

SCHOTT'S LAKE RV AND GUEST RANCH INC.

BIOPHYSICAL ASSESSMENT

SCHOTT'S LAKE RESORT DEVELOPMENT

NW-01-033-07 W5M

OCTOBER 25, 2021



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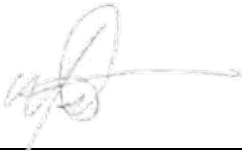


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1 INTRODUCTION

Schott's Lake RV And Guest Ranch Inc. (the Client) is in the planning stages of developing portions of NW-01-033-07 W5M into a resort development (Schott's Lake Resort, the Project). WSP has been retained by the Client to undertake a Biophysical Assessment (BA) for the Project.

This assessment was prepared in accordance with Mountain View County's Municipal Development Plan (MDP) Bylaw No. 20/20 (Mountain View County, 2020), Land Use Bylaw No. 16/18 (Mountain View County, 2021a). The Bearberry – Red Deer River Corridor Area Structure Plan (ASP) Bylaw No. 11/21 (Mountain View County, 2021b) was also considered, as it provided a framework for developing land use decisions amid competing objectives of area residents and other interests within the Bearberry – Red Deer River Corridor area.

1.1 Project Background

The Proponent is proposing the development of a resort, Schott's Lake Resort, within Mountain View County. The Project will encompass the development of an 80-unit hotel, group campsites, cabins, an event centre and additional Recreational Vehicle (RV) stalls (Appendix B). As per Land Use Bylaw, a BA is required for major developments undergoing rezoning to address environmental significance and sensitivities. Additionally, the MDP (Section 5.1.7) requires a BA for developments occurring within an environmentally significant area (ESA) identified in the Environmentally Significant Areas: Mountain View County Summary Report (Summit Environmental Consultants Ltd. [Summit], 2008).

1.2 Project Description

The Project is located west of the Town of Sundre and is surrounded by scattered transportation routes, oil and gas development and natural forest communities. The Project falls within a designated ESA 3 (Moderate Significance), which is defined as an area of moderate habitat quality for common wildlife and native plant species with moderate to high levels of existing disturbance (Summit, 2008).

For the purposes of this BA, the Study Area is defined as the legal extends of the NW-01-33-07 W5M (Figure A-1, Appendix A).

Currently, the Study Area consists of a mix of existing resort amenities and undisturbed wetlands and upland forest. It is currently zoned as agricultural preservation area. Adjacent properties are also zoned as agricultural preservation area or as highland/crown area.

1.3 Objectives

The objectives of the BA are to describe the current biophysical conditions of the Study Area, review impacts to the ESAs identified within the Study Area, and provide recommendations that will contribute to Project design and municipal approval of the Project with the goal of minimizing effects to the identified ESA. These objectives have been met by:

- A review of existing inventories and biophysical information for the Study Area
- A review of the ESA inventory (Summit, 2008) for environmental information pertaining to the identified ESA
- Synthesis and summary of legislation, regulations, and policies relating to the Study Area

- A detailed desktop mapping and classification of wetlands, waterbodies and upland areas located within the Study Area
- A review of select historical aerial photographs to evaluate the permanence of identified wetlands and historical disturbance/modifications to the Study Area
- A review of available data pertaining to soils, topography, wildlife and hydrology for the Study Area
- Identification of key biophysical features
- Recommendations and next steps for development, including recommended management and conservation efforts to minimize effects to the impacted elements of the identified moderate ESA

2 REGULATORY CONTEXT

The pertinent Federal, Provincial and Municipal legislation, policies and guidelines that apply to the Project are summarized in Table 2-1 below. However, this is not an all-encompassing list, and other acts, regulations and policies may pertain to this Project. It also summarizes the influence each has on the overall BA.

Table 2-1 Legislation, Policy and Guidelines Applicable to the Project

Legislation / Policy	Applicability to Project
Municipal	
Land Use Bylaw No. 16/18 (Mountain View County, 2021a)	Establishes regulations for the use of land and buildings in Mountain View County.
Municipal Development Plan (MDP) Bylaw No. 20/20 (Mountain View County, 2020)	Guidelines for future growth and development within Mountain View County.
Environmentally Significant Areas: Mountain View County Summary Report (Summit, 2008)	Provides information and attributes of identified ESAs within Mountain View County.
Bearberry – Red Deer River Corridor Area Structure Plan Bylaw No. 11/21 (Mountain View County, 2021b)	Framework for reaching land use decisions amid competing objectives of area residents and other interests within the Bearberry – Red Deer River Corridor area.
Provincial	
<i>Alberta Wetland Policy</i>	Outlines conservation and protection measures for Alberta's wetlands.
<i>Environmental Protection and Enhancement Act</i>	Supports and promotes the protection, enhancement and wise use of the environment.
<i>Historical Resources Act</i>	Regulates the preservation of Alberta's historic resources. Most types of development activities require approval under the Act prior to development activities occurring.
<i>Municipal Government Act</i>	Defines the provisions involved in the designation of environmental reserves, conservation reserves and municipal reserve.

Legislation / Policy	Applicability to Project
<i>Soil Conservation Act</i>	Outlines conservation and preservation requirements of topsoil resources. The Act specifies that appropriate measures need to be taken to prevent soil loss or deterioration from taking place or, if soil loss or deterioration is taking place, to stop the loss or deterioration from continuing.
<i>Water Act</i>	Regulates the conservation and management of water resources within Alberta. The Act is applicable when a shoreline, surface water and/or groundwater resource may be affected. Directs requirements for stormwater management post development.
<i>Weed Control Act</i>	Prevents the introduction and or spread of <i>noxious</i> or <i>prohibited noxious</i> weeds described by the Alberta Weed Control Regulation.
<i>Wildlife Act</i>	Regulates the protection and conservation of wild plants and animals in Alberta. At no time shall a person willfully molest, disturb or destroy a house, nest or den of prescribed wildlife or a beaver dam in prescribed areas and at prescribed times.
Federal	
<i>Impact Assessment Act</i>	Outlines the process for assessing the impacts of major projects and projects carried out on federal lands.
<i>Migratory Birds Convention Act</i>	Protects migratory birds, their nests and their eggs and provides limitations on impacts to migratory birds, their nests and their eggs. At no time shall migratory birds, nests or eggs be moved, damaged or destroyed. It is applicable on all lands and waterbodies in Canada and applies to all activities associated with organizations, industries, and individuals.
<i>Species at Risk Act (SARA)</i>	Prevents wildlife species, including vegetation, in Canada from disappearing, provide recovery strategies for wildlife species that are extirpated, endangered or threatened as a result of human activity, and manage species of concern. SARA application is currently limited to federal Crown Lands and areas that have been identified as critical habitats.

3 APPROACH AND ASSESSMENT METHODS

The following sections describe the methods used to characterize the existing environmental features and conditions of the Study Area to qualify the impacts that the proposed development may have on the affected ESA.

In consideration of the Project objectives, a desktop-only review was conducted to assess baseline conditions. The methods used to characterize baseline conditions of the biophysical attributes are presented below.

