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RE: 4005 Rowe Rd – Determination of Legislation Applicability

This letter-style report is a Qualified Environmental Professional (QEP) Opinion regarding the applicability of the Water Sustainability Act (WSA) and the Riparian Area Protection Regulation (RAPR) to farm use¹, normal farm practices & farm operations², and the 'wet meadows' identified through photogrammetric assessment³ within 4005 Rowe Road (PID 009-649-557), Duncan, BC V9L 6T1 (the 'Site', shown in Figure 1).

This Opinion relies on review of existing data, and legislation as contextualized by preliminary field evaluation of Site – and applied to qualifying agricultural land.

I, Thomas R Elliot PhD P.Geo P.Ag, am a Professional Geoscientist registered and in good standing with the Engineers and Geoscientists of British Columbia (EGBC # 43570) with declared competency in hydrogeology, hazard and mitigation assessments, as well as soil and groundwater management. I am further qualified as a Professional Agrologist in good standing with the BC Institute of Agrologists (BCIA # 3039) with declared competency in Land Evaluation, Classification, Mapping, Conservation, and Management; Water Resource Planning and Management; as well as Land Restoration, Reclamation and Remediation. These competencies developed over the past 20 years and my 10-year career on Vancouver Island practicing as such, have provided sufficient perspective and experience to develop a Qualified Professional Opinion on this matter.

Review of Existing Data

The Conservation Data Centre (CDC) iMap⁴ indicates the presence of 'Stream – Dry' leading from upslope roadside and agricultural-field ditching and in proximity to the southeast corner of the Site (Figure 2). A similar 'Stream – Dry' departs the Site from the northwest corner, with no

¹ As defined by the Agricultural Land Commission Act.

https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/02036_01#section1

² As defined by the BC Farm Practices Protection (Right to Farm) Act.

https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96131_01#section1

³ Madrone, 2018. Environmentally Sensitive Areas (ESAs) Mapping in the Cowichan Region – Phase II.

<https://www.cvrld.ca/DocumentCenter/View/93530/Madrone-ESA-Mapping-Phase-II-Report>

⁴ Conservation Data Centre. <https://maps.gov.bc.ca/ess/hm/cdc/>

identified connecting intermediary channel. The CDC iMap also identifies two non overlapping 'Marsh' Polygons which have been labelled in Figure 2. The origin of these classifications was 2001 photogrammetric evaluation of 1999 aerial photographs.

Existing soil type mapping was retrieved from iMapBC⁵, which identified a Metchosin soil generally overlapped by Polygon A. Metchosin soils occur in very poorly drained depressional areas which are not necessarily associated with open water or sustained surface or groundwater inflow. They are moderately to rapidly pervious and have very-high water holding capacity. The Metchosin soil type has developed on top of deep (>160 cm) deposits of black, humic, well-decomposed peat materials, composed mainly of sedge and woody plant remains from pre-historic wetlands⁶. Because of their low landscape position, Metchosin soils receive large amounts of surface runoff, and the water table is near the surface for most of the year but can drop considerably in the late summer and fall.

The area generally covered by Polygon B was historically identified as 'open water' as a soil type. There is a low likelihood that 'open water' is the native landscape condition due to the identical elevation and hydrologic regime of adjacent Metchosin soils. Instead the 'open water' classification is likely an artifact of historic land use as a Sawmill Mill Pond for stock management and intake.

The origin of these soil type classifications is the 1985 BC MOE Technical Report 15 'Soils of Southeast Vancouver Island Duncan – Nanaimo Area'⁷, while the spatial classification is based on 1972 photography which informed Map [K09-1066](#) (92B13 Soils).

Previous 2019 QEP Reporting (by others) has determined that these Polygons are not considered wetlands under Cowichan Valley Regional District (CVRD) Bylaw No. 1840. This 2019 QEP Reporting does not speak to applicability of Provincial legislation.

These existing data demonstrate a compounding series of decisions which progressively define the wetted land Polygons present on Site; first as Metchosin soil, and subsequently as wetlands (i.e. the CDC iMap designation) without consideration of data from soils investigation, historic context and on-Site assessment.

