REGIONAL DISTRICT OF CENTRAL KOOTENAY

DEVELOPMENT PERMIT

DP2203G (BRUCE&CHARLEBOIS)

Date: May 10, 2022

Issued pursuant to Sections 490 and 491 of the Local Government Act

1. This Development Permit is issued to Corey Bruce, and Kirsten and Michael Charlebois of Salmo, BC as the registered owners (hereinafter called the "Permittees") and shall only apply to those lands within the Regional District of Central Kootenay, in the Province of British Columbia legally described as THAT PART OF SUBLOT 50 LYING SOUTH OF THE HIGHWAY SHOWN ON PLAN R160 NORTH OF THE RIGHT OF WAY OF THE NELSON AND FORT SHEPPARD RAILWAY AND EAST OF THE EASTERLY BOUNDARIES OF SUBLOTS 53 AND 57 DISTRICT LOT 1237 KOOTENAY DISTRICT PLAN X-70 EXCEPT PART INCLUDED IN PLAN 6597 (PID: 015-196-496) as shown on the attached Schedules 1 and 2, forming part of this Permit, referred to hereafter as the "said lands".

2. This Development Permit is issued subject to compliance with all of the bylaws of the Regional District of Central Kootenay applicable thereto, except as specifically varied or supplemented by this Permit.

3. This Development Permit shall not have the effect of varying the use or density of land as specified in the applicable Zoning Bylaw of the Regional District of Central Kootenay, nor a Floodplain Specification under Section 524 of the Local Government Act.

4. The said lands have been designated Country Residential (RC) and are located within a 'Watercourse Development Permit Area' pursuant to the *Electoral Area 'G' Land Use Bylaw No. 2452, 2018*.

5. The Permittees have applied to the Ministry of Transportation and Infrastructure for a two lot subdivision proposal to separate the existing house from the main lot (Lot A – 0.73 hectares,) and to create a new building lot on the remainder (Lot B– 6.39 hectares) on the said lands. Pursuant to this Development Permit and subject to the terms and conditions herein contained, as well as all other applicable Regional District Bylaws, the Regional District of Central Kootenay hereby authorizes the use of the said lands for this purpose.

6. The Permittees are required to obtain approval in writing from the Regional District of Central Kootenay prior to any further disturbance, construction any new buildings, external additions to existing buildings or for any deviation from the development authorized under Schedules 2 and 3 of this Development Permit. Furthermore, the Permittees are hereby advised of the following requirements:

   6.1 The Regional District of Central Kootenay Building Department requires that the Permittees obtain a demolition permit and/or building permit prior to the removal of any existing buildings and structures, the renovation, expansion or alteration of any existing building and the construction of any new building.

   6.2 Development is authorized in accordance with the terms described in the report titled *"222 Whiteline Road, BC - Riparian Assessment"* prepared by Masse Environmental Consultants Ltd., dated February 17, 2022, and attached to this permit as Schedule 3. Conditions of the report can be categorized as follows:

   6.2.1 Measures to protect the integrity of the Streamside Protection and Enhancement Area (SPEA) include the protection of trees and other vegetation within the SPEA, sediment and

erosion control, storm water management, protection of fish habitat, scheduling of environmentally sensitive activities, construction waste management, management of equipment and fuel/lubricant materials and management of invasive plants. All work shall be done in accordance with Section 5 of the attached report (Schedule 3). Notably, the following conditions shall be adhered to:

6.2.1.1 The SPEA should be clearly marked prior to construction of the new dwelling on the remainder lot to protect vegetation and root systems within the SPEA. Snow fencing shall be installed along the 30 metre setback from natural boundary of Erie Creek or top of embankment and shall remain in place through the duration of construction.

6.2.1.2 The following activities must be avoided within and around the SPEAS as they are common cause of tree damage:

- Any exaction or ground disturbance within the root zone of all SPEA vegetation. Roots of a mature tree typically extend from 1-3 times the height of a tree from the tree's trunk (far beyond the drip line) and are typically located within the upper 0.30 – 0.40 m of soil (VIU 2019).
- Any change in the grade, ground level, or ground surface characteristics around the SPEA vegetation. This includes compaction of the soils due to parking underneath the vegetation.
- Tree and vegetation damage, including broken branches, torn bark, or wounds to the truck of a tree.
- Any change to the natural drainage of the property.
- Introduction and establishment of invasive weed species.
- Introduction of pollutants that could contaminate the soil next to the SPEA (e.g. fuels and oils leaking from derelict vehicles).

6.2.1.3 No pollutants should be allowed to contaminate the soil within the development area next to the SPEA.

6.2.1.4 To reduce the risk of sediment input into Erie Creek the amount of soil disturbance should be kept to a minimum. Any future developments will require erosion and sediment control (ESC) plans to reduce the risk of sediment input to the SPEA or into Erie Creek. At a minimum, these plans should:

- Limit the disturbance of native vegetation throughout the property to the extent possible and ensure disturbed/exposed soils are revegetated with native vegetation as soon as possible.
- Safely stockpile any erodible materials in a manner that eliminates the possibility of erosion and sediment transport. This may require covering the stockpiles with tarps or with a vegetative cover.
- During construction, activities should be suspended during periods of heavy rain if there is any risk that continued work could result in sediment delivery to the SPEA or to Erie Creek. Where required install ESC mitigation measures, such as sediment delivery to the SPEA or to Erie Creek. Where required, install ESC mitigation measures, such as sediment fencing, ditching, detention/settling ponds, check dams, etc. to manage turbid wastewater generated by construction or heavy rain events. Turbid wastewater will not be permitted to leave the construction site.

6.2.1.5 The proposed subdivision does not involve any development. Future developments will require stormwater detention plans. At a minimum, a

stormwater management plan should:

- Control storm water surface runoff and direct it away from all disturbed/exposed soils.
- Promote the installation of permeable surfaces that permit rainwater infiltration into the ground to moderate the flow of overland storm water.
- Design roof rainwater collection systems that direct rainwater into suitable landscape features, which can absorb and utilize runoff. Roof runoff will not be permitted to discharge directly to the SPEA or Erie Creek.

6.2.1.6 The proposed subdivision is expected to have minimal impact on habitat availability and quality if the following recommendations are followed:

- Live and dead trees, especially deciduous trees, over 30 cm diameter at breast height (DBH) should be retained throughout the subject property, unless considered a hazard.
- To protect nesting bird species, any clearing of trees and vegetation should be conducted outside of the songbird breeding season (early-April – mid-August). If clearing is to occur during the songbird breeding season a QEP should be retained to evaluate the presence of any active nests within areas to be cleared and proposed measures to protect these nests.
- Maintain the SPEA environment to allow uninhibited wildlife movement.

6.2.1.7 To reduce the establishment and proliferation of invasive plan species on site: all equipment should be thoroughly washed and inspected before entering the project site to prevent the import of new invasive plant seeds and root fragments; amount of vegetation clearing, and soil disturbance should be minimized; all exposed soils should be re-vegetated immediately following construction.

6.3 A building permit shall be required prior to any construction involving land in this location at which time the Permittees shall be required to address sewage disposal issues to the satisfaction of the Interior Health Authority and Regional District of Central Kootenay Senior Building Official.

7. The said lands shall be developed strictly in accordance with the terms and conditions of this Development Permit and the requirements of all applicable Regional District Bylaws as well as any plans and specifications which may, from time to time, be attached to this Permit shall form a part thereof.

8. In accordance with the Local Government Act, if the development authorized by this Development Permit is not commenced within two years of the date of this Permit, this Permit shall lapse.

9. In accordance with the Local Government Act, 'Notice' shall be filed in the Land Title Office that the said lands are subject to this Development Permit.

10. The terms of this Development Permit including subsequent amendments, are binding on all persons who acquire an interest in the said lands associated with this Permit.

11. It is understood and agreed that the Regional District has made no representations, covenants, warranties, guarantees, promises, or agreement (verbal or otherwise) with the Permittees other than those in this Development Permit. It is solely the responsibility of the Permittees to ensure that the requirements of all other applicable government agencies are satisfied.

12. This Development Permit does not constitute a building permit.

13. This Development Permit shall come into force and effect 14 days after the date of issuance unless a Waiver of Appeal is received from the Permittees at which time the Development Permit shall be deemed to be issued upon receipt of the Waiver of Appeal. OR If a Notice of Appeal is received the Development Permit shall be suspended until such time as the Board of the Regional District of Central Kootenay has decided the Appeal.

S Sudan

Sangita Sudan, General Manager of Development Services

May 24, 2022

Date of Approval

May 24, 2022

Date of Issuance

Schedule 1: Location Map

REGIONAL DISTRICT OF CENTRAL KOOTENAY
Box 590, 202 Lakeside Drive,
Nelson, BC V1L 5R4
Phone: 1-800-268-7325 www.rdck.bc.ca
maps@rdck.bc.ca