3.1 Soils and Landforms

To determine soils and landforms for the Study Area, the following data sources and reports were reviewed:

- Alberta Soil Information Viewer – Agricultural Region of Alberta Soil Inventory Database (AGRASID) (Alberta Agriculture and Forestry [AAF, 2021)
- Derived Ecosite Phase dataset (DEP; AAF, 2017)

3.2 Hydrology and Hydrogeology

Historic and current imagery (Figure A-2, Appendix A) and the Fish and Wildlife Information Management System (FWMIS) was reviewed for any provincially mapped waterbodies (Alberta Environment and Parks [AEP], 2021b). The following reports were also reviewed for hydrology, surface water and groundwater information pertaining to the Study Area:

- Alberta Geological Survey Interactive Map (AGS, 2021)
- Alberta Water Well Records (Government of Alberta, 2020)
- *Mountain View County Part of the Red Deer River Basin Regional Groundwater Assessment* (Hydrological Consultants Ltd. [HCL], 2000)

3.3 Vegetation

To characterize modal plant communities and to determine the potential for the presence of vascular and non-vascular rare plants and rare ecological communities within the Study Area, the following data sources and reports were reviewed:

- Alberta Conservation Information Management System (ACIMS) dataset (AEP, 2021a). Note that the polygons mapped by ACIMS typically approximate a record's location and may not represent the exact boundary or location. In this assessment, such records provided an indication of potential presence rather than an exact location.
- ESAs: Mountain View County (Summit, 2008)
- Derived Ecosite Phase dataset (DEP; AAF, 2017)
- Natural Regions and Subregions of Alberta (NRC, 2006)
- Select aerial imagery (see Section 3.2.3.1)

3.3.1 Historic Aerial Photograph Review

Select historic aerial imagery was reviewed dating back to 1950. Aerial imagery was obtained from the AEP Aerial Photographic Record System database for 1950, 1963, 1975, 1982, 1990, 2005, and 2020. Historical imagery was reviewed to determine the size and location of potential wet features, upland community types and qualify any land use changes that occurred within and directly adjacent to the Study Area. The historical imagery reviewed is presented in Figure A-2, Appendix A.

3.3.2 Preliminary Mapping and Classification

Vegetation community mapping for the Study Area was initially completed through the interpretation of select aerial photographs and the DEP. Upland plant communities were described using the DEP (AAF, 2017) and Natural Subregions Report (NRC, 2006).

Historic and current aerial imagery and information from the Alberta Merged Wetland Inventory (AEP, 2020) and the FWMIS Internet Mapping Tool (AEP, 2021b) were used to identify, map and classify potential wetlands/wet areas and any provincially mapped watercourses. To help guide aerial photo selection, climate data (AAF, 2021) was reviewed and plotted to gain an understanding of inter-year precipitation variability that may influence wetlands. Potential wetlands/wet areas were differentiated from uplands based on the presence of hydrological influences (areas of standing water, bare ground, patchy vegetation, etc.). The extents of these potential wetlands were then mapped in an orthorectified geographic information system.

All desktop mapped wetland boundaries were drawn, and a wetland class was assigned based on evidence of water permanence and changes to the observed vegetation (e.g., changes in image texture, colour etc.). Once mapped, a wetland type was assigned using the *Alberta Wetland Classification System* (AWCS) (Government of Alberta, 2015a).

3.4 Wildlife

To determine potential wildlife species of management concern (WSMC) and potential SARA listed wildlife species or critical wildlife habitat for the Study Area, the following data sources and reports were reviewed:

- eBird (Audubon and Cornell Lab of Ornithology, 2020)
- FWMIS Internet Mapping Tool (AEP, 2021b)
- ACIMS dataset (AEP, 2021a) for known occurrences of rare wildlife communities
- SARA Recovery Strategies (Government of Canada, 2020)
- ESAs: Mountain View County (Summit, 2008)

Once WSMC have been compiled, a scoring of low, moderate and high potential was developed based on the vegetation communities mapped and the above datasets. Only species with moderate and high potential to occur within the Study Area are detailed in Section 4.4.

4 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental impacts were defined for each biophysical attribute, relative to the typical activities that would be associated with the Project. Once impacts were identified, appropriate mitigation measures (including, but not limited to, project planning, project design, construction techniques, operational practices, scheduling principles, legislative/policy/guideline alignment) that could eliminate or reduce the identified environmental risk were summarized. The remaining, or residual effect, was then characterized to demonstrate the degree of impact reduction achieved.

Environmental impacts were ranked based on a measure of the intensity of the effect or the anticipated degree of change caused by the project relative to baseline conditions or guideline values as follows:

- Negligible – No discernable change predicted
- Low – Small change predicted but may not be measurable or perceivable
- Medium – Modest change predicted, likely measurable and perceivable
- High – Large change predicted, clearly measurable and perceivable

5 BASELINE CHARACTERIZATION

5.1 Soils and Landforms

5.1.1 Land Use

Historical air photo review showed landscape changes related to tree clearing, development of roads, residential housing, and recreational facilities. Woody vegetation was removed from the southern portion of the Study Area between 1963 and 1975. An access road was constructed along the southern boundary of the Study Area between 1975 and 1982 and several buildings were constructed between 1982 and 2020. The initial construction of a campground can be seen in the 2020 imagery.

5.1.2 Topography and Surface Water

Topography within the Study Area is dominated by undulating, hummocky, low-relief terrain with slopes between 1 and 6% (AGRASID, 2021). Generally, the Study Area slopes from the southwest to the northeast with several smaller hills visible throughout. The central portion of the Study Area slopes both towards a low-lying area to the west as well as northeast towards Schott's Lake. This is apparent in the contour data available for the Project area (Appendix B).

Surface water flow occurs towards the west and northeast following the topographic contours within the Study Area toward Schott's Lake and a large wetland feature to the north. The wetland feature is linked to Smith Creek located approximately 800 m to the northwest.

5.1.3 Geology

The Study Area is located in the Foothills Belt within the Red Deer River Basin. The upper bedrock includes the Disturbed Belt, and the Dalehurst and Lacombe members of the Paskapoo Formation (HCL, 2000).

The surficial geology in the Study Area consists of glacial deposits mainly of till and meltwater deposits (HCL, 2001). Bedrock geology within the Study Area is represented by Paskapoo formation mudstone and siltstone with subordinate and cross-stratified sandstone, minor conglomerate and coal (HCL, 2000). The bedrock surface is expected to be present at elevations ranging from 1,250 m to 1,100 m above mean sea level.

5.1.4 Soil

Soil parent materials in the Study Area generally consist of fine textured (clay and silty clay) water-laid sediments to medium to fine (very fine sandy loam, loam, silty clay loam, clay loam) textured till (AGRASID, 2021). The soil in the Study Area predominantly consists of well-drained Orthic Gray Luvisols, Dark Gray Luvisols and Brunisolic

Gray Luviols on moderately coarse (sandy loam, fine sandy loam) to fine (clay, silty clay, and sandy clay) textured materials. Depressions and wetland areas are dominated by Typic Mesisols on peat with undifferentiated parent materials.

Soils in the Study Area are reported to have topsoil depths of between 5 and 20 cm thick, underlain by subsoil approximately to between 25 and 50 cm deep (AGRASID, 2021). In depressions, organic soil depth is up to 160 cm deep.

5.1.5 Groundwater and Hydrogeology

The Study Area's existing hydrological condition has been evaluated based on a review of spatial data layers, imagery, and reports.

The Study Area is located approximately 7 km northwest of the Red Deer River. Geological mapping (AGS, 2021) indicates that sediment within the Study Area is glaciolacustrine sediment deposited in glacial lakes that ponded against the retreating ice margins. Glaciolacustrine deposits are typically associated with low-relief terrain, comprising stone-free, fine-grained sediment (Fenton, *et.al.*, 2013).

Local water well records and historical soil data for the Study Area indicate the upper soil profile consists predominantly of layers of shale and sandstone with the surface layer consisting of clay to between 12 and 26 m thick (Government of Alberta, 2020). Rocks were present in two of the three water well records.

Recent data on the depth to shallow groundwater was not available at the time of this desktop assessment. However, historical data indicated that groundwater was approximately 26 to 28 metres below the ground surface beneath the Study Area. The groundwater table is expected to follow the topography, and a shallow alluvial aquifer is expected to exist in the fluvial sediments and be hydraulically connected to Schott's Lake.

