.2 shall pay the prescribed fees and submit an application to the Lands Manager in the prescribed form that meets the applicable requirements set out in the following:

a) General Engineering Requirements for Land Development on Shxwhá:y Village Lands;

b) General Requirements for Environmental Assessments on Shxwhá:y Village

Lands;

c) Sto:lo Heritage Policy Manual;

d) Subdivision and Development Application and Checklist;

e) The BC Building Code; and

f) Directions from certified professionals.

7.2. Applications shall be reviewed and processed in stages, generally in the following order:

a) Rezoning (if required under Shxwhá:y Village Law);

b) Subdivision;

c) Conceptual Plan;

d) Approval in Principle;

e) Development Permit;

f) Substantial Completion; and

g) Completion.

7.3. Applicants shall pay the prescribed fee, post any required bonds, and submit the prescribed application form for each relevant stage set out in this Part.

Concurrent Re-zoning Applications

7.4. An applicant may apply for approvals under this Law concurrently with a re-zoning application under the Shxwhá:y Village Law. In the case of concurrent applications:

a) All fees payable under both Laws are due at the time of application; and

b) The applicant is required to provide completed applications under both Laws.

Single Family Exemptions

7.5. Despite subsection 7.1 c), a Sto:lo Heritage Investigation Permit is not required for construction of single family homes for Shxwhá:y Village Members.

Review by Advisory Committee and other Departments

7.6. As soon as practicable after receiving the prescribed fees and a complete application under this Part, the Lands Manager shall:

a) refer the application to a meeting of the Land Management Advisory Committee along with all relevant information and documentation;

b) circulate the application and all relevant information and documentation within the Shxwhá:y Village administration for comment;

c) for applications for sub-divisions, multi-family structures, or significant changes in use or increases in density, refer the application where appropriate to all adjacent interest-holders on Shxwhá:y Village Lands; and

d) if appropriate, refer aspects of the application to the City of Chilliwack.

7.7. The CEO and, if necessary, the Land Management Advisory Committee shall review the application and shall provide recommendations to Council about:

a) Whether the application should be approved or not; and

b) Any suggested modifications, terms or conditions that should be set by Council.

Principles and Factors in Reviewing Applications

7.8. For each application, the CEO and the Advisory Committee shall consider the following general principles and factors:

a) The promotion of health, safety, convenience and welfare of Shxwhá:y Village members and of residents and occupants and other persons who have a lawful interest in Shxwhá:y Village Lands;

b) Well planned and orderly development of Shxwhá:y Village Lands and the preservation of amenities and special features of Shxwhá:y Village Lands;

c) Compliance with any approved Shxwhá:y Village Land Use Plan and Shxwhá:y Village Laws and with relevant federal, provincial and municipal laws and standards;

d) Environmental protection and enhancement;

e) Flood Plain measures;

f) Adherence to Shxwhá:y Village housing policies;

g) Provision of community benefits including land and/or funds to Shxwhá:y Village for the development of community amenities;

h) Protection and enhancement of cultural and heritage sites;

i) Compatibility with Shxwhá:y Village and Sto:lo culture;

j) Viewscapes, aesthetics and visual qualities;

k) Ensuring adequate parking, access and emergency access;

l) The character of the proposed activity or project in relation to the character of the zone, neighbourhood, and the buildings already erected;

m) The conservation of property values;

n) Potential impacts on adjacent uses, owners and occupants;

o) The development of the zone, neighbourhood and Reserve in a manner that contributes to the economic, environmental, cultural and community health of Shxwhá:y Village and its Members and the occupants of Shxwhá:y Village Land;

p) Any information provided and any approvals already granted by Council, including any terms or conditions, in relation to the same project or the same parcels of land; and

q) Any other factors which may have an impact on the community or Shxwhá:y Village Lands.

Examples of Recommendations

7.9. In making recommendations to Council, the CEO or the Advisory Committee may make any relevant recommendations including:

a) any recommendation relating to the general factors set out in subsection 7.8;

b) whether there should be bonds posted or irrevocable letters of credit and, if so, in what percentage or what amount;

c) dedication of up to 5% of the area of the land for parks, greenspace or community use or a cash donation in lieu;

d) preferred lot reconfigurations to ensure viable subdivisions;

e) construction of intersections, access and emergency access routes;

f) construction of parking spaces;

g) construction of sidewalks;

h) purchase and installation of street lights;

i) completion of servicing agreements with the City of Chilliwack;

j) provision of updated plans, reports or studies, including as-built drawings after the completion of the project;

k) requirements for staging or sequencing of the project including requirements for interim reports;

l) set-backs or buffers including set-backs or buffers from property lines and environmental features;

m) mitigation measures for flood plain requirements and/ or erosion control or dyking;

n) noise and dust prevention or mitigation measures such as erosion and sediment control plans; and

o) any other relevant terms or conditions.

7.10. The CEO shall ensure that recommendations under this Part are written up within 45 days after the Committee meeting or the CEO's review.

CEO May Request Further Information

7.11. After reviewing the recommendations from the Committee and any comments from adjacent land-owners and from Shxwhá:y Village administration, the CEO may request further information, plans, reports, or other relevant material from the applicant which the applicant shall provide.

Timelines

7.12. The CEO shall, as soon as practicable after having received the comments under subsection 7.6 and 7.7, or within 14 days of having received adequate additional information requested under subsection 7.11, forward the application to Council along with:

a) All relevant documents, maps, plans, reports and other information;

b) Recommendations from the Advisory Committee;

c) Any comments received from adjacent land-owners or Members;

d) Any comments or recommendations from Shxwhá:y Village administration; and

e) Any comments from the City of Chilliwack.

Council Decisions

7.13. As soon as practicable after receiving the application and information set out in section 7.12 Council shall decide whether or not to approve the application and,

without limiting the generality of Council's authority, Council may:

a) Reject the application, or

b) Approve the application with any reasonable terms or conditions, including, but not limited to terms or conditions relating to the items set out in subsections 7.8 and 7.9.

8. OFFENCES, PENALTIES AND ENFORCEMENT

Penalties

8.1. A person who contravenes this Law or an order made by a Court pursuant to this Law is guilty of an offence and liable on summary conviction to a fine of not more than $10,000 or to imprisonment for a term of not more than three months, or to both.

8.2. A fine payable under subsection 8.1 shall be remitted to the Shxwhá:y Village by the Court, after reasonable Court costs have been deducted.

8.3. Despite subsection 8.1, Shxwhá:y may also authorize the CEO, a designated official or an Enforcement Officer to issue a ticket or violation notice to impose a sanction or fine for contraventions of this Law.

Enforcement and Stop Work Orders

8.4. In addition to any other applicable fine, penalty or remedy, Council, the CEO, or a designated official or Enforcement Officer may:

a) issue a Stop Work Order to order any Person who has not received full and proper authorization under this Law to cease carrying out any activity, use or construction listed under subsection 6.1 or 6.2 or any related activity or use; or

b) order any structures, works or installations carried out in violation of this Law to be removed within 30 days, failing which Council may order them to be removed at the expense of the Person who constructed or installed the structures, works or installations without proper authorization.

8.5. A Stop Work Order imposed under subsection 8.4 may be registered in court and enforced as a court order and continues in force until the condition that led to it is remedied or until the activity that is the subject of the Stop Work Order receives a permit or authorization under this Law.

9. COMING INTO FORCE

Date Law Comes into Force

9.1. This Law shall come into force and effect on the date it is passed by Council

Resolution after complying with the requirements of section 7 of the Land Code.

BE IT KNOWN that this Law entitled *Shxwhá:y Village Subdivision, Development and Servicing Law* is hereby enacted by a quorum of Council at a duly convened Council of the Shxwhá:y Villageheld on 6-30 **, 2015.**

STÓ:LŌ HERITAGE POLICY MANUAL

Xyólhmet te mekw'stám ít kwelát.
We have to look after everything that belongs to us.

Approved by the
Stó:lō Nation Lalems ye Stó:lō Si:ya:m (LYSS)

May 5, 2003

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S'ólh Téméxw te íkw'élò. Xólhmet te mekw'stám ít kwelát.

(This is our land. We have to look after everything that belongs to us.)

1.0 FORWARD

Stó:lō heritage is complex and dynamic. We carry on and express our traditions in relation to the ever-changing world of which we are a part. This policy manual is a living document that reflects our views on heritage. The policies presented in this document are subject to periodic reconsideration and revision.

1.1 PREAMBLE

Since the time of *sxwōxwiyám*, time immemorial, we, the *Stó:lō*, have occupied our territory – *S'ólh Téméxw* – what is now known as southwestern British Columbia and northwestern Washington State (see Figure 1).

"*Stó:lō*" is the *Halq'eméylem* word for "river" and also for the Halkomelem-speaking people who live within the lower Fraser River watershed. We, as the Stó:lō, are a collective community who hold rights and title within all of *S'ólh Téméxw – "our world"*. In the past, we moved freely amongst the villages according to where our extended family members lived. We were put here by the Creator, *Chichelh Siya:m*, but the world was chaotic. So, *Xexá:ls* (the Transformers) and *Tel Sweyal* (Sky-Borne People) came to make the world right and transform it into its present form.

In their travels through our territory *Xexá:ls* punished many of the hurtful and inconsiderate people responsible for the chaos affecting our world. Some of these people were turned to stone and remain, to this day, in this form. To complete their work *Xexá:ls* changed some good people into valuable and useful resources like the cedar tree, salmon, beaver, and black bear. Some, like *Lhílheqey* (Mt. Cheam), were transformed into mountains. We have depended upon these and other resources for our survival and prosperity. These resources were used in a way that was consistent with the special bond that exists between them and us. Due to the way our family tree connects the past and future generations, we regard these transformed ancestors as still living with and amongst us. In today's world as in the distant past, their *shxwelí* - spirit or life force - inhabits the resources in our territory. Before we change or alter our environment we must consider the way our actions will affect these resources - the living spirits of our ancestors. The way we use the landscape must be consistent with our beliefs, our relations and our general world view.

In our *Stó:lō* culture a special link exists between the past, present and future. We express this connection in many ways. In our *Halq'emeylem* language, for instance, we have the word *tómiyeqw* which translates into English as both great-great-great-great-grandparent and great-great-great-great-grandchild. The relationship expressed in this

word connects people seven generations past with those seven generations in the future. The connection between the past and future rests with those of use living today, in the present.

