Naturally, A Higher Standard

August 30, 2021

Project No: 21-3915

3850 Swamp Rd,
Kelowna, BC
V1W 4M9

Attn: Kevin Schmidt

Subject: Environmental Management Plan for Fill Placement at 3850 Swamp Road in Kelowna, BC.

1.0 INTRODUCTION

Ecoscape Environmental Consultants Ltd. (Ecoscape) has been retained by Kevin Schmidt to prepare an Environmental Management Plan (EMP) for the proposed fill placement for erosion control work at 3850 Swamp Road in Kelowna, BC, legally described as Plan KAP1829 Lot K District Lot 168 Except Plan EPP21089 (study area) (**Figure 1**). The study area is zoned as Agriculture 1 (A1) and is found within the Agricultural Land Reserve (ALR). A notice of Unauthorized Removal of Soil or Placement of Fill (File: 160595) was submitted to the client January 14, 2021 (**Appendix A**).

The purpose of this report is to address potential environmental impacts of the proposed work, outline the existing conditions of the study area and provide mitigation measures in accordance with the Agricultural Land Commission (ALC) guidelines for fill placement. This report is to be included with the submission package for Notice of Intent (NOI) for fill placement with the ALC, as well as a Development Permit (DP) with the City of Kelowna (COK) for the proposed work. Because of historical agricultural activity within the study area, the City is willing to allow fill placement with the appropriate permitting in place (as per personal communication with COK Planner, Corey Davis).

This report also provides an assessment of potentially existing terrestrial resource values, the potential for rare and/or endangered species and habitats, and recommendations where appropriate to maintain and/or improve the natural integrity of existing ecological communities.

2.0 PROPOSED WORKS

The proposed works entail the following (**Figure 2**):

- Placement of approximately 23,500 m^3 of fill material, up to 1 m in depth throughout the study area, excepting:
    - A 5m buffer from ditch and wetland features; and

  - Within the 50m Riparian Management Area (RMA) of Mission Creek.
- Reseeding of any disturbed area using an agricultural pasture mix.

The focus of this document is to provide an Environmental Management Plan (EMP) to be followed during proposed work, and for submission for a DP with the COK. If the mitigation measures and best management practices presented here are adhered to, this work presents a low risk to aquatic, riparian and terrestrial resource values.

3.0 ECOSYSTEMS

Ecoscape Natural Resource Biologist Benjamin Butz, B.Sc., BIT., conducted a visit to the study area on July 20, 2021 to document the existing study area conditions and identify sensitive environmental features. The study area is a series of modified wetlands/ditches and constructed basins under the local name Michaelbrook. The study area is bordered by Mission Creek to the north and west, Swamp Rd to the east, and neighbouring agricultural fields to the south.

The majority of the study area could best be described as a seasonally-flooded field. Located around the area's perimeter are several ditches constructed to divert groundwater, including one such ditch cutting north-to-south through the middle of the study area. The study area shows evidence of historical agricultural activity, including more recent placement of fill within the southeastern portion of the study area.

3.1 Vegetation

Within the portions of the study area that had seen less recent disturbance, vegetation was characterized by *Carex spp.* (sedges) and assorted high-moisture grass species, such as *Phalaris arundinacea* var. *arundinacea* (reed canary grass) (**Photo 1**). Within portions that that had seen more recent disturbance in the form of fill placement, vegetation was composed entirely of invasive plant species such as *Chenopodium album* (common lamb's-quarters) (**Photos 2 and 3**). Tall shrubs grow along the study area's ditches.

No plant species-at-risk were observed within the study area; however, a comprehensive floristic survey was not within the scope of this report. While ideally two study area visits would be made for such a survey (one in the spring and one in the summer), due to project timing, only a single study area visit occurred during the summer. Consequently, neither a full species list nor the presence or absence of species-at-risk could be confirmed.

3.2 Wildlife

No wildlife species-at-risk were observed within the study area; however, due to the scope of this assessment, a comprehensive wildlife survey was not possible. Consequently, the presence or absence of species-at-risk could not be confirmed.

