

Memo

To: Darwin Durnie, Chief Flood Mitigation and Resiliency Officer

Company: Drumheller Resiliency and Flood Mitigation Office

From: Christine Gursky, Wood
Marianne van Doorn, Wood

Date: 18 December 2020

CC: Liv Hundal, Wood

Ref: CW238402

Re: **Terrestrial Assessment Cambria, Lehigh and East Coulee – Drumheller Flood Mitigation**

1.0 INTRODUCTION AND BACKGROUND

The Town of Drumheller (Drumheller) is located within the Red Deer River valley in southeastern Alberta. Historically, Drumheller has experienced numerous floods. Over the last 30 years, flooding occurred in 1991, 2005, 2013, and 2018 which resulted in significant flood damage. The Drumheller Resiliency and Flood Mitigation Program (DRFM Program) aims to complete a flood mitigation system that provides flood protection; is easily maintainable, erosion resistant and accommodates deterioration over time; minimizes encroachments on the river and associated afflux; minimizes impacts on private land; and, considers the existing and future pathways and amenities. Specifically, the DRFM Program plans to improve existing structural measures such as berms and dikes along the river banks as well as construct new structures.

This memorandum summarizes the findings of a terrestrial (vegetation and wildlife) assessment for three sub-areas (Cambria, Lehigh and East Coulee) proposed for flood mitigation along the Red Deer River by the DRFM Program. The assessment identified potential negative impacts to vegetation and wildlife and recommends follow-up and pre-construction surveys to be completed.

2.0 METHODS

Desktop and field assessments were completed for all areas identified above. A Landscape Analysis Tool (LAT) Report (Appendix A) was also completed through Alberta Environment and Parks (AEP) to identify key issues and specific requirements for this terrestrial assessment.

Recommendations for follow-up field surveys are summarized in Section 5.0 of this memorandum and are based on the results of the desktop review, field assessments and regulatory requirements.



2.1 Study Area

The Project Study Area (PSA) included the Project footprint plus a 10 m buffer as shown in Figures 1a, 1b, and 1c. The PSA consists of three sub-areas: East Coulee, Lehigh and Cambria. Results will be presented by the three sub-areas.

The Cambria study area is located along the south (or right) bank of the Red Deer River from 500 m upstream of the Highway 10 bridge (SE-22-28-19 W4M) to 900 m downstream (SE-15-28-19 W4M).

The Lehigh study area is located along the north (or left) bank of the Red Deer River with the upstream extent located approximately 300 m upstream of the Village of Lehigh within SE-6-28-18 W4M. The downstream extent is located approximately 400 m southeast of Lehigh within NW-32-27-18 W4M.

The East Coulee study area is located along the north (or left) bank of the Red Deer River with the upstream extent located on River Drive in the Village of East Coulee (SW-32-27-18 W4M). The PSA follows the east bank approximately 200 m downstream of the Highway 569 bridge located within SE-28-27-18 W4M.

2.2 Vegetation and Wetlands

A desktop overview and a field reconnaissance was completed for the PSA.

2.2.1 Desktop Assessment

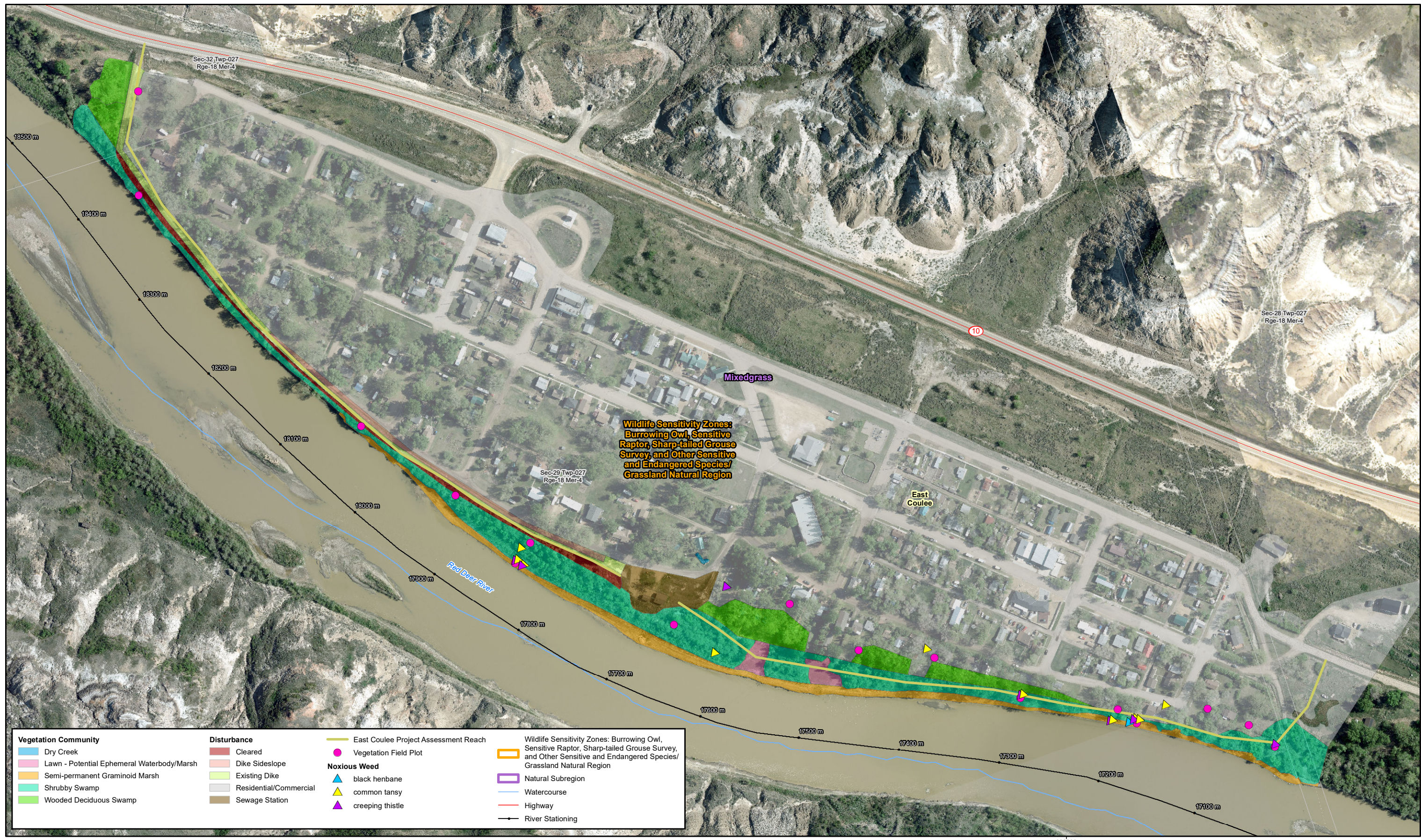
A search of the Alberta Conservation Information Management System (ACIMS) database was completed on 26 October 2020 for Sections (Sec) 15, 21, 22 – Township (Twp) 28 – Range (Rge) 19 W4M (Cambria); Secs 28, 29, 32 – Twp 27 – Rge 18 W4M (East Coulee); and Sec 6 – Twp 28 – Rge 18 W4M and Sec 31 – Twp 27 – Rge 18 W4M (Lehigh) to obtain records of previously located rare plants or rare ecological communities found within and adjacent to the PSA. A preliminary desktop review was undertaken to identify whether wetlands are likely to be present within the PSA including review of available imagery, Alberta Merged Wetland Inventory (AEP 2018) and watercourse mapping (Natural Resources Canada 2016).

2.2.2 Field Reconnaissance

A vegetation reconnaissance survey within areas where access was permitted was completed on 27, 28 and 29 October 2020 by a vegetation ecologist. The reconnaissance included inventory of identifiable species, ground-truthing of representative vegetation communities, and location of weed infestations and other invasive species.

2.3 Wildlife and Wildlife Habitat

Wildlife and wildlife habitat were assessed based on a completed desktop overview and a field reconnaissance for the PSA.



Vegetation Community	Disturbance	East Coulee Project Assessment Reach	Wildlife Sensitivity Zones: Burrowing Owl, Sensitive Raptor, Sharp-tailed Grouse Survey, and Other Sensitive and Endangered Species/ Grassland Natural Region
Blue line: Dry Creek	Red box: Cleared	Yellow line: East Coulee Project Assessment Reach	Orange box: Wildlife Sensitivity Zones: Burrowing Owl, Sensitive Raptor, Sharp-tailed Grouse Survey, and Other Sensitive and Endangered Species/ Grassland Natural Region
Pink box: Lawn - Potential Ephemeral Waterbody/Marsh	Light green box: Dike Sideslope	Pink circle: Vegetation Field Plot	Purple box: Natural Subregion
Orange box: Semi-permanent Graminoid Marsh	Light grey box: Existing Dike	Blue triangle: black henbane	Blue line: Watercourse
Green box: Shrubby Swamp	Dark grey box: Residential/Commercial	Yellow triangle: common tansy	Red line: Highway
Light green box: Wooded Deciduous Swamp	Brown box: Sewage Station	Purple triangle: creeping thistle	Black line: River Stationing

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Projection: NAD 1983 UTM Zone 12N
 QA/QC: HB RI LH
 Sources: AB TPR, Centre for Cadastral Management, Geomatics Canada, DRFM
 (High Resolution 2019 Aerial Imagery, Orthophoto 2019)
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**Terrestrial Assessment
 Project Study Area
 East Coulee**

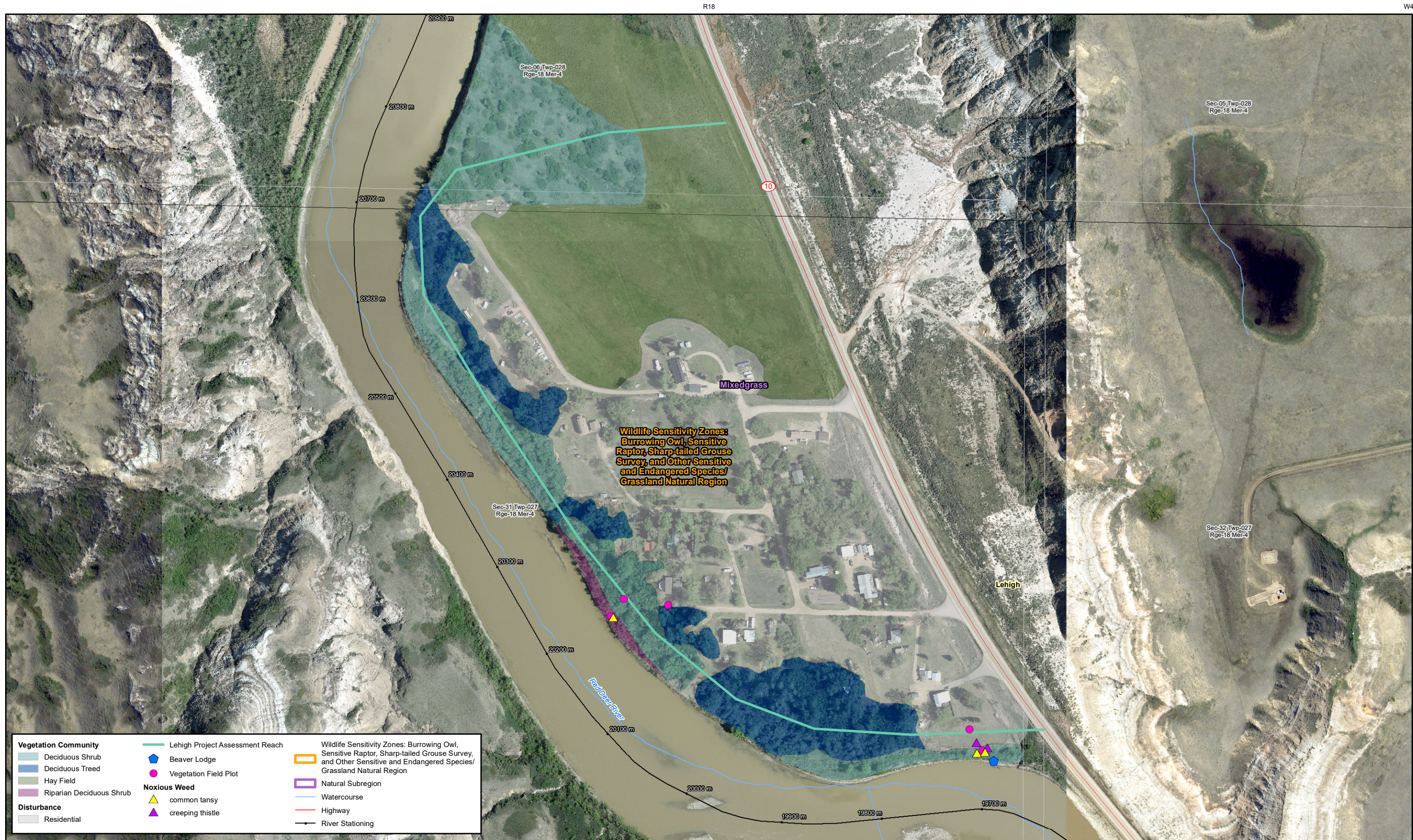
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Figure 1a

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Vegetation Community	Lehigh Project Assessment Reach	Wildlife Sensitivity Zones: Burrowing Owl, Sensitive Raptor, Sharp-tailed Grouse Survey, and Other Sensitive and Endangered Species/ Grassland Natural Region
Deciduous Shrub	Beaver Lodge	Natural Subregion
Deciduous Treed	Vegetation Field Plot	Watercourse
Hay Field	Noxious Weed	Highway
Riparian Deciduous Shrub	common tansy	River Stationing
Disturbance	creeping thistle	
Residential		

