

# **Integrated Standards and Guidelines**

*Enhanced Approval Process (EAP)*

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Effective: December 1, 2013

## Revision History

Version Date (MM/DD/YY)	Author, Organization	Description
09/01/2010	Lands Division, ESRD	Original Version
10/19/2010	Lands Division, ESRD	Edits made to provide clarity and consistency.
05/30/2011	Lands Division, ESRD	<ul style="list-style-type: none"> <li>• Edits made to provide clarity and consistency</li> <li>• Added holding agency consultation requirement for reservations and notations section.</li> <li>• Reformatted document to include linkage with disposition activity types on the right hand side of standards.</li> <li>• Renumbered standards to provide for better compatibility with the LAT.</li> <li>• Increased wellsite sizing to enable standards multi-well pad MSL applications, (100.1.4.e).</li> <li>• Clarified language around adjoining versus adjacency glossary terms.</li> <li>• Increased linkages to Integrated Resource Plans and Protective Notation requirements (100.1.11).</li> <li>• Increased linkages to Pre-construction requirements in sensitive species section (Wildlife surveys).</li> <li>• Modifications to Appendix A and B</li> <li>• Added standard 100.1.7.</li> <li>• Included linkages to disposition activity types to the right of operating conditions.</li> <li>• Added condition 200.2.11.</li> <li>• Revised condition 200.3.4</li> <li>• Revised condition 200.3.5</li> <li>• Revised condition 200.3.6</li> <li>• Revisions to condition 200.9.1.1.1</li> <li>• Reformatted document.</li> <li>• Removed #4.1 as covered by approval standards</li> <li>• Edited glossary terms</li> </ul>
06/25/2012	Lands Division, ESRD	<ul style="list-style-type: none"> <li>• Four IS&amp;G documents are integrated into one document (Pre-Application Requirements; Approval Standards; Operating Conditions; Best Management Practices)</li> <li>• Pre-Application Requirements section revised throughout to provide clarity - LAT, Species at Risk, Higher Level Plans, Public Land Use Zones, Reservation/Notation duties of the applicant, and access controls</li> <li>• New column added to IS&amp;G to track changes</li> <li>• Pre-Application section - reduced Class VI road right-of-way</li> <li>• 100.1.1 – clarified language</li> <li>• 100.1.2 – changed “grade” to “class”</li> <li>• 100.1.4.a) – added dimensions for stratigraphic test wells</li> <li>• 100.1.4.e) - added maximum well-pad size</li> <li>• 100.1.4.f) – added maximum well-pad size</li> <li>• 100.1.9 – clarified language</li> </ul>

Version Date (MM/DD/YY)	Author, Organization	Description
		<ul style="list-style-type: none"> <li>• 100.1.10.a) – NEW - added PIL compressor site dimensions</li> <li>• 100.1.12 – NEW – access roads</li> <li>• 100.1.4 – clarified language</li> <li>• 200.1.13 – clarified language</li> <li>• 200.2.7 – modified Natural Recovery requirements</li> <li>• 200.2.8 – modified seeding requirements</li> <li>• 100.4.4 – clarified language</li> <li>• 100.4.8 – NEW – watercourse boring</li> <li>• 200.5.2 – modified reclamation requirements</li> <li>• 100.6.4 – clarified language</li> <li>• 100.9.1.1.2 – modified PIL requirement</li> <li>• 100.9.1.2.1 – clarified language</li> <li>• 100.9.1.4.1 – clarified language</li> <li>• 100.9.1.5.1 – clarified language</li> <li>• 100.9.1.6.1 – clarified language</li> <li>• 100.9.1.7.1 – clarified language</li> <li>• 100.9.1.8.1 – clarified language</li> <li>• 100.9.1.9.1 – clarified language</li> <li>• 100.9.1.12.1 – clarified language</li> <li>• 100.9.2.2 – clarified language</li> <li>• 100.9.2.2.a) - clarified language</li> <li>• 100.9.2.2.d) – modified to reflect “single well bores”; multi-well bores requiring Class 3 roads should apply non-standard</li> <li>• 100.9.2.2.e) – clarified language</li> <li>• 100.9.3.2 – clarified language</li> <li>• 100.9.3.4 – clarified language</li> <li>• 100.9.4.1 – clarified language</li> <li>• 100.9.5.1 – clarified language</li> <li>• 100.9.5.1.a) – clarified language</li> <li>• 100.9.5.1.d) – modified to reflect “single well bores”; multi-well bores requiring Class 3 roads should apply non-standard</li> <li>• 100.9.5.1.e) – clarified language</li> <li>• 100.9.6.1.a) – modified disposition type</li> <li>• 100.9.6.1.b) – modified disposition type</li> <li>• 100.9.6.1.c) – clarified language</li> <li>• 100.9.6.3 – clarified language</li> <li>• 100.9.6.3.a) – clarified language</li> <li>• 100.9.6.3.d) – modified to reflect “single well bore”; multi-well bores requiring Class 3 roads should apply non-standard</li> <li>• 100.9.6.3.e) – clarified language</li> <li>• 100.10.1 – clarified language</li> <li>• Appendix A – clarified requirements</li> <li>• Appendix B – clarified requirements</li> <li>• Glossary – clarification of language; some new definitions</li> </ul>

Version Date (MM/DD/YY)	Author, Organization	Description
04/01/2013	Lands Division, ESRD	<ul style="list-style-type: none"> <li>• Pre-Application Requirements section revised throughout to provide clarity - LAT, Species at Risk, Reservation/Notation and Higher Level Plans duties of the applicant</li> <li>• Pre-Application section – improved clarity around road classes; modified allowable variance</li> <li>• Pre-Application section – removed ‘access controls’ section due to redundancy with Operating Condition 200.1.4</li> <li>• “Land Management Specialist” changed to “Departmental Officer” throughout document</li> <li>• 100.1.1c – clarified language</li> <li>• 100.1.6b – changed to Linear Disturbances, and added iii for multi-pipe projects</li> <li>• 100.1.10 – added applicable MSL (plant sites)</li> <li>• 100.1.14 – NEW – added sump and sizing</li> <li>• 200.1.1 – Removed, now Administrative clause</li> <li>• 200.1.2 – Removed, now covered in Standards</li> <li>• 200.1.4 – clarified language</li> <li>• 200.1.6b – clarified language</li> <li>• 200.1.13 – clarified language</li> <li>• 200.1.14 – clarified language</li> <li>• 200.1.8 – clarified language</li> <li>• 100.2.1 – NEW – Pipeline re-vegetation</li> <li>• 200.2.5 – clarified language</li> <li>• 200.2.6 – removed</li> <li>• 200.3.3 – clarified language</li> <li>• 200.3.5 – clarified language</li> <li>• 100.4.3 – clarified language</li> <li>• 100.4.5 – clarified language</li> <li>• 100.4.9 – NEW – Bridge crossings for permanent access</li> <li>• 100.8.1 – added wildlife sweep to locate features</li> <li>• 100.8.2 – Removed, now in Endangered and Threatened Plants Sensitivity section</li> <li>• 200.8.1 – clarified language</li> <li>• 100.9.1.2.2 – increased setback for low impact developments</li> <li>• 200.9.1.2.1 – NEW – Condition limiting site visits during sensitive times</li> <li>• 200.9.1.4.1 – NEW – Condition limiting site visits during sensitive times</li> <li>• 100.9.1.6.3 – Added medium impacts</li> <li>• 100.9.1.6.5 – NEW – Perch preventers near lek</li> <li>• 100.9.1.6.6 – NEW – noise reducers near lek</li> <li>• 200.9.1.6.1 – clarified language, increased setback</li> <li>• 200.9.1.7.1 – NEW – Condition limiting site visits during sensitive times</li> <li>• 200.9.1.10.1 – NEW – Condition limiting site visits during sensitive times</li> </ul>

Version Date (MM/DD/YY)	Author, Organization	Description
		<ul style="list-style-type: none"> <li>• 100.9.1.12.2 – removed, now covered in 100.9.1.12.4</li> <li>• 100.9.1.12.3 – removed, now covered in 100.9.1.12.5</li> <li>• 200.9.1.12.1 – NEW – no seeding of <i>Ribes</i> species</li> <li>• 100.9.1.13.1 – clarified language</li> <li>• 9.2 – renamed to Caribou Range</li> <li>• 100.9.2.2e – split into two Approval Standards, clarified language</li> <li>• 100.9.2.2f – new, split from 100.9.2.2e</li> <li>• 100.9.2.5 – NEW –Plant, sump Sites</li> <li>• 200.9.2.2 – Removed, refer to TFA</li> <li>• 100.9.3.3 – clarified language</li> <li>• 100.9.3.4 – clarified language, and moved access control to 100.9.3.4 a</li> <li>• 100.9.3.6 – NEW – Access control; clarification</li> <li>• 100.9.3.7 – NEW – Plant, sump sites</li> <li>• 200.9.3.3 – Removed, refer to TFA</li> <li>• 100.9.5.1e – clarified language, and moved access control to f</li> <li>• 200.9.5.2 – Removed, refer to TFA</li> <li>• 100.9.6.1.c – clarified language</li> <li>• 100.9.6.3e – clarified language, and moved access control to f</li> <li>• 100.9.6.4 – clarified language, modified disposition type</li> <li>• 100.9.6.7 - NEW – Plant, sump sites</li> <li>• 200.9.6.3 – Removed, refer to TFA</li> <li>• 100.10.2 – changed dates for consistency with Rough Fescue PNT</li> <li>• 100.10.4 – corrected typo</li> <li>• Appendix A – clarified requirements for Declaration</li> <li>• Appendix B – clarified requirements</li> <li>• Appendix E – clarified requirements, and updated risk rankings</li> <li>• Glossary – clarification of language; some new definitions</li> </ul>
12/01/13	Operations Division, ESRD	<ul style="list-style-type: none"> <li>• Language throughout reflects responsibility of the Alberta Energy Regulator where appropriate.</li> </ul>

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## List of Documents

To access the Environment and Sustainable Resource Development related documents referenced in this manual, search one of the following document titles at [esrd.alberta.ca](http://esrd.alberta.ca)

- Alberta Forest Genetic Resource Management and Conservation Standards
- Alberta Timber Harvest Planning and Operating Ground Rules Framework for Renewal
- EAP Manual
- External Directive SD 2010-02 Progressive Reclamation and Interim Clean up
- FireSmart Guidebook for the Oil and Gas Industry
- First Nations Consultation Procedures
- Fisheries and Wildlife Management Information System
- Guides for Forms Completion
- Habitat Suitability Model Search Tool
- Integrated Land Management
- Integrated Resource Plans
- Public Lands Reservation Information Guide
- Public Land Use Zones
- Section 200.10 of the Operating Conditions for the Enhanced Approval Process
- Sensitive Species Inventory Guidelines
- Temporary Field Authorization Guidelines
- Water Codes of Practice
- Wellsite Reclamation Certificate Application Process
- Wildlife Research Permits

To access all other documents referenced in this manual search for the titles at the following addresses:

Northern Prairie Wildlife Research Center - [npwrc.usgs.gov](http://npwrc.usgs.gov)

- Classification of natural ponds and lakes in the glaciated prairie region

Aboriginal Relations - [aboriginal.alberta.ca](http://aboriginal.alberta.ca)

- Consultation Guidelines

Alberta Energy Regulator - [aer.ca](http://aer.ca)

- Directives

Tourism, Parks and Recreation- [tpr.alberta.ca](http://tpr.alberta.ca)

- Alberta Conservation Information Management System



## Preface

Prudent development of natural resources is a complex endeavour. Public expectations for a high degree of environmental stewardship must be balanced with the competitiveness of industries that contribute directly to the quality of life Albertans enjoy.

In March of 2010, the Government of Alberta released the *Energizing Investment* strategy. Within this strategy is clear direction to streamline the regulatory process, bring added clarity and certainty, and accelerate the government's shift to an outcomes based approach to environmental management.

In collaboration and cooperation with industry, Environment and Sustainable Resource Development (ESRD) consolidated over 200 existing guidelines in support of this strategy. The benefits of this consolidation are (but are not limited to):

- Consistent application of standards across the province.
- Clarity of regulator expectation on industry.
- A dedication to continual improvement of systems and processes in support of a regulatory framework that provides a competitive playing field for industry, while at the same time providing a rigorous compliance and assurance framework that will ensure that desired environmental outcomes are achieved.

Also found in this work is a renewed dedication to outcomes based management, whereby long term environmental outcomes and objectives are set, and performance in striving for these outcomes is evaluated in a pragmatic, 'on the ground' fashion. Through this system, industry has the opportunity to self attest to achieving stated long term environmental outcomes and objectives, and in the interim, to receive expedient and timely approvals for their proposed developments. Concurrent enhancements to the *Public Lands Act* and associated regulations empower government to take swift, effective, and appropriate action in circumstances where industry is not meeting the mark.

The Enhanced Approval Process is the first step in a long term commitment on behalf of government and industry to work together with real and shared accountability for delivering sustainable, long term environmental outcomes. Together, we will continually review the processes now set in motion with an eye to further enhancements and improvements – to ensure the rigour of the regulatory system, as well as the resulting competitive environment for industry.

## Using this Document

This document identifies information and requirements for in-scope Enhanced Approval Process (EAP) applications and dispositions. For information on the scope of the EAP (e.g., lands, activities, disposition types), see the EAP Manual, which can be found at Environment and Sustainable Resource Development .

This document represents the EAP Integrated Standards and Guidelines (IS&G). This document is made up of two parts.

- **Part 1:** Pre-Application Requirements describes what applicants need to know BEFORE they apply through the EAP. Some approval standards and operating conditions are dependent on the information presented in this chapter.
- **Part 2:** Mitigation Considerations and Requirements has been organized into *Provincial* and *Sensitivity* sections, based on management intent, and describes the applicable guidelines, standards and conditions for each section. The *Provincial Section* provides information relevant for all activities throughout the province. The *Sensitivity Section* identifies standards which apply to the spatial extent of the identified sensitivity.

For each provincial and sensitivity feature in Part 2, this document identifies desired outcomes, approval standards, operating conditions, and best management practices such that all information related to a particular feature can be found together.

**Desired Outcomes** - describes what is being strived for through the mitigation measures identified in best management practices, approval standards and operating conditions. Desired outcomes help direct mitigation and compliance actions.

**Approval Standards** - provide siting, timing and site related requirements. Applications that meet all standards will follow an expedited approval process. Applications that do not meet all standards will undergo field referral to identify possible mitigation measures for the missed standards. Approval standards are subject to compliance assurance and enforcement action.

**Operating Conditions** - describe the construction, maintenance and operational practices that must be followed once an activity has been approved. Operating conditions are non-negotiable and must be adhered to. Operating conditions are subject to compliance assurance and enforcement action.

**Best Management Practices** - are practices that may assist in the planning and locating of activities as well as the preparation of applications. Best Management Practices are designed to inform the applicant of desired practices while planning and operating activities on public land. Many of these Best Management Practices could be considered in the development of mitigation strategies for non-standard applications. Best Management Practices are provided for information and consideration and are not subject to compliance assurance or enforcement action. Use of these practices should lead to an increase in the ability of the applicant to meet the *Desired Outcomes* identified for specific resource concerns in this document.

For ease of reference, all approval standards are preceded by “100”; all operating conditions are preceded by “200”. Beside each approval standard or operating condition, the disposition type to which the standard and/or condition applies is identified. Changes to any standard and/or condition are identified by the update date in the right margin. Deleted standards and/or conditions are identified as deleted, and the number retired from future use.

This document only applies to authority granted under the *Public Lands Act*. All licenses, authorizations and approvals issued under the *Public Lands Act* by Alberta Environment Sustainable Resource Development and/or the Alberta Energy Regulator referred to in this document as the Regulatory body, should not be taken to mean the proponent (applicant) has complied with other provincial statutes, municipal or federal legislation.

## Part 1: Pre-Application Requirements

### What you need to know *before* you apply...

This document identifies pre-application requirements and other information that applicants need to understand *prior* to applying for Enhanced Approval Process in-scope activities. Some approval standards and operating conditions are dependent on the information presented within this Pre-Application Requirements part of document.

This document does NOT identify federal requirements, other Alberta Government ministry, agency or board requirements, or municipal requirements for land use in Alberta.

#### 1. Landscape Analysis Tool

The Landscape Analysis Tool (LAT) is a web enabled geospatial mapping tool designed to assist with the identification of base and sensitive features and how they interact with a proposed land location and activity being considered for development. The LAT allows users the ability to map and view their proposed projects, identify areas of concern and in doing so make planning and location adjustments. The LAT generates reports (LAT Reports) for project applications which is a requirement of the EAP application process.

To ensure the LAT is used effectively, users should perform the following;

- Ensure activities are located outside of sensitive areas when possible,
- Review the Desired Outcomes and Best Management Practices within the Integrated and Standards Guidelines document to assist in the placement of activities,
- When satisfied with the placement of activities, users should review the generated LAT Report for the assigned conditions and ensure that they are able to meet these based on the proposed activity,
- To better meet applicable standards, users should be encouraged to experiment with the location, sizing and orientation of the activity to avoid or better align with sensitive features,
- The User must ensure that prior to application, the LAT Report is understood and the appropriate decision is made whether an application needs to follow the standard or non-standard application process,

Although the LAT does identify many interactions between the proposed activity and certain features, applicants must still ensure the requirements of any associated reservations, notations, Integrated Resource Plans, Public Land Use Zones and other regulatory requirements are met.

#### 2. Species at Risk

The species at risk identified below require a wildlife survey as defined by the Species at Risk ranges in the Landscape Analysis Tool. Surveys are not required for Greater Sage Grouse, Piping Plover, Sensitive Amphibian ranges, and Colonial Nesting Birds as there are approval standards that specifically relate to the LAT layers.

Where surveys are required by the approval standards they are to assist in determining project siting location and options for mitigation. Additionally, wildlife sweeps of an area may be required to identify key wildlife sites, like dens and mineral licks. Documentation of survey work completed should be retained and be produced as required to furnish proof of survey completeness. Before work can commence wildlife surveys need to occur at the time of year appropriate for species detection, as described in the Sensitive Species Survey Guidelines. To access the guidelines, search “Sensitive Species Inventory Guidelines” at Environment and Sustainable Resource Development. The results of an acceptable wildlife survey are valid for two years from the date of the survey. Winter surveys, where allowed, are not considered to be valid beyond the season they are conducted in and are subject to certain survey constraints (e.g., all stick nests are considered occupied for winter surveys). The following species require wildlife surveys prior to application to inform activity-siting requirements:

- sensitive raptors (Ferruginous Hawk, Prairie Falcon, Peregrine Falcon, Golden Eagle, Bald Eagle)
- Burrowing Owl
- sensitive snakes (Prairie Rattlesnake, Bullsnake, Western Hognose snake)

- Sharp-tailed Grouse
- Swift Fox
- Ord's Kangaroo Rat
- *Endangered* and *Threatened* plants (Tiny Cryptanthe, Small-flowered Sand Verbena, Soapweed, Western Spiderwort, Porsild's Bryum, Whitebark Pine, Limber Pine)

Additionally, other species (Eastern Short Horned Lizard, Short-eared Owl, Mountain Plover, Long-billed Curlew, Upland Sandpiper, Sprague's Pipit), may require surveys as per the EAP approval standards, dependent upon timing and location of activity. Please note that Wildlife Research Permits may be required for surveys that are designed to elicit a response, alter the behaviour, or are being done in close proximity to a den, nest, or house of a wildlife species and which have potential to result in avoidance or abandonment of the site. Please contact the local ESRD office for more information, or search "Wildlife Research Permits" at Environment and Sustainable Resource Development.

Applicants must submit the data collected through the appropriate pre-development survey to the Fish and Wildlife Management Information System (FWMIS). **The disposition number must be included in the FWMIS entry form in the Project Information field.**

Additional information on sensitive species on Alberta landscapes can be found using FWMIS. To access the information search "Fisheries and Wildlife Management Information System" at Environment and Sustainable Resource Development. Additional information can also be found on the Alberta Conservation Information Management System (ACIMS). To access the information search "Alberta Conservation Information Management System" at Tourism, Parks and Recreation. Consultation with the local ESRD office is also an appropriate source for additional information.

The Habitat Suitability Index Model Tool can be used to evaluate habitat values for select Species at Risk. To access the tool, search "Habitat Suitability Model Search Tool" at Environment and Sustainable Resource Development.

### 3. Reservations and Notations

Reservations and notations have been placed on Crown land to represent a management commitment to that parcel of land, environmental sensitivities, areas of special concern or areas of Alberta government infrastructure. The applicant must identify and review the requirements of the reservation/notation to ensure the proposed activity is permitted, or meets the identified restrictions and direction and does not conflict or interfere with the intent of the reservation/notation

There are nine (9) different reservation/notation type codes that can be encountered in a land standing review. To access more information on Dispositions and Reservations, search "Guides for Forms Completion" at Environment and Sustainable Resource Development.

The reservation type codes for which the regulatory body does not have decision authority are: Designated Heritage Resources (DHR), Ecological Reserve Area by Order in Council (ERR), Natural Areas by Order in Council (NAA). Applications for development in these areas are not facilitated through the EAP, and instead must follow the processes in place by the regulatory authority who manages the areas under the specific reservations.

If a reservation/notation with a Restriction Code of 4 – No Surface Disposition is encountered, this means that surface footprint is not within the reservation/notation and an EAP application will not be approved.

#### 3.1 Processes for Addressing Reservations/Notations in an EAP Application

All EAP applicants must perform a "detailed" land standing search of the legal land locations for the proposed activity to determine if the lands have reservation/notations placed on them. The "detailed" land standing report provides comments specific to the reservation/notation in question. To access information regarding land standing reports, search "Searches" on energy.alberta.ca. The regulatory body may request a copy of the "detailed" land standing report at any time throughout the life of the disposition to support compliance and assurance processes.

When a reservation and/or notation is listed in the "detailed" land standing report, the applicant will determine if contact with the reservation holder is required prior to making an EAP application. To determine the need to contact, all reservations/notations must be documented in the Part B of the appropriate EAP Supplement. Upon population of columns 1 to 4 (Reservation/Notation Type, Number, Purpose Code, and Restriction Code), column 5 (Was Contact Required) will auto-populate and inform the applicant whether contact with the

reservation/notation holder is required. “Table 1. Reservation and Notation Purpose Codes” in this document provides the same direction as the EAP Supplement.

If contact is not required, populating the remainder of the Supplement is not necessary and the applicant will follow the direction provided in “Appendix A. Reservations and Notations” and “Table 4. Reservation and Notation Purpose Codes” of this document.

If contact is required, the applicant will provide the reservation/notation holder with a package of information that includes, at a minimum:

- Applicant name and contact information
- Date of contact
- Activity type and description
- Timeline of construction (start date and duration)
- Activity plan (survey or sketch) with Alberta Township Survey grid for placement reference

The applicant must have a verifiable means to show the date on which the referral information was received by the holding agency (e.g. Email read receipt, registered mail).

The reservation/notation holder will review the proposed activity to determine if the integrity of the reservation/notation would be maintained if the proposed activity were approved and strive to provide the applicant a response within six (6) business days upon receipt of the information package. The response may be that more time is required. If a response is not received within six (6) business days the applicant may proceed with EAP application.

In the response, the reservation/notation holder may bring forward concerns regarding the impact of the proposed activity on the reservation/notation. It is applicant’s responsibility to work with the reservation/notation holder to address and mitigate the concerns prior to EAP application, which may mean changes to siting, timing or construction technique. If the concerns cannot be resolved, a non-standard EAP application must be made, including completion of “Schedule E. Non-Standard Mitigation Supplement”. The applicant will populate columns 6 to 10 of the reservation/notation table in the applicable EAP supplement. The regulatory body will review the non-standard application for the reservation/notation issues and provide final direction on whether the proposed activity will be permitted within the reservation/notation. The issuing regulatory body may ask the applicant and reservation/notation holder for all previous communication records regarding the reservation/notation in order to support their decision, and at any point throughout the life of the disposition to support compliance and assurance processes.

See “Appendix A. Reservations and Notations” for further detail on the reservation/notation codes and Table 1 in Appendix A for direction on when contact with the reservation/notation holder is required.

## 4. Government-Approved Higher Level Plans

Higher level plans have been developed by the Government of Alberta (GOA) to provide land and resource management intent in specific areas (plan areas) within the province. See Appendix B within this document for a list of approved planning documents and applicable direction. Higher level plans are departmentally recognized plans that direct land-use for an area, and are to be consulted to ensure the proposed activity adheres with the plan. This requirement is supported by Approval Standard 100.1.13. Higher level plans include, but are not limited to:

- a. Integrated Resource Plans (Regional and Sub-Regional plans)
- b. Regional Integrated Decisions
- c. Public Land Use Zones
- d. Access Management Plans

While the Landscape Analysis Tool LAT Report and “detailed” land standing search do identify some of these plans, it is the client’s responsibility to be familiar with restrictions identified in these higher level plans and address them within the application.

In the applicable EAP supplement the applicant will list the government approved higher level plans that apply to the legal land locations of the proposed activity. In order to populate the “Application Direction” question of the applicable EAP Supplement, the client will review the direction column of “Table 5. Government Approved Higher Level Plans” in Appendix B of this document. If the direction from Table 5 requires the EAP applicant to contact the the issuing regulatory body for interpretation of requirements, the proposed activity will be adjusted to incorporate all direction received from the regulatory body, if applicable. The applicant will retain the communication records for the life of the disposition, as the regulatory body may ask for these records at any time in order to support compliance and assurance processes.

#### **4.1 Integrated Resource Plans/Regional Integrated Decisions**

Integrated Resource Plans (IRPs) and Regional Integrated Decisions (RIDs) are common types of higher level plans; however, these plans are variable in format and content. An IRP/RID will generally include information and guidance about resource strategies and objectives, compatible and non-compatible uses, and mitigation options. Often the plan area will be delineated into sub-areas such as zones or Resource Management Areas (RMAs), or in some cases both.

The Base Features section of the LAT Report will identify applicable plans. The applicant must be familiar the requirements of each plan and ensure that the proposed activity adheres with the plan. Appendix B within this document provides expectations for each plan currently in force, and specific areas within the plan. All requirements must be referenced within the appropriate EAP supplement. Questions or clarification on how the proposed activity is affected by the plan can be directed to the local issuing regulatory body office.

To access RIDs and IRPs search “Integrated Resource Plans” at Environment and Sustainable Resource Development.

#### **4.2 Public Land Use Zones (PLUZ)**

A PLUZ is an area of public land to which legislative controls apply to assist in the management of industrial, commercial and recreational land uses and resources. These were formerly designated as Forest Land Use Zones prior to 2011.

There are 19 PLUZs covering approximately 11,200 square kilometres of public land in Alberta. Within certain PLUZs there is significant recreational infrastructure for public use, including trails, camping areas, staging areas, etc. For proposed activity within a PLUZ, the applicant must contact the local area Lands office to review the proposed siting and timing of the project to ensure that it can be accommodated in the management intent for the PLUZ.

To access information on PLUZs, search “Public Land Use Zones” at Environment and Sustainable Resource Development.

#### **4.3 Access Management Plans**

There are three approved access management plans in Alberta. These plans support Integrated Land Management (ILM) objectives and collaborative agreements between the Government of Alberta, industry and municipalities. Current plans include: Chungo Creek Industrial Access Management Area; Kakwa Copton Industrial Corridor Plan; and the Berland Smoky Access Plan.

The applicant is to ensure that the proposed activity adheres to the access management plan. If an applicant proposes a deviation from the direction provided in the access management plan then a non-standard application is required.

To access the plans, search “Integrated Land Management” at Environment and Sustainable Resource Development.

### **5. Road Classes**

All access roads applied for under the EAP are required to use road classes as defined in Table 1 below.