Applicability of Legislation

The Water Sustainability Act⁸ (WSA) does not govern surface conveyed stormwater outside of Streams. The WSA qualifies a Stream as:

⁵ iMapBC > Soil Survey Polygons. <https://maps.gov.bc.ca/ess/hm/imap4m/>

⁶ Soils of the Gulf Islands of British Columbia. Volume 4 Soils of Gabriola and lesser islands. https://sis.agr.gc.ca/cansis/publications/surveys/bc/bc43-4/bc43-4_report.pdf

⁷ Soils of Southeast Vancouver Island Duncan – Nanaimo Area.

https://www.env.gov.bc.ca/esd/distdata/ecosystems/Soils_Reports/bc57_report.pdf

⁸ Water Sustainability Act. <https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/14015#part1>

- (a) a natural watercourse, including a natural glacier course, or a natural body of water, whether or not the stream channel of the stream has been modified, or
- (b) a natural source of water supply,

including, without limitation, a lake, pond, river, creek, spring, ravine, gulch, wetland or glacier, whether or not usually containing water, including ice, but does not include an aquifer;

Furthermore, the WSA governs groundwater as water naturally occurring below the surface of the ground, while the WSA qualifies a Wetland as: a swamp, marsh, fen or prescribed feature;

Therefore, the CDC mapped 'Stream – Dry' surface water inflow – being sourced from ditching of agricultural land and roadside ditching which conveys stormwater – is not subject to the WSA. Once the water arrives to Site, the stormwater does infiltrate to the Metchosin soils and becomes a Provincially managed water resource under the WSA.

The surface water outflow from Site is therefore also subject to the WSA, as emergence from the Metchosin soils under elevated hydrograph flow conditions sees discharge from the depressional area. Due to the potential for photogrammetric mis-classification in CDC iMap data, the extent and location of emergence is recommended to be further determined if non-exempt activities are conducted within proximity to existing mapping of this 'Stream – Dry' feature.

Groundwater inflow – which would be subject to the WSA – is undefined, although there is an anticipated minimal catchment due to the surrounding topography falling away from the Site (i.e. there is a topographic rise to the south which diverts the south to north groundwater gradient away from Site) on a regional scale.

The Riparian Areas Protection Regulation⁹ (RAPR) defines a Stream as:

- (a) a watercourse or body of water, whether or not usually containing water, and
- (b) any of the following that is connected by surface flow to a watercourse or body of water referred to in paragraph (a):
 - (i) a ditch, whether or not usually containing water;
 - (ii) a spring, whether or not usually containing water;
 - (iii) a wetland;

While defining Wetland as:

land that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, plant species

⁹ Riparian Areas Protection Regulation. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/178_2019

that are typical of inundated or saturated soil conditions, including swamps, marshes, bogs, fens, estuaries and similar areas that are not part of the active floodplain of a stream.

Similar to the WSA qualification, the inflow surface water does not qualify under the RAPR, while the outflow surface water would qualify under RAPR due to the mapped downstream connection to the Cowichan River. Due to the potential for photogrammetric mis-classification in CDC iMap data, the existence and connectivity of the outflow surface water should be confirmed through field investigation prior to the application of RAPR to non-exempt activities.

The intermediary wetted land Polygons currently support graminoid vegetation, which is both water and drought tolerant. However, some Metchosin soils that have routine inundation and soil saturation (i.e. Metchosin soils associated with an open water body, such as those surrounding the regionally proximal Somenos Marsh) are typically colonized by hardhack, willow, skunk cabbage, sedges and reeds⁷.

Therefore, since the wetted land Polygons: demonstrate no indicators of inundation; the water table remains below surface; and the predominant graminoid vegetation lacks other water tolerant species, it is reasonable to assert that the RAPR does not apply.

Applicability of Legislation to Farm Use Activities on Site

Farm use activities are defined in the Agricultural Land Commission Act¹ (ALCA), which includes Normal Farm Practices and Farm Operations defined by the BC Farm Practices Protection (Right to Farm) Act² (BCFPPA). These activities, practices and operations includes development of agricultural land which is defined as land clearing, breaking¹⁰ and installation of drainage¹. Additionally, building internal farm roads for the purpose of access to qualifying agricultural lands are considered Normal Farm Practices.

The agricultural activities, practices and operations identified within ALCA and BCFPPA are exempt to the RAPR. Therefore, clearing and breaking of qualifying agricultural land is not subject to the RAPR and can proceed without authorization.

The diversion of groundwater is subject to the WSA, however the establishment of agricultural drainage for the purpose of water table management is not subject to the WSA. As such, construction of agricultural drainage ditching within Site is permissible without authorization under the ALCA.

¹⁰ Farm Practice – Land Clearing. Order No. 870.218-41 https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/agricultural-land-and-environment/strengthening-farming/farm-practices/870218-41_land_clearing.pdf

Qualifying agricultural land is defined as those areas which are within the Agricultural Land Reserve and have been zoned for agricultural land use¹¹, which is true for the Site.