Eleven wetlands (W1 to W11) were identified during a review of historical and current imagery within the Study Area. The majority of the wetlands appear to be seasonal in nature, with drainages linking wetlands W1 and W2 as well as wetlands W3, W4 and W5. In addition, a portion of wetland W1 is Schott's Lake.

5.2 Vegetation

5.2.1 Ecological Setting and Historical Aerial Imagery Review

The Project resides within the Lower Foothills Subregion of the Foothills Natural Region (Natural Regions Committee [NRC], 2006). Land use in the region is predominantly forestry, oil and gas, coal, and grazing (Natural Regions Committee, 2006). This area is dominated by native upland forest stands, wetlands, and rangeland grass and shrub communities. July is generally the warmest month with a mean temperature of 14.7°C and January is generally the coldest month with a mean temperature of -12.8°C. Maximum precipitation usually occurs in July with a total annual precipitation of 588 mm.

The Study Area is located within ESA 3 (Summit, 2008). These ESAs are defined as either moderately to highly impacted, often small contiguous areas, and low habitat quality for common wildlife and native plant species. Management strategies for ESA 3 areas include riparian fencing, weed management, reduced grazing pressures as applicable, reclamation with native plant species, and buffering perimeters from further disturbance (Summit, 2008).

The Study Area is dominated by wetlands and previously modified vegetation communities, within which, seven wetland types and eight upland plant community types have been noted (Table 4-1).

Figure A-3, Appendix A shows the vegetation communities identified during the desktop review. A review of historical aerial imagery for the Study Area was completed, and imagery and detailed summaries are presented in Figure A-2, Appendix A.

Table 4-1 Land Cover Types within the Study Area

Land Cover Type ¹	Distribution in Study Area (ha)	Proportion of Study Area (%)
Forested Upland		
e2 – low-bush cranberry - aspen	0.92	1.4
e3 – low-bush cranberry - aspen, spruce, pine	0.59	0.9
e4 – low-bush cranberry - spruce	8.86	13.7
e5 – low-bush cranberry - shrubland	1.59	2.5
f2 – bracted honeysuckle/fern – aspen, poplar	0.27	0.4
f3 – bracted honeysuckle/fern – aspen, spruce, pine	0.34	0.5
f4 – bracted honeysuckle/fern – spruce	6.55	10.1
f5 – bracted honeysuckle/fern - shrubland	9.43	14.6
Wetland		
g1 – shrubby meadow	0.89	1.4
i1 – horsetail – poplar, aspen	0.05	0.1
i3 – horsetail - spruce	0.26	0.4
i4 – horsetail - shrubland	0.07	0.1
k1 – treed bog	1.99	3.1
k2 – shrubby bog	2.05	3.2
k3 – graminoid bog	3.68	5.7
WB – Schott's Lake	6.17	9.5
Modified Land		
Human Modified (Including areas where woody vegetation was removed)	12.58	19.5
Developed	8.37	12.9
Total	64.66	100

Note: ¹ (AAF, 2017) and (NRC, 2006)

Areas presented are based on the interpretation of remotely sensed imagery and existing datasets. Extents are subject to change once field data become available.

5.2.2 Forest Uplands

Seven upland plant communities were mapped within the Study Area based on the DEP layer (AAF, 2017). Moist sites typically support pure or mixed aspen (*Populus tremuloides*), lodgepole pine (*Pinus contorta*) and white spruce (*Picea glauca*) stands with an understory of bearberry and hairy wild rye. Mesic sites also support pure or mixedwood stands; however, understories are dominated by green alder (*Alnus viridis*), low-bush

cranberry (*Viburnum edule*), prickly rose (*Rosa acicularis*), wild sarsaparilla (*Aralia nudicaulis*), dewberry (*Rubus pubescens*), fireweed (*Chamerion angustifolium*), and bluejoint.

5.2.3 Modified/Vegetated Disturbed Community Types

Open areas within the Study Area were classified as non-maintained grass/shrub. These areas were historically treed with woody vegetation being removed between 1963 and 1975. These areas are now likely dominated by a mix of native grasses and shrubs.

5.2.4 Wetlands

Based on the select historical imagery reviewed, eleven potential wetland features (W1 to W11) were identified within the Study Area (Figure A-4, Appendix A). Table 4-1 provides a summary of the wetlands identified within the Study Area.

Table 4-2 Wetland Types within the Study Area

Wetland ID	Classification	Area intersecting Study Area	Total Wetland Area
W1	Graminoid fen, wooded coniferous fen, wooded coniferous swamp, open water	18.02	54.8
W2	Wooded coniferous swamp	0.60	0.63
W3	Wooded coniferous swamp, wooded coniferous fen	4.39	4.39
W4	Seasonal shrubby swamp	0.21	0.21
W5	Seasonal shrubby swamp	2.33	2.33
W6	Wooded coniferous fen, seasonal shrubby swamp	2.63	5.25
W7	Seasonal shrubby swamp	0.02	0.02
W8	Seasonal shrubby swamp	0.05	0.05
W9	Seasonal shrubby swamp	0.24	0.24
W10	Seasonal shrubby swamp	1.11	1.11
W11	Seasonal shrubby swamp	0.15	0.18

Note: Areas presented are based on the interpretation of remotely sensed imagery and existing datasets. Extents are subject to change once field data because available.

5.2.5 Rare Plants and Rare Ecological Communities

A review of the ACIMS dataset (AEP, 2020a) returned one historical record of a rare vascular plant within 1 km of the Study Area. Engelmann's spike-rush (*Eleocharis engelmannii*), an S2 (AEP, 2021c) ranked species, was identified to the southeast and the ACIMS potential species location intersects with the Study Area (Figure A-3, Appendix A). The preferred habitat for this species is pond shores, temporary pools and wet, sandy or peaty areas (Kershaw *et al.*, 2001). Suitable habitat for this species is likely present within the potential mapped wetlands within the Study Area. In areas where wetland disturbance cannot be avoided a rare plant survey should be conducted targeting Engelmann's spike rush.

5.3 Wildlife

5.3.1 General Wildlife Presence

A review of the ACIMS database (AEP, 2020a), FWMIS database (AEP, 2020b) and known species ranges were reviewed to develop a list of potential species for the area and gain an understanding of potential species richness and habitat use within and adjacent to Study Area.

The Lower Foothills subregion of the Foothills Natural Regions (NRC, 2006) provides habitat to approximately 300 wildlife species. Additionally, the Study Area falls within one identified moderate ESA, which has been designated as low to moderate importance for wildlife.

Currently, the Study Area is situated in a network of industrial development and transportation corridors; has been partially fragmented by human modified lands such as recreational facilities (noted existing camping and resort features); and residential development. The Study Area also within an ESA 3 according to the evaluation of the County's ESAs (Summit, 2008) This ESA type is ranked as providing limited moderate and predominantly low habitat quality for common wildlife and possess moderate to high levels of human disturbance (Summit, 2008).

From a wildlife habitat use standpoint, the Study Area encompasses a mix of seven types of upland forest areas that were either deciduous, mixedwood, coniferous or shrubland. The undisturbed habitat patches residing within the Study Area may provide habitat for avian and small mammal species but are insufficient in size to provide long term habitat for large-bodied wildlife (e.g moose, deer or bear species).

The current development within and adjacent to the Study Area likely influences general wildlife movement in the area. It is anticipated that regional wildlife movement predominantly occurs along the riparian zone associated with the Red Deer River (7 km south of the Study Area) and through the matrix habitat present to the north, east and west of the Study Area.

5.3.2 Wildlife Species of Management Concern

A list of WSMC was formulated using known species ranges, historical wildlife occurrences reported by FWMIS (AEP, 2020a) and rare wildlife reported by ACIMS (AEP, 2020b). According to the information compiled (Appendix C), a total of 21 were noted. Of these, four are federally listed, and 18 are provincially listed species. However, only 15 of the total potential species present in the Study Area have moderate to high habitat potential of occurrence. Four additional species with general management concerns within the area (moose [*Alces alces*], and deer [mule {*Odocoileus hemionus*} and white-tail {*Odocoileus virginianus*}] and black bear [*Urus americanus*]) are also discussed in the wildlife groupings below.