**Table 1: EAP Road Class Specification**

Class	Right of Way Width	Description
Class I	≤ 40 m	<ul style="list-style-type: none"> <li>All weather primary road.</li> <li>Right of way (ROW) width should be the minimum required to allow travel, while addressing safety and environmental concerns.</li> </ul>
Class II	≤ 30 m	<ul style="list-style-type: none"> <li>All weather or dry weather secondary road which serves as a branch road from primary road.</li> <li>Right of way (ROW) width should be the minimum required to allow travel, while addressing safety and environmental concerns.</li> </ul>
Class III	15m ROW where terrain or other conditions allow; Up to 20m width when constrained by terrain conditions; not to exceed 35% of the length of the route	<ul style="list-style-type: none"> <li>All weather or dry weather tertiary road.</li> <li>Right of way (ROW) width should be the minimum required to allow travel, while addressing safety and environmental concerns.</li> <li>Site specific cuts, fills and widening may be required (bends, slope, etc.).</li> </ul>
Class IV	≤ 15m with variable allowance for terrain conditions; Up to 20m where required for watercourse approaches (to enable water management), corners, and side slopes; all not to exceed 20% of the length of the route	<ul style="list-style-type: none"> <li>Frozen or dry conditions.</li> <li>Stripping of topsoil permitted</li> <li>No ditch development, however drainage control and borrow material may be required on a site-specific basis to enable water management</li> <li>Can be constructed and used year round when conditions are suitable.</li> <li>Should a portion of the route become impassable due to wet conditions, drainage problems, or rutting, site specific improvements (i.e., matting, padding, culverts etc.) to the problematic area(s) may be implemented.</li> <li>Some access improvements required to support specific well servicing work (e.g., wire line) should be temporary only and removed after the activity is over.</li> <li>ROW width should be the minimum required to allow travel, while addressing environmental concerns.</li> <li>Roads will typically follow contours of the landscape more closely than do higher standard routes.</li> <li>Cuts and fills should be minimized.</li> </ul>
Class V	10m with variable allowance for terrain conditions; Up to 20m where required for watercourse approaches (to enable water management), corners, and side slopes; all not to exceed 20% of the length of the route	<ul style="list-style-type: none"> <li>Minimal disturbance – frozen or equivalent to frozen (e.g. rig matting).</li> <li>Allows for winter operations, extends the winter drilling season and/or emulates frozen ground access when frost conditions are not adequate or not present.</li> <li>Access will minimize ground disturbance under non-frozen ground conditions, and will mimic frozen ground access.</li> <li>Ground disturbance, surface vegetation disturbance, ROW clearing and surface improvements will be minimized.</li> <li>Can be constructed and used during favourable ground conditions. Use during unfavourable ground conditions requires cessation of use or mitigation measures (e.g. rig matting).</li> <li>May require adjustments to well drilling/completions schedules,</li> </ul>

Class	Right of Way Width	Description
		<p>and require use of alternative vehicles for production monitoring.</p> <ul style="list-style-type: none"> <li>• Road width will be minimized wherever possible by sharing space with pipeline ROWs, seismic lines and through the use of vehicle pullouts.</li> <li>• Route construction may not be feasible for all terrain conditions. A combination of padding, geo-textile, matting, road culverts, corduroy or other drivable surfaces may be required during non-frozen ground conditions.</li> <li>• Gravel may be used in site-specific situations for safety or environmental protection of water crossings, but its use should be minimal.</li> </ul>
Class VI (Prairie and Parkland)	≤ 10m	<ul style="list-style-type: none"> <li>• Minimal disturbance – dry or frozen ground.</li> <li>• Ground disturbance, surface vegetation disturbance, grade development, ROW clearing and surface improvements should be minimized. No grading should occur.</li> <li>• Can be constructed and used year round; during unfavourable ground conditions cessation of use or mitigation measures are required.</li> <li>• May require adjustments to well drilling/completions schedules, and require use of alternative vehicles for production monitoring.</li> <li>• Road width should be minimized, wherever possible, by sharing space with pipeline ROWs or other existing linear disturbances.</li> </ul>

## 6. Consent

Surface access to occupied public land requires consent from the occupant. Occupants are land users such as forest management agreement holders or grazing lease holders who occupy public land based on the terms of their agreements.

Before submitting an application to the issuing regulatory body, the applicant must negotiate with the occupant to obtain consent to access the land. A copy of the consent agreement must be submitted with the EAP application prior to disposition issuance.

## 7. First Nations Consultation

The Government of Alberta's First Nations Consultation Guidelines on Land Management and Resource Development describes Alberta's policy committing Alberta "to consult with First Nations where land management and resource development have the potential to adversely impact First Nations' rights and traditional uses." The guidelines require project proponents to consult with First Nations in accordance with the policy. To access the guidelines, search "Consultation Guidelines" at Aboriginal Relations.

To facilitate a consistent application of the Consultation Guidelines during the issuance of formal dispositions, where specific elements of the consultation process are delegated to the proponent by the Government of Alberta, the proponent must follow the First Nation Consultation – Lands procedure. Through EDS, First Nation Consultation (FNC) numbers are issued to the proponent to track consultation procedures, documents and decisions granted by the department to the proponent. The FNC number is an integral part of the electronic application process to receive a public lands formal disposition. To access the procedure, search "First Nations Consultation Procedures" on Environment and Sustainable Resource Development .

## 8. Crown-Owned Waterbodies on Private Land

Crown-owned waterbodies are waterbodies in the forested region of Alberta (Green Area) and on Crown-owned lands in the settled area of Alberta (White Area). The beds and shores of water bodies located on private land are also considered



to be Crown-owned if they are permanent bodies of water (Appendix D – Semi-Permanent and Permanent Ponds/ Stewart and Kantrud – Class IV and V). Typically these bodies of water are lakes and permanent wetlands.

It is the responsibility of the industrial user to first identify the existence of potentially Crown-owned waterbodies on the landscape **before** submitting an application to the regulatory body. If the planning, siting and installation of an activity will impact a Crown-owned waterbody, the activity will require an approval and the application will be treated as non-standard. An impact to a waterbody is determined by any activity occurring within the bed and shore of a waterbody.

The Stewart and Kantrud (1971) wetland classification system should be used to determine the general permanency of the body of water and whether it is claimable by the Crown. If at any given time the climate conditions result in the temporary draw-down or drying of the water feature, the proponent should review historical photography to assess the general wetland class and its permanency. The Stewart and Kantrud (1971) wetland classification system is consistent with “Appendix D. Provincial Watercourse and Waterbody Descriptions”. In addition to the descriptions of waterbodies found in Appendix D, the following table (Table 2) can be used as guidance to determine classification and ownership of the waterbody.

**Table 2: Crown Ownership and Wetland Classification of Stewart and Kantrud (1971)**

Wetland Class (Type)	Permanency	Crown Claimability
<b>I</b> (Short-term flooded basin)	Ephemeral	No
<b>II</b> (Wet Meadow)	Temporary	No
<b>III</b> (Shallow Marsh)	Seasonal	No
<b>IV</b> (Deep Marsh)	Semi-Permanent	<b>Yes</b>
<b>V</b> (Open Water Pond)	Permanent	<b>Yes</b>
<b>VI</b> (Saline Pond)	Variable	Case-by-Case
<b>VII</b> (Fen)	Saturated	No

Setback requirements in Appendix D for private land are not required but never-the-less recommended as good management practice.

**Note:** All activities that impact a body of water, whether the beds and shores are Crown owned or not, are subject to the provincial *Water Act*.

Stewart, R. E., and H. A. Kantrud. 1971. Classification of natural ponds and lakes in the glaciated prairie region. U.S. Fish. Wildl. Serv., Resour. Publ. 92. 57 pp

## Part 2A: Mitigation Considerations and Requirements - Provincial Section

### 1. LAND MANAGEMENT

<b>Desired Outcomes</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<ol style="list-style-type: none"> <li>1. Minimize negative impacts of disturbance.</li> <li>2. Minimize footprint.</li> <li>3. Maximize opportunities for integration.</li> <li>4. Maintain opportunities for a full range of resource values and interests on the landscape.</li> <li>5. Increase potential for re-growth, restoration and reclamation of industrial features.</li> </ol>			
<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.1.1.</b>	Location of proposed developments shall be sited as follows, unless alternative siting can be supported by Regulated Industry Standards:		
	a) New linear developments shall: <ol style="list-style-type: none"> <li>i) Use existing unoccupied linear disturbances (<math>\geq 4</math> metres wide), unless doing so results in greater disturbance (i.e., footprint hectares), and/or negative environmental impacts (e.g., impacting sensitivities), or;</li> </ol>	LOC PLA	July 2012
	ii) Adjoin existing occupied linear industrial dispositions, unless doing so results in greater disturbance (i.e., footprint hectares), and/or negative environmental impacts (e.g., impacting sensitivities), or;	LOC PLA	July 2012
	iii) With the exception of pipelines, use surveyed road allowances, unless doing so results in greater disturbance (i.e., footprint hectares), and or negative environmental impacts (e.g., impacting sensitivities). ROW width shall not exceed the government road allowance width.	LOC PLA	July 2012
	b) For access, ensure parallel roads closer than 250 metres are not created.	LOC	
	c) New well sites and pipeline installations shall: <ol style="list-style-type: none"> <li>i) Use existing, unoccupied, disturbances, regardless of quarter or section lines, that are within 250 metres of the proposed disposition boundary, or;</li> </ol>	MSL PIL	April 2013
	ii) Adjoin to all existing occupied industrial dispositions and/or existing linear disturbances that are within 250 metres of the proposed disposition boundary, regardless of quarter or section lines, unless doing so results in greater disturbance (i.e., footprint hectares), and/or negative environmental impacts (e.g., impacting sensitivities)	MSL PIL	April 2013
<b>100.1.2.</b>	Proposed road class for new linear route developments (see Pre-Application Information) shall not be greater than the road class of the route from which they originate, or branch off from.	LOC	July 2012

Approval Standards		Disposition Type	Revision Date
<b>100.1.3.</b>	Locate wellsites and roads outside of natural forest openings (> 10 hectares) such as meadows when planning development activities, unless justifiable extra-ordinary conditions require alternative siting and are supported by Regulated Industry Standards.	LOC MSL	
<b>100.1.4.</b>	The following wellsite sizes shall apply, unless alternative sizing can be supported by Regulated Industry Standards:		
	a) Single rig sites shall not exceed 110 metres x 100 metres or equivalent area (1.10 hectares), except stratigraphic test wells which shall not exceed 80 metres x 100 metres or equivalent area (0.8 hectares).	MSL	July 2012
	b) Double/Triple rig sites with less than 5 metres of elevation difference from any corner to the well centre shall not exceed 120 x 120 metres or equivalent area (1.44 hectares).	MSL	
	c) Double/Triple rig sites with greater than 5 metres of elevation difference from any corner to well centre shall not exceed 130 x 130 metres or equivalent area (1.69 hectares).	MSL	
	d) Horizontal well pad sites shall not exceed 130 metres x 130 metres or equivalent area (1.69 hectares).	MSL	
	e) Multi-well pad sites shall not exceed 130 metres x 130 metres or equivalent area (1.69 hectares) for the first well, up to 0.72 hectares for the second well centre; and up to 0.20 hectares for each additional well centre. Total site size shall not exceed 3.5 ha of equivalent area.	MSL	July 2012
	f) Single-well pads (with existing facilities) may be upgraded to a multi-well pad providing it is only extended up to 0.72 hectares to accommodate the second well centre; and up to 0.20 hectares for each additional well centre. Approval is required for these upgrades. Total site size shall not exceed 3.5 ha of equivalent area.	MSL	July 2012
<b>100.1.5.</b>	The difference in elevation from well centre to any corner of the wellsite shall not exceed 10 metres of cut/fill, unless alternatives can be supported by Regulated Industry Standards.	MSL PIL	
<b>100.1.6.</b>	Pipeline Right of Way (ROW) widths shall not exceed the limits listed below, unless alternative ROW widths can be supported by Regulated Industry Standards. Variable width is preferred:	PLA	
	a) Cross Country <ul style="list-style-type: none"> <li>i) Conventional Pipelines with an outside diameter <math>\geq</math> 200 millimetres: the ROW width shall not exceed 20 metres.</li> <li>ii) Conventional Pipelines with an outside diameter <math>\leq</math> 200 millimetres: the ROW width shall not exceed 15 metres.</li> <li>iii) Multi-pipe installation projects within a single ROW width shall not exceed 20 metres.</li> </ul>	PLA	
	b) Adjoining Existing Linear Disturbances <ul style="list-style-type: none"> <li>i) Proposed pipelines adjoining existing linear disturbances, excluding pipelines, shall not exceed 10 metres disposition width.</li> <li>ii) Proposed pipelines adjoining existing pipeline disturbances shall not exceed 15 meters disposition width.</li> <li>iii) Multi-pipe installation projects within a single ROW width adjoining existing linear disturbances shall not exceed 20 metres.</li> <li>iv) Effort will be made to gain approval (documented) from the adjacent disposition holder to utilize portion(s) of their disposition</li> </ul>	PLA	April 2013

Approval Standards		Disposition Type	Revision Date
	for temporary work space.		
	c) All pipelines shall be installed consistent with AER Directive 056 - Energy Development Applications and Schedules. To access the directive, search for “Directives” on Alberta Energy Regulator, and Alberta Environment’s <i>Water Act</i> , Water (Ministerial) Regulation, and the appropriate Code of Practice related to pipelines. To access codes of practice, search for “Water Codes of Practice” on Environment and Sustainable Resource Development .	PLA	
<b>100.1.7.</b>	Pipeline replacement shall occur within the original approved Right of Way (ROW).	PLA	
<b>100.1.8.</b>	Where materials are available, rollback shall be applied as follows, unless alternative methods can be supported by Regulated Industry Standards:	PLA	
	a) Place rollback across the entire pipeline/easement width for a distance of at least 200 metres from all points of intersection with wellsites, plant sites, roads and permanent watercourses.	PLA	
	b) Place rollback across the entire pipeline/easement width on all slopes greater than or equal to 10%.	PLA	
	c) Rollback on lands under agricultural disposition (grazing lease, farm development lease) will only be applied after obtaining consent from the disposition holder.	PLA	
	d) In substitution of a proportion of rollback, use dog-legs, directional drilling, or other techniques to retain at least 50 metres of forest cover (where it exists) to block line-of-sight and vehicle access at all points of pipeline/easement intersection with all permanent watercourses and roads.	PLA	
	e) No rollback shall occur on wildfire control breaks, containment lines or other designated debris free locations identified in a Wildfire Management Plan or FireSmart Plan.	PLA	
<b>100.1.9.</b>	Incidental Activities that fall within the sizing parameters, as defined within the PLAR Approvals and Authorizations Manual - 2013 shown at the time of application for a short term disposition shall be valid for the term of the short term disposition. To access the PLAR Approvals and Authorizations Manual - 2013, search “PLAR Approvals and Authorizations Manual - 2013” at Environment and Sustainable Resource Development.	LOC MSL PIL PLA	July 2012
<b>100.1.10.</b>	Pipeline Installation (PIL) and Mineral Surface Lease (MSL) dispositions, excluding wellsites and sumps, shall not exceed 30 x 30 metres or equivalent area (0.09 hectares) with the following exceptions:	PIL, MSL	April 2013
	a) PIL issued for the purpose of a compressor site, or a MSL issued for the purpose of a plant site, shall not exceed 130m x 130m or equivalent area (1.69 ha)	PIL, MSL	April 2013
<b>100.1.11.</b>	Where an Integrated Resource Plan or a Reservation/Protective Notation identifies a greater set back, the greater set back shall prevail.	LOC MSL PIL PLA	
<b>100.1.12.</b>	Only existing roads into a MSL or PIL shall be used; additional roads will not be permitted if a road already exists. “Roads” are defined by the road classes Pre-Application section of this document.	LOC	July 2012
<b>100.1.13.</b>	Where a Higher Level Plan exists, the direction provided shall be followed. To access a list of Higher Level Plans, see Appendix B.	MSL LOC PIL PLA	July 2012
<b>100.1.14.</b>	All sumps, not located on an existing MSL, shall be multi-well and not be	MSL	April 2013

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
	greater than 1 ha in total area.		
<b>100.1.15.</b>	Development proposed for individually numbered Protective Notation (PNT) purpose code 400 Series encompassing 640 acres or less, located in the Provincial White Area (i.e., Provincial settled lands), shall be built within 100 metres of the outside perimeter (i.e., outside boundary) of the PNT lands. This excludes: pipeline construction; those portions of the PNT lands currently developed as range improvement; and those portions of the PNT lands identified for future range improvement as delineated in approved range development plans.	MSL, LOC, PIL,	April 2013

<b>Operating Conditions</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>200.1.1.</b>	Removed		April 2013
<b>200.1.2.</b>	Removed		April 2013
<b>200.1.3.</b>	Locate temporary activities adjacent to permanent, all-weather access or to existing industrial dispositions.	LOC MSL PIL PLA	
<b>200.1.4.</b>	<p>Access control techniques are intended to restrict unauthorized access of on-highway vehicles. Where access control is required by the Approval Standards or Operating Conditions, the control measures identified below shall be effective, maintained, and monitored. Their effectiveness shall be reported to the issuing regulatory body office by March 31st each year. Control measures may include one or more of the following:</p> <ul style="list-style-type: none"> <li>• earthen berms</li> <li>• permanent or temporary removal of water crossing structures</li> <li>• barricades</li> <li>• locked gates</li> <li>• manned checkpoints</li> <li>• road security patrols</li> <li>• treed buffers</li> <li>• reforestation</li> <li>• de-compaction</li> <li>• roll-back</li> <li>• pre-existing access control</li> </ul> <p>The pre-existing access control must effectively control all access to the new road. The applicant must ensure all travel occurs through the pre-existing access control, and the pre-existing access control is a term or condition of the disposition, or has been required as per a Ministerial or Director's order.</p> <p>Signage will accompany all access control measures as per Operating Condition 200.1.5. Reports shall be immediate (within 7 Business days) when a selected access control method is ineffective at preventing access. The disposition holder will collaboratively work with the issuing regulatory body to develop access control solutions that prevent unauthorized access.</p>	LOC	April 2013

Operating Conditions	Disposition Type	Revision Date
<p><b>200.1.5.</b> Where access control is required by the Approval Standards or Operating Conditions, the potential entry point will be signed with the following text:</p> <div style="border: 1px solid black; padding: 5px;"> <p>Notice:</p> <p>Under the authority of the section 54.01 of the <i>Public Lands Act</i> this road is closed beyond this point for the purpose of:</p> <ul style="list-style-type: none"> <li>• Wildlife Management</li> <li>• Fisheries Management</li> <li>• Water Management</li> <li>• Vegetation Management</li> <li>• Security</li> </ul> <p>Unauthorized on-highway motor vehicles are prohibited. Operators of unauthorized vehicles beyond this point may be found guilty of an offence.</p> <p>Warning: Gate may be locked without warning (NOTE: use this line only if gate is used)</p> <p>In case of an emergency call: 1-XXX-XXX-XXXX Company contact information</p> <p>For general inquiries please call: 1-XXX-XXX-XXXX Company contact information</p> <p>Commercial Users contact the disposition holder at: Company Phone Number</p> <p>LOC No#</p> </div> <p>All Signage must meet the following criteria:</p> <ul style="list-style-type: none"> <li>• Be a minimum size of 1 metre x 1 metre</li> <li>• Have a white reflective background with a checkered border.</li> <li>• All text shall be a minimum of 5 centimetres (2 in.) black lettering</li> <li>• The Company logo should be placed on the bottom right hand corner</li> <li>• Sign must be located at a visible spot at least 1.5 metres off the ground and not be obscured by plowed snow or vegetation.</li> </ul>	LOC	
<p><b>200.1.6.</b> When gates are used for access control, the following conditions shall apply:</p>		
<p>a) Locked gates shall be constructed at locations and in a manner which will contribute to their effectiveness in preventing access to the road (in combination with applying public access restrictions).</p>	LOC MSL	
<p>b) Gates shall remain closed and locked at all times. The gate may only be opened to allow for the passage of an authorized vehicle.</p>	LOC MSL	April 2013
<p>c) Locks shall be placed in a structure that is designed to protect them from being broken.</p>	LOC MSL	
<p>d) As locks are lost or destroyed, they will be replaced within 72 hours of the disposition holder being aware of the need.</p>	LOC MSL	
<p>e) Gates will be designed to ensure that passage of a 4x4 on-highway</p>	LOC MSL	

<b>Operating Conditions</b>		<b>Disposition Type</b>	<b>Revision Date</b>
	vehicle is restricted. This may include the use of barrier rock, berms, ditches, placement of the gate before a bridge or other impediments to travel around the gate. All gates will be installed in such a manner that a safety hazard is not created.		
	f) Use of combination locks is required. Where this is not possible and keyed locks are used, double locking using a regulatory body lock is required. (Double locking refers to a company lock and a regulatory body lock on the same gate, allowing each party to pass using their own keys).	LOC MSL	
	g) Disposition Holders will only make combination lock changes with prior confirmation from the issuing regulatory body staff in charge.	LOC MSL	
<b>200.1.7.</b>	For non-producing wells, the inactive portion(s) of the access road that is immediately adjacent to a public road(s) shall be closed to highway vehicle traffic within 1 year of well non-production. Method and location of access control features shall be provided to the issuing regulatory body office in writing.	LOC MSL	
<b>200.1.8.</b>	Any identified improvements (e.g., fences, water control structures, and signage) that were damaged as a result of industry activities on the land shall be repaired and/or replaced to pre-existing condition within 30 days of entry or immediately if occupied by livestock.	LOC MSL PIL PLA	April 2013
<b>200.1.9.</b>	Road grades and wellsite pads, including crossing structures, shall be maintained for proper drainage (i.e., surface rutting is to be graded).	LOC MSL PIL	
<b>200.1.10.</b>	The application of rollback within FireSmart Community Zones shall be determined through the Consultative Notation (CNT) process .	LOC MSL PIL PLA	
<b>200.1.11.</b>	In addition to the operating conditions in this document, all activities shall be coordinated 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.	LOC MSL PIL PLA	
<b>200.1.12.</b>	Concurrent construction of a pipeline prior to proven results shall only be permitted for in-field wells where a high degree of production certainty can be demonstrated.	MSL PLA	
<b>200.1.13.</b>	The disposition holder shall comply with all consultation requirements and direction provided by the regulatory body, including direction provided in Appendix A (Reservations and Notations) and in Appendix B (Higher Level Plans) of this document for all activities occurring within the identified lands.	LOC MSL PIL PLA	April 2013
<b>200.1.14.</b>	Develop access in accordance with the Pre-Application Requirements section of this document.	LOC	April 2013

### Best Management Practices

1. Integrated Land Management (ILM) principles should be considered in all applications.  
To access Integrated Land Management documents, search “Integrated Land Management” at Environment and Sustainable Resource Development.
2. Activities should be planned in a manner that minimizes disturbance and adverse environmental effects. This includes

## Best Management Practices

- environmentally sensitive areas such as: sensitive soils (e.g., erodible soils, saline or sodic soils); unstable slopes; waterbodies and wetlands; streams; areas likely to have rare plant or animal species and; areas of importance to wildlife such as breeding grounds, nesting areas or winter range.
3. Locate developments to avoid peatlands where possible.
  4. Minimize the number of linear features by using a shared corridor for pipelines, utility services, and roads, where managed all-weather access is required.
  5. Landscape fragmentation should be minimized.
  6. Developments should be located to minimize the amount of borrowed materials.
  7. If an off-lease sump is used, consideration should be given to reduce the wellsite size.
  8. Road design should consider the following:
    - a. Minimize the number of watercourse crossings.
    - b. Minimize the total footprint.
    - c. Minimize new clearing.
    - d. Minimize disturbance/grade.
    - e. Avoidance of loop roads.
  9. Minimal disturbance access should be used wherever possible.
  10. Access routing should be planned such that future pipeline corridor needs are considered and integrated.
  11. All industrial activity should be sequenced to avoid/minimize repeat operations or multiple entries into the area.
  12. Exploration wells should use minimal temporary access, and corridor width should be kept to a minimum.
  13. New disturbances should consider the impacts for other users/values.
  14. Existing sites with on-lease contamination should be avoided (based on documented proof of contamination).
  15. Selected routes and pipe size, or capacity, should allow for field expansion.
  16. Attempts should be made to clear all linear disturbances to a variable width within the approved disposition Right of Way (ROW) to achieve the minimum footprint possible.
  17. Pipeline ROWs should not be used as access shortcuts during construction.
  18. Attempts should be made to locate incidental borrow pits within 100 metres of existing or planned access.
  19. Use spoil piles from existing dugouts on grazing leases.
  20. The level of disturbance can be minimized by considering the ROW width, number of pipelines, using common trench, trench width, installation method, no strip or partial strip of topsoil, working space requirements (e.g., road crossings, stream crossings), slash disposal, soil salvage, and time of year for construction.
  21. The level of disturbance can be minimized by using methods such as directional drilling, horizontal drilling, slant-hole drilling, or multiple well pad sites.
  22. Lease sites should have rounded corners and irregular boundaries that conform to topography to minimize disturbance.
  23. Operators should monitor the soil for impacts such as erosion and rutting, and if impacts are noted it may be necessary to upgrade access as a means of environmental protection.
  24. New linear disturbances that intersect existing roadways should incorporate techniques that reduce the line of sight from the existing roadway. Techniques include using live vegetation, horizontal directional drilling, doglegs, and boring.
  25. Attempts should be made to reduce the visual impacts of proposed activities within high visible areas, such as:
    - a. Within, adjacent to, or viewed from recreational sites and tourist developments.
    - b. Seen from elevated public viewpoints.
  26. Adjacent to or viewed from major travel corridors (roads, lakes and rivers), rural/urban forest interface and site specific areas identified during the planning process. Adjacent to primary and secondary highways in Alberta. The three-phase planning process (Appendix C) is considered a best practice for linear developments. Use of this process is suggested when planning and selecting a route for linear developments before application is made for a disposition.



## 2. VEGETATION

### Desired Outcomes

1. Restore vegetative cover with desirable species. Sites should demonstrate a positive successional pathway that provides assurance that the site will achieve a community similar to the offsite control.
2. Minimize loss of native vegetation.
3. Minimize negative effects of vegetation control activities
4. Maximize utilization of merchantable timber/vegetation, when encountered
5. Reduce the risk of wildfire.
6. Minimize the spread of vegetation disease and insect pests.
7. Minimize the introduction of noxious and restricted invasive plants (weeds).

