

Policy and Procedures Document

For Submitting

**The Geophysical Field
Report Form**

October 2006

**Government
of Alberta** 

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GEOPHYSICAL FIELD REPORT (GFR)

1.0 OVERVIEW

This document will assist you in preparing the Geophysical Field Report Form (GFR), which is required for all applications on public land in the Green and White Areas of Alberta, including land administered by Alberta Parks and Protected Areas.

The requirement to provide supplementary information became mandatory on November 1, 1994, when the first version of this form ([GEO 22] 1994/08) was introduced. The new version of this form is mandatory for all new programs submitted after January 1, 2002.

The GFR is part of the application. **Applications submitted without a completed GFR will be rejected.**

1.1 INTENT OF THE FORM

The applicant will use the GFR to provide site-specific details on how environmental issues will be addressed during the line layout, clearing, operating and reclamation phases of a geophysical program. In addition, the applicant will outline how the activity will be conducted to meet acceptable environmental standards, rather than having these details addressed by approval conditions.

The GFR outlines the minimum information requirements for each application. In more environmentally sensitive areas and/or areas where multiple activities are coupled with larger 2D programs, or 3D programs and time-lapse monitoring (TLM) programs, additional details may be required before authorization is granted.

Although other tools used for program evaluation are listed, **an on-site evaluation is mandatory** to properly evaluate many field conditions. Where streams and/or other watercourses are identified on the program map, an on-site evaluation is essential for properly identifying both the crossing location(s) and the type(s) of crossing required.

2.0 SUBMISSION REQUIREMENTS

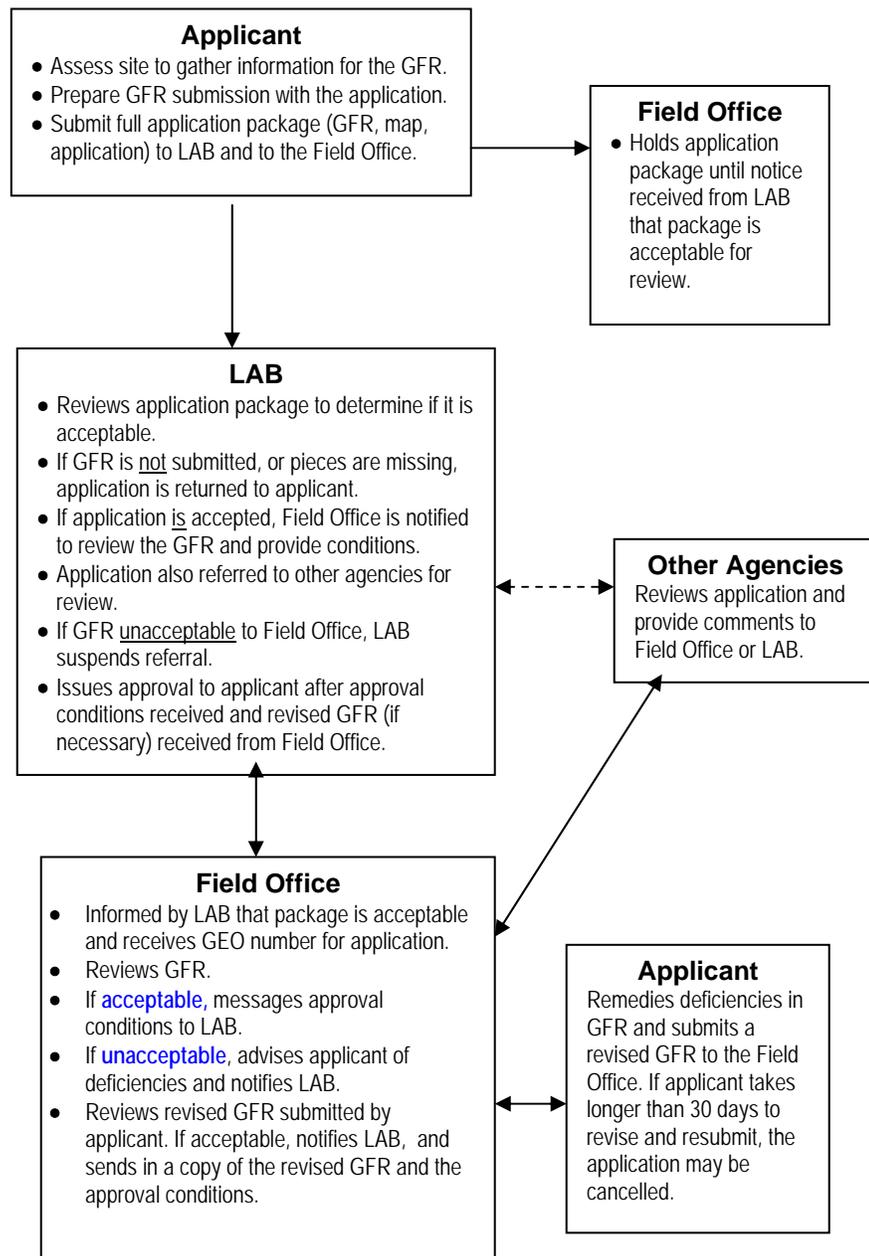
The GFR must accompany all geophysical applications that affect public land, including lands under Alberta Parks and Protected Areas. A GFR is not required for other types of lands (e.g., Special Areas, private land, road allowances). The GFR Process Flowchart outlines the process.