Amphibians and Reptiles

Red-sided gartersnake (*Thamnophis sirtalis*) is the only amphibian and reptile WSMC species with moderate potential to occur in the Study Area (Appendix C). This species overwinters in communal hibernaculum below the frost line in mammal burrows, rock crevices, talus slopes and anthropogenic structures (e.g. old foundations, cisterns). During the summer months, they can be found near wetlands that provide a good prey base of amphibians, fish, small mammals and birds (Alberta Amphibian and Reptile Conservancy, n.d.). Based on the habitat present within the Study Area, it is anticipated that no hibernacula would be present and foraging likely occurs outside the Study Area near Schott's Lake

As no critical overwintering habitat (hibernacula) is present and the habitat available within the Study Area is commonly occurring across the landscape, the likelihood of either species being present in the Study Area for any duration of time is low. Potential Project impacts to this species is anticipated to be minimal.

Migratory Birds

A wide assortment of migratory birds has the potential to occupy the Study Area for breeding, nesting and foraging. According to the formulated list of WSMC (Appendix B), there are seven species with moderate or high potential to occur within the Study Area, these include:

- Alder flycatcher (*Icterus galbula*) – This aerial insectivore nests near waterbodies and wet forests building nests in dense shrubby understories (Cornell University, 2021; Semenchuk, 2007). Based on the vegetation mapping completed, both nesting and foraging habitat is present within and directly adjacent to the Study Area. Their presence within the Study Area is quite possible.
- Barred owl (*Strix varia*) – This owl species nest in natural tree cavities and frequent mature mixed and coniferous woodlands, riparian areas, and swamps with trees (Cornell University, 2021; Semenchuk, 2007). Based on the vegetation communities present (e.g. e3, e4, f3, f4 and k1), nesting and foraging habitat are present within the Study Area. Therefore, barred owl is anticipated to use habitat within the Study Area.
- Broad-winged hawk (*Buteo platypterus*) – This large bodied raptor prefers mature deciduous or mixed-deciduous forests with natural openings for foraging and nesting. Nests are built in the lower canopy, in the main tree crotch of mature trees. (Cornell University, 2021). However, based on a review of historical imagery, the upland habitats within the Study Area are relatively young and are unlikely to provide sufficient nesting or foraging habitat for broad-winged hawk as such, their presence within the Study Area is likely opportunistic in nature will migrating to preferred mature forest stands.
- Common yellowthroat (*Geothlypis trichas*) – this species of songbird is generally associated with wetland habitats building nests within shrubby understories of wet forests (Cornell University, 2021). As this species is known to frequent habitats such as those present within the Study Area, it is anticipated that common yellowthroat has a high potential of occurring in the Study Area.
- Eastern phoebe (*Sayornis phoebe*) – This small aerial insectivore builds nest within man-made structures such as bridges, docks, piers and buildings. Foraging occurs on the wing over open habitats such as wetlands and lakes. As this species is known nest in features such as docks and building eaves near open water foraging habitat, which are present within the Study Area, it is anticipated that eastern phoebe has a high potential of occurring in the Study Area.
- Least flycatcher (*Empidonax minimus*) – This aerial insectivore requires open expanses for foraging and nesting largely occurs in deciduous dominated forests with semi-open understories (Cornell University, 2021; Semenchuk, 2007). Based on the mapping and dataset review undertaken, viable nesting and foraging habitat (e.g. e2, e3, f2 and f3) within and directly adjacent to the Study Area is present; therefore, there is a high potential of this species occurring in the Study Area.
- Pileated woodpecker (*Dryocopus pileatus*) – These large woodpeckers forage for insects by excavating large cavities in dead or decaying trees. Cavity nests are also excavated in large-diameter trees (Cornell University, 2021; Semenchuk, 2007). Based on historical imagery, the upland habitats within the Study Area are relatively young and are unlikely to provide sufficient large-diameter trees for nesting. However, foraging habitat in the form of dead or decaying trees may be present in the Study Area, pileated woodpeckers will likely be present for opportunistic foraging.
- Western tanager (*Piranga ludoviciana*) – This migrant species glean insects from foliage in the upper canopy of trees in open woodlands. Nests are built in open areas of the canopy. As this species is known to frequent habitats such as those present within the Study Area, it is anticipated that western tanager has a high potential of occurring in the Study Area.
- Western wood-pewee (*Contopus sordidulus*) – This little passerine breed in open woodlands near natural forest openings where they forage for insects on the wing. Western wood-pewee are common in aspen and

spruce forests. This species is anticipated to breed and forage in the area as there is appropriate habitat within the Study Area.

Small Mammals/Furbearers

Small mammals and furbearers are known to be frequent occupants of forests uplands such as those present in within Study Area. Of the WSMC, one small mammal species, little brown bat (*Myotis lucifugus*) have the potential to be present within the Study area based on the habitat present. Females of this species congregate in summer maternity colonies within mature trees, rock crevices and old buildings to rear young. During the winter months they seek caves or old mine sites that provide consistent temperatures throughout the season (Pattie and Fisher, 1999). Based on the information reviewed, summer roosting habitat is present within the Study Area.

Furbearers including Long-tailed weasel (*Mustela frenata longicauda*) and American marten (*Martes americana*) are members of the weasel family that utilize open and forested habitats to fulfill life cycle requirements. Both species:

- Frequent areas that have abundant small mammal, amphibian and bird populations
- Occur in proximity to human disturbance
- Have a high potential to occur in the Study Area

Ungulates

Three species identified as species of general management concern are ungulates; moose (*Alces alces*), mule deer (*Odocoileus hemionus*) and white-tail deer (*Odocoileus virginianus*), based on the habitat present within the Study Area, including tracts of forested uplands with shrub understories that provide forage species, there is a high potential that all three may frequent the general area and interact with the Project.

Large Carnivores

Two WSMC (grizzly bear [*Ursus arctos*] and cougar [*Puma concolor*]) and one additional species of general management concern (black bear) have the potential to occur within the Study Area. These large carnivores are long ranging species that occupy an array of habitats. Based on habitat types noted and known observations, cougar are anticipated to have low potential to interact with the Project. Both bear species have a high potential to interact with the Project and have a high potential for human-wildlife conflicts.

6 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The Project will be a recreational development, that includes the addition of resort amenities and RV campsites. The general activities associated with this type of development include targeted vegetation removal, localized site grading to accommodate building the RV sites, access road construction and stormwater management. Table 6-1 details recommended mitigations to minimize Project impacts associated with the various biophysical attributes. Through the application of the various mitigations, it is anticipated that the overall Project will not have a significant adverse impact on the diverse habitat and mix of natural areas within the Study Area.