Approval Standards		Disposition Type	Revision Date
100.2.1.	All cleared pipeline right-of-ways (ROW) shall be re-vegetated. a) Pipeline vegetation removal associated with step-out or wildcat wells shall not start until it is known that the activity is required based on a producing well. b) For in-field wells, pipeline vegetation removal may occur concurrently with wellsite clearing. The pipeline right of way of all non-producing wells shall be reclaimed within 3 years of entry date.	PLA	April 2013

Operating Conditions		Disposition Type	Revision Date
200.2.1.	Manage all weeds as per the <i>Weed Control Act</i> .	LOC MSL PIL PLA	
200.2.2.	Vegetation control (mechanical – mowing/brush control) along linear ROWs shall not occur between May 1 <sup>st</sup> and July 31 <sup>st</sup> , notwithstanding the need to comply with the <i>Weed Control Act</i> with the following exception: in the Grassland and Parkland Natural Regions, vegetation control between May 1 <sup>st</sup> and July 31 <sup>st</sup> for vehicle access, is limited to mowing no more than a 4 metre width centred on the driving lane.	LOC PLA	
200.2.3.	Vegetation control along power lines shall be limited to the removal of hazard trees, notwithstanding the requirement to control weeds as per the <i>Weed Control Act</i> .		
200.2.4.	Vegetation control along pipelines is permitted to a maximum of 3 metres, centred on the pipeline, notwithstanding the requirement to control weeds as per the <i>Weed Control Act</i> .	PLA	
200.2.5.	Chemical application, for the purpose of vegetation control, shall not occur within 30 metres of any waterbody or watercourse, unless otherwise authorized.	LOC MSL PIL PLA	April 2013
200.2.6.	Removed		April 2013
200.2.7.	Natural recovery (a technique for reclaiming sites by allowing the land to re-vegetate naturally (without seeding) by conserving and replacing reclamation material) shall be used for activities on native landscapes forested and peatlands for all areas of the site, not required for operations or padded with clay. Natural recovery is to be implemented within 6 months of completions (post-drill) and for sites that have been prepared but not drilled within 6 months of construction. Assisted natural recovery on native grasslands, forested or peatland sites is allowed on high erosion sites, or sites prone to weeds, or agronomic invasion, or padded sites (forested and peatland). a. During assisted natural recovery, on Native Grassland and Parkland sites,	LOC PIL PLA MSL	July 2012

Operating Conditions		Disposition Type	Revision Date
	<p>refer to 200.10.3.</p> <p>b. During assisted natural recovery on forested and peatland sites when reseeding with herbaceous seed native to the Natural Subregion or agronomic annuals and seed mixes as approved by the regulatory body, shall be free of the species listed in the <i>Weed Control Act</i>. A seed certificate (under the rules and regulation of the <i>Canada Seeds Act</i>) for each species shall be provided to the regulatory body upon request.</p> <p>c. On forested and peatlands, assisted natural recovery can be used for planting woody species for the purpose of accelerated reclamation. The woody species must be native to the Natural Subregion and follow the Alberta Forest Genetic Resource Management and Conservation Standards.</p>		
<b>200.2.8.</b>	When seeding pasture or cultivated lands, the agronomic or forage seed shall meet or exceed Certified #1 as outlined in the <i>Canada Seeds Act</i> and Seeds Regulations. Seed mixes are to be free of species listed in the <i>Weed Control Act</i> . A seed certificate (under the rules and regulation of the <i>Canada Seeds Act</i> ) for each species shall be provided to the regulatory body upon request.	LOC MSL PIL PLA	July 2012
<b>200.2.9.</b>	Revegetation with trees or shrubs within the Green Area shall be consistent with the Alberta Forest Genetic Resource Management and Conservation Standards document. To access the document, search “Alberta Forest Genetic Resource Management and Conservation Standards” at Environment and Sustainable Resource Development	LOC MSL PIL PLA	
<b>200.2.10.</b>	Merchantable timber shall be salvaged unless a request for waiver is approved by the regulatory body.	LOC MSL PIL PLA	
<b>200.2.11.</b>	Timber salvage shall be conducted 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 Alberta Timber Harvest Planning and Operating Ground Rules. To access the document, search “Alberta Timber Harvest Planning and Operating Ground Rules” at Environment and Sustainable Resource Development	LOC MSL PIL PLA	

### Best Management Practices

1. All equipment used, including ancillary equipment (e.g. rig matting) should be cleaned and free of weeds.
2. Activity locations should consider timber values.
3. Mechanical vegetation control is the preferred form of vegetation management (trimming, cutting, mowing, etc.).
4. Chemical control methods should be applied by spot application only.
5. The Firesmart Guidebook for the Oil and Gas Industry should be considered when planning activities. To access the FireSmart Guidebook search “Firesmart Guidebook for the Oil and Gas Industry” on Environment and Sustainable Resource Development .
6. Rollback material should consist primarily of coarse woody debris (e.g. unmerchantable tree trunks, large branches, root balls and stumps).
7. Rollback is to be spread in a manner that does not create: a vertical fire hazard – ensure rollback does not create ladder fuels to surrounding standing timber, particularly in relation to conifer stands; a horizontal fire hazard – leave rollback free sections.
8. Avoid continuous accumulations of fine fuels. Fine fuels shall be fully disposed of at a safe time to reduce fire hazard. Fine Fuels are defined as Fuels that ignite readily and are consumed rapidly by fire (e.g. cured grass, fallen leaves, needles, small twigs).
9. Rollback must remain flat on the ground and in contact with the soil.
10. Ensure that rollback does not exceed approximately 50 percent ground coverage.

## 3. SOIL

<b>Desired Outcomes</b>	
<ol style="list-style-type: none"> <li>1. Conserve soils and minimize loss of vegetative propagules.</li> <li>2. Prevent degradation, contamination and destruction to the soils chemical, physical and/or biological properties to sustain future growth of vegetation and fauna.</li> <li>3. That all soils are protected from erosion (i.e., wind, water, gravity or sedimentation) caused by human activity.</li> <li>4. Maintain the integrity of the permafrost layer.</li> </ol>	

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.3.1.</b>	Permafrost degradation is not permitted. Onsite permafrost depth must be maintained to the same depth as offsite control.	LOC MSL PIL PLA	
<b>100.3.2.</b>	In permafrost areas, the surface shall not be stripped.	LOC MSL PIL PLA	

<b>Operating Conditions</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>200.3.1.</b>	Activity shall be suspended during adverse ground conditions.	LOC MSL PIL PLA	
<b>200.3.2.</b>	Soil and surface erosion and sedimentation shall be prevented and controlled on all disturbed lands.	LOC MSL PIL PLA	
<b>200.3.3.</b>	Soil shall not be removed from the disposition unless authorized. This includes all soil horizons and all soil types (e.g. leaf litter, organic soils such as muskeg, and clay fill material are all included).	LOC MSL PIL PLA	April 2013
<b>200.3.4.</b>	Where soil stripping occurs, salvage all topsoil (typically includes forest floor and/or A horizon). Where two-lift stripping occurs, topsoil and part or all of the upper subsoil (B horizon) must be stripped and stored separately.	LOC MSL PIL PLA	
	a) Where topsoil is less than 15 centimetres, conservation shall include the topsoil plus part of the upper subsoil (B horizon) up to a total depth of 15 centimetres (unless the B horizon is considered unsuitable chemically or physically).	LOC MSL PIL PLA	
	b) On forested sites where site infrastructure can be constructed on the upper subsoil (B), two-lift stripping may not be necessary but the upper subsoil shall not be degraded.	LOC MSL PIL PLA	
<b>200.3.5.</b>	Store reclamation materials separately (topsoil, subsoil, and coarse woody debris) on the disposition, such that it can be distributed evenly over the disturbed area for progressive (interim) and/or final reclamation.	LOC MSL PIL PLA	April 2013
<b>200.3.6.</b>	Wood chips shall not be mixed with forest floor and/or surface soil.	LOC MSL PIL PLA	
<b>200.3.7.</b>	Storage piles/windrows shall not encroach into standing timber.	LOC MSL PIL PLA	
<b>200.3.8.</b>	Disposal pits, required in connection with the activity, shall be located in impermeable soil. Where impermeable soil is not available, impermeable tanks may be used to collect all waste and then dispose of at an authorized waste disposal facility.	LOC MSL PIL PLA	
<b>200.3.9.</b>	Soil sterilants are prohibited.	LOC MSL PIL PLA	

Operating Conditions		Disposition Type	Revision Date
<b>200.3.10.</b>	All spoil material excavated from the pipeline trench shall be returned to the trench in a manner that there is no pooling of water or erosion occurring on the surface. The maximum height of crown (roach) shall not exceed 60 cm on frozen soils and 30 cm on dry or non-frozen soils. Breaks in pipeline roaches shall occur as to not impede water drainage and allow for passage of water.	PLA	
<b>200.3.11.</b>	Backfill and level remote sumps/disposal pits upon completion of operations or treatment of waste.	MSL	
<b>200.3.12.</b>	Soil rutting shall not occur on minimal disturbance sites.	LOC MSL PIL PLA	
<b>200.3.13.</b>	In permafrost areas, utilize snow (natural or man-made) to establish a level surface.	LOC MSL PIL PLA	

### Best Management Practices

1. Activities should be routed around sensitive terrain or soil conditions (e.g., steep, erosive slopes; sand dunes; coulee complexes; wet soils).
2. In areas where access cannot avoid soft or sensitive terrain, minimal disturbance techniques should be considered to minimize impacts.
3. Minimize compaction, rutting, and damage of vegetation.
4. Some soil conditions (e.g., salt, gravel) may require the use of three-lift stripping procedures, as outlined in the "Guidelines for Alternative Soil Handling Procedures during Pipeline Construction" (Alberta Pipeline Environmental Steering Committee, 1996).
5. To prevent long-term stockpiling and subsequent erosion, replacement of soil should be done within a reasonable period of time.
6. Avoid areas of permafrost by re-routing where possible.
7. In permafrost areas, avoid complete removal of vegetation (leg shrubs) and surface organic material.
8. In permafrost areas, disturbance to hummocks should be minimized.
9. In permafrost areas, every effort should be made to utilize brush for creating a working surface.
10. In permafrost areas, pipeline product should be chilled to ensure permafrost degradation does not occur.

## 4. WATERCOURSE/WATERBODY

### Desired Outcomes

1. Maintain natural drainage.
2. Maintain riparian habitat structure that contribute to water quality and maintain aquatic life and function.
3. Prevent soil and deleterious substances/materials from entering watercourses.
4. Maintain the integrity of the bed and shore.
5. Maintain aquatic and terrestrial habitat.
6. Maintain fish passage.

**\*Note:** Definitions for watercourses and waterbodies are provided in Appendix D.

Approval Standards		Disposition Type	Revision Date
<b>100.4.1.</b>	Resource extraction activities on islands and the bed and shore of waterbodies and watercourses is prohibited.	LOC MSL PIL PLA	
<b>100.4.2.</b>	Activities shall not interrupt natural drainage (including ephemeral and fens), block water flow or alter the water table.	LOC MSL PIL PLA	
<b>100.4.3.</b>	Wellsites and pipeline installations (PIL) shall not be constructed within 15 metres of a non-permanent temporary wetlands or ephemeral watercourses (Appendix D).	MSL PIL	April 2013
<b>100.4.4.</b>	The following watercourse setbacks for all activities from the disposition edge (MSL or PIL), or paralleling linear dispositions (PLA or LOC), or pipeline bore site (PLA), shall be followed, except for vehicle or pipeline crossings:	LOC MSL PIL PLA	July 2012
	a) Intermittent watercourses and springs shall have a setback of at least 45 metres from the top of the break.	LOC MSL PIL PLA	
	b) Small Permanent watercourses shall have a setback of at least 45 metres from the top of the break.	LOC MSL PIL PLA	
	c) Large Permanent watercourses shall have a setback of at least 100 metres from the top of the break.	LOC MSL PIL PLA	
<b>100.4.5.</b>	The following waterbody setbacks for all activities from the disposition edge (MSL or PIL), or paralleling linear dispositions (PLA or LOC), or pipeline bore site (PLA), shall be followed:		April 2013
	a) A minimum setback of 45 metres of undisturbed vegetation shall be maintained from non-permanent seasonal wetlands.	LOC MSL PIL PLA	
	b) A minimum setback of 100 metres from the bed and shore of semi-permanent ponds/wetlands and shallow open water ponds and lakes.	LOC MSL PIL PLA	
<b>100.4.6.</b>	The number of crossings shall be minimized, unless doing so results in greater disturbance (i.e., footprint hectares) and/or negative environmental impacts (e.g., impacting landscape sensitivities) than creating a new crossing.	LOC MSL PIL PLA	
<b>100.4.7.</b>	All crossings shall maintain fish passage. Crossings shall be compliant with the departments Code of Practice under the <i>Water Act</i> , Water (Ministerial) Regulation.	LOC MSL PIL PLA	
<b>100.4.8.</b>	Large and small permanent watercourses shall be bored unless geotechnical data indicates unsuitable bore conditions or watercourses are non-fish bearing	PLA	July 2012
<b>100.4.9.</b>	All fish-bearing watercourses that support commercial, recreational and aboriginal fisheries and fish that support those fisheries; crossed by permanent access (Class I, II, or III access); shall be crossed by a bridge or bridge-like structure that maintains the channel, channel flow and fish passage.	LOC	April 2013

Operating Conditions		Disposition Type	Revision Date
<b>200.4.1.</b>	Activities shall not result in the deposition or placement of debris, soil or other deleterious materials into or through any watercourse and/or waterbody, or on the ice of any watercourse and/or waterbody.	LOC MSL PIL PLA	
<b>200.4.2.</b>	Keep watercourse crossings free of accumulated debris or ice that could impede the flow of water and subsequently cause erosion.	LOC PLA	
	a) Remove ice-dams from culverts. Culverts plugged with ice are to be re-opened to prevent flooding over the road, through the ditch, or around the crossing structure.	LOC PLA	
	b) Remove debris that compromises water flow immediately upstream from or under crossing structures.	LOC PLA	

Operating Conditions		Disposition Type	Revision Date
<b>200.4.3.</b>	The organic soil layer and lesser vegetation shall not be stripped from portions of the disposition not needed for the road grade on approaches to watercourse crossings.	LOC	
<b>200.4.4.</b>	Where crossings have been removed, the bank or shoreline of all affected watercourses and/or waterbodies shall be immediately stabilized and/or alterations or modifications to the bank or shoreline shall be restored.	LOC PLA	
<b>200.4.5.</b>	Access (off-disposition) for water withdrawal requires an Approval or Authorization from the regulatory body.	LOC MSL PIL PLA	
<b>200.4.6.</b>	Bridge abutments shall not constrict the normal watercourse channel. Bridge spans shall extend beyond stream banks and abutment walls.	LOC PLA	
<b>200.4.7.</b>	Water from roads, ditches and bared soil surfaces are not to be permitted to drain directly into watercourses. Where vegetated buffers alone do not retard water and sediment movement effectively, appropriate obstructions (e.g., logs, rocks, mounds) or sediment control structures shall be installed to dissipate the flow of water and capture sediment prior to entering the watercourse.	LOC MSL PIL PLA	
<b>200.4.8.</b>	Watercourse structures shall be maintained to prevent sedimentation and erosion.	LOC PLA	
<b>200.4.9.</b>	Erosion control measures (e.g., silt fences, matting, gravel, and check dams) shall be installed and maintained.	LOC MSL PIL PLA	
<b>200.4.10.</b>	A horizontal directional drill frac containment and clean-up specialist shall be on-site during all boring or directional drilling activities under permanent watercourses. All equipment required for containment and clean-up shall also be present.	PLA	

### Best Management Practices

1. Attempts should be made to avoid locating all weather access that parallel fish-bearing streams within 500 metres.
2. Where topography (slope, elevation) limits the ability to locate roads away from riparian areas, access roads should be located as far away from the bed and shore of the watercourse as possible.
3. Bored or directional drilled pipeline watercourse crossing are generally preferred. However, where open trench watercourse crossing is deemed to incur less risk, consideration should be given to the installation of a second pipe at the crossing site, to accommodate future capacity requirements.
4. Stream crossings should be located at stable channel-type locations, not at actively eroding areas (e.g., bends in the watercourse). All equipment should be kept clean and not be a source of sediments nor contaminants.
5. A properly constructed logfill should have all of the following:
  - a. Enough logs to adequately fill an ephemeral draw or watercourse channel so that when the logs are removed there is little or no damage to the banks or channel bottom.
    - i. Logs delimbed and bucked to at least 1.5 metres longer than the grade fill at each end.
    - ii. Provisions for removal that do not disturb the banks or watercourse.
  - b. Log fills should have a geo-textile separation layer.
6. Native timber bridge may be used on small permanent or intermittent watercourses or ephemeral draws, provided that:
  - a. Bridge abutments do not restrict watercourse channel.
  - b. A brow log is installed on both sides of the bridge deck to prevent soil from entering the watercourse.
  - c. No equipment enters the watercourse channel.
  - d. Timber of suitable size and strength is available for construction.
  - e. The span extends beyond watercourse bank and abutment walls.
  - f. A separation layer is used between soil cap and timber.
7. Snow-fills may be used on ephemeral watercourses during frozen conditions, provided that:
  - a. Sufficient snow exists to fill creek channel.

**Best Management Practices**

- b. Any soil cap installed over the snow is removed prior to break-up.
  - c. Measures are in place to prevent soil or other debris from entering the watercourse channel or the ice surface.
  - d. Suitable measures are taken during deactivation to ensure flow is not impeded.
8. Ice bridges may be used during frozen conditions provided that:
- a. No capping material is used on the bridge.
  - b. Winter watercourse flows are not impeded.
  - c. Approaches of snow and ice are constructed of sufficient thickness to protect the stream bank.
  - d. Appropriate ice thickness exists to bear necessary load requirements.
  - e. No alterations to streambed or bank are required.
9. Culverts:
- a. Maintain and repair culverts to ensure integrity of the structure and design functionality.
  - b. Stake, flag, or otherwise mark the location of culverts to prevent damage by road maintenance equipment.
  - c. Clean culverts regularly to remove any blockages such as accumulated debris that may restrict the design flow.
  - d. Consider installing appropriate devices on structures to prevent the construction of beaver dams.
10. All equipment should be kept clean and not be a source of sediments or contaminants.

**5. RECLAMATION****Desired Outcomes**

1. Return disturbed land to equivalent capability.
2. Promote prompt re-vegetation of disturbed lands.
3. Revegetate disturbed land to target the establishment of a self-sustaining, ecologically suitable species, integrated with the surrounding area.
4. Conserve soils and minimize loss of land productivity.
5. Re-establish the original landform and drainage.

**Approval Standards****Disposition  
Type****Revision  
Date**

No approval standards have been identified.

<b>Operating Conditions</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>200.5.1.</b>	Conduct progressive reclamation and interim clean-up, including built but not drilled sites, for the wellsite and all associated disturbances (log decks, remote sumps, campsites, borrow sites, etc) of that disposition as per External Directive SD 2010-02 Progressive Reclamation and Interim Clean up. To access the directive, search “External Directive SD 2010-02 Progressive Reclamation and Interim Clean up” on Environment and Sustainable Resource Development .	LOC MSL PIL PLA	
<b>200.5.2.</b>	For final reclamation, follow the Reclamation Criteria for Wellsites and Associated Facilities documents. To access the documents, search “Wellsite Reclamation Certificate Application Process” on Environment and Sustainable Resource Development	LOC MSL PIL PLA	July 2012

### **Best Management Practices**

1. Associated facilities should be reclaimed immediately following abandonment.
2. Construction, operation, and reclamation plans for activities occurring in bogs and fens should address the maintenance of surface and subsurface flow to prevent impacts as a consequence of flow obstruction and consider that all areas of infill should be removed during reclamation (e.g., well pads and roadbeds).
3. Native revegetation should be considered in all cases of interim and final reclamation.

## **6. PROVINCIAL GRAZING RESERVES (PGR)**

### **Desired Outcomes**

1. Minimize impacts to the grazing operation, assets, animal unit months livestock, tame pasture, native grasslands, and to grazing associations.
2. Maintain other multiple use benefits on Provincial Grazing Reserves.

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.6.1.</b>	Activities are not permitted in fields currently being grazed or in fields scheduled for grazing in the current grazing season, unless the issuing regulatory body has verified that the activity timing will not interfere with livestock operations.	LOC MSL PIL PLA	April 2013
<b>100.6.2.</b>	In areas with irrigation fields, developments shall be on non-irrigated areas only.	LOC MSL PIL PLA	
<b>100.6.3.</b>	No activities are permitted on flood-irrigated lands at any time.	LOC MSL PIL PLA	
<b>100.6.4.</b>	Developments on provincial grazing reserves in the Grassland Natural Region must be sited within existing industrial disturbances, cultivated areas or improved (tame) pastures. Where developments are required to be within native grasslands, they shall follow all approval standards and operating conditions of the Grassland and Parkland Natural Region identified in <a href="#">Section 100.10</a> of this document and <a href="#">Section 200.10</a> of the Operating Conditions for the Enhanced Approval Process.	LOC MSL PIL PLA	July 2012



Approval Standards		Disposition Type	Revision Date
<b>100.6.5.</b>	Developments on provincial grazing reserves in forested areas must be sited within existing industrial disturbances and must be located outside of improved (tame) pastures. Developments must be sited directly adjoining (i.e., immediately adjacent to) the pasture boundary, the PGR perimeter or existing leave areas. Where developments are required to be within improved (tame) pastures and cannot use existing industrial disturbances, they shall be located outside of, and immediately adjacent to any existing leave areas.	LOC MSL PIL PLA	
<b>100.6.6.</b>	Kleskun Lake Provincial Grazing Reserve - Wellsite pads shall be built to a minimum elevation of 657.5 metres above sea level and a solid perimeter clay berm be maintained at a minimum level of 658.3 metres.	MSL	

Operating Conditions		Disposition Type	Revision Date
<b>200.6.1.</b>	Access is permitted during frozen or dry-ground conditions only.	LOC MSL PIL PLA	
<b>200.6.2.</b>	Contact the issuing regulatory body prior to entry onto the reserve to verify that timing of the activity will not interfere with livestock operations.	LOC MSL PIL PLA	April 2013
<b>200.6.3.</b>	No activity shall occur during livestock take-in or take-out dates.	LOC MSL PIL PLA	
<b>200.6.4.</b>	Once the field has been grazed, and is no longer scheduled for the remainder of the grazing season, activities are permitted with the approval of the issuing regulatory body.	LOC MSL PIL PLA	April 2013
<b>200.6.5.</b>	If the location of an activity prevents livestock access to identified watering facilities, provide permanent or temporary reliable and clean alternate water source(s).	LOC MSL PIL PLA	
<b>200.6.6.</b>	All fence line crossings along access routes shall use appropriate structures (e.g., cattle guards, gates) so cattle cannot escape.	LOC MSL PIL PLA	
<b>200.6.7.</b>	Fences surrounding oil and gas activities are required in grazing pastures within the PGR as follows:		
	a) All wellsites within pastures, excluding: Bow Island, Lonesome Lake, Hays, Pinhorn, Sage Creek, Seven Persons, Purple Springs and Twin River, unless otherwise directed by the issuing regulatory body.	LOC MSL PIL PLA	April 2013
	b) During construction.	LOC MSL PIL PLA	
	c) During revegetation of the disturbed site.	LOC MSL PIL PLA	
<b>200.6.8.</b>	Fencing locations shall be reduced to the immediate surroundings of the infrastructure/facilities once construction is complete and once the disturbed area is revegetated (interim reclamation).	LOC MSL PIL PLA	
	a) Damage to existing perimeter pasture fences, shall be repaired or rebuilt to the asset specification standards of the PGR Fence Specifications.	LOC MSL PIL PLA	
<b>200.6.9.</b>	Pipelines shall be bored when crossing Class I, II, & III access routes.	PLA	
<b>200.6.10.</b>	Where borrow material is required and the end product is a dug-out, a 2.5 centimetre aperture size geo-grid shall be installed to 9 metres in from the edge on both end slopes. The top end of the geo-grid shall be dug in 1 metre, folded over, and reburied.	LOC MSL PIL	
	a) 30 centimetres of 5 cm crushed gravel shall be laid over-top of the geo-grid.	LOC MSL PIL	
	b) Salvage to topsoil: spare subsoil shall be spread, with topsoil distributed over top. Disturbed area shall be seeded in accordance with the <i>Weed Control Act</i> .	LOC MSL PIL	

Operating Conditions	Disposition Type	Revision Date
c) All borrow pits should be built at a 4:1 slope on both ends, 2:1 slope on the sides, and at minimum, 21 x 55 x 5 metres in size.	LOC MSL PIL	
<b>200.6.11.</b> Progressive/Interim reclamation to pre-construction vegetation community types is required once construction of permanent facilities is complete. Reduce/minimize the fenced area around the disposition (footprint) after the area has been successfully revegetated.	LOC MSL PIL	
<b>200.6.12.</b> Culverts shall be bevelled on both ends to minimize injury to livestock. Riprap shall be placed around culvert ends.	LOC	
<b>200.6.13.</b> Log storage and hauling on tame pasture is allowed only during frozen-ground conditions.	LOC MSL PLA PIL	
<b>200.6.14.</b> Water removal from dugouts, surface ponds, springs, or water wells is not permitted within the grazing reserve unless an Approval or Authorization is issued from the regulatory body.	LOC MSL PIL PLA	

**Best Management Practices - PGR**

1. For additional information regarding PGRs, contact the departmental regional PGR Agrologist.
2. New oil and gas wellsite developments will make full and preferential use of existing access infrastructure.
3. Final clean-up should be completed prior to cattle entering the reserve, for winter programs, and immediately following completion, for summer programs.
4. Existing access corridors should be used. Fences should not be cut and access should be gained through existing gates.
5. The site should be properly prepared before seeding (i.e., light disking or harrowing) and the site will be rolled after seeding to ensure good seed/soil contact.
6. Pipelines intersecting buffers between roadsides and fields should be left intact and/or avoided by boring under them. If fencing is required, the pipeline ROW should be fenced on both sides with appropriate livestock access corridors crossing the pipeline.
7. If a particular gate access is used frequently, replace the wire or metal gate with a Texas gate. Texas gates should be a minimum of 2.25 metres in width, and installed over a pit which is a minimum of 76 centimeters deep.
8. In high livestock traffic areas, swing gates over the Texas gate should be kept closed. As well, swing gates should be closed when it has been determined that the Texas gate requires cleaning and there will be a time delay prior to cleaning.
9. It is suggested that vehicle traffic be kept below 50 km/h on roads through the pastures with livestock, and slower, if cattle are adjacent to the road. In addition, the right-of-way will be given to cattle accompanied by riders on horseback attempting to move cattle from one field to another.
10. Borrow pits may be fenced with a minimum 15.25 metres setback from the edges of the borrow pit.
11. Refrain from using the sound of horns when livestock are near cattle guards to avoid injury caused when startled livestock attempt to cross the cattle guard.

**Best Management Practices – Operations within Grazing Dispositions**

1. Wellsites should be located to prevent or reduce impacts caused by fragmenting pastures. Fenced wellsites should be placed adjacent to perimeter fences or other boundary features (i.e., fenced buffers) to avoid small non-grazeable areas.
2. Interim reclamation should take place after drilling on portions of the site not necessary for production. Once revegetated successfully, these portions should be made available for grazing. All infrastructure required during the production phase (tanks, separators, flow lines, etc.) should remain fenced. During dry periods and/or heavy volumes of traffic such as during rig moves, or road gravelling, roads should be watered as frequently as required for dust control.
3. Leave all gates closed unless otherwise specified.
4. When no longer required, fence material should be removed, and post holes filled in with on-site material.

## 7. ROCKY MOUNTAINS FOREST RESERVE

### Desired Outcomes

1. Maintain integrity of grazing allotments within the Rocky Mountains Forest Reserve to provide grazing opportunity and minimize impacts to those opportunities.

### Approval Standards

		Disposition Type	Revision Date
<b>100.7.1.</b>	Locate wellsite and associated facilities, excluding pipelines, outside of native grasslands or identified improved (tame) pasture areas, unless doing so results in greater disturbance (i.e., footprint hectares) and/or negative environmental impacts (e.g., impacting landscape sensitivities, additional watercourse crossing).	LOC MSL PIL	

### Operating Conditions

		Disposition Type	Revision Date
<b>200.7.1.</b>	As per Section 21 of the <i>Forest Reserve Regulation</i> , allotment holders must be contacted.	LOC MSL PIL PLA	
<b>200.7.2.</b>	If the location of an activity prevents livestock access to identified watering facilities, provide permanent or temporary, reliable and clean alternate water source(s).	LOC MSL PIL PLA	
<b>200.7.3.</b>	Fences shall be built in grazing areas to keep livestock from entering the wellsite during drilling and production phases.	MSL	
<b>200.7.4.</b>	Water removal from dugouts or developed springs is not permitted unless an Approval or Authorization is issued by the regulatory body.	LOC MSL PIL PLA	

### Best Management Practices

No practices have been identified.

## 8. WILDLIFE

### Desired Outcomes

1. Maintain the ecological conditions necessary for naturally sustainable wildlife populations to exist throughout Alberta, and conserve the habitat that they require.
  - a. Maintain unique and/or important wildlife habitat sites.
  - b. Avoid or minimize development within key habitats (local and landscape scales) and key seasons.
  - c. Maintain habitat intactness, connectivity, and allow for wildlife use, breeding and passage throughout areas by minimizing habitat loss and fragmentation.
2. Minimize potential adverse effects of land use activities on wildlife population health.
3. Reduce the potential for species avoidance of anthropogenic features.
4. Decrease potential for sensory disturbance and displacement of wildlife.
5. Limit potential for human-wildlife conflict.