4.0 IMPACT ASSESSMENT

Ecoscape has not completed a formal impact statement for this project. It is acknowledged that numerous wildlife species use habitats adjacent to Mission Creek, such as seasonally-flooded fields. However, because this report is focused more specifically on placement of suitable materials for agriculture, a search of the Conservation Data Center (CDC) or BC Species & Ecosystem Explorer is not within its scope.

The proposed works is to occur within the vicinity of Mission Creek. A portion of the property that has been used for agriculture is within the creek's 50 m Riparian Management Area (RMA). Fill placement should take place outside of this RMA. Any encroachment into this RMA must be approved by the City of Kelowna prior to implementation.

It is anticipated that the potential impacts from the proposed works would be considered minimal. Ecoscape anticipates that, with due diligence and the appropriate mitigation measures in place, the risks for adverse environmental impacts to Mission Creek can be appropriately mitigated. Appropriate mitigation and restoration measures should be adhered to in order to protect potential aquatic and terrestrial life.

Ecoscape recognizes that the proposed works could result in the following potential impacts:

- Potential for the establishment of invasive plant species within the environment during disturbance of land within the study area.
- Potential for the release of deleterious substances (e.g., fuel, oil, concrete, hydraulic fluid) to the environment during the proposed works or as a result of improper storage, equipment re-fueling, and/or poorly maintained equipment.
- Disturbance beyond the proposed footprint if not clearly marked or identified before and during construction.

5.0 MITIGATION MEASURES

Recommendations to avoid or minimize the potential impacts that may arise during the proposed construction works are summarized below and based on Best Management Practices (BMPs). BMPs must be adhered to throughout construction. The most relevant best management practices that should be adhered to during the proposed work include:

- Best Management Practices for Amphibian and Reptile Salvages in British Columbia (MFLNRORD 2016).
- Develop with Care Environmental Guidelines for Urban and Rural Land Development (BC MoE 2014a).
- Guidelines for Amphibian and Reptile Conservation during Urban and Rural Land Development in British Columbia (BC MoE 2014b).

5.1 Work Timing Windows

5.1.1 Nesting Bird Work Windows

Avian nesting periods should be considered to protect nesting birds within and adjacent to the proposed work area.

- Section 6 of the Federal *Migratory Birds Convention Regulation* protects both the nests and eggs of migratory birds. Section 34(a) of the BC *Wildlife Act* protects all birds and their eggs, Section 34(b) protects the nests of eagles, peregrine falcons, gyrfalcons, ospreys, herons or burrowing owls, and Section 34(c) protects the nests of other bird species while they are occupied by a bird or egg. The project area falls within the Northern Okanagan Basin ecodistrict. The avian nesting period for all birds within this ecodistrict is **February 18th to September 12th** (Birds Canada 2021).
- If vegetation clearing activities are required during the identified avian nesting period, pre-clearing nesting surveys may be required by an Environmental Monitor (EM) to identify active nests.
- If active nests are found within the clearing limits, a buffer will be established around the nest until such time that the EM can determine that nest has become inactive. The size of the buffer will depend on the species and nature of the surrounding habitat. Buffer sizes will generally follow provincial BMP guidelines or other accepted protocol (e.g., Environment Canada). In general, a minimum 30 m buffer will be established around songbird nests or other non-sensitive (i.e., not at risk) species.
- Clearing and other construction activities must be conducted within 72 hours following the completion of the pre-clearing nesting surveys. If works are not conducted in that time, the nesting surveys are considered to have expired and a follow-up survey will be completed to ensure that no new nests have been constructed.
- Best management practices relating to raptors and their nests can be found in Guidelines for Raptor Conservation during Urban and Rural Land Development in BC (2013).

5.2 Fill Placement

- Fill placement must not occur within 5 m of constructed ditches or any other water features.
- Disturbance beyond the identified fill placement footprint must not occur without further assessment.
- Native vegetation, including trees, shrubs, and groundcover, must be retained as much as possible to mitigate the establishment of invasive plants and to maintain the existing ecological value within the study area.

- In the event that land and/or natural vegetation is disturbed or damaged beyond the development footprint area, these areas must be restored and/or replanted with plant material indigenous to the area under the direction of the EM.
- Whenever possible, equipment/machinery used must not be operated or stored within the drip line of trees and equipment must not come into contact with trees outside of the marked limits of disturbance, which could result in physical damage to the bark or limbs.