The following is a partial list of reasons as to why a GFR may be returned:

- An onsite evaluation has not been completed (unless this requirement has been waived—see section 3.3).
- Creek crossing locations and/or type of crossing that will be used were not shown, as well as where mechanical equipment will or will not be used.
- Existing lines in the area that are within the prescribed utilization distances (400 m) are not indicated or used (see section 3.6.).
- The decision not to use existing lines was not explained/justified (see section 3.6.).
- No indication was made that an LSAS check had been completed.

- No indication as to whether any reservations (DRS, CNT, PNT) or other dispositions have been investigated and cleared, and/or what remedial action will be taken.
- Areas of Special Concern and/or Caribou Protection Plan number (where applicable) were not indicated.
- Program access was not indicated for approval.
- The activities in part 8 of the GFR (operational method and line construction) were not properly described.
- Any other applicable part of the GFR was not completed to the satisfaction of the FO or PLO.

GFR Process Flowchart



3.0 COMPLETION OF THE GFR FORM

3.1 PREAMBLE

- Licensee** — Self-explanatory
- License Number** — Self-explanatory
- Program Name** — Name given by the applicant to the prospective program.
- Ground Conditions** — States the ground conditions under which the program’s field operations will be carried out.

Dry indicates the program will be carried out primarily in non-frozen conditions, during which time the upland portions of the program area are dry. In poor weather (e.g., rain), when the high ground portions are wet, work is to stop. The lowland portions will likely remain wet throughout the operating period, however. If operations can be carried out without adverse environmental impact on these lowlands (e.g., heli-portable operations), the program can be applied for as **dry**. If it is likely that extensive adverse environmental impact will occur, the program must be deferred and re-applied for as **frozen**.

Note: If adverse environmental impact occurs during operations, the program must be deferred to frozen ground conditions or other approved corrective measure applied.

Note: It is recognized that when carried out correctly, a heli-portable program can work in wet conditions and/or on wet ground without creating an adverse environmental impact.

Frozen indicates the program will be carried out primarily during frozen ground conditions. It is expected that operations in the northern muskegs will occur under frozen ground conditions.

- Area** — The applicant is to identify the townships and ranges that outline the area covered by the program. If the distance between any portions of the proposed lines is greater than 20 km, a new program submission is required.

Note: If the proposed program covers more than one area, check all that apply.

3.2 CONTACT IDENTIFICATION

Contact should be made with the regulator before making the application. This is not mandatory, but it is useful for the applicant to know who will be the contact person throughout the application process. It is not intended that the applicant use the regulator to provide answers to all the questions on the GFR, although some questions may be warranted. The general contacts are:

- All programs in the Green Area — Forestry (the inspecting Forest Officer).
- All programs in the White Area — Public Lands (the inspecting Public Lands Officer).
- Parks and Protected Areas — Bill Richards (780-427-9445) or Doug Bowes (780-427-9384).

- Other — may include trappers with registered traplines, FMA contacts, MD contacts, Provincial Grazing Reserve Agrologists, Alberta One-Call, etc.

Additional space is available for the applicant to list the names of other contacts.

If any of the above are contacted prior to completing the GFR, the type and date of contact need to be identified.

Note: In the *Exploration Regulation*, Section 4 outlines the consent requirements and Part 4 (Notification) outlines the notification requirements.

3.3 PROGRAM EVALUATION

An **on-site evaluation is mandatory**, and is essential to properly evaluate much of the information required to complete the GFR. The field conditions are the most critical and should receive careful attention. For example, where streams and/or other watercourses are identified on the program map, an on-site evaluation is crucial for identifying both the crossing location(s) and the type(s) of crossing required.