**Note 1:** For the Boreal and Foothills Natural Subregions a wildlife survey is not required.

### Approval Standards

Approval Standards		Disposition Type	Revision Date
<b>100.8.1.</b>	Locate activities away from important wildlife features including mineral licks, raptor nests, active den sites, and hibernacula by a minimum buffer distance of 100 metres. A wildlife sweep of the immediate area (site plus 100 metres) is required prior to construction to identify these important wildlife features. All observations must be reported to the regional ESRD Wildlife Biologist, the Alberta Energy Regulator, and entered into the Fisheries and Wildlife Management Information System (FWMIS). Buffer distances will be greater for identified sensitive species and features ( <a href="#">Subsection 100.9.1.</a> ).	LOC MSL PIL PLA	April 2013
<b>100.8.2.</b>	Removed		April 2013

### Operating Conditions

Operating Conditions		Disposition Type	Revision Date
<b>200.8.1</b>	All industrial camps operating on public land between April 1 and November 30 shall follow the industrial practices in the Bear-Human Conflict Management Plan for Camps, located in Appendix F.	LOC MSL PIL PLA	April 2013

### Best Management Practices

1. All sensitive and endangered species sighting should be reported to the local ESRD Wildlife Biologist, the issuing Regulatory body, and entered into the Fisheries and Wildlife Management Information System (FWMIS) using the guidelines and load form located on the Fish and Wildlife website. To access FWMIS, search “Fisheries and Wildlife Management Information System” at Environment and Sustainable Resource Development.
2. In forested areas, line-of-sight should be limited to 200 metres on non-roadway linear features (cross-country).
3. Recommended setback distances for selected sensitive wildlife species or features within the Boreal and Foothills Natural Sub-Regions can be found in Table 3.
4. Best management practices suggest that wildlife surveys should be conducted annually until project construction is completed; ensuring that the surveys follow the procedures outlined in the Sensitive Species Survey Protocols.
  - a. Where a full survey is not possible, a wildlife sweep of the development area should be conducted to ensure the site is free of features that indicate the presence of Species At Risk (i.e., nests, dens, etc), prior to construction.
5. The regulatory body recommends no construction on native grasslands, nor activities impacting native grassland from May 1 to August 20th to reduce impacts to grassland nesting birds

**Table 3: Boreal/Foothills Sensitive Species Guidelines Setback Distances**

Species	Location	Time of Year	Level of Disturbance		
			Low	Medium	High
boreal toad and Canadian toad*	Breeding ponds	Year round	100 m	100 m	100 m
northern leopard frog*	Breeding ponds	Year round	100 m	100 m	100 m
long-toed salamander	Breeding ponds	Year round	50 m	100 m	200 m
wandering garter snake and red-sided garter snake	Hibernacula	Year around	200 m	200 m	500 m
northern long-eared bat	Roost sites and hibernacula	Year around	50 m	100 m	300 m
grizzly bear	Den sites	October 1 <sup>st</sup> – April 30 <sup>th</sup>	200 m	500 m	750 m
pileated woodpecker	Nesting sites	April 1 <sup>st</sup> – July 15 <sup>th</sup>	–	100 m	100 m
		July 16 <sup>th</sup> – March 31 <sup>st</sup>	–	–	100 m
barred owl	Nesting sites	March 1 <sup>st</sup> – August 15 <sup>th</sup>	100 m	400 m	500 m
		August 16 <sup>th</sup> – February 28/29 <sup>th</sup>	–	–	500 m
golden eagle**	Nesting sites	March 15 <sup>th</sup> – July 15 <sup>th</sup>	1000m	1000 m	1000 m
		July 16 <sup>th</sup> – March 15 <sup>th</sup>	50 m	100 m	1000 m
bald eagle**	Nesting sites	March 15 <sup>th</sup> – July 15 <sup>th</sup>	1000m	1000 m	1000 m
		July 16 <sup>th</sup> – March 14 <sup>th</sup>	50 m	100 m	1000m
osprey	Nesting sites	April 1 <sup>st</sup> – August 31 <sup>st</sup>	300 m	500 m	750 m
		September 1 <sup>st</sup> – March 31 <sup>st</sup>	–	200 m	750 m
northern goshawk	Nesting sites	March 15 <sup>th</sup> – August 31 <sup>st</sup>	200 m	500 m	500 m
		September 1 <sup>st</sup> – March 14 <sup>th</sup>	–	–	500 m
peregrine falcon	Nesting sites	March 15 <sup>th</sup> – July 15 <sup>th</sup>	1000 m	1000 m	1000 m
		July 16 <sup>th</sup> – March 14 <sup>th</sup>	50 m	100 m	1000 m
pied-billed grebe***	Nesting sites	April 15 <sup>th</sup> – July 31 <sup>st</sup>	100 m	500 m	500 m
horned grebe***	Nesting sites	April 15 <sup>th</sup> – July 31 <sup>st</sup>	200 m	500 m	500 m
western grebe***	Nesting sites	April 1 <sup>st</sup> – July 31 <sup>st</sup>	500 m	1000 m	1000 m
		August 1 <sup>st</sup> – March 31 <sup>st</sup>	–	200 m	1000 m
Forster's tern***	Nesting sites	May 1 <sup>st</sup> – July 31 <sup>st</sup>	100 m	200 m	200 m
		August 1 <sup>st</sup> – April 31 <sup>st</sup>	–	100 m	200 m
black tern***	Nesting sites	May 1 <sup>st</sup> – July 31 <sup>st</sup>	200 m	300 m	1000 m
		August 1 <sup>st</sup> – April 30 <sup>th</sup>	–	200 m	1000 m

\* Measured from bed and shore of wetlands

\*\* All sites located outside of Grassland and Parkland Natural Region

\*\*\* Measured from edge of nesting site

## Part 2B: Mitigation Considerations and Requirements – Sensitivity Section

### 9. WILDLIFE LAYER

**Note:** Wildlife species have variable tolerances for disturbance intensities, with higher levels of disturbance requiring greater mitigation. A description of High, Medium and Low risk developments referred to in the standards below can be found in [Appendix E](#).

#### 9.1. SPECIES AT RISK

##### Desired Outcomes

1. Reduce human caused mortality of Species at Risk.
2. Reduce increased predation associated with anthropogenic features.
3. Conserve and protect critical habitat.

##### 9.1.1. GREATER SAGE GROUSE RANGE

##### Desired Outcomes

1. Conserve and protect greater sage grouse Critical Habitat.
  - a. Maintain integrity of remaining leks and allow for reoccupation of historical lek sites.
  - b. Maintain habitat connectivity between lek sites and nesting/brood rearing habitat.
  - c. Maintain key winter and nesting/brood rearing habitat.
  - d. Decrease sensory disturbance.
  - e. Maintain greater sage grouse attendance at lek.

##### Approval Standards

		Disposition Type	Revision Date
<b>100.9.1.1.1.</b>	Activities shall not occur within 3200 metres from the perimeter of a greater sage grouse lek.	LOC MSL PIL PLA	
<b>100.9.1.1.2.</b>	Activities shall not occur within 1000 metres of areas identified and mapped as active greater sage grouse habitat.	LOC MSL PLA PIL	July 2012

##### Operating Conditions

		Disposition Type	Revision Date
No operating conditions have been identified.			

##### Best Management Practices

1. Site visits and operational work should be limited between March 15<sup>th</sup> and June 15<sup>th</sup>.
2. Use topographical features to provide visual concealment of facilities from known nest/den locations and as a noise suppressant.

### 9.1.2. SENSITIVE RAPTOR RANGE

(Ferruginous Hawk, Bald Eagle, Golden Eagle, Prairie Falcon, or Peregrine Falcon)

#### Desired Outcomes

1. Minimize impacts to nest sites and foraging habitat.
  - a. Reduce mortality of young, nest abandonment, and nest depravation.

#### Approval Standards

Approval Standards		Disposition Type	Revision Date
<b>100.9.1.2.1.</b>	The disposition holder shall 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 Pre-Application Requirements. Any and all observed Species At Risk features (such as leks, nests, dens, etc.) shall be buffered by the setbacks and timing restrictions specified on the LAT Report for that Species At Risk.	LOC MSL PIL PLA	July 2012
<b>100.9.1.2.2.</b>	New construction activities shall not occur within 1000 metres of an active sensitive raptor species nest, with the following exceptions: <ol style="list-style-type: none"> <li>a. Low and Medium impact developments may occur up to 100 metres from an active sensitive raptor species nest when construction occurs between July 16<sup>th</sup> and March 14<sup>th</sup>.</li> </ol>	LOC MSL PIL PLA	April 2013

#### Operating Conditions

Operating Conditions		Disposition Type	Revision Date
<b>200.9.1.2.1</b>	During the breeding season (March 15th to July 15th), only essential site visits are permitted within 1000 metres of identified nest features. Operational work/maintenance shall occur between July 16 <sup>th</sup> to March 14 <sup>th</sup> .	MSL PIL PLA	April 2013

#### Best Management Practices

1. Attempts should be made to remotely monitor dispositions within 1000 metres of sensitive raptor nests.
2. Use topographical features to provide visual concealment of facilities from known nest/den locations and as a noise suppressant.

### 9.1.3. COLONIAL NESTING BIRDS

(Great White Pelican and Great Blue Heron)

#### Desired Outcomes

1. Maintain nesting colony sites and avoid negative effects on bird reproductive productivity.

Approval Standards		Disposition Type	Revision Date
<b>100.9.1.3.1.</b>	Activities shall not occur within 1000 metres of a nesting colony, with the following exception: medium and low impact activities may occur up to 100 metres from a nesting colony when construction occurs between September 1 <sup>st</sup> and February 28 <sup>th</sup> .	LOC MSL PIL PLA	

Operating Conditions	Disposition Type	Revision Date
No operating conditions have been identified.		

Best Management Practices
1. Use topographical features to provide visual concealment of facilities from known nest/den locations and as a noise suppressant.

## 9.1.4 Burrowing Owl Range

Desired Outcomes
1. Maintain habitat and active nests sites for the burrowing owl.

Approval Standards	Disposition Type	Revision Date
<b>100.9.1.4.1.</b>	LOC MSL PIL PLA	July 2012
The disposition holder shall 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 Pre-Application Requirements. Any and all observed Species At Risk features (such as leks, nests, dens, etc.) shall be buffered by the setbacks and timing restrictions specified on the LAT Report for that Species At Risk.		
<b>100.9.1.4.2.</b>	LOC MSL PIL PLA	
High impact activities shall not occur within 500 metres of an active burrowing owl den/nest.		
<b>100.9.1.4.3.</b>	LOC MSL	
Medium impact activities may occur up to 200 metres from an active burrowing owl den/nest between August 16 <sup>th</sup> and October 15 <sup>th</sup> or after the young are confirmed to have fledged and the burrowing owl has abandoned the site.		
<b>100.9.1.4.4.</b>	LOC MSL	
Medium impact activities may occur up to 100 metres from an active burrowing owl den/nest between October 16 <sup>th</sup> and March 31 <sup>st</sup> .		
<b>100.9.1.4.5.</b>	LOC PIL PLA	
Low impact activities may occur up to 200 metres from a burrowing owl den/nest.		
<b>100.9.1.4.6.</b>	LOC PIL PLA	
Low impact activities may occur up to 50 metres from an active burrowing owl den/nest between October 16 <sup>th</sup> and March 31 <sup>st</sup> .		
<b>100.9.1.4.7.</b>	LOC MSL	
Medium impact activities shall not occur within 500 metres of an active burrowing owl den/nest between April 1 <sup>st</sup> and August 15 <sup>th</sup> .		



Operating Conditions		Disposition Type	Revision Date
200.9.1.4.1	During the breeding season (April 1st to August 15th), only essential site visits are permitted within 1000 metres of identified nest features. Operational work/maintenance shall occur between August 16 <sup>th</sup> to March 31 <sup>st</sup> .	MSL, PIL, PLA	April 2013

#### Best Management Practices

1. Use topographical features to provide visual concealment of facilities from known nest/den locations and as a noise suppressant.

## 9.1.5 Sensitive Snake Species Range

(Prairie Rattlesnake, Bullsnake, & Western Hognose Snake)

#### Desired Outcomes

1. Maintain function and opportunity for use of the hibernacula sites by a sensitive snake species.
2. Reduce road mortalities, and persecution of sensitive snake species.

Approval Standards		Disposition Type	Revision Date
100.9.1.5.1.	The disposition holder shall 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 Pre-Application Requirements. Any and all observed Species At Risk features (such as leks, nests, dens, etc.,) shall be buffered by the setbacks and timing restrictions specified on the LAT Report for that Species At Risk.	LOC MSL PIL PLA	July 2012
100.9.1.5.2.	Activity shall not occur within 200 metres of a sensitive snake rookery site between March 15 <sup>th</sup> and October 31 <sup>st</sup> .	LOC MSL PIL PLA	
100.9.1.5.3.	High impact activities shall not occur within 500 metres of any sensitive snake hibernacula.	LOC MSL PIL PLA	
100.9.1.5.4.	Medium and low impact activities shall not occur within 200 metres of any sensitive snake hibernacula.	LOC MSL PIL PLA	
100.9.1.5.5.	Medium and low impact activities may occur up to 50 metres from a sensitive snake rookery site between November 1 <sup>st</sup> and March 14 <sup>th</sup> .	LOC MSL PIL PLA	

Operating Conditions	Disposition Type	Revision Date
No operating conditions have been identified.		

#### Best Management Practices

1. New road developments should not parallel coulee edges or adjacent river valleys within 1.6 kilometres of identified snake hibernacula.
2. A speed limit of 50 km/hr should be maintained on road portions within 1.6 kilometres of snake hibernacula between April 1st and October 31st to reduce the potential for snake mortality.

## 9.1.6 SHARP-TAILED GROUSE SURVEY AND LEKS AND BUFFERS

Desired Outcomes
<ol style="list-style-type: none"> <li>1. Decrease sensory disturbance for the sharp-tailed grouse at leks.</li> <li>2. Maintain integrity of sharp-tailed grouse leks. <ol style="list-style-type: none"> <li>a. Maintain the opportunity for sharp-tailed grouse to attend leks.</li> </ol> </li> </ol>

- b. Maintain habitat connectivity between lek sites and nest and brood rearing habitat.

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.9.1.6.1.</b>	The disposition holder shall 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 Pre-Application Requirements. Any and all observed Species At Risk features (such as leks, nests, dens, etc.,) shall be buffered by the setbacks and timing restrictions specified on the LAT Report for that Species At Risk.	LOC MSL PIL PLA	July 2012
<b>100.9.1.6.2.</b>	Activities conducted between October 31 <sup>st</sup> and March 15 <sup>th</sup> can occur without a sharp-tailed grouse survey, however all areas of identified leks within the Landscape Analysis Tool shall be avoided by the appropriate standards as identified in 100.9.1.6.3 and 100.9.1.6.4.	LOC MSL PIL PLA	
<b>100.9.1.6.3.</b>	High and medium impact activities shall not occur within 500 metres of the perimeter of an active sharp-tailed grouse lek.	LOC MSL PIL PLA	April 2013
<b>100.9.1.6.4.</b>	Low impact activities shall not occur within 100 metres of the perimeter of an active sharp-tailed grouse lek between June 16 <sup>th</sup> and March 14 <sup>th</sup> .	LOC MSL PIL PLA	
<b>100.9.1.6.5.</b>	To reduce depredation rates, all above ground structures must use perch preventers within 1000 metres of a lek.	MSL, PIL	April 2013
<b>100.9.1.6.6.</b>	Use noise reduction equipment to muffle or otherwise control noise so that operational noise will not exceed 49 decibels measured at 10 metres from the source within 500 metres of a lek.	PLA, PIL, MSL	April 2013
<b>100.9.1.6.7.</b>	Activities shall not occur within 500 meters of the perimeter of an active sharp-tailed grouse lek between March 15th and June 15th	LOC MSL PIL PLA	April 2013

<b>Operating Conditions</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>200.9.1.6.1.</b>	During the lekking season (March 15 <sup>th</sup> to June 15 <sup>th</sup> ), work within 500 metres of a sharp-tailed grouse lek shall be limited to the portions of the day after 10:00am and before 4:00pm Emergency situations are exempt from this condition.	MSL PIL PLA LOC	April 2013

### **Best Management Practices**

1. Attempts should be made to remotely monitor dispositions within 500 metres of sharp-tailed grouse leks.
2. Avoid vegetation disturbance within 1000 metres of the any sharp-tailed grouse lek. This should be maintained year around.
3. Use topographical features to provide visual concealment of facilities from known nest/den locations and as a noise suppressant.
4. Attempt to avoid surface facility densities in excess of one well pad per 2.5 km<sup>2</sup> (1 well pas per square mile)
5. Minimize surface disturbance and fragmentation through use of the smallest facility footprints possible, use of multiple well pads, clustering of roads and pipelines, and the widest possible spacing of surface facilities
6. Attempt to replace any permanently impacted, disturbed, or altered sharp-tailed grouse lek habitats by enhancing shrubland and grassland within or immediately adjacent to sharp-tailed grouse lek habitat.

### 9.1.7 SWIFT FOX RANGE

<b>Desired Outcomes</b>	
<ol style="list-style-type: none"> <li>1. Maintain active swift fox den sites (residencies) and access to foraging habitats.</li> <li>2. Reduce human caused mortality of Species at Risk from all sources.               <ol style="list-style-type: none"> <li>a. Reduce swift fox road mortalities.</li> <li>b. Reduce predation of swift fox.</li> <li>c. Decrease sensory disturbance at active swift fox den sites.</li> </ol> </li> </ol>	

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.9.1.7.1.</b>	The disposition holder shall 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 Pre-Application Requirements. Any and all observed Species At Risk features (such as leks, nests, dens, etc.) shall be buffered by the setbacks and timing restrictions specified on the LAT Report for that Species At Risk.	LOC MSL PIL PLA	July 2012
<b>100.9.1.7.2.</b>	Activities shall not occur within 500 metres of an active swift fox den, with the following exceptions:		
	a. Medium impact activities may occur up to 100 metres from an active swift fox den between August 1 <sup>st</sup> and February 15 <sup>th</sup> .	LOC MSL PIL PLA	
	b. Low impact activities may occur up to 50 metres from an active swift fox den between August 1 <sup>st</sup> and February 15 <sup>th</sup> .	LOC MSL PIL PLA	

<b>Operating Conditions</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>200.9.1.7.1</b>	During the breeding season (February 16 <sup>th</sup> to July 31 <sup>st</sup> ), only essential site visits are permitted within 500 metres of identified den features. Operational work/maintenance within 500 metres shall occur between August 1 <sup>st</sup> to February 14 <sup>th</sup> .	MSL PIL PLA	April 2013

### Best Management Practices

1. Use topographical features to provide visual concealment of facilities from known nest/den locations and as a noise suppressant.

### 9.1.8 ORD'S KANGAROO RAT RANGE

<b>Desired Outcomes</b>	
<ol style="list-style-type: none"> <li>1. Maintain Ord's kangaroo rat den sites and habitat.</li> <li>2. Decrease sensory disturbance, in particular light pollution, of Ord's kangaroo rat and/or disturbance in winter which impacts animal torpor.</li> <li>3. Limit potential for parasitism of Ord's kangaroo rat.</li> </ol>	

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.9.1.8.1.</b>	The disposition holder shall 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 Pre-Application Requirements. Any and all observed Species At Risk features (such as leks, nests, dens, etc.) shall be buffered by the setbacks and timing restrictions specified on the LAT Report for that Species At Risk.	LOC MSL PIL PLA	July 2012
<b>100.9.1.8.2.</b>	If a pre-construction survey cannot be completed at the appropriate time of year for detection, then work shall not occur between November 1 <sup>st</sup> and May 31 <sup>st</sup> .	LOC MSL PIL PLA	
<b>100.9.1.8.3.</b>	High impact activities shall not occur within 250 metres of an Ord's kangaroo rat den.	LOC MSL PIL PLA	
<b>100.9.1.8.4.</b>	Medium impact activities shall not occur within 100 metres of an Ord's kangaroo rat den.	LOC MSL	
<b>100.9.1.8.5.</b>	Low impact activities shall not occur within 50 metres of an Ord's kangaroo rat den.	LOC PIL PLA	

<b>Operating Conditions</b>	<b>Disposition Type</b>	<b>Revision Date</b>
No operating conditions have been identified.		

<b>Best Management Practices</b>
<ol style="list-style-type: none"> <li>All new developments should not have artificial illumination within 1000 metres of an Ord's kangaroo rat range.</li> <li>No work should be conducted from a half hour before sunset until a half hour after sunrise year around in an Ord's kangaroo rat range.</li> <li>Use topographical features to provide visual concealment of facilities from known nest/den locations and as a noise suppressant.</li> </ol>

## 9.1.9 EASTERN SHORT-HORNED LIZARD RANGE

<b>Desired Outcomes</b>
<ol style="list-style-type: none"> <li>Maintain habitat for the eastern short-horned lizard populations.</li> </ol>

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.9.1.9.1.</b>	All activities shall avoid the coulee and/or valley edge as identified below in Standards 100.9.1.9.2 and 100.9.1.9.3.	LOC MSL PIL PLA	July 2012
<b>100.9.1.9.2.</b>	High impact activities shall not occur within 200 metres of an eastern short-horned lizard coulee or valley edge.	LOC MSL PIL PLA	
<b>100.9.1.9.3.</b>	Medium and low impact activities shall not occur within 100 metres of an eastern short-horned lizard coulee or valley edge.	LOC MSL PIL PLA	

<b>Operating Conditions</b>	<b>Disposition Type</b>	<b>Revision Date</b>
No operating conditions have been identified.		

<b>Best Management Practices</b>
No best management practises have been identified

### 9.1.10 PIPING PLOVER WATERBODIES

<b>Desired Outcomes</b>
1. Maintain piping plover waterbodies including identified habitat areas.
2. Decrease mortalities, nest abandonment, and nest depravation due to predators, off road vehicles and cattle.

<b>Approval Standards</b>	<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.9.1.10.1.</b> Activities shall not occur within 200 metres of the bed and shore of identified piping plover waterbodies, with the following exceptions:		
a. Medium impact activities may occur up to 100 metres from the bed and shore of identified piping plover waterbodies between August 1 <sup>st</sup> and April 14 <sup>th</sup> .	LOC MSL PIL PLA	
b. Low impact activities may occur up to 100 metres from the bed and shore of identified piping plover waterbodies.	LOC MSL PIL PLA	

<b>Operating Conditions</b>	<b>Disposition Type</b>	<b>Revision Date</b>
<b>200.9.1.10.1</b> During the breeding season (April 15th to July 31 <sup>st</sup> ), only essential site visits are permitted within 200 metres of identified waterbodies. Operational work/maintenance within 200 metres of waterbodies shall occur between August 1 <sup>st</sup> to April 14 <sup>th</sup> .		April 2013

<b>Best Management Practices</b>
1. Use topographical features to provide visual concealment of facilities from known nest/den locations and as a noise suppressant.

### 9.1.11 SENSITIVE AMPHIBIANS RANGES

(Great Plains Toad & Plains Spadefoot)

<b>Desired Outcomes</b>
1. Maintain sensitive amphibians breeding ponds and hibernation sites.

<b>Approval Standards</b>	<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.9.1.11.1.</b> Activities shall not occur within 100 metres of a non-permanent seasonal wetlands (Appendix D) in areas identified as sensitive amphibian ranges.	LOC MSL PIL PLA	

<b>Operating Conditions</b>	<b>Disposition Type</b>	<b>Revision Date</b>
No operating conditions have been identified.		

<b>Best Management Practices</b>
No best management practices have been identified

## 9.1.12 ENDANGERED AND THREATENED PLANT RANGES

<b>Desired Outcomes</b>
<ol style="list-style-type: none"> <li>1. Maintain area and extent of endangered and threatened plant species in Alberta.</li> <li>2. Reduce or decrease the introduction of invasive species and noxious weeds.</li> </ol>

<b>Approval Standards</b>	<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.9.1.12.1.</b> The disposition holder shall 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 Pre-Application Requirements. Any and all observed Species At Risk features (such as leks, nests, dens, etc.) shall be buffered by the setbacks and timing restrictions specified on the LAT Report for that Species At Risk.	LOC MSL PIL PLA	July 2012
<b>100.9.1.12.2.</b> Removed		April 2013
<b>100.9.1.12.3.</b> Removed		April 2013
<b>100.9.1.12.4.</b> If a pre-construction survey cannot be completed in the appropriate time of year for detection then no work can commence between October 1 <sup>st</sup> and June 1 <sup>st</sup> .	LOC MSL PIL PLA	
<b>100.9.1.12.5.</b> High impact activities shall not occur within 300 metres from an 'Endangered' or 'Threatened' plant(s) species as listed under the <i>Alberta Wildlife Act</i> .	LOC MSL PIL PLA	
<b>100.9.1.12.6.</b> Medium and low impact activities shall not occur within 30 metres from an 'Endangered' or 'Threatened' plant(s) species as listed under the <i>Alberta Wildlife Act</i> .	LOC MSL PIL PLA	

<b>Operating Conditions</b>	<b>Disposition Type</b>	<b>Revision Date</b>
<b>200.9.1.12.1</b> <i>Ribes</i> species are not to be seeded for revegetation in any limber or whitebark pine ranges.	LOC MSL PIL PLA	April 2013

<b>Best Management Practices</b>
<ol style="list-style-type: none"> <li>1. The key to conservation of whitebark and limber pine is to locate trees that are genetically resistant to blister rust and mountain pine beetle. Trees exhibiting resistance are of highest priority for protection. Sensitive Species Inventory Guidelines for whitebark and limber pine will provide protocols for detecting trees with apparent resistance.</li> </ol>

**Best Management Practices**

2. Wellsites, roads, pipelines and associated facilities should be re-vegetated to *Endangered* and *Threatened* plant species when these species are present in the adjacent vegetation type, to a percentage that reflects historical levels. Re-vegetation should use only locally-sourced seedlings or seed sources, whenever possible, and be done in consultation with issuing regulatory body staff.
3. If whitebark or limber pine trees with cones are observed, try to avoid construction activity (e.g., heavy equipment working) between August 15 and September 30, when Clark's nutcrackers are collecting and caching seeds.

**9.1.13 OTHER SENSITIVE AND ENDANGERED SPECIES****Desired Outcomes**

1. Minimize impacts to breeding territories and nesting sites.
2. Reduce mortality of young, nest abandonment, and nest deprivation of sensitive breeding birds.

**Approval Standards**

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.9.1.13.1.</b>	No new construction shall occur on native grasslands within the Grassland and Parkland Natural Region between April 1 <sup>st</sup> and July 15 <sup>th</sup> , unless grassland bird surveys are completed using inventory procedures outlined by ESRD. To access the guidelines, search "Sensitive Species Inventory Guidelines" on Environment and Sustainable Resource Development. If an active nest site is located, a set back of 100 metres from the nest site will apply between April 1 <sup>st</sup> and July 15 <sup>th</sup> for the following species: <ul style="list-style-type: none"> <li>• short-eared owl</li> <li>• mountain plover</li> <li>• long-billed curlew</li> <li>• upland sandpiper</li> <li>• Sprague's pipit</li> </ul>	LOC MSL PIL PLA	April 2013

**Operating Conditions**

<b>Operating Conditions</b>	<b>Disposition Type</b>	<b>Revision Date</b>
No operating conditions have been identified.		

**Best Management Practices**

1. Industrial activity should be avoided within 100 metres of the breaks of any coulee.
2. Use topographical features to provide visual concealment of facilities from known nest/den locations and as a noise suppressant.

## 9.2 CARIBOU RANGE

### Desired Outcomes

1. Reduce all sources of human-caused direct mortality associated with anthropogenic features (i.e., hunting, poaching, and vehicle collision).
2. Reduce excessive predator-caused mortality for both calves and adults (i.e., related to predator abundance, distribution, ease of travel, and hunting success).
3. Reduce habitat loss (i.e., due to habitat change or conversion).
  - a. Avoid habitat changes which negatively affect caribou population growth.
  - b. Avoid development within key habitats (local and landscape scales) and key seasons.
  - c. Increase harmonization with forest industry operating ground rules and long-term spatial forest harvesting plans.
4. Reduce the partial avoidance (i.e., reduced use) that caribou demonstrate in relation to industrial features.
5. Reduce potential increases in the distribution and productivity of other prey species.