5.3 Erosion and Sediment Control

The following section details the mitigations and recommendations related to erosion and sediment control (ESC) that must be adhered to throughout the duration of the project.

- It is the contractor's responsibility to inspect all mitigation measures daily and additional measures will be installed, maintained, and repaired or replaced as required using a field-fit, adaptive approach.
- Road surfaces adjacent to the project area must be kept clean and free of fine materials. Sediment accumulation upon the road surfaces must be removed (i.e., swept or scraped) on a regular basis and disposed of appropriately.
- The release of silt, sediment, sediment-laden water, or any other deleterious substance into any ditch, watercourse (creek, river, lake, wetland), ravine, or other drainage feature must be prevented at all times. Similarly, there is to be no sediment release into areas of vegetation growth or sensitive areas in levels that would adversely alter growing or hydraulic conditions.
- It is the contractor's responsibility to regularly monitor weather forecasts and adjust ESC measures or proposed construction activities as required based upon the existing conditions of the study area.

5.4 Dust Management

Dust generating activities include dust from wheels of vehicles and machinery and stockpiling and movement of soil.

Avoidance, containment, and suppression of dust and dusty processes must be ensured by the following measures:

- Road sweeping/cleaning of entrance and access;
- All material leaving the study area in fully enclosed trailers (tarped);
- Wetting of material prior to disturbance (if appropriate);
- Reduction of speed by vehicles onsite;
- Closing down various or all operations during severe wind events;

- Operator procedures i.e., good housekeeping to keep clean and tidy site;
- Transport management; and
- Additional measures may include cleaning, dampening of haul roads and limiting site speeds, and further onsite restrictions as required.

At all times during operation dust will be monitored by visual assessments.

The site manager is responsible for the operation of the dust management plan and all site operatives will be trained and required to take necessary mitigation action. They will also be required to take preventative action to avoid dust.

5.5 Emergency Spill/Response

- Construction debris and stockpiled material must be removed from the site regularly and disposed of appropriately.
- All potential wildlife attractants, including food, beverages, and other strong smelling or perfumed materials must be removed from the site daily.
- Spills of deleterious substances can be prevented through awareness of the potential for negative impact on aquatic habitats and with responsible housekeeping practices onsite. Maintenance of a clean site and the proper use, storage and disposal of deleterious liquids and their containers are important to mitigate the potentially harmful effects of spills and/or leaks.
- Ensure equipment and machinery are in good operating condition, free of leaks, excess oil, and grease. Equipment needs to be pressure/steam-washed prior to use within close proximity of a watercourse.
- Spills occurring on dry land will be contained, scraped and disposed of appropriately. Contaminated material will be stored on tarps and covered to prevent mobilization and will be disposed of in accordance with the *Environmental Management Act*.
- Copies of contact phone numbers for notification of all of the required authorities in the event of a spill/emergency response should be posted and clearly visible at the site.
- Spill containment kits must be kept readily available onsite during construction in case of the accidental release of a deleterious substance to the environment. Any spills of a toxic substance should be immediately reported to the Emergency Management BC 24-hour hotline at **1-800-663-3456**, as well as Ecoscape at **1-250-491-7337**.

5.6 Site Cleanup and Restoration

Site cleanup and restoration refers to activities used to return disturbed areas within the study area to a state resembling the original habitat characteristics. Note that protection of existing ecosystems is generally much more efficient than ecosystem enhancement and

restoration following construction. The following recommendations apply to the site cleanup efforts:

- Silt fencing, snow fence and other temporary mitigation features must be removed upon substantial completion of works when the risk of surface erosion and sediment transport has been adequately mitigated with other permanent measures.
- All equipment, supplies, waste, concrete, and other non-biodegradable materials must be removed from the site following the substantial completion of construction activities.
- Weed management and erosion control must occur in all areas of the disturbance footprint.
- Impacts from invasive species include the displacement or competitive exclusion of native species. Prevention of the establishment of invasive species can be achieved by limiting disturbance to soils and native vegetation where possible.
- Ecoscape understands that currently no major restoration has been proposed for the project besides reseeding of any disturbed area with an agricultural grass seed mix. Should further restoration be required, plant species selected should be native to the area and suitable to the growing conditions where the plantings have been proposed.
- The timing of grass seeding is critical to optimize success and it is recommended that seeding should occur in spring ***between April and June*** or fall ***between September and October***. Over-seeding may be required in concurrent growing seasons to obtain adequate coverage and reduce competition by invasive plant species.