Other tools and methods that are available to assist in evaluating the site conditions for the program area are listed in this section. As noted above, the on-site evaluation is key to identifying factors that contribute to adverse environmental effects. Ideally, this would best be accomplished through a combination of aerial and ground reconnaissance. The items listed in section 3.3.2 are tools that will enhance and/or help in planning on-site evaluations.

3.3.1 Waiving the On-Site Evaluation

If an applicant wants the on-site evaluation waived, the request and reasons for the waiver must be discussed with the FO or PLO. A waiver may be considered under the following circumstances:

- If a recent (previous year) on-site evaluation has been completed for the same area, provided new line information is obtained.
- If the site conditions (e.g., large muskeg areas with few drainages and under well-frozen winter conditions) are well known by both the FO or PLO and the applicant, and new line information can be obtained by other means.
- If the site is primarily in the White Area, and only a small portion of the program (one or two sections) is on public land.

The request for a waiver must be consented to in writing by either the FO or PLO, and must be identified on the GFR by checking the “Yes (refer to remarks below)” box in the section “Mandatory On-site Evaluation”.

3.3.2 LSAS (Land Standing Automated System)

An LSAS check must be made on the program area. This will provide information regarding:

- geo-administrative areas, which outlines the general land classification, different agencies’ regions and districts (e.g., Parks), integrated resource plans (IRPs), municipalities, etc.
- ownership of lands (private or public)
- ownership of dispositions (including leases) that will be overlapped by the program
- ownership of any affected registered traplines
- timber allocations (e.g., FMAs)

- reservations (DRS, CNT, PNT, etc.)
- cultural or heritage sites
- other areas of concern.

The first five bullets (above) are required for permitting and/or obtaining the required consents/notifications.

3.3.2.1 Reservations

In most cases, the LSAS check will identify the type of reservation (DRS, CNT, PNT, etc.), and who holds the reservation.

For example:

ACTIVITY ID	STAT	EXPIRY DATE	CLIENT	STANDING	TOTAL
DRS-001662	APPR	9999-99-99	SUSTAINABLE RESOURCE DEVELO	10.117	10.117
			RESEARCH OF SAMPLE PLOT / EXP. PROG	NO SURFACE DISPO	
			EXCEPT SPECIFIED IN WRITTEN AGENC		

In some cases, the purpose, the exact lands affected and the types of uses permitted will not be identified. Where this occurs, the applicant must contact the reservation holder (indicated on the LSAS printout) for details.

Some reservations, such as a DRS, will have a Restriction Code — "No Surface Disposition", which means no surface approval can be issued unless an exemption is applied. In the above example, the exemption is "Written agency consent required", which means consent is required from Sustainable Resource Development. Since this example shows the reservation is for a Permanent Sample Plot (PSP), consent would not be given.

PSP/ISP

Of particular concern are the DRS and PNT reservations placed on Permanent Sample Plots (PSP). These plots, along with Industry Sample Plots (ISP), have been established to measure and evaluate forest growth. Many PSPs were established over 20 years ago, and continue to provide valuable data. Destroying these plots is extremely harmful in terms of dollars spent to date, replacement costs and loss of current and future data. A cost factor for the loss of PSPs, which includes the historical value of the plot and replacement costs, is being established by the department and will be charged to the offender.

Other DRS reservations are similar to a lease, and consent from the reservation holder is required.

Additional information regarding the Reservation System and information on PSPs is available on the departmental website for Land Information at:

<http://srd.ab.ca/ManagingPrograms/ForestManagement/PermanentSamplePlots/Default.aspx>

Select "Restrictions" to pull up the information on PSPs/ISPs and other reservations.

3.3.2.2 Other Areas of Concern

Other areas of concern may also be identified, for which mitigative measures may be required (e.g., cultural sites not listed on LSAS).

3.4 AREAS OF SPECIAL CONCERN

Several areas of special concern exist, and these have individual requirements, policies and procedures for allowing seismic activity. The list below contains the more common special concern areas. The applicant is responsible for checking to determine whether areas of special concern will be affected by the geophysical program.

3.4.1 Caribou Areas

Caribou Protection Guidelines have been produced for each of the five regional caribou areas in Alberta. These guidelines **must** be followed, and appropriate documentation produced and submitted.

3.4.2 Critical Wildlife Zones

Critical Wildlife Zones are considered important to maintain for wildlife habitat and/or the protective aspects of these areas. The majority of these locations are ungulate winter ranges.

3.4.2.1 Ungulates

Deer, Elk and Moose

The key ungulate winter range for deer, elk and moose in Alberta is often found in major river valleys. These landforms contain the land variation and site productivity conditions that provide good winter browse close to forest and topographic cover. Also, south-facing valley slopes have relatively lower snow accumulations and warmer resting sites. The valley landform itself provides protection from high wind chills.