Approval Standards		Disposition Type	Revision Date
<b>100.9.2.1.</b>	Initiate activity as early as possible in the winter to limit late winter activities. New site preparation or construction shall not be initiated between February 15 <sup>th</sup> and July 15 <sup>th</sup> , with the following exceptions:	LOC MSL PIL PLA	
	a. Site preparation or construction initiated on a disposition before February 15 <sup>th</sup> can continue until adverse ground conditions are encountered. Site preparation must be at least 50% completed prior to February 15 <sup>th</sup> .	LOC MSL PIL PLA	
	b. Well tie-in activities commenced before February 15 <sup>th</sup> can continue until adverse ground conditions are encountered.	LOC MSL PIL PLA	
	c. All wellsites or pipeline installations accessed using Class V routes can be initiated at any time (including after February 15 <sup>th</sup> ) provided ground conditions are favourable, and may continue until adverse ground conditions are encountered.	LOC MSL PIL PLA	
	d. All activities planned within 100 metres of existing arterial all-weather roads can be initiated at any time (including after February 15 <sup>th</sup> ) provided ground conditions are favourable, and may continue until adverse ground conditions are encountered.	LOC MSL PIL PLA	
<b>100.9.2.2.</b>	Develop access using Class V routes only, with the following exceptions:		July 2012
	a. Alternative access standards are specified in an approved higher level access plan (e.g., Integrated Landscape Management)	LOC	July 2012
	b. Wells licensed as sour gas with a suspended/producing release rate of >2.0 m <sup>3</sup> /s can be accessed using Class III, IV or V routes.	LOC	
	c. When drilling a well through sour zones, but not for production of sour >2.0 m <sup>3</sup> /s, use Class IV routes designed to provide adequate egress.	LOC	
	d. Class III routes can be used for single well bores requiring > 100 days drilling/completion, where it can be demonstrated and documented that Class IV or V routes cannot be constructed to provide assured access.	LOC	July 2012



<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
	e. If new access, which is attached to the existing arterial all-weather access road, is less than 100 metres in length from the arterial all-weather access road then the new access can be developed using Class III to V access.	LOC	April 2013
	f. If new access, which is attached to the existing arterial all-weather access road, is greater than 100 metres in distance from the arterial all-weather access road, then access control is required to restrict unauthorized traffic at all stages of construction, operation and reclamation of the road. The access control will be placed within the 100 metres distance from the start of the new access	LOC	April 2013
<b>100.9.2.3.</b>	Design all access routes as dead-ends, unless otherwise specified in a higher level access (e.g., Integrated Landscape Management) plan. Routes, which loop through the area, are not permitted.	LOC	July 2012
<b>100.9.2.4.</b>	Where materials are available, place rollback across the entire pipeline/easement width for at least 40% of the linear distance or the length of the ROW. No individual section of rollback shall exceed 250 metres in length. The break between sections of rollback shall be a minimum of 25 metres.	PLA	
<b>100.9.2.5.</b>	Sites (e.g. plant sites, sumps) shall be constructed within 100 metres of an existing arterial all-weather permanent access.	MSL	April 2013

<b>Operating Conditions</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>200.9.2.1.</b>	No legumes are to be seeded for any re-vegetation.	LOC MSL PIL PLA	
<b>200.9.2.2.</b>	Removed		April 2013

<b>Best Management Practices</b>	
<ol style="list-style-type: none"> <li>1. Information about operating in caribou ranges should be obtained from the issuing regulatory body.</li> <li>2. To the extent possible, newly constructed linear features should be located on or beside existing disturbances.</li> <li>3. Operations should be planned to avoid high quality and/or effective caribou habitat types.</li> <li>4. Coordinated access and industrial development strategies, which integrate the sequencing (time and space) of activities, should be used to minimize human footprint on caribou ranges. Amount of cumulative clearing can be minimized through an integrated review of planned disturbance between all land users. Applicants should contact other companies operating in the area.</li> <li>5. Reforestation should occur within 2 years of pipeline construction and should match the adjacent forest type across the entire width of the pipeline cover, with the exception of 1.5 metres on each side of the trench-line (Note: tree planting densities should be consistent with the 'Timber Supply Analysis' for the area). Reforestation should occur using an ILM approach.</li> <li>6. Work should be planned and implemented so that disturbances furthest from arterial all-weather access roads are completed in early winter.</li> <li>7. The area required for facilities, wellsites, multi-well pads, and exploration wellsites should be as small as practical. Number of well pads should be minimized by directionally drilling as many wells as geology and drilling technology will allow from one site.</li> <li>8. Oil and gas wells should be remotely operated and wellsites should have sufficient resources (e.g., methanol, tanks) on-</li> </ol>	

### Best Management Practices

site to allow for reduced site visits.

9. Permanent camps should be constructed within 100 m of arterial all-weather permanent access.
10. Camps should be located on existing disturbances when possible.
11. During pipeline construction some coniferous trees should be delimbed at the stump and limbs retained on site to provide a seed source.
12. Welded pipe, which is higher than 0.75 metres above ground level, should not remain on the ground or on skids for more than 3 days.
13. Snow plowing of access routes should be minimized in caribou range.
14. Breaks in snow berms created by plowing of access routes should be created by placing the berm on alternate sides of the route at 100 metres intervals.
15. Sources of sensory disturbance (e.g., noise, traffic) associated with operations should be minimized.
16. No pets, personal firearms or personal recreational vehicles should be allowed for company employees and contractors.

**Note:** Best Management Practices refer to partial reforestation of newly constructed pipelines through using an Integrated Land Management approach.

## 9.3 GRIZZLY BEAR ZONES

### Desired Outcomes

1. Reduce all sources of human-caused mortality.
2. Reduce human-bear conflicts.
3. Avoid development within key habitats (local and landscape scales) and key seasons.
  - a. Maintain high value and low mortality risk habitat areas.
4. Avoid development of grizzly bear attractants (all sources).

Approval Standards		Disposition Type	Revision Date
<b>100.9.3.1.</b>	Develop access using Class III, IV or V routes, unless specified in a higher level access (i.e., Integrated Landscape Management) plan.	LOC	
<b>100.9.3.2.</b>	Design all access routes as dead-ends, unless otherwise specified in a higher level access (e.g., Integrated Landscape Management) plan. Routes, which loop through the area, are not permitted.	LOC	July 2012
<b>100.9.3.3.</b>	Access and pipeline routes shall not parallel permanent watercourses/riparian habitat by at least 200 metres, except for vehicle or pipeline crossings	LOC, PLA	April 2013
<b>100.9.3.4.</b>	If new access, which is attached to the existing arterial all-weather access road, is less than 100 m from the arterial all-weather access road then the new access can be developed using Class III to V access.	LOC	April 2013
	a. If new access, which is attached to the existing arterial all-weather access road, is greater than 100 m in distance from the arterial all-weather access road, then access control is required to restrict unauthorized traffic at all stages of construction, operation and reclamation of the road. The access control will be placed within the 100 m distance from the start of the new access	LOC	April 2013

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.9.3.5.</b>	Where materials are available, place rollback across the entire pipeline/easement width for at least 40% of the linear distance or the length of the ROW. No individual section of rollback shall exceed 250 metres in length. The break between sections of rollback shall be a minimum of 25 metres.	PLA	
<b>100.9.3.6.</b>	Sites (e.g. plant sites, sumps) shall be constructed within 100 metres of an existing arterial all-weather permanent access.	MSL	April 2013

<b>Operating Conditions</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>200.9.3.1.</b>	No legumes are to be seeded for any re-vegetation.	LOC MSL PIL PLA	
<b>200.9.3.2.</b>	Re-vegetate wellsites, roads, pipelines and associated facilities to species compatible and consistent with the adjacent vegetation type (i.e., when the features are reseeded, reclaimed or partially restored).	LOC MSL PIL PLA	
<b>200.9.3.3</b>	Removed		April 2013

### **Best Management Practices**

1. Information about operating in grizzly bear areas should be obtained from the regional office of the issuing regulatory body.
2. All workers operating in grizzly bear areas should be provided with 'Bear Awareness Training'.
3. To the extent possible, newly constructed linear features should be located on or beside existing disturbances.
4. Operations should be planned to avoid high quality and/or effective grizzly bear habitat types.
5. Coordinated access and industrial development strategies, which integrate the sequencing (time and space) of activities, should be used to minimize human footprint within grizzly bear areas. Amount of cumulative clearing can be minimized through an integrated review of planned disturbance between all land users. Applicants should contact other companies operating in the area.
6. Reforestation should occur within 2 years of pipeline construction and should match the adjacent forest type across the entire width of the pipeline cover, with the exception of 1.5 metres on each side of the trench-line. (Note: tree planting densities should be consistent with the 'Timber Supply Analysis' for the area). Reforestation should occur using an ILM approach.
7. The area required for facilities, wellsites, multi-well pads, and exploration wellsites should be as small as practical. Number of well pads should be minimized by directionally drilling as many wells as geology and drilling technology will allow from one site.
8. Oil and gas wells should be remotely operated and wellsites should have sufficient resources (e.g., methanol, tanks) on site to allow for reduced site visits.
9. Crossings of permanent watercourses should be avoided as much as possible.
10. Permanent camps should be constructed within 100 metres of arterial all-weather permanent access.
11. Camps should be located on existing man-made clearings when possible.
12. During pipeline construction some coniferous trees should be delimbed at the stump, and limbs retained on site to provide a seed source.

## **9.4 TRUMPETER SWAN WATERBODIES/WATERCOURSES**

### **Desired Outcomes**

1. Protection of the long term integrity and productivity of trumpeter swan breeding habitat.
2. Avoid industrial disturbance to trumpeter swans during nesting and rearing of cygnets.
3. Minimize the access created near swan lakes to reduce the potential for disturbance of trumpeter swans from

**Desired Outcomes**

recreational and industrial use.

- Avoid habitat alteration in proximity to swan breeding habitat areas.

**Approval Standards**

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.9.4.1.</b>	Activities (roads, wells, pipelines etc.) shall not occur within 500 metres of the bed and shore on identified waterbodies and or watercourses.	LOC MSL PIL PLA	July 2012
<b>100.9.4.2.</b>	Activities shall not occur within an 800 metre buffer from the bed and shore of identified waterbodies and or watercourses between April 1 <sup>st</sup> and September 30 <sup>th</sup> .	LOC MSL PIL PLA	

**Operating Conditions**

<b>Operating Conditions</b>	<b>Disposition Type</b>	<b>Revision Date</b>
No operating conditions have been identified.		

**Best Management Practices**

- From April 1st to September 30th, there should be no direct flights over identified lakes or waterbodies.

**9.5 SPECIAL ACCESS AREA****Desired Outcomes**

- Maintain natural habitat viability of wildlife refuges (i.e., source habitats).
- Maintain intent and structure of existing Buck for Wildlife project areas.
- Reduce excessive mortality of wildlife from all sources.

**Approval Standards**

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.9.5.1.</b>	Develop using class V routes only with the following exceptions:		July 2012
	a. Alternative access standards are specified in an approved higher level access plan (e.g., Integrated Landscape Management).	LOC	July 2012
	b. Wells licensed as sour gas with a suspended/producing release rate of >2.0 m <sup>3</sup> /s can be accessed using Class III, IV or V routes.	LOC	
	c. When drilling a well through sour zones, but not for production of sour >2.0 m <sup>3</sup> /s, use Class IV routes designed to provide adequate egress.	LOC	
	d. Class III routes can be used for single well bores requiring > 100 days drilling/completion, where it can be demonstrated and documented that Class IV routes cannot be constructed to provide assured access.	LOC	July 2012
	e. If new access, which is attached to the existing arterial all-weather access road, is less than 100 metres from the arterial all-weather access road then the new access can be developed using Class III to V access	LOC	April 2013

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
	f. If new access, which is attached to the existing arterial all-weather access road, is greater than 100 metres in distance from the arterial all-weather access road, then access control is required to restrict unauthorized traffic at all stages of construction, operation and reclamation of the road. The access control will be placed within the 100 metres distance from the start of the new access.	LOC	April 2013
<b>100.9.5.2.</b>	Design all access routes as dead-ends, unless otherwise specified in a higher level access (e.g., Integrated Landscape Management) plan. Routes, which loop through the area, are not permitted.	LOC	July 2012
<b>100.9.5.3.</b>	Where materials are available, place rollback across the entire pipeline/easement width for at least 40% of the linear distance or the length of the ROW. No individual section of rollback shall exceed 250 metres in length. The break between sections of rollback shall be a minimum of 25 metres.	PLA	

<b>Operating Conditions</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>200.9.5.1.</b>	Re-vegetate wellsites, roads, pipelines and associated facilities to species compatible and consistent with the adjacent vegetation type (i.e., when the features are reseeded, reclaimed or partially restored).	LOC MSL PIL PLA	
<b>200.9.5.2</b>	Removed		April 2013

**Best Management Practices**

1. Effective public access control is desirable along all Class IV and higher access routes.

**9.6 KEY WILDLIFE AND BIODIVERSITY AREAS**

**Desired Outcomes**

1. Protect the integrity of ungulate winter ranges, river corridors and biodiversity areas where species tend to concentrate.
2. Protect locally and regionally-significant wildlife movement corridors.
3. Protect areas with rich habitat diversity and regionally-significant habitat types and habitat diversity.
4. Protect hiding and thermal cover.
5. Protect the complex biological structure and processes of identified riparian areas.
6. Reduce excessive mortality of wildlife from all sources.
7. Protect ungulate energy reserves, body condition and reproductive potential.

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.9.6.1.</b>	For all areas North of Highway (HWY) #1, no activity is permitted from January 15 <sup>th</sup> to April 30 <sup>th</sup> ; and South of HWY #1, west of HWY #2, no activity is permitted from December 15 <sup>th</sup> to April 30 <sup>th</sup> ; with the following exceptions under favourable (non-adverse) ground conditions:		
	a. Well tie-in activities which can be initiated and completed while ground conditions are favourable	PLA	July 2012
	b. All wellsites or pipeline installations accessed using Class IV or V roads.	MSL PIL	July 2012
	c. All activities planned within 100 metres of existing arterial all-weather roads can be initiated at any time provided ground conditions are favourable, and may continue until adverse ground conditions are encountered.	LOC MSL PIL PLA	April 2013
<b>100.9.6.2.</b>	Wellsites, pipeline installations, plant sites and camps shall maintain a minimum 100 metre buffer to the edge of valley breaks. In the absence of well defined watercourse valley breaks, a 100 metre buffer from the permanent watercourse bank applies.	LOC MSL PIL PLA	
<b>100.9.6.3.</b>	Develop access using Class IV or V routes only with the following exceptions:		July 2012
	a. Alternative access standards are specified in an approved higher level access plan (e.g., Integrated Landscape Management).	LOC	July 2012
	b. Wells licensed as sour gas with a suspended/producing release rate of >2.0 m <sup>3</sup> /s can be accessed using Class III, IV or V routes.	LOC	
	c. When drilling a well through sour zones, but not for production of sour >2.0 m <sup>3</sup> /s, may use Class IV routes designed to provide adequate egress.	LOC	
	d. Class III routes can be used for single well bores requiring > 100 days drilling/completion, where it can be demonstrated and documented that Class IV routes cannot be constructed to provide assured access.	LOC	July 2012
	e. If new access, which is attached to the existing arterial all-weather access road, is less than 100 m from the arterial all-weather access road then the new access can be developed using Class III to V access.	LOC	April 2013
	f. If new access, which is attached to the existing arterial all-weather access road, is greater than 100 m in distance from the arterial all-weather access road, then access control is required to restrict unauthorized traffic at all stages of construction, operation and reclamation of the road. The access control will be placed within the 100 m distance from the start of the new access.	LOC	April 2013
<b>100.9.6.4.</b>	Access routes and pipeline routes shall not parallel permanent watercourses/riparian habitat by at least 200 metres, except for vehicle or pipeline crossings.	LOC PLA	April 2013
<b>100.9.6.5.</b>	Where materials are available, place rollback across the entire pipeline/easement width for at least 40 percent of the linear distance or the length of the ROW. No individual section of rollback shall exceed 250 metres in length. The break between sections of rollback shall be a minimum of 25 metres.	PLA	

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.9.6.6.</b>	Design all access routes as dead-ends, unless specified in a higher level access (e.g., Integrated Landscape Management) plan. Routes, which loop through the area, are not permitted.	LOC	
<b>100.9.6.7.</b>	Sites (e.g. plant sites, sumps) shall be constructed within 100 metres of an existing arterial all-weather permanent access.	MSL	April 2013

<b>Operating Conditions</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>200.9.6.1.</b>	No legumes are to be seeded for any re-vegetation.	LOC MSL PIL PLA	
<b>200.9.6.2.</b>	Re-vegetate wellsites, roads, pipelines and associated facilities to species compatible and consistent with the adjacent vegetation type (i.e., when the features are reseeded, reclaimed or partially restored).	LOC MSL PIL PLA	
<b>200.9.6.3</b>	Removed		April 2013

### **Best Management Practices**

1. Oil and gas wells should be remotely operated and wellsites should have sufficient resources (e.g., methanol, tanks) on-site to allow for reduced site visits.
2. Effective public access control is desirable along all Class IV or V access roads.
3. Long-term and permanent access routes should not be developed below the valley 'breaks' of rivers, except in isolated cases for river crossings.
4. Reforestation should occur within 2 years of pipeline construction and should match the adjacent forest type across the entire width of the pipeline cover, with the exception of 1.5m on each side of the trench-line (Note: tree planting densities should be consistent with the 'Timber Supply Analysis' for the area). Reforestation should occur using an ILM approach.

## **9.7 MOUNTAIN GOAT AND SHEEP AREAS**

### **Desired Outcomes**

1. Avoid land use disturbances that may have a direct or indirect adverse effect on the behaviour of the sheep/goats.
2. Conduct industrial activities at times when sheep/goats are least sensitive to disturbance (e.g., outside of lambing and kidding period).
3. Ensure that the majority of a given sheep/goat zone is available for sheep/goats use at any point in time.
4. Provide periods of no industrial activity to allow full use of the entire zone following each industrial activity period and during sensitive periods in the life cycle of sheep and goats.
5. Avoid alteration of physical habitat conditions, including conducting activities such that ideally no long-term residue of industrial activity persists.
6. Protect sheep and goat energy reserves, body condition and reproductive potential.

<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.9.7.1.</b>	Conduct activity from July 1 <sup>st</sup> to August 22 <sup>nd</sup> (inclusive).	LOC MSL PIL PLA	
<b>100.9.7.2.</b>	Drilling of wells shall not occur in Alpine or river cliff/slope habitat areas.	MSL	

<b>100.9.7.3.</b>	New ground access shall not be developed. Activities shall use existing road access routes only without upgrades.	LOC	
<b>100.9.7.4.</b>	Where materials are available, place rollback across the entire pipeline/easement width for at least 40 percent of the linear distance or the length of the ROW. No individual section of rollback shall exceed 250 metres in length. The break between sections of rollback shall be a minimum of 25 metres.	PLA	

<b>Operating Conditions</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>200.9.7.1</b>	Daily activities shall not occur within 400 metres from observed sheep or goats (individual animals or groups of animals).	LOC PLA	
<b>200.9.7.2</b>	Effective public access control is required for all access routes. Method and location of access control features shall be provided to the regional issuing regulatory body office in writing.	LOC	

<b>Best Management Practices</b>
<ol style="list-style-type: none"> <li>1. Avoid alteration of physical habitat conditions. Localized cliff and other features that provide escape terrain should be given particular protection.</li> <li>2. Production activities should involve remote production technologies to the fullest extent possible.</li> <li>3. Industrial activity should be localized so that only small areas of a given Sheep/Goat Land Use Zone are affected at any point in time.</li> <li>4. Communication and cooperation between companies should occur to limit activities to one industrial program per individual Sheep/Goat Land Use Zone per year.</li> <li>5. The drilling of wells beneath Sheep/Goat Land Use Zones should be done from outside of the zone.</li> <li>6. Activities should be reduced or postponed during weather conditions that are adverse for sheep/goats.</li> <li>7. All aircraft flights over Sheep/Goat Land Use Zones should be at least 400 metres above ground level.</li> </ol>

## 10. GRASSLAND AND PARKLAND NATURAL REGION

<b>Desired Outcomes</b>
<ol style="list-style-type: none"> <li>1. Maintain and enhance native vegetation (grass, forbs and shrub species) throughout the Grassland and Parkland Natural Region.</li> <li>2. Maintain natural terrain features and viewsapes (including badlands coulees, upland prairies and river valleys).</li> <li>3. Ensure that no invasive, undesirable, plant or weed species are introduced.</li> <li>4. Ensure the current biodiversity is maintained and all ecological functions are not impeded; this includes: soils, vegetation, water, wildlife and Species At Risk.</li> <li>5. Minimize fragmentation of intact native grasslands.</li> <li>6. Maintain Fescue Grasslands in recognition of their special sensitivity to disturbance.</li> <li>7. Minimize disturbance of Fescue Grasslands.</li> </ol>



<b>Approval Standards</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>100.10.1.</b>	Locate activities outside of Fescue Grasslands by using existing disturbances or locate adjacent to existing occupied dispositions (e.g., transportation corridors, cultivated lands, existing access trails, previously disturbed and/or non-native cover areas).	LOC MSL PIL PLA	July 2012
<b>100.10.2.</b>	Activities shall not occur on Fescue Grasslands from Dec 16 <sup>th</sup> to July 31 <sup>st</sup> .	LOC MSL PIL PLA	April 2013
<b>100.10.3.</b>	Existing trails shall be used. Where trails do not exist, follow 100.10.4 below.	LOC	
<b>100.10.4.</b>	Access on native grasslands shall use Class VI roads. Where trails do not exist ROW width shall not exceed 10 metres. Grading is not allowed, with the following exceptions:	LOC	April 2013
	a. On native grasslands, gravel can be applied to create a prairie trail only through two strip gravelling.	LOC	
	i. Gravel shall be clean, weed and seed free and is not to exceed a depth of 5 centimetres, or a width of 70 centimetres per strip. This gravelling is permitted on minimal disturbance access.	LOC	
	ii. If gravelling is required to fill existing ruts or undulating ground surface, the gravel shall not exceed 5 centimetres above the surrounding ground level. Access along these trails shall only occur during dry or frozen ground conditions.	LOC	

<b>Operating Conditions</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>200.10.1.</b>	Straw crimping shall not occur on native grasslands.	LOC MSL PIL PLA	
<b>200.10.2.</b>	Use mechanical equipment that will not cause surface disturbance in coulees or through river benchland areas.	LOC MSL PIL PLA	
<b>200.10.3.</b>	On Native Grasslands natural recovery re-vegetation shall be utilized for all minimal disturbance activities.	LOC MSL PIL PLA	
	a. On high erosion sites, where natural recovery cannot be used, assisted natural recovery is allowed. The application rate is a 50:50 ratio of no greater than 1/2 bushel (25-30 lbs/ac) of fall rye and flax only. See Vegetation Operating Conditions (Section 200.2) for standards on seed quality.	LOC MSL PIL PLA	
	b. On sites that are prone to weeds and agronomic species invasion or other factors can be demonstrated that limit natural recovery, reseeded with suitable native species is required. Rationale for seeding must be submitted to a departmental officer for approval. Appropriate seed mixes are to be designed based on adjacent native plant communities within the immediate vicinity and must correspond with the onsite ecological range site (See appropriate Range Plant Community Guide). Seed mixes are to be free of species listed in the Weed Control Act. Seed mixes are to be free of all agronomic species (excepting those identified for assisted recovery techniques). A seed certificate (under the rules and regulation of the Canada Seeds Act) for each species shall be provided to the issuing regulatory body prior to seed mix approval.	LOC MSL PIL PLA	

<b>Operating Conditions</b>		<b>Disposition Type</b>	<b>Revision Date</b>
<b>200.10.4.</b>	Construct wellsites to a minimal disturbance, (i.e., no movement of soil and removal of vegetation, other than for the immediate area of well centre) for downhole drilling operations, and wellhead placement. Mowing of the lease area is permitted.	MSL	
<b>200.10.5.</b>	Where site construction and drilling are of such duration, that deeper drilling and operations are expected to exceed 10 days, topsoil protection is required:		
	a. Wellsite construction will allow up to 2/3rd of the lease site to be stripped and salvaged for topsoil protection, with the topsoil being replaced on the salvaged area upon reclamation of the site. Only that area immediately surrounding the wellhead and storage tank(s) for the direct needs of the downhole drilling equipment and heavy support vehicles will be stripped.	MSL	
	b. The extended area of the lease (the remaining 1/3rd) where, servicing operations, smaller vehicles and supervision trailers are situated, will not be stripped; but will be managed in such a way as to minimize the impact to the surface, by; only operating in dry or frozen ground conditions, minimizing the duration of drilling days, and reducing vehicles within the non stripped area to only those required for the immediate servicing and lighter support of the drilling rig.	MSL	
<b>200.10.6.</b>	Construct pipelines to minimal disturbance. Pipeline trenches shall not exceed the pipe diameter plus an additional 30 centimetre trench width.		
	a. In areas where greater ground disturbance is required, (i.e., foreign lines crossings, bell holes for tie-ins, and areas required for boring operations), pre-stripping for soil salvage and replacement can occur upon interim reclamation. They may also be seeded as per assisted natural recovery vegetation (200.10.3, above). These areas shall be identified on the survey plan as per the PLAR Approvals and Authorizations Manual - 2013 or an Authorization plan.	PLA	
	b. In areas where ground conditions do not allow for minimal disturbance techniques, pre-stripping for soil salvage can occur. Only the portion of the ROW that is needed for the pipeline installation is to be stripped. These areas may also be seeded as per assisted natural recovery vegetation (200.10.3) above.	PLA	
<b>200.10.7.</b>	Only above-ground sumps shall be used on Native Grasslands, except where full site stripping has occurred.	MSL	

**Best Management Practices**

1. Where straw crimping is permitted to be used, local sources are preferred and should be carefully inspected for weeds (*Weed Control Act*).
2. Long-term monitoring of the re-vegetated areas should be conducted until the native species community has been restored.
3. Specialized equipment (e.g., prairie protector blades) should be used to minimize scalping during topsoil replacement, particularly when topsoil has been stored on native grasslands.
4. Industry should avoid disturbing native grasslands. Industrial activities should not cause significant disturbance to the structural and functional integrity of native prairie and parkland ecosystems. Existing access or nonnative cover areas should be used.
5. Cottonwood forests (balsam poplar, plains cottonwood and narrowleaf cottonwood) should be protected from removal or damage in river valleys and on floodplains.

## Appendix A: Reservations and Notations

Reservations and notations are placed on the land to identify areas of concern, special management intent, or areas of Government of Alberta (GoA) infrastructure on public land. Reservations and notations may be used by GOA departments, associations, and industrial clients (e.g., Forest Management Agreement holders). It is the responsibility of the applicant to identify, review the reservations and/or notations to ensure the proposed activity meets the identified restrictions and direction and contact the reservation/notation holder to ensure the proposed activity does not conflict or interfere with the intent of the reservation or notation.

A reservation/notation has the following components:

- A three letter **Type Code** which describes the overall purpose and type of the reservation
- A four digit (1<sup>st</sup> digit is zero) numerical **Purpose Code**
- A single digit numerical **Restriction Code** which defines the level of restriction applicable to surface dispositions
- A three digit numerical **Restriction Exemption Code** which indicates whether there are exemptions to restrictions on the notation or reservation.

Currently, the DIDS layer provides basic information on reservations and notation. Future work will include the restrictions, restriction exceptions and comments for all reservations/notations in the DIDS layer attribution. The LAT does not include the restrictions, restriction exceptions and comments for reservations/notations.

### Reservation Type Codes

1. Disposition Reservation (DRS) – This entry is equivalent to a surface disposition and permits a government agency to utilize Crown lands for a specific purpose. The reservation generally precludes any other type of disposition on the land.
2. Holding Reservation (HRS) – This entry indicates that an agency has determined a specific future land use based on an approved development plan or policy decision.
3. Industrial Sample Plot (ISP) – This entry indicates that a forest company has an interest in an area covering a permanent sample or research plot within the Forest Management Agreement area (FMA).

### Notation Type Codes

1. Consultative Notation Company (CNC) – This entry indicates a company or individual with a justified interest in the land.
2. Consultative Notation (CNT) – This entry indicates an agency wishes to be notified prior to any commitment or disposition of the land; this entry does not impose any land use restrictions.
3. Protective Notation (PNT) – This entry typically indicates land use restrictions to manage lands in consideration of a specific feature; this entry may restrict land use.

### Purpose Codes

The purpose code is a 3 digit number that describes the reason for the reservation/notation. The purpose code provides the reason the lands are being reserved or the reason for overall management intent on the land. There are many sub orders under each Purpose Code. Table 4 provides reservation/notation purpose code categories and related descriptions, and how the applicant will address direction for the proposed activity.

Further to the Purpose Code, most reservations have associated Restriction Codes, Restriction Exception Codes and Administrative Comment/Flag Codes. Further detail on all codes is provided below.