Our heritage stems from our occupation and use of *S'ólh T'éméxw* since the beginning of time, as the first inhabitants of this land. Our world, unlike that of many of our present-day neighbours, includes inseparable spiritual and material realms. The transformation events of *Xexá:ls* and *Tel Swayel* (Sky-Borne People) created places that prove our direct link to *Chichelh Siya:m*. We view our place and actions in our world as the center of a continuum extending seven generations past and seven generations forward. We live today in the world of both our ancestors and relatives yet to come. Our heritage - including our land, resources, people and ancestors - is ultimately all that we are. Our heritage must be treated with respect.

The historic and on-going influx of as many as 50,000 *Xwelítem* (in-migrating people without land title; see Definitions) per year into *S'ólh T'éméxw* has profoundly impacted our heritage. Since our first contact with small-pox in the late 1700s, the *Xwelítem* society has acted consistently in a manner that has greatly disturbed our way of life. The loss of our land, heritage sites and people, and the clear and continuing impacts to our culture are due largely to the *Xwelítem* society's failure to understand and respect our way of life, our actions and beliefs, our belongings, and the *Stó:lō* as a people with a unique heritage. We must protect and ensure the preservation of our heritage.

1.2 VISION

We, the *Stó:lō*, make public our *Stó:lō Heritage Policy Manual*. We do this with the intent that all who live here and care about the future of *S'ólh T'éméxw* will come to understand and respect us - our concerns, our heritage, our land and its treatment. We are determined to promote the integrity and well being of our *Stó:lō* heritage in all its forms. We wish to share our heritage with our neighbours. We promote better understanding between peoples in order to create a better and healthier way of life for all living within *S'ólh T'éméxw*. We believe this policy manual will aid us in these endeavours.

1.3 PURPOSE

The purpose of this Policy is to allow the Stó:lō to:

- protect, preserve and manage *Stó:lō* heritage - in all its forms – in a manner consistent with *Stó:lō* values, beliefs and traditions
- cooperate with other organizations - both *Stó:lō* and non-*Stó:lō* - in the protection, preservation and management of Stó:lō heritage
- protect and preserve *Stó:lō* religious freedom in all its expressions
- maintain the integrity of the *Stó:lō* spiritual world

- maintain healthy relations between the contemporary *Stó:lō* community and *Stó:lō* ancestors – past, present and future
- maintain the integrity of *Stó:lō* history and heritage through the respectful treatment of *Stó:lō* knowledge, heritage objects and sites
- advance knowledge and understanding of *Stó:lō* heritage
- maintain continuity in *Stó:lō* heritage and the practice of cultural traditions in forms both old and new
- advance *Stó:lō* cultural revival

2.0 CENTRAL PRINCIPLES AND POLICIES ON THE RESPECTFUL TREATMENT OF STÓ:LŌ HERITAGE

Central to Stó:lō Nation's policies on the treatment of heritage, its sites and objects, are guiding principles drawn from *Stó:lō* teachings. These principles are interconnected. Presented below are five such guiding principles applied throughout this Manual:

2.1 Determining Ownership and Care-Taking Responsibility –

A central principle to Stó:lō Nation's policies on the ownership and care-taking of heritage sites and objects are words of guidance provided by the Old People. *Stó:lō* Elders teach that heritage "artifacts" *belong to those who made them*. Viewed as their makers' "treasures," the Old People stress the importance of finding out where these artifacts came from and who owned them. Lineage plays a major role in determining who owns the material past.

Defining rights to heritage sites and objects – both material and non-material -- is like creating a family tree: the trunk stems from the artifact and branches out to its custodians. At its simplest, this tree consists of only a single trunk leading directly to an individual. In other cases, the trunk of the heritage tree branches into a few primary stems equivalent to family lineage. In cases involving artifacts from the more distant past, including most pre-contact material culture sites, the heritage tree develops numerous branches as it follows relations between individuals, families, communities and tribes. Many generations of intermarriage and movement between *Stó:lō* communities link interests in pre-contact sites. In some cases, heritage lineages are complicated by the fact that entire communities were "lost" to epidemics and relocation events triggered by European contact. Regardless, given the complexity of even a single family tree over only a few generations, a complete rendition of any archaeological site heritage tree would be far too complicated to completely identify or portray. Even a fraction of such a tree, however, demonstrates that rights and responsibilities to the pre-contact past generally exist at an inter-community, or 'national,' level branching across *S'ólh T'éméxw*.

2.1.1 Policy Statement:

The *Stó:lō* maintain ownership of and jurisdiction over all *Stó:lō* heritage sites and objects. On behalf of the broader Halkomelem-speaking community, Stó:lō Nation maintains jurisdiction over *Stó:lō* heritage sites and objects not otherwise linked directly to a family or individual. Stó:lō Nation recognises and accepts the shared heritage interests of other traditionally Halkomelem speaking communities and organisations not directly associated with the Nation. Stó:lō Nation endeavours to establish heritage related Protocol Agreements, as needed, with such Halkomelem communities and organisations. Stó:lō Nation may also develop heritage related Protocol Agreements with non-Aboriginal governments and resource management agencies.

2.2 **Xaxastexw te mekw' stam** (Respect all things)

Two sets of teachings affect the respectful treatment of things - *shxwelí* and *spoleqwíth'a*. *Shxwelí* is the life force that exists in all things. Since all things are alive with *shxwelí*, they must not be taken for granted. Also, the Old People warn that if the "artifacts" (heritage sites and objects) are not taken care of, the maker's *spoleqwíth'a* (ancestor spirit, ghost or shadow) may "bother you". For those directly or indirectly involved in dealing with *Stó:lō* heritage sites and objects, being "bothered" can range from experiencing visitations to suffering spiritual illness and even death due to loss of the *smestíyexw* (consciousness, soul or spirit). Through the respectful treatment of heritage sites and objects in today's world, respect is shown for *Stó:lō* ancestors' *spoleqwíth'a*. Practising this principle of respect in the treatment of *Stó:lō* heritage sites and objects is an important part of maintaining the integrity of these sites as well as a spiritually healthy community.

2.2.1 Policy Statement:

Stó:lō heritage sites and objects must be treated with respect.

2.3 **Xólhmet et mekx' stam s'i:wes te selsila:lh chet** (Take care of everything our great grandparents taught [showed] us) **/ Haqles chexw xwelmi:ay staxwelh** (Remember the future generations)

In *Stó:lō* culture a special link exists between the past, present and future. We express this connection in many ways. In *Halq'emeylem*, for instance, we have the word *tómiyeqw* which translates into English as both great-great-great-great-grandparent and great-great-great-great-grandchild. The relationship expressed in this word connects people seven generations past with those seven generations in the future. The connection between the past and future rests with those of use living today.

2.3.1 Policy Statement:

The management of heritage sites, objects and information must reflect ancestral *Stó:lō* values for the purpose of protecting and preserving our way of life into the future. We must consider our heritage accordingly and be respectful of our relatives seven generations past and future.

2.4 **Ewe chexw qelqelit te mekw' stam loy qw' esli hokwex yexw lamexw ku:t** (Don't ruin waste, destroy everything; just take what you need)

Shxwelí is the life force that exists in all things and which must not be needlessly consumed or destroyed. Wisdom must be used to avoid taking more than is needed thereby turning 'use' into 'waste'.

2.4.1 Policy Statement:

Resource and land use must be planned such that they conflict as little as possible with *Stó:lō* heritage interests. Mitigation and/or compensation is required where impacts to *Stó:lō* heritage are unavoidable or otherwise occur. Conflicts with and impacts to *Stó:lō* heritage must be justified as well as minimized.

2.5 Know your history.

Knowing your history is tied to knowing your identity and knowing how to behave properly in today's world, considering the ancestors past and those yet unborn.

2.5.1 Policy Statement:

We must make efforts to respectfully and accurately learn about and share our history with others.

3.0 DEFINITIONS

For the purposes of this Policy, Stó:lō Nation recognizes and defines the following terms.

3.1 General Terminology

Chichelh Siya:m the Creator

Stó:lō Heritage all aspects of *Stó:lō* culture and lifeways - both tangible and intangible - of the past, present and future, including but not limited to: language, physical / spiritual landscapes; place names; ceremonial sites; burials and burial sites; spirited places; songs; dances; art; craft; design; religious / spiritual / ceremonial practices; places and materials; subsistence and material gathering practices and sites; oral histories including all sqwelqwel and *sxwôxwiyám*; traditional / historical knowledge; family names; archaeological sites, features and objects; historic sites, documents and objects. Stó:lō Heritage can be classified by 'type', such *as Sxwôxwiyám, Xá:Xa, Ceremonial Regalia*, etc., as presented in section 4.0. Also referred to as '*Stó:lō* Heritage Resources' in relation to resource management (see section 6.0).

Halkomelem One of the languages spoken by the Coast Salish peoples of the southern Northwest Coast. Halkomelem is the native language of the *Stó:lō* of the lower Fraser River watershed and their relatives and neighbors from southeastern Vancouver Island. Halkomelem is made up of three dialects - *Hul'q'umín'um* ('Island' Halkomelem dialect), *Hun'qumyi'num* ('Downriver' Halkomelem dialect) and *Halq'eméylem* ('Upriver' Halkomelem dialect).

Iyoqthet transformed

Shxwlá:m Indian doctor(s)

S'iltexwáwtxw Plankhouse

S'ólh T'éméxw Stó:lō Territory; the *Halq'eméylem* word for "our world" or "our land", including the lower Fraser River watershed downriver of Sailor Bar Rapids in the lower Fraser River Canyon. *S'ólh T'éméxw* represents the world transformed by the actions of the Xexá:ls, Tel Sweyal and other 'agents' of *Chichelh Siya:m*. *S'ólh T'éméxw* is defined through the known extent of occupation and land use of the Halkomelem speaking peoples of mainland British Columbia. The map in Appendix I defines *S'ólh T'éméxw* for the purpose of this Policy.