Legend

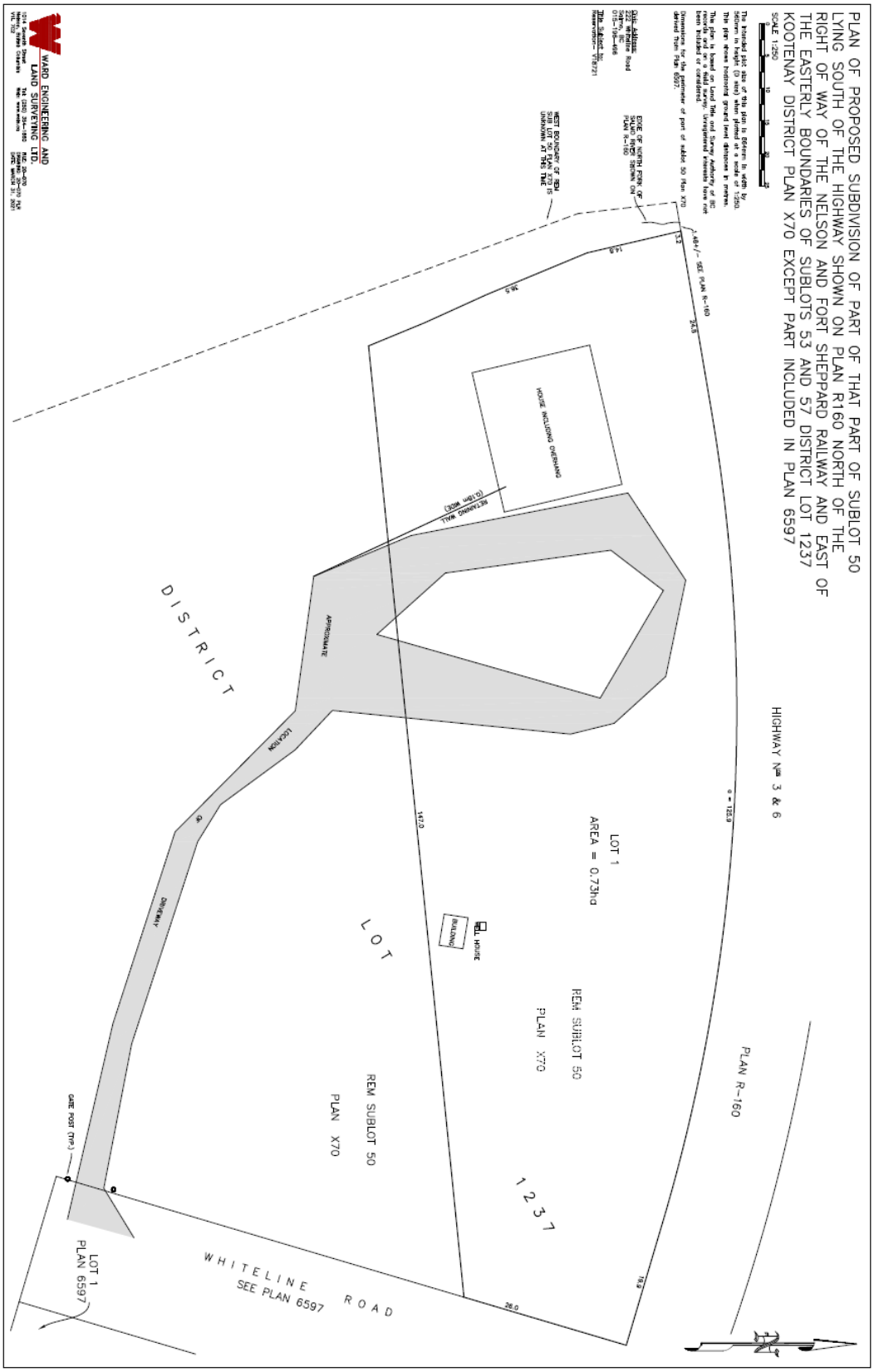
- Streams and Shorelines
- Electoral Areas
- RDCK Roads
- Cadastre
- Civic Address

Map Scale:
1:4,000

Date: July 16, 2021

The mapping information shown are approximate representations and should only be used for reference purposes. The Regional District of Central Kootenay is not responsible for any errors or ommissions on this map.

Schedule 2: Site Plan



Schedule 3: Riparian Assessment, dated February 17, 2022 by Masse Environmental Consultants Ltd. for 222 Whiteline Road

MASSE ENVIRONMENTAL CONSULTANTS LTD.

222 WHITELINE ROAD
ERIE, BC
Environmental Assessment

Prepared for:
Kirsten and Michael Charlebois
222 Whiteline Rd
Erie BC, V0G 1Z0

Prepared by:
Masse Environmental Consultants Ltd.
812 Vernon St.
Nelson, BC, V1L 4G4

February 17, 2022

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ABBREVIATIONS

CDC: Conservation Data Centre
DBH: Diameter at Breast-Height
ESC: Erosion and Sediment Control
GPS: Global Positioning System
HWM: High Water Mark
ICHdw1: Interior Cedar - Hemlock West Kootenay dry, warm biogeoclimatic subzone
LWD: Large Woody Debris
MOTI: Ministry of Transportation and Infrastructure
NSFEA: Non-Standard Flood and Erosion Area
PID: Parcel Identification Number
QEP: Qualified Environmental Professional
RAPR: Riparian Area Protection Regulation
RDCK: Regional District of Central Kootenay
RPF: Registered Professional Forester
SARA: Species at Risk Act
sp.: used when the actual specific name is not specified (spp. is plural)
SPEA: Streamside Protection and Enhancement Area
SPVT: Site Potential Vegetation Type
UTM: Universal Transverse Mercator
UWR: Ungulate Winter Range
WDPA: Watercourse Development Permit Area
ZOS: Zones of Sensitivity

1 INTRODUCTION

Masse Environmental Consultants Ltd. (Masse) was retained by Kirsten and Michael Charlebois (Owners) to provide environmental consulting services in support of a proposed subdivision of 222 Whiteline Road, Erie, BC, legally described as Sublot 50, Plan NEPX70, District Lot 1237, Kootenay Land District (KLD), (PID 015-196-496). The subdivision is for one property with a total area of 17.6 hectares (ha), which the proponent proposes to subdivide into two parcels. Lot A is the northern portion of the property, with a total proposed area of 0.726 ha. The proposed subdivision is located within the riparian area of Erie Creek, triggering the requirement for a Watercourse Development Permit Area (WDPA) application (RDCK 2021).

A site survey was conducted on February 8, 2022, by Jennifer Ross, M.Sc., P. Chem., and Chanel Gagnon, B.Sc., to assess the habitat values and potential impact of the proposed subdivision on the riparian area.

This assessment evaluated the existing conditions of the riparian area, identified important habitat values, assessed the existing environmental impacts, and recommends measures to protect environmentally sensitive areas for future development. It is based on the following regulatory framework and best management practices documents:

- Electoral Area 'G' Comprehensive Land Use Bylaw No. 2452, 2018
- British Columbia *Riparian Areas Protection Regulation*
- British Columbia *Water Sustainability Act*
- General BMPs and Standard Project Considerations (Ministry of Environment)
- On the Living Edge: Your Handbook for Waterfront Living
- Develop with Care. Environmental Guidelines for Urban and Rural Land Development in British Columbia

This report has been prepared by Chanel Gagnon, B.Sc. and Jennifer Ross, M.Sc., P.Chem. and reviewed by Sylvie Masse, M.Sc. R.P. Bio.

I, Sylvie Masse, hereby certify that:

a) I am a Qualified Environmental Professional (QEP), as defined in Section 21 of the *Riparian Areas Protection Regulation* made under the *Riparian Areas Protection Act*;

b) I am qualified to carry out the assessment of the proposed subdivision made by Ward Engineering and Land Surveying Ltd., which is described in Section 2.3 of this Assessment Report (the "development proposal");

c) I have carried out an assessment of the development proposal, and my assessment is set out in this Assessment Report; and

d) In carrying out my assessment of the development proposal, I have followed the specifications of the *Riparian Areas Protection Regulation* and assessment methodology set out in the Minister's manual.

2 PROJECT OVERVIEW

2.1 Location

The subject property is located ~4 km west of the Village of Salmo, BC (Appendix 1). The property is bordered by Ministry of Transportation and Infrastructure (MoTI) right of way to the north (Highway 3A); Erie Creek and the Nelson and Fort Sheppard Railway right of way to the south; Whiteline Road and private property to the northeast (Centex Gas Station at 5920 Rotter Rd.); private property to the east (Yellowhead Road and Bridge (YRB) Salmo Maintenance Yard at 6016 Rotter Rd.); and, Erie Creek and private property to the west (5721 Second Ave.). Aerial imagery of the mapped property and surrounding properties are also provided in Appendix 1.

The project area is within the Interior Cedar Hemlock West Kootenay dry, warm variant (ICHdw1) biogeoclimatic subzone. The ICHdw1 typically ranges from 600-900 m to 1000-1350 m elevation. This moist climatic region is characterized by hot to very hot, dry summers, and mild, dry winters with a moderately shallow snowpack. Rain-on-snow events frequently occur. Snowpacks usually persist from January through March (MacKillop and Ehman 2016).

This variant is a highly productive biogeoclimatic unit, given the high diversity of tree species that persist. Zonal sites are dominated by Western red cedar (*Thuja plicata*), Douglas-fir (*Pseudotsuga menziesii var. glauca*), Western hemlock (*Tsuga heterophylla*), and Western larch (*Larix occidentalis*), with grand fir (*Abies grandis*), Western white pine (*Pinus monticola*), lodgepole pine (*Pinus contorta*) and paper birch (*Betula papyrifera*) interspersed at lower densities. Ponderosa pine (*Pinus ponderosa*) can be common and abundant on drier sites, trembling aspen (*Populus tremuloides*) and black cottonwood (*Populus trichocarpa ssp. trichocarpa*) on wetter sites, and subalpine fir (*Abies lasiocarpa*) and hybrid white spruce (*Picea engelmannii x glauca*) occur at the upper limits of the variant (MacKillop and Ehman 2016).

2.2 Existing Site Conditions

2.2.1 Watercourses

Erie Creek (watershed code 330-092600-45300) is a fifth-order stream with a mainstem length of ~ 32 km. Erie Creek's headwaters are located in the Bonnington Range and the stream flows mainly in a southerly direction until it is redirected at the southwest corner of the subject property as it merges with the outflow of Erie Lake (also known as Divide Creek). From this point, Erie Creek flows east through the Village of Salmo, draining into the Salmo River.

Due to the timing of the site assessment, stream banks, floodplain characteristics, and low understory vegetation were obscured by heavy snow and ice cover. The high-water mark (HWM) of Erie Creek was not visible; therefore, the natural boundary line was estimated based on coniferous tree indices (see definition below). The riparian setbacks were measured from the estimated HWM established in the field and mapped using waypoint averaging at eleven locations along the property boundary.

"**Natural Boundary**" means the visible high water mark of any lake, river, stream or other body of water where the presence and action of the water are so common and usual, and so long continued in all ordinary years, as to mark on the soil of the bed of the body of water a character distinct from that of its banks, in vegetation, as well as in the nature of the soil itself (BC 1996, RDCK 2021).

