

Treaty 8 Planning and Mitigation Measures

VERSION 1.3: June 2025

About the Regulator

The British Columbia Energy Regulator (Regulator) oversees the full life cycle of energy resource activities in B.C., from site planning to restoration. The Regulator ensures activities are undertaken in a manner that protects public safety and the environment, supports reconciliation with Indigenous peoples, conserves energy resources and fosters a sound economy and social well-being. We work collaboratively across government and industry sharing policy and technical expertise in support of B.C.'s transition to low-carbon energy and helping meet future global energy needs.



Vision, Mission and Values

Vision

A resilient energy future where B.C.'s energy resource activities are safe, environmentally leading and socially responsible.

Mission

We regulate the life cycle of energy resource activities in B.C., from site planning to restoration, ensuring activities are undertaken in a manner that:



Protects public safety and the environment



Conserves energy resources



Supports reconciliation with Indigenous peoples and the transition to low-carbon energy



Fosters a sound economy and social well-being



Values

Respect is our commitment to listen, accept and value diverse perspectives.

Integrity is our commitment to the principles of fairness, trust and accountability.

Transparency is our commitment to be open and provide clear information on decisions, operations and actions.

Innovation is our commitment to learn, adapt, act and grow.

Responsiveness is our commitment to listening and timely and meaningful action.

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Preface

Proponents play a vital role in successful engagement with First Nations. The BC Energy Regulator (the Regulator) requires proponents to meet and engage in dialogue with affected Indigenous communities when planning oil and gas activities. This is part of the Regulator's requirement to implement the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) within Regulator processes.

About the Document

In March 2023, the Province of British Columbia (B.C) and Treaty 8 First Nations signed Letters of Agreement endorsing the Consensus Documents that set out various initiatives to enhance natural resource management in Treaty 8 Territory to achieve sustainability for future generations, meet the Crown's obligations to uphold constitutionally protected Treaty Rights, and support responsible resource development and economic activity.

As a step to honour this commitment and align with the Declaration on the Rights of Indigenous Peoples Act, the Regulator now requires operators to employ the following Treaty 8 Planning and Mitigation Measures (the Measures) for all applications within the Treaty 8 Territory.

The Measures are important natural resource conservation initiatives and a starting point for collaborative comanagement. The Measures were-drafted with input from Treaty 8 First Nations before publication, drawing from extensive discussions on longstanding issues and insights gained during energy development consultations. Furthermore, the Measures are informed by industry feedback and built upon innovative practices utilized by oil and gas operators. They are tangible, practical actions aimed at conserving the environment, safeguarding the practice of Treaty Rights, and enabling sustainable resource development.

The Measures are not intended to be exhaustive or final, and will be adapted collaboratively, as necessary, to meet future needs. Additional measures may be co-developed with specific First Nations.

<u>As of March 7, 2023</u>, the Regulator requires applicants to engage affected First Nations prior to application submission (pre-engagement) when planning energy resource activities. The Regulator encourages applicants to use the <u>pre-engagement process</u> to ensure their projects align with the Measures before submitting applications.

Section 6.3.1 of the Regulator's <u>Oil and Gas Activity Application Manual</u> provides guidance for applicants when implementing the Measures. Applicants must describe how the Measures were considered during project planning. If an applicant considers certain Measures to be infeasible, a rationale and reasonable alternative to minimize effects must be included. Permits and authorizations may include specific conditions and advisory guidance to ensure compliance with the Measures during construction, operation, and upon completion of activities. This document aims to assist users in understanding the procedures and recommended practices involved in the process.

Additional Guidance

As with all Regulator documents, this guidance does not take the place of applicable legislation. Readers are encouraged to become familiar with the acts and regulations and seek direction from Regulator staff for clarification. Some activities may require additional requirements and approvals from other regulators or create obligations under other statutes. It is the applicant and permit holder's responsibility to know and uphold all legal obligations and responsibilities.