6.0 ENVIRONMENTAL MONITORING

An environmental monitor (EM) should be retained to document compliance with proposed mitigation measures and to provide guidance during construction works. In the event that greater disturbance occurs due to unforeseen circumstances, the EM should recommend further measures to protect/restore the natural integrity of the site. The EM should be an appropriately Qualified Environmental Professional (QEP).

A pre-construction meeting should be held between the EM and the contractor(s) undertaking the work onsite to ensure a common understanding of the ALC guidelines, mitigation measures and best practices required for the project. The EM will attend other routine meetings, as required.

- It is the contractor's responsibility to provide the EM with a detailed construction schedule and inform the EM of any changes to that schedule.
- The EM will be an approved Qualified Environmental Professional (QEP) authorized to halt construction activities should an incident arise that is causing undue harm (unforeseen or from lack of due care) to terrestrial, aquatic, or riparian resource values.

- A copy of this EMP report describing mitigation measures and BMPs will be kept readily available at the site for reference while the work is being conducted.
- Monitoring reports will be submitted to the COK and ALC in accordance with permitting requirements. A final report will be generated upon the substantial completion of construction works summarizing the project activities and listing any deficiencies noted throughout the works.

7.0 CLOSURE

This report has been prepared for the exclusive use of the client and solely for the purpose for which it has been provided with the understanding that all available information on the past, present, and proposed conditions of the site have been disclosed. The client has acknowledged that in order for Ecoscape to properly provide the professional service, Ecoscape is relying upon full disclosure and accuracy of this information. This report should not be interpreted as an endorsement of the proposed works, but as a municipal tool for decision making.

If you have any questions or comments, please contact the undersigned at your convenience.

Respectfully Submitted,
ECOSCAPE Environmental Consultants Ltd.

Reviewed by:

Benjamin Butz, B.Sc., BIT
Natural Resource Biologist
Direct Line: (250) 491-7337 ext.202

Theresa Loewen, M.Sc., P.Ag.
Agroecologist
Direct Line: (250) 491-7337 ext.217

Attachments: Photographs
Figures
Appendix A: Letter from Agricultural Land Commission

8.0 REFERENCES

British Columbia Ministry of Environment (BC MoE). 2014a. Develop with Care Environmental Guidelines for Urban and Rural Land Development. Available: Accessed online: June 23, 2020. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/laws-policies-standards-guidance/best-management-practices/develop-with-care.

British Columbia Ministry of Environment (BC MoE). 2014b. Guidelines for Amphibian and Reptile Conservation during Urban and Rural Land Development in British Columbia. Available: Accessed online: June 23, 2020. http://www.env.gov.bc.ca/wld/documents/bmp/HerptileBMP_complete.pdf.

British Columbia Ministry of Forests, Lands, Natural Resources and Rural Development (MFLNRORD) 2016. Best Management Practices for Amphibian and Reptile Salvages in British Columbia. Available: Accessed online: June 23, 2020 http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?subdocumentId=10351.

Photo 1. View of the study area. Photo facing north. Photo taken July 20, 2021

Photo 2. View of the study area and location of previous fill placement. Photo facing northwest. Photo taken July 20, 2021