"**Watercourse**" means any natural or man-made depression with well-defined banks and a bed 0.6 metres (2.0 feet) or more below the surrounding land serving to give direction to a current of water at least six months of the year or having a drainage area of two square kilometers (0.8 square miles) or more upstream of the point of consideration (RDCK 2021).

The property is generally flat with gently sloping streambanks in the northern portion and more steeply sloping streambanks in the southern portion. During the site assessment, all streambanks were obscured by snow, but large angular rocks were visible along the east and north streambanks of Erie Creek. Active floodplain was identified at the sharp bend in Erie Creek where it merges with Divide Creek (Photo 3). Further east, along the southern property boundary, a 4-6 m wide bench above a ~2:1 sloped rocky streambank suggested the presence of a dyke or old road (Photo 5-6).

Photo 1. View of Erie Creek and riparian area at the west property boundary, looking north (upstream) towards the NW property corner and the Highway 3A bridge.

Photo 2. View of Erie Creek and coniferous riparian vegetation in the central western portion of the property, looking south (downstream).

Photo 3. View of Erie Creek active floodplain at the creek bend and confluence with Divide Creek, looking east (downstream).

Photo 4. View of Erie Creek and riparian vegetation at the south property boundary, looking east (downstream) towards the SE property corner and the railway bridge.

Photo 5. View of dyke or old road along the southern property boundary and Erie Creek looking west (upstream).

Photo 6. View of dyke or old road along the southern property boundary and Erie Creek looking east (downstream).

2.2.2 Existing Development, Property Use and Services

The subject property has two existing private residential developments that are discussed below.

2.2.2.1 Lot A

A large portion of the existing development in Lot A is within the WDPA and the floodplain setbacks of Erie Creek (30 m from the natural boundary). The first private residence (footprint ~ 455 m^2) is located in the northwest corner of the property, with an existing setback from the estimated Erie Creek HWM of 8.5 m at its closest point (Cover Photo, Photo 7). An unused pump house (footprint ~ 4 m^2) is situated between Erie Creek and this residence, 1.7 m from the estimated HWM.

The Lot A residence is serviced with electricity via power lines that run along the driveway. It has a private domestic groundwater well (Tag No. 55066 (BC 2022a)), located at (UTM 11U 475885.5448830) and a septic field that is assumed to be Type 1. The septic field location was approximated at (UTM 11U. 475820.5448806) based on air photos as snow cover obscured the characteristics of this area during the site visit. The septic field appears to be within 30 m of Erie Creek, but the exact setback is unknown.

There were several vehicles and trailers parked at the northwest corner of the property including a camper bus, three vehicles, a storage trailer, and a truck-mounted camper (Photo 9-10). The bus was parked 7 m from the estimated HWM of Erie Creek.

Photo 7. View of private residence and pump house taken from Erie Creek HWM.

Photo 8. View of gardens and septic field south of the private residence.

Photo 9. View of vehicles, trailers, and camper bus parked in the NW corner of the property, looking west towards Erie Creek.

Photo 10. View of camper bus parked in the NW corner of the property, looking northeast from Erie Creek HWM.

2.2.2.2 Remainder of Sublot 50, PL NEPX70, DL 1237, KLD

The second private residence is located south of Whiteline Road and >30 m from Erie Creek. Most of the existing development in the remainder of Sublot 50 is outside of the WDPA and the floodplain setbacks of Erie Creek. Exceptions include the following three outbuildings:

- A wooden shed (footprint ~50 m^2) located directly south of Lot A and setback 12 m from the estimated HWM of Erie Creek at its closest point (Photo 11).
- An equipment garage (footprint ~300 m^2) located adjacent to and southeast of the wooden shed described above and setback 8 m from the estimated HWM of Erie Creek at its closed point (Photo 12-13).
- A second wooden shed (footprint ~18 m^2) located adjacent to and southeast of the equipment garage and setback 12 m from the estimated HWM of Erie Creek (Photo 14).

Photo 11. View of wooden shed located directly south of Lot A.

Photo 12. Front view of equipment garage.

Photo 13. Rear view of equipment garage and setback from Erie Creek, looking north (upstream).

Photo 14. View travel trailer overhang of equipment garage and small wooden shed to south.

The Sublot 50 residence is serviced with electricity and propane supplied via an above-ground storage tank. It also has a private domestic groundwater well (Tag No. 121249), located at (UTM 11U 475894.5448671) (BC 2022a). It is assumed that this residence is also serviced with a Type 1 septic system, although this was not confirmed as there were no setback issues noted. Sublot 50 holds water rights to Erie Creek (License No. C039922) for irrigation purposes (BC 2022a).

2.3 Development Proposal

The proposed development within the 30 m WDPA consists of subdivision of a single 17.6 ha lot into two lots Lot A (0.726 ha) and the remainder of Sublot 50 (16.874 ha). At this time, no further development is proposed. Refer to the Site Plans for proposed subdivision development layout (Appendix 2).

3 Regulatory Review

3.1 Streamside Protection and Enhancement Area

The default WDPA is 30 meters from the natural boundary of Erie Creek. To determine if the WDPA aligns with the *Riparian Areas Protection Regulation* (RAPR) criteria, a detailed assessment of the subject property was conducted to calculate the Streamside Protection and Enhancement Areas (SPEAs) for Erie Creek on the proposed site. The Zones of Sensitivity (ZOSs) were calculated based on an average measured bank-full channel width of 19 m for Erie Creek (VIU 2019). Results for the ZOSs and SPEAs are presented in Table 1 and shown on the Riparian Assessment Map in Appendix 3. The SPEA was calculated to be 30 m along the HWM of Erie Creek.

Table 1. Results of Detailed Assessment.

Feature	SPVT	Zones of Sensitivity			SPEA
		LWD	Litter fall	Shade	
Stream	TR	30 m	15 m	0 – 15 m	**30 m**

SPVT- site potential vegetation type (TR-tree)

LWD- large woody debris

SPEA- streamside protection and enhancement area

Erie Creek

As per the RAPR, the large woody debris (LWD) ZOS was plotted 30 m inland from the HWM of each streambank, the litterfall ZOS was plotted 15 m inland from the HWM of each streambank, and the shade ZOS was plotted from 0 to 15 m from the HWM of each streambank (VIU 2019). The SPEA setback is determined based on the ZOS with the greatest width. Therefore, within the subject property, the SPEA setback is 30 m inland from the HWMs of Erie Creek.

Divide Creek

Divide Creek flows into Erie Creek at the southwest corner of the subject property. An assessment of the natural boundary for Divide Creek was not completed as part of the site assessment for 222 Whiteline Rd.

as the western portion of the property, located west of Erie Creek is considered not developable given the SPEA setback for Erie Creek.

4 RESOURCES

4.1 Fish and Fish Habitat

Fish species reported in Erie Creek include Eastern brook trout (*Salvelinus fontinalis*), longnose dace (*Rhinichthys cataractae*), rainbow trout (*Oncorhynchus mykiss*), and slimy sculpin (*Cottus cognatus*). Historical data indicates the presence of Westslope cutthroat trout (*Oncorhynchus clarkii lewisi*) in the Erie Creek watershed, although there was only one observation point located in Erie Lake dating back to 1954. Bull trout (*Salvelinus confluentus*) are known to reside in the Salmo River, but there are no records of their presence in Erie Creek (BC 2022b).

The stream has an average channel width of 19 m, an average gradient of 1.5 %, and riffle-pool stream morphology along most of the subject property (Photo 2 and 15). There was one section of the stream at the SW corner of the subject property, downstream of the confluence of Divide Creek, that was characterized as a 17 m long cascade with a 10 % gradient (Photo 17). The substrate was predominantly cobbles and boulders with fewer and smaller boulders in the southern half of the assessment area (Photo 16 and 18). There were no deep pools or off-channel habitat observed in this section of Erie Creek, although significant portions of the stream were covered in snow and ice at the time of the assessment. Large woody debris was infrequent and overhanging vegetation was sparse. No instream vegetation or spawning gravels were observed.

Photo 15. View of riffle pool channel morphology in the northern portion of the assessment area of Erie Creek, northwest (upstream).

Photo 16. View of typical substrate in Erie Creek in the northern portion of the assessment area.

Photo 17. Small cascade at creek bend section.

Photo 18. View of typical substrate in Erie Creek in the southern portion of the assessment area.

4.2 Riparian Vegetation

The riparian area along Erie Creek is mixed coniferous/deciduous young-mature forest with an interspersed shrub layer (Photo 19). The riparian habitat along the developed property (northern portion) has largely been cleared (Cover Photo, Photo 1), and vegetation is limited to a ~ 5 m strip adjacent to the stream (Photo 13). Dominant riparian vegetation in the north portion of the assessment area was Douglas fir, Western hemlock, Western red cedar, grand fir, black cottonwood, and paper birch, with understory vegetation consisting of red-osier dogwood (*Cornus sericea*), chokecherry (*Prunus virginiana*), black hawthorn (*Crataegus douglasii*), rose (*Rosa spp.),* and beaked hazelnut (*Corylus cornuta*).

Photo 19. Mixed coniferous/deciduous intact forest along Erie Creek. Looking NE from the SW corner of the subject property in the active floodplain.

Photo 20. Mature cedar dominated forest in the southern half of the subject property.

Photo 21. Mature black cottonwood and snags along the west streambank of Erie Creek, looking northwest (upstream).

Photo 22. Mixed coniferious/deciduous forest near the SW corner of the subject property, looking southwest (downstream).

Dominant riparian vegetation in the southern portion of the assessment area consisted of the same species found in the northern portion, with the addition of hybrid white spruce, Western white pine, yew (*Taxus beccata*), and willow (*Salix spp.*). The inland forest transition into a primarily intact mature western red cedar forest in the southern half of the subject property (Photo 20).

The western portion of the property, located west of Erie Creek, has several snags and wildlife trees throughout the riparian area (Photo 21-22).

Table 2 provides a list of riparian plant species encountered within the Erie Creek WDPA of the subject property.

Table 2. Plant species encountered within Erie Creek riparian assessment area.