For PNT purpose code 400 Series with lands located in the Provincial White Area (i.e., Provincial settled lands), development proposed for individually numbered PNTs encompassing 640 acres or less shall be built within 100 metres of the outside perimeter (i.e., outside boundary) of the PNT lands. This excludes: pipeline construction; those portions of the PNT lands currently developed as range improvement; and those portions of the PNT lands identified for future range improvement as delineated in approved range development plans.

## Restriction Codes

The restriction code issued to describe the level of restriction applicable to surface dispositions. The restriction code placed by a reservation/notation is not negotiable, and cannot be used as the basis for a non-standard application.

The restriction codes are:

- **No Restriction (1):** Used primarily with CNTs to indicate that all disposition applications must be referred to the holding agency for special comments or conditions.
- **No Agricultural Sale Disposition (2)-** Lands are not suitable for agricultural sale
- **No Agricultural Disposition (3)-** No agricultural type of dispositions are permitted
- **No Surface Disposition (4)-** No surface dispositions are permitted unless an exception is provided.
- **No surface sale disposition (5)-** Lands cannot be sold for any purpose.

Of note is Restriction Code 4 (No Surface Disposition) that restricts all surface dispositions in the reservation/notation.

## Exception Codes

The restriction exception is a three digit code used in conjunction with the restriction code to describe the exception to the restriction, i.e. those activities that be permitted within the reservation/notation despite of the restriction.

Administrative/Comments/Flag codes indicated by the 700 series are used to identify further information applicable to the reservation/notation. Administrative/Comment codes should be viewed as additional information to the exceptions and restrictions, not as exceptions. Exception codes that are directly applicable to Enhanced Approvals Process include:

- **600 Commercial/Industrial/Residential:** allows all three types of land use
- **620 Industrial:** Allows all types of industrial use
- **621 Oil and Gas Only:** Allows oil and gas activity only
- **700 Other:** An administrative code when no other code fits
- **710 Specified in Comments Field:** an administrative code where the agency provides additional information/direction
- **720 Refer to File:** an administrative code where additional information is on file
- **730 Written Agency Consent Required:** Holding agency must provide consent prior to disposition approval, renewal or assignment.

## Special Notes Regarding Reservations

For PNT purpose code 400 Series with lands located in the Provincial White Area (i.e., Provincial settled lands), development proposed for individually numbered PNTs encompassing 640 acres or less shall be built within 100 metres of the outside perimeter (i.e., outside boundary) of the PNT lands. This excludes: pipeline construction; those portions of the PNT lands currently developed as range improvement; and those portions of the PNT lands identified for future range improvement as delineated in approved range development plans.

If a proposed activity is located within a reservation or notation that has restriction of 4 and no exceptions for oil and gas surface activity, the activity cannot proceed and an EAP application cannot be submitted.

Further information on the Reservation and Notation program may be found by searching for the “Public Lands Reservation Information Guide (2006)” at Environment and Sustainable Resource Development.

**Table 4. Reservation and Purpose Codes**

<b>Series Code</b>	<b>Purpose Code(s)</b>	<b>Purpose Code Name</b>	<b>Direction</b>
<b>100</b>	<b>Surface Resource Management/ Conservation Area</b>		
	100	Surface Resource Management/ Conservation Area General Code	Contact reservation/notation holder
	110, 111, 112	Erosion Hazard	Approval achieved through application of EAP Standards and Conditions, and review of reservation/notation for additional direction.
	120	Fragile Slope	Consultation with the reservation/notation holder required.
	130, 131, 132	Adverse Soil Characteristics	Approval achieved through application of EAP Standards and Conditions, and review of reservation/notation for additional direction.
	140, 141	General Topographic Constraints	Approval achieved through application of EAP Standards and Conditions, and review of reservation/notation for additional direction.
	150, 151, 154, 155	Water Resource Management Area	Approval achieved through application of EAP Standards and Conditions, and review of reservation/notation for additional direction.
	152 & 153	Flood Hazard Area & Potential Reservoir Area	Consultation with the reservation/notation holder required.
	160, 161, 162, 163, 164, 165	Land Use Protection	Approval achieved through application of EAP Standards and Conditions, and review of PNT for additional direction.*
	166	Resource Management Operational Plan	Contact reservation/notation holder
	170	Access Constraints	Approval achieved through application of EAP Standards and Conditions, and review of PNT for additional direction.
	180, 181	Multiple Resource Management/ Conservation Area	Contact reservation/notation holder
	190, 191	Unique Site Features	Approval achieved through application of EAP Standards and Conditions, and review of reservation/notation for additional direction.
<b>200</b>	<b>Timber Resource Management Area</b>		
	200	Timber Resource Management Area	Contact reservation/notation holder
	210	Active Timber Permit Area	Contact reservation/notation holder
	220, 221, 222, 223	Public Wood Cutting Area	Approval achieved through application of EAP Standards and Conditions, and review of reservation/notation for additional direction.
	240, 241	Timber Liquidation	Approval achieved through application of EAP Standards and Conditions, and review of PNT for additional direction.
	260	Seed Production	Contact reservation/notation holder
	270	Silviculture Plot	Contact reservation/notation holder
	280, 281, 282, 283, 284, 289	Research Plot (includes Permanent Sample Plots)	Contact reservation/notation holder
	290	Reforestation/ Afforestation Project	Contact reservation/notation holder

Series Code	Purpose Code(s)	Purpose Code Name	Direction
<b>300</b>	<b>Recreation Resource Management Area</b>		
	300	Recreation Resource Management Area	Contact reservation/notation holder
	310, 311, 312, 331, 314	Recreation Site Potential	Contact reservation/notation holder
	320	Provincial/Municipal Park Potential	Contact reservation/notation holder
	330, 331, 332, 333, 334	Natural Heritage Area Potential	Contact reservation/notation holder
	335, 336	Order in Council Natural Area (Contact TPR), Order in Council Ecological Reserve	Contact reservation/notation holder
	340, 341, 342, 343, 344	Recreation Campground	Contact reservation/notation holder
	350, 351, 352, 353, 354, 355	Day Use	Contact reservation/notation holder
	360, 361, 362, 363	Trails	Approval achieved through application of EAP Standards and Conditions, and Review of PNT for additional direction.
<b>400</b>	<b>Fish and Wildlife Resource Management</b>		
	400	Fish and Wildlife Resource Management	Approval achieved through application of EAP Standards and Conditions, and review of PNT for additional direction. In some cases, contact with the reservation/notation holder is required.
	410, 411, 412, 413, 414, 415	Ungulate Habitat Protection Area	Apply Provincial Standards and Operating Conditions, and Key Wildlife and Biodiversity Approval Standards (Section 100.9.6) and Operating Conditions (200.9.5) for acceptable mitigation. Review PNT for additional direction.
	420, 421, 422, 423	Waterfowl Habitat Protection Area	Apply Provincial Standards and Operating Conditions, and Grassland and Parkland Natural Region Standards (Section 100.10) and Operating Conditions (200.10); and where trumpeter swans are indicated in Comments, apply Trumpeter Swan Water bodies/ Watercourses Approval Standards (Section 100.9.4) for acceptable mitigation. Review PNT for additional direction.
	424	NAWMP Wetland Habitat Management Area	Contact reservation/notation holder
	430	Upland Bird Habitat Protection Area	Apply Provincial Standards and Operating Conditions, and Grassland and Parkland Natural Region Approval Standards (Section 100.10) and Operating Conditions (200.10) for acceptable mitigation. Review PNT for additional direction.
	431	Dancing Ground Protection Area	Apply Provincial Standards and Operating Conditions, and Greater Sage Grouse Habitat Approval Standards (Section 100.9.1.1) or Sharp-tailed Grouse Approval Standards (Section 100.9.1.6) and Operating Condition (200.9.1.1) where indicated in comments, for acceptable mitigation. Review PNT for additional direction.

Series Code	Purpose Code(s)	Purpose Code Name	Direction
	440	Furbearer Habitat Protection Area	Apply Provincial Standards and Operating Conditions, and Grizzly Bear Zone Approval Standards (Section 100.9.3) and Operating Condition (200.9.3) where indicated in comments for acceptable mitigation. Review PNT for additional direction.
	450, 451, 452	Non-Game Habitat Protection Area	Apply Provincial Standards and Operating Conditions, and Species At Risk Approval Standards (Section 100.9.1) and Operating Condition (200.9.1). Where trumpeter swans are indicated in Comments, apply Trumpeter Swan Waterbodies/Watercourses Approval Standards (Section 100.9.4) for acceptable mitigation. Review PNT for additional direction.
	453	NAWMP Upland Habitat Management Area	Contact reservation/notation holder
	460, 461, 462, 463	Fisheries Habitat Protection Area	Approval achieved through application of EAP Standards and Conditions, and review of PNT for additional direction.
	470	Rare and Endangered Species Habitat Protection	Apply Provincial Standards and Operating Conditions and Species At Risk Approval Standards (Section 100.9.1) and Operating Conditions (200.9.1). Where trumpeter swans are indicated in Comments, apply Trumpeter Swan Waterbodies/Watercourses Approval Standards (Section 100.9.4) Where grizzly bears are indicated, apply Grizzly Bear Zone Approval Standards (Section 100.9.3) and Operating Condition (200.9.3). Review PNT for additional direction.
	480, 481, 482, 483, 484, 485, 486, 487	Special Fish and Wildlife Management Area	Contact reservation/notation holder
	488	Riparian Habitat Protection Area	Apply Provincial Standards and Operating Conditions, and Watercourse/Water body Approval Standards (Section 100.4) and Operating Conditions (200.4) for acceptable mitigation. Review PNT for additional direction.
<b>500</b>	<b>Site or Adjacent Land Use Protection</b>		
	500	Site or Adjacent Landuse Protection	Contact reservation/notation holder.
	510, 511, 512, 513, 514	Buffer	Contact reservation/notation holder
	520, 521, 522, 523	Archaeologist, Historical, Paleontological Site Protection	Contact reservation/notation holder
	530	Industrial/Commercial Site (Generally CNCs)	Contact reservation/notation holder
	540, 541, 542, 543, 544, 545, 546, 547, 548, 549	Surface Material Extraction Site	Contact reservation/notation holder
	550, 551, 552, 553, 554, 555, 556, 557, 558, 559	Structural Development	Contact reservation/notation holder
	560, 561, 562, 563, 564, 565, 566, 567, 568	Water Control Structure	Contact reservation/notation holder



<b>Series Code</b>	<b>Purpose Code(s)</b>	<b>Purpose Code Name</b>	<b>Direction</b>
	570, 571, 572, 573, 574, 575, 576	Waste Disposal or Reclamation Site	Contact reservation/notation holder
	580, 581, 582, 583, 584, 585, 586, 587, 588, 589	Other Miscellaneous Site Protection Areas	Contact reservation/notation holder
<b>700</b>	<b>Study Area</b>		
	700, 710	Watershed Study Area	Contact reservation/notation holder
<b>800</b>	<b>Other-General Purpose Codes for Miscellaneous Situations</b>		
	800,810	Undisclosed- Refer to Agency	Contact reservation/notation holder
	820,821	Transfer or Exchange Pending	Contact reservation/notation holder
	830, 840	Other Miscellaneous	Contact reservation/notation holder

## Appendix B: Higher Level Plans

Table 5 provides a list of Higher Level Plans approved by the government (e.g., Integrated Resource Plans, Access Management Plans) that relate or may impact disposition approvals for which the applicant needs to be aware. This table provides an abbreviated scope of the direction provided in the plan, but it is the responsibility of the applicant to be aware of the plans, their content and direction if any to ensure the activity proposed does not come into conflict with that plan.

- The “**Plan Name**” is the official name of the plan and is shown in bold text. Within some plans, there are sub-areas or zones which are listed below the official plan name.
- The “**Upstream Oil and Gas Development Restrictions**” column identified whether the plan restricts (prohibits) surface developments related to upstream oil and gas. In plan areas with complete restrictions, public lands dispositions are not permitted.
- The “**Guidance in the Plan**” identifies the type of guidance provided in the plan text. In some plans specific guidance is provided such as operating conditions, timing restrictions, siting instructions, etc. In other plans, only non-specific guidance such as intent, purpose or objectives are provided. When guidance is non-specific, contact with the issuing regulatory body is generally required.
- The “**Direction**” column indicates how the proponent may meet the requirements of the plan (or specific plan areas). In some cases where guidance is specific, the proponent may proceed with a standard application provided all requirements have been met. In cases where regulatory body contact is required, regulatory body staff will provide direct advice on how the activity may comply with the plan requirements. In cases, of “No additional direction”, the proponent may proceed with a standard application, provided all the other approval standards have been met.

**Table 5: Government Approved Higher Level Plans**

<b>Plan Name</b> (Specific Area or Zone in Plan)	<b>Upstream Oil and Gas Development Restrictions</b>	<b>Guidance in Plan</b>	<b>Direction</b>
<b>Athabasca River Sandhills Access and Protection Plan</b>			
Holmes Crossing Sandhills Ecological Reserve	Partial	Specific	Proponent must follow development restrictions and plan guidance.
Holmes Crossing FLUZ	None	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Lands north of Timeau Creek			
Fort Assiniboine Sandhills Wildland Park	Partial	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Timeau Off-Highway Vehicle Rec Area	None	None	No additional direction.
Vega Natural Area			
<b>Athabasca River Sandhills Local IRP*</b>			
1 Prime Protection	Complete	Non-specific	Mineral development or exploration not permitted. Contact the issuing regulatory body for further information.
3 Special Use	None	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
4 General Recreation	Partial	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
2 Critical Wildlife	None	None	No additional direction.
5 Multiple Use			
<b>Avenir Regional Integrated Decision</b>			No additional direction.
<b>Bear River-Wapiti Local IRP</b>			No additional direction.
<b>Beaverhill Lake IRP</b>			No additional direction.

Plan Name (Specific Area or Zone in Plan)	Upstream Oil and Gas Development Restrictions	Guidance in Plan	Direction
<b>Berland/Smoky Access Plan</b>		Specific	Proponent must follow Plan Guidance.
<b>Big Bend Sub-Regional IRP</b>			
All Resource Management Areas	Partial	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
<b>Bow Corridor Local IRP*</b>			
1 Prime Protection	Complete	General	Mineral development or exploration not permitted. Contact the issuing regulatory body for further information.
3 Special Use			
3 A Buffer			
4 General Recreation			
2 Critical Wildlife	None	General	Proponent must follow plan guidance.
5 Multiple Use			
5 A Mineral Exploration			
7 Industrial			
8 Facility			
<b>Brazeau-Pembina Sub-Regional IRP*</b>			
Pembina-North Saskatchewan RMA	None	General	Proponent must follow plan guidance.
Brazeau Reservoir RMA	Partial	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Upper Brazeau-Dismal RMA			
<b>Buffalo Lake Integrated Shoreland Management Plan</b>			
Entire Plan Area	Complete	Specific	Mineral development or exploration not permitted. Contact the issuing regulatory body for further information.
<b>Burnstick Lake Management Plan</b>			
Entire Plan Area	Partial	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
<b>Castle-River Sub-Regional IRP*</b>			
Carbondale River- Lynx Creek RMA	Partial	Specific	Proponent must follow development restrictions and plan guidance.
O'Hagan Adanac RMA	None	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Castle Carbondale RMA			
Castle Front Range Headwaters	Partial	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Castle Foothills RMA	Partial	None	Proponent must follow development restrictions.
Castle Special Management Area	Partial	None	Contact the issuing regulatory body for interpretation of requirements.
<b>Christina Lake Management Plan</b>			
Extensive Recreation Development Zone	Partial	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Fish/Wildlife Habitat Buffer			

Plan Name (Specific Area or Zone in Plan)	Upstream Oil and Gas Development Restrictions	Guidance in Plan	Direction
Lakeshore/Streamside Buffer Zone	Complete	Non-specific	Mineral development or exploration not permitted. Contact the issuing regulatory body for further information.
<b>Chungo Creek Industrial Access Management Plan</b>		Specific	Proponent Must Follow plan guidance.
<b>Coal Branch Sub-Regional IRP*</b>			
Nikanassin RMA	Complete	None	Mineral development or exploration not permitted. Contact the issuing regulatory body for further information.
Mountain Park- Folding Mtn. RMA	Partial	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Robb Highlands RMA	None	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Brule Lake RMA			
Cardinal- Brazeau RMA	None	None	No additional direction
Mcleod RMA			
Edson-South Pembina RMA			
Coal Branch FLUZ		General	Contact the issuing regulatory body for interpretation of requirements.
Athabasca Ranch FLUZ		General	Contact the issuing regulatory body for interpretation of requirements.
Brule Lake FLUZ		General	Contact the issuing regulatory body for interpretation of requirements.
<b>Cold Creek Regional Integrated Decision</b>			No additional planning standards.

Plan Name (Specific Area or Zone in Plan)	Upstream Oil and Gas Development Restrictions	Guidance in Plan	Direction
<b>Cold Lake Sub-Regional IRP</b>			
Fort George- Buckingham House RMA	Complete	General	Mineral development or exploration not permitted. Contact the issuing regulatory body for further information.
Six Lakes RMA	Partial	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Nine Lakes RMA			
May Lake RMA			
Twelve Lakes RMA			
Many Lakes RMA	None	General	Proponent must follow plan guidance.
La Corey- Moose Hills- Tulliby Lake RMA			
Mostoos Uplands RMA			
River Corridors RMA			
<b>Crowsnest Corridor Local IRP*</b>			
Zones 1 & 8	Complete	General	Mineral development or exploration not permitted. Contact the issuing regulatory body for further information.
All other Zones	None	General	Proponent must follow plan guidance.
Allison-Chinook FLUZ		None	Contact the issuing regulatory body for interpretation of requirements.
<b>David Thompson Corridor Local IRP*</b>			
Kootenay-Cline Subarea	Complete	General	Mineral development or exploration not permitted. Contact the issuing regulatory body for further information.
Nordegg-Bighorn Subarea	Partial	General	Proponent must follow development restriction and plan guidance.
Saunders-Harlech Subarea	None	General	Proponent must follow plan guidance.
Horburg-Jackfish Subarea			
Crimson-Rocky Subarea			

Plan Name (Specific Area or Zone in Plan)	Upstream Oil and Gas Development Restrictions	Guidance in Plan	Direction
<b>Deadwood-Dixonville Regional Integrated Decision</b>			
Small Lake Recreation Areas	Complete	General	Mineral development or exploration not permitted. Contact the issuing regulatory body for further information.
All other areas	None	General	Proponent must follow plan
<b>East Frenchman Lake IRP</b>			No additional direction
<b>Eastern Irrigation District Integrated Resource Management Strategy</b>			No additional direction.
<b>Eden Valley Local IRP</b>			
Critical Wildlife Zone	None	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Multiple Use Zone	None	None	No additional direction.
<b>Fawcett Lake Lakeshore Management Plan</b>			
Zone A- Northeast Bay and Islands	Partial	General	Proponent must follow development restrictions and plan guidance.
All other areas	None	General	Proponent must follow plan guidance.
<b>Fort McMurray - Athabasca Oil Sands Sub-Regional Integrated Resource Plan</b>			
Fort McMurray Fringe	None	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Athabasca-Clearwater Gregoire Lake	Partial	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Mildred-Kearl Lakes Stoney-Birch	None	General	Proponent must follow plan guidance.
<b>Frost Hills Local IRP</b>			
Conservation Zone	None	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
All other Zones	None	None	No additional direction.
<b>Ghost River Sub-Regional IRP*</b>			
Ghost Wilderness RMA	Complete	General	Mineral development or exploration not permitted. Contact the issuing regulatory body for further information.
Upper Ghost RMA	Partial	General	Proponent must follow development restriction and general guidance.

Plan Name (Specific Area or Zone in Plan)	Upstream Oil and Gas Development Restrictions	Guidance in Plan	Direction
Fallen Timber RMA	None	General	Proponent must follow plan guidance.
Waiparous RMA			
Little Red Deer RMA			
Water Valley RMA			
Ghost FLUZ	Partial	None	Contact the issuing regulatory body for interpretation of requirements.
<b>Grande Prairie County West Local IRP</b>			
All Resource Management Areas	None	General	Proponent must follow plan guidance.
<b>Hand Hills Ecological Reserve Management Plan</b>			Contact the issuing regulatory body for interpretation of requirements.
<b>Island Lake Regional Integrated Decision</b>			No additional direction.
<b>Jean D'Or Prairie Sub-Regional IRP</b>			
North Peace RMA	None	General	Proponent must follow plan guidance.
South Peace RMA			
Fort Vermillion RMA	None	None	No additional direction.
Beaver Ranch RMA			
Jackpine Creek RMA			
Lawrence River RMA			
<b>Kananaskis Country Sub-Regional IRP*</b>			
Kananaskis/ Spray	Complete	None	Mineral development or exploration not permitted. Contact the issuing regulatory body for further information.
Upper Elbow/ Upper Sheep			
Elbow/ Jumpingpound	Partial	Non-specific	Contact the issuing regulatory body office for interpretation of requirements.
Sheep/ Threepoint			
Highwood RMA			
Kananaskis Country FLUZ	Partial	None	Contact the issuing regulatory body for interpretation of requirements.
<b>Kakwa Copton Industrial Corridor Plan</b>		Specific	Proponent must follow plan guidance.
<b>Keg River Sub-Regional IRP</b>			
All Resource Management Areas	None	None	No additional direction.
<b>Lakeland Sub-Regional IRP*</b>			
RMA A-F, H-I	Partial	Specific	Proponent must follow development restrictions and plan guidance.
RMA G	Complete	Specific	Mineral development or exploration not permitted. Contact the issuing regulatory body for further information.
RMA J & K	None	Specific	Proponent must follow plan guidance.
<b>Livingstone-Porcupine Hills IRP*</b>			
Livingstone-Upper Oldman (A)	Partial	Non-specific	Contact the issuing regulatory body for interpretation of requirements.

Plan Name (Specific Area or Zone in Plan)	Upstream Oil and Gas Development Restrictions	Guidance in Plan	Direction
West Livingstone (B)			
East Livingstone (C)			
Willow Creek Lower Oldman (D)			
Crowsnest Watershed (G)			
North Porcupine Hills (E)	None	General	Proponent must follow plan guidance.
South Porcupine Hills (F)	None	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Willow Creek FLUZ	Partial	None	Contact the issuing regulatory body for interpretation of requirements.
<b>Lower Athabasca Regional Plan</b>			
	Partial	None	Proponent must follow Alberta Energy Information Letter 2012-30 Contact the issuing regulatory body for interpretation of requirements.
<b>Ministick Gamebird Lake Sanctuary Wildlife Management Plan</b>			
Entire Plan Area	Partial	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
<b>Nordeg- Red Deer River Sub-Regional IRP*</b>			
Headwaters	Complete	General	Mineral development or exploration not permitted. Contact the issuing regulatory body for further information.
Whiterabbit Creek			
Cline River			
Bighorn River			
Red Deer- Panther	Partial	General	Proponent must follow development restriction and plan guidance.
Kooteney Plains			
Nordeg			



Plan Name (Specific Area or Zone in Plan)	Upstream Oil and Gas Development Restrictions	Guidance in Plan	Direction
Red Deer-Wilson	None	General	Proponent must follow plan guidance.
Red Deer- Raven			
Blackstone-Wapiabi			
Brown Creek			
Clearwater-Tay	None	None	No additional direction.
Ram-Clearwater			
Blackstone-Wapiabi FLUZ		General	Contact the issuing regulatory body for interpretation of requirements.
Kiska/Willson FLUZ		General	
Dormer/Sheep FLUZ		General	
Job/Cline FLUZ	Complete	General	
Upper Clearwater/Ram FLUZ	Complete	General	
Panther Corners FLUZ		General	
<b>Peerless-Graham Lakes Resource Management Plan</b>			
Entire Plan Area	Partial	General	Proponent must follow development restrictions and plan guidance.
<b>Poll Haven Local IRP*</b>			No additional direction.
<b>Red Deer River Corridor Integrated Management Plan</b>			
All Reaches	Partial	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
<b>Rocky- North Saskatchewan Sub-Regional IRP*</b>			
Rose Creek- Red Deer River	Partial	None	Proponent must follow development restrictions.
Prairie Creek RMA			
Nordegg- Baptiste RMA	None	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
North Saskatchewan RMA	None	None	No additional direction.
<b>Rocky Regional Integrated Decision</b>			No additional direction.
<b>Rumsey Parkland South Regionally Integrated Decision</b>			Contact the issuing regulatory body for interpretation of requirements.
<b>Rumsey Ecological Reserve Management Plan</b>			Contact the issuing regulatory body for interpretation of requirements.
<b>Smith Hondo Local Plan</b>			
Wildlife	None	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Grazing	None	General	Proponent must follow general guidance.
Multi-Use			
Agricultural Sale	None	None	No additional direction.
Woodlot			
<b>Smoke and Iosegun Lakes Management Plan</b>			

Plan Name (Specific Area or Zone in Plan)	Upstream Oil and Gas Development Restrictions	Guidance in Plan	Direction
Entire Plan Area	None	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
<b>Smoky-Peace Point Local IRP</b>			
Valley Corridor	Complete	None	
The Point	None	General	Proponent must follow general guidance.
Long Island Block	None	None	
Shaftesbury Crossing			
Uplands			
<b>South Beaver Lake Local Plan</b>			No additional direction.
<b>South Wapiti Local Plan</b>			
All plan areas	None	General	Proponent must follow general guidance.
<b>Sturgeon Lake Puskwaskau East Sub-Regional IRP</b>			
Valleyview-Debolt RMA	Partial	None	Proponent must follow development restriction.
River Corridors RMA	None	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Sturgeon Lake Watershed RMA			
Economy/ Ante Creek RMA	None	None	
Puskwaskau RMA			
<b>Wabasca Regional Integrated Decision</b>			No additional direction.
<b>Wainwright Dunes Ecological Reserve Management Plan</b>			Contact the issuing regulatory body for interpretation of requirements.
<b>Wapiti-Grande Prairie Sand Dunes Integrated Land Use Management Plan</b>			No additional direction.
<b>Wapiti Sand Dunes Land Use Zones</b>			
All Zones	Partial	Specific	Proponent must follow development restrictions and plan guidance.
<b>Whitecourt/Anselmo Public Land Use Strategy</b>			
Sub-Unit 1	None	None	No additional direction.
Sub-Unit 2	None	General	Contact the issuing regulatory body for interpretation of requirements.
Sub-Unit 3			
Sub-Unit 4	None	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
Whitecourt Sandhills FLUZ	None	General	Contact the issuing regulatory body for interpretation of requirements.
<b>Winefred Lake and Grist Lake Regional Integrated Decision</b>			
Entire Plan Area	Partial	Non-specific	Contact the issuing regulatory body for interpretation of requirements.
* Denotes that plan includes zonation according to 'A Policy for Resource Management for the Eastern Slopes' (1984)			

## Appendix C: Three-Phase Route Selection and Alignment Process

To facilitate route selection and alignment, documentation of the advantages and disadvantages of various routes is recommended, along with efforts to integrate with other disturbance features and resource users, rationale for selecting a particular route, and the potential impacts that will require mitigation. The issuing regulatory body may seek to examine this documentation for linear access developments identified in Table 6, after disposition approval has been obtained.

### Phase I — Corridor Selection (Regional and Local Planning Elements)

Use the regional and local planning elements to locate, evaluate and select a linear corridor/alignment.

Steps:

1. Identify area affected by the proposed linear development.
2. Compile, evaluate and analyse the data (regional and local planning elements).
3. Identify all linear corridor/alignment options within the area.
4. Identify all impacts along each corridor/alignment option.
5. Evaluate environmental impacts for each corridor/alignment.
6. Rank corridors/alignments according to environmental impacts (lowest to highest).
7. Select the preferred corridor/alignment option.

### Phase II — Route Selection (Local Planning Elements)

Use the local planning elements to locate, evaluate and select a linear route within the preferred corridor.

Steps:

1. Evaluate and analyze all the data (local planning elements) within the preferred corridor.
2. Identify route selection options within the preferred corridor/alignment.
3. Evaluate environmental impacts for each route/alignment.
4. Rank routes/alignment according to environmental impact (lowest to highest).
5. Select preferred route/alignment option.

### Phase III — Site-Specific Evaluation of Preferred Route/Alignment (Site-Specific Planning Elements)

Use site-specific planning elements to evaluate and locate the centre line survey for the preferred route/alignment.