Projection: NAD 1983 UTM Zone 12N
 QA/QC: HB RI LH
 Sources: AB TPR, Centre for Cadastral Management, Geomatics Canada, DRFM (High Resolution 2019 Aerial Imagery, Orthophoto 2019)
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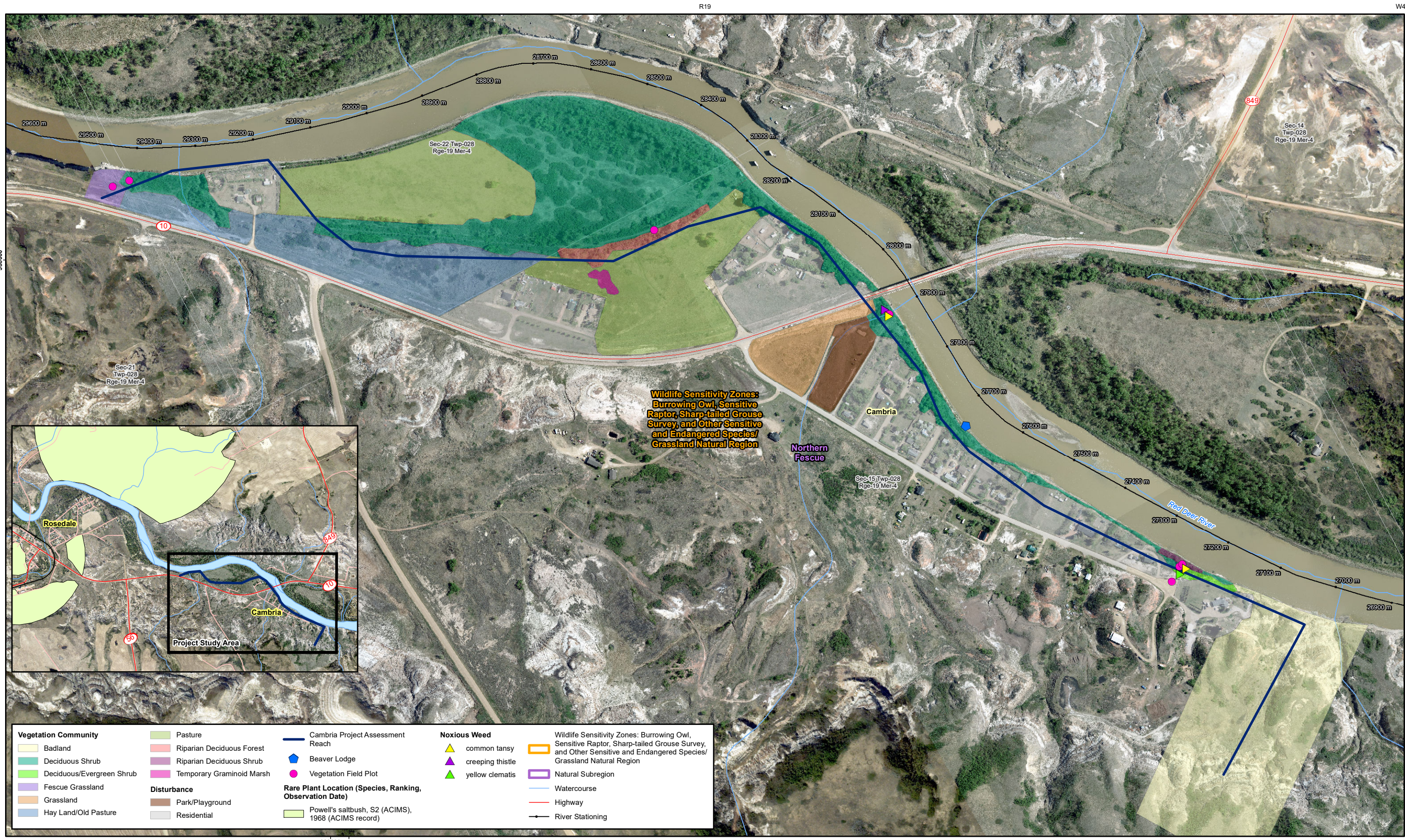
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**Terrestrial Assessment
 Project Study Area
 Lehigh**

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Vegetation Community	Pasture	Cambria Project Assessment Reach	Noxious Weed	Wildlife Sensitivity Zones: Burrowing Owl, Sensitive Raptor, Sharp-tailed Grouse Survey, and Other Sensitive and Endangered Species/ Grassland Natural Region
Badland	Riparian Deciduous Forest	Beaver Lodge	common tansy	Natural Subregion
Deciduous Shrub	Riparian Deciduous Shrub	Vegetation Field Plot	creeping thistle	Watercourse
Deciduous/Evergreen Shrub	Temporary Graminoid Marsh	Rare Plant Location (Species, Ranking, Observation Date)	yellow clematis	Highway
Fescue Grassland	Disturbance	Powell's saltbush, S2 (ACIMS), 1968 (ACIMS record)		River Stationing
Grassland	Park/Playground			
Hay Land/Old Pasture	Residential			

Projection: NAD 1983 UTM Zone 12N
 QA/QC: HB RI LH
 Sources: AB TPR, Centre for Cadastral Management, Geomatics Canada, DRFM (High Resolution 2019 Aerial Imagery, Orthophoto 2019)
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**Terrestrial Assessment
 Project Study Area
 Cambria**



January 2021 Figure 1c

2.3.1 Desktop Assessment

A desktop review of wildlife resources, including wildlife Species of Concern, was completed using information obtained from the Fisheries and Wildlife Management Information System (FWMIS) database (AEP 2020) including provincial Wildlife Sensitivity Maps. In addition, wildlife range maps (Forsyth 1999; Russell and Bauer 2000; FAN 2007) were used to determine what species of management concern may occur in the PSA.

Wildlife Species of Concern are designated as such by the following regulatory agencies/committees: AEP (General Status of Wild Species 2015 [GOA 2017a]), the Alberta Endangered Species Conservation Committee (ESCC) (FWD 2010), the Committee on the Status of Endangered Wildlife in Canada (COSEWIC 2017), and the federal *Species at Risk Act* (SARA) (SARA 2002).

2.3.2 Field Reconnaissance

A wildlife and wildlife habitat reconnaissance survey was completed on 26 October 2020 by a qualified wildlife biologist. Each PSA was walked, where access was permitted, and any wildlife (or sign such as tracks, scat) or significant features (dens, nests, hibernacula) were recorded.

3.0 EXISTING CONDITIONS AND POTENTIAL IMPACTS

3.1 Geographical Context

East Coulee and Lehigh are within the Mixedgrass Natural Subregion (NRC 2006). Cambria is within the Northern Fescue Natural Subregion.

3.1.1 Surrounding Land Use

The PSAs are centred on riparian areas where surrounding land use is primarily residential or agriculture.

3.2 Vegetation

3.2.1 Desktop Assessment

Publicly available vegetation mapping (e.g., Derived Ecosite Phase data [GOA 2017b]) is unavailable for the PSA. PSA was mapped using land cover types observed during field assessments and from current aerial imagery.

3.2.1.1 East Coulee

There are no records of previously located rare plants or rare ecological communities within or adjacent to the East Coulee Project Assessment Reach (ACIMS 2019). There are also no mapped wetlands within 10 m of the East Coulee Project Assessment Reach (AEP 2018) or watercourses that intersect it (Natural Resources Canada 2016).

3.2.1.2 Lehigh

There are no records of previously located rare plants or rare ecological communities within or adjacent to the Lehigh Project Assessment Reach (ACIMS 2019). There are also no mapped wetlands within 10 m of the Lehigh Project Assessment Reach (AEP 2018) or watercourses that intersect it (Natural Resources Canada 2016).

3.2.1.3 Cambria

An ACIMS search of Secs 21, 22 – Twp 28 – Rge 19 W4M indicated a historical occurrence of the rare vascular plant, Powell's saltbush (*Atriplex powellii*). Powell's saltbush has a ranking of S2 and was last observed in 1968 (ACIMS 2019) approximately 740 m from the PSA (inset figure within Figure 1c). There are no mapped wetlands within 10 m of the Cambria Project Assessment Reach (AEP 2018). Watercourse mapping (Natural Resources Canada 2016) indicates there are two watercourses that intersect the Cambria Project Assessment Reach.

3.2.2 Field Reconnaissance

3.2.2.1 East Coulee

Vegetation Communities

Sixteen vegetation plots were surveyed at East Coulee. Vegetation communities sampled in East Coulee included Cleared (two plots), Dike Sideslope (one plot), Residential (five plots), Semi-Permanent Graminoid Marsh/Shrubby Swamp (three plots), Shrubby Swamp (three plots), Wooded Deciduous Swamp/Residential (one plot) and Wooded Deciduous Swamp (one plot).

Species identifiable within the Cleared land included water birch (*Betula occidentalis*), saskatoon (*Amelanchier alnifolia*), red-osier dogwood (*Cornus stolonifera*), prickly rose (*Rosa acicularis*), common wild rose (*Rosa woodsii*), narrow-leaf willow (*Salix exigua*), willow (*Salix* sp.), buckbrush (*Symphoricarpos occidentalis*), moss (Moss sp.), smooth brome (*Bromus inermis*), grass, absinthe wormwood (*Artemisia absinthium*), sweet-clover (*Melilotus* sp.), and wild vetch (*Vicia americana*).

The Dike Sideslope included crested wheatgrass (*Agropyron cristatum*), smooth brome, plains wormwood (*Artemisia campestris*), alfalfa (*Medicago sativa*), and common dandelion (*Taraxacum officinale*).

Species identifiable within Residential plots included Manitoba maple (*Acer negundo*), weeping birch (*Betula pendula*), crabapple (*Malus* spp.), white spruce (*Picea glauca*), plains cottonwood (*Populus deltoides*), columnar aspen (*Populus* spp.), cherry (*Prunus* spp.), Siberian elm (*Ulmus pumila*), red-osier dogwood, red elderberry (*Sambucus racemosa*), common lilac (*Syringa vulgaris*), wheatgrass (*Agropyron* spp.), smooth brome, bluegrass (*Poa* spp.), absinthe wormwood, common caragana (*Caragana arborescens*), lamb's-quarters (*Chenopodium* spp.), sweet-clover, and common dandelion.

Species identifiable within Semi-Permanent Graminoid Marsh/Shrubby Swamp plots included plains cottonwood (*Populus deltoides*), red-osier dogwood, narrow-leaf willow, willow, buckbrush, wheatgrass (*Agropyron* spp.), smooth brome, sedge (*Carex* sp.), reed canary grass (*Phalaris arundinacea*), common great bulrush (*Schoenoplectus tabernaemontani*), common cattail (*Typha latifolia*), wormwood (*Artemisia* sp.), absinthe wormwood, aster (*Aster* spp.), black henbane (*Hyoscyamus niger*), creeping thistle (*Cirsium arvense*), wild licorice (*Glycyrrhiza lepidota*), sweet-clover, elegant goldenrod (*Solidago lepida*), Lindley's aster (*Symphotrichum ciliolatum*), common tansy (*Tanacetum vulgare*), common dandelion, wild vetch, common horsetail (*Equisetum arvense*), and horsetail (*Equisetum* spp.).

Shrubby Swamp species included Manitoba maple, plains cottonwood, red-osier dogwood, choke cherry, prickly rose, common wild rose, narrow-leaf willow, willow, buckbrush, common lilac, moss, smooth brome, aster, creeping thistle, elegant goldenrod, and goldenrod (*Solidago* spp.).

Species identifiable within the Wooded Deciduous Swamp/Residential plot included Manitoba maple, white spruce (*Picea glauca*), blue spruce (*Picea pungens*), lodgepole pine (*Pinus contorta*), plains cottonwood, cherry, Siberian elm, saskatoon, red-osier dogwood, choke cherry (*Prunus virginiana*), red elderberry, and smooth brome.

The Wooded Deciduous Swamp plot included plains cottonwood, balsam poplar, smooth brome and common caragana.

A potential Ephemeral Waterbody/Temporary Graminoid Marsh is present at the south end of East Coulee; however, land access was unavailable during the reconnaissance survey.

Weeds and Invasive Species

The noxious weeds black henbane, common tansy and creeping thistle (GOA 2016a) were present along the shoreline at East Coulee (Figure 1a).

3.2.2.2 Lehigh

Vegetation Communities

Five plots were surveyed at Lehigh. Vegetation communities sampled in Lehigh included Deciduous Shrub (two plots), Deciduous Treed (one plot), Residential (one plot), and Riparian Deciduous Shrub (one plot).

Species identifiable within the Deciduous Shrub plots included water birch, saskatoon, red-osier dogwood, common wild rose, willow, smooth brome, aster, creeping thistle, and common tansy.

Species identifiable within the Deciduous Treed plot included poplar, cherry, saskatoon and red-osier dogwood.

Species identifiable with the Residential plot included white spruce, plains cottonwood, smooth brome, grass, bluegrass, pasture sagewort, alfalfa, and common dandelion.

The Riparian Deciduous Shrub plot included red-osier dogwood, narrow-leaf willow, absinthe wormwood, aster, yellow sweet-clover (*Melilotus officinalis*), common tansy, and wild vetch.

Weeds and Invasive Species

The noxious weed common tansy (GOA 2016a) was present along the shoreline at Lehigh (Figure 1b) and one occurrence of creeping thistle was also found (Figure 1b).

3.2.2.3 Cambria

Vegetation Communities

Six plots were surveyed at Cambria. Vegetation communities sampled in Cambria included Deciduous Shrub (two plots), Deciduous/Evergreen Shrub (one plot), Fescue Grassland (one plot), Riparian Deciduous Shrub (one plot), and Riparian Deciduous Forest (one plot).

Species identifiable within the Deciduous Shrub plots included Manitoba maple, balsam poplar, cherry, red-osier dogwood, saskatoon, common wild rose, narrow-leaf willow, willow, buckbrush, smooth brome, fescue, silver sagebrush, absinthe wormwood, aster, creeping thistle, elegant goldenrod, common tansy, flixweed (*Descurainia sophia*), prairie sagewort (*Artemisia ludoviciana*), and wild vetch.

Species identifiable within the Deciduous/Evergreen Shrub plot included common wild rose, buckbrush, smooth brome, bluegrass, silver sagebrush, pasture sagewort (*Artemisia frigida*), yellow clematis (*Clematis tangutica*), and flixweed (*Descurainia sophia*).

Species identifiable within the Fescue Grassland included winter-fat (*Krascheninnikovia lanata*), crested wheatgrass, fescue (*Festuca* spp.), western wheat grass (*Pascopyrum smithii*), bluegrass, silver sagebrush (*Artemisia cana*), and tufted white prairie aster (*Symphyotrichum ericoides*).

The Riparian Deciduous Shrub plot included Manitoba maple (*Acer negundo*), red-osier dogwood, common wild rose, willow, and sweet-clover.

The Riparian Deciduous Forest plot included balsam poplar (*Populus balsamifera*), plains cottonwood, saskatoon, red-osier dogwood, common wild rose, buckbrush, brome, bluegrass, northern bedstraw (*Galium boreale*) and wild vetch.

There is a Temporary Graminoid Marsh located within pasture, approximately 15 m from the Project Assessment Reach (Figure 1c).

Weeds and Invasive Species

The noxious weeds common tansy and creeping thistle (GOA 2016a) were present along the shoreline at Cambria (Figure 1c). The noxious weed yellow clematis (GOA 2016a) was located at the south end of Cambria.

3.2.3 Potential Impacts

3.2.3.1 ***Vegetation Communities***

The potential negative impact of the DRFM Project on vegetation communities is considered moderate as there will be a loss of native vegetation. However, a localized pre-construction survey during the growing season (June to August) will be conducted to verify the vegetation species composition and cover potentially affected by Project construction activities, such that a site-specific mitigation plan can be prepared.

3.2.3.2 Rare Plants and Rare Ecological Communities

The potential negative impact of the DRFM Project on rare plants is considered low because the historical detection of Powell's saltbush occurred 740 m away from Project footprint and habitat (badlands and alkaline flats) for establishment of Powell's saltbush within the PSA is limited. A pre-construction rare plant survey during the rare plant window (i.e., early June to mid August) within the proposed Project footprint is recommended to document the potential occurrence of rare plants. This survey would also facilitate the development of proper mitigation measures for the Project.

3.2.3.3 Weeds and Invasive Species

The potential negative impact of the DRFM Project on weeds and invasive species is considered moderate due to the high number of weeds found in or adjacent to the footprint. It is recommended that a localized weed survey be conducted during the growing season prior to construction within the Project footprint and along construction equipment movement corridors. A weed control plan will be included as a requirement for the contractor.

3.2.3.4 Wetlands

The potential negative impact of the DRFM Project on wetlands is considered moderate because the Project is within an area of high historic wetland loss and low wetland abundance (GOA 2016b) and has the potential to negatively impact ephemeral waterbodies/wetlands which may include a wetland in a pasture at Cambria, and Ephemeral Waterbody/Temporary Graminoid Marshes, Shrubby Swamps, Wooded Deciduous Swamps and a Semi-Permanent Graminoid Marsh at East Coulee. A wetland assessment will be conducted, wetland mitigation strategy developed, and in-lieu fee payment made to AEP for unavoidable wetland impacts.