Throughout the manual there are references to guides, forms, tables and definitions to assist in creating and submitting all required information. Additional resources include:

- <u>Glossary and acronym listing</u> on the Regulator website.
- <u>Documentation and guidelines</u> on the Regulator website.
- Frequently asked questions on the Regulator website.
- Advisories, bulletins, reports and directives on the Regulator website.
- <u>Regulations and Acts</u> listed on the Regulator website.

The Regulator honours Indigenous rights, title and values as foundational in our decision-making and applies this in all facets of our work with First Nations and Indigenous communities, as partners in building B.C.'s energy resource future.

Document Revisions

The Regulator is committed to the continuous improvement of its documentation. Revisions to the documentation are highlighted in this section and are posted to the <u>Energy Professionals</u> section of the Regulator's website.

Version Number	Posted Date	Effective Date	Chapter Section	Summary of Revision(s)
1.0 J	January 15, 2024	April 15, 2024	All	This is a new document; users are encouraged to review in full.
				Updates to the Oil and Gas Activity Application Manual to Support Consultation with First Nations will be published on the Regulator's website soon.
				For more information, please refer to Information Update IU2024-01.
1.1	May 17, 2024	May 17, 2024	Various	Section 1.3: Editorial revision Class A watercourses has been revised to fish bearing steams.
				Section 1.4: Horizontal Directional Drilling (HDD) revised to trenchless crossing methods.
				Clarification of the timing for restoration of temporary workspaces.
				Section 1.5: The air quality section has been revised to provide a separate description for planning and mitigation measures for the two project phases: construction and operation.
1.2	June 6, 2025	August 1, 2025	Various	New guidance on Indigenous Knowledge provides definitions and direction on the respectful use of Indigenous Knowledge, including its relationship to professional practice under the Professional Governance Act.
				All sections: Language has been revised for improved clarity to support consistent interpretation and application.

				Treaty 8 Planning and Mitigation Measures
				All sections: Project planning considerations have been expanded.
				Section 1.6: The water section has been fully revised to provide clearer guidance on expectations related to water use and planning.
				For more information, please refer to Technical Update 2025-10 on the Regulator's website.
1.3	June 13, 2025	June 13, 2025	1.3, .1.4, 1.5	Made edits to the sections noted to provide further clarity.
				Section 1.3: changed "road" to "aggregate or borrow pit". Section 1.4: changed "road" to "pipeline". Section 1.5: changed "road" to "facility".

Indigenous Knowledge and the Professional Governance Act

The Professional Governance Act (PGA) currently governs the six regulatory bodies overseeing agrologists, applied biologists, applied science technologists and technicians, architects, engineers and geoscientists, and forest professionals. Qualified Professionals under the act must be registered with their applicable organization under the PGA and act in accordance with their regulatory body's standards and practices. <u>Section 55.1 of the Professional Governance Act</u> states that reserved practice does not apply to a person exercising the rights of an Indigenous people which includes Indigenous Knowledge.

Indigenous Knowledge (IK) is a way of knowing held by Indigenous Knowledge holders, encompassing community practices, language, teachings, laws, and relationships with the natural environment. It is broad, holistic, place-based, relational, intergenerational, and can be expressed in tangible or intangible forms. IK extends beyond traditional ecological knowledge and can inform governance. Each First Nation defines and applies IK in their own way, especially in interactions with external groups like industry and government. IK should be protected and only used with permission, respecting the First Nation's governance, laws, policies, and practices.

For example, the College of Applied Biology recognizes that IK and professional applied biology are complementary in managing and protecting natural resources. Therefore, information provided by Indigenous Knowledge holders should be used alongside QP information in planning.

Protecting Indigenous Knowledge

Information sharing agreements between proponents and First Nations may be required, and proponents should follow existing community protocols. The First Nations Information Governance Centre, through the <u>First Nations Principles of</u> <u>Ownership, Control, Access, and Possession</u> (OCAP), provides guidance on protecting IK.