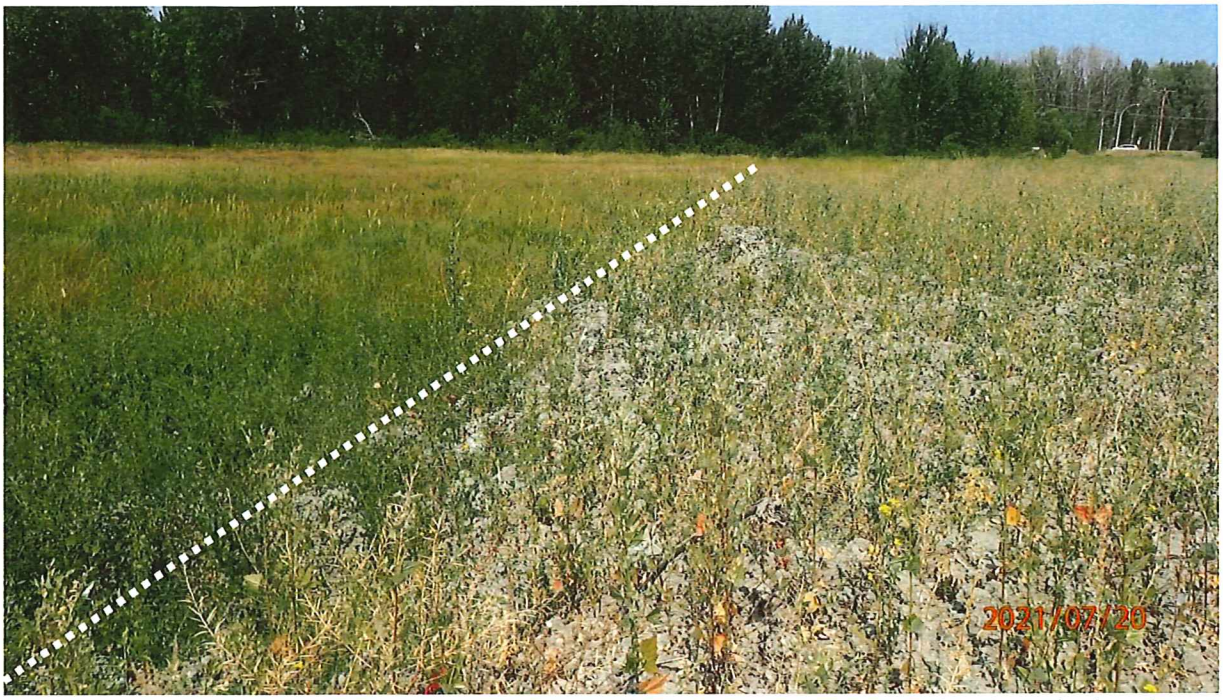


Photo 3. View of the study area and the edge of previous fill placement. The dotted white line indicates where the two vegetation communities meet. Photo facing northeast. Photo taken July 20, 2021