3.3 Wildlife and Wildlife Habitat

3.3.1 Desktop Assessment

A FWMIS database search was completed on 09 November 2020. Only two wildlife Species of Concern have been recorded within a 1 km buffer encompassing the PSA. Near Cambria, a burrowing owl (*Athene cunicularia*) was reported and near Lehigh, an American badger (*Taxidea taxus taxus*) has been previously reported (AEP 2020). Burrowing owl is listed on SARA Schedule 1 as Endangered (GC 2019) and on the Alberta *Wildlife Act* as Endangered (AWA 2000). American badgers are listed on the SARA Schedule 1 as Special Concern (GC 2019), they are not listed on the Alberta *Wildlife Act*, but as designated as Sensitive in Alberta (GOA 2017a).

The PSA is situated within four Wildlife Sensitivity Zones as designated by the province (AEP 2020; LAT 2020 (Appendix A)), and includes sharp-tailed grouse (*Tympanuchus phasianellus*) survey zone, other sensitive and endangered species/grassland natural region, burrowing owl zone, and sensitive raptor zone (for prairie falcon [*Falco mexicanus*], golden eagle [*Aquila chrysaetos*] and ferruginous hawk [*Buteo regalis*]). LAT reports are presented in Appendix A.

The sensitivity zones for sharp-tailed grouse, burrowing owl, and raptors are in place to protect sensitive nesting and rearing areas. The “other sensitive and endangered species/grassland natural region” area is identified to reduce disturbance to nesting sites and territories of sensitive bird species that prefer native grassland (GOA 2018). However, the PSA does not occur on native grassland; most of the area is riparian with poplars, shrubs, modified banks, and residential lawns. The birds on this list that may occur in the PSA include bank swallow (*Riparia riparia*) and loggerhead shrike (*Lanius ludovicianus*). There are no designated important bird areas (IBA) identified within the PSA (IBA Canada 2020).

Based on range maps and habitat availability, the PSA provides suitable breeding habitat for 20 wildlife Species of Concern, consisting of 14 bird, two mammal, and four reptile species (Table 3-1).

Table 3-1: Wildlife Species of Concern with Potential to Breed within the Project Area

Common Name	Scientific Name	GOA (2017a)	ESCC (GOA 2016c)	COSEWIC ¹	SARA ¹
Reptiles					
Bullsnake	<i>Pituophis catenifer</i>	Sensitive	–	–	–
Plains garter snake	<i>Thamnophis radix</i>	Sensitive	–	–	–
Red-sided (common) garter snake	<i>Thamnophis sirtalis</i>	Sensitive	–	–	–
Wandering (terrestrial) garter snake	<i>Thamnophis elegans</i>	Sensitive	–	–	–
Birds					
American kestrel	<i>Falco sparverius</i>	Sensitive	–	–	–
Bank swallow	<i>Riparia riparia</i>	Sensitive	–	Threatened	Schedule 1
Barn swallow	<i>Hirundo rustica</i>	Sensitive	–	Threatened	Schedule 1
Burrowing owl	<i>Athene cunicularia</i>	At Risk	Endangered	Endangered	Schedule 1
Common nighthawk	<i>Chordeiles minor</i>	Sensitive	–	Threatened	Schedule 1
Eastern kingbird	<i>Tyrannus tyrannus</i>	Sensitive	–	–	–
Eastern phoebe	<i>Sayornis phoebe</i>	Sensitive	–	–	–
Ferruginous hawk	<i>Buteo regalis</i>	At Risk	Endangered	Threatened	Schedule 1
Golden eagle	<i>Aquila chrysaetos</i>	Sensitive	–	–	–
Great blue heron	<i>Ardea herodias</i>	Sensitive	–	–	–
Least flycatcher	<i>Empidonax minimus</i>	Sensitive	–	–	–
Loggerhead shrike	<i>Lanius ludovicianus</i>	Sensitive	Special Concern	Threatened	Schedule 1
Prairie falcon	<i>Falco mexicanus</i>	Sensitive	Special Concern	–	–
Sharp-tailed grouse	<i>Tympanuchus phasianellus</i>	Sensitive	–	–	–

Common Name	Scientific Name	GOA (2017a)	ESCC (GOA 2016c)	COSEWIC ¹	SARA ¹
Mammals					
American badger	<i>Taxidea taxus</i>	Sensitive	Data Deficient	Special Concern	Schedule 1
Long-tailed weasel	<i>Mustela frenata</i>	May be At Risk	–	–	Not at Risk

Note:¹ GC (2019).**3.3.2 Field Reconnaissance**

A field reconnaissance survey was conducted on 26 October 2020 under sunny, mild winter conditions. Results below are presented by sub-area.

3.3.2.1 East Coulee

Habitat within the East Coulee area consists of some plains cottonwood, and columnar aspen, willows, and grasses. Banks along the river are generally steep (near vertical). Some vegetation on the existing berm has already been removed in preparation for construction. Several birds and wildlife sign were noted during the site visit, including bank swallow cavities (Table 3-2). Bank swallows are federally listed on SARA as Threatened (GC 2019).

Table 3-2: Wildlife and Sign Observed During Field Assessment, 26 October 2020

Common Name	Scientific Name	Alberta Listing (GOA 2017a)	Site
Deer (sign)	<i>Odocoileus sp</i>	Secure	East Coulee, Lehigh, Cambria
Black-capped chickadee	<i>Poecile atricapillus</i>	Secure	East Coulee, Cambria
Bald eagle	<i>Haliaeetus leucocephalus</i>	Sensitive	East Coulee
Woodpecker sign	–	Secure	East Coulee
Trumpeter swan	<i>Cygnus buccinator</i>	Sensitive	East Coulee, Cambria
Coyote	<i>Canis latrans</i>	Secure	East Coulee; Lehigh
Blue jay	<i>Cyanocitta cristata</i>	Secure	East Coulee
Bank swallow (cavities)	<i>Raparia riparia</i>	Sensitive	East Coulee
Beaver (sign)	<i>Castor canadensis</i>	Secure	East Coulee, Lehigh, Cambria
Rabbit	<i>Lepus sp.</i>	Secure	East Coulee
Canada goose	<i>Branta canadensis</i>	Secure	Lehigh, Cambria
Mallard	<i>Anas platyrhynchos</i>	Secure	Cambria
Green-winged teal	<i>Anas creca</i>	Secure	Cambria
Black-billed magpie	<i>Pica hudsonis</i>	Secure	Cambria
Ring-necked pheasant	<i>Phasianus colchicus</i>	Secure	Cambria

Common Name	Scientific Name	Alberta Listing (GOA 2017a)	Site
Cliff swallow (nests)	<i>Petrochelidon pyrrhonota</i>	Secure	Cambria
Porcupine	<i>Erethizon dorsatum</i>	Secure	Cambria
Moose	<i>Alces alces</i>	Secure	Cambria

Cumulative landowner observations of wildlife from 1989 to 2020 in East Coulee include a wide range of species such as ungulates, amphibians and reptiles, and a variety of birds (Digby pers. comm. 2020; Appendix B1).

3.3.2.2 *Lehigh*

Habitat within the Lehigh area consists of some large poplars, dense willows, red osier dogwood, rose, and grasses along the banks. Banks along the river are steep, and riprap is present along bank sections adjacent to Highway 10. Several small mammal burrows were identified near the road allowance in the central Lehigh area. Canada goose and coyote were noted during the site visit (Table 3-2), as well as a beaver lodge (Figure 1b). Based on a conversation with a nearby resident, pheasants, moose, deer, rabbits, raccoon, and owls have also been observed in the area. In addition, one resident has recorded a cumulative list of 43 species of birds occurring in or near his yard (Appendix B). There were no sensitive species noted at this site.

3.3.2.3 *Cambria*

Towards the eastern and middle portions of the Cambria area, habitat ranges from medium-sized balsam and cottonwood poplars, sagebrush, willows, grasses, and steep banks to dense willow, weeds, and sandier, scoured banks. Habitat from the Highway 10 bridge towards the northern Cambria area is generally less steep with some poplars, large shrubs, and weedy/vegetated banks, and is bordered by residential and grazing lands. A shrubby creek also intersects the Red Deer river near the north end of the Cambria area, providing good cover for birds and small mammals. Several birds and wildlife sign were noted during the site visit (Table 3-2), including a beaver lodge (Figure 1c), cliff swallow nests under the Highway 10 bridge, and bank swallow nests just outside the northern extent of the PSA (Table 3-2), where the bank is near vertical.

3.3.3 **Potential Impacts**

Suitable forage, cover, and breeding habitat for songbirds and waterfowl is moderate, and microhabitat for small mammals (rodents, lagomorphs) is present along and on top of the banks within the PSA. Suitable habitat also exists for larger mammals such as deer and moose for foraging and cover. In addition, medium sized wildlife such as coyotes and bobcat will likely use this area to forage or to pass through. No snake hibernacula potential was observed within the PSA, though habitat exists in areas that are adjacent and consist of coulees. There is no suitable wetland habitat for amphibians, as wet areas that were identified during the vegetation survey in East Coulee (Section 3.3.2.1) appear to be dry most of the year. Amphibians are unlikely to use the river for breeding, as it runs too fast to be suitable for egg laying, and there is no emergent vegetation for amphibians to attach egg masses to.

Habitat potential for bats is considered poor in natural areas as there are few large trees suitable for roosting. Surrounding residential buildings and infrastructure may present roosting opportunities for some bats; however, they will not be impacted by Project activities. Wildlife species populations currently present within and immediately adjacent to the Project will be maintained through proposed construction design and mitigations (i.e., pre-construction bird nest surveys and limited tree removal and habitat modification). In addition, similar suitable habitat is available surrounding the PSA.

Suitable habitat for burrowing owl, sharp-tailed grouse and sensitive raptors does not exist within the PSA as it consists of mostly residential and previously disturbed areas. The PSA does not occur on native grassland, so no impacts to "Other Sensitive and Endangered Species" are anticipated.

The potential negative impact of the DRFM Project on wildlife is considered minor due to the small width of impact, and the suitability of available habitat. Short-term impacts are anticipated especially during construction of the Project. Most of these effects will be related to human presence and noise, as well as some habitat removal which is expected to be minimal. Proposed mitigations are expected to reduce impacts to wildlife within the PSA.

4.0 CONSTRUCTION CONSTRAINTS AND MITIGATION MEASURES

4.1 Vegetation

The field reconnaissance was conducted outside of the growing season and neither wetland assessments nor rare plant surveys could be conducted. Therefore, wetland assessments will be required prior to construction and rare plant surveys are recommended. Obtaining regulatory approval for wetland impacts under the *Water Act* takes up to four to six months after submission of the application; therefore, a timeline sufficient to support the approvals process is required. A stamped and signed final design, including landowner agreements is also required for the wetland application.

Pre-construction rare plant and wetland surveys will identify environmental elements requiring unique mitigation measures specific to the Project. The following general measures will be implemented to reduce impacts to existing vegetation from removal and relocation of the dike:

- minimize tree and shrub removal and ground disturbance;
- develop a restoration plan prior to construction that incorporates native vegetation community elements;
- reclaim/restore and revegetate disturbed areas within one growing season to minimize erosion;
- prior to construction, confirm location and distribution of prohibited and noxious weeds and implement a site and species-specific weed management plan; and
- ensure that machinery used for construction is washed thoroughly prior to entry and upon exiting the construction site to prevent spread of regulated weeds and other non-native plants.

4.2 Wildlife and Wildlife Habitat

The main concern associated with wildlife resources is the availability of suitable habitat for a variety of avian species that frequent the area. Active bird nests are protected under the *Migratory Birds Convention Act* (MBCA 1994) and the *Alberta Wildlife Act* (AWA 2000). The mitigation measures listed below will be implemented to ensure that the effects to wildlife and their habitats are minimized:

- in compliance with the *Migratory Birds Convention Act* (MBCA 1994), vegetation clearing should be scheduled outside of the migratory bird nesting and rearing period, from 15 April to 15 August in southern Alberta (ECCC 2018). Consistent with regulatory expectations, clearing within the nesting window may be undertaken provided that a pre-construction bird nesting survey is completed for the area to be cleared. This mitigation will also protect roosting bats;
- bird nest surveys expire within seven days (five days in June); if all vegetation clearing has not yet been completed, repeat surveys may be required;
- to confirm active swallow nesting locations, a pre-construction bird nest should be conducted at the identified cliff swallow nest and bank swallow cavity locations;
- pre-construction general wildlife surveys (as per the *Mast Schedule of Terms and Conditions* and the LAT Report) should be performed approximately five to seven days prior to the start of construction (before machinery is brought in). The survey will be focused on potential for significant wildlife features (i.e., snake hibernacula, bat roosts, existing raptor nests, breeding bird nests, dens), and potential to disturb any wildlife that are present;
- if any nests are located, the appropriate protective buffer will be applied around the active nest site;
- construction crews should be aware of the potential for wildlife and wildlife features in the area, including nest building raptors, beavers, snakes, and amphibians, and if any are observed during construction, work must be halted immediately if potential exists to disturb the wildlife or its home;
- should an active den or lodge be found during a pre-construction survey, AEP must be contacted to determine the proper course of action; and
- wildlife must not be harassed or fed.

5.0 SUMMARY OF PRE-CONSTRUCTION SURVEYS

Based on the LAT Report, and the desktop review, and results from the field reconnaissance, the following are recommended pre-construction surveys (Table 5-1).

Table 5-1: Recommended Field Surveys

Discipline	Surveys	Schedule
Vegetation	Pre-construction rare plant surveys within Project footprint. Can be combined with wetland assessment.	June to August (to capture Powell's saltbush (<i>Atriplex powellii</i>) flowering period)
Wetlands	Wetland assessment within the Project footprint. Can be combined with vegetation assessment.	June to July; 8 months to 3 years prior to construction
Wildlife	Pre-construction wildlife survey; pre-construction bird nesting survey	5 to 7 days prior to construction

If other environmental features (e.g., rare species or wildlife features) be identified within the Project footprint that are at risk of being affected by construction, additional surveys and/or mitigation measures may be recommended, as appropriate.

6.0 CLOSURE

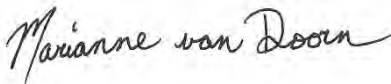
This memorandum is based on circumstances and conditions available at the time of the assessment. Wood has performed its services in a manner consistent with the standard of care and skill ordinarily exercised by members of the profession practicing in Alberta at the time that the services were performed.

Yours truly,

**Wood Environment & Infrastructure Solutions
a Division of Wood Canada Limited**



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7.0 REFERENCES

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wood.

The text 'Appendix A' is centered on the page in a bold, black, sans-serif font. It is positioned between two large, light gray, curved decorative elements that frame the central text.

Appendix A

The text 'LAT Report' is centered on the page in a bold, black, sans-serif font, directly below 'Appendix A'. It is positioned between two large, light gray, curved decorative elements that frame the central text.