Species Name	Latin Name	Species Name	Latin Name
Trees		**Shrubs**	
black cottonwood	*Populus balsamifera ssp. Trichocarpa*	alder	*Alnus spp.*
grand fir	*Abies grandis*	beaked hazelnut	*Corylus cornuta*
hybrid white spruce	*Picea engelmannii x glauca*	black hawthorn	*Crataegus douglasii*
interior Douglas fir	*Pseudotsuga menziesii*	chokecherry	*Prunus virginiana*
paper birch	*Betula papyrifera*	Douglas maple	*Acer glabrum*
ponderosa pine	*Pinus ponderosa*	red-osier dogwood	*Cornus sericea*
western hemlock	*Tsuga heterophylla*	rose	*Rosa spp.*
Western larch	*Larix occidentalis*	willow	*Salix sp.*
Western red cedar	*Thuja plicata*		
Western white pine	*Pinus monticola*	**Weeds**	
yew	*Taxus baccata*	spotted knapweed	*Centaurea stoebe*

4.3 Wildlife

The property features a young-mature mixed forest that provides a diversity of habitat for wildlife species. The property is within the ungulate (mule deer) winter range (UWR u-4-001) and the South Selkirk Grizzly Bear Population Unit (ID:445). Low elevation mature forests on warm aspects are key UWR habitat and provide important spring forage and connectivity for grizzly bears (*Ursus arctos*). Due to the timing of the survey, many terrestrial and aquatic wildlife species were inactive or absent. Remnant understory vegetation and some wildlife features remained visible.

4.3.1 Reptiles and Amphibians

There was limited potential for observing reptile and amphibian habitat features due to the timing of the assessment. Portions of the riparian area have the potential to provide both cover and forage habitat for reptiles. There is also potential for amphibians such as frogs; however, the creek does not provide breeding habitat. Erie Lake, located ~350 m west of the subject property, is a locally unique and sensitive ecosystem that provides habitat to reptiles and amphibians. The property is at the confluence of Erie Creek and Divide Creek, which drains into Erie Lake, making this area a linear corridor for reptile and amphibian movements.

4.3.2 Birds

Both coniferous and deciduous trees provide habitat for birds such as cavity dwellers, songbirds, and raptors. Due to the timing of the assessment, most birds were inactive or absent. An American dipper (*Cinclus mexicanus*) and a common raven (*Corvus corax*) were observed during the site visit. Four inactive songbird nests were also observed during the site visit (Photo 23-24). Large cottonwood trees were noted within the Erie Creek riparian areas. Cottonwood trees are important wildlife habitat features for many species, including owls, woodpeckers, and raptors. The riparian areas along Erie Creek and the intact mixed forest and shrub habitat provide diverse habitat features for many bird species. Erie Creek itself provides habitat for ducks (*pers. comm.* Kirsten Charlebois).

Photo 23. Songbird nest in a western hemlock close to the equipment barn.

Photo 24. Songbird nest on the shed structure.

4.3.3 Mammals

The riparian area has suitable habitat for mammals with palatable vegetation, including shrubs and young saplings. Ungulates, bears, coyote (*Canis latrans*), and bobcat (*Lynx rufus*) most likely use the area to access the water, hunt, and browse on vegetation. Coyote tracks were observed along the southern property boundary, adjacent to Erie Creek, during the site assessment and snowshoe hare (*Lepus americanus*) tracks were observed within the riparian area of the western property, adjacent to Erie Creek.

4.4 Species at Risk

The BC Conservation Data Center (CDC) occurrence data and critical habitat for Federally listed species were queried within iMap BC (BC 2022a), using a 10 km buffer around the center point of the subject property. The query results are presented in Table 3. Eight species at risk, including an unknown masked species, and two critical habitats were identified within this buffer. Potential occurrence on the property was assessed as likely, possible, unlikely, or unknown, according to known species habitat affinities and the habitat profile of the property, and in proximity to mapped occurrences.

4.4.1 Fish Species at Risk

There are no confirmed fish species at risk in Erie Creek (refer to Section 4.1).

4.4.2 Wildlife Species at Risk

The ICHdw1 provides habitat for many wildlife species at risk. The subzone provides a variety of vegetation types that support many wildlife species (Mackillop and Ehman 2016). The Western screech owl (*Megascops kennicottii macfarlanel*) is found in a variety of coniferous and mixed forests associated with riparian habitats dominated by black cottonwood (COSEWIC 2012). The western screech owl is blue-listed in British Columbia and listed as "threatened" under the *Species At Risk Act* (SARA), due to its restricted range, low number of occurrences, and threatened habitat. Its greatest threats include habitat loss due to human development. Although there are no official occurrence records in the vicinity of the subject property, western screech owl presence is also considered possible.

4.4.3 Reptile and Amphibian Species at Risk

The only reptile or amphibian species at risk record for the project area was the Rocky Mountain population - Western painted turtle (*Chrysemys picta pop. 2*) documented in Erie Lake; however, it is unlikely that the Western painted turtle would be found at the subject property due to a lack of preferred habitat.

Table 3. Species at risk with potential occurrence based on iMap BC 10 km radius query.

Common Name (Scientific Name)	**BC Conservation Status**	**Classification**	**Likelihood of Occurrence on Subject Property**	**Comment**
Banded Tigersnail (*Anguispira kochi*)	Blue[1]	Invertebrate	**Possible**	CDC occurrence mapped ~ 9 km southeast of the subject property, along Sheep Creek Rd (Shape ID: 121792, Occurrence ID: 15128). Associated with moist mixed forests, often near shores of lakes and streams.
Columbia quillwort (*Isoetes minima*)	Red[2]	Vascular Plant	Unlikely	CDC occurrence mapped ~ 9 km west of the subject property, at Beaverdale meadow (Shape ID: 103191, Occurrence ID: 12825). Associated with open pocket glades within a mixed forest matrix.
Common clarkia (*Clarkia rhomboidei*)	Blue	Vascular Plant	Unlikely	CDC occurrence mapped ~ 9 km northwest of the subject property, adjacent to Highway 3 (Shape ID: 126146, Occurrence ID: 15838). Found in dry coniferous forests.
Caribou (Southern Mountain population) (*Rangifer tarandus pop. 1)*	Red	Mammal	Unlikely	Critical habitat is mapped within the subject property (Critical habitat ID: 69941, COSEWIC species ID: 638). Caribou are highly unlikely to be present given the small population and extensive habitat fragmentation.
Dwarf hesperochiron (*Hesperochiron pumilus*)	Red	Vascular Plant	Unlikely	CDC occurrence mapped ~ 9 km northwest of the subject property, adjacent to Highway 3 (Shape ID: 3078, Occurrence ID: 835). Associated with grassland/shrub habitat.
Pygmy slug (*Kootenaia burkei)*	Blue	Invertebrate	**Possible**	CDC occurrence mapped < 6 km southwest of the subject property adjacent to Archibald Creek (Shape ID: 112713, Occurrence ID: 14544). Occurred along Erie creek. Habitat is moist, mixed-wood riparian forest.
Western bumble bee (*Bombus occidentalis)*	Blue	Insect	**Possible**	CDC occurrence mapped < 2 km west of the subject property at Erie Creek Provincial Park (Shape ID: 126303, Occurrence ID: 15879). Associated with open coniferous, deciduous and mixed-wood forests.
Western painted turtle (Rocky Mountain population) (*Chrysemys picta pop. 2)*	Blue	Reptile	Unlikely	CDC occurrence mapped < 1 km southeast of the subject property around Erie Lake (Shape ID: 96281, Occurrence ID: 12174). Very limited habitat available at the subject property.
Western screech owl (*Megascops kennicottii macfarlanel)*	Blue	Bird	**Possible**	CDC occurrence mapped ~ 4 km northeast of the subject property, along Highway 6. (Shape ID: 31226, Occurrence ID: 7057). Associated with riparian habitats – rivers, creeks, and lakeshores with mature stands of black cottonwood, birch, or trembling aspen.
Whitebark pine (*Pinus albicaulis)*	Blue	Vascular Plant	Unlikely	Critical habitat is mapped within the subject property (Critical habitat ID: 107539, COSEWIC species ID: 1086). Habitat is subalpine and timberline zones, so it is not expected at the subject site.

[1]Blue-listed species include any native species or ecological community considered to be of 'Special Concern' (formerly Vulnerable) in British Columbia. Species or ecological communities of Special Concern have characteristics that make them particularly sensitive or vulnerable to human activities or natural events. Blue-listed species or ecological communities are at risk, but are not Extirpated, Endangered or Threatened.

[2]Red-listed species include any native species or ecological communities that have, or are candidates for, 'Extirpated', 'Endangered', or 'Threatened' status in British Columbia. Extirpated species no longer exist in the wild in British Columbia but do occur elsewhere. Endangered species and ecological communities are facing imminent extirpation or extinction. Threatened species and ecological communities are likely to become endangered if limiting factors are not reversed. Not all Red-listed species or ecological communities will necessarily become formally designated. Placing species or ecological communities on these lists flags them as being at risk and requiring investigation.

4.4.4 Invertebrate Species at Risk

Known occurrences of three invertebrate species at risk including the pygmy slug (*Kootenaia burkei*), western bumble bee (*Bombus occidentalis*), and banded tingernail (*Anguispira kochi*) have been recorded within 10 km of the property. The pygmy slug (BC Blue Listed; SARA Special Concern) occurs in moist mixed deciduous/coniferous forests associated with riparian habitat (COSEWIC 2016). Its greatest threats include drought and flood events and the introduction of invasive species (COSEWIC 2016). The western bumble bee (BC Blue Listed; SARA Threatened) occurs in a range of habitats, including mixed forests, farmlands, meadows, and grasslands (COSEWIC 2014). Its greatest threats are the transfer of pathogens from managed bees, pesticides, and habitat loss (COSEWIC 2014). The banded tigersnail (BC Blue Listed) is associated with moist mixed coniferious/deciduous forests (COSEWIC 2017). Although there are no official occurrence records of any of these species in the vicinity of the subject property, the presence of pygmy slug, western bumble bee, and banded tigersnail are considered possible.