Since internal farm road access is considered a normal farm practice², this activity can proceed without authorization under the conditions that:

- all materials used in the construction of internal farm roads are sourced from the same farm land base (i.e. ideally from the same land parcel, as is the case for the Site, but permissible with documentation if sourced from the land base worked by the same farm operator).
- No groundwater is diverted (i.e. diversion or use of resources subject to the WSA) during or consequent to the construction.
- No federal legislation, such as the Fisheries Act, are intruded upon – meaning that no stream crossings or disturbance of watercourse occurs consequent to construction.

Summary and Conclusion

Through this letter-style report the applicability of legislation to the Site (4005 Rowe Road) has been reviewed and determined by a Qualified Environmental Professional with declared competency in applicable practice areas.


From that determination, there is limited application of the WSA to groundwater on Site and the 'Stream – Dry' feature identified as an outflow from the Site.

The RAPR was determined to apply to the 'Stream – Dry' feature identified as an outflow from the Site due to connection with the Cowichan River.

Agricultural activities, practices and operations which have occurred and will occur within these qualifying agricultural lands are not subject to the WSA or RAPR.

Should any follow up or clarification be required, please contact the undersigned.

As per:


Thomas R Elliot PhD P.Geo P.Ag

Digital copy of professional seal and signature. Original is kept on file and is available on request.



¹¹ Classification of Land as a Farm Regulation.

https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/411_95

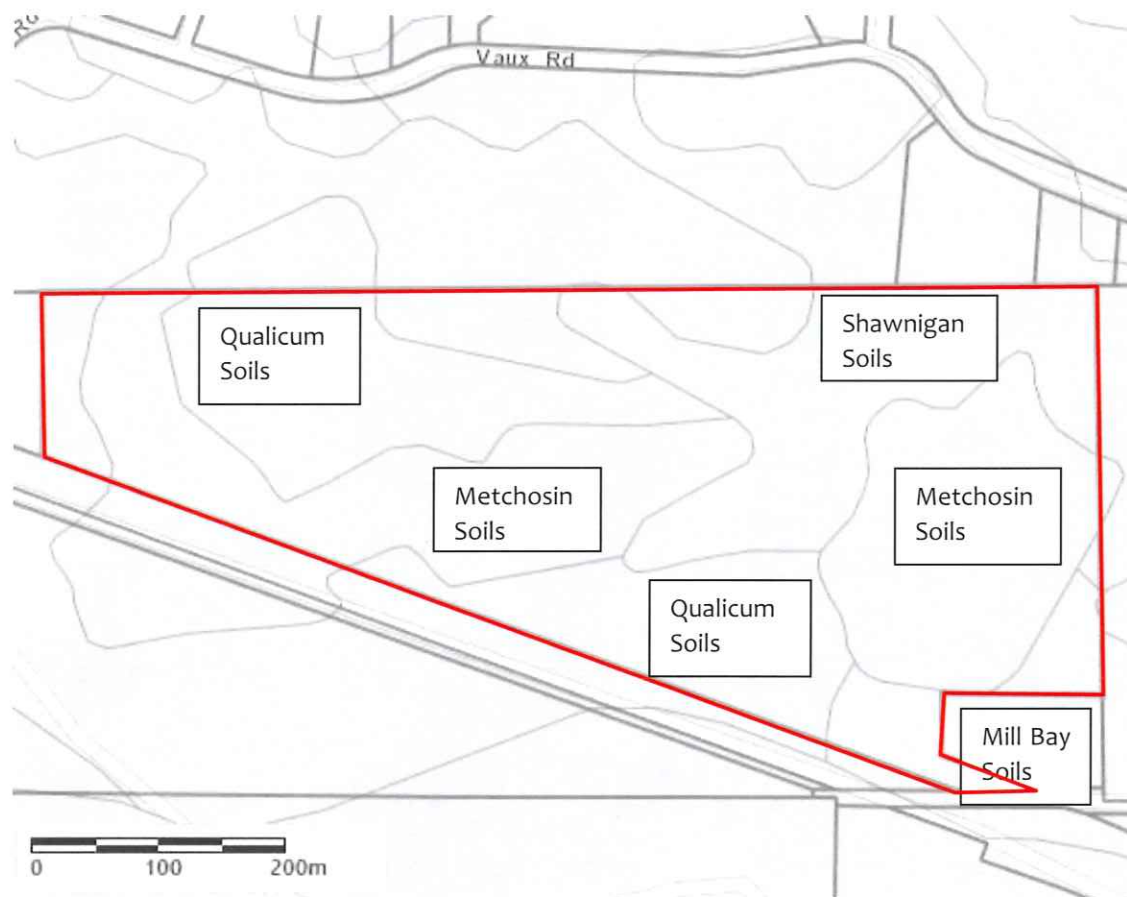


Figure 1. The Site (red outline) with existing soil polygon mapping (irregular light grey lines) with predominant soil type labels.