LAT Report

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LAT Number:	000005B1F4	LAT Date:	2020-11-26	11:25:52
Project Name:				
Project Description:				
Disposition Type:	DLO	Licence of Occupation		
Purpose Type:	BDSH	Bed and Shore		
Activity Type:	BDSH08DLOP	Dyke / Flood Prevention Berm		

Responsibility of Applicants:

It is the applicant's responsibility to conduct a full review of the generated LAT Report, ensuring that you are aware and have a full understanding of the identified standards and conditions, and any additional limitations that may also be imposed by an approved higher level plan, reservation or notation or any other law or Order of the Province or the Government of Canada that may impact the placement, construction or operation of the proposed disposition, purpose and activity.

The applicant must assess if the proposed disposition, purpose and activity can meet the applicable standards, conditions and any limitations which will subsequently determine if the application can be submitted to the regulatory body. Applicants should complete a thorough review of regulatory and application processes including supporting procedural documents and the generated LAT Reports prior to making this determination.

Where the applicant chooses not to meet, or is not able to meet, one or more Approval Standards or higher level plans within the generated LAT Report as submitted as part of the application, or any affected reservations as identified within the land status report, the applicant is required to complete the appropriate mitigation as part of their supplement submission that addresses individually each of the items not being met.

The information provided within the LAT Tool is a spatial representation of features provided to the applicant for activity and land use planning. The accuracy of these layers varies depending on the resource value being represented. The regulatory body insists that site visits, wildlife surveys and groundtruthing efforts are completed to ensure that you, the applicant can meet the procedures detailed within the *Pre-Application Requirements for Formal Dispositions*, the identified approval standards, operating conditions and *Best Management Practices* as represented within the *Master Schedule of Standards and Conditions*.

Proximity to Watercourse/Waterbodies:

Applicants will ensure that standards or conditions for Watercourse/Waterbody features as identified within the generated LAT Report are followed. It is the responsibility of the applicant to ensure the identified setbacks and buffers are properly established through a pre-site assessment and maintained.

NOTE: Be aware that the submission of a LAT Report as part of an application submission does not imply approval of the activity. The standards and conditions identified within the LAT Report may be subject to change based on regulatory review.

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Base Features

Green/White Area	White Area
Municipality	
FMA	
FMU	
Provincial Grazing Reserve	
Rocky Mountain Forest Reserve	
PLUZ Areas	
Protected Areas	

Provincial Sanctuaries

Wildlife Corridors	
Restricted Area	Red Deer River
Game Bird	Zone 5
Seasonal	

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Higher Level Plans

Integrated Resource Plan (Local)	
Integrated Resource Plan (Subregional)	Red Deer River Corridor Integrated Management Plan
Access Management Plan	
Landscape Management Plan	

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Additional Application Requirements

Wildlife Survey	Yes	DND Area	
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Historical Resources

HRV Rating	Category
5	a, p
5	a, p
5	a, p

Historic Resources Application Required: Yes

The proposed activity is in an area identified as having historic resource concerns; therefore, approval under the *Historic Resources Act* is required prior to the initiation of any land surface disturbance activities. The applicant must submit a Historic Resources Application through the Online Permitting and Clearance (OPaC) system (www.opac.alberta.ca).

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Sensitive Features

Wildlife and Other Sensitive Species			
	Intersected		Intersected
Burrowing Owl Range	Yes	Ord's Kangaroo Rat Key Habitat Area	
Caribou Range		Other Sensitive and Endangered Species	Yes
Colonial Nesting Birds		Piping Plover Waterbodies	
Endangered and Threatened Plants Ranges		Sensitive Amphibian Ranges	
Federal Aquatic Critical Habitat		Sensitive Raptor Range	Yes
Greater Short-horned Lizard Habitat		Sensitive Snake Species Range	
Greater Short-horned Lizard Range		Sharp-tailed Grouse Leks and Buffer	
Greater Sage Grouse Range		Sharp-tailed Grouse Survey	Yes
Greater Sage Grouse Leks and Buffer		Special Access Area	
Grizzly Bear Zone		Swift Fox Range	
Key Wildlife and Biodiversity Areas		Trumpeter Swan Buffer	
Mountain Goat and Sheep Areas		Trumpeter Swan Waterbodies/Watercourse	
Ord's Kangaroo Rat Range			

Federal Orders:			
	Intersected		
Greater Sage Grouse			

Grassland and Natural Regions:			
	Intersected		Intersected
Central Parkland		Mixed Grass Sub-region layer	
Central Parkland and Northern Fescue		Montane	
Chinook Grasslands		Northern Fescue	Yes
Dry Mixed Grass		Peace River Parkland	
Foothills Fescue		Permafrost	
Foothills Parkland Grasslands		Rough Fescue PNT	
Grassland and Parkland Natural Region	Yes	Subalpine or Alpine	

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Alberta Township System (ATS) Land List

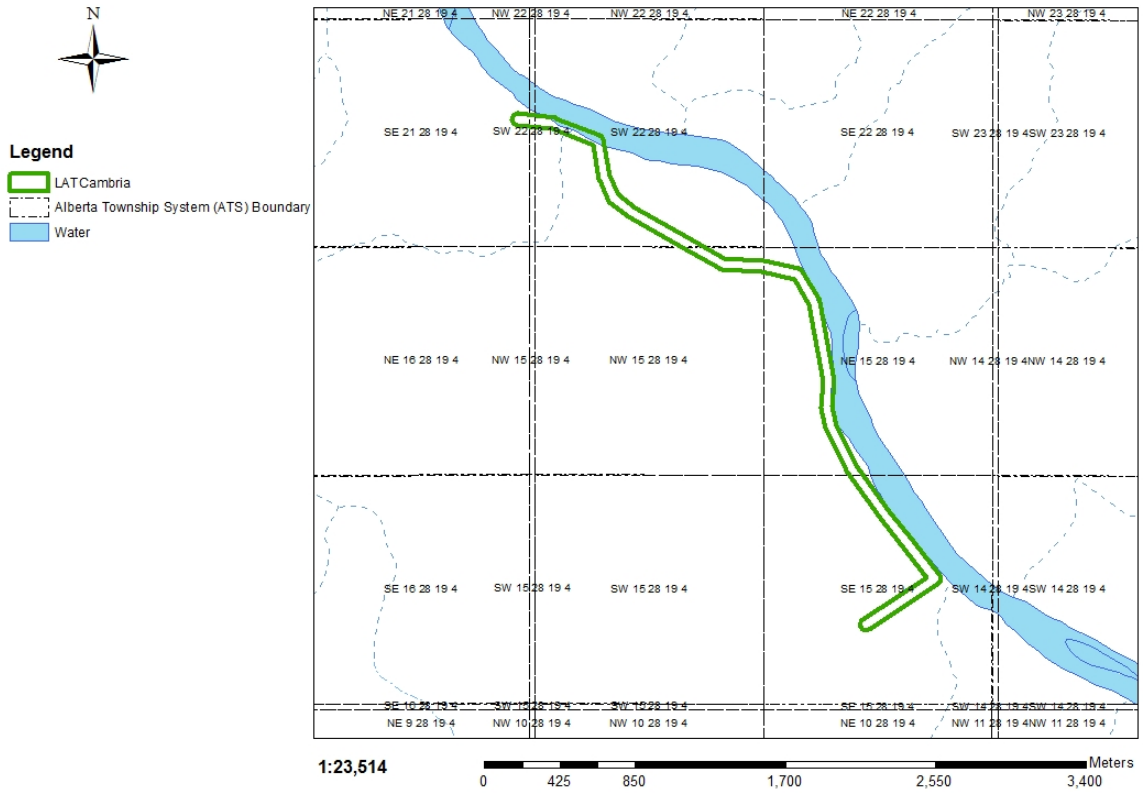
Quarter	Section	Township	Range	Meridian	Road Allow.	Sensitive Features Identified
SE	21	28	19	4		Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Northern Fescue, Green / White Area
SW	22	28	19	4	RW	Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Northern Fescue, Green / White Area
SW	22	28	19	4		Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Northern Fescue, Green / White Area
SE	15	28	19	4		Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Northern Fescue, Green / White Area
NE	15	28	19	4		Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Northern Fescue, Green / White Area
NW	15	28	19	4		Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Northern Fescue, Green / White Area

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Land Management		
Report ID	Approval	Condition
1	1032-AS	Incidental Activities* as referenced on the associated supplement that fall within the sizing parameters, as defined within the PLAR Approvals and Authorizations Administrative Procedure's as amended, identified at the time of application are subject to the conditions of the associated Disposition and available for use for a term of four years from date of Disposition approval.
2	1035-AS	Where an Integrated Resource Plan or a Reservation/Protective Notation identifies a greater set back, the greater set back will prevail.
3	1036-AS	The Disposition Holder must not submit additional applications for access dispositions if access under disposition already exists.
4	1037-AS	Where a Higher Level Plan* exists, the Disposition Holder must follow any direction provided within that plan.
5	1039-AS	With the exception of pipelines, for activities that fall within any Protective Notation (PNT) lands with a purpose code 400 Series encompassing a section of land (259 hectares) or less, located in the Provincial White Area* (i.e., Provincial settled lands), the Disposition Holder must construct all activities within lands developed as range improvement. Where no range improvement exists, activities must occur within 100 metres of the PNT perimeter (i.e., outside boundary).
6	1046	The Disposition Holder must repair or replace any identified improvements (e.g., fences, water control structures, and signage) that were damaged as a result of industry activities on the land to pre-existing condition within 30 days of entry or immediately if occupied by livestock.
7	1047	The Disposition Holder must maintain all activities for proper drainage of surface water.
8	1049	For activities that occur on Canadian Forces Bases, the Disposition Holder must coordinate all activities through Energy Industry Control at (780) 842-5850 for activity on Canadian Forces Base/Area Support Unit, Wainwright, and (780) 573-7206 for activity on Canadian Forces Base/Area Support Unit, Cold Lake.
9	1051	The Disposition Holder must comply with all requirements and direction as defined within the Pre-Application Requirements for Formal Dispositions as amended from time to time.
10	1053-AS	The Disposition Holder must not locate activities within 45 meters from the top of any coulees* with the exception of activities such as; access, pipelines and linear easements crossing those features.
11	1058	The Disposition Holder must remove all garbage and waste material from this site to the satisfaction of the Regulatory Body, in its sole discretion.
12	1062	The Disposition Holder must not enter the boundaries of any research or sample plot.

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13	1063	<p>When proposed activities cross designated or recreation trail(s)* or when operations encroach on those trail(s)*, the Disposition Holder must ensure that:</p> <ul style="list-style-type: none"> • Activities crossing trails* are constructed in a manner that will not remove snow from the trail(s)*, produce ruts in the trail(s)*, or otherwise adversely affect travel. • No mechanical equipment is permitted to travel along the trail(s)*, unless approved in writing by the Regulatory Body. • Warning signs are posted along trail(s)* during construction and reclamation activities advising trail* users of the upcoming crossing location. • Any recording devices or equipment laid along the trail(s)* are placed off of the travel portion so that the geophones do not interfere with travel.
14	1071	<p>Where a Wildfire Prevention Plan or FireSmart Plan is reviewed and approved by the Wildfire Management Branch, the Disposition Holder must ensure any proposed clearing on public land has been authorized by the Regulatory Body.</p>

Vegetation

Report ID	Approval	Condition
15	1200	The Disposition Holder must manage all weeds as per the Weed Control Act.
16	1204	The Disposition Holder must ensure the chemical application for the purpose of vegetation control occurs in accordance with the Pesticide Regulation and Environmental Code of Practice for Pesticides.
17	1205	The Disposition Holder must salvage all merchantable timber and haul to the location of end use unless a request for waiver is approved under the Forests Act.
18	1206	The Disposition Holder must salvage merchantable timber according to the utilization standards for the overlapping timber disposition(s) (i.e., FMA, CTL, DTL) or, where no overlapping timber disposition exists, as per the approved forest management plan.
19	1207	The Disposition Holder must slash, limb and buck flat to the ground all woody debris* and leaning trees created by the activity to a length that must not exceed 2.4 metres.
20	1208	On forested lands, the Disposition Holder must dispose of excess coarse woody debris* remaining after rollback* or stockpiling for interim reclamation* and final reclamation*.
21	1209	The Disposition Holder must dispose of coarse woody debris* within FireSmart Community Zones* by burning unless a Debris Management Plan has been approved under the Forest and Prairie Protection Act.
22	1211	The Disposition Holder must not allow timber storage piles or windrows to encroach into standing timber.

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Soil		
Report ID	Approval	Condition
23	1256	The Disposition Holder must not conduct any activities during adverse ground conditions*.
24	1257	The Disposition Holder must conduct all activity to prevent and control erosion* and sedimentation on or adjacent* to the Lands.
25	1258	The Disposition Holder must install and maintain erosion control* measures.
26	1259-AS	The Disposition Holder must not transport from the Lands topsoil* or subsoil* unless authorized in writing by the Regulatory Body.
27	1260	Where activities have occurred on the Lands that do not involve minimal disturbance* construction, the Disposition Holder must salvage topsoil* for land reclamation as follows: a. Salvage all topsoil* from: i. Mineral soils ii. Shallow organic soils* iii. Reclaimed soils b. Where the depth of the topsoil* is less than 15 cm, the topsoil* and part of the subsoil* to a total depth of 15 centimetres must be salvaged, unless the upper subsoil* is considered chemically unsuitable*.
28	1263	All reclamation material* must be considered suitable as defined in the May 2001 Salt Contamination Assessment Guidelines and meet the February 2016 Alberta Tier 1 Soil and Groundwater Remediation Guidelines, as amended or replaced from time to time.
29	1265	The Disposition Holder must store reclamation material* in accordance with all of the following: a. reclamation material* must not be placed beneath the ground surface or buried in any way; b. coarse woody debris* stored for greater than 12 months must be stored with the topsoil*; and c. topsoil* and subsoil* must be stored separately.
30	1270	The Disposition Holder must not store piles or windrows of reclamation material* that encroach into standing timber.
31	1271	The Disposition Holder must not use soil sterilants for any activities on the Lands.
Watercourse / Waterbody		
Report ID	Approval	Condition
32	1301-AS	The Disposition Holder must not interrupt natural drainage (including ephemeral and fens*), block water flow or alter the water table.
33	1310	The Disposition Holder must not deposit or place debris*, soil or other deleterious materials* into or through any watercourse* and/or waterbody*, or on the ice of any watercourse* and/or waterbody*.
34	1315	The Disposition Holder must acquire an authorization for access (off-disposition) for water withdrawal activities.

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35	1317	Where surface disturbance* will occur and a risk of surface erosion* exists, the Disposition Holder must install and maintain sediment* control structures to dissipate the flow of water and capture sediment* prior to it entering a watercourse* or waterbody*.
36	1325	The Disposition Holder must not remove or use water from dugouts, surface ponds, springs, or water wells within the grazing disposition unless an authorization is issued from the Environment and Parks (GoA) agrologist.
37	1327	All licences, authorizations and approvals issued under the Alberta Environmental Protection and Enhancement Act, Water Act or Public Lands Act should not be taken to mean the Disposition Holder has complied with federal legislation. The Disposition Holder should contact Habitat Management, Fisheries and Oceans in relation to the application of federal laws relating to the Fisheries Act (Canada). Fisheries Protection Program, Fisheries and Oceans Canada 867 Lakeshore Road, Burlington, Ontario, L7R 4A6 Telephone: 1-855-852-8320 Email: Fisheriesprotection@dfo-mpo.gc.ca Web address: www.dfo-mpo.gc.ca The Disposition Holder should also contact the Navigation Protection Program, Canadian Coast Guard, 4253-97 Street, Edmonton, Alberta, T6E 5Y7, phone: (780) 495-4220, relating to the Navigation Protection Act.