- In BC, the <u>Freedom of Information and Protection of Privacy Act (FOIPPA)</u> provides discretionary protection from disclosure in freedom of information requests for several reasons, including if public disclosure of the information could reasonably be expected to:
- Harm the conduct by the Province of relations between the Province and First Nations (FOIPPA Section 16). This
 protection is valid for 15 years from the time of disclosure;
- Result in damage to or interfere with the conservation of:
 - Natural sites or sites that have an anthropological or heritage value;
 - \circ An endangered, threatened, or vulnerable species or subspecies; or
 - o Any other rare or endangered living resource (FOIPPA, Section 18).

1.0 Baseline Planning and Mitigation Measures

1.1 Seismic

The following are the minimum required documentation and plans that must be included with the application at time of submission to the Regulator.

STREAM, WETLAND, AND LAKE CROSSINGS

- Documentation identifying all stream, wetlands, and lake crossings must include:
 - a. maps and construction plans identifying each stream, wetland, and lake that will be crossed by seismic activities,
 - b. a table indicating each class of stream, wetland, and lake that will be crossed by seismic activities, the table must include:
 - i. the total area of impacted Riparian Management Area including impacted instream area (below the high-water mark) for each stream, wetland, and lake crossing, and
 - ii. the type of crossing that will be used for each stream, wetland, and lake crossing.
- Documentation indicating that motorized vehicle crossing methodology for fish-bearing streams will be via clear- span bridge, open-bottomed culvert, or snow-fill.
- A restoration plan must be submitted for Riparian Management Areas that will be impacted by seismic activities. Where available, Indigenous Knowledge obtained through engagement with Knowledge Holders must be incorporated. If such knowledge is not provided, its inclusion is not required. The plan must be signed by a Qualified Professional and will include, at a minimum:
 - a. how the restoration will follow ecological succession for the Biogeoclimatic Ecosystem Classification system site series present at the site prior to any disturbance,
 - the timing of ecological succession, up to and including the time at which vegetation is expected to reach "moose height" or 2 metres or an alternative threshold suitable to the surrounding area, as determined by a Qualified Professional,
 - c. whether restoration will include natural revegetation, the planting of woody vegetation, the use of seed mix in accordance with the <u>Ecologically Suitable Species Guideline</u>, or combination, and
 - d. if using sod-forming seed mixtures to address erosion concerns, it must be confirmed when the sodforming species are to be replaced with a suitable non-sod-forming species mix for the Biogeoclimatic Ecosystem Classification system site series present at the site prior to any disturbance.

MINERAL LICKS AND WALLOWS

- Maps and construction plans must identify mineral licks and wallows and their associated trail networks that may be impacted by the seismic activity.
- A mitigation plan is required if a proposed seismic activity may impact mineral licks, wallows, and their associated trail network. Where available, Indigenous Knowledge obtained through engagement with Knowledge Holders must be incorporated. If such knowledge is not provided, its inclusion is not required. The plan must be signed by a Qualified Professional and will include, at a minimum:
 - a. setback distances from seismic activity, and
 - b. how associated trail systems that connect with the mineral licks and wallows will be maintained.

LINE OF SIGHT

- Where a seismic line intersects a linear corridor, documentation, including maps and construction plans, must indicate where line-of-sight mitigation measures will occur. At a minimum, line-of-sight mitigation measures will be used at:
 - a. the intersection points of seismic lines and roads,
 - b. the intersection points of seismic lines and pipelines,
 - c. the intersection points of seismic lines and transmission lines, and
 - d. at regular intervals along the seismic lines.
- If existing vegetation is retained, it may be used as a natural line-of-sight mitigation measure.