Sqémél Pithouse

Sqwelqwel "True Story" (or stories); oral narratives relating to personal history

Stl'áleqem The word the Old People use to categorize certain spiritual beings inhabiting parts of *S'ólh T'éméxw* (similar to 'supernatural beings')

Stó:lō Intellectual Property
Knowledge, the nature of use of which has been transmitted from generation to generation, which is regarded as *Stó:lō* and as belonging to *Stó:lō* individuals, families, communities or the Nation as a whole. *Stó:lō* Intellectual Property, though rooted in the past, is contemporary knowledge that changes with time. Stó:lō Intellectual Property includes: place names; oral history; family names; songs; dances; designs/ images / arts; language; knowledge, as presented in Section 4.7.

Sxoxomes Gifts of the Creator

Sxwôxwiyám oral histories that describe the distant past "when the world was out of balance, and not quite right." *Sxwôxwiyám* account for the origins and connections of the *Stó:lō*, their land, resources and *sxoxomes (*'gifts of the creator'). There are many heritage sites throughout *Stó:lō* Territory that relate to *sxwôxwiyám*. These sites are among the most culturally important *Stó:lō* heritage sites and continue to function as essential parts of the contemporary *Sto:lo* world.

Sxwó:yxwey The *sxwó:yxwey* mask, dance, regalia and songs are integral aspects of traditional culture within the contemporary *Stó:lō* community.

Tel Swayel 'Sky-Borne People' who's actions of the distant past account in part for '"making the world right."

Xá:Xa spiritually potent; roughly translates as "taboo."

Xexá:ls the 'Transformers' who's actions of the distant past account in part for '"making the world right."

Xwelítem literally translates as *'hungry people*' describing the condition of some of the first non-Aboriginal immigrants into *S'ólh T'éméxw* (during the 1858 Gold Rush) who lacked access to the resources and food needed to ensure their survival. In later times, the *Stó:lō* used this term to describe the seemingly insatiable appetite of Colonial-period immigrants in consumption the land and resources of *S'ólh T'éméxw.* This term is currently applied to those in-migrating (or in-migrated) people who lack land title supported by spiritual / ancestral / historical connections to *S'ólh T'éméxw*).

4.0 STÓ:LŌ HERITAGE - RECOGNIZED SITES, OBJECTS, ACTIVITIES, AND KNOWLEDGE

4.1 Sxwôxwiyám Sites

- *sites associated with* sxwôxwiyám*, including:*

4.1.1 *Iyoqthet* (Transformation) *Sites*[i].

- features of the landscape created through the transformations of *Xexá:ls*, *Tel Swayel* or any other agent of *Chichel Siya:m*

4.2 Xá:Xa Sites

- sites associated with spiritually potent 'taboo' places in the landscape, including:

4.2.1 *Questing Places*

- places where people, particularly *shxwlá:m* (Indian doctors), go in quest of interacting with the spiritual or *xá:xa* realm(s)

4.2.2 *Stl'áleqem Sites*[ii]

- sites on the landscape associated with *stl'áleqem* (certain types of spiritual beings inhabiting parts of *S'ólh T'éméxw*)

4.2.3 *Spirited Places*

- places on the landscape inhabited by spiritual beings other than *stl'áleqem* (that is, *s'ó:lmexw*, *mimestíyexw*)

4.2.4 *Spirit Pole Sites*

- Places where spirit poles have been put away

4.2.5 *Sxwó:yxwey*

- places in the landscape associated with the origin(s) of the *sxwó:yxwey* mask, regalia, song, dance and ceremonial[iii]

4.3 Ceremonial Regalia Sites

- sites on the landscape where ceremonial regalia is or was stored or put away (and which may be spiritually potent), including:

4.3.1 *Sxwó:yxwey* Regalia Sites

- Sites used (currently or previously) for the storage of *Sxwó:yxwey* regalia

4.3.2 *Spirit Pole Sites*

- Places where spirit poles have been put away

4.4 Traditional Activities and/or Sites

- activities carried out in the past or present, the nature of which are regarded as *Stó:lō* and which have been transmitted from generation to generation; as well as those places/sites in the landscape where *Stó:lō* cultural activities are or were carried out. *Stó:lō* Traditional Activities and Sites, though rooted in the past, include contemporary activities which evolve and continue to change in nature over time, including:

- religious / ritual / spiritual / ceremonial activities (e.g., bathing; putting away spirit poles; fasting; running; sweats; spirit-power questing, praying)
- food collection (fishing, hunting
- medicine collection
- resource extraction (e.g., timber harvesting; mineral / gravel extraction)
- resource management (e.g., berry patch / prairie burning, tree / 'forest resource' planting and maintenance)
- general religious / ritual / spiritual / ceremonial-related resource gathering
- general craft / art-related resource gathering
- camping
- settlement development
- traveling

4.5 Material Culture Objects and Sites[iv]

- places with *material* evidence of human activity - past or present. 'Material culture' sites and objects are commonly conceived of and referred to as 'archaeological' / 'historic' sites and remains. Age, however, is not a factor in the inclusion of material objects in this site category. Recognized in this Policy are *all* material remains that are, in likelihood, of *Stó:lō* origin, ancestry, or otherwise have a cultural connection to the *Stó:lō* through their use. Material culture sites are generally comprised of and include one or both of the following types of objects:

  - *features* -- objects that form a permanent part of the site of which they are a part; objects that cannot physically be removed from the site of which they are a part - at least not without significant effort or without destroying the object (e.g., sqémél depressions; shell heaps; cache pits; earthworks; culturally modified trees; house frames / foundations; rock walls; pit-fall traps; trails; roasting pits; hearths; stone quarries; burial mounds / pits; monuments; roads / trails; etc.).

  - *artifacts* -- objects that can be readily removed from the site of which they are a part; moveable objects (e.g., chipped stone flakes, knives, spears and arrowheads; tin cans; glass bottles and jars; basketry; personal gear; groundstone hand-mauls; bone pins; antler wedges; glass beads; looms; instruments; etc.).

4.6 *Stó:lō* Ancestral Human Remains

- the skeletal or otherwise physical remains of a deceased person or persons in all likelihood of *Stó:lō* ancestry.

4.7 *Stó:lō* Intellectual Property

- knowledge, the nature of use of which has been transmitted from generation to generation, which is regarded as *Stó:lō* and as belonging to *Stó:lō* individuals, families, communities or the Nation as a whole. *Stó:lō* Intellectual Property,

though rooted in the past, is contemporary knowledge that changes with time. *Stó:lō* Intellectual Property includes:

4.7.1 *Place Name(s)*

- the Halkomelem name(s) of a place or places in the landscape of *S'ólh T'éméxw*. Place names are particularly important because they may indicate the significance of a place, whether it is a sacred place, and what oral histories are tied to or come from the place**.**

4.7.2 *Oral History*

- *Sqwelqwel*, *sx̲wôx̲wiyám* and other forms of oral history and narratives originating from the *Stó:lō*.

4.7.3 *Family Names*

- culturally inherited and owned names.

4.7.4 *Songs*

- culturally inherited or spiritually acquired songs.

4.7.5 *Dances*

- culturally inherited or spiritually acquired dances.

4.7.6 *Designs / Images / Crafts / Arts [Artistic Style]*

- Traditional *Stó:lō* images, designs and artistic styles.

4.7.7 *Language*

- the Halkomelem language.

5.0 GENERAL POLICIES - HERITAGE SITE MANAGEMENT OPTIONS

This section provides general policy statements regarding the treatment of the elements of *Stó:lō* heritage recognized in this Policy.

5.1 Determining Cultural Value and Respectful Treatment

All of *Stó:lō* heritage has an inherent cultural value – some elements greater than others. 'Cultural value' stands apart from the other types of 'significance' - economic, educational, historic, and scientific - often assigned to cultural sites and objects by non-*Stó:lō* investigators using provincial guidelines and standards. 'Cultural value,' alone, can only be determined from within the *Stó:lō* community and is therefore presented as a part of this Policy.

Determining a cultural value rating, in addition to the other commonly applied significance ratings, is an essential part of determining a deserving level of respectful treatment for any given element of *Stó:lō* heritage. Respectful treatment may range from total avoidance of a site to the collection or removal of objects from a site in order to avoid further disturbance, while following appropriate cultural protocols. Such ratings are most commonly determined in relation to the development of management plans -- whether applied to resolving a conflict between a heritage site and a proposed development, or identifying heritage objects for repatriation to the *Stó:lō*. 'Cultural value is particularly useful in identifying the parameters of such management plans and ensuring sensitivity to appropriate levels of respectful treatment of *Stó:lō* heritage.

The cultural value of any particular element of *Stó:lō* heritage reflects the nature of the attachment between the object, site, or knowledge and its original owner(s) / maker(s) / caretaker(s) (see Introduction). Thus, objects, sites, or knowledge of the highest cultural value are those that were held dearest by their maker(s)/owner(s) – and may include such things as Transformer sites, *sxwôxwiyám*, and ancestral burials. Objects on the lower end of the cultural value scale are those held least dear by their maker(s) – and may include such things as refuse heaps (e.g., shell middens) and debris from stone tool making.

The responsibility for determining cultural value rests with whoever may be determined to be the current caretaker. Determinations of cultural value made by Stó:lō Nation may not represent that of other *Stó:lō* organizations with cultural connections to and interest in the object, feature, etc. being assessed.

Cultural value, as a form of significance rating, should be identified on a scale from 'high' to 'low.' While a 'high' cultural value rating alone may ensure the protection / preservation of a cultural site or object, a 'low' cultural value rating must be viewed as only one of the full set of significance ratings needed to identify appropriate site treatment or management measures. Assigning a heritage site or object a 'low' cultural value rating is *not* an act of disrespect. In *all* cases, no matter what the 'cultural value,' *Stó:lō* heritage must be treated with deserving respect.

5.2 A Framework of Management Measures and Options for *Stó:lō* Heritage Sites

The table below provides a framework for the management of *Stó:lō* heritage sites.