Reclamation

Report ID	Approval	Condition
38	1351	For progressive reclamation* on forested lands*, the Disposition Holder must replace all reclamation materials* that have been salvaged in accordance with all of the following: a. all salvaged subsoil* must be replaced, then all salvaged topsoil*; and b. reclamation materials* must be replaced over the entire progressive reclamation area*; unless otherwise approved in writing by the Regulatory Body.
39	1353	The Disposition Holder must complete temporary reclamation* on the Lands within 1 growing season of construction phase* for all topsoil* and subsoil* stockpiles required for final reclamation*.

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40	1354	<p>The Disposition Holder must prior to seeding herbaceous seed in forested* or peatlands* submit a Request for Seeding in writing to the Regulatory Body that contains all of the following:</p> <ul style="list-style-type: none"> a. rationale for conducting seeding of herbaceous species*; b. a description of the proposed site for seeding including information with respect to the following: <ul style="list-style-type: none"> i. Whether the Lands are subject to high erosion* ii. Whether the Lands are prone to invasion from agronomic or weed species c. a proposed seed mix composition for re-vegetation of the Lands in accordance with the Native Plant Revegetation Guidelines for Alberta, 2001 as amended or replaced from time to time or a rationale for alternate species; d. provide a seed certificate in accordance with the Seed Act for the seed mixed to be used for re-vegetation*; and e. any other information requested by the Regulatory Body.
41	1355	<p>The Disposition Holder must only conduct seeding in accordance with the written request for seeding as approved by the Regulatory Body.</p>
42	1356	<p>The Disposition Holder must when seeding cultivated lands*, use agronomic or forage seed that meets or exceeds Certified #1 as outlined in the Seeds Act and Seeds Regulations. Seed mixes are to be free of species listed in the Weed Control Act. A seed certificate must be provided to the Regulatory Body within 30 days upon request.</p>
43	1357	<p>The Disposition Holder must re-vegetate the Lands with trees or shrubs within the Green Area* that meet the requirements of the December 2016 Alberta Forest Genetic Resource Management and Conservation Standards document, as amended or replaced from time to time.</p>
44	1361	<p>The Disposition Holder must complete progressive reclamation* on forested lands* for all associated and incidental disturbances to the Disposition.</p>
45	1362	<p>The following activities are excluded from progressive reclamation* requirement on forested lands*:</p> <ul style="list-style-type: none"> a) Lands that have received authorization for clay pad construction; and b) Lands with a 4:1 or steeper slopes where a cut and fill has been constructed to level the ground surface.
46	1363	<p>For final reclamation*, the Disposition Holder must complete all of the following:</p> <ul style="list-style-type: none"> a) contour the disturbed land to the pre-disturbance landform or to the landform approved by the Regulatory body; b) replace all stockpiled subsoil*, then replace all stockpiled topsoil*; c) spread all coarse woody debris* on forested lands*; and d) reclamation materials* must be replaced over the entire area from which they were removed unless otherwise approved in writing by the Regulatory Body.
47	1364	<p>The Disposition Holder must reclaim the Lands to the pre-disturbance land use* type (forested*, grassland*, cultivated*, mineral wetland* and peatlands*) unless otherwise authorized in writing by the Regulatory Body.</p>

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Wildlife		
Report ID	Approval	Condition
48	1500	The Disposition Holder must conduct a complete and immediate Wildlife Sweep* of the Lands (plus 100 metre buffer*) subject to the disposition prior to any activity.
49	1501	The Disposition Holder must submit results from a Wildlife Sweep* to the Fisheries and Wildlife Management Information System (FWMIS) and notify the issuing Regulatory Body in writing upon request that the Wildlife Sweep* was completed.
50	1502-AS	The Disposition Holder must incorporate a buffer* zone of a minimum width of 100m undisturbed vegetation, where an established buffer* does not already exist (e.g. Species at Risk) for any and all key habitat features including, but not limited to leks*, nests, dens and houses identified in the Wildlife Sweep*.
51	1503	When Wildlife Surveys* are required, the Disposition Holder must submit results from the Wildlife Survey* to the Fisheries and Wildlife Management Information System (FWMIS).
52	1509	The Disposition Holder must incorporate buffers*, setbacks and activity timing restrictions for any and all key habitat features including, but not limited to leks*, nests, dens and houses identified in the wildlife survey*.
53	1510	The Disposition Holder is responsible for compliance with federal laws and should contact Environment and Climate Change Canada in relation to the application of federal laws relating to the Migratory Birds Convention Act and the Species at Risk Act. Canadian Wildlife Service Prairie Region Environment and Climate Change Canada Eastgate Offices 9250 – 49th Street Edmonton, Alberta T6B 1K5 Telephone: 1-855-245-0331 (toll free) Email: ec.leprpn-sarapnr.ec@canada.ca Web address: sararegistry.gc.ca
Sensitive Raptor Range		
Report ID	Approval	Condition
54	1550-AS	The Disposition Holder must conduct appropriate pre-construction wildlife* surveys for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines as amended from time to time.
55	1552-AS	The Disposition Holder must not construct any activities within 1000 metres of a sensitive raptor active nest* with the following exception: • When construction and operational activities occurs between July 16th and March 14th, the Disposition Holder must not conduct the activity within 100 metres from a sensitive raptor active nest*.

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Burrowing Owl Range		
Report ID	Approval	Condition
56	1600-AS	The Disposition Holder must conduct appropriate pre-construction wildlife surveys* for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines as amended from time to time.
57	1604-AS	Between October 1 and March 31, the Disposition Holder must not conduct any activities* within 50 metres of an active burrowing owl den* or nest*.
58	1605	Between April 1 and August 15, the Disposition Holder must not conduct any operational maintenance* within 500 metres of an identified burrowing owl nest*.
Sharp-Tailed Grouse Survey / Leks and Buffers		
Report ID	Approval	Condition
59	1640-AS	The Disposition Holder must conduct appropriate pre-construction wildlife surveys* for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines 2013 as amended from time to time.
Other Sensitive and Endangered Species		
Report ID	Approval	Condition
60	1780-AS	The Disposition Holder must conduct appropriate pre-construction wildlife* surveys for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines 2013 as amended from time to time.
61	1781-AS	Between April 15 and August 15, the Disposition Holder must not conduct any activities* within 100 meters of an active nest site for Federally listed species.
Grassland and Parkland Natural Region		
Report ID	Approval	Condition
62	1944	On native grasslands*, the Disposition Holder must not crimp straw* subject to the following exceptions: a) The straw* used for crimping must be sourced from a native species* from the same ecological range site* as the Lands; b) The weed analysis for the straw* used for crimping must comply with the Weed Control Act, as amended or replaced from time to time.

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63	1951	<p>In native grasslands* as identified by the Northern Fescue Subregion Layer of the Landscape Analysis Tool that requires Assisted Natural Recovery*, the Disposition Holder must submit a request for Assisted Natural Recovery in writing to the Regulatory Body that contains all of the following:</p> <ol style="list-style-type: none"> 1. Rationale for conducting Assisted Natural Recovery*; 2. A description of the proposed site for Assisted Natural Recovery* including information with respect to the following: <ol style="list-style-type: none"> a) Whether the Lands are subject to high erosion*; b) Whether the soil on the Lands has been disturbed to an area greater than 50m²; c) Whether the Lands are prone to invasion from agronomic or weed species; 3. A proposed seed mix composition for re-vegetation of the Lands: <ol style="list-style-type: none"> a) That is consistent with native plant communities that are adjacent* to and in the immediate vicinity of the Lands as determined by the Range Plant Communities and Range Health Assessment Guideline for the Northern Fescue Grass Natural Subregion of Alberta, as amended or replaced from time to time; or b) That is consistent with the seed mix composition for the ecological range site* of the Lands as provided in The Recovery Strategies for Industrial Development in Native Prairie, Northern Fescue Subregion of Alberta, as amended or replaced from time to time; 4. Provide a seed certificate in accordance with the Seed Act for the seed mix to be used for Assisted Natural Recovery*; and 5. Any other information requested by the Regulatory Body.
64	1957	<p>The Disposition Holder must not construct activities on native grassland* within the Grassland and Parkland Natural Region between April 15th and August 15th, unless grassland bird surveys are completed as per the Sensitive Species Inventory Guidelines Protocol as amended.</p>
65	1958	<p>The Disposition Holder must not conduct any activities within 100 meters of an active nest site between April 15th and August 15th for the following species:</p> <ul style="list-style-type: none"> • short-eared owl • mountain plover • long-billed curlew • upland sandpiper • Sprague's pipit • Chestnut-collared longspur • Loggerhead Shrike • Bank Swallow

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LAT Number:	000005B1F5	LAT Date:	2020-11-26	11:27:05
Project Name:				
Project Description:				
Disposition Type:	DLO	Licence of Occupation		
Purpose Type:	BDSH	Bed and Shore		
Activity Type:	BDSH08DLOP	Dyke / Flood Prevention Berm		

Responsibility of Applicants:

It is the applicant's responsibility to conduct a full review of the generated LAT Report, ensuring that you are aware and have a full understanding of the identified standards and conditions, and any additional limitations that may also be imposed by an approved higher level plan, reservation or notation or any other law or Order of the Province or the Government of Canada that may impact the placement, construction or operation of the proposed disposition, purpose and activity.

The applicant must assess if the proposed disposition, purpose and activity can meet the applicable standards, conditions and any limitations which will subsequently determine if the application can be submitted to the regulatory body. Applicants should complete a thorough review of regulatory and application processes including supporting procedural documents and the generated LAT Reports prior to making this determination.

Where the applicant chooses not to meet, or is not able to meet, one or more Approval Standards or higher level plans within the generated LAT Report as submitted as part of the application, or any affected reservations as identified within the land status report, the applicant is required to complete the appropriate mitigation as part of their supplement submission that addresses individually each of the items not being met.

The information provided within the LAT Tool is a spatial representation of features provided to the applicant for activity and land use planning. The accuracy of these layers varies depending on the resource value being represented. The regulatory body insists that site visits, wildlife surveys and groundtruthing efforts are completed to ensure that you, the applicant can meet the procedures detailed within the *Pre-Application Requirements for Formal Dispositions*, the identified approval standards, operating conditions and *Best Management Practices* as represented within the *Master Schedule of Standards and Conditions*.

Proximity to Watercourse/Waterbodies:

Applicants will ensure that standards or conditions for Watercourse/Waterbody features as identified within the generated LAT Report are followed. It is the responsibility of the applicant to ensure the identified setbacks and buffers are properly established through a pre-site assessment and maintained.

NOTE: Be aware that the submission of a LAT Report as part of an application submission does not imply approval of the activity. The standards and conditions identified within the LAT Report may be subject to change based on regulatory review.

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Base Features

Green/White Area	White Area
Municipality	
FMA	
FMU	
Provincial Grazing Reserve	
Rocky Mountain Forest Reserve	
PLUZ Areas	
Protected Areas	

Provincial Sanctuaries

Wildlife Corridors	
Restricted Area	Red Deer River
Game Bird	Zone 5
Seasonal	

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Higher Level Plans

Integrated Resource Plan (Local)	
Integrated Resource Plan (Subregional)	Red Deer River Corridor Integrated Management Plan
Access Management Plan	
Landscape Management Plan	

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Additional Application Requirements

Wildlife Survey	Yes	DND Area	
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Historical Resources

HRV Rating	Category
5	a, p
5	a, p
5	p
1	h
5	a, p
1	h
5	p
5	a, p
1	h

Historic Resources Application Required: Yes

The proposed activity is in an area identified as having historic resource concerns; therefore, approval under the *Historic Resources Act* is required prior to the initiation of any land surface disturbance activities. The applicant must submit a Historic Resources Application through the Online Permitting and Clearance (OPaC) system (www.opac.alberta.ca).

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Sensitive Features

Wildlife and Other Sensitive Species

	Intersected		Intersected
Burrowing Owl Range	Yes	Ord's Kangaroo Rat Key Habitat Area	
Caribou Range		Other Sensitive and Endangered Species	Yes
Colonial Nesting Birds		Piping Plover Waterbodies	
Endangered and Threatened Plants Ranges		Sensitive Amphibian Ranges	
Federal Aquatic Critical Habitat		Sensitive Raptor Range	Yes
Greater Short-horned Lizard Habitat		Sensitive Snake Species Range	
Greater Short-horned Lizard Range		Sharp-tailed Grouse Leks and Buffer	
Greater Sage Grouse Range		Sharp-tailed Grouse Survey	Yes
Greater Sage Grouse Leks and Buffer		Special Access Area	
Grizzly Bear Zone		Swift Fox Range	
Key Wildlife and Biodiversity Areas		Trumpeter Swan Buffer	
Mountain Goat and Sheep Areas		Trumpeter Swan Waterbodies/Watercourse	
Ord's Kangaroo Rat Range			

Federal Orders:

	Intersected
Greater Sage Grouse	

Grassland and Natural Regions:

	Intersected		Intersected
Central Parkland		Mixed Grass Sub-region layer	Yes
Central Parkland and Northern Fescue		Montane	
Chinook Grasslands		Northern Fescue	
Dry Mixed Grass		Peace River Parkland	
Foothills Fescue		Permafrost	
Foothills Parkland Grasslands		Rough Fescue PNT	
Grassland and Parkland Natural Region	Yes	Subalpine or Alpine	

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Alberta Township System (ATS) Land List

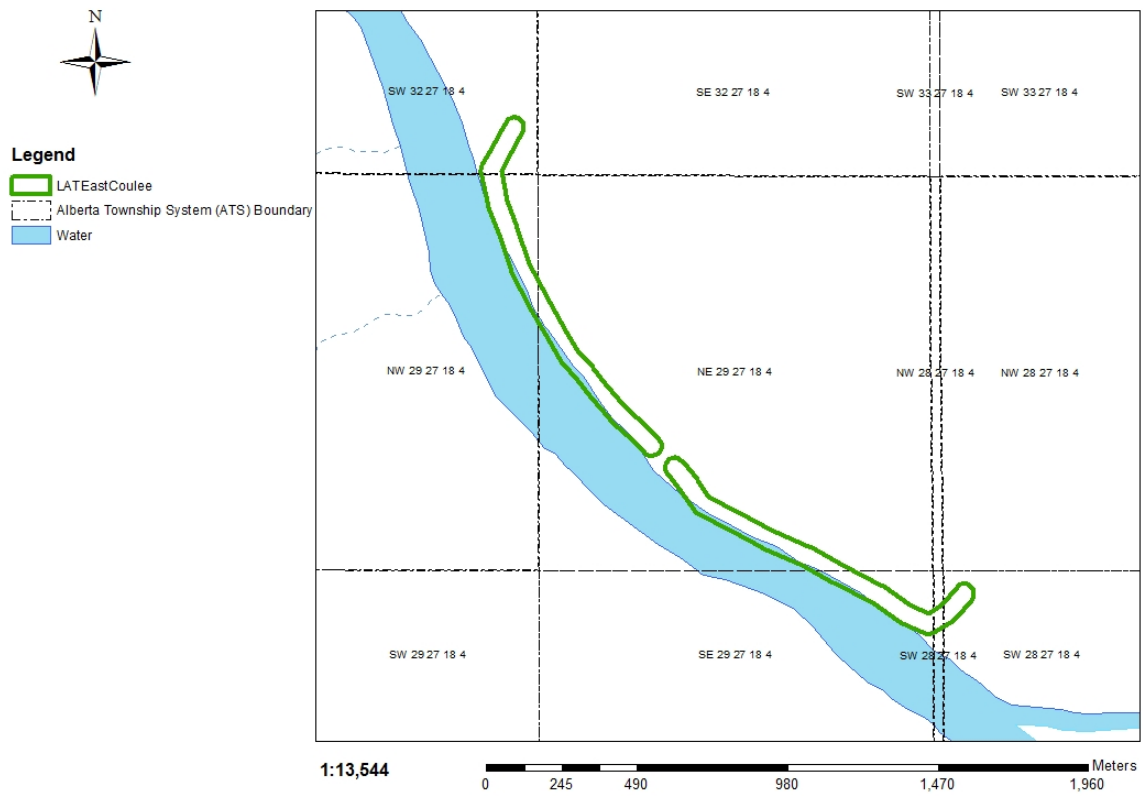
Quarter	Section	Township	Range	Meridian	Road Allow.	Sensitive Features Identified
SW	28	27	18	4	RW	Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Mixed Grass Subregion Layer, Green / White Area
NE	29	27	18	4		Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Mixed Grass Subregion Layer, Green / White Area
NW	29	27	18	4		Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Mixed Grass Subregion Layer, Green / White Area
SE	29	27	18	4		Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Mixed Grass Subregion Layer, Green / White Area
SW	28	27	18	4		Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Mixed Grass Subregion Layer, Green / White Area
SW	32	27	18	4		Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Mixed Grass Subregion Layer, Green / White Area