Owing to their localized size and distribution, key ungulate winter ranges play a critical role in maintaining the overall productivity of regional ungulate populations. These ranges ensure that a significant percentage of the breeding population survives to the next year. Females must not only survive, but also be strong enough in the spring to produce healthy offspring. The traditional high-use and high-quality winter ranges have been identified and mapped. (The appropriate Field Office can be contacted to find which maps are available for the program area.)

The primary strategies for protection in these zones are as follows:

- Protect vegetation from being cleared by minimizing all industrial activity. (This forest growth is essential for providing food and thermal protection for ungulates, and protecting the slopes from erosion and other degradation.)
- Minimize activity during winter months to avoid displacing wildlife.
- Reduce access and/or do not create new access.
- Apply the following three general timing restrictions:
 - Northern Alberta: (boreal) (where applicable): Jan. 15 to April 30
 - Southern Alberta: (except southwest corner): Jan. 1 to April 30
 - Southwest corner: (mountains south of Kananaskis Country) Dec. 1 to Apr. 30
(foothills south of Kananaskis Country) Dec. 15 to Apr. 30

Many of these Critical Wildlife Zones are identified in the *Eastern Slopes Policy* and subsequent IRPs. In addition to the above, the Fish and Wildlife Division has identified other critical wildlife areas in a series of Wildlife Referral Maps. For further information, contact Harry Stelfox at (780) 427-2044 or by fax at (780) 427-9559, or contact the appropriate Field Office to find which maps are available for the program area.

Other Ungulates

Timing restrictions also exist for other ungulates, such as sheep and goats. For further information, contact Harry Stelfox at (780) 427-2044 or fax at (780) 427-9559, or contact the appropriate Field Office.

3.4.3 Trumpeter Swan Habitat

Lakes and other water bodies important for Trumpeter Swans exist throughout Alberta, but are mainly found in the central and northern parts of the province. These water bodies are identified on the Wildlife Referral Maps mentioned in section 3.4.2. Requirements to ensure protection of Trumpeter Swans in these locations are as follows:

- April 1 to Sept. 30 — no activity within 800 m of identified lakes or water bodies.
- April 1 to Sept 30 — no direct flights over identified lakes or water bodies.
- Specific buffers are required. (See Section 3.5.3 Trumpeter Swan Lake/Water Body Buffers.)

3.4.4 Integrated Resource Plans

For the most part, these are broad-based land use planning documents produced by the department for use by industry and government in planning activities within the boundaries of the IRPs. Sub-Regional IRPs, Local IRPs, Resource Management Areas (RMAs) and Resource Integrated Decisions (RIDs) are used for the same purpose.

These plans can greatly assist the geophysical industry in identifying landforms, resources, and multiple use issues and concerns involving forestry, fisheries and wildlife. Information regarding IRPs and other documents can be obtained through the Information Centres in Edmonton and Calgary.

These centres can be contacted at 9920-108 Street, Edmonton, AB T5K 2MG, Phone: (780) 944-0313.

3.4.5 MOF or CAFRA Blocks

The Maintaining Our Forest (MOF) program and the Canada Alberta Forest Resource Agreement were government reforestation programs designed to replace trees lost through fires. These programs resulted in many large reforested blocks throughout the Green Area of Alberta. Special operating conditions are required within these blocks, as follow:

- If possible, avoid entering the blocks.
- If a block must be entered, use existing lines within the blocks.
- Line clearing is restricted to hand-cut lines or heli-portable operations, as approved by the FO or PLO.
- **No** mechanical equipment or vehicles can be used within the block(s). The general area in which the blocks are located is covered by a PNT, which will be identified in the LSAS check. A site evaluation will identify individual blocks for planning purposes. To assist in detailed planning, maps are available from the Forest Area offices.

3.4.6 Parks and Protected Areas

Wilderness Areas, Ecological Reserves, Natural Areas, Provincial Parks, Wildland Parks and Provincial Recreation Areas are protected under legislation administered by the Parks and Protected Areas Division of Community Development. Seismic activity in these areas is generally not permitted. If it occurs accidentally, immediate remedial action is required. If seismic activity is

associated with an existing commitment that includes a right to surface access, it may be permitted. For more information, phone (780) 427-9445 or the appropriate Field Office.

3.4.7 Metis Settlements and First Nations Lands (Federal Indian Reserves)

These lands are not under jurisdiction of the provincial government. The point at which a program on public land enters onto Metis or First Nations land must be identified. Consent is required to work on these lands (*Exploration Regulation*).