ADDITIONAL PROJECT PLANNING CONSIDERATIONS

- Follow existing industry best management practices, including low-impact seismic practices.
- End source and receiver lines at the edge of the Riparian Management Area of fish-bearing streams to reduce the number of stream crossings.
- Monitor and maintain isolation from access routes. End source and receiver lines prior to intersecting with roads, except where access into the seismic program is necessary.
- Cut seismic lines by hand wherever possible.
- Hand-cut source and receiver lines within the Riparian Management Area of fish bearing streams
- Avoid cutting or damaging trees greater than 20 centimetres in diameter at breast height.
- Monitor seismic lines after program completion to identify areas of potential impact including where vegetation is not
 regenerating and where predator access may be of concern.
- Mulch should not exceed 4 centimetres in depth.
- When operating in a wetland, complete activities in frozen ground conditions.
- Begin restoration of impacted Riparian Management Area within one growing season of final activities, as per the approved Qualified Professional restoration plan.
- Beavers are a culturally significant species to Treaty 8 First Nations. As such, if the proposed activities may impact beaver habitat, it is strongly recommended that the applicant engage with the affected First Nations to develop appropriate mitigation strategies. Where instream activities are located within beaver habitat, the applicant should assess the potential upstream and downstream impacts of activities on beaver habitat.

1.2 Roads

The following are the minimum required documentation and plans that must be included with the application at time of submission to the Regulator.

STREAM, WETLAND, AND LAKE CROSSINGS

- Documentation identifying all stream, wetlands, and lake crossings must include:
 - a. maps and construction plans identifying each stream, wetland, and lake that will be crossed by a road, and
 - b. a table indicating each class of stream, wetland, and lake that will be crossed by a road, the table must include:
 - i. the total area of impacted Riparian Management Area including impacted instream area (below the highwater mark) for each stream, wetland, and lake crossing, and
 - ii. the type of crossing that will be used for each stream, wetland, and lake crossing.
- For fish-bearing streams, documentation must indicate that crossings will be via clear-span, open bottom culvert, or snow-fill.
- When roads cross through a wetland, a wetland hydrological integrity plan written and signed by a Qualified Professional must be submitted. This plan must include, at a minimum, how the natural flow of the wetland will be maintained.
- Documents, including maps and construction plans, will indicate that roads are a minimum of 100 metres from the top of bank of S1 or S2 watercourse unless to facilitate a crossing.

MINERAL LICKS AND WALLOWS

- Maps and construction plans must identify mineral licks and wallows and their associated trail networks that may be impacted by a road.
- A mitigation plan is required if a proposed road may impact mineral licks, wallows, and their associated trail
 network. Where available, Indigenous Knowledge obtained through engagement with Knowledge Holders
 must be incorporated. If such knowledge is not provided, its inclusion is not required. The plan must be
 signed by a Qualified Professional and will include, at a minimum:
 - a. setback distances from roads, and
 - b. how associated trail systems that connect with the mineral licks and wallows will be maintained.

LINE OF SIGHT

- Where a road intersects a linear corridor, documentation, including maps and construction plans, must indicate where line-of-sight mitigation measures will occur. At a minimum, line-of-sight mitigation measures should be used at:
 - a. the intersection points of roads and seismic lines,
 - b. the intersection points of roads and pipelines, except, through consultation with the pipeline owner, to facilitate pipeline maintenance access, and
 - c. the intersection points of roads and transmission lines, except, through consultation with the transmission line owner, to facilitate transmission line access.

- Line-of-sight mitigation measures are not required where no existing vegetation is present, such as in cutblocks or pastures.
- If existing vegetation is retained, it may be used as a natural line-of-sight mitigation measure.

RESTORATION

- A restoration plan for all workspaces and roads, must be submitted. Where available, Indigenous Knowledge obtained through engagement with Knowledge Holders must be incorporated. If such knowledge is not provided, its inclusion is not required. The plan must be signed by a Qualified Professional and will include, at a minimum:
 - a. how the restoration will follow ecological succession for the Biogeoclimatic Ecosystem Classification system site series present at the site prior to any disturbance,
 - the timing of ecological succession, up to and including the time at which vegetation is expected to reach "moose height" or 2 metres, or an alternative threshold suitable to the surrounding area, as determined by a Qualified Professional,
 - c. whether restoration will include natural revegetation, the planting of woody vegetation, the use of seed mix in accordance with the Regulator's guidance document the <u>Ecologically Suitable Species</u> <u>Guideline</u>, or combination, and
 - d. if using sod-forming seed mixtures to address erosion concerns, it must be confirmed when the sodforming species are to be replaced with a suitable non-sod-forming species mix for the Biogeoclimatic Ecosystem Classification system site series present at the site prior to any disturbance.