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Land Management		
Report ID	Approval	Condition
1	1032-AS	Incidental Activities* as referenced on the associated supplement that fall within the sizing parameters, as defined within the PLAR Approvals and Authorizations Administrative Procedure's as amended, identified at the time of application are subject to the conditions of the associated Disposition and available for use for a term of four years from date of Disposition approval.
2	1035-AS	Where an Integrated Resource Plan or a Reservation/Protective Notation identifies a greater set back, the greater set back will prevail.
3	1036-AS	The Disposition Holder must not submit additional applications for access dispositions if access under disposition already exists.
4	1037-AS	Where a Higher Level Plan* exists, the Disposition Holder must follow any direction provided within that plan.
5	1039-AS	With the exception of pipelines, for activities that fall within any Protective Notation (PNT) lands with a purpose code 400 Series encompassing a section of land (259 hectares) or less, located in the Provincial White Area* (i.e., Provincial settled lands), the Disposition Holder must construct all activities within lands developed as range improvement. Where no range improvement exists, activities must occur within 100 metres of the PNT perimeter (i.e., outside boundary).
6	1046	The Disposition Holder must repair or replace any identified improvements (e.g., fences, water control structures, and signage) that were damaged as a result of industry activities on the land to pre-existing condition within 30 days of entry or immediately if occupied by livestock.
7	1047	The Disposition Holder must maintain all activities for proper drainage of surface water.
8	1049	For activities that occur on Canadian Forces Bases, the Disposition Holder must coordinate all activities through Energy Industry Control at (780) 842-5850 for activity on Canadian Forces Base/Area Support Unit, Wainwright, and (780) 573-7206 for activity on Canadian Forces Base/Area Support Unit, Cold Lake.
9	1051	The Disposition Holder must comply with all requirements and direction as defined within the Pre-Application Requirements for Formal Dispositions as amended from time to time.
10	1053-AS	The Disposition Holder must not locate activities within 45 meters from the top of any coulees* with the exception of activities such as; access, pipelines and linear easements crossing those features.
11	1058	The Disposition Holder must remove all garbage and waste material from this site to the satisfaction of the Regulatory Body, in its sole discretion.
12	1062	The Disposition Holder must not enter the boundaries of any research or sample plot.

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13	1063	<p>When proposed activities cross designated or recreation trail(s)* or when operations encroach on those trail(s)*, the Disposition Holder must ensure that:</p> <ul style="list-style-type: none"> • Activities crossing trails* are constructed in a manner that will not remove snow from the trail(s)*, produce ruts in the trail(s)*, or otherwise adversely affect travel. • No mechanical equipment is permitted to travel along the trail(s)*, unless approved in writing by the Regulatory Body. • Warning signs are posted along trail(s)* during construction and reclamation activities advising trail* users of the upcoming crossing location. • Any recording devices or equipment laid along the trail(s)* are placed off of the travel portion so that the geophones do not interfere with travel.
14	1071	<p>Where a Wildfire Prevention Plan or FireSmart Plan is reviewed and approved by the Wildfire Management Branch, the Disposition Holder must ensure any proposed clearing on public land has been authorized by the Regulatory Body.</p>

Vegetation

Report ID	Approval	Condition
15	1200	The Disposition Holder must manage all weeds as per the Weed Control Act.
16	1204	The Disposition Holder must ensure the chemical application for the purpose of vegetation control occurs in accordance with the Pesticide Regulation and Environmental Code of Practice for Pesticides.
17	1205	The Disposition Holder must salvage all merchantable timber and haul to the location of end use unless a request for waiver is approved under the Forests Act.
18	1206	The Disposition Holder must salvage merchantable timber according to the utilization standards for the overlapping timber disposition(s) (i.e., FMA, CTL, DTL) or, where no overlapping timber disposition exists, as per the approved forest management plan.
19	1207	The Disposition Holder must slash, limb and buck flat to the ground all woody debris* and leaning trees created by the activity to a length that must not exceed 2.4 metres.
20	1208	On forested lands, the Disposition Holder must dispose of excess coarse woody debris* remaining after rollback* or stockpiling for interim reclamation* and final reclamation*.
21	1209	The Disposition Holder must dispose of coarse woody debris* within FireSmart Community Zones* by burning unless a Debris Management Plan has been approved under the Forest and Prairie Protection Act.
22	1211	The Disposition Holder must not allow timber storage piles or windrows to encroach into standing timber.

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Soil		
Report ID	Approval	Condition
23	1256	The Disposition Holder must not conduct any activities during adverse ground conditions*.
24	1257	The Disposition Holder must conduct all activity to prevent and control erosion* and sedimentation on or adjacent* to the Lands.
25	1258	The Disposition Holder must install and maintain erosion control* measures.
26	1259-AS	The Disposition Holder must not transport from the Lands topsoil* or subsoil* unless authorized in writing by the Regulatory Body.
27	1260	Where activities have occurred on the Lands that do not involve minimal disturbance* construction, the Disposition Holder must salvage topsoil* for land reclamation as follows: a. Salvage all topsoil* from: i. Mineral soils ii. Shallow organic soils* iii. Reclaimed soils b. Where the depth of the topsoil* is less than 15 cm, the topsoil* and part of the subsoil* to a total depth of 15 centimetres must be salvaged, unless the upper subsoil* is considered chemically unsuitable*.
28	1263	All reclamation material* must be considered suitable as defined in the May 2001 Salt Contamination Assessment Guidelines and meet the February 2016 Alberta Tier 1 Soil and Groundwater Remediation Guidelines, as amended or replaced from time to time.
29	1265	The Disposition Holder must store reclamation material* in accordance with all of the following: a. reclamation material* must not be placed beneath the ground surface or buried in any way; b. coarse woody debris* stored for greater than 12 months must be stored with the topsoil*; and c. topsoil* and subsoil* must be stored separately.
30	1270	The Disposition Holder must not store piles or windrows of reclamation material* that encroach into standing timber.
31	1271	The Disposition Holder must not use soil sterilants for any activities on the Lands.
Watercourse / Waterbody		
Report ID	Approval	Condition
32	1301-AS	The Disposition Holder must not interrupt natural drainage (including ephemeral and fens*), block water flow or alter the water table.
33	1310	The Disposition Holder must not deposit or place debris*, soil or other deleterious materials* into or through any watercourse* and/or waterbody*, or on the ice of any watercourse* and/or waterbody*.
34	1315	The Disposition Holder must acquire an authorization for access (off-disposition) for water withdrawal activities.

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35	1317	Where surface disturbance* will occur and a risk of surface erosion* exists, the Disposition Holder must install and maintain sediment* control structures to dissipate the flow of water and capture sediment* prior to it entering a watercourse* or waterbody*.
36	1325	The Disposition Holder must not remove or use water from dugouts, surface ponds, springs, or water wells within the grazing disposition unless an authorization is issued from the Environment and Parks (GoA) agrologist.
37	1327	All licences, authorizations and approvals issued under the Alberta Environmental Protection and Enhancement Act, Water Act or Public Lands Act should not be taken to mean the Disposition Holder has complied with federal legislation. The Disposition Holder should contact Habitat Management, Fisheries and Oceans in relation to the application of federal laws relating to the Fisheries Act (Canada). Fisheries Protection Program, Fisheries and Oceans Canada 867 Lakeshore Road, Burlington, Ontario, L7R 4A6 Telephone: 1-855-852-8320 Email: Fisheriesprotection@dfo-mpo.gc.ca Web address: www.dfo-mpo.gc.ca The Disposition Holder should also contact the Navigation Protection Program, Canadian Coast Guard, 4253-97 Street, Edmonton, Alberta, T6E 5Y7, phone: (780) 495-4220, relating to the Navigation Protection Act.

Reclamation

Report ID	Approval	Condition
38	1351	For progressive reclamation* on forested lands*, the Disposition Holder must replace all reclamation materials* that have been salvaged in accordance with all of the following: a. all salvaged subsoil* must be replaced, then all salvaged topsoil*; and b. reclamation materials* must be replaced over the entire progressive reclamation area*; unless otherwise approved in writing by the Regulatory Body.
39	1353	The Disposition Holder must complete temporary reclamation* on the Lands within 1 growing season of construction phase* for all topsoil* and subsoil* stockpiles required for final reclamation*.

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40	1354	<p>The Disposition Holder must prior to seeding herbaceous seed in forested* or peatlands* submit a Request for Seeding in writing to the Regulatory Body that contains all of the following:</p> <ul style="list-style-type: none"> a. rationale for conducting seeding of herbaceous species*; b. a description of the proposed site for seeding including information with respect to the following: <ul style="list-style-type: none"> i. Whether the Lands are subject to high erosion* ii. Whether the Lands are prone to invasion from agronomic or weed species c. a proposed seed mix composition for re-vegetation of the Lands in accordance with the Native Plant Revegetation Guidelines for Alberta, 2001 as amended or replaced from time to time or a rationale for alternate species; d. provide a seed certificate in accordance with the Seed Act for the seed mixed to be used for re-vegetation*; and e. any other information requested by the Regulatory Body.
41	1355	<p>The Disposition Holder must only conduct seeding in accordance with the written request for seeding as approved by the Regulatory Body.</p>
42	1356	<p>The Disposition Holder must when seeding cultivated lands*, use agronomic or forage seed that meets or exceeds Certified #1 as outlined in the Seeds Act and Seeds Regulations. Seed mixes are to be free of species listed in the Weed Control Act. A seed certificate must be provided to the Regulatory Body within 30 days upon request.</p>
43	1357	<p>The Disposition Holder must re-vegetate the Lands with trees or shrubs within the Green Area* that meet the requirements of the December 2016 Alberta Forest Genetic Resource Management and Conservation Standards document, as amended or replaced from time to time.</p>
44	1361	<p>The Disposition Holder must complete progressive reclamation* on forested lands* for all associated and incidental disturbances to the Disposition.</p>
45	1362	<p>The following activities are excluded from progressive reclamation* requirement on forested lands*:</p> <ul style="list-style-type: none"> a) Lands that have received authorization for clay pad construction; and b) Lands with a 4:1 or steeper slopes where a cut and fill has been constructed to level the ground surface.
46	1363	<p>For final reclamation*, the Disposition Holder must complete all of the following:</p> <ul style="list-style-type: none"> a) contour the disturbed land to the pre-disturbance landform or to the landform approved by the Regulatory body; b) replace all stockpiled subsoil*, then replace all stockpiled topsoil*; c) spread all coarse woody debris* on forested lands*; and d) reclamation materials* must be replaced over the entire area from which they were removed unless otherwise approved in writing by the Regulatory Body.
47	1364	<p>The Disposition Holder must reclaim the Lands to the pre-disturbance land use* type (forested*, grassland*, cultivated*, mineral wetland* and peatlands*) unless otherwise authorized in writing by the Regulatory Body.</p>

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Wildlife		
Report ID	Approval	Condition
48	1500	The Disposition Holder must conduct a complete and immediate Wildlife Sweep* of the Lands (plus 100 metre buffer*) subject to the disposition prior to any activity.
49	1501	The Disposition Holder must submit results from a Wildlife Sweep* to the Fisheries and Wildlife Management Information System (FWMIS) and notify the issuing Regulatory Body in writing upon request that the Wildlife Sweep* was completed.
50	1502-AS	The Disposition Holder must incorporate a buffer* zone of a minimum width of 100m undisturbed vegetation, where an established buffer* does not already exist (e.g. Species at Risk) for any and all key habitat features including, but not limited to leks*, nests, dens and houses identified in the Wildlife Sweep*.
51	1503	When Wildlife Surveys* are required, the Disposition Holder must submit results from the Wildlife Survey* to the Fisheries and Wildlife Management Information System (FWMIS).
52	1509	The Disposition Holder must incorporate buffers*, setbacks and activity timing restrictions for any and all key habitat features including, but not limited to leks*, nests, dens and houses identified in the wildlife survey*.
53	1510	The Disposition Holder is responsible for compliance with federal laws and should contact Environment and Climate Change Canada in relation to the application of federal laws relating to the Migratory Birds Convention Act and the Species at Risk Act. Canadian Wildlife Service Prairie Region Environment and Climate Change Canada Eastgate Offices 9250 – 49th Street Edmonton, Alberta T6B 1K5 Telephone: 1-855-245-0331 (toll free) Email: ec.leprpn-sarapnr.ec@canada.ca Web address: sararegistry.gc.ca
Sensitive Raptor Range		
Report ID	Approval	Condition
54	1550-AS	The Disposition Holder must conduct appropriate pre-construction wildlife* surveys for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines as amended from time to time.
55	1552-AS	The Disposition Holder must not construct any activities within 1000 metres of a sensitive raptor active nest* with the following exception: • When construction and operational activities occurs between July 16th and March 14th, the Disposition Holder must not conduct the activity within 100 metres from a sensitive raptor active nest*.

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Burrowing Owl Range		
Report ID	Approval	Condition
56	1600-AS	The Disposition Holder must conduct appropriate pre-construction wildlife surveys* for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines as amended from time to time.
57	1604-AS	Between October 1 and March 31, the Disposition Holder must not conduct any activities* within 50 metres of an active burrowing owl den* or nest*.
58	1605	Between April 1 and August 15, the Disposition Holder must not conduct any operational maintenance* within 500 metres of an identified burrowing owl nest*.
Sharp-Tailed Grouse Survey / Leks and Buffers		
Report ID	Approval	Condition
59	1640-AS	The Disposition Holder must conduct appropriate pre-construction wildlife surveys* for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines 2013 as amended from time to time.
Other Sensitive and Endangered Species		
Report ID	Approval	Condition
60	1780-AS	The Disposition Holder must conduct appropriate pre-construction wildlife* surveys for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines 2013 as amended from time to time.
61	1781-AS	Between April 15 and August 15, the Disposition Holder must not conduct any activities* within 100 meters of an active nest site for Federally listed species.
Grassland and Parkland Natural Region		
Report ID	Approval	Condition
62	1944	On native grasslands*, the Disposition Holder must not crimp straw* subject to the following exceptions: a) The straw* used for crimping must be sourced from a native species* from the same ecological range site* as the Lands; b) The weed analysis for the straw* used for crimping must comply with the Weed Control Act, as amended or replaced from time to time.