Table 6-1 Mitigation Measures and Residual Effects

Biophysical Attribute	Potential Impact	Environmental Impact	Recommended Mitigation Measures	Impact After Mitigation
Soils and Landforms	Change in Native Soils	Moderate	- Minimize clearing required to maintain existing topography and soils present - Where clearing is required: - Clearly stake and flag areas for grading to restrict impacts to retained areas within the Study Area - Use of appropriate topsoil stripping and stockpiling practices. Topsoil, subsoil and organic soils should be stripped and stockpiled separately. - Limit clearing and grading to only areas immediately required to reduce potential erosion - Provide an erosion and sedimentation control plan that will include, but is not limited to: ▪ The migration of soils outside the Project area ▪ Control erosion of any stockpile ▪ Prevent weed infestation - Provide a monitoring program to inspect the various mitigation measures installed - Reuse native topsoil in landscaping - Replace soil horizons in the order removed where applicable - Restricting heavy machinery use to cleared areas in order to prevent compaction	Low

Biophysical Attribute	Potential Impact	Environmental Impact	Recommended Mitigation Measures	Impact After Mitigation
			- Limit movement of heavy equipment and vehicles during wet conditions to reduce damage to substrates - Decompact compacted subsoils prior to topsoil replacement - Regrade areas with vehicle ruts, erosion gullies or where soil subsidence has occurred	
Hydrology	Change in Water Quality	Low	- If possible, avoid disturbance to all wetlands (W1 to W11) noted - Maintain appropriate buffers to the identified wetlands to prevent pollution from entering waterbodies (as per Stepping Back from the Water, Government of Alberta, 2012) - Install and maintain appropriate erosion and sediment control measure to prevent off-site impacts - Restrict chemical use or refuelling to a contained area, at least 100 m from any waterbody, including drainages and watercourses - Stormwater management mitigation will be considered and will follow the appropriate guidelines to meet the requirements for the management of additional runoff associated with development. - Use of low-density septic systems installed by a certified private sewage installer will protect the shallow groundwater table. The specifications that a septic system must meet will be a stipulation decided upon by the County	Negligible
	Change in Hydrology (quantity) and Local Drainage	Low	- Overland drainage will be managed through a Stormwater Management Facilities (SWMF) detention pond designed for the development. Final design will consider appropriate guidelines and regulations to ensure pre-development flows are maintained - Maintain existing grades adjacent to treed areas to avoid root damage and hydrology changes - Any proposed domestic water wells are guaranteed a specific water quantity under the <i>Water Act</i>. If residents stay within this prescribed volume, the local aquifer will not be adversely affected	Low

Biophysical Attribute	Potential Impact	Environmental Impact	Recommended Mitigation Measures	Impact After Mitigation
Vegetation	Change in Plant Communities	Moderate	– Use pocket development techniques to minimize vegetation disturbance and associated landscape fragmentation – Consider a tree protection plan for the boundary of retained treed stands prior to construction – Removal of vegetation by hand in small areas to reduce the potential for damaging trees inside areas set aside for retention – Stake boundaries of the construction footprint and access roads – Salvage native plant material and use in revegetation – Re-seed areas as soon as possible post-construction – Implement the use of erosion and sediment control measures during construction to protect riparian habitats – Prepare a Wetland Assessment Impact Report and replacement plan for any wetlands that will not be avoided, following the <i>Alberta Wetland Mitigation Directive</i> (Government of Alberta, 2017)	Low
	Change to Rare Plants and Rare Ecological Communities	Moderate	– Consider conducting a pre-construction survey in order to confirm the presence or absence of rare plants and rare plant communities during appropriate growing periods prior to any vegetation clearing	Negligible

Biophysical Attribute	Potential Impact	Environmental Impact	Recommended Mitigation Measures	Impact After Mitigation
Wildlife	Change in Habitat	Moderate	- Minimize loss of nesting habitat through targeted vegetation removal from the smallest footprint required - Vegetation removal will result in the loss of foraging and nesting habitats. However, preferred nesting habitat for many of these species occurs throughout the Study Area. Habitat alteration in these areas is anticipated to be minimal as the use of minimal clearing practices will limit the amount and location of tree clearing to the smallest footprint possible	Low
	Change in Wildlife Movement and Disturbance	Moderate	- To further protect nesting birds, vegetation removal should occur outside known sensitive wildlife periods: - The Project falls within the B4 Nesting Zone, which has a nesting period from mid-April to late August (Government of Canada, 2018). Construction activities should be scheduled to occur outside the migratory bird nesting season if possible. If any vegetation removal is required during this period, a qualified biologist must conduct a nest sweep of the disturbance area. If active nests are found, the qualified biologist will provide written mitigation and protection measures (e.g. setbacks and/or timing restrictions) to minimize effects to migratory birds.	Low
	Change in Wildlife Mortality	Low	- A wildlife sweep, to protect sensitive wildlife features protected under the Alberta <i>Wildlife Act</i> should be completed prior to clearing of vegetation during the sensitive wildlife period for nesting and rearing young, between March 15 to August 31. Site-specific wildlife features (e.g. nests, burrows, leks, dens) observed within the Project area must be buffered by applicable setbacks and timing restrictions to minimize effects to sensitive wildlife and habitat features - Additional wildlife and wildlife feature mitigations may be required if wildlife or wildlife features are observed during construction. All wildlife observations made during construction should be reported to a qualified biologist. The biologist will recommend mitigations depending on the species, as needed - During the construction/operation phases of development, all wildlife attractants (e.g. petroleum products, human food, recyclable drink containers and garbage) should be secured in wildlife proof containers to discourage wildlife issues - During the construction phases of development work activities should be limited to normal working hours and avoid work during the most wildlife-active portions of the day (e.g., dawn and dusk) to promote a gradual habituation to land use changes proposed	Negligible

Biophysical Attribute	Potential Impact	Environmental Impact	Recommended Mitigation Measures	Impact After Mitigation
			– Traffic speeds should be posted and kept low (e.g. 30 to 50 km/hr) onsite to prevent wildlife-vehicle collisions – Consider the use of dark sky compliant lighting outdoor to minimize light pollution and negative effects on the local wildlife – Minimize disturbances to the smallest footprint possible to maintain connectivity between natural features to the north, east and west in order to promote continued wildlife passage – SWMF should incorporate a naturalized design. Native vegetation species should be considered in the landscaping plan to promote wildlife use – If required, use of native plantings as part of the landscape plan throughout the Project. They will require little maintenance and could provide additional resources for local wildlife	

7 DISCUSSION AND CONCLUSIONS

A BA was undertaken for the Project as it is located within one moderate environmentally significant area for Mountain View County. This area is known to support sensitive vegetation and wildlife communities. After a review of the biophysical characteristics of the Study Area, the Project is situated within a fragmented landscape where ongoing residential and industrial land use is present.

The desktop review confirmed that the Study Area contained eight types of upland forest. The mapped upland forest types were either a low-bush cranberry understory or a bracted honeysuckle/fern understory. Each understory type had the potential to be shrub, deciduous, mixedwood, or conifer dominated. A review of the ACMIS database noted historical occurrences of Engelmann's spike-rush to the southeast. Preferred habitat, including wetland areas with temporary pools or wet, sandy or peaty soils, appears to be present within the potential wetlands mapped within the Study Area.

A review of historical and current imagery identified eleven wetland features (W1 to W11) within the Study Area. The wetlands are located throughout the Study Area and were generally classified as seasonal shrubby swamp. Wetlands W1, W3, W5, W7, W8, and W9 appear to intersect the Project area. If disturbance to any of these features cannot be avoided, a field verification should be completed to confirm wetland boundaries and classification and approval under the Alberta *Water Act* will be required.

A review of known species ranges and the FWMIS and ACMIS databases note 10 WSMC that have a moderate or high potential of occurrence within the Study Area. Based on the existing and ongoing industrial and residential development adjacent to the Study Area and the recommended use of minimal clearing measures, the Project is unlikely to have significant effects on habitat quality for the WSMC potentially occurring in the area.

Stormwater management detention ponds are proposed within the Study Area based on natural drainage patterns and pre-development sub-basin drainage boundaries. Outlets will be designed to ensure the release is controlled to pre-development flow rates. The detention ponds will be constructed as a naturalized pond to provide wildlife habitat and improve water quality through natural filtration. A design for these features has not been finalized.

Overall, the Project is anticipated to have some permanent impacts to the local environment. However, through the application of the various mitigations listed previously, it is anticipated that the overall Project will not have a significant adverse effect on the diverse habitat and mix of natural areas within Study Area.