ADDITIONAL PROJECT PLANNING CONSIDERATIONS

- The BCER recommends that applicants consider the following points during project planning. While these are not requirements, we encourage applicants to keep them in mind when preparing for pre-engagement with First Nations. Use existing roads wherever possible to decrease cumulative impacts on the land base.
- Begin the restoration of temporary workspaces within one growing season of final temporary workspace activities, or as per the approved Qualified Professional restoration plan.
- Begin the restoration of the road within one growing season of deactivation, or as per the approved Qualified Professional restoration plan.
- Revegetate soil stockpiles with an ecologically suitable species.
- Limit the height of soil stockpiles to 1 metre, if possible.
- Maintain a slope of soil stockpiles of 3H:1V (horizontal: vertical), if possible.
- Beavers are a culturally significant species to Treaty 8 Nations. As such, if the proposed activities may impact beaver habitat, it is strongly recommended that the applicant engage with the affected First Nations to develop appropriate mitigation strategies. Where instream activities are located within beaver habitat, the applicant should assess the potential upstream and downstream impacts of activities on beaver habitat.

1.3 Aggregate and Borrow Pits

The following are the minimum required documentation and plans that must be included with the application at time of submission to the Regulator.

MINERAL LICK AND WALLOWS, WILDLIFE EGRESS AND LINE OF SITE

- All mineral licks and wallows and their associated trail networks that may be impacted by an aggregate or borrow pit must be identified on maps and construction plans.
- A mitigation plan is required if a proposed aggregate or borrow pit may impact mineral licks, wallows, and their associated trail network. Where available, Indigenous Knowledge obtained through engagement with Knowledge Holders must be incorporated. If such knowledge is not provided, its inclusion is not required. The plan must be signed by a Qualified Professional and will include, at a minimum:
 - a. setback distances from the aggregate of borrow pits, and
 - b. how associated trail systems that connect with the mineral licks and wallows will be maintained
- Documentation, including construction plans, must indicate that aggregate and borrow pits will be graded to a resting angle that:
 - a. facilitates reasonable egress by wildlife, and
 - b. does not exceed a grade of 3:1 (horizontal: vertical).
- Documentation, including construction plans, will indicate that a visual vegetation buffer of no less than "moose height" or 2 metres is maintained or created between a road and an aggregate or borrow pit.

WATER

- Documentation, including maps and construction plans, must indicate that aggregate and borrow pits are a minimum of 100 metres from the top of bank of fish-bearing streams.
- If water is planned to be captured from surface runoff and ground water infiltration into the aggregate or borrow pit, documentation, including construction plans, must indicate the maximum volume of water to be held.
- If an aggregate or borrow pit is expected to capture water and hold surface runoff and ground water, a plan, written and signed by a Qualified Professional, indicating whether the pit may be hydrologically connected via surface and/or groundwater flow, must be submitted.

RESTORATION

- A restoration plan for all aggregate and borrow pits must be submitted. Where available, Indigenous Knowledge obtained through engagement with Knowledge Holders must be incorporated. If such knowledge is not provided, its inclusion is not required. The plan must be signed by a Qualified Professional and will include, at a minimum:
 - a. how the restoration will follow ecological succession for the Biogeoclimatic Ecosystem Classification system site series present at the site prior to any disturbance,
 - the timing of ecological succession, up to and including the time at which vegetation is expected to reach "moose height" or 2 metres, or an alternative threshold suitable to the surrounding area, as determined by a Qualified Professional,

- c. whether restoration will include natural revegetation, the planting of woody vegetation, the use of seed mix in accordance with the Regulator's guidance document the <u>Ecologically Suitable Species</u> <u>Guideline</u>, or combination, and
- d. if using sod-forming seed mixtures to address erosion concerns, the plan must confirm when the sodforming species are to be replaced with a suitable non-sod-forming species mix for the Biogeoclimatic Ecosystem Classification system site series present at the site prior to any disturbance.