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63	1945	<p>In native grasslands* as identified by the Mixed Grass Subregion Layer of the Landscape Analysis Tool that requires Assisted Natural Recovery*, prior to seeding, the Disposition Holder must submit a request for Assisted Natural Recovery in writing to the Regulatory Body that contains all of the following:</p> <ol style="list-style-type: none"> 1. Rationale for conducting Assisted Natural Recovery*; 2. A description of the proposed site for Assisted Natural Recovery* including information with respect to the following: <ol style="list-style-type: none"> a) Whether the Lands are subject to high erosion*; b) Whether the soil on the Lands has been disturbed to an area greater than 50m²; c) Whether the Lands are prone to invasion from agronomic or weed species; 3. A proposed seed mix composition for re-vegetation of the Lands: <ol style="list-style-type: none"> a) That is consistent with native plant communities that are adjacent* to and in the immediate vicinity of the Lands as determined by the Range Plant Communities and Range Health Assessment Guideline for the Mixed Grass Natural Subregion of Alberta, as amended or replaced from time to time; or b) That is consistent with the seed mix composition for the ecological range site* of the Lands as provided in The Recovery Strategies for Industrial Development in Native Prairie, Mixed Grass Subregion of Alberta, as amended or replaced from time to time; 4. Provide a seed certificate in accordance with the Seed Act for the seed mix to be used for Assisted Natural Recovery*; and 5. Any other information requested by the Regulatory Body.
64	1957	<p>The Disposition Holder must not construct activities on native grassland* within the Grassland and Parkland Natural Region between April 15th and August 15th, unless grassland bird surveys are completed as per the Sensitive Species Inventory Guidelines Protocol as amended.</p>
65	1958	<p>The Disposition Holder must not conduct any activities within 100 meters of an active nest site between April 15th and August 15th for the following species:</p> <ul style="list-style-type: none"> • short-eared owl • mountain plover • long-billed curlew • upland sandpiper • Sprague's pipit • Chestnut-collared longspur • Loggerhead Shrike • Bank Swallow

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LAT Number:	000005B1F6	LAT Date:	2020-11-26	11:27:14
Project Name:				
Project Description:				
Disposition Type:	DLO	Licence of Occupation		
Purpose Type:	BDSH	Bed and Shore		
Activity Type:	BDSH08DLOP	Dyke / Flood Prevention Berm		

Responsibility of Applicants:

It is the applicant's responsibility to conduct a full review of the generated LAT Report, ensuring that you are aware and have a full understanding of the identified standards and conditions, and any additional limitations that may also be imposed by an approved higher level plan, reservation or notation or any other law or Order of the Province or the Government of Canada that may impact the placement, construction or operation of the proposed disposition, purpose and activity.

The applicant must assess if the proposed disposition, purpose and activity can meet the applicable standards, conditions and any limitations which will subsequently determine if the application can be submitted to the regulatory body. Applicants should complete a thorough review of regulatory and application processes including supporting procedural documents and the generated LAT Reports prior to making this determination.

Where the applicant chooses not to meet, or is not able to meet, one or more Approval Standards or higher level plans within the generated LAT Report as submitted as part of the application, or any affected reservations as identified within the land status report, the applicant is required to complete the appropriate mitigation as part of their supplement submission that addresses individually each of the items not being met.

The information provided within the LAT Tool is a spatial representation of features provided to the applicant for activity and land use planning. The accuracy of these layers varies depending on the resource value being represented. The regulatory body insists that site visits, wildlife surveys and groundtruthing efforts are completed to ensure that you, the applicant can meet the procedures detailed within the *Pre-Application Requirements for Formal Dispositions*, the identified approval standards, operating conditions and *Best Management Practices* as represented within the *Master Schedule of Standards and Conditions*.

Proximity to Watercourse/Waterbodies:

Applicants will ensure that standards or conditions for Watercourse/Waterbody features as identified within the generated LAT Report are followed. It is the responsibility of the applicant to ensure the identified setbacks and buffers are properly established through a pre-site assessment and maintained.

NOTE: Be aware that the submission of a LAT Report as part of an application submission does not imply approval of the activity. The standards and conditions identified within the LAT Report may be subject to change based on regulatory review.

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Base Features

Green/White Area	White Area
Municipality	
FMA	
FMU	
Provincial Grazing Reserve	
Rocky Mountain Forest Reserve	
PLUZ Areas	
Protected Areas	

Provincial Sanctuaries

Wildlife Corridors	
Restricted Area	Red Deer River
Game Bird	Zone 5
Seasonal	

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Higher Level Plans

Integrated Resource Plan (Local)	
Integrated Resource Plan (Subregional)	Red Deer River Corridor Integrated Management Plan
Access Management Plan	
Landscape Management Plan	

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Additional Application Requirements

Wildlife Survey	Yes	DND Area	
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Historical Resources

HRV Rating	Category
5	a, p
5	a, p
5	a, p

Historic Resources Application Required: Yes

The proposed activity is in an area identified as having historic resource concerns; therefore, approval under the *Historic Resources Act* is required prior to the initiation of any land surface disturbance activities. The applicant must submit a Historic Resources Application through the Online Permitting and Clearance (OPaC) system (www.opac.alberta.ca).

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Sensitive Features

Wildlife and Other Sensitive Species			
	Intersected		Intersected
Burrowing Owl Range	Yes	Ord's Kangaroo Rat Key Habitat Area	
Caribou Range		Other Sensitive and Endangered Species	Yes
Colonial Nesting Birds		Piping Plover Waterbodies	
Endangered and Threatened Plants Ranges		Sensitive Amphibian Ranges	
Federal Aquatic Critical Habitat		Sensitive Raptor Range	Yes
Greater Short-horned Lizard Habitat		Sensitive Snake Species Range	
Greater Short-horned Lizard Range		Sharp-tailed Grouse Leks and Buffer	
Greater Sage Grouse Range		Sharp-tailed Grouse Survey	Yes
Greater Sage Grouse Leks and Buffer		Special Access Area	
Grizzly Bear Zone		Swift Fox Range	
Key Wildlife and Biodiversity Areas		Trumpeter Swan Buffer	
Mountain Goat and Sheep Areas		Trumpeter Swan Waterbodies/Watercourse	
Ord's Kangaroo Rat Range			

Federal Orders:			
	Intersected		
Greater Sage Grouse			

Grassland and Natural Regions:			
	Intersected		Intersected
Central Parkland		Mixed Grass Sub-region layer	Yes
Central Parkland and Northern Fescue	Yes	Montane	
Chinook Grasslands		Northern Fescue	
Dry Mixed Grass		Peace River Parkland	
Foothills Fescue		Permafrost	
Foothills Parkland Grasslands		Rough Fescue PNT	
Grassland and Parkland Natural Region	Yes	Subalpine or Alpine	

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Alberta Township System (ATS) Land List

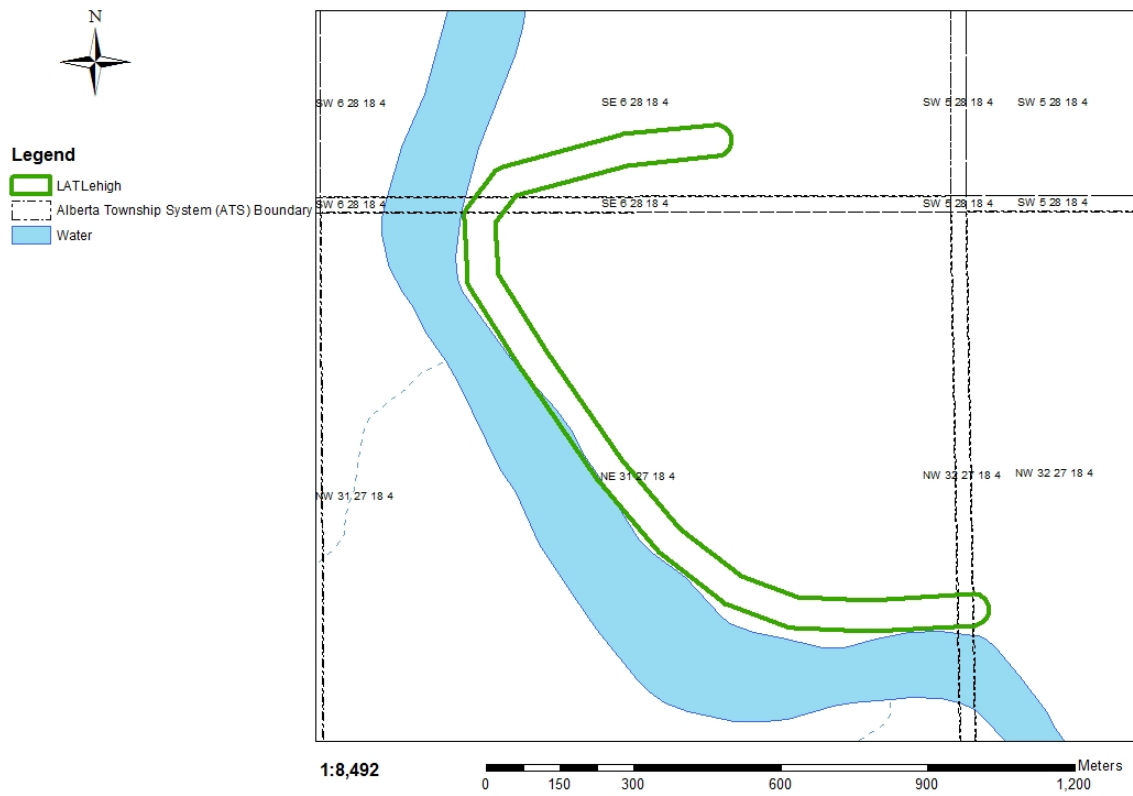
Quarter	Section	Township	Range	Meridian	Road Allow.	Sensitive Features Identified
SE	6	28	18	4		Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Central Parkland and Northern Fescue, Mixed Grass Subregion Layer, Green / White Area
NE	31	27	18	4		Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Mixed Grass Subregion Layer, Green / White Area
NW	32	27	18	4		Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Mixed Grass Subregion Layer, Green / White Area
SE	6	28	18	4	RS	Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Central Parkland and Northern Fescue, Mixed Grass Subregion Layer, Green / White Area
NW	32	27	18	4	RW	Burrowing Owl Range, Grassland and Parkland Natural Region, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Mixed Grass Subregion Layer, Green / White Area

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Land Management		
Report ID	Approval	Condition
1	1032-AS	Incidental Activities* as referenced on the associated supplement that fall within the sizing parameters, as defined within the PLAR Approvals and Authorizations Administrative Procedure's as amended, identified at the time of application are subject to the conditions of the associated Disposition and available for use for a term of four years from date of Disposition approval.
2	1035-AS	Where an Integrated Resource Plan or a Reservation/Protective Notation identifies a greater set back, the greater set back will prevail.
3	1036-AS	The Disposition Holder must not submit additional applications for access dispositions if access under disposition already exists.
4	1037-AS	Where a Higher Level Plan* exists, the Disposition Holder must follow any direction provided within that plan.
5	1039-AS	With the exception of pipelines, for activities that fall within any Protective Notation (PNT) lands with a purpose code 400 Series encompassing a section of land (259 hectares) or less, located in the Provincial White Area* (i.e., Provincial settled lands), the Disposition Holder must construct all activities within lands developed as range improvement. Where no range improvement exists, activities must occur within 100 metres of the PNT perimeter (i.e., outside boundary).
6	1046	The Disposition Holder must repair or replace any identified improvements (e.g., fences, water control structures, and signage) that were damaged as a result of industry activities on the land to pre-existing condition within 30 days of entry or immediately if occupied by livestock.
7	1047	The Disposition Holder must maintain all activities for proper drainage of surface water.
8	1049	For activities that occur on Canadian Forces Bases, the Disposition Holder must coordinate all activities through Energy Industry Control at (780) 842-5850 for activity on Canadian Forces Base/Area Support Unit, Wainwright, and (780) 573-7206 for activity on Canadian Forces Base/Area Support Unit, Cold Lake.
9	1051	The Disposition Holder must comply with all requirements and direction as defined within the Pre-Application Requirements for Formal Dispositions as amended from time to time.
10	1053-AS	The Disposition Holder must not locate activities within 45 meters from the top of any coulees* with the exception of activities such as; access, pipelines and linear easements crossing those features.
11	1058	The Disposition Holder must remove all garbage and waste material from this site to the satisfaction of the Regulatory Body, in its sole discretion.
12	1062	The Disposition Holder must not enter the boundaries of any research or sample plot.

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13	1063	<p>When proposed activities cross designated or recreation trail(s)* or when operations encroach on those trail(s)*, the Disposition Holder must ensure that:</p> <ul style="list-style-type: none"> • Activities crossing trails* are constructed in a manner that will not remove snow from the trail(s)*, produce ruts in the trail(s)*, or otherwise adversely affect travel. • No mechanical equipment is permitted to travel along the trail(s)*, unless approved in writing by the Regulatory Body. • Warning signs are posted along trail(s)* during construction and reclamation activities advising trail* users of the upcoming crossing location. • Any recording devices or equipment laid along the trail(s)* are placed off of the travel portion so that the geophones do not interfere with travel.
14	1071	<p>Where a Wildfire Prevention Plan or FireSmart Plan is reviewed and approved by the Wildfire Management Branch, the Disposition Holder must ensure any proposed clearing on public land has been authorized by the Regulatory Body.</p>

Vegetation

Report ID	Approval	Condition
15	1200	The Disposition Holder must manage all weeds as per the Weed Control Act.
16	1204	The Disposition Holder must ensure the chemical application for the purpose of vegetation control occurs in accordance with the Pesticide Regulation and Environmental Code of Practice for Pesticides.
17	1205	The Disposition Holder must salvage all merchantable timber and haul to the location of end use unless a request for waiver is approved under the Forests Act.
18	1206	The Disposition Holder must salvage merchantable timber according to the utilization standards for the overlapping timber disposition(s) (i.e., FMA, CTL, DTL) or, where no overlapping timber disposition exists, as per the approved forest management plan.
19	1207	The Disposition Holder must slash, limb and buck flat to the ground all woody debris* and leaning trees created by the activity to a length that must not exceed 2.4 metres.
20	1208	On forested lands, the Disposition Holder must dispose of excess coarse woody debris* remaining after rollback* or stockpiling for interim reclamation* and final reclamation*.
21	1209	The Disposition Holder must dispose of coarse woody debris* within FireSmart Community Zones* by burning unless a Debris Management Plan has been approved under the Forest and Prairie Protection Act.
22	1211	The Disposition Holder must not allow timber storage piles or windrows to encroach into standing timber.