Figures

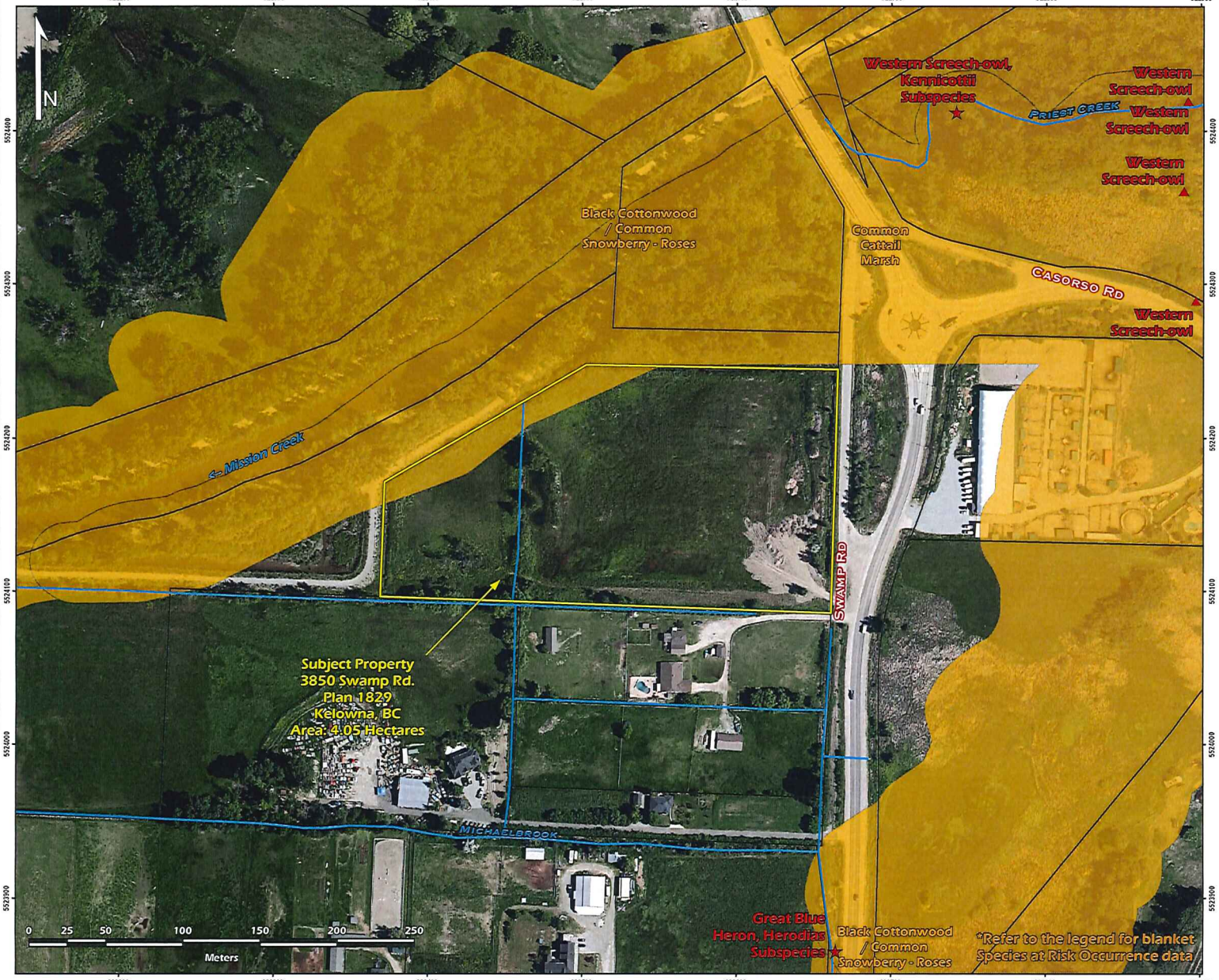


FIGURE 1

Site Location and Species at Risk Occurrences

Project:	Environmental Assessment
Location:	City of Kelowna
Project No.:	21-3915
Prepared for:	Kevin Schmidt
Prepared by:	Dan Austin, GIS Specialist Ecoscape Environmental Consultants Ltd.
Coordinate System:	NAD83-UTM Zone 11
Imagery:	RDCO 2019
Field Visit:	N/A
Map Date:	August 20, 2021

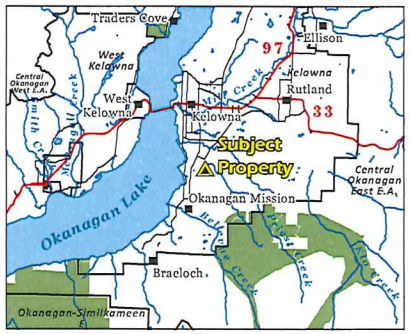
LEGEND

- WSI Incidental
- WSI Survey
- Streams and Rivers
- BC Conservation Data Center (CDC) Polygons*
- Subject Property
- Cadastre

*A large Okanagan Critical Habitat polygon covers the entire map and subject property area representing the following wildlife species but is not shown on this figure:
- Western Rattlesnake (*Crotalus oreganus*)
- Desert Nightsnake (*Hypsiglena chlorophaea*)
- Great Basin Gophersnake (*Pituophis catenifer deserticola*)

Large Conservation Data Center (CDC) polygons include:
- American Badger (*Taxidea taxus*)
- Western Screech Owl (*Megascops kennicottii macfarlanei*)

Regional Location of Subject Property



DISCLAIMER
The data displayed is for conceptual purposes only and should not be interpreted as a legal survey or for legal purposes. If discrepancies are found between the data portrayed in this report and that of a legal survey, the legal survey will supersede any data presented herein.