ADDITIONAL PROJECT PLANNING CONSIDERATIONS

- Aggregate and borrow pits that hold water may be deemed "ecological traps" that draw wildlife to these
 unnatural water features. The construction of pits that do not hold water is encouraged.
- Recontour aggregate and borrow pits once the pit is no longer required to support operations.
- Refill of borrow pits after final use.
- Use aggregate and borrow pits to their full capacity rather than creating multiple pits in an operating area.
- Continue to retain the long-term tenure over the aggregate and borrow pit during the lifespan of the activity and engage with impacted First Nations to prepare a restoration plan.
- Revegetate soil stockpiles with an ecologically suitable species.
- Limit the height of soil stockpiles to 1 metre, if possible.
- Maintain a slope of soil stockpiles of 3H:1V (horizontal: vertical), if possible.
- Beavers are a culturally significant species to Treaty 8 First Nations. As such, if the proposed activities may
 impact beaver habitat, it is strongly recommended that the applicant engage with the affected First Nations
 to develop appropriate mitigation strategies.

1.4 Pipelines

The following are the minimum required documentation and plans that must be included with the application at time of submission to the Regulator.

STREAM, WETLAND, AND LAKE CROSSINGS

- Documentation identifying all stream, wetlands, and lake crossings must include:
 - a. maps and construction plans identifying each stream, wetland, and lake that will be crossed by pipeline activities, and
 - b. a table indicating each class of stream, wetland, and lake that will be crossed by pipeline activities:
 - i. within the table, the total area of impacted Riparian Management Area including impacted instream area (below the high-water mark) for each stream, wetland, and lake crossing, and
 - ii. within the table, the type of crossing that will be used.
- Documentation indicating that motorized vehicle crossing methodology for fish-bearing streams is via clearspan bridge, open-bottomed culvert, or snow-fill.
- Where pipelines are required to cross through a wetland, it is preferred to use trenchless crossing methods such as Horizontal Directional Drill (HDD), where feasible.
- When pipelines cross through a wetland and a trenchless crossing method is not feasible, a hydrological integrity plan, written and signed by a Qualified Professional must be submitted. This plan will include, at a minimum, how the natural flow of the wetland will be maintained.
- Restoration activities within impacted Riparian Management Areas must begin in the next growing season following construction.
- Documents, including maps and construction plans, must indicate that pipelines are a minimum of 100
 metres from the top of bank of an S1 or S2 watercourse unless to facilitate a crossing.

MINERAL LICKS AND WALLOWS

- All mineral licks and wallows and their associated trail networks that may be impacted by the pipeline
 activity must be identified on maps and construction plans.
- A mitigation plan is required if a proposed pipeline may impact mineral licks, wallows, and their associated trail network. Where available, Indigenous Knowledge obtained through engagement with Knowledge Holders must be incorporated. If such knowledge is not provided, its inclusion is not required. The plan must be signed by a Qualified Professional and will include, at a minimum:
 - a. setback distances from pipelines, and
 - b. how associated trail systems that connect with the mineral licks and wallows will be maintained.

LINE OF SIGHT

- Where a pipeline intersects a linear corridor, documentation, including maps and construction plans, must indicate where line-of-sight mitigation measures will occur. At a minimum, line-of-sight mitigation measures must be used at:
 - a. the intersection points of pipelines and seismic lines,

- b. the intersection points of pipelines and roads, except where necessary to facilitate pipeline maintenance access, and
- c. the intersection points of pipelines and transmission lines, except, through consultation with the transmission line owner, to facilitate transmission line access.
- Line-of-sight mitigation measures are not required where no existing vegetation is present, such as in cutblocks or pastures.
- If existing vegetation is retained, it may be used as a natural line-of-sight mitigation measure.

WILDLIFE TRAILS

All wildlife trails that may be impacted by the pipeline activity must be identified on maps and construction plans.