Steps:

1. Locate landforms, watersheds, waterbodies, watercourses and other physical features that are to be avoided, or for which the effects of proposed activities should be minimized or mitigated.
2. Locate critical wildlife habitats, fisheries habitats, timber resources and other such features that are to be avoided, or for which the effects of proposed activities should be minimized or mitigated.
3. Complete technical site evaluation (e.g., geo-technical soil testing, hydrological surveys).
4. Identify potential impacts on other lands.
5. Locate and survey the route.

**Table 6. Three-Phase Route Selection and Alignment Planning Process\***

<b>Road Class</b>	<b>High Visible, Mapped and other Identified Management Areas**</b>	<b>General Areas</b>
I-II	All	All
III	≥ 1km	≥ 2km
IV, V and VI	≥ 2km	Not Required
<b>Pipelines</b>	<b>High Visible, Mapped and other Identified Management Areas**</b>	<b>General Areas</b>
Class I	All	All
Class II:		
≥ 15 m	≥ 2km	≥ 5km
< 15 m	≥ 5km ***	Not Required

\* Regulatory body acceptance of Phases I & II is recommended.

\*\* Includes lands with high visibility (e.g., viewscapes, aesthetic considerations), lands within mapped sensitivity layers, lands covered by Reservations and Notations).

\*\*\* Except if the entire proposed pipeline right of way parallels an existing road or pipeline disturbance.

## Appendix D: Provincial Watercourse and Waterbody Descriptions

<b>Watercourses</b>			
<b>Type</b>	<b>Width</b>	<b>Channel Characteristics</b>	<b>Setback Requirement<sup>2</sup></b>
Large Permanent <sup>1</sup>	> 5 m	Defined Channel	100 m
Small Permanent <sup>1</sup>	0.7 – 5 m	Defined Channel	45 m
Intermittent/Spring <sup>1</sup>	< 0.7 m	Defined Channel	45 m
Ephemeral		No Defined Channel	15 m
<sup>1</sup> May or may not contain continuous flow			
<sup>2</sup> The setback for watercourses is measured from top of break (valley), or where undefined, from the top of the bank.			
<b>Waterbodies</b>			
<b>Type</b>	<b>Basin Characteristics</b>	<b>Setback Requirements<sup>3</sup></b>	
Lakes	Open water (> 2m depth)	100 m	
Permanent Shallow Open Water Ponds (S&K V*)	Open water (> 2m depth) deep marsh margin	100 m	
Semi-permanent Ponds/wetlands (S&K IV)	Emergent deep marsh throughout	100 m	
Non-permanent Seasonal Wetlands (S&K III*)	Shallow marsh	45 m	
Non-permanent Temporary Wetlands (S&K II*)	Wet meadow	15 m setback requirement for wellsites and pipelines	
Fens	No defined channel – slow flowing	No specific setback – attempt to leave undisturbed	
Bogs	Peatland – acidic wetland – no flow	No specific setback	
<sup>3</sup> The setback is from the defined bank of the waterbody or the outer margin of the last zone of vegetation that is not defined / bounded by upland vegetation communities.			

### References:

Alberta Sustainable Resource Development. 2008. Alberta Timber Harvest Planning and Operating Ground Rules Framework for Renewal. 100 pp. Forest Management Branch. Edmonton AB found at Environment and Sustainable Resource Development.

\*Stewart, R. E., and H.A. Kantrud. 1971. Classification of natural ponds and lakes in the glaciated prairie region. Resource Publication 92, Bureau of Sport Fisheries and Wildlife, U.S. Fish and Wildlife Service, Washington, D.C. Northern Prairie Wildlife Research Centre Online, found at Northern Prairie Wildlife Research Center.

## Appendix E: Risk of Activities to Species at Risk

In 1996, land use activities were categorized according to the level of disturbance and associated impacts, and the response of the wildlife species respective of their habitat. Based on this, common land use activities, and their level of disturbance were placed into risk categories of low, medium and high. These categories are directly related to setback distances and are detailed below.

**Note:** All activities that occur within the area identified for the greater sage grouse within the Landscape Analysis Tool Layer are considered high impact, regardless of their definition in Table 7 (below).

**Table 7: Risk Definitions for Disposition Activity Types**

Disposition Type	Purpose Type	Risk Definition
<b>MSL</b>	Wellsite-Oil/Bitumen Battery site	High
	Wellsite-PNG Production (Single Well)	High
	Wellsite-PNG Production (Multiwell)	High
	Wellsite-Injection Well	High
	PNG or OS Facility-Compressor Site	High
	PNG or OS Facility-Custom Treating Facility	High
	PNG or OS Facility-Gas Processing Plant	High
	PNG or OS Facility-Gas Processing Plant-Sulphur Recovery	High
	Drilling Waste Disposal-Remote Sump	High
	PNG or OS-Satellite site	Medium
<b>LOC</b>	Access Road-Class I road – All Weather	High
	Access Road-Class II road – All Weather or Dry	High
	Access Road-Class III road or higher – All Weather or Dry	High
	Access Road-Class IV road – Frozen/Dry Conditions	Medium
	Access Road-Class V road - Frozen	Low
	Access Road-Class VI road - Frozen	Low
	Water Diversion-Drainage or Irrigation ditch	Low
<b>PIL</b>	Pipeline Installation-Compressor Station	High
	Pipeline Installation-Heater site	High
	Pipeline Installation-Meter station site	High
	Pipeline Installation-Pumping station site	High
	Pipeline Installation-Separator site	High
	Pipeline Installation-Header or Riser site	Low
	Pipeline Installation-Cathodic Protection/Anode Bed-above ground	Low

Disposition Type	Purpose Type	Risk Definition
	Pipeline Installation-Valve site	Low
<b>PLA</b>	Pipeline-PNG/OS Pipeline	High
	Pipeline-Multiple Pipeline ROW	High
	Pipeline-Produced or Waste Water	High
	Pipeline-Fresh Water	High
	Pipeline-Cathodic Protection/Anode Bed-below ground	Low

## Appendix F: Bear-Human Conflict Management Plan for Camps

To be implemented by industry establishing or operating a camp from April 1<sup>st</sup> to November 30<sup>th</sup>.

### Purpose

1. To reduce bear-human conflicts and enhance safe working environments (compliance with Alberta's Occupation Health and Safety Regulations) by reducing or eliminating attractants for bears and creating barriers to prevent bear access to camps.
2. To help industries to comply with the Alberta *Wildlife Act* and ensure that industries operating in bear country handle garbage, food, cooking areas and other attractants appropriately.
3. To ensure the conservation of black and grizzly bears.

The disposition holder (company) is responsible for appointing a main contact person for all bear concerns on the disposition. It is recommended that the Safety Officer or the person appointed to oversee camp operations be the main contact. This person is responsible for responding to all inquiries about bear concerns before contacting the Alberta Wildlife Management, to ensure that concerns are verified, any unsafe worksite practices are identified (including employees feeding bears) and immediate preventive actions are implemented. If an Alberta Fish and Wildlife Officer responds to a verified complaint or concern by the company contact person, the Officer may direct the implementation of additional management practices (e.g., fencing). Any direction will be in writing either as a recommended operating Standard or as an order pursuant to the *Wildlife Act*.

**All bear encounters shall be promptly reported to the local Alberta Fish and Wildlife District Office by calling 310-0000. In an emergency situation, workers should call 1-800-642-3800. All grizzly bear sightings at a camp shall be reported immediately to local ESRD Fish and Wildlife Officer or Wildlife Biologist.**

- A. Long-term Industrial Camps (longer than one April 1<sup>st</sup> to November 30<sup>th</sup> bear season)** (e.g., processing plants, compressor sites or open lodging).
1. Use bear-resistant garbage containers. Wood containers are not considered bear resistant unless they are reinforced with metal. All lids shall be kept secured and closed when not being loaded.
  2. Use bear-resistant garbage-containment receptacles (large bins).
  3. Use totally enclosed bear-resistant black water containment with disposal at an approved facility.
  4. Use bear-resistant secure cooking grease storage containment. Lids shall be kept closed when not being loaded and the exterior shall be kept clean.
  5. At worksites not enclosed by a perimeter fence, waste food and food containers/wrappers are to be disposed of in garbage containers in secure buildings or in bear-resistant containers and transferred to bear-resistant garbage containment receptacles at least daily prior to nightfall.
  6. No waste disposal or waste storage facilities in camp or work area parking lots that are not within a fenced area.
  7. Where parking lots are not encompassed by a fence, signs shall be posted in those lots advising workers not to litter and to remove all waste from vehicles and dispose of it in waste containers within the enclosed camp area.
  8. In response to bear occurrence, the presence of bear attractants, and/or bear-human conflict at a location, the following Standard may be required following direction from an Alberta Fish and Wildlife Officer:
    - a. All garbage containment areas and waste water containment facilities shall be encompassed by a permanent two-metre chain-link, or game-proof fence with:
      - i. Three strands of barbed wire on top surrounded by a four-strand electrified fence complete with electrified gate access, or
      - ii. A seven-strand wire electrified fence complete with electrified gate access.
      - iii. Fence and gate electrified function shall be tested daily and a two-meter vegetation control buffer maintained on all sides of the fence.



**B. Seasonal Long-term Camps (one April 1 to November 30 bear season)**(e.g., industry service camps)

1. Bear-resistant garbage containers. Wood containers are not considered bear resistant unless they are reinforced with metal. All lids shall be kept secured and closed when not being loaded.
2. Use bear-resistant garbage-containment receptacles (large bins).
3. Totally enclosed bear-resistant black water containment with disposal at an approved facility.
4. Bear-resistant secure cooking grease storage containment. Lids shall be kept closed when not being loaded and the exterior shall be kept clean.
5. At worksites not enclosed by a perimeter fence, waste food and food containers/wrappers are to be disposed of in garbage containers in secure buildings or bear-resistant containers and transferred to bear-resistant garbage containment at least daily prior to nightfall.
6. No waste disposal or waste storage facilities in camp or work area parking lots that are not within a fenced area.
7. Where parking lots are not encompassed by a fence, signs shall be posted in those lots advising workers not to litter and to remove all waste from vehicles and dispose of it in waste containers within the enclosed camp area.
8. In response to bear occurrence, the presence of bear attractants, and/or bear-human conflict at a location, the following Standard may be required following direction from an Alberta Fish and Wildlife Officer: All garbage containment areas and waste water containment facilities shall be encompassed by a seven-strand wire electrified fence complete with electrified gate access. Fence and gate electrified function shall be tested daily and a two metre vegetation control buffer maintained on all sides of the fence.

**C. Short-term Temporary Camps (less than one April 1 to November 30 bear season)** (e.g., drilling or tree planting camps)

1. Bear-resistant garbage containment with secure lids that shall be kept closed when not being loaded.
2. Garbage containment receptacles (large bins) housed off-site.
3. Totally enclosed bear-resistant black water containment.
4. Bear-resistant secure cooking grease storage containment. Lids shall be kept closed when not being loaded and the exterior shall be kept clean.
5. Non-food attractants such as greases and oils that are kept at worksites are to be kept in bear-resistant storage such as hard-walled buildings, fuel sheds or strong boxes.
6. At worksites not enclosed by the perimeter fence, waste food and food container and wrappers are to be disposed of in garbage containers in secure buildings or in bear-resistant containers at outdoor work sites and transferred to bear-resistant garbage containment daily prior to nightfall.
7. In addition to the above, the following management practices shall be added where accommodations are in soft-walled structures:
8. Locate camps in open areas with good visibility and at least 200 metres away from bear food sources (such as berries).
9. Keep sleeping areas away from cooking and eating areas.
10. Clean cooking and eating areas after eating and place food or dispose of waste in appropriate containment.
11. Store all food indoors in bear-resistant containers or a hard-walled structure or trailer.
12. Cook and eat in a central area or structure.
13. Inspect the camp daily for bear attractants and minimize or eliminate.
14. In response to bear occurrence, the presence of bear attractants, and/or bear-human conflict at a location, the following Standard may be required following direction from an Alberta Fish and Wildlife Officer:
  - a. Four-strand electrified fence complete with electrified gate access encompassing all garbage containment areas, wastewater containment, cooking facilities and accommodation facilities. Fence and gate electrified function shall be tested daily and a two metre vegetation control buffer maintained on all sides of the fence.

**D. Remote (helicopter access) Camp Management Practices**

1. All field staff shall have bear-aware training courses.
2. All odour and food attractants are minimized.
3. Communication devices such as radios, cell phones or satellite phones shall be available to staff.
4. Four-strand electrified fence (step-in or rebar posts) surrounding the camp; wire spacing at 15 centimetres, 30 centimetres, 50 centimetres and 70 centimetres from ground level.
5. Two metre buffer area on each side of the electric fence.
6. The entire camp including cooking, garbage, sleeping and wastewater sites are contained within the electrified fence.
7. Daily removal of garbage (prior to nightfall).
8. Daily disinfectant (lime) of garbage receptacles.
9. Open black-water system and odour control (liming).
10. Central cooking and eating areas.
11. No food or attractants in sleeping areas.
12. No meat pits.
13. All food stored in bear-resistant receptacles.
14. Other non-food attractants stored in bear-resistant receptacles.

## Glossary

The terms provided in this glossary are used within the context of resource management and the Enhanced Approval Process. Not all terms presented below are used within this document; they may, however, be used in other documents related to the EAP.

- Access Plans:** A management plan that provides a framework for managing motorized and non-motorized travel in the planning area, and is developed with participation from concerned government agencies, local authorities and the public.
- Activities:** All upstream oil and gas operations on the landscape including planning, construction, production, maintenance and decommissioning.
- Adjacent:** Siting or locating in close proximity, nearby, or not distant to an existing disposition.
- Adjoin(ing):** Siting or locating next to an existing disturbance, so that activities share a common boundary, or for some disposition types overlap boundaries (e.g., LOC may overlap a PLA or vice versa). Compliance with existing or other jurisdictional setbacks (e.g. municipal road setbacks) may constitute the boundary edge.
- Adverse Ground Conditions:** Conditions where operations or activities result in environmental damage (i.e., rutting, erosion, siltation). Varies across the landscape based on weather, site conditions and the nature (scale/intensity) of the activity.
- Agronomic Species:** A non-native plant developed using agronomic methods.
- Alpine:** Habitat of mountain slopes above the tree line
- Animal Unit Months (AUM):** An animal unit month (AUM) is the minimum area of land necessary to sustain grazing by one cow for one month.
- Applicant:** A party who's interest has been registered by way of an application to the regulatory body according to the records of the department.
- Approval Standards:** A set of outcome-based criteria that identify preferred siting, timing and site related considerations for industrial development. Non-compliance with Approval Standards will result in compliance actions.
- Areas required for operations:** refers to areas of sites required for operations (tear-drop on a wellsite and an active access road). Where further activities on the site are planned (e.g., multi-well pads) the entire wellsite may be required for operations and natural recovery techniques may not be appropriate. This needs to be documented at planning/approval stage of the disposition.
- Arterial All-weather roads:** Road access routes designed as all-weather roads (Class I or II roads), with a ROW of greater than 20m.
- Assisted Natural Recovery (ANR):** This is a technique that can accompany natural recovery. On forested or peatland sites it typically employs seeded or planted species native to the Natural Subregion (herbaceous, forbs or woody) to maintain site stability and accelerate restoration. On native grassland sites agronomic annuals such as Fall Rye and Flax are commonly seeded as outlined in the IS&G for erosion-prone soils, such as sandy sites and/or on large disturbed areas. The intention is to maintain site stability, while allowing the infill of native species.
- At Risk:** As defined in the Status of Alberta Wild Species, any species known to be 'At Risk' after formal detailed status assessment and legal designation as 'Endangered' or 'Threatened' in Alberta.
- Authorized:** Authority granted for activities to occur on the ground, following the terms of the approval that outline both the administrative and operational requirements for the program. Conditions are enforced through the *Public Lands Act*.
- Authorized Traffic:** Vehicle traffic directly associated with the development, maintenance or production of a specified disposition or through road use agreements related to other dispositions related to other dispositions using the same route (i.e., Forestry or Energy). Authorized vehicles also include those with regulatory inspection and enforcement and those who have other commercial use (i.e., trapping)
- Base Feature:** Data layers that comprise the Provincial Government Base Features data, such as Alberta Township System (ATS), Access, Geo-Administrative boundaries, elevation contours etc. Certain Base Features data layers are used for the LAT Report (such as FMA, First Nation Reserves, Provincial Parks, etc.), while others are available to provide context and a way to reference yourself. (e.g., Digital Integrated Dispositions, Access, etc.). Base Feature data layers are grouped according to ISO data categories

**Bed and Shore:** As defined by the legal bank. The legal bank is a natural boundary formed from the action of water for a long enough time to leave its signature on the ground (e.g., distinct vegetation change).

**Berm:** A barrier designed to prevent access.

**Best Management Guidelines:** Recommended operating practices that provide information to industry of desired practices while planning activities and operating on public land. Guidelines are provided for information only, are not mandatory, and are not subject to compliance actions.

**Biodiversity:** The diversity of plants, animals and other living organisms in all their forms and levels of organization, which includes; the diversity of genes, species and ecosystems, as well as the evolutionary and functional processes that link them.

**Bog:** A type of wetland, in which the vegetation shows the effects of a high water table and a general lack of nutrients. Bogs are acidic and fed primarily by rain water. Plant community dominated by cushion forming Sphagnum mosses, ericaceous (require acidic soils) shrubs and black spruce trees. The term 'Muskeg' has been used to describe this wetland type, as well as fens and swamps.

**Bore:** Drilled hole or tunnel to allow passage of pipeline from one area to another.

**Borrow Pit:** Small quarry or excavation, which provides material for use in the construction project.

**Break (valleys):** The point where change in slope of the ground demarks uplands from the fluvial hills dropping into a valley bottom, which includes watercourses and coulees. See Figure 1.

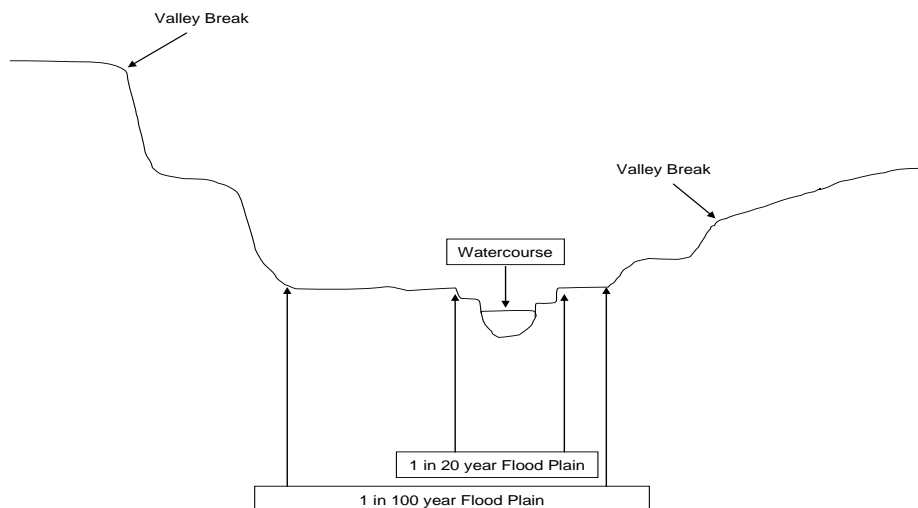


Figure 1. Cross-section of idealized watercourse illustrating areas designated as valley break

**Bridge:** Structure providing human passage over a watercourse by spanning across the entire channel width. Bridges are to provide unimpeded fish passage along the watercourse. Bridge structures should not alter the channel width, nor flow of the watercourse. Bridge structures may include: single/multi-span bridges, clear span and Bailey bridges, and open-arch (bottomless) culverts (extending across channel width). Ice-fill, log-fill, or closed (pipe) culvert crossings are not classified as bridges.

**Buffer:** An area of natural vegetation maintained around a feature (distance applied to both sides of feature) to mitigate the effects of any activity applied to the area beyond the buffer.

**Burrowing Owl Nest (Active):** A residence for two full years after the last known month of occupation.

**Commercial User:** User engaged in the production of goods and services that are obtained from legal land authorization legislated under the *Public Lands Act* and *Land Surveyors Act* in the province of Alberta

**Construction:** The act of building, creating or installing necessary infrastructure for oil and gas production

**Conventional Pipeline:** An underground pipeline that is installed for the purpose of transporting a substance, such as natural gas, oil, water or produced liquids from one location to another.

- Conventional Single Well Pad Site:** A surface location that is designed and constructed for the purpose of drilling, completing and producing oil, water, natural gas and/or associated liquids or for a disposal, service, injector or monitoring well, from one single well bore.
- Coulee:** A dry stream valley, especially a long steep-sided ravine that once carried melt water from a glacier.
- Critical Habitat:** As defined by *Canada's Species At Risk Act*; **Critical habitat** is the habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species critical habitat in the recovery strategy or in an action plan for the species
- Cross-Country Pipeline:** A new linear disturbance where the route does not adjoin or overlap an existing disturbance.
- Data Layer:** The visual representation of geographic dataset in any digital map environment. In the LAT, a data layer will have attributes assigned to its represented features.
- Debris Disposal:** The total or partial disposal of unsalvageable timber, brush, roots and other woody debris.
- Debris:** Remnants from the clearing of land or site preparation consisting of unsalvageable timber, brush, roots and other woody debris. Often stored as piles or windrows, in preparation for disposal or other end use.
- Deficiency:** Characteristic or condition of an application plan package that fails to meet a technical or administrative standard, requirement or specification.
- Delegated Authority:** Any person that has been delegated power, duty or function by the Minister under any Act or regulation.
- Deleterious Material:** Any substance that, if added to water, would degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water.
- Den Site:** The lair or shelter of an individual wildlife species that is used as shelter, for young rearing or hibernating
- Disposition:** The authority granted by a regulatory body pursuant to the *Public Lands Act* to use public land for specific purposes and activities.
- Disposition Activity Type:** The three-letter code associated to the disposition that describes its activity (i.e., MSL, PIL, LOC, and PLA).
- Disposition Holder:** The holder of a disposition according to the records of the issuing regulatory body.
- Disposition Number:** The official identifier that the issuing regulatory body assigns for disposition applications and approvals.
- Disposition Operational Approval (DOA):** An approval issued by a regulatory body subject to an existing disposition under the Public Lands Administration Regulation (PLAR), provided to clients that allow for the use of public land for specified activities.
- Disposition Plan:** A representation of the location of a proposed or constructed disposition as outlined by ESRD standards as specified in the *Disposition Plan Types/Formats* document and includes:
- Application Plan: The acceptable plan type submitted with a disposition application.
  - Authorized Plan: The acceptable plan type used to authorize entry and construction of a disposition.
  - Final Plan: The acceptable plan type used to authorize the as-built location of a disposition.
- Disposition Purpose Type:** The overall purpose associated with the issuance of a disposition.
- Disposition Activity Type:** The detailed activity that is allowable under a defined purpose type and disposition.
- Disposition Status:** The classification given to dispositions through their lifecycle from application to cancellation as identified by the status in the regulatory body's records. Status types include:
- Application
  - Letter of Authority
  - Land Amendment Application
  - Letter of Authority Amendment
  - Active/Disposition
  - Cancelled - Outstanding Obligation
  - Cancelled
- Dispute Resolution:** The process of the regulatory body to be used in the event that internal agency consensus on a Non-Standard or Non EAP submission cannot be reached.
- Disturbance:** Any alteration of the natural landscape by anthropogenic or natural processes.

**Dog-leg:** A sharp bend in a linear disturbance to reduce the line of sight.

**EAP:** Enhanced Approval Process

**ECM:** Enterprise Content Management. The system that allows the creation of disposition issuance documents and the system that retains electronic records related to the lifecycle management of a disposition from application to cancellation.

**EDS:** Electronic Disposition System. A web-based portal that allows clients to electronically submit applications/amendments and associated documents towards the issuance of a formal disposition.

**Effective Public Access Control:** Controls designed for the successful restriction of unauthorized use of the access

**Egress:** The ability of those within or adjacent to an Emergency Planning Zone to travel away from an affected area.

**Encountered:** To come upon wildlife species or features during planning, operation and/or production phases.

**Endangered and Threatened Plants:** Plants designated under *The Alberta Wildlife Act* as *Endangered* or *Threatened*.

**Endangered:** As defined by *The Alberta Wildlife Act*, a wildlife species facing imminent extirpation or extinction.

**Ephemeral Wetland:** Waterbody that only exists for a short period following precipitation or snowmelt. Not the same as intermittent or seasonal waterbodies, which exist for longer periods, but not all year round.

**Equivalent Land Capability:** The ability of the land to support various land uses after conservation and reclamation will be similar to the ability that existed prior to an activity being conducted on the land, but the individual land uses will not necessarily be identical.

**Ergot:** A disease of rye and other cereal grasses caused by a fungus of the genus *Claviceps*, esp. *C. purpurea*, which replaces the affected grain with a long, hard, blackish sclerotial body.

**Erosion Control:** Management actions such as vegetation planting, or tacking to help anchor the soil, and minimize wind and water erosion.

**Erosion:** Wearing away of the land surface by running water, wind, ice, other geological agents, activities of man or animals, and including such processes as gravitational creep. Erosion may either be normal or accelerated; the latter is brought about by changes in the natural cover or ground conditions, including those resulting from human activity.

**ESRD:** Environment and Sustainable Resource Development

**Existing Disturbance:** Any Man-made disturbances where the disturbance features persist; and forest growth does not exceed 2 metres in height and/or where scarification/reforestation/revegetation has not occurred, excluding known recreational trails. A cut block where scarification/reforestation/revegetation has occurred is not considered an existing disturbance.

**Existing Facilities:** Equipment or infrastructure installed on a producing or suspended producing well, for the purpose of well production, such as, wellhead, separator, heater, or compressor.

**Existing Improvements:** Any asset or improvement located on the land prior to activity or development. Assets could include fence, cattle water source and associated pump system, gate, tame pasture, water line, irrigation, developed road, etc.

**Existing Linear Disturbance:** Linear disturbance on the landscape from previous conventional seismic lines, un-reclaimed access, ROWs and easements, which remain visible on the ground and/or from the air (aerial photos) where forest growth has not exceeded 2 metres in height, excluding known recreational trails.

**Existing Road:** Any access road under disposition, municipal or GOA ownership that has been constructed or surveyed.

**Expiry:** The date when the term of a disposition ends according to the regulatory body's records.

**Exploration Wells:** A generic term for wildcat and appraisal wells. A wildcat well is the first well drilled on a new, clearly defined geological structure (a prospect). An appraisal well is a well which is drilled to determine the extent and size of a discovery.

**External Industry Drivers:** Factors that influence industry's activity plans, including market drivers, business decisions, safety engineering, the level of risk involved in proceeding with a project, subsurface rights, the economics of a project, and provincial and federal legislation and regulation.

**Fen:** A type of wetland characterized by a high water table but with very slow internal drainage seepage. Dominant plants include black spruce, tamarack, sedges, grasses and various mosses. The term 'Muskeg' has been used to describe this wetland type, as well as bogs and swamps.

**Fescue Grasslands:** Fescue Grasslands are defined as the native grassland communities associated with the black grassland soils of Alberta that are located within the Foothills Fescue, Northern Fescue, Central Parkland, Foothills

Parkland, Montane and Subalpine Natural Subregions. Note: Many of the areas where Fescue Grasslands occur have been identified by a Protective Notation. The specific plant communities are described in the Range Plant Community Guides published on the ESRD website. To access the guides, search for “Range Plant Community Guides” at Environment and Sustainable Resource Development.

**Field Referral:** The two step process of referring a Non-Standard submission to the appropriate issuing regulatory body (Lead Agency), the subsequent referral(s) to other agencies and registered interest holders by the Lead Agency. The outcome of the process includes a decision on whether the proposed mitigation strategies (identified on the Non-standard Mitigation Supplement) will sufficiently meet land management objectives.

**FireSmart Community Zone:** A variable 10-kilometre radius around the community extending from the FireSmart Wildland Urban Interface Zone. A unique data set will be gathered for this zone for community protection planning to provide a fundamental linkage between FireSmart Communities and FireSmart Landscapes

**Fish Habitat:** Those parts of the environment on which fish depend, directly or indirectly, in order to carry out their life processes. Fish habitat includes the water, water quality and aquatic life in rivers, lakes, streams and oceans, as well as the total surroundings of these waterbodies, including plants and other life forms that interact to make fish life possible.