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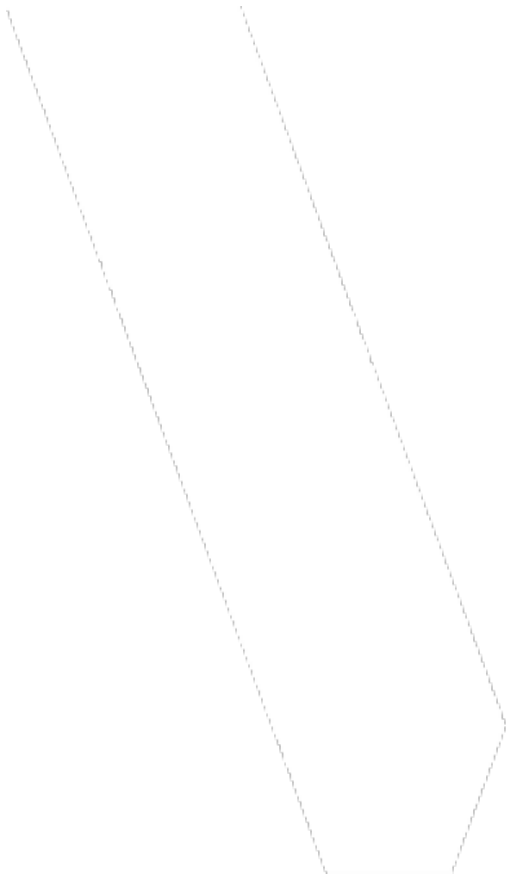
APPENDIX

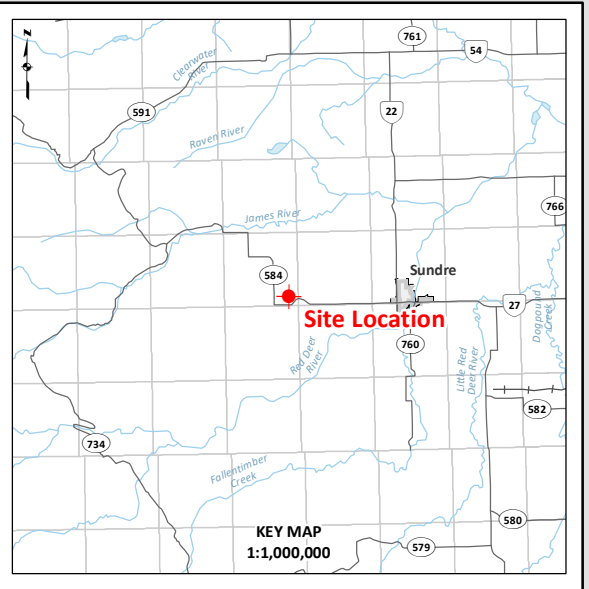
A FIGURES



LIST OF FIGURES

- Figure A-1 Site Location Map
- Figure A-2 Historical Imagery
- Figure A-3 Vegetation Communities
- Figure A-4 Wetland Mapping





Legend

Study Area

Environmentally Sensitive Areas

Moderate

Draft

Schott's Lake RV & Guest Ranch Inc. *Biophysical Assessment*

Figure A-1

Site Diagram

Schott's Lake RV & Guest Ranch
NW-01-033-07 WSM

Scale: 1:12,500

0 125 250 500 750 Metres

Universal Transverse Mercator (Zone 11)
North American Datum (1983)

wsp

Report By: RF
Drawn by: JH
Reviewed By: JL

WSP Job #: 211-04399-00
Date: July 27, 2021
Office: Edmonton

Notes: Imagery Source: ESRI Imagery Service [2020]



Aerial Photograph 1: April 5, 1950



Aerial Photograph 2: May 14, 1963



Aerial Photograph 3: October 21, 1975



Aerial Photograph 4: August 8, 1982



Aerial Photograph 5: June 21, 1990



Aerial Photograph 6: October 8, 2005



Aerial Photograph 7: May 14, 2020

Legend

Study Area

Draft

Image Source Table					
Photo #	Source	Date	Line	Roll	Scale
1	APRS	April 5, 1950	001	AS0159	1:40,000
2	APRS	May 14, 1963	042	AS0871	1:32,000
3	APRS	October 21, 1975	087	AS1435	1:32,000
4	APRS	August 8, 1982	287	AS2657	1:15,000
5	APRS	June 21, 1990	275	AS3971	1:20,000
6	APRS	October 8, 2005	069	TRSG0508	1:40,000
7	ESRI	May 14, 2020	N/A	N/A	1:7,500

Schott's Lake
RV & Guest
Ranch Inc.

Biophysical Assessment

Figure A-2

Historical Air Photos

Schott's Lake RV & Guest Ranch
NW-01-033-07 W5M

Scale: 1:7,500

095190380570760950

Metres

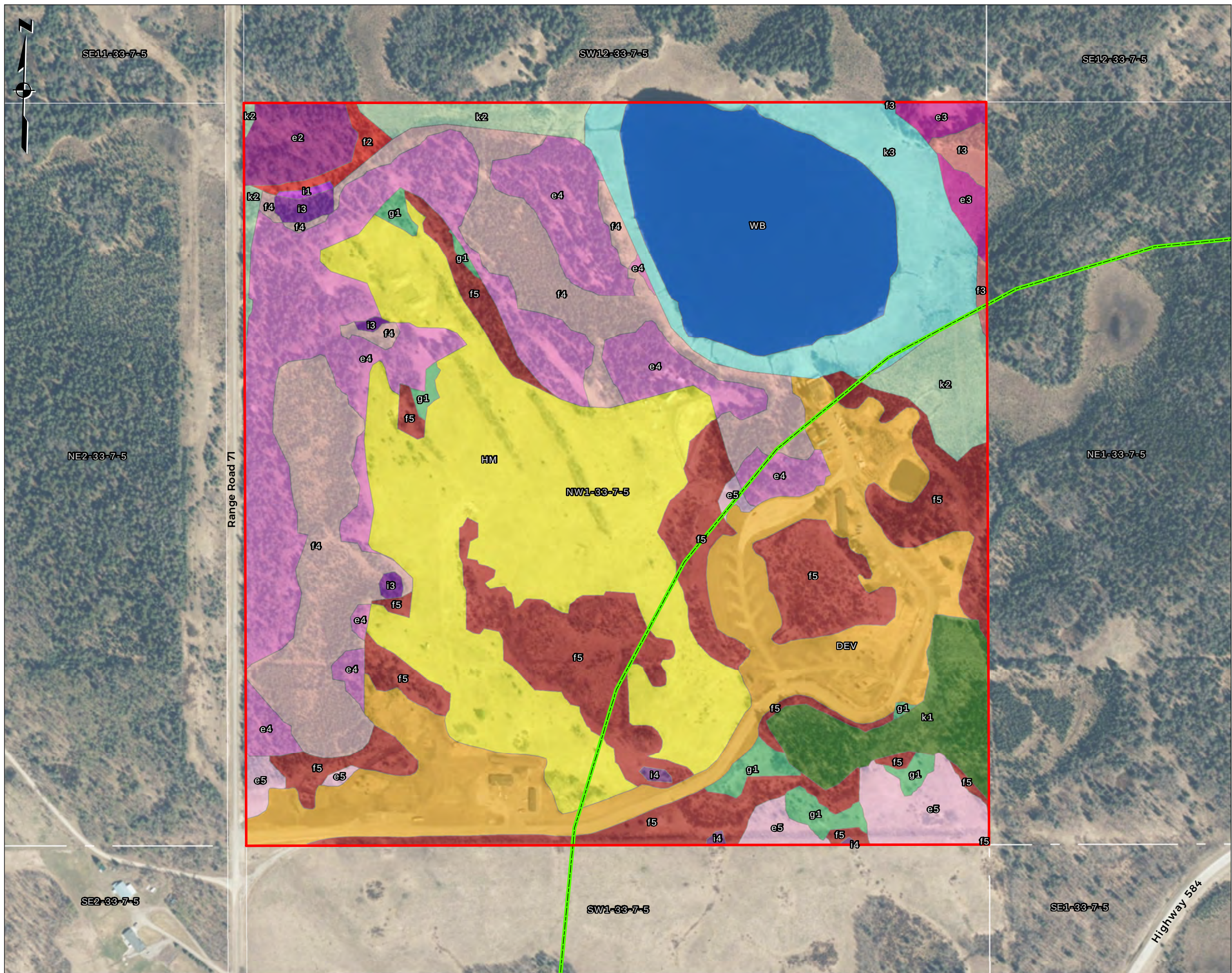
Universal Transverse Mercator (Zone 11)
North American Datum (1983)