3.4.8 Provincial Grazing Reserves

There are 32 Provincial Grazing Reserves in the Province of Alberta. These sites are managed through grazing management agreements for a variety of uses. A list of Provincial Grazing Reserves (PGRs) and Grazing Reserve Agrologists is provided in Appendix 1 and at the following web address: <http://srd.ab.ca/ManagingPrograms/ProvincialGrazingReserves/Default.aspx>

Grazing associations are not considered occupants on PGRs; therefore, they are not entitled to charge or receive money for third-party use. On behalf of the Alberta government the PGR Agrologist will:

- Charge \$625.00 per kilometre for a 2D seismic program.
- Charge the “market value” for 3D source and receiver lines in the program area.
- Charges for 2D and 3D programs are compensation for permit fees only and are not for damages beyond normal wear and tear.

The applicant must contact the PGR Agrologist before submitting the GFR so that all operating concerns on the PGR can be worked out in advance. The following should be considered and discussed with the PGR Agrologist:

- The required permits, meetings, reporting schedules and other general information items.
- What is expected of the operator once seismic operations are completed on the PGR?
- Requirements regarding fences and other improvements on the PGR.
- The applicant must contact the PLO and the PGR Agrologist before commencement and after completion of the program...

It is recommended that the applicant also contact the Public Lands Officer (PLO) prior to submitting the GFR.

3.4.9 Other Areas of Concern

Through the review of IRPs, discussions with regulators, other users, FMA staff, etc., other areas of concern may be identified. Protective measures should be discussed and agreed upon with LFD/PLD field staff, and then followed.

Note: On road allowances, applicants must identify on the application form whether any portions of the program are located on a road allowance. Road allowances that are used as part of the program must also be identified on the preliminary plan.

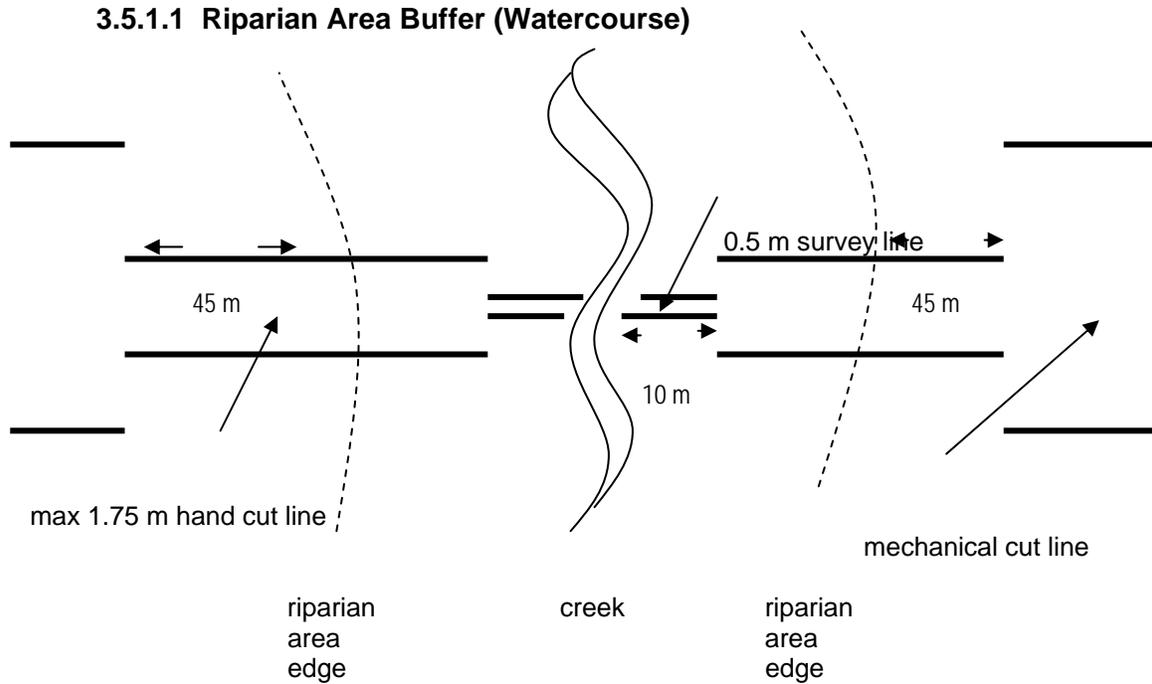
3.5 BUFFER ZONES

3.5.1 Aquatic Buffers