Table 1. *Stó:lō* Heritage Site Types and optional Management Measures

Site Type	Preferred Management Measure	Secondary Option(s)	Comments
sxwôxwiyám; xaxa; sxwó:yxwey	avoidance / no impact	n/a	
stl'áleqem	avoidance / no impact	minimize impact & mitigate impact (to area)	refer to environmental assessment process; enhance the natural qualities of the area if possible / applicable
ceremonial regalia	avoidance / no impact	options potentially available per consultation with and approval of the Stó:lō Nation / Tribal Council	*exception* - spirit poles are not to be disturbed or moved as a means of avoiding impact
burial / cemetery	avoidance / no impact	options potentially available per consultation with and approval of the Stó:lō Nation / Tribal Council	burials *may* be recovered and reburied under some circumstances
material culture	avoidance / no impact	minimize impact & mitigate impact (to area)	
traditional activities	enhancement / avoidance / no impact /	minimize impact & mitigate impact (to area)	maintain or enhance the traditional use activity potential of the area
named place	avoidance / no impact	minimize impact & mitigate impact (to area)	refer to environmental assessment process; enhance the natural qualities of the area if possible / applicable

5.3 Management Options by Heritage Type

5.3.1 *Sxwôxwiyám* Sites

5.3.1.1 *Transformer Sites* -
Policy Statement:
Transformer sites must be preserved and protected from adverse impact.

5.3.1.2 *Ancestral / Transformer Species and Resources* -

Policy Statement:

It is necessary to protect, preserve and / or rehabilitate the habitats and populations of all ancestral / transformer species such as is required to maintain healthy habitats and populations.

5.3.2 *Xá:Xa* Sites

5.3.2.1 *Stl'áleqem Sites* **-**

Policy Statement:

All *stl'áleqem* sites are both 'sacred' and immovable, and *stl'áleqem* themselves are essential to Stó:lō well-being. It is therefore essential that their homes be protected from disturbance.

5.3.2.2 *Spirit Poles* -

Policy Statement:

Spirit poles, though a type of ceremonial regalia, are included in the *Xá:Xa* site category because they must not be physically contacted or interfered with in any way once put away by their owner. If found, spirit poles *should not be disturbed*. If found to be in conflict with a proposed development, necessary measures must be taken to ensure that the identified spirit pole and any associated objects are in *no way disturbed* by the development or any development-related staff, either in the process of developing, finalizing and / or implementing management actions and / or alterations to proposed development plans. The term "*disturbed*" refers to the following: touching or handling, visiting, photographing or depicting in any way, or discussing or transmitting in any way the location of the spirit pole(s) to 'non-essential' development-related staff. Disturbance of spirit poles, inadvertently or otherwise, could cause significant harm to the owner of the spirit pole.

In regards to development plans, a physical distance sufficient to ensure safety from any type of direct or indirect disturbance must be maintained around any identified spirit pole.

It is imperative that the highest levels of confidentiality be maintained among any development-related staff working in the proposed development area regarding the location of any identified spirit pole. If required, identified spirit poles and associated objects should be referred to indirectly for management purposes using appropriate generic management terminology (e.g., 'no work zone,' 'management zone;' 'sensitive resources'). The sections of documents containing information about identified spirit poles are to be treated as containing confidential information, exempt from the Freedom of Information Act.

In the event of disagreement over management actions for identified spirit poles, appropriate Smokehouse leaders should be contacted and consulted.

5.3.2.3 *Sxwó:yxwey Origin Places*
Policy Statement:
The integrity of *Sxwó:yxwey* origin sites should be maintained.

5.3.3 Ceremonial Regalia

5.3.3.1 *Sxwó:yxwey Regalia*
Policy Statement:
For its preservation and protection, the *sxwó:yxwey* is kept from general/non-ceremonial public display. Modern protocols, as determined by the families 'holding' *sxwó:yxwey* regalia and songs, generally prohibit the recording of *sxwó:yxwey* songs and the photographing of *sxwó:yxwey* masks and regalia. *Sxwó:yxwey regalia* should not be handled, viewed or otherwise disturbed without the 'holder's consent.

5.3.3.2 *Spirit Poles -*
Policy Statement:
See section 5.3.2.2.

5.3.4 Traditional Activities / Sites
Policy Statement**:**
Access to traditional activity areas and associated resources for use by the *Stó:lō* must be maintained and, as much as possible, re-established and enhanced.

5.3.5 Material Culture Sites / Objects
Policy Statement**:**
Material Culture Sites and/or Objects, including among other things archaeological and historic remains, may not be disturbed either intentionally or otherwise without a Stó:lō Heritage Investigation Permit (see sections 6.0 and 7.0). Under permit, Material Culture Sites/Objects should not be unnecessarily or unduly disturbed. The unpermitted disturbance of any Material Culture Site/Object - documented or otherwise - may result in investigation by the RCMP and punishment under existing law.

5.3.6 Stó:lō Ancestral Human Remains
Policy Statement**:**
This section refers to the treatment of *found* human remains of Stó:lō / Aboriginal ancestry. There are various historical contexts in which the Stó:lō Ancestral Human Remains have encountered and dealt following their initial burial. These include:

- incidental discovery
- development-related disturbance
- disturbance resulting from natural factors (e.g., river erosion)
- archaeological investigation
- repatriation

5.3.6.1 *Incidental Discovery of Stó:lō Ancestral Human Remains* -
Policy Statement:
The Stó:lō Nation Archaeologist and Cultural Advisor should be immediately notified of the identification and / or recovery of any human remains either known to be of Aboriginal / Stó:lō ancestry, or potentially of Aboriginal / Stó:lō ancestry.

In cases where the ancestry of the remains is uncertain, appropriate analyses (physical / spiritual) should be conducted to determine, with as much certainty as possible, the ancestry, sex, age, and any other pertinent information about the individual(s).

In cases where the ancestry of the remains is determined to be Aboriginal / *Stó:lō*, the remains should be turned over to the Stó:lō Research & Resource Management Centre (SRRMC) - on behalf of the Stó:lō Nation / Tribal Council - in a timely fashion. Otherwise, if familial relations can be determined, the associated family should be consulted regarding the further care and treatment of the remains.

Either at the time of recovery or as soon as possible following recovery, the ancestral remains should be placed in a wooden (western redcedar) box and wrapped in red, cotton cloth. These procedures should be performed by or under the instruction of a *shxwlá:m*. The wrapped and packaged remains may be temporarily housed in the Stó:lō Material Culture Repository, or other appropriate facility, while analyses - if any - are carried out and reburial plans are made.

Acceptable analyses may include sampling for radiocarbon dating, dietary analysis, and DNA analyses. Collected remains should be described and analyzed by a professional physical anthropologist. Analyses should be overseen by the SRRMC Archaeologist to ensure maximum analytic accuracy and to ensure that cultural protocols are followed. Such analyses and/or sampling should be completed prior to reburial.

The Stó:lō Cultural Advisors, if necessary, may facilitate reburial plans. In cases of family jurisdiction, the assistance of Stó:lō Cultural Advisors is available upon request.

Reburial should be conducted as soon as possible following the receipt and analysis of any ancestral human remains. If facilitate by Stó:lō Cultural

Advisors, a cemetery should be identified for the reburial event, preferably as volunteered by the Chief of one of the *Stó:lō* communities, as a hosting community. The reburial proceedings should include a burning ceremony sponsored and arranged by the hosting community, with the assistance of Stó:lō Cultural Advisors.

Records of all found ancestral human remains and their disposition should be maintained by the Stó:lō Research & Resource Management Centre.

5.3.6.2 *Other contexts for found Stó:lō Ancestral Human Remains*
Policy Statement:
In relation to the other contexts for the recovery of ancestral human remains, including -

- development-related disturbance
- disturbance resulting from natural factors (e.g., river erosion)
- archaeological investigation
- repatriation

the SRRMC Cultural Advisor and Senior Archaeologist should be consulted for input developing appropriate procedure(s) and protocols at the earliest time possible.

5.3.7 *Stó:lō* Intellectual Property

This section treats *Stó:lō* Intellectual Property as a whole, rather than individual categories. Place Names and Language are additionally addressed as specific sub-set categories of this section. Policy statements applicable to *Stó:lō* intellectual properties are presented below in reference to:

- Ownership
- Consent
- Recognition
- Misrepresentation
- Fair Use

5.3.7.1 *Ownership of Intellectual Properties*
Policy Statement:
The *Stó:lō*, as individuals, families, communities, or Nation(s), hold Aboriginal rights in and ownership of intellectual properties that are derived from and/or integral to our distinctive *Stó:lō* culture.

5.3.7.2 *Consent to Use Stó:lō Intellectual Property*
Policy Statement:
Informed consent from the owner(s) of *Stó:lō* intellectual property, be it an individual, a family, a community, or the Stó:lō Nation/Tribal Council, must

be attained before use of *Stó:lō* knowledge, except in situations of 'fair use' (see section 5.3.7.5)

5.3.7.3 *Recognition of Stó:lō Intellectual Property*
Policy Statement:
All *Stó:lō* intellectual property must be property credited when used, quoted, or referred to.

5.3.7.4 *Misrepresentation of Stó:lō Intellectual Property*
Policy Statement:
No individual or organization may state or imply they are *Stó:lō* or are affiliated or supported by the Stó:lō Nation / Tribal Council/community without verification of such claim(s).

5.3.7.5 *Fair Use of Stó:lō Intellectual Property*
Policy Statement:
Exerts from *Stó:lō* intellectual property, except property that is confidential, secret, or private, may be used for educational, informational, commentary, or purposes other than profit, as long as the *Stó:lō* owner is properly referenced. Prior consent is still encouraged for this use, but is not required.

5.3.7.6 *Place Names*
Policy Statement**:**
The Stó:lō Nation / Tribal Council encourage the contemporary re-application of known Halkomelem place names to otherwise alienated or re-named places within *S'ólh T'éméxw*, provided their accurate and appropriate use, as evaluated and approved of by the SRRMC Cultural Advisor, Stó:lō *Halq'eméylem* Language Program, and Cultural Committee(s).

5.3.7.6 *Language*
Policy Statement:
The Stó:lō Nation / Tribal Council encourages the general contemporary use of Halkomelem, provided it is consistent and accurate in its application.

5.4 Theft and / or Sale / Trade / Exchange of material cultural artifacts

Policy Statement:
The Stó:lō Nation / Tribal Council prohibits the theft and / or sale, and uncondoned trade or exchange of all commonly held cultural artifacts, including - in part - archaeological artifacts, ceremonial regalia, and transformer objects (excluding commonly marketable resources including fish and western redcedar).