WSP

Report By: RF
Drawn by: JH
Reviewed By: JL

WSP Job #: 211-04399-00
Date: July 27, 2021
Office: Edmonton

Notes: Imagery Source: APRS, ESRI



Legend

Study Area

Vegetation Communities

- Schott's Lake (WB)
- Bracted honeysuckle - shrubland (f5)
- Bracted honeysuckle/fern - Aw-Pb (f2)
- Bracted honeysuckle/fern - Aw-Sw-Pl (f3)
- Bracted honeysuckle/fern - Sw (f4)
- Development (DEV)
- Human modified (HM)
- Graminoid bog (k3)
- Horsetail - Pb-Aw (i1)
- Horsetail - Sw (i3)
- Horsetail - shrubland (i4)
- Low-bush cranberry - Aw (e2)
- Low-bush cranberry - Aw-Sw-Pl (e3)
- Low-bush cranberry - Sw (e4)
- Low-bush cranberry - shrubland (e5)
- Shrubby bog (k2)
- Shrubby meadow (g1)
- Treed bog (k1)

ACIMS Non-Sensitive Element Occurance

Engelmann's spike-rush

Draft

Schott's Lake
RV & Guest
Ranch Inc. *Biophysical Assessment*
Figure A-3

Vegetation Communities
Schott's Lake RV & Guest Ranch
NW-01-033-07 WSM

Scale: 1:4,000
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Universal Transverse Mercator (Zone 11)
North American Datum (1983)



Report By: RF
Drawn by: JH
Reviewed By: JL
WSP Job #: 211-04399-00
Date: July 27, 2021
Office: Edmonton

Notes: Imagery Source: ESRI Imagery Service [2020]



Legend

- Study Area
- Drainage
- Mapped Waterbody
- Wetland Boundaries



Draft

Schott's Lake
RV & Guest
Ranch Inc.

Biophysical Assessment

Figure A-4

Wetland Mapping

Schott's Lake RV & Guest Ranch
NW-01-033-07 W5M

Scale: 1:6,000

0 60 120 240 360 Metres

Universal Transverse Mercator (Zone 11)
North American Datum (1983)



Report By: RF
Drawn by: JH
Reviewed By: JL

WSP Job #: 211-04399-00
Date: July 27, 2021
Office: Edmonton

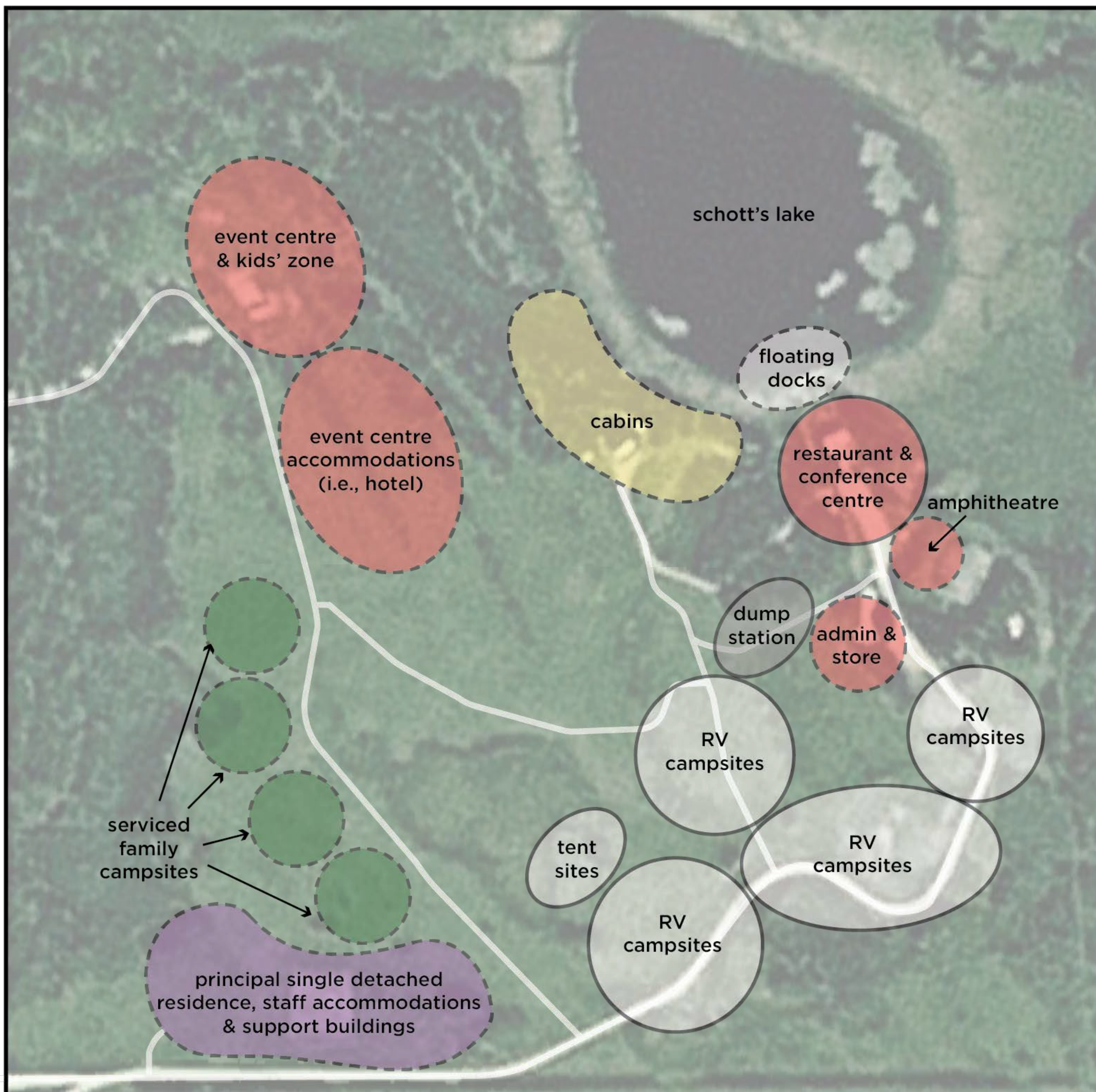
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APPENDIX

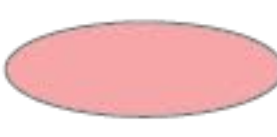
B

PRELIMINARY CONCEPT PLAN





legend

- | | | |
|--|---|--|
|  future development |  standard campsites |  commercial activities |
|  existing development |  family campsites |  maintenance activities |
| |  cabins | |