4.4.5 Plant Species at Risk

No plant species at risk were observed during the site visit due to the timing of the survey. Three at risk plant species have known occurrences within 10 km of the subject property including Columbia quillwort (*Isoetes minima*), common clarkia (*Clarkia rhomboidei*), and dwarf hesperochiron (*Hesperochiron pumilus*). Columbia quillwort and common clarkia are both found in similar dry coniferous forested habitat. Whereas dwarf hesperochiron occurs in dry open grassland/shrubland habitat. It is unlikely for these species to be found on the subject property due to their habitat preferences.

4.5 Archaeological Resources

Kootenay Lake is part of the traditional territory of the Sinixt, Syilx Okanagan, and Ktunaxa First Nations and falls within an area identified as having 'high' archaeological potential (Scott 2021). A review of archaeological resources on this property is outside the scope of this report. However, Archaeological Chance Find Procedures are provided in Appendix 4 for guidance on which protocols to follow in the event of a chance archaeological find, to ensure that archaeological sites are documented and protected as required for compliance with the BC *Heritage Conservation Act*.

5 MEASURES TO PROTECT THE INTEGRITY OF SPEA

This section provides measures to protect the integrity of the SPEA as described in RAPR, as well as recommended best management practices. The SPEA was determined to be a 30 m setback from the natural boundary of Erie Creek (Refer to Appendix 3).

5.1 Danger Trees

A Registered Professional Forester (RPF) was not retained to assess danger trees; however, a quick assessment for potential danger trees was conducted by the QEP within the property. No danger trees were observed within the property to be subdivided and sold.

5.2 Windthrow

A Registered Professional Forester (RPF) was not retained to assess potential windthrow since no clearing is proposed within or adjacent to the SPEA. Further assessment of windthrow is beyond the scope of this report, and any such assessment should be led by a RPF, or professional arborist.

5.3 Slope Stability

A geotechnical engineer (P.Geo. or P.Eng.) was not retained to assess potential slope stability within or adjacent to the SPEA as the property is generally flat. No slope stability indicators were identified during the site assessment that would suggest the need for such an assessment.

5.4 Protection of Trees and Vegetation in the SPEA

It is very important to protect all the existing trees and natural vegetation in the SPEA in order to maintain streambank stability and habitat complexity. Damaged trees may become hazardous, endangering people and the property if they are damaged. The SPEAs are therefore no development and no-construction zones.

The following activities must be avoided within and around the SPEAs as they are common causes of tree damage:

- Any excavation or ground disturbance within the root zone of all SPEA vegetation. Roots of a mature tree typically extend from 1-3 times the height of a tree from the tree's truck (far beyond the drip line) and are typically located within the upper 0.30 – 0.40 m of soil (VIU 2019).
- Any change in the grade, ground level, or ground surface characteristics around the SPEA vegetation. This includes compaction of the soils due to parking underneath the vegetation.
- Tree and vegetation damage, including broken branches, torn bark, or wounds to the truck of a tree.
- Any change to the natural drainage of the property.
- Introduction and establishment of invasive weed species.
- Introduction of pollutants that could contaminate the soil next to the SPEA (e.g., fuels and oils leaking from derelict vehicles).

5.5 Encroachment

The proposed subdivision does not involve any further encroachment within the SPEA beyond the existing developments covered in Section 2.2.2. Future encroachment within the SPEA of Erie Creek must be avoided in order to maintain the natural environment of Erie Creek, its ecosystems (aquatic and riparian), and biological diversity. Any future development (i.e., creek access, landscaping, vegetation/tree removal, and/or construction of any additional structures) proposed within the SPEA will require a RAPR assessment conducted by a QEP and an RDCK Watercourse Development Permit.

5.6 Sediment and Erosion Control

The proposed subdivision does not involve any development of the property to be subdivided and sold. No obvious erosion and sediment concerns were identified, and the property is generally flat and low-lying. Any future developments will require erosion and sediment control (ESC) plans to reduce the risk of sediment input to the SPEA or into Erie Creek.

At a minimum, these plans should:

- Limit the disturbance of native vegetation throughout the property to the extent possible and ensure disturbed/exposed soils are revegetated with native vegetation as soon as possible.
- Safely stockpile any erodible materials in a manner that eliminates the possibility of erosion and sediment transport. This may require covering the stockpiles with tarps or with a vegetative cover.
- During construction, activities should be suspended during periods of heavy rain if there is any risk that continued work could result in sediment delivery to the SPEA or to Erie Creek. Where required, install ESC mitigation measures, such as sediment fencing, ditching, detention/setting ponds, check dams, etc. to manage turbid wastewater generated by construction or heavy rain events. Turbid wastewater will not be permitted to leave the construction site.

5.7 Stormwater Management

As noted in Section 5.6, the proposed subdivision does not involve any development. Future developments will require stormwater management plans.

At a minimum, a stormwater management plan should:

- Control storm water surface runoff and direct it away from all disturbed/exposed soils.
- Promote the installation of permeable surfaces that permit rainwater infiltration into the ground to moderate the flow of overland storm water.
- Design roof rainwater collection systems that direct rainwater into suitable landscape features which can absorb and utilize runoff. Roof runoff will not be permitted to discharge directly to the SPEA or to Erie Creek.

5.8 Floodplain Concerns

A large portion of the subject property is located within the RDCKs non-standard flood and erosion area (NSFEA), and an active floodplain was identified at the southwest corner of the subject property, where Erie Creek merges with Divide Creek and is redirected to the east.

The RDCK Floodplain Management Bylaw requires a 30 m setback and a 3.0 m flood construction level from the natural boundary of Erie Creek. NSFEAs are areas where standard floodplain setbacks and construction levels may not be adequate to provide the necessary protection against flooding, erosion, and/or debris flow, and where additional construction requirements apply (RDCK 2019).

5.9 Protection of Wildlife Habitat

Riparian zones allow wildlife to travel between habitat "islands" by providing migration corridors between upland areas and water, as well as along streambanks. They also help circulate nutrients between terrestrial and aquatic ecosystems. The proposed subdivision is expected to have minimal impact on habitat availability and quality if the following recommendations are followed:

- Live and dead trees, especially deciduous trees, over 30 cm diameter at breast height (DBH) should be retained throughout the subject property, unless considered a hazard.
- To protect nesting bird species, any clearing of trees and vegetation should be conducted outside of the songbird breeding season (early-April – mid-August). If clearing is to occur during the songbird breeding season a QEP should be retained to evaluate the presence of any active nests within areas to be cleared and propose measures to protect these nests.
- Maintain the SPEA environment to allow uninhibited wildlife movement.

5.10 Protection of Fish Habitat

Development of the property should protect fish habitat by adhering to all the considerations outlined in Section 5.

In addition to previous recommendations, the pipe diameter of any water intake, if installed, should be minimized, with fish screens installed at the Erie Creek end of the intake. Fisheries and Oceans Canada has developed an interim code of practice for end-of-pipe fish protection screens for small water intakes in freshwater (DFO 2020) that should be reviewed and followed.

All works in and about Erie Creek will require a *Water Sustainability Act* Change Approval or Notification application.

5.11 Management of Equipment and Fuel/Lubricant Materials

Deleterious substances degrade water quality and affect fish and fish habitat. Given that there are a number of derelict vehicles currently stored on the subject property (some within the SPEA), the following actions are recommended:

- Drain any fluids remaining in the derelict vehicle reservoirs (ex: fuels, oils, antifreeze, brake fluids, solvents, and other hydrocarbons) into proper containers (ex: steel drums with secondary containment) for disposal.
- Remove oil-related products such as oil filters. Remove batteries, mercury switches, and refrigerants, if applicable.
    - Note: It is recommended that a registered vehicle dismantling company be retained to complete this work since these companies operate under Environmental Management Plans that set out the processes required for compliance with the British Columbia *Environmental Management Act*, including the requirements of the *Waste Discharge Regulation* and the *Vehicle Dismantling and Recycling Industry Environmental Planning Regulation* (MoE 2008).
- Once fluids have been drained and hazardous materials removed from the vehicles, either remove vehicles from the site for dismantling, or relocate vehicles to a stable area >30 m for Erie Creek and any other watercourse of property drainage feature and outside of the SPEAs.
- Once vehicles have been removed, assess the soils underneath each storage site for signs of contamination (heavy staining and hydrocarbon odors, including darkened/discoloured surface materials and/or dead vegetation). Spills should be cleaned up in accordance with the British *Columbia Contaminated Sites Regulation*. Spills in excess of 100 L of oil and oil-related products should be reported as required by the *Spill Reporting Regulation*.

As noted previously, the proposed subdivision does not involve any development. Future developments will require a spill prevention and emergency response plan to minimize the likelihood and impact of a spill of a deleterious substance, such as fuels, oils, and lubricants contained in equipment or vehicles used for construction.

At a minimum, this plan should:

- Ensure that each piece of heavy equipment is equipped with its own spill response kit that is appropriate to the types and quantities of fluids stored within. The contents of each kit must be replaced immediately after use.
- Ensure that all equipment operators are familiar with the use of spill kits and their contents.
- Store all equipment in a designated area as far from Erie Creek as possible. If equipment cannot be stored > 30 m away from these watercourses, secondary containment will be utilized to capture any potential spills or leaks.

5.12 Invasive Plant Management

The proposed subdivision does not involve any development. Future developments will require management of invasive specie since development activities can potentially increase the prevalence of invasive plant species which can out-compete native riparian vegetation, causing damage to habitat and ecosystem function.

The following mitigation measures are recommended to reduce the establishment and proliferation of invasive plant species if equipment is mobilized to the site for future development:

- All equipment should be thoroughly washed and inspected before entering the subject property to prevent the import of new invasive plant seeds and parts.
- Minimize the amount of vegetation clearing and soil disturbance.
- Revegetated all exposed soils immediately following construction.
- Hand-pull spotted knapweed (*Centaurea stoebe*) currently observed within the SPEA of Erie Creek.