6.0 MANAGEMENT PROCESSES - ASSESSING IMPACTS TO STÓ:LŌ HERITAGE

This section defined the conditions under which Stó:lō heritage resources require consideration and assessment in relation to potential disturbance.

6.1 Heritage Resource Assessment Requirements

Stó:lō Nation / Tribal Council requires that impacts to *Stó:lō* heritage resources be considered, assessed, and mitigated from all development-related disturbances and impacts.

Heritage Resource (HR) studies should be undertaken as either *Overview Assessments* or *Impact Assessments* - essential and strategic elements of responsible development planning practice. All such heritage related studies must be conducted by researchers with an appropriate level of experience and training, under the conditions of a Stó:lō Heritage Investigation Permit (see section 7.0). Other types of heritage investigations not directly related to development driven management studies, including those related to research, also share this requirement.

6.1.1 **Heritage Resource Overview Assessments** (HROA)

HROAs serve the purpose of identifying known or potential heritage sites (recognized in this Policy) within a given area or project area (usually associated with a proposed development plan). The objective of the HROA is to determine impact assessment requirements, based on the known and/or projected risk of encountering and impacting heritage sites.

6.1.2 **Heritage Resource Impact Assessments** (HRIA)

HRIAs serve the purpose of inventorying and identifying all potential conflicts between heritage resources and proposed development plans. The objective of the HRIA is to develop management measures and options that serve to avoid or mitigate impacts to heritage resources. Management measures should be consistent with the 'Framework of Management Measures and Options for Stó:lō Heritage Sites' included in this Policy (see section 5.2, Table 1). Management recommendations may include additional phases of inventory and/or data collection required in the process of developing a sound management plan.

7.0 RESPONSIBILITIES OF HERITAGE INVESTIGATORS

This section defines the responsibilities of individuals directing heritage-related studies within *S'ólh T'éméxw*.

7.1 Stó:lō Heritage Investigation Permit and Permitting Process

It is the responsibility of the directors of all prospective heritage investigations - management- and research-based alike - to obtain the following permit prior to commencing work:

- **Sto:lo Heritage Investigation Permit** - this type of permit is required for all archaeological studies and/or cultural heritage management related investigations conducted within S'ólh Téméxw (Stó:lō Territory) - details of which are provided below

Prospective investigators are required to submit a *Stó:lō Heritage Investigation Permit Application Form* (see Appendix I) to the SRRMC Senior Archaeologist for review and processing. Permit application submissions must be accompanied by a *$100.00 processing fee*. This fee must be received prior to processing, except as noted below. In general, permit applications will not be processed without the receipt of the processing fee.

A copy of the Stó:lō Heritage Investigation Permit Application Form and associated *permit terms and conditions* is included Appendix I. This form is also available in hard-copy or digital forms by request from the SRRMC Senior Archaeologist. Applicants are encouraged to submit digital versions of their applications by e-mail to the SRRMC Senior Archaeologist (address available through the Stó:lō Research & Resource Management Centre). In such cases, it is not necessary to submit an associated hard copy. In the case of digital submissions, a typed name will be construed as substituting for the applicant's signature on the last page of the application. Otherwise, hard copy versions can be submitted by fax (number available through the Stó:lō Research & Resource Management Centre) or mail. Faxed or e-mailed applications can be processed prior to the receipt of the processing fee if it is noted that payment has been sent.

Upon receipt of the application form *and* processing fee, the SRRMC Senior Archaeologist will review the document for its technical content. Any concerns (methodology, repository, etc.) will be brought to the attention of the applicant for discussion, revision and re-submission. No fee is required for revised and re-submitted applications. Upon technical approval, the application form will be assigned a permit number and approved for issuance by the SRRMC Senior Archaeologist, who will then distribute the Stó:lō Heritage Investigation Permit (see Appendix II) to the applicant. E-mail is the preferred mode of distribution, however, hard-copy permit forms will be mailed of faxed to the permit holder if necessary. Upon completion of the permitted project, the Chief Investigator / permit holder is required to submit a final report, newly

recorded and/or revised heritage site forms, and the completed Heritage Investigation Project Summary Form (see Appendix III), as per the permit conditions.

The SRRMC Senior Archaeologist will provide information on issued Stó:lō Heritage permits to the provincial 'Archaeology Branch' in relation to their consultative requirements.

Conducting archaeological / cultural resource work without a permit, or failure to comply with the permit terms and conditions, constitutes a violation of this Policy, subject to penalty noted on the researcher's record, and may result in exclusion from future permit holding capacity.

Investigators/applicants are responsible for acquiring all other applicable permits - including those of First Nations with shared interests (as defined by mapped or stated territory boundaries) – prior to commencing work under the Stó:lō Heritage Investigation Permit.

The Stó:lō Heritage Policy and issuance of the Stó:lō Heritage Investigation Permit is independent of, works in mutual compatibility with, and neither infringes on or excludes in any way other applicable First Nations permit(s) which are based upon an interest in and responsibility for Stó:lō heritage as shared amongst the Stó:lō community.

This Permit is <u>not</u> to be construed as a statement of title exclusive of other First Nations' interests.

Though independent, this Policy/Permit is understood by the Stó:lō Nation / Tribal Council to work in conjunction with and in addition to the policies and protocols of other First Nations that share cultural heritage interests with the communities linked to the Stó:lō.

The issuance of Stó:lō Heritage Investigation Permits does not constitute consultation on or participation in any project for which the work proposed in the permit application is a part. The issuance of the Permit is separate and apart from the consultation process associated with any development proposal(s) to which the permitted project is linked, and in no way contributes to or in any way relieves the project proponent's consultative duties with Stó:lō Nation, Stó:lō Tribal Council, and/or any other First Nations. This Permit will be issued to the permit applicant only as a result of having satisfied the process of technical review associated with the proposed program of archaeological investigation.

Nothing in the issuance of the Stó:lō Heritage Investigation Permit is intended to affect the exercise or scope of, or justify any infringement of any *Stó:lō* aboriginal rights or title.

Any sharing of information resulting from the Stó:lō Heritage Investigation Permit process shall not be construed as concurrence with provincial or federal policies or legislation.

8.0 COLLECTION OF STÓ:LŌ HERITAGE ARTIFACTS

This section defines Stó:lō Nation / Tribal Council's position regarding the collection of *Stó:lō* heritage artifacts.

[**Qá:qel** - "taking things that don't belong to you."]

Two basic scenarios are identified in which artifacts have historically been collected:

- incidental finding and collection
- investigation project-related collection
    - heritage impact assessment (HIA) - minor archaeological testing
    - research / mitigation - major archaeological testing

Each of these scenarios is discussed below.

8.1 Incidental Finding and Collection

- incidental finds (i.e., surface finds without an associated Stó:lō Heritage Investigation Permit) are encouraged to be left in place, unless in immediate threat of being destroyed, lost due to natural causes (e.g., erosion), or otherwise found and collected. It is recommended that in either case or being collected or left in place, the SRRMC Senior Archaeologist be contacted and informed of the nature and location of the find.

8.2 Investigation Project-Related Collection

- the collection of artifacts related to projects carried out under the Stó:lō Heritage Investigation Permit.

8.2.1 *Heritage Impact Assessment – (minor testing)*

Regarding initial heritage site inventory / impact assessment studies in which the primary objective is to define site presence or absence in a given area using a shovel testing (or alternate sub-surface testing) strategy, investigators are *encouraged* to record, describe, and analyze all found artifacts while 'in-field' and re-inter (if found below the ground surface) - or replace (if found on the ground surface) - such artifacts in the location(s) where they were originally found. Re-interred artifacts should be placed in a labeled bag(s) (include date, investigator, SN permit number; test number / provenience; contents - using indelible marker) and placed at the base of the test in which they were found. All artifact locations are to be plotted on appropriately scaled site maps.

The rational behind this strategy is to:

- minimize site integrity disruption
- reduce the collection of objects that provide no subsequent information beyond that recoverable in the field
- to reduce unnecessary pressure on repository space and curatorial effort

Alternately, collection should be opted for during HRA inventory work when:

- significant objects are identified (i.e., rare; diagnostic; can provide information not recoverable through in-field documentation; etc.)
- the identified artifacts are in danger of being destroyed
- the identified artifacts are in danger of being lost to natural causes (e.g., erosion)
- the identified artifacts are in danger of being found and collected in an unpermitted context
- The HRIA study is known to be preliminary to a more intensive research / data-collection / mitigation project (see section 8.2.2)

In these cases, artifacts should be collected rather than left in place.

8.2.2 *Research / Data collection / mitigation – (major testing)*

Regarding research / data collection / mitigation studies that involve intensive and controlled excavation (or recovery) of heritage artifacts, all recovered artifacts are to be collected.

8.3 Artifact Collector Protocol

All collectors of artifacts are to follow the Curation procedures outlined in section 9.0

9.0 CURATION OF ARTIFACTS

9.1 Artifacts Collected under Stó:lō Heritage Investigation Permit

Artifacts collected under Stó:lō Heritage Investigation Permit must be housed in an appropriate curatorial facility. In determining an acceptable curatorial facility, three options are generally suggested:

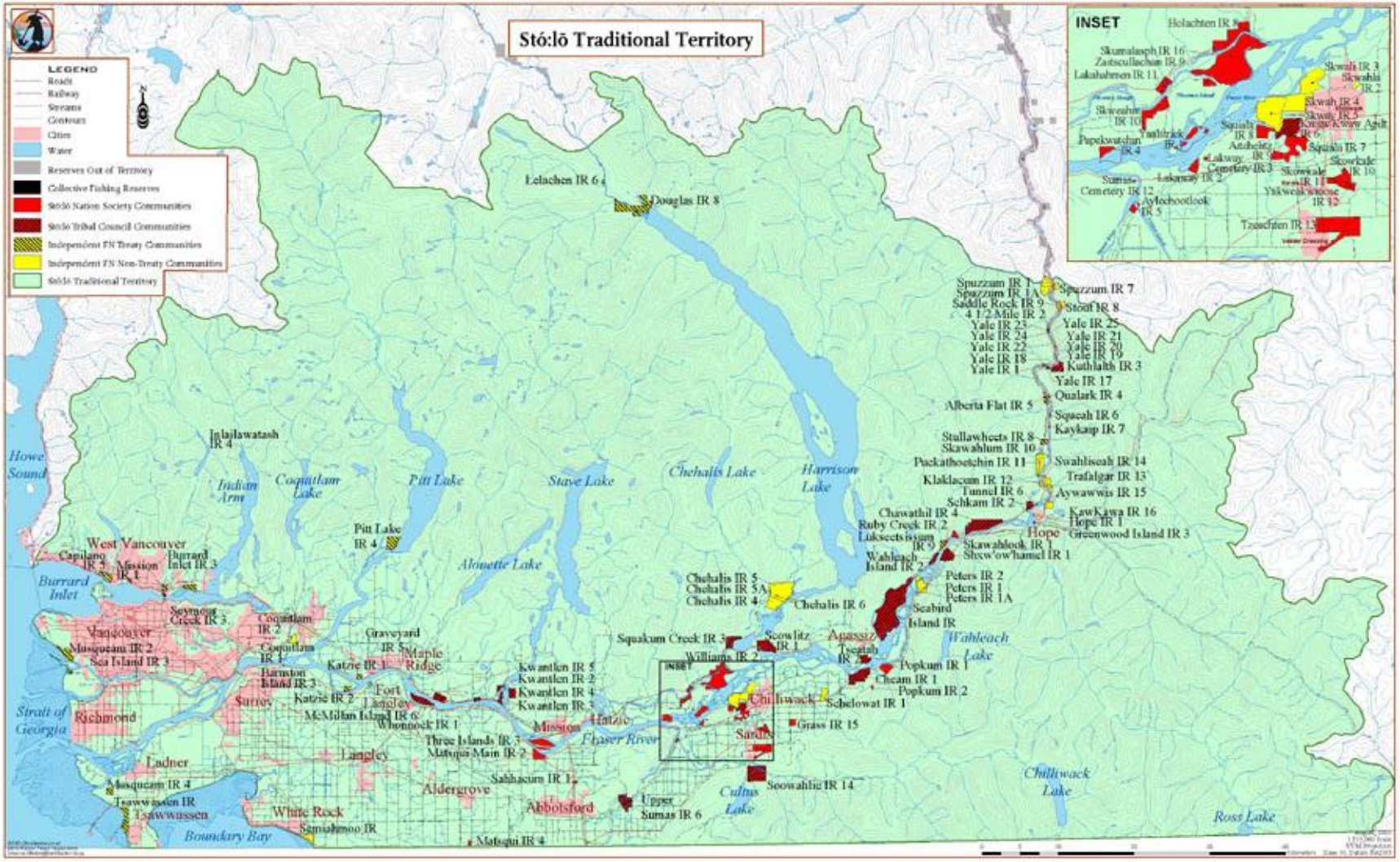
Option A - if there are *existing collections* from the same site(s), then the newly collected artifacts will be incorporate with those existing collections at the associated repository (e.g., SFU, UBC, RBCM), so long as the repository is provincially recognized, meets national curatorial standards, and agrees to maintain the artifacts on behalf of and in trust for the Stó:lō and other associated First Nations. If no such collections exist, then the following two options apply -

Option B – if found to be agreeable to all other involved First Nations parties, then the collected artifacts will be curated at the *Stó:lō Material Culture Repository*. The permit holder will facilitate necessary discussions between all interested First Nations parties on a site-specific basis (relative to the associated areas of interest) and the provincial 'Archaeology Branch' with regards to the implementation of these options. If unanimous agreement on this option cannot be reached between the interested First Nations parties, then the following option (C) will be implemented.

Option C - collected artifacts may be curated at the *Royal British Columbia Museum* (RBCM), University of British Columbia – Laboratory of Archaeology, Simon Fraser University Archaeological Museum, or other acceptable repository (on an 'in trust' basis for interested First Nations parties).

9.2 Stó:lō Material Culture Repository

Refer to the *STÓ:LÔ MATERIAL CULTURE REPOSITORY OPERATING POLICY AND PROCEDURES MANUAL* (see Appendix III) for procedures and protocols associated with the curation of heritage artifacts at the Stó:lō Material Culture Repository.


Stó:lō Traditional Territory
LEGEND
Roads
Railway
Streams
Contours
Cities
Water
Reserves Out of Territory
Collective Fishing Reserves
Stó:lō Nation Society Communities
Stó:lō Tribal Council Communities
Independent FN Treaty Communities
Independent FN Non-Treaty Communities
Stó:lō Traditional Territory
INSET
Howe Sound
Indian Arm
Coquitlam Lake
Pitt Lake
Stave Lake
Chehalis Lake
Harrison Lake
Alouette Lake
Burrard Inlet
Strait of Georgia
Fraser River
Wahleach Lake
Chilliwack Lake
Cultus Lake
Ross Lake
Boundary Bay
Vancouver
West Vancouver
Richmond
Surrey
Langley
Aldergrove
Abbotsford
White Rock
Ladner
Hope
Chilliwack
Mission
Maple Ridge
Fort Langley
Sumas
Inlajlawatash IR 4
Pitt Lake IR 4
Douglas IR 8
Lelachen IR 6
Spuzzum IR 1
Spuzzum IR 7
Yale IR 25
Kuthlath IR 3
Yale IR 17
Qualark IR 4
Alberta Flat IR 5
Squeah IR 6
Kaykaip IR 7
Swahliseah IR 14
Trafalgar IR 13
Aywawwis IR 15
KawKawa IR 16
Hope IR 1
Greenwood Island IR 3
Skawahlook IR 1
Shxw'ow'hamel IR 1
Peters IR 2
Peters IR 1
Peters IR 1A
Seabird Island IR
Popkum IR 1
Popkum IR 2
Cheam IR 1
Schelowat IR 1
Grass IR 15
Soowahlie IR 14
Sahhaium IR 1
Matsqui IR 4
Three Islands IR 3
Matsqui Main IR 2
Kwantlen IR 5
Kwantlen IR 2
Kwantlen IR 4
Kwantlen IR 3
Whonnock IR 1
McMillan Island IR 6
Katzie IR 1
Katzie IR 2
Graveyard IR 5
Coquitlam IR 2
Coquitlam IR 1
Barnston Island IR 3
Musqueam IR 2
Sea Island IR 3
Seymour Creek IR 3
Capilano IR 5
Mission IR 1
Burrard Inlet IR 3
Musqueam IR 4
Tsawwassen IR
Tsawwassen
Semiahmoo IR
Upper Sumas IR 6
Chehalis IR 5
Chehalis IR 5A
Chehalis IR 4
Chehalis IR 6
Squakum Creek IR 3
Scowlitz IR 1
Williams IR 2
Sumas IR 5
Aggassiz IR 1
Tseatah IR 1
Chawathil IR 4
Ruby Creek IR 2
Lukseetsissum IR 9
Wahleach Island IR 2
Puckathoetchin IR 11
Klaklacamm IR 12
Tunnel IR 6
Schkam IR 2
Stallawheets IR 8
Skawahlum IR 10
Saddle Rock IR 9
4 1/2 Mile IR 2
Yale IR 23
Yale IR 24
Yale IR 22
Yale IR 18
Yale IR 1
Yale IR 21
Yale IR 20
Yale IR 19
Stoni IR 8
Spuzzum IR 1A
Holachten IR 8
Skumalasph IR 16
Zaitscullachan IR 9
Lakahahmen IR 11
Skwah IR 4
Skwah IR 5
Squiala IR 8
Squiala IR 7
Skowkale IR 10
Skowkale IR 11
Yakweakwioose IR 12
Tzeachten IR 13
Aylechoodlook IR 5
Sumas Cemetery IR 12
Lakahay IR 2
Lakahay Cemetery IR 3
Pupekwatchan IR 4
Yaalstrick IR 7
Atchelitz IR 9
Skwawhit IR 10
Skwah IR 3
Skwahla IR 2
Kwaw Kwaw Apult IR 6

Appendix I - Stó:lō Heritage Investigation Permit Application Form

Stó:lō Research & Resource Mgmt. Centre
Bldg. #1 - 7201 Vedder Road, Chilliwack, B.C. V2R 4G5
Tel: 604-858-3366 Fax: 604-824-5124

HERITAGE INVESTIGATION PERMIT APPLICATION

Permit No. (to be assigned)	
Application Submission Date:	
Project Proponent:	
Chief Investigator / Company:	
Project Name:	
Project Location:	
Note: $250.00 Permit Processing Fee required with submission (please submit a check or money order payable to Stó:lō Nation *with* your permit application)	

Type of Heritage Project: (check approriate boxes)

Heritage Overview Assessment	
Heritage Site Impact Assessment	
Heritage-related Research Project (non-resource management)	

Nature of Investigation: (check approriate box)

Residential property development		Mining-related development	
Industrial property development		Other (specify):	
Transportation-related development			
Forestry-related development			

Estimated Project Timeframe:

Start Date: Day/Mo./Yr.	End Date: Day/Mo./Yr.

Will you be interviewing Stó:lō individuals in the course of this research?	Yes:	No:

Other Permits obtained for this Project:

1. First Nations:	
2. Provincial:	
3. Federal:	

(Please Attach Copies with the Application)

STÓ:LŌ HERITAGE INVESTIGATION PERMIT APPLICATION
Project description: (please please attach provincal HCA permit application, including detailed project description, objectives, methodology; or otherwise, provide this information in the space below; use additional pages if required.)