APPENDIX

C WILDLIFE SPECIES TABLE



Table 1. Potential Wildlife Species at Risk in the Study Area

Common Name	Scientific Name	Provincial status ^{1,2}	SARA status ³	COSEWIC Status ³	Preferred habitat	Potential Presence in the Study Area
Mammals						
American Marten	<i>Martes americana</i>	Secure	Threatened	Threatened	This tree-dwelling species occupies a variety of forested habitats, coming down to the forest floor to hunt small mammals, frogs, fish, insects and birds (Pattie and Fisher, 1999).	High – Preferred habitat exists within the Study Area
Canada Lynx	<i>Lynx canadensis</i>	Sensitive	Not at Risk		Prefer early to mid-successional forested habitats with a dense shrub/deadfall understory (Pattie and Fisher, 1999).	Low – Preferred habitat existing within the Study Area, however, lynx are sensitive to disturbances and is likely to avoid areas of human activity
Cougar	<i>Puma concolor</i>	Secure			Occupy remote, wooded areas that provide cover and ample prey. Denning occurs in rock crevices, beneath windthrown trees or in tree hollows (Pattie and Fisher, 1999).	Low – Preferred habitat existing within the Study Area; however, cougars are sensitive to human activity and are likely to avoid areas of human disturbance. Historical occurrences within 3 km on FWMIS.
Fisher	<i>Martes pennanti</i>	Sensitive			Prefer dense forested areas with hollow, logs, stumps and burrows for cover (Pattie and Fisher, 1999).	Low – Preferred habitat exists within the Study Area; however, fisher are sensitive to disturbances and are likely to avoid areas with human activity
Grizzly Bear	<i>Ursus arctos</i>	At Risk	Special Concern	Special Concern	Found in different habitat, from dense forest to subalpine meadows, and open plains in the Rocky Mountain Natural Region and portions of the Foothills and Boreal Nature Regions. Denning habitat generally includes steep, north and east facing slopes (Alberta Sustainable Resource Development and Alberta Conservation Association, 2010).	Moderate – Foraging habitat is present in the Study Area; however, the Study Area occurs outside of known core and secondary habitat for grizzly bears, reducing the potential for frequent use. Historical occurrences within 3 km on FWMIS.
Long-tailed Weasel	<i>Mustela frenata longicauda</i>	May Be At Risk	Not at Risk		Prefer open areas scattered with pockets of dense vegetation near water (Pattie and Fisher, 1999).	High – Preferred habitat exists within the Study Area

Common Name	Scientific Name	Provincial status ^{1,2}	SARA status ³	COSEWIC Status ³	Preferred habitat	Potential Presence in the Study Area
Little brown bat	<i>Myotis lucifugus</i>	Secure	Endangered	Endangered	Summer colonies can be established often in rock crevices and outcrops, and cliffs as well as large-diameter trees. Foraging occurs along waterways, forest edges and in gaps in the forest (COSEWIC, 2013). Known winter roosts include mines and caves (Pattie and Fisher, 1999).	High – Treed habitat present within the Study Area provides roosting habitat for bats.
Northern Bat	<i>Myotis septentrionalis</i>	May Be At Risk	Endangered	Endangered	Prefer northern boreal forests of Alberta. Maternity colonies can be established often in rock crevices and outcrops as well as large-diameter trees. Foraging occurs in forested areas or along forest edges. Known winter roosts include mines and caves (Pattie and Fisher, 1999).	Low – Treed habitat present within the Study Area may provide habitat for occasional roosting; however, this species prefers northern boreal forests for breeding and hibernating.
Birds						
Alder Flycatcher	<i>Empidonax alnorum</i>	Sensitive			Will build nests in a bush or shrub in the fork made from branches. Habitat is near wet areas, such as beside swamps, or muskegs as well as in the plants along streams. Are known to be in willow, birch, or alder patches that are also beside wet areas (Cornell University, 2021; Semenchuk, 2007).	High – Nesting and foraging habitat is present within the Study Area.
Barred Owl	<i>Strix varia</i>	Sensitive, Special Concern			Nest in natural tree cavities or on top of broken trees. Can be found in mature mixed and coniferous woodlands, riparian areas, and swamps with trees (Cornell University, 2021; Semenchuk, 2007).	High – Nesting and foraging habitat is present within the Study Area.
Black-Throated Green Warbler	<i>Setophaga virens</i>	Sensitive, Special Concern			Primarily occupy conifer forests but are known to occupy conifer dominated mixedwoods as well. Nests are built mid canopy (1-3 m) from the ground close to the trunk (Cornell University, 2021; Semenchuk, 2007).	High – Nesting and foraging habitat is present within the Study Area.
Broad-winged Hawk	<i>Buteo platypterus</i>	Sensitive			Prefer mature deciduous or mixed-deciduous forests with natural openings for foraging and nesting. Nests are built in the lower canopy, in the main tree crotch with 2 to 4 eggs. (Cornell University, 2021).	Moderate – Nesting and foraging habitat is present within the Study Area.
Common Yellowthroat	<i>Geothlypis trichas</i>	Sensitive			Nest in dense shrub vegetation within riparian habitats, prairies or open forests near water (Cornell University, 2021; Semenchuk, 2007).	High – Nesting and foraging habitat is present within the Study Area.

Common Name	Scientific Name	Provincial status ^{1,2}	SARA status ³	COSEWIC Status ³	Preferred habitat	Potential Presence in the Study Area
Eastern Kingbird	<i>Tyrannus tyrannus</i>	Sensitive			Will nest both in tree cavities and on branches of trees, can be found around areas that are open such as bushes near rivers, forest edges, shelterbelts, roadsides. Willow and birch shrubs, as well as riparian areas are also common places for them to be found (Cornell University, 2021).	Low – Prefer open grassland habitat and forest edges associated with small stands or shelterbelts.
Eastern Phoebe	<i>Sayornis phoebe</i>	Sensitive			Will build nests in a culvert, cliffs or bridge, under ledges and build nests out of mud. Can be found near lakes, streamside, farms, roadsides, towns and forest edges and clearings (Cornell University, 2021).	High – Nesting and foraging habitat is present within the Study Area.
Great Grey Owl	<i>Strix nebulosa</i>	Sensitive	Not at Risk		Prefer dense, wet conifer forests near natural edges such as meadows or bogs for hunting. Nesting occurs in abandoned hawk, eagle, or raven nests near foraging grounds (Cornell University, 2021; Semenchuk, 2007).	Low – Nesting and foraging habitat is present within the Study Area.
Least Flycatcher	<i>Empidonax minimus</i>	Sensitive			Builds nest on the horizontal limb of a small trees or shrubs. Prefer deciduous stands comprised of aspen or poplar or in deciduous dominated mixedwoods with shrubby understories (Cornell University, 2021).	High – Nesting and foraging habitat is present within the Study Area.
Pileated woodpecker	<i>Dryocopus pileatus</i>	Sensitive			Occupy mature deciduous and mixedwood forests with large dead or decaying trees. They also frequent suburban areas with large woodland patches (Cornell University, 2021).	High – Nesting and foraging habitat is present within the Study Area.
Western Tanager	<i>Piranga ludoviciana</i>	Sensitive			Breed in open coniferous or conifer dominated mixedwood stands or riparian woodlands near natural forest openings (Cornell University, 2021).	High – Nesting and foraging habitat is present within the Study Area.
Western Wood-pewee	<i>Contopus sordidulus</i>	May Be At Risk			Nests on a horizontal tree branch, habitat is made of open mixedwood forests, dominated by deciduous trees and riparian woods (Cornell University, 2021).	High – Nesting and foraging habitat is present within the Study Area.
Amphibians and Reptiles						
Red-sided Garter Snake	<i>Thamnophis sirtalis</i>	Sensitive			Usually found in proximity to water within open forests, grasslands and riparian areas of wetlands and streams (Alberta Amphibian and Reptile Conservancy, n.d.).	Moderate – Habitat within the Study Area has potential to support foraging. However, there are no known hibernacula within the area.

Notes: ¹ Alberta Environment and Parks, 2020b

² *Subnational Status Ranks, Alberta Environment and Parks, 2020c*

³ *Government of Canada, 2018*

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