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FIGURE 2
Proposed Works

Project:	Environmental Assessment
Location:	City of Kelowna
Project No.:	21-3915
Prepared for:	Kevin Schmidt
Prepared by:	Dan Austin, GIS Specialist Ecoscape Environmental Consultants Ltd.
Coordinate System:	NAD83-UTM Zone 11
Imagery:	RDCO 2019
Field Visit:	N/A
Map Date:	August 30, 2021

LEGEND

- Mission Creek RMA Setback (50m)
- Ditch
- Mission Creek Top of Bank
- Streams and Rivers
- No Disturb Area and 5m Buffer
- Fill Placement Area
- Subject Property
- Cadastre

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APPENDIX A

Letter from Agricultural Land Commission

Agricultural Land Commission
201 – 4940 Canada Way
Burnaby, British Columbia V5G 4K6
Tel: 604 660-7000
Fax: 604 660-7033
www.alc.gov.bc.ca

January 14, 2021

ALC C&E File: 160595

REGISTERED MAIL

CHRISTINE SCHMIDT
2409 BENVOULIN RD.
KELOWNA, BC
V1W 2C9

KEVIN SCHMIDT & JOELLE SCHMIDT
22 2210 HORIZON DRIVE
WEST KELOWNA, BC
V1Z 3L4

Dear Property Owners,

RE: Unauthorized Removal of Soil or Placement of Fill

CIVIC ADDRESS: 3850 Swamp Road Kelowna BC, V1W 2C9
LEGAL: LOT K DISTRICT LOT 168 OSOYOOS DIVISION YALE DISTRICT PLAN 1829 EXCEPT PLAN EPP21089
PID: 011-099-895
(the "Property")

This letter serves to inform you that the Agricultural Land Commission (the "ALC") has recently received information that activity is taking place on the Property. The ALC understands that the City of Kelowna has either amended their Stop Work Order that was placed or given permission for the test digs to occur that are necessary to complete reports to the City of Kelowna and the ALC.

On January 14, 2021 an on-site meeting was held by ALC Compliance and Enforcement Supervisor Dave Birchmore with Kris Tasci of Stonewater Environmental. The current activities on the Property were reviewed. The ALC will allow the test digs that are occurring to continue.

The Stop Work Order that was issued by the ALC is still in effect. No further material is to be deposited on the Property at this time. Prohibited materials that have been placed on the Property such as cement and construction waste are allowed to be removed. We understand that asphalt has been removed from the Property.

Commission records indicate that the Property is within the Agricultural Land Reserve ("ALR") and therefore is subject to the *Agricultural Land Commission Act* (the "ALCA") and the *Agricultural Land Reserve Use Regulation* (the "Use Regulation").

Be advised that pursuant to s.20.3 of the *Agricultural Land Commission Act* (the "ALCA"):

Schmidt – File #160595

20.3 (1) A person must not remove soil from or place fill on agricultural land unless one of the following applies:

(a) the removal or placement is permitted under section 25 or 45 and the removal or placement is done in accordance with the permission;

(b) the removal or placement is permitted under the regulations and the removal or placement is done in accordance with the regulations;

(c) the person

(i) is an owner of the agricultural land, or has a right of entry, granted under an enactment, to the agricultural land,

(ii) first submits to the chief executive officer the prescribed fee and notice of the person's intent, in the form and manner required by the chief executive officer, and

(iii) receives approval under subsection (2) (b) and removes the soil or places the fill in accordance with the approval, or is a person to whom subsection (4) applies.

Be advised that pursuant to s.36(1) of the *Agricultural Land Commission Act*

36 (1) Except as permitted under subsection (2), the following must not be used as fill on agricultural land:

(a) construction or demolition waste, including masonry rubble, concrete, cement, rebar, drywall and wood waste;

(b) asphalt;

(c) glass;

(d) synthetic polymers;

(e) treated wood;

(f) unchipped lumber.

In order to bring the Property into compliance you are required to make an application and apply for a Removal of Soil from ALR land for a non-farm use activity. You have until February 1, 2021 to complete this application.

A lack of timely response to this letter may result in further action which may include the recommendation of a monetary penalty under Section 54 and/or an order to remediate the Property to a suitable agricultural standard under section 52 (1) of the ALCA.

If you have any questions regarding this letter, please contact me at sara-hart.sodomsky@gov.bc.ca. I look forward to hearing from you to resolve this matter in a timely fashion.

This letter does not relieve the owner or occupier of the responsibility to comply with applicable Acts, regulations, bylaws of the local government, and decisions and orders of any person or body having jurisdiction over the land under an enactment.

Schmidt – File #160595

Sincerely,

Sara Sodomsky
ALC Compliance and Enforcement Officer

Cc: Alex Kondor, Planner Specialist, City of Kelowna