Identified Curatorial Facility:

<u>Acceptance of Permit Conditions</u>: As chief investigator for this project, I certify that I understand and hereby agree to abide by policies outlined in the Stó:lō Heritage Policy Manual (2003) and the specific permit conditions associated with this Stó:lō Heritage Investigation Permit: **Chief Investigator:**	
Name:	
Title:	
Date:	
(Day/Month/Year)	Chief Investigator - Signature

Permitting Authority Approval:	
Name:	
Title:	
Date:	
(Day/Month/Year)	Permitting Signatory – Signature

Stó:lō Heritage Investigation Permit - Terms and Conditions:

1. The permit holder is responsible for ensuring that all staff working on this project are familiar with the Stó:lō Heritage Policy Manual (a copy of this document will be provided upon request).
2. The permit holder will make a concerted effort to hire at least one Stó:lō community member (with an appropriate level of experience and training) to assist in conducting this project.
3. In the event that human remains are identified at any time during the course of this project, the permit holder must immediately cease and stabilize any disturbance of the remains, inform the Senior Archaeologist at the Stó:lō Research & Resource Mgmt. Centre (SRRMC) – representing the Stó:lō Nation & Tribal Council - of the nature and location of the remains, and implement any instructions provided by these individuals regarding the treatment of the remains.
4. *Prior* to the production of the final report, the permit holder will provide the Senior Archaeologist at the SRRMC an opportunity to review and comment on proposed management recommendations relating to any cultural heritage sites identified during the course of this project.
5. Implementation and inclusion of editorial comments made by Stó:lō Nation, Stó:lō Tribal Council, and/or SRRMC representatives with regard to management recommendations and/or any other portion of the project report will be negotiated between the permit holder and the Senior Archaeologist at SRRMC, *prior* to report finalization.
6. The permit holder shall provide the Senior Archaeologist at the SRRMC with *one* copy of the final report (*including the Stó:lō Heritage Permit number on the cover*) for this project, *prior to* the expiration of this permit. All final reports are expected to meet or exceed the reporting standards developed by the provincial Archaeology Branch. In the event that provincial reporting standards and/or guidelines are not applicable to this project, the permit holder is responsible for developing such standards/guidelines in consultation with the Senior Archaeologist at the SRRMC.
7. The permit holder shall provide the Senior Archaeologist at the SRRMC one copy of any updated or newly recorded British Columbia Archaeological Site Inventory Form(s) resultant from the project. Site forms should be submitted with the final report (both as hard copy and electronic files).
8. Any application for extension of this permit must be made at least 30 days prior to the permit expiry date.
9. Reasonable amendments to this permit may be requested in writing on an 'as needed' basis.
10. A representative(s) of the Stó:lō Nation, Stó:lō Tribal Council, and/or the SRRMC may at any time inspect any project being conducted under this permit.
11. The permit holder shall provide the Senior Archaeologist at the SRRMC with one completed copy of the *Heritage Investigation Project Summary Form* upon submission of the final report.
12. Any project-related disturbance(s) of archaeological sites / project area must be mitigated (i.e., returned to their pre-existing state) upon completion of the project.
13. Failure to comply with any of the above permit conditions may effect future permit eligibility.

Other: (as may be specified upon review of application)

- *Temelh* – red ochre 'paint' – may be required to be worn by all participants in archaeological excavations, as deemed necessary by Stó:lō cultural advisors representing the Stó:lō Nation and/or Stó:lō Tribal Council.

Appendix II - Stó:lō Heritage Investigation Permit

STÓ:LŌ

HERITAGE INVESTIGATION PERMIT

No. 2003-00

Permittee: (name)
Project: (title)
Permit Issuance/Expiry Dates: (date) 2003/04

Stó:lō Heritage Investigation Permit - Terms and Conditions:

1. The permit holder is responsible for ensuring that all staff working on this project are familiar with the Stó:lō Heritage Policy Manual (a copy of this document will be provided upon request).
2. The permit holder will make a concerted effort to hire at least one Stó:lō community member (with an appropriate level of experience and training) to assist in conducting this project.
3. In the event that human remains are identified at any time during the course of this project, the permit holder must immediately cease and stabilize any disturbance of the remains, inform the Senior Archaeologist at the Stó:lō Research & Resource Mgmt. Centre (SRRMC) – representing the Stó:lō Nation & Tribal Council - of the nature and location of the remains, and implement any instructions provided by these individuals regarding the treatment of the remains.
4. *Prior* to the production of the final report, the permit holder will provide the Senior Archaeologist at the SRRMC an opportunity to review and comment on proposed management recommendations relating to any cultural heritage sites identified during the course of this project.
5. Implementation and inclusion of editorial comments made by Stó:lō Nation, Stó:lō Tribal Council, and/or SRRMC representatives with regard to management recommendations and/or any other portion of the project report will be negotiated between the permit holder and the Senior Archaeologist at SRRMC, *prior* to report finalization.
6. The permit holder shall provide the Senior Archaeologist at the SRRMC with *one* copy of the final report (*including the Stó:lō Heritage Permit number on the cover*) for this project, *prior to* the expiration of this permit. All final reports are expected to meet or exceed the reporting standards developed by the provincial Archaeology Branch. In the event that provincial reporting standards and/or guidelines are not applicable to this project, the permit holder is responsible for developing such standards/guidelines in consultation with the Senior Archaeologist at the SRRMC.
7. The permit holder shall provide the Senior Archaeologist at the SRRMC one copy of any updated or newly recorded British Columbia Archaeological Site Inventory Form(s) resultant from the project. Site forms should be submitted with the final report (both as hard copy and electronic files).
8. Any application for extension of this permit must be made at least 30 days prior to the permit expiry date.
9. Reasonable amendments to this permit may be requested in writing on an 'as needed' basis.
10. A representative(s) of the Stó:lō Nation, Stó:lō Tribal Council, and/or the SRRMC may at any time inspect any project being conducted under this permit.
11. The permit holder shall provide the Senior Archaeologist at the SRRMC with one completed copy of the *Heritage Investigation Project Summary Form* upon submission of the final report.
12. Any project-related disturbance(s) of archaeological sites / project area must be mitigated (i.e., returned to their pre-existing state) upon completion of the project.
13. Failure to comply with any of the above permit conditions may effect future permit eligibility.

Other: (as may be defined)

Appendix III - Heritage Investigation Project Summary Form

Stó:lō Research & Resource Mgmt. Centre
Bldg. #1 - 7201 Vedder Road, Chilliwack, B.C. V2R 4G5
Tel: 604-858-3366 Fax: 604-824-5124

HERITAGE INVESTIGATION PROJECT SUMMARY FORM

Stó:lō Nation Permit Number:	
Provincial HCA Permit Number:	
Other permit numbers:	
Project Proponent:	
Chief Investigator / Company:	

Permit application / processing fee paid in full? ___ Yes ___ No

Findings / Management Recommendations: (check approriate boxes)

• No heritage site findings / No management recommendations required	
• Heritage site findings / No management measures required to mitigate potential site impacts	
• Heritage site findings / Management measures required to mitigate potential site impacts	
• Other (explain):	

Newly Recorded Archaeological Sites:

Borden Site Designation	Site Type
(provide additional sheet if necessary)	

- Site form(s) submitted with final report? Yes___ No____ (please check the appropriate blank)

Revisited / Revised Archaeological Sites:

Borden Site Designation	Site Type
(provide additional sheet if necessary)	

- Site form(s) submitted with final report? Yes___ No___ (please check the appropriate blank)

New radiocarbon dates obtained during this project? ___ Yes ___ No (if *yes*, complete the following table):

New Radiocarbon Dates: (list newly dated sites)

Borden Site Designation	Radiocarbon Lab	Radiocarbon Date(s) / Sample Number(s)
(provide additional sheet if necessary)		

- Radiocarbon date analysis form(s) / date(s) submitted with final report or site form(s)? Yes___ No___ (please check the appropriate blank)

Newly Recorded Traditional Use / Other Types of Heritage Sites:

Site Designation	Site Type
(provide additional sheet if necessary)	

- Site form(s) submitted with final report? Yes___ No___ (please check the appropriate blank)

Revisited / Revised Traditional Use / Other Types of Heritage Sites:

Site Designation	Site Type
(provide additional sheet if necessary)	

- Site form(s) submitted with final report? Yes___ No___ (please check the appropriate blank)

Artifacts collected during this project? ___ Yes ___ No (if *yes*, complete the following table):

New Artfact Collections Information:

Borden Site Designation	**Artifact Catalogue Numbers (provide range)**	**Curatorial Facility**
(provide additional sheet if necessary)		

- Artifact catalogue included in or with the final report? Yes___ No___ (please check the appropriate blank)
- Has the RBCM been informed of the artifact catalogue numbers used in this project? Yes___ No___ (please check the appropriate blank)

Additional project-related information (optional – provide additional information potentially useful in project tracking):

FOOTNOTES

[i] Into the chaotic world of the distant past, the time of *sx̲wô x̲wiyám,* came *X̲ex̲á:ls*, the transformers – the three sons and one daughter of Red Headed Woodpecker and Black Bear, who lived in the mountains at the head of Harrison Lake. Black Bear's jealous second wife, Grizzly Bear, killed Red Headed Woodpecker. The four children – all black bears – left their widowed father and began the process of making the world right through transformations. First, they journeyed down the Harrison River to its confluence with the region's main *stó:lō* (river), now called the Fraser. From there, *X̲ex̲á:ls* journeyed upriver to the sunrise and then, ascending, continued westward through the sky to the sunset. Once reaching the sunset, they returned back upriver to the sunrise and were never seen again.

During their travels, *X̲ex̲á:ls* (referred to as '*X̲á:ls'* when acting as independent beings) performed many transformations. They turned people, often those who acted wrongly, to stone. They rewarded the generosity of others by transforming them into valuable local resources (including the red cedar tree, the sturgeon and the beaver), many of which are the ancestors of the *Stó:lō* people.

In addition to the stories of *X̲ex̲á:ls*, other ancient histories tell of *Tel Swayel* ('Sky-born' people) who fell from the sky. These first people provide the ancestral root for many *Stó:lō* communities, especially in the down-river area. Like *X̲ex̲á:ls, Tel Swayel* carried special knowledge and caused transformations which brought order to the world.

Many of the rivers, sloughs, and mountains in *S'ólh T'éméxw* were created or transformed by *X̲ex̲á:ls* or *Tel Sweyal.* They fixed those people and animals that they chose not to transform into permanent forms, making them no longer mutable. These transformations thus fixed the world and established the present landscape. The rocks and other objects transformed by *X̲ex̲á:ls* and *Tel Swayel*, along with their associated *sx̲wôx̲wiyám*, bear witness to the unique and long-standing relationship between the *Stó:lô* and the land and resources in *Stó:lō* Territory.