6 CONCLUSION

Most of the subject property proposed for subdivision has been minimally disturbed by historic development activities, with most of the riparian areas in the southern portion of the property left intact. A large portion of the existing development in Lot A (the property to be subdivided and sold) is within riparian setback for Erie Creek. However, the proposed subdivision does not involve any additional development.

If the mitigation measures proposed in this report are followed, impacts to Erie Creek and its associated riparian area should be minimal. It is recommended that the proposed riparian setbacks be maintained as no-construction zones. Any activities proposed within the riparian setbacks should be assessed by a QEP prior to construction.

7 CLOSURE

This report has been prepared by a QEP who has not acted for, or as an agent(s) of the RDCK and was at the expense of the property owner.

I, Sylvie Masse, certify that I am qualified to carry out this assessment; and that the assessment methods under the *Regulation* have been followed; and that, in my professional opinion:

(i) if the development is implemented as proposed, or
(ii) if the streamside protection and enhancement areas identified in the report are protected from the development, and
(iii) if the developer implements the measures identified in the report to protect the integrity of those areas from the effects of the development,

then there will be no harmful alteration, disruption or destruction of natural features, functions and conditions that support fish life processes in the riparian assessment area.

Sincerely,

and

Chanel Gagnon, B.Sc. Jennifer Ross, M.Sc., P. Chem.

Reviewed by:

Sylvie Masse, M.Sc., R.P. Bio.

Masse Environmental Consultants Ltd.

8 REFERENCES

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APPENDIX 1
LOCATION MAP

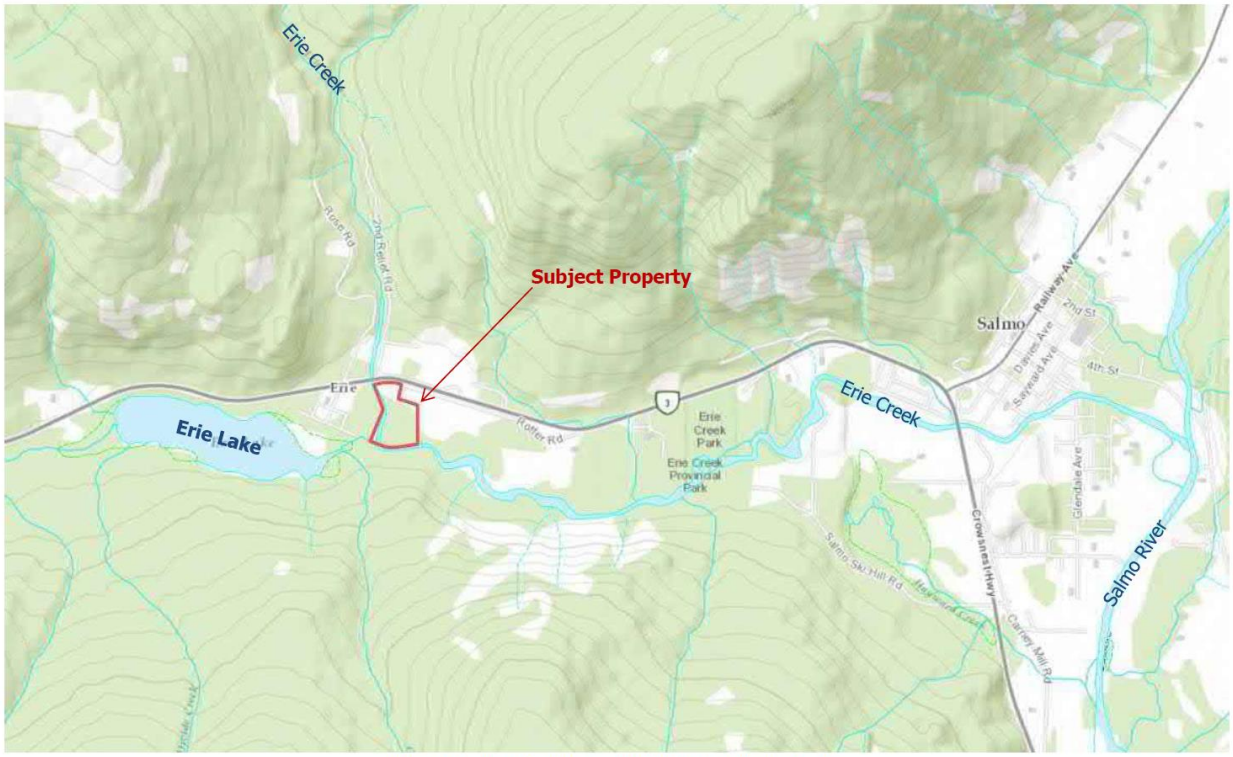


Figure 1. Location Map – 222 Whiteline Rd., Erie, BC


RDCK Map
307
Second Relief Rd
5717
Hwy 3
Erie Creek
No 1 Bridge
5919
Hwy 3
Erie Frontage Rd
222
Whiteline Rd
5920
Rotter Rd
6016
5721
1st
Ave
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the
REGIONAL DISTRICT OF CENTRAL KOOTENAY
Box 590, 202 Lakeside Drive,
Nelson, BC V1L 5R4
Phone: 1-800-268-7325 www.rdck.bc.ca
maps@rdck.bc.ca
Legend
Electoral Areas
RDCK Roads
Cadastre - Legal Parcels
Civic Address
Map Scale:
1:4,000
N
W
E
S
Date: February 17, 2022
The mapping information shown are approximate representations and should only be used for reference purposes. The Regional District of Central Kootenay is not responsible for any errors or ommissions on this map.

APPENDIX 2
SITE PLANS

SUBDIVISION PLAN OF PART OF THAT PART OF SUBLOT 50 LYING SOUTH OF THE HIGHWAY SHOWN ON PLAN R160 NORTH OF THE RIGHT OF WAY OF THE NELSON AND FORT SHEPPARD RAILWAY AND EAST OF THE EASTERLY BOUNDARIES OF SUBLOTS 53 AND 57 DISTRICT LOT 1237 KOOTENAY DISTRICT PLAN X-70 EXCEPT PART INCLUDED IN PLAN 6597.

PLAN EPP117968

Pursuant to Section 67 of the Land Title Act

BCGS 82F.014

SCALE 1:500

0 5 10 20 30 40 50

The intended plot size of this plan is 864mm in width by 560mm in height (D size) when plotted at a scale of 1:500.

Legend

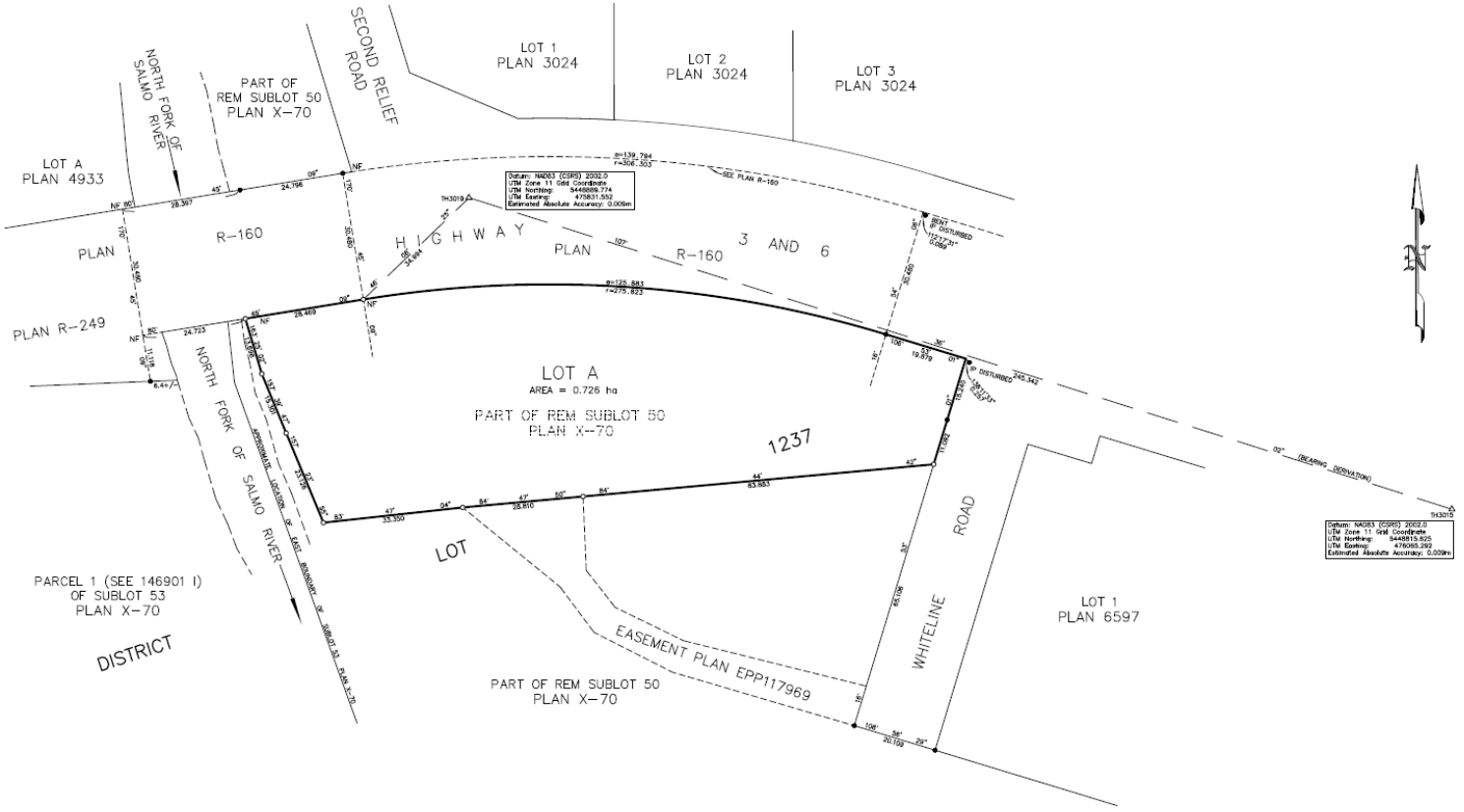
- Denotes Standard Iron Post Found
- Denotes Standard Iron Post Placed
- TH3015 Denotes Traverse Hub and Point Identifier
- ha Denotes Hectares
- NF Denotes Nothing Found

Grid bearings are derived from differential dual frequency GNSS observations and are referred to the central meridian of UTM Zone 11 (117° West Longitude).