**Fish Passage:** Passage for fish along watercourses that ensures no breaks in the nature or the continuity of the natural stream bed, and does not act to alter the velocity of water. Unnatural features that interrupt the stream-bed, change water flow velocity, or prevent fish movement are not considered to allow for fish passage.

**Fish-Bearing Watercourse:** Flowing waters that support fish for all or part of a year, or were likely to have supported fish in the past. All permanent and intermittent flowing watercourses are to be considered fish-bearing.

**Fledged (avian):** Become capable of flight; refers to young bird’s ability to fly and forage independently

**Footprint:** The surface area of land disturbed from its natural condition by human activity and the associated impact to or on related natural resources.

**GLIMPS:** Geographic Land Information Management and Planning System (GLIMPS). A computerized database that maintains the official departmental record for all surface activities on Public Land in Alberta.

**GPS Location Plan:** Is a plan that uses GPS field collected data, representing the location of a disposition.

**Green Area:** Lands that are typically forested and set aside primarily for renewable and non-renewable resource development, limited grazing conservation, and recreational use. The Green Area covers about sixty-one per cent of the province, mainly in the north and along the Eastern Slopes, and is largely owned by the provincial Crown.

**Hibernacula:** Shelter used by hibernating animal or group of animals (i.e., snakes) during the winter months.

**High Erosion:** High erosion sites typically occur where there are slopes, large cut and fills, sandy soils, high winds or if erosion is occurring greater than what is present in the adjacent off-site area.

**High Suitability Habitat:** Habitat where there is a high suitability or potential for a species to occur in an area.

**High Visible Areas:** Are sites that can be within, adjacent to, or viewed from recreational sites and tourist developments; seen from elevated public viewpoints; adjacent to or viewed from major travel corridors (roads, lakes and rivers), rural/urban forest interface and site specific areas identified during the planning process; and adjacent to primary and secondary highways in Alberta.

**Higher Level Plan:** Departmentally recognized plan (such as an Integrated Landscape Management Plan, Integrated Resource Plans) that coordinates land-use to manage for values within a defined area. As Higher Level Plans are typically directed to manage landscape sensitivities, such plans are approved with the view that they support government outcomes and EAP Desired Outcomes.

**Horizontal Well Pad:** The pad used for drilling an oil or natural gas well, where the well bore(s) run horizontal within the target formation containing the oil or gas.

**ILM:** Integrated Land Management. A strategic, planned approach to managing and reducing the human caused footprint on the land. The goals of ILM are to reduce land-use disturbance relative to what would occur in the absence of integration efforts, and to foster a stewardship ethic in all land users.

**Imagery:** Data layers that can be used for visualization and referencing. The LAT uses 2009 SPOT5 five meter resolution satellite imagery, the Provincial Hillshade and the Provincial Painted Relief.

**Impermeable Soil:** Soil that does not permit the passage of water (i.e., clay) through the soil layer.

- In-Active Well:** Formally a producing natural gas or oil well, that is currently not producing due to mechanical or economic reasons.
- Incidental Activities:** Activities that are incidental to the construction and operation of a disposition as authorized by the regulatory body. See the PLAR Approvals and Authorizations Manual.
- Industrial:** Surface features arising from oil and gas, aggregate extraction, mining, and forestry industries on the landscape.
- In-Field Well:** A well drilled to further exploit the productive zone(s) of a known pool(s).
- Integrated Resource Plans:** Cabinet-approved policy documents that provide broad direction on land and resource management use. They establish guidelines for allowable activities within specific areas and outline surface access restrictions.
- Integration:** The act or instances of combining into an integral whole.
- Interim Reclamation:** Consists of site clean-up, debris management slope stabilization, subsoil re-contouring, and spreading of topsoil. Includes all disturbances associated with the site (log decks, campsites, borrow areas, remote sumps, access roads, etc), as well as prepared and/or built not drilled sites.
- IS&G:** Integrated Standards and Guidelines.
- Land Standing:** A report generated by GLIMPS providing information specific to any public land related interests and/or activities on a given parcel of land.
- Land Use Program:** An undertaking associated with multiple projects being developed.
- Land Use Project:** An undertaking associated with a specific location and site being developed, (i.e., associated wellsite, road and pipeline).
- LAT:** Landscape Analysis Tool. A web-enabled spatial tool that allows users to plan activities on public land.
- LAT Report:** A system-generated report that includes specific sensitivity and provincial section approval standards and operating conditions associated with the proposed disposition and activity type.
- Leave Areas:** Natural vegetation (often forested) within the Grazing reserves, which are not intended for cattle forage purposes. May be located within or outside of pasture areas. Leave areas on the Provincial Grazing Reserves were designed to provide wildlife habitat and also serve as a means to buffer cattle in fields from traffic and provide security
- Lek:** Traditional place where males (grouse) assemble during the mating season and engage in competitive displays to attract females
- LiDAR Plan:** A survey plan prepared by an Alberta Land Surveyor which uses LiDAR data representing the location of a proposed disposition.
- LiDAR:** Light Detection and Ranging.
- Lifts:** The actual soil layers, often grouped according to structure and texture that are removed from the ground or surface of the area to be disturbed.
- Line of Sight:** A straight unobstructed path in treed areas, between an observer and an object (typically wildlife or industry structure). Dog-legs, buffers or angled ROWs reduce the line-of-sight and screen visibility from the road.
- LOC:** License of Occupation. A disposition granting the right to occupy public lands for an approved purpose, and may be subject to other dispositions granted for the same area. They are issued primarily for access roads, but may also be issued for other purposes (e.g., water intake/outfall sites, pier sites, airstrips, reservoirs). The LOC does not grant any other right to the land. The term of the licence varies depending on the purpose.
- Loop Routes:** The portion(s) of road accessible by on-highway vehicles, which connects two or more separate road systems.
- May Be At Risk:** As defined in the Status of Alberta Wild Species, any species that ‘May Be At Risk’ of extinction or extirpation, and is therefore a candidate for detailed risk assessment
- Metadata:** Information that describes the nature, use, constraints and other information for the various levels of data, in the case of the EAP within the LAT.
- Mineral Licks:** Are unique habitat features of naturally-occurring, exposed deposits of salts or other minerals that are frequented by wildlife.
- Minimal Disturbance Activity (Forested or Peatland):** The activity is constructed in such a manner that the least amount of woody vegetation is removed, and the soil and overtopping minor vegetation is not stripped or buried. The



intention is to leave the soil and rooting zone intact in order to facilitate quick regeneration on the site and maintain ecological integrity. The activity must be conducted under appropriate ground conditions (dry or frozen) to prevent impacts through rutting, compaction and admixing of surface soils

**Minimal Disturbance Activity (Grassland):** An activity conducted in such a manner that the soil and overtopping grassland vegetation is not stripped or removed. The intention is to leave the soil and rooting zone intact in order to facilitate quick restoration of the site and maintain ecological integrity. The activity must be conducted under appropriate ground conditions (dry or frozen) to prevent impacts through rutting, compaction and admixing of surface soils. Disturbance of the sod layer must be restricted to what is absolutely necessary and must be restricted to a size where natural recovery process can adequately restore the site. Clarification for specific disposition is provided below:  
*Minimal disturbance Wellsites;* The only surface disturbance permitted will be at well centre to accommodate the well bore (Max 3m x 3m). All fluids must be contained in above ground tanks and disposed of off site. Minimal disturbance principle must be maintained from construction through production to abandonment.

*Minimal disturbance pipelines;* Pipeline must be constructed with a narrow trench with no soil stripping (target width is 18 inches or less). All backfilling must be done in a fashion that minimizes scalping of the sod layer. Final roach height should not exceed 8 – 10cm with minimal relief to avoid shedding of moisture. Bell holes will require soil salvage.

*Minimal disturbance access;* All initial access must be as drive on grass trails with no stripping or grading. Permanent access will be maintained as drive on grass or two strip gravel trails. Foreign line crossings must be designed to minimize surface disturbances. All depressional or ephemeral areas that are subject to ponding should be avoided.

**Minimal Disturbance Lease/Wellsite:** A lease constructed such that woody vegetation is removed, but the soil and overtopping minor vegetation is not stripped. The intention is to leave the soil and root mat intact in order to facilitate quick regeneration on the site.

**Minimal Disturbance Pipeline:** A pipeline right-of-way in which the forest cover may be removed. However, there is no stripping or burying of soil or the rooting zone, except over the ditchline. The intention is to leave the soil and rooting zone intact in order to facilitate quick regeneration on site.

**Mitigation:** In the context of land use, mitigation is any action, strategy or intervention intended to reduce the adverse affect and potential risks associated with development, upon the land base. Mitigation is based on an assessment of the potential impacts, the risk that those impacts may have, and the identified strategies to alleviate risk to an acceptable level. In some cases, it may not be possible to effectively mitigate those risks that a development poses. Mitigation includes actions taken during the planning, design, construction and operation of a project to alleviate adverse effects (risk) on the values of the land.

**MSL:** Mineral Surface Lease. A surface disposition issued to mineral producers granting exclusive surface rights for surface mining and quarries, wellsites for oil and gas extraction, heavy oil/in situ oil sands and battery sites, or for other purposes incidental to the recovery and production of minerals.

**Multi-pad site:** Wellsites with greater than one wellbore, either vertical, directional, horizontal or a combination thereof.

**Native Species:** Wildlife and plant species that are indigenous to a particular region.

**Natural Recovery:** A technique for reclaiming sites by allowing the land to re-vegetate naturally (without seeding) by conserving and replacing all reclamation material (topsoil, woody debris, and vegetation propagules/root mats) that apply to the site prior seed and soil propagule degradation. On forested lands rollback must be utilized and minimal disturbance techniques are encouraged. On native grasslands minimal disturbance is a requirement for natural recovery to occur.

**No Entry:** A site is considered undisturbed and thus the term “no entry” applies when the maximum disturbance is surveying and no other site preparation has been completed.

**Non-Fish Bearing:** Watercourse that does not directly support fish at any time during the year or has likely never directly supported fish. It is probable that most ephemeral watercourses are non-fish bearing. Non-fish bearing watercourses often contribute important habitat elements (e.g., water and nutrients) to downstream fish-bearing waters, and can in addition contribute elements that can degrade downstream fish habitat (e.g., sediment).

**Non-Producing Well:** A natural gas or oil well that has been drilled and tested, and the results prove that it is non-productive in economic quantities at the time of evaluation.

**Non-Standard Mitigation Supplement:** The form that is filled out by an applicant when applying for a disposition through the EAP Non-Standard process. As completed by the applicant, the supplement outlines the Approval

Standards that will not be met with proposed alternative mitigation strategies that will be applied to reduce risks and meet the desired outcomes in maintaining landscape values.

**Non-Standard Submission:** An EAP submission where the applicant will not meet the approval standards as defined by the LAT Report, associated with the proposed activity and location. Non-Standard submissions require the applicant to identify alternative mitigation strategies on the Non-Standard Mitigation Supplement.

**Notification of Site Entry:** The electronic notification through EDS required to be completed by the disposition holder that confirms site entry on an approved short term disposition. **Noxious Weeds:** Plants sent out in the Schedule under the *Weed Control Act* or designated by the local municipal authority as noxious weeds.

**Occupied:** Lands held under an approved short term or long term disposition.

**Operating Conditions:** The construction, maintenance and operational practices that must be followed once an activity has been approved. These operational conditions are non-negotiable and must be adhered to for activities in the field. Non-compliance with Operating Conditions will result in compliance actions.

**Parallel(ing):** Man-made or natural linear features, which extend in a similar direction of at least 250m and do not adjoin or intersect, does not include the portion(s) of man-made linear feature(s) which approach a point of crossing or intersection with the adjacent linear feature (with setback). The outer extent of an approach is the point where the man-made linear feature makes a significant change in direction towards the point of intersection/crossing, outside of the setback threshold.

**PCS:** Plan Confirmation Service. A web-based system that allows clients to virus check, level check, zip and encrypt plan packages prior to submitting to the issuing regulatory body through EDS.

**Permanent Camps:** Longer term camps that exist longer than 1-year timeframe which require disposition (MLL) approval.

**Permanent Sample Plots (PSP)/Industrial Sample Plots (ISP):** Plots that have been established to research, measure, evaluate and compile data on forest growth. Many of these plots have existed for over 20 years, and their continued maintenance and existence is very desirable and invaluable to the program.

**PGR:** Provincial Grazing Reserve

**PIL:** Pipeline Installation Lease. A surface disposition granting exclusive surface rights for surface right-of-way installations (generally off the right-of-way) that are incidental to pipeline operation (e.g., pumping station, compressor site, metering facility). These are often referred to as pipeline installations.

**Pipeline - Class I:** Where the project length (in km) multiplied by the outside pipe diameter (in mm) equals or is greater than an index value of 2,690. These require a Conservation and Reclamation approval under the *Environmental Protection and Enhancement Act*.

**Pipeline - Class II:** Pipelines less than the index value of 2,690 do not require the above approval. **Environmental Protection Guidelines** for pipelines address their project planning, construction, operations, maintenance and reclamation. On public land an approval under the *Public Lands Act* is also required

**PLA:** Pipeline Agreement. A surface disposition issued for the purpose of a pipeline or flowline.

**Plan Package Confirmation Number:** The number issued through PCS on a successfully validated plan submission.

**Producing Well:** A well that is considered by the Minister of Energy to be a producing well on the basis of the records of the Board and other information available to the Minister. Source: *Petroleum and Natural Gas Tenure Regulation*.

**Proven Producer:** A natural gas or oil well that has been drilled and tested, sufficient reserves have been verified to allow for bringing the well onto economic production.

**Public Road:** A road which the public are authorized to travel on.

**Range Improvement:** Range improvements are made for several reasons. Improvements keep the range productive, make it easier to manage livestock on the range and often help address other resource issues, like wildlife habitat. The most common range improvement projects include cross-fencing, water developments and stock trails. All of these help improve livestock management and range use.

**Rangeland:** Rangeland, or range, is land supporting indigenous or introduced vegetation that is either grazed or has the potential to be grazed and is managed as a natural ecosystem. Rangeland includes: grassland, grazeable forestland, shrubland, pastureland, riparian areas.

- Reclamation:** The process by which specified land is reclaimed to an equivalent land capability, through the removal of site equipment or structures, the decontamination of land and water associated with the site, and the stabilization, contouring, maintenance, conditioning or reconstruction of the surface of land
- Regulated Industry Standards:** Standards as dictated by the Canadian Standards Association (CSA) and/or Occupational Health and Safety (OHS) requirements that are documented for auditing purposes.
- Remote Operations:** Remote operations in this document means operations which occur primarily without surface access.
- Reservation:** An identification code (e.g., Protective [PNT], Consultative [CNT]) placed on land to identify features worthy of special consideration when industrial or other operations are contemplated.
- Restoration:** The process of returning the ecological conditions (i.e. structure, function, and composition) that existed prior to disturbance. As restoration is a function of ecological condition, its determination is largely influenced by the ecological goal (e.g. sage grouse occupancy and utilization) of the habitat.
- Re-vegetate:** The establishment of vegetation which replaces original ground cover following land disturbance.
- Right of Way (ROW):** A cleared area, usually linear, containing a road and its associated features such as shoulders, ditches, cut and fill slopes, or the area cleared for the passage of utility corridors containing power lines or over- or under-ground pipelines. Typically, the right-of-way is a specially designated area of land having very specific rights of usage attached.
- Riparian:** The adjoining vegetated uplands that are directly influenced by the waterbody.
- Roaching:** Excess soil or spoil placed over the ditch (trench) line to compensate for soil settlement. The bump of land left after infill of pipeline trench.
- Rollback:** The practice of re-spreading available woody debris flat on the ground over disturbed lands. Rollback is acceptable in Community Zones as approved by the issuing regulatory body.
- Rookery:** Birthing location and nursery of snakes.
- Sediment:** Solid material, both mineral and organic, that is in suspension, being transported, or has been moved from its surface of origin by air, water, gravity or ice. Sedimentation is the process whereby soil particles, detached through erosion, are deposited.
- Sensitive Feature:** Data layers provided through the LAT that define landscape sensitivities within the province. These features layers are linked to approval standards and operating conditions that the applicant will have to address within an EAP Interim Submission.
- Sensitive Raptor Active Nest:** A raptor nest will retain ‘active’ designation during the winter following nesting activity, through a second year, and into a third year, with the ‘active’ designation being dropped on June 1 of the second year of inactivity. If no other nesting structures (trees, platforms) are available within a 1 kilometre radius of the nest the nest will retain ‘active’ designation.
- Sensitive Species:** Any species that is not at risk of extinction or extirpation but may require special attention or protection to prevent it from becoming at risk.
- Sensory Disturbance:** Impacts to and disturbances from noise, light, odour associated with human activities
- Shapefile:** The format of Environmental Systems Research Institute’s (ESRI) ArcView product. Shape records store both geometry and attributes for features.
- Site Entry:** The entry onto a site where disturbance or site preparation has occurred for purposes other than surveying.
- Site Preparation:** Any treatment of a site to get it ready for construction and/or operations including clearing, mowing, and vegetation removal. The entire proposed site must be cleared for a site to be considered undergone site preparation. Note the clearing a small proportion of vegetation, does not constitute site preparation.
- Sites prone to weeds and agronomic invasion:** A site is considered prone to weeds and agronomic invasion when pre-site assessment indicated the presence of weeds, introduced forages, or undesirable species present on site prior to disturbance or one of the following is present off-site adjacent to the disturbance:
- any occurrence of prohibited noxious weeds
  - noxious weeds, problem introduced forages or species not native to the subregion that occur greater than a single patch plus several sporadically occurring weeds and/or undesirable plants
- Sketch plan:** A plan prepared by computer graphics representing the location of a disposition.

**Soil Horizons:** A layer of mineral or organic soil or soil material approximately parallel to the land surface that has characteristics altered by processes of soil formation. It differs from adjacent horizons in colour, structure, texture and consistency, and in chemical, biological, and mineralogical composition. The major soil horizons are A, B and C. The major organic horizons are L, F and H (mainly forest litter at various stages of decomposition) and O (derived mainly from bogs, marsh, or swamp vegetation). The LFH layer (duff layer) is found in forested soils on top of the A-horizon.

**A-horizon:** Generally considered to be the topsoil and is typically darker in colour than the B and C-horizons. The soils also exhibit finer structures and contain more organic materials. This horizon contains most of the nutrients and water.

**B and C-horizons:** The subsoil that occurs under the A-horizon. The soils are often lighter and brighter in colour than topsoil and often have a heavier, coarser texture than A-horizons. B-horizon is a mineral horizon characterized by enrichment in organic matter, sesquioxides, or clay; or by the development of soil structure; or by a change in colour denoting hydrolysis, reduction or oxidation. C-horizon is a mineral horizon comparatively unaffected by the pedogenic processes occurring in A and B. The root zone for most plants is considered to be the upper 1.2m (often all the A and B-horizons and some of the C-horizon).

**Soil Rutting:** An area of concentrated compaction resulting from the operation of tracked or wheeled vehicles. Where activities occur on minimal disturbance sites, or where there is a potential for rutting into any soils, rutting will be defined as follows.

1. For SiL, Si, L, SCL, CL, SiCL, SC, SiC, C:
  - a) A minimum of 2 metres long.
  - b) A minimum of 20 centimetres in width.
  - c) A minimum of 5 centimetres in depth, as measured from the top of the surrounding topsoil level, to the top of the compacted soil.
2. For, S, LS, SL, FSL:
  - a) A minimum of 2 metres long.
  - b) A minimum of 20 centimetres in width.
  - c) A minimum of 10 centimetres in depth, as measured from the top of the surrounding topsoil level, to the top of the compacted soil.

**Soil Salvage Methods:** Three soil salvage methods: one-lift, two-lift and three-lift.

**One-lift salvage:** Commonly used in the Green Area, forested areas of the White Area, and in muskeg areas. A common depth for stripping forest soils is down to 15cm. Muskeg or organic soils usually go to a depth of 30 – 40cm.

**Two-lift salvage:** Commonly used throughout the White Area where agricultural activity dictates the soil handling techniques, and where soil horizons can be more easily recognized. The A-horizon is removed first followed by the second lift B-horizon.

**Three-lift salvage:** Less common, and is used primarily when there is a definite distinction in quality between the upper subsoil and lower subsoil horizons.

**Species At Risk:** Any species identified by the Alberta Wildlife Act as ‘Endangered’, ‘Threatened’. Or has been identified as a ‘Species of Special Concern’ or under Alberta’s General Status process as ‘At Risk’, ‘May Be At Risk’ or ‘Sensitive’ or Data Deficient.

**Specific Direction:** Operational guidance that specifically addresses how an activity is to proceed or occur (e.g., ‘range’ plans providing specific direction).

**Spring:** A location where the water table intersects at the surface of the ground, and where water flows out at the surface more or less continuously as a concentrated discharge of ground water.

**Standard Submission:** An EAP submission where the applicant agrees to meet the approval standards associated with the proposed activity and location.

**Statutory Declaration:** A legal document defined under the laws of Alberta similar to a statement made under oath; however, it is not sworn. Statutory declarations are commonly used to allow a person or organization to affirm something to be true for the purposes of satisfying a legal requirement or regulation when no other evidence is available or required.

- Step-Out Well:** A step-out well is drilled with the intention of extending a known pool by a considerable distance. A well in proximity to a known pool but whose outcome is uncertain because of geological complexities might also be classified as a Step out well.
- Storage Areas:** Will be used for material (i.e., snow, soil, woody debris) that is temporarily stored during construction within approved clearings that are shown on the survey plan as Temporary Work Space (TWS).
- Stratigraphic test well:** A geologically directed drilling effort to obtain information pertaining to a specific geological condition that might lead toward the discovery of an accumulation of hydrocarbons. Such wells are customarily drilled without the intention of being completed for hydrocarbon production. This classification also includes tests identified as core tests and all types of expendable holes related to hydrocarbon exploration.
- Straw Crimping:** A soil stabilization technique that presses spread straw into the soil creating artificial stubble. Crimping decreases surface erosion and creates a favourable micro-environment.
- Subsoil:** The B and C-horizon soil material found beneath the topsoil.
- Survey Plan:** A plan of survey prepared by an Alberta Land Surveyor representing the location of a disposition.
- Tame Pasture:** Tame pastures are rangelands that have been modified and seeded to agronomic forage species such as Timothy, creeping red fescue, smooth brome grass and, in some cases, legumes such as alsike clover and alfalfa.
- Temporary (Seasonal) Camps:** Camps that are used up to a maximum of 1 year, as approved under the PLAR Approvals and Authorizations Manual - 2013.
- Temporary Activities:** Activities that occur for less than 1 calendar year as authorized by the PLAR Approvals and Authorizations Manual - 2013.
- Temporary Work Space:** The use of existing clearings or the new clearing of public land to facilitate the construction of a disposition or operation.
- Temporary Field Authorization (TFA):** A short term authorization issued by a regulatory body under the Public Lands Administration Regulation (PLAR) and provided to clients that allow for the use of public land for specified activities.
- Threatened:** As defined by The *Alberta Wildlife Act*, a wildlife species likely to become 'Endangered' if limiting factors are not reversed.
- Topsoil:** The uppermost part of the soil ordinarily moved in tillage, or its equivalent in uncultivated soils (A-horizon). Comprises all "A" horizon (Ah, Ahe, Ae, and Ap) material within the surface profile, including any overlying organic horizons (O, L, F and H). If the topsoil depth is less than 15 cm conservation shall include the topsoil plus the B-horizon up to a total depth of 15cm unless the B-horizon is considered unsuitable (chemical or physical limitations).
- Torpor:** Also called temporary hibernation; a short-term dormancy or inactivity, with reduced metabolic rate.
- Township Plan:** Hand drafted spatial representation of dispositions within a township.
- Unauthorized Traffic:** All vehicle access that is not associated with disposition operation, road-use agreements or regulatory inspections and enforcement. Access inquiries that are not related to commercial use, i.e., any activities that do not require road use agreements between the disposition holder and commercial user, can be directed to the local regulatory office responsible for that disposition.
- Unconventional:** activities to access hydrocarbon resources situated in rock of low permeability (i.e., not in a reservoir), increasing difficulties in accessing reserves. Includes coal bed methane, shale gas, tight oil, tight gas, in-situ production regardless of extraction method, and mineable oil sands.
- Ungulate:** A hooved mammal.
- Unoccupied land:** Lands not under disposition.
- Variable Width:** Construction technique for new cut linear activities where the ROW width varies along the extent of the corridor, based on operational, topographic, safety or environmental Desired Outcomes/limitations. (Example: Corners or cut/fill sections may need to be constructed to full ROW width, while straight and flat sections, often require less width).
- Vegetation Management:** The selective removal, control or other management of vegetation growth after initial construction for the purpose of maintenance, safety, access, native plant community integrity and weed removal.
- Waterbody:** Any location where water is present, whether or not the presence of water is continuous, intermittent or occurs only during a flood, and includes but is not limited to wetlands and aquifers.

- Watercourse (Intermittent):** Small stream channels; Small springs are main source outside periods of spring runoff and heavy rainfall. Distinct channel development; channel usually has no terrestrial vegetation; channel width is less than 0.7 metres; usually some bank development.
- Watercourse (Large Permanent):** Major streams or rivers; well-defined flood plains; often wide valley bottoms. Non-vegetated channel width exceeds 5 metres.
- Watercourse (Small Permanent):** Permanent streams; often small valley bottoms; bench floodplain development. Banks and channel well defined; channel width from greater than 0.7 metres to 5 metres.
- Watercourse Debris:** Loose material, either natural or anthropogenic, accumulated immediately upstream of, within, or under a watercourse crossing. Examples of debris include (but are not be limited to) logs, twigs, leaves, sediment, bed material, or beaver dams.
- Watercourse:** A river, brook, stream or other natural water channel (includes ephemeral draws), and the bed along which water flows.
- Well Tie-In:** Activities that connect a production facility (wellsite) to a pipeline within 1.6km of the wellsite. Note that well tie-in activities refer to immediate gathering system and does not refer to connection to larger transfer pipelines
- Wetland:** Land having water at, near, or above the land surface, or which is saturated with water long enough to promote wetland or aquatic processes as indicated by poorly drained hydric soils, hydrophytic vegetation, and various kinds of biological activity that are adapted to the wet environment
- White Area:** Lands typically owned by individuals and groups (homeowners, farmers, companies, organizations, etc.), and most of the land suitable for cultivating. A wide range of uses is allowed including agriculture, oil and gas exploration and development, surface materials development, commercial ventures such as hotels and trail riding operations, and recreation). The White Area covers about thirty-nine percent of the province.
- Wildlife Corridors:** The physical linkage connecting two areas of habitat and differing from the habitat on either side. Corridors are used by organisms to move around without having to leave the preferred habitat. A linear habitat patch through which a species must travel to reach habitat more suitable for reproduction and other life sustaining needs. Many corridors, linking several patches of habitat, form a network of habitats. The functional effectiveness of corridors depends on the type of species, the type of movement, the strength of the edge effects and its shape.
- Wildlife Habitat:** The terrestrial and aquatic environments and associated ecosystem elements that in combination provide the requirements of food, cover and space needed to support self-sustaining populations of wildlife.
- Wildlife Survey:** A comprehensive survey for all Species At Risk observations and features, as identified in the Landscape Analysis Tool, near the proposed area of a development, as defined by the protocols outlined in the Sensitive Species Survey Protocols.
- Wildlife Sweep:** an immediate search of the proposed development for important wildlife features, including occupied raptor nests, heron rookeries (nests), occupied dens and mineral licks. The intent is to quickly assess a site, for these features, so that they may be avoided. In areas where a full wildlife survey is required, sweeps do not replace the need for a full wildlife survey. NOTE: osprey nests and bald eagle nests outside of the Grassland and Parkland natural regions should be considered as features to identify and buffer regardless of the time of year given their large (easily identifiable) appearance and high probability of re-use.”
- Wildlife:** All wild species and their habitats including plants, invertebrates, and micro-organisms, as well as fishes, amphibians, reptiles, and the birds and mammals traditionally regarded as wildlife.