Ancestral / Transformation species and 'natural' resources include, but are not limited to:

Land Animals	Fish / Aquatic Mammals	Birds	Plants
Badger	Coho Salmon	Crane	Western
Beaver	Dog Salmon	Eagle	redcedar
Black Bear	Eulachon	Hell Diver	Bulrush / Cat-tail
Black Bear	Humpback Salmon	Humming Bird	Iris
(w/ white spot)	Octopus	King Fisher	
Deer	Otter	Loon	
Grizzly Bear	Salamander	Raven	
Marten	Seals	Red-Headed Woodpecker	
Mink	Sockeye Salmon	Sandhill Crane	
Mountain Goat	Steelhead	Sawbill Duck	
Muskrat	Sturgeon	Seagull	
Raccoon	Sturgeon Eggs	Cormorant	
Wolf	Sucker Fish	Stellar's Jay	
Wooly Dog	Whale	Swan (white)	
		White Owl	
		Wren	

[ii] "*Stl'áleqem*" is the word the Old People use to categorize certain spiritual beings inhabiting parts of *S'ólh Téméxw*. These beings' spiritual potency affords them a significant place in *Stó:lō* culture, yet they are difficult to describe or explain to people raised outside of the culture. Metaphors of "monsters" and translations of *stl'áleqem* as "supernatural creatures" fall short of conveying the full meaning of the word and carry a western perspective that robs "*stl'áleqem*" of its *Halq'eméylem* essence. Likewise, the distinction western society makes between "real" and "unreal" is not applicable in categorizing *stl'áleqem*: some spiritual beings, such as the hairy giant *sásq'ets* (sasquatch), the *s'ó:lmexw* (water babies) who live at the bottoms of certain lakes and deep spots in rivers, the *mimestíyexw* (little people) who inhabit various regions of *S'ólh Téméxw* and assist spirit dancers, and the majestic *shxwexwó:s* (thunderbird) whose flapping wings make thunder, whose blinking eyes make lightning, and whose urine is rain, are all thought to be just as real as bears, chipmunks and sturgeon, and are not considered *stl'áleqem*.

Perhaps the best way of conveying what a *stl'áleqem* is simply to identify them by name and then describe how they are referred to within *sxwôxwiyám* and *sqwelqwel* (oral histories). The Old Ones speak of at least five different types or kinds of *stl'áleqem*: *Sí:lhqey*, the two-headed serpent; *St'qoya*, the frightening glowing red eyes sometimes seen at night; *Ápel*, the large maggot who inhabits the rock bluffs and deep bays above and in the southeast corner of Cultus Lake; and *T'liteqo Spá:th*, the underwater black bear who lives in the waters of the Fraser Canyon near Lady Franklin Rock. An encounter with any one of these creatures can be dangerous, holding the potential for mixed outcomes. *Stó:lō* therefore regard places inhabited by *stl'áleqem* as *xá:xa* (spiritually potent; ≅ taboo). Since many current *Stó:lō* activities – hunting, ritualistic spiritual swimming, and "leaving our things" – lead people to visit places where *stl'áleqem* reside, it is important to know their locations and to follow proper protocol. Those who have been taught how to act appropriately, such as *shxwlá:m* (Indian doctors), can attain spirit power by showing respect to *stl'áleqem*. For instance, rather than turning and running upon seeing a *stl'áleqem* – a typical reaction of someone not prepared for the encounter – one should face it and slowly back away until the creature is out of sight. Another teaching specifies that a person should pluck hair from their head and blow it towards the *stl'áleqem*. Failure to follow these or other appropriate, sacred teachings can lead to serious consequences. Common reactions to mild, unintentional *stl'áleqem* encounters are often described as "causing the hair to rise on the back of

your neck" or producing a feeling that an unseen presence is near. Those who are warned away and yet knowingly trespass into a *stl'áleqem* site may suffer *xó:lí:s* (to twist up and die). Children are particularly prone to this condition. Those who do not immediately die require the treatment of a *shxwlá:m* to relieve their sickness.

[iii] The *sx̱wó:yx̱wey* mask, dance, regalia and songs are integral aspects of traditional culture within the contemporary *Stó:lô* communities. Taken together, the *sx̱wó:yx̱wey* serves primarily as a "cleansing instrument" at significant events such as naming, puberty, wedding and funeral ceremonies. Though fulfilling an important function among all *Stó:lō*, the *sx̱wó:yx̱wey* is "carried" only in those families who can trace ancestry to its origin along maternal lines. Women, who own the masks, regalia and songs, privilege certain men in their families with the right of performing the *sx̱wó:yx̱wey* dance. Women sometimes wear *sx̱wó:yx̱wey* regalia, as well as dance. Today, only women are permitted to sing the accompanying songs.

The natural elements of air and water (associated with many *Stó:lō* healing rites and spirit power stories) are closely connected to *sx̱wó:yx̱wey* origins. At *Xwméthkwiyem* (Musqueam), oral traditions explain that the *sx̱wó:yx̱wey* (mask and rattle) came from the sky, dropped by *Chíchelh Siyá:m* (the "High *Siyá:m*" or Creator) at the feet of one of their sky-born ancestors. Stories from other *Halq'eméylem* communities where the *sx̱wó:yx̱wey* is present (such as at *Sq'éwlets* at the mouth of the Harrison River), describe the original mask as having been fished from the water.

All *sx̱wó:yx̱wey* stories share elements of the one associated with *Q'áwq'ewem* (Kawkawa Lake) and *Iwówes*, near Hope, BC, as told by Mrs. Bob Joe in 1949:

> Long ago a man determined to commit suicide because some disease was marring his face. He wandered away to Kawkawa Lake near Hope and, seeing some coho salmon in the water, caught one and cooked it. While he was gazing at the cooked fish, his nose began to twitch and, presently, one tiny frog after another leapt from it into the salmon. Greatly depressed, he climbed a neighbouring cliff and leapt into the water, but as he sank below the surface his feet touched a board and he sighted a house. Its inmates, who had heard his descent, lead him inside, where many sick people were lying on the ground and a voice said, "the stranger perhaps can heal them." He looked at the sufferers and, noticing spittle on this one's arm, that one's shoulder and that one's back – wherever in fact they were feeling pain – he removed it with a stick and healed them, for he now possessed great medicine-power. Then someone who was wearing a masked-dance costume said to him: "I will guide you home. There is a passage from here to the Fraser River." So his guide conducted him to his home and disappeared in the water again.
>
> When the man entered his house, he said to his sister: "throw my fishing line as far out into the lake as you can. Don't be terrified by what it catches." The woman threw out the fishing line and drew in the masked-dance costume that the guide had worn. Her brother permitted her to keep it and later, when she married a Hope Indian, she took it to Hope. One of her daughters married an Indian of Musqueam, and a descendent married a Cowichan Indian. That is why the masked dance has established itself in those places. The costume consisted of a mask of cedar and leggings made either from young goatskin or from the skin of the white swan after removal of the larger feathers.

Assuming 20 years between generations, the origin of the first *sx̲wó:yx̲wey* can be traced through the family lineage of those "carrying" the mask back to around 1780. Coupled with this, other versions of the *sx̲wó:yx̲wey* story describe the "disease" as "sores" or "leprosy" similar to and more than likely referring to the spots, lesions and blisters of smallpox *(variola major)*, which devastated the population of *S'ólh Téméxw* in 1782. While the actual *sx̲wó:yx̲wey* mask and regalia appear to be innovations from the contact era, they emerged at least a decade before the first European arrived at the mouth of the Fraser River. Moreover, the associated healing significance and connection to status are ancient – as the Old People say, "thousands of years old".

[iv] *Material Culture* sites commonly found in *S'ólh T'éméxw* include, but are not limited to:

- house features (e.g., *sqémél; s'iltexwáwtxw*; European-style frame houses)
- drawings / paintings (e.g., pictographs; ledger sketches)
- carvings (e.g., petroglyphs; arborglyphs; sculptures)
- culturally modified trees (e.g., bark-stripped trees; logged tree stumps; felled tree sections; trees with test holes; planked trees;
- *lithic* ("stone" tool or debris) scatters
- cooking / food processing features (e.g., roasting pits / trenches)
- storage features (e.g., cache pits)
- earthworks (e.g., mounds, embankments)
- baskets and basketry remains
- glass beads
- containers (tin cans, glass jars, wooden bowls)

Material Culture site types unique to or generally uncommon outside of *S'ólh T'éméxw* (as considered the Coast Salish culture area of the Southern Northwest Coast) are:

- earthen burial mounds
- stone burial cairns
- rock wall alignments (fortifications)

Material Culture sites in *S'ólh T'éméxw* can be generally classified as either:

- pre-contact period sites (pre-1782)
- post-contact period sites (post-1782)

APPENDIX F

Landscape Plant Species List

Westbow
GROUP OF COMPANIES

Cedarbrook Banks Apartment - Landscaping Schedule

Description	Common Name	Qua.		Description	Common Name	Qua.
PLANTS				**TREES**		
Berberis Thunbergii	Sunjoy Neo	32		Acer Ginnala	Amur Maple	2
Betula Plettkei	Dwarf Birch	28		Lagerstroemia Indica	Natchez Crape Myrtle	4
Buxus	Boxwood	66		Picea Abies	Red-Tipped Norway Spruce	9
Echinacea Purpurea	Magnus Purple Coneflower	109		Styrax Japonica	Snowball Jap. Snowbell	4
Fragaria Vesca	Yellow Wonder Strawberry	90				
Geum Chiloense	Totally Tangerine Avens	86				
Hemerocallis	Little Grapette Daylily	69				
Hydrangea Macrophylla	Hydrangea	41				
Lirope Muscari	Big Blue Lily Turf	344				
Lonicera Caerulea	Pie Haskap	8				
Lonicera Pileata	Honeysuckle	27				
Perovskia Atriplicifolia	Russian Sage	40				
Polystichum Munitum	Western Sword Fern	134				
Prunus Laurocerasus	Genolia English Laurel	122				
Prunus Laurocerasus	Titan English Laurel	41				
Ratibida Columnifera	Prairie Coneflower	40				
Rhododendron Impeditum	Purple Rhododendron	79				
Rosa Floribunda	Veranda Shite Rose	41				
Rosa	Paprika Rose	68				
Sanguisorba Officinalis	Tanna Great Burnet	54				
Symphoricarpus Albus	Snowberry	16				
Syringa	Dwarf Purple Lilac	20				
Taxus Media	Hilli English Yew	65				
Vaccinium Angustifolium	Lowbush Blueberry	58				
Vinca Minor	Periwinkle	133				

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