This plan shows horizontal ground level distances in metres, unless otherwise specified. To compute grid distances, multiply ground level distances by the average combined factor of 0.9994979. The average combined factor has been determined based on an ellipsoidal elevation of 897 metres.

The UTM coordinates and estimated absolute accuracy achieved are derived using 4.5 hours of GNSS dual frequency observations to TH3015 and processed using the Precise Point Positioning Application provided by Natural Resources Canada.

This plan lies within the jurisdiction of the Approving Officer for the Ministry of Transportation and Infrastructure.
MOTI eDAS File #: 2021-01245



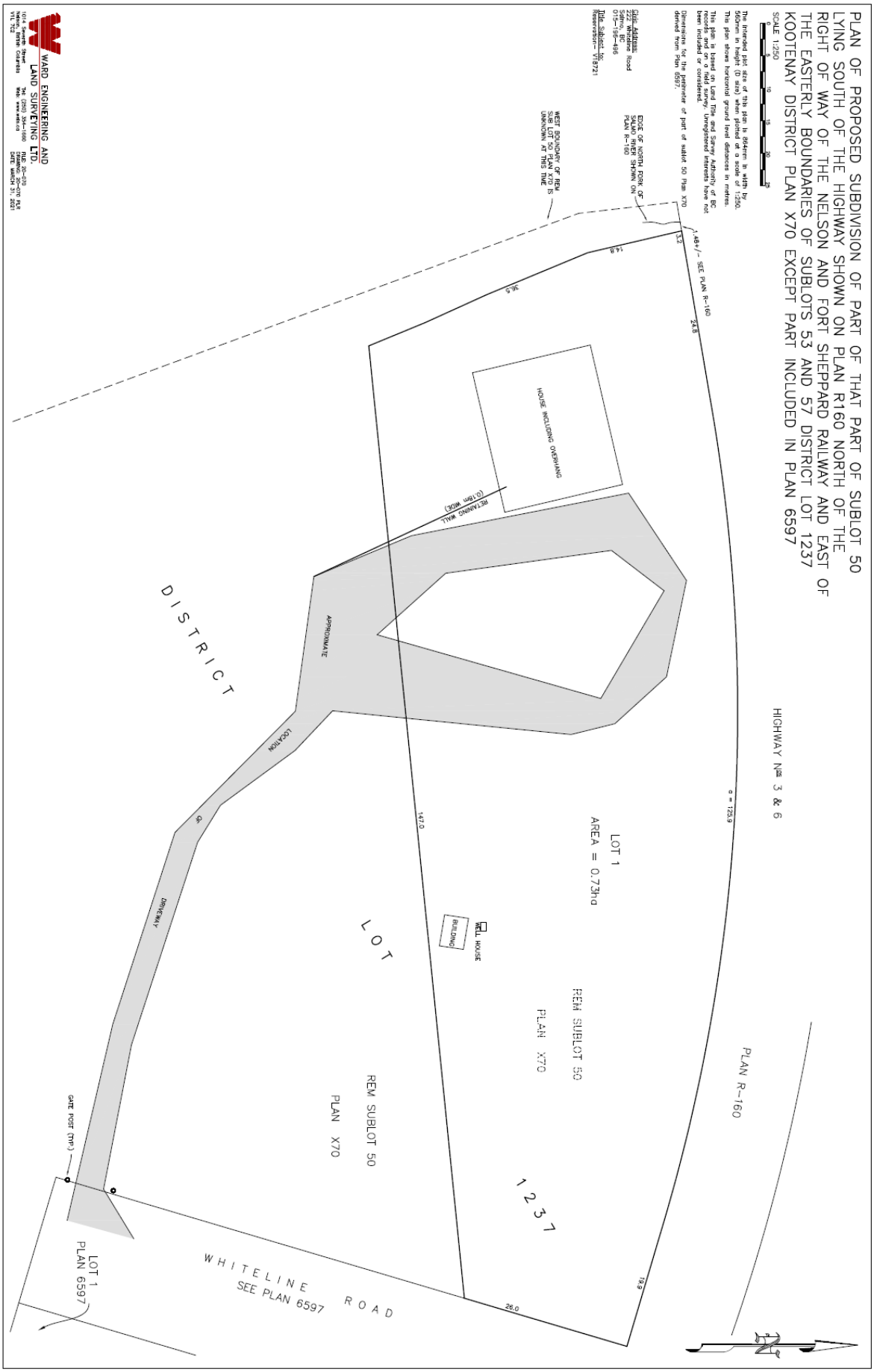
A covenant in the name of the Regional District of Central Kootenay pursuant to Section 219 of the Land Title Act is a condition of approval for this subdivision.

A covenant in the name of the Minister of Transportation and Infrastructure and the Regional District of Central Kootenay pursuant to Section 219 of the Land Title Act is a condition of approval for this subdivision.

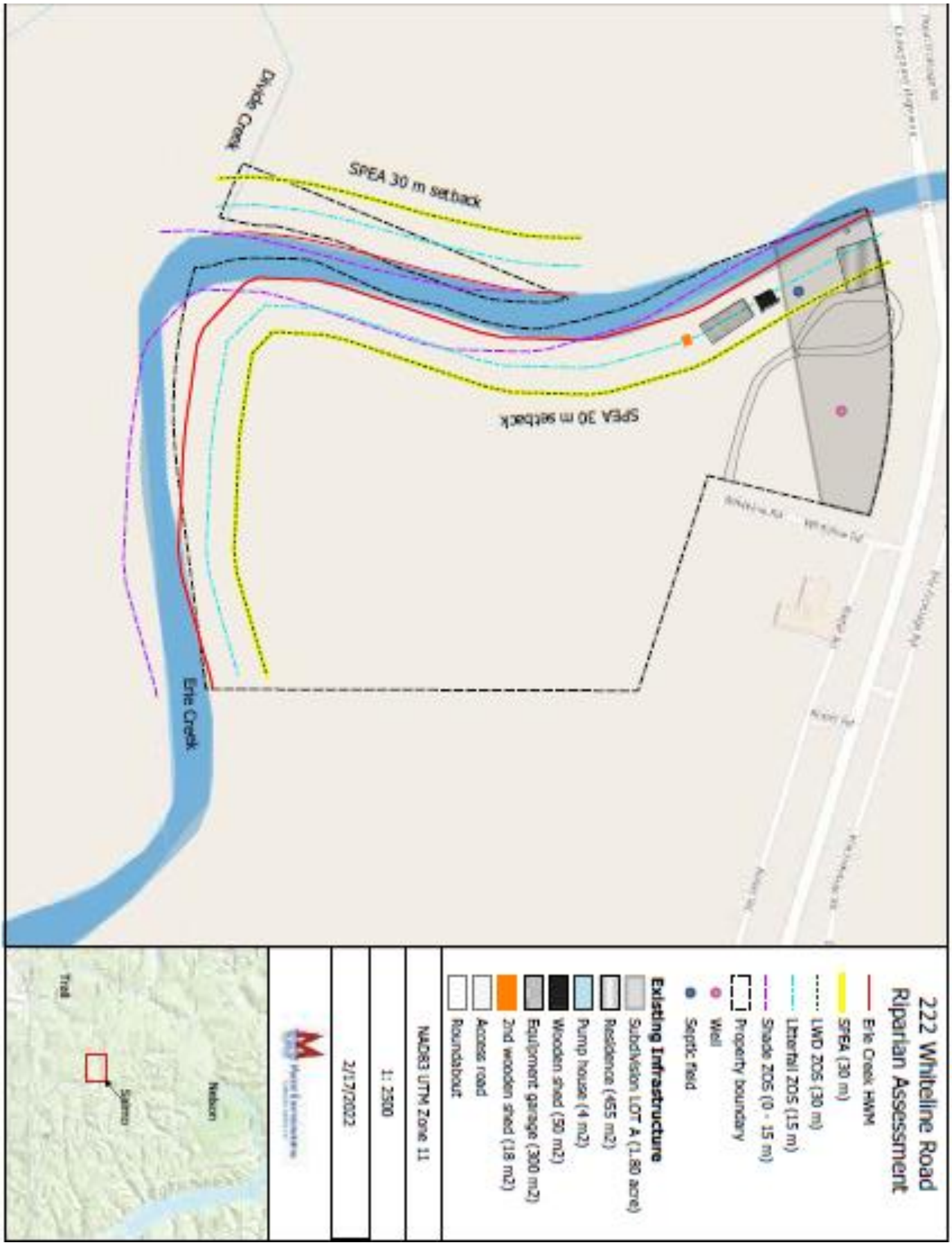
WARD ENGINEERING AND LAND SURVEYING LTD.
1014 Seventh Street Tel: (250) 354-1680 FILE: 20-070
Nelson, British Columbia Web: www.wels.ca DRAWING: 20-070 SUB
V1L 7C2

This plan lies within the Regional District of Central Kootenay.