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Soil		
Report ID	Approval	Condition
23	1256	The Disposition Holder must not conduct any activities during adverse ground conditions*.
24	1257	The Disposition Holder must conduct all activity to prevent and control erosion* and sedimentation on or adjacent* to the Lands.
25	1258	The Disposition Holder must install and maintain erosion control* measures.
26	1259-AS	The Disposition Holder must not transport from the Lands topsoil* or subsoil* unless authorized in writing by the Regulatory Body.
27	1260	Where activities have occurred on the Lands that do not involve minimal disturbance* construction, the Disposition Holder must salvage topsoil* for land reclamation as follows: a. Salvage all topsoil* from: i. Mineral soils ii. Shallow organic soils* iii. Reclaimed soils b. Where the depth of the topsoil* is less than 15 cm, the topsoil* and part of the subsoil* to a total depth of 15 centimetres must be salvaged, unless the upper subsoil* is considered chemically unsuitable*.
28	1263	All reclamation material* must be considered suitable as defined in the May 2001 Salt Contamination Assessment Guidelines and meet the February 2016 Alberta Tier 1 Soil and Groundwater Remediation Guidelines, as amended or replaced from time to time.
29	1265	The Disposition Holder must store reclamation material* in accordance with all of the following: a. reclamation material* must not be placed beneath the ground surface or buried in any way; b. coarse woody debris* stored for greater than 12 months must be stored with the topsoil*; and c. topsoil* and subsoil* must be stored separately.
30	1270	The Disposition Holder must not store piles or windrows of reclamation material* that encroach into standing timber.
31	1271	The Disposition Holder must not use soil sterilants for any activities on the Lands.
Watercourse / Waterbody		
Report ID	Approval	Condition
32	1301-AS	The Disposition Holder must not interrupt natural drainage (including ephemeral and fens*), block water flow or alter the water table.
33	1310	The Disposition Holder must not deposit or place debris*, soil or other deleterious materials* into or through any watercourse* and/or waterbody*, or on the ice of any watercourse* and/or waterbody*.
34	1315	The Disposition Holder must acquire an authorization for access (off-disposition) for water withdrawal activities.

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35	1317	Where surface disturbance* will occur and a risk of surface erosion* exists, the Disposition Holder must install and maintain sediment* control structures to dissipate the flow of water and capture sediment* prior to it entering a watercourse* or waterbody*.
36	1325	The Disposition Holder must not remove or use water from dugouts, surface ponds, springs, or water wells within the grazing disposition unless an authorization is issued from the Environment and Parks (GoA) agrologist.
37	1327	All licences, authorizations and approvals issued under the Alberta Environmental Protection and Enhancement Act, Water Act or Public Lands Act should not be taken to mean the Disposition Holder has complied with federal legislation. The Disposition Holder should contact Habitat Management, Fisheries and Oceans in relation to the application of federal laws relating to the Fisheries Act (Canada). Fisheries Protection Program, Fisheries and Oceans Canada 867 Lakeshore Road, Burlington, Ontario, L7R 4A6 Telephone: 1-855-852-8320 Email: Fisheriesprotection@dfo-mpo.gc.ca Web address: www.dfo-mpo.gc.ca The Disposition Holder should also contact the Navigation Protection Program, Canadian Coast Guard, 4253-97 Street, Edmonton, Alberta, T6E 5Y7, phone: (780) 495-4220, relating to the Navigation Protection Act.

Reclamation

Report ID	Approval	Condition
38	1351	For progressive reclamation* on forested lands*, the Disposition Holder must replace all reclamation materials* that have been salvaged in accordance with all of the following: a. all salvaged subsoil* must be replaced, then all salvaged topsoil*; and b. reclamation materials* must be replaced over the entire progressive reclamation area*; unless otherwise approved in writing by the Regulatory Body.
39	1353	The Disposition Holder must complete temporary reclamation* on the Lands within 1 growing season of construction phase* for all topsoil* and subsoil* stockpiles required for final reclamation*.

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40	1354	<p>The Disposition Holder must prior to seeding herbaceous seed in forested* or peatlands* submit a Request for Seeding in writing to the Regulatory Body that contains all of the following:</p> <ul style="list-style-type: none"> a. rationale for conducting seeding of herbaceous species*; b. a description of the proposed site for seeding including information with respect to the following: <ul style="list-style-type: none"> i. Whether the Lands are subject to high erosion* ii. Whether the Lands are prone to invasion from agronomic or weed species c. a proposed seed mix composition for re-vegetation of the Lands in accordance with the Native Plant Revegetation Guidelines for Alberta, 2001 as amended or replaced from time to time or a rationale for alternate species; d. provide a seed certificate in accordance with the Seed Act for the seed mixed to be used for re-vegetation*; and e. any other information requested by the Regulatory Body.
41	1355	<p>The Disposition Holder must only conduct seeding in accordance with the written request for seeding as approved by the Regulatory Body.</p>
42	1356	<p>The Disposition Holder must when seeding cultivated lands*, use agronomic or forage seed that meets or exceeds Certified #1 as outlined in the Seeds Act and Seeds Regulations. Seed mixes are to be free of species listed in the Weed Control Act. A seed certificate must be provided to the Regulatory Body within 30 days upon request.</p>
43	1357	<p>The Disposition Holder must re-vegetate the Lands with trees or shrubs within the Green Area* that meet the requirements of the December 2016 Alberta Forest Genetic Resource Management and Conservation Standards document, as amended or replaced from time to time.</p>
44	1361	<p>The Disposition Holder must complete progressive reclamation* on forested lands* for all associated and incidental disturbances to the Disposition.</p>
45	1362	<p>The following activities are excluded from progressive reclamation* requirement on forested lands*:</p> <ul style="list-style-type: none"> a) Lands that have received authorization for clay pad construction; and b) Lands with a 4:1 or steeper slopes where a cut and fill has been constructed to level the ground surface.
46	1363	<p>For final reclamation*, the Disposition Holder must complete all of the following:</p> <ul style="list-style-type: none"> a) contour the disturbed land to the pre-disturbance landform or to the landform approved by the Regulatory body; b) replace all stockpiled subsoil*, then replace all stockpiled topsoil*; c) spread all coarse woody debris* on forested lands*; and d) reclamation materials* must be replaced over the entire area from which they were removed unless otherwise approved in writing by the Regulatory Body.
47	1364	<p>The Disposition Holder must reclaim the Lands to the pre-disturbance land use* type (forested*, grassland*, cultivated*, mineral wetland* and peatlands*) unless otherwise authorized in writing by the Regulatory Body.</p>

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Wildlife		
Report ID	Approval	Condition
48	1500	The Disposition Holder must conduct a complete and immediate Wildlife Sweep* of the Lands (plus 100 metre buffer*) subject to the disposition prior to any activity.
49	1501	The Disposition Holder must submit results from a Wildlife Sweep* to the Fisheries and Wildlife Management Information System (FWMIS) and notify the issuing Regulatory Body in writing upon request that the Wildlife Sweep* was completed.
50	1502-AS	The Disposition Holder must incorporate a buffer* zone of a minimum width of 100m undisturbed vegetation, where an established buffer* does not already exist (e.g. Species at Risk) for any and all key habitat features including, but not limited to leks*, nests, dens and houses identified in the Wildlife Sweep*.
51	1503	When Wildlife Surveys* are required, the Disposition Holder must submit results from the Wildlife Survey* to the Fisheries and Wildlife Management Information System (FWMIS).
52	1509	The Disposition Holder must incorporate buffers*, setbacks and activity timing restrictions for any and all key habitat features including, but not limited to leks*, nests, dens and houses identified in the wildlife survey*.
53	1510	The Disposition Holder is responsible for compliance with federal laws and should contact Environment and Climate Change Canada in relation to the application of federal laws relating to the Migratory Birds Convention Act and the Species at Risk Act. Canadian Wildlife Service Prairie Region Environment and Climate Change Canada Eastgate Offices 9250 – 49th Street Edmonton, Alberta T6B 1K5 Telephone: 1-855-245-0331 (toll free) Email: ec.leprpn-sarapnr.ec@canada.ca Web address: sararegistry.gc.ca
Sensitive Raptor Range		
Report ID	Approval	Condition
54	1550-AS	The Disposition Holder must conduct appropriate pre-construction wildlife* surveys for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines as amended from time to time.
55	1552-AS	The Disposition Holder must not construct any activities within 1000 metres of a sensitive raptor active nest* with the following exception: • When construction and operational activities occurs between July 16th and March 14th, the Disposition Holder must not conduct the activity within 100 metres from a sensitive raptor active nest*.

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Burrowing Owl Range		
Report ID	Approval	Condition
56	1600-AS	The Disposition Holder must conduct appropriate pre-construction wildlife surveys* for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines as amended from time to time.
57	1604-AS	Between October 1 and March 31, the Disposition Holder must not conduct any activities* within 50 metres of an active burrowing owl den* or nest*.
58	1605	Between April 1 and August 15, the Disposition Holder must not conduct any operational maintenance* within 500 metres of an identified burrowing owl nest*.
Sharp-Tailed Grouse Survey / Leks and Buffers		
Report ID	Approval	Condition
59	1640-AS	The Disposition Holder must conduct appropriate pre-construction wildlife surveys* for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines 2013 as amended from time to time.
Other Sensitive and Endangered Species		
Report ID	Approval	Condition
60	1780-AS	The Disposition Holder must conduct appropriate pre-construction wildlife* surveys for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines 2013 as amended from time to time.
61	1781-AS	Between April 15 and August 15, the Disposition Holder must not conduct any activities* within 100 meters of an active nest site for Federally listed species.
Grassland and Parkland Natural Region		
Report ID	Approval	Condition
62	1944	On native grasslands*, the Disposition Holder must not crimp straw* subject to the following exceptions: a) The straw* used for crimping must be sourced from a native species* from the same ecological range site* as the Lands; b) The weed analysis for the straw* used for crimping must comply with the Weed Control Act, as amended or replaced from time to time.

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63	1945	<p>In native grasslands* as identified by the Mixed Grass Subregion Layer of the Landscape Analysis Tool that requires Assisted Natural Recovery*, prior to seeding, the Disposition Holder must submit a request for Assisted Natural Recovery in writing to the Regulatory Body that contains all of the following:</p> <ol style="list-style-type: none"> 1. Rationale for conducting Assisted Natural Recovery*; 2. A description of the proposed site for Assisted Natural Recovery* including information with respect to the following: <ol style="list-style-type: none"> a) Whether the Lands are subject to high erosion*; b) Whether the soil on the Lands has been disturbed to an area greater than 50m²; c) Whether the Lands are prone to invasion from agronomic or weed species; 3. A proposed seed mix composition for re-vegetation of the Lands: <ol style="list-style-type: none"> a) That is consistent with native plant communities that are adjacent* to and in the immediate vicinity of the Lands as determined by the Range Plant Communities and Range Health Assessment Guideline for the Mixed Grass Natural Subregion of Alberta, as amended or replaced from time to time; or b) That is consistent with the seed mix composition for the ecological range site* of the Lands as provided in The Recovery Strategies for Industrial Development in Native Prairie, Mixed Grass Subregion of Alberta, as amended or replaced from time to time; 4. Provide a seed certificate in accordance with the Seed Act for the seed mix to be used for Assisted Natural Recovery*; and 5. Any other information requested by the Regulatory Body.
64	1957	<p>The Disposition Holder must not construct activities on native grassland* within the Grassland and Parkland Natural Region between April 15th and August 15th, unless grassland bird surveys are completed as per the Sensitive Species Inventory Guidelines Protocol as amended.</p>
65	1958	<p>The Disposition Holder must not conduct any activities within 100 meters of an active nest site between April 15th and August 15th for the following species:</p> <ul style="list-style-type: none"> • short-eared owl • mountain plover • long-billed curlew • upland sandpiper • Sprague's pipit • Chestnut-collared longspur • Loggerhead Shrike • Bank Swallow
66	1959-AS	<p>On native grasslands* identified in the Central Parkland and Northern Fescue layer, the Disposition Holder must conduct a conservation assessment as outlined in Conservation Assessments in Native Grassland Strategic Siting and Pre-disturbance Site Assessment Methodology for Industrial Disturbances as amended or replaced from time to time.</p> <p>Upon request by the Regulatory Body, the Disposition Holder must submit the conservation assessment report in writing to the Regulatory Body within 30 days of the request.</p>

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67	1960-AS	The Disposition Holder must not conduct activities on loamy soils* in the Central Parkland and Northern Fescue layer identified in the Landscape Analysis Tool, and confirmed by the Disposition Holder through the required Conservation Assessment, subject to the following exceptions a) using existing disturbances* for activities; and b) locating activities adjacent* to existing occupied dispositions and non-native vegetation areas.
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Appendix B

Wildlife Observations from Landowners



wood.

Appendix B1

Backyard Species List, East Coulee, AB



Backyard Species List, East Coulee, AB

Based on observations 01 January 1989 to 23 November 2020: Robin & Linda Digby.

Note: Observations of species using riparian zone, which includes the backyard and immediately adjacent environmental reserve between yard and river.

Mammals

- moose
- mule deer
- coyote
- raccoon
- beaver
- mink
- least weasel

Reptiles and Amphibians

- bull snake
- wandering garter snake
- tiger salamander
- chorus frog
- Canadian toad

Birds

Includes birds that have used the yard or river bank for nesting, feeding, perching, etc.

- great blue heron
- Canada geese
- wood duck
- coopers hawk
- sharp-shinned hawk
- bald eagle
- ring-necked pheasant
- mourning dove
- great horned owl
- common nighthawk
- ruby-throated hummingbird
- kingfisher
- red-shafted flicker
- pileated woodpecker
- yellow-bellied sapsucker
- hairy woodpecker
- downy woodpecker
- northern three-toed woodpecker
- eastern kingbird
- says phoebe
- least flycatcher
- blue jay
- black-billed magpie
- crow
- raven
- black-capped chickadee
- white-breasted nuthatch
- red-breasted nuthatch
- house wren
- catbird
- robin
- veery
- bohemian waxwing
- cedar waxwing
- starling
- yellow warbler
- myrtle warbler
- house sparrow
- Baltimore oriole
- common grackle
- cowbird
- rose-breasted grosbeak
- purple finch
- common redpoll
- hoary redpoll
- American goldfinch
- rufous-sided towhee
- slate-coloured junco
- American tree sparrow
- white-crowned sparrow
- white-winged crossbill
- pine siskin

Appendix B2

Cumulative Bird List for Lehigh: Elwood MacDonald

Cumulative Bird List for Lehigh: Elwood MacDonald

- Brown-headed cowbird
- Baltimore oriole
- Pine grosbeak
- Purple finch
- Common redpoll
- Hoary redpoll
- American goldfinch
- Eastern kingbird
- Northern shrike
- Blue jay
- Bank swallow
- Black-capped chickadee
- Red-breasted nuthatch
- House wren
- Mountain bluebird
- American robin
- Varied thrush
- European starling
- Gray catbird
- Cedar waxwing
- Myrtle warbler
- Brown thrasher
- Spotted towhee
- Dark-eyed junco
- Rose-breasted grosbeak
- Red-winged blackbird
- Common grackle
- Bald eagle
- Golden eagle
- American kestrel
- Prairie falcon
- Ring-necked pheasant
- Sharp-tailed grouse
- Mourning dove
- Great-horned owl
- Northern saw-whet owl
- Common nighthawk
- Belted kingfisher
- Yellow-bellied sapsucker
- Downy woodpecker
- Hairy woodpecker
- Northern flicker
- Pileated woodpecker