- A mitigation plan must be submitted for wildlife trails that may be impacted by the pipeline activity. Where available, Indigenous Knowledge obtained through engagement with Knowledge Holders must be incorporated. If such knowledge is not provided, its inclusion is not required. The plan must be signed by a Qualified Professional and will include, at a minimum
- how wildlife trails will be maintained through construction and operational phases of the pipeline.

ASSOCIATED ABOVE-GROUND APPURTENANCES

- Associated above-ground appurtenances must be identified on documentation, including construction plans. At a minimum, documentation must indicate that appurtenances are:
 - a. at least 100 metres from the top of bank of an S1 or S2 watercourse, and
 - b. not located within Riparian Management Areas.
- Riser sites and pigging facilities must not be in wetlands.

PIPELINE RIGHT-OF-WAY

- Documentation, including construction plans, must indicate the extent of pipeline right-of-way needed for ongoing operational activities according to CSA Z662 standards.
- A rationale must be provided to justify the requested right-of-way width.

TEMPORARY WORKSPACES

- Documentation, including construction plans, must indicate temporary workspaces.
- The restoration of temporary workspaces must begin within one growing season of final temporary workspace activities, as per the approved Qualified Professional restoration plan.

RESTORATION

• For areas requiring restoration, including Riparian Management Areas and temporary workspaces, a restoration plan must be submitted. Where available, Indigenous Knowledge obtained through engagement with Knowledge Holders must be incorporated. If such knowledge is not provided, its inclusion is not required. The plan must be signed by a Qualified Professional and will include, at a

minimum:

- a. how the restoration will follow ecological succession for the Bio geoclimatic Ecosystem Classification system site series present at the site prior to any disturbance,
- the timing of ecological succession, up to and including the time at which vegetation is expected to reach "moose height" or 2 metres, or an alternative threshold suitable to the surrounding area, as determined by a Qualified Professional,
- c. whether restoration will include natural revegetation, the planting of woody vegetation, the use of seed mix in accordance with the Regulator's guidance document the <u>Ecologically Suitable Species</u> <u>Guideline</u>, or combination, and
- d. if using sod-forming seed mixtures to address erosion concerns, it must be confirmed when the sodforming species are to be replaced with a suitable non-sod-forming species mix for the Biogeoclimatic Ecosystem Classification system site series present at the site prior to any disturbance.

ADDITIONAL PROJECT PLANNING CONSIDERATIONS

- Pipelines may follow existing corridors to reduce forest fragmentation. However, consider methodology for reducing overall impact by reducing corridor widths, maximizing Riparian Management Area restoration areas, and installing line-of-site mitigation measures at regular intervals along the pipeline. Working with adjacent pipeline tenure holders is encouraged.
- Beavers are a culturally significant species to Treaty 8 Nations. As such, if the proposed activities
 may impact beaver habitat, it is strongly recommended that the applicant engage with the affected
 First Nations to develop appropriate mitigation strategies. Where instream activities are located
 within beaver habitat, the applicant should assess the potential upstream and downstream
 impacts of activities on beaver habitat.

1.5 Facilities including: Wellsites, Compressor Sites, Disposal Wells, Water Storage Facilities, and Processing Facilities

The following are the minimum required documentation and plans that must be included with the application at time of submission to the Regulator.

STREAMS, WETLANDS AND LAKES

- Documentation identifying all streams, wetlands, and lakes, including maps and construction plans.
 Documentation must indicate that facilities:
 - a. will avoid streams and lakes and their associated Riparian Management Areas, and
 - b. are a minimum of 100 metres from the top of bank of an S1 or S2 watercourse.
- If a facility is built within a wetland, a hydrological integrity plan, written and signed by a Qualified Professional, must be submitted. This plan will include, at a minimum, how the natural flow of the wetland will be maintained.

MINERAL LICKS AND WALLOWS

- Maps and construction plans must identify mineral licks and wallows and their associated trail networks that may be impacted by the facility.
- A mitigation plan is required if a proposed facility may impact mineral licks, wallows, and their associated trail network. Where available, Indigenous Knowledge obtained through engagement with Knowledge Holders must be incorporated. If such knowledge is not provided, its inclusion is not required. The plan must be signed by a Qualified Professional and will include, at a minimum:
 - a. setback distances from facilities, and
 - b. how associated trail systems that connect with the mineral licks and wallows will be maintained.

AIR QUALITY

- For the operational phases the applicant must provide:
 - a. a broad description of equipment proposed for the facility that may emit pollutants to the atmosphere under routine and non-routine scenarios and an estimate of the amount of Criteria Air Contaminants that the facility may emit,
 - b. a discussion on how the applicant must identify the potential impacts that air emissions may have on people, wildlife, aquatics, and/or vegetation,
 - c. a discussion whether air and deposition monitoring will be performed and the reasons for including or excluding, and
 - d. when monitoring is undertaken, a discussion on how the monitoring results must be provided to interested parties and how frequently will the results be provided.
- For the construction phase, the applicant should identify plans or best practices that will be implemented to

reduce air emissions and identify how dust will be minimized.

INTERIM RESTORATION

- Construction plans must indicate:
 - a. the area needed for ongoing activities once final construction has been completed, and
 - b. the area available for interim restoration.
- The area available for interim restoration may be used for the propagation of shrub and tree species available for use at the time of final restoration.

WILDLIFE MONITORING

- Documentation must indicate the type and frequency of wildlife monitoring and reporting that will
 occur at the facility.
- Wildlife monitoring documentation must incorporate any Indigenous Knowledge that has been
 provided through engagement with Indigenous Knowledge Holders and be signed by a Qualified
 Professional. Documentation must include adaptive management measures to be taken if
 monitoring indicates negative impacts to wildlife because of oil and gas activities.

WATER USE

 Documentation must indicate the source of water for all well drilling and hydraulic fracturing activities including if the water is fresh or recycled and where the water has been sourced.

ADDITIONAL PROJECT PLANNING CONSIDERATIONS

- If there is existing disturbance in a wetland, consider evaluating cumulative impacts prior to application of additional disturbance.
- Design the facility to reduce the need of air and noise emitting equipment.
- The facility, where applicable, should be designed to centralize the storage of chemicals and produced fluids, in order to reduce the number of temporary storage units.
- Beavers are a culturally significant species to Treaty 8 Nations. As such, if the proposed activities may
 impact beaver habitat, it is strongly recommended that the applicant engage with the affected First
 Nations to develop appropriate mitigation strategies.

1.6 Water

The following are the minimum required documentation and plans that must be included with the application at time of submission to the Regulator.

WATER WITHDRAWALS

- Documentation associated with water withdrawals must indicate whether the water withdrawal location is hydrologically connected to surface water where the withdrawal location is within 100 metres of a stream, lake or wetland.
- If a water withdrawal is hydrologically connected to surface water, documentation, prepared by a Qualified Professional, must indicate:
 - a. a maximum instantaneous rate of diversion in units of m3/second, and associated maximum daily rate of diversion in units of m3/day,
 - b. proposed monitoring for confirmation of flows prior to and during diversions.
 - c. proposed Environmental Flow Needs (EFN, low flow) threshold below which diversions of water must not occur, and
 - d. a statement that withdrawal will cease when monitoring indicates the low-flow rate has been met or exceeded.

Deviation from any of the requirements above must be accompanied by a rationale written by a Qualified Professional.

ADDITIONAL PROJECT PLANNING CONSIDERATIONS

- Hydrologically connected aggregate and borrow pits used for water withdrawal purposes must demonstrate that environmental flow needs required for the proper functioning of the aquatic ecosystem of the stream are met.
- Where applicable, operators should look to share water resources, considering both fresh and produced water sources, instead of making application for new water use permits.
- Additional guidance for determining the likelihood of hydraulic connection to water wells can be found here.
- Further guidance regarding Environmental Flow Needs can be found on the BCER website in both the <u>Water License</u> <u>Application Manual</u> and the <u>Oil and Gas Activity Application Manual</u>.