The field survey represented by this plan was completed on the 14th day of December, 2021.
Peter Ward, BCLS 753


PLAN OF PROPOSED SUBDIVISION OF PART OF SUBLOT 50
LYING SOUTH OF THE HIGHWAY SHOWN ON PLAN R160 NORTH OF THE
RIGHT OF WAY OF THE NELSON AND FORT SHEPPARD RAILWAY AND EAST OF
THE EASTERLY BOUNDARIES OF SUBLOTS 53 AND 57 DISTRICT LOT 1237
KOOTENAY DISTRICT PLAN X70 EXCEPT PART INCLUDED IN PLAN 6597
SCALE 1:250
The intended plot size of this plan is 864mm in width by 560mm in height (D size) when plotted at a scale of 1:250.
This plan shows horizontal ground level distances in metres.
This plan is based on Land Title and Survey Authority of BC records and on a field survey. Unregistered interests have not been included or considered.
Dimensions for the perimeter of part of sublot 50 Plan X70 derived from plan 6597.
Civic Address:
2220 Whitetail Road
Salmo, BC
Title Subject to:
Reservation- V18721
EDGE OF NORTH FORK OF SALMO RIVER (SHOWN ON PLAN R-160)
WEST BOUNDARY OF REM SUB LOT 50, PLAN X70 IS UNKNOWN AT THIS TIME
HIGHWAY Nos 3 & 6
PLAN R-160
HOUSE INCLUDING OVERHANG
RETAINING WALL (0.15m WIDE)
APPROXIMATE
DISTRICT
LOCATION
LOT 1
AREA = 0.73ha
REM SUBLOT 50
PLAN X70
1237
LOT
REM SUBLOT 50
PLAN X70
WELL HOUSE
BUILDING
DRIVEWAY
GATE POST (TYP.)
WHITELINE ROAD
SEE PLAN 6597
LOT 1
PLAN 6597
WARD ENGINEERING AND LAND SURVEYING LTD.

Appendix 3
Riparian Assessment Map


222 Whiteline Road
Riparian Assessment
Erie Creek HWM
SPEA (30 m)
LWD ZOS (30 m)
Litterfall ZOS (15 m)
Shade ZOS (0 - 15 m)
Property boundary
Well
Septic Field
Existing Infrastructure
Subdivision LOT A (1.80 acre)
Residence (455 m2)
Pump house (4 m2)
Wooden shed (50 m2)
Equipment garage (300 m2)
2nd wooden shed (18 m2)
Access road
Roundabout
NAD83 UTM Zone 11
1: 2500
2/17/2022
Erie Creek
SPEA 30 m setback
Brydle Creek
Nelson
Salmo
Trail

APPENDIX 4

ARCHAEOLOGICAL CHANCE FIND PROCEDURES

KTUNAXA NATION

Ktunaxa Nation Council
Lands & Resource Agency
7468 Mission Road
Cranbrook, BC V1C 7E5

www.ktunaxa.org

Chance Find Procedures for Archaeological Material

This document provides information on how a developer and/or their contractor(s) can manage for potential archaeological material discoveries while undertaking construction and/or maintenance activities. This document can provide assistance to in-field contractors in the identification of archaeological remains and the procedures to follow if a discovery is made. The discovery of human remains initiates a different course of action and is outlined separately.

Under the provincial *Heritage Conservation Act (HCA)*, archaeological sites that pre-date 1846 are automatically protected whether on public or private land. Protected sites may not be damaged, altered or moved in any way without a Section 12 or 14 Permit as issued through the *HCA*. It is illegal to collect or remove any heritage object from an archaeological site unless authorized to do so under permit.

1. **Activities occurring outside of known Archaeological Sites:**

When archaeological material is encountered outside of known archaeological site areas work in the vicinity must stop immediately no matter what type of material or feature has been identified. Alteration to an archaeological site can only occur under a Section 12 (Site Alteration Permit) or Section 14 (Heritage Inspection Permit) *Heritage Conservation Act* permit. Such permit applications should be prepared by a professional archaeologist.

If archaeological material is discovered during the course of construction activities:

1.1 **Stop Work**: Halt all work in the area of the discovery and safely secure the area. Contact the project manager or site foreman.

1.2 **Contact an Archaeologist**: An archaeologist should be contacted as soon as possible. For a list of qualified archaeologists in the area, the proponent is directed to the BC Association of Professional Consulting Archaeologists website: www.bcapa.ca. The proponent may also wish to contact the Ktunaxa Nation Council's Cultural Resources Stewardship Technician for direction (1-250-420-2739; njkapell@ktunaxa.org).

1.3 **Archaeologist provides guidance:** The archaeologist will direct the proponent on the next courses of action, which will include notifying the Archaeology Branch and First Nations with interest in the area.

2. Activities Occurring within Known Archaeological Site Boundaries:

Land altering activity within a previously recorded archaeological site must be conducted under a Section 12 HCA Site Alteration Permit (SAP), in some cases with an onsite archaeological monitor. It is common for additional archaeological material and features to be encountered during activities occurring within previously recorded archaeological sites. Minor finds (lithic flakes, diffuse charcoal or fire altered rock) may not require work to stop, however significant finds require a level of assessment by a professional archaeologist, and it is up to the onsite project manager to determine the level of significance based on criteria presented below.

2.1 **Significant Cultural Finds that Require a Professional Archaeologist (described in detail in Section 4)**

- Intact archaeological features, which can include but are not limited to hearths, cultural depressions (e.g. cache pits, house depressions) and rock alignments or forms (e.g. tipi rings, cairns, blinds)
- Significant archaeological materials, which include but are not limited to, the presence of formed lithic tools (e.g. projectile point, microblade core, scraper), a dense concentration of lithic waste flakes, or artistic items
- Human Remains (described in detail in Section 3)

2.2 **Archaeological Site Management Options**

2.2.1 **Site Avoidance:** If the boundaries of a site have been delineated, redesign the proposed development to avoid impacting the site. Avoidance is normally the fastest and most cost effective option for managing archaeological sites. Site avoidance could also be achieved through minimizing ground disturbance by looking for alternative constructive methods.

2.2.2 **Mitigation:** If it is not feasible to avoid the site through project redesign, it is necessary to conduct systematic data collection and analysis within the site prior to its loss. This could include surface collection and/or excavation. This work can be time-consuming and therefore expensive to conduct.

2.2.3 **Protection:** It may be possible to protect all or portions of the site which will be impacted through installation of barriers during the development period and possibly for a longer period of time. Methods for barrier construction could include fencing around site boundaries or applying geotextile to the ground surface and capping it with fill. The exact method used would be site-specific.

3. Chance Find Procedures for Identified Human Remains

Procedures in the event of the discovery of human remains during construction are covered in depth by an Archaeology Branch Policy Statement, found on their website at www.for.gov.bc.ca/archaeology, and are summarized below.

3.1 Stop all construction activities immediately in the area of found or suspected human remains and contact the RCMP and/or Office of the Coroner.

3.2 The coroner must determine whether the remains are of contemporary forensic concern or archaeological/aboriginal.

3.3 If the remains are found to be of aboriginal ancestry then the next step involves the relevant First Nations collaboratively determining the appropriate treatment of those remains.

The key to respectfully dealing with ancient aboriginal remains is to involve the appropriate First Nations as early as possible in the process. However this must be done in a manner that does not interfere with the coroner's office ability to conduct their business in the manner that they see fit.

4. Site Identification Guide

The following are characteristics typical to site types found within the Ktunaxa Traditional Territory.

4.1 Artifact Scatters

Lithic (stone) scatters from the production and maintenance of stone tools are the most common type of archaeological site found in the region. Other materials that may be represented in artifact scatters are Fire Altered Rock (FAR), bone, antler and tooth.

Lithics: What to look for

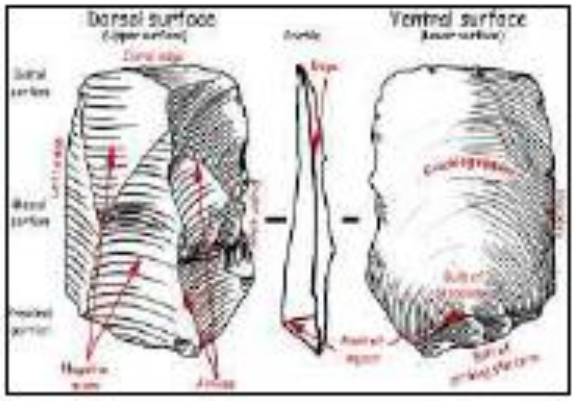


Image 1: Basic flake morphology

Image 2: Examples of lithic flakes

Image 3: Example of lithic scatter found on ground surface

Image 4: Example of formed lithic artifacts

Image 5: Ground stone artifacts

Bone, Tooth and Antler Artifacts: What to Look For

- Obvious shaping
- Incising
- Unnatural holes

Image 6: Bone and Antler artifacts

4.2 Fire Broken Rock and Hearths

Fire-broken rock (FBR) results from the use of fire during cooking, heating and processing activities. FBR is often associated with other features including hearths and cultural depressions, but can also be thinly scattered in concentrations away from the features with which they were first associated.

When looking for FBR, note concentrations of roughly fractured rock from rapid heating and cooling, rock showing signs of burning or oxidation and/or reddening or blackening of surrounding matrix.

Image 7: Example of FBR; note the zig/zag pattern of breakage common to FBR

A hearth feature is evidence of a fire pit or other fireplace feature of any period. Hearths were used for cooking, heating, and processing of some stone, wood, faunal, and floral resources and may be either lined with a wide range of materials like stone or left unlined. Occasionally site formation processes (e.g., farming or excavation) deform or disperse hearth features, making them difficult to identify without careful study.

Hearths: What to look for

- FBR
- reddening or blackening of the associated soil/sediment
- charcoal
- layering of FAR and charcoal, and
- depressions in the earth associated with FAR, reddened or blackened matrix and charcoal.

Image 8: Example of a hearth uncovered along the wall of an excavation unit

4.3 Cultural Depressions

Any depression seen on the ground surface that appears to have been excavated by man can be a cultural depression and have archaeological significance. These "pits" were dug for a variety of reasons such as for food storage or as a base for a dwelling. They can range in size from 1m across to 7-10m across, and are usually found associated with other artifacts such as FAR and lithic scatters.

To identify a cultural depression, look for:

- Subtle to deep scours on the ground surface that are circular to rectilinear in shape
- A raised rim along the edge of a depression
- Depressions associated with artifacts and FAR
- Depressions associated with fire reddening and blackening of the matrix

Image 9: Example of a large cultural depression in a natural setting

4.6 Rock Alignments

There are several types of rock alignments that occur within the culture area, which include tipi rings, medicine wheels, cairns and blinds. When attempting to identify rock alignments, look for a group of rocks that look purposefully placed as in a circle, pile or line; isolated groups of rock that do not seem to belong to that landscape; and/or rocks which form a pattern.

Image 10: Example of a Cairn or piling of rocks

Image 11: Example of a tipi ring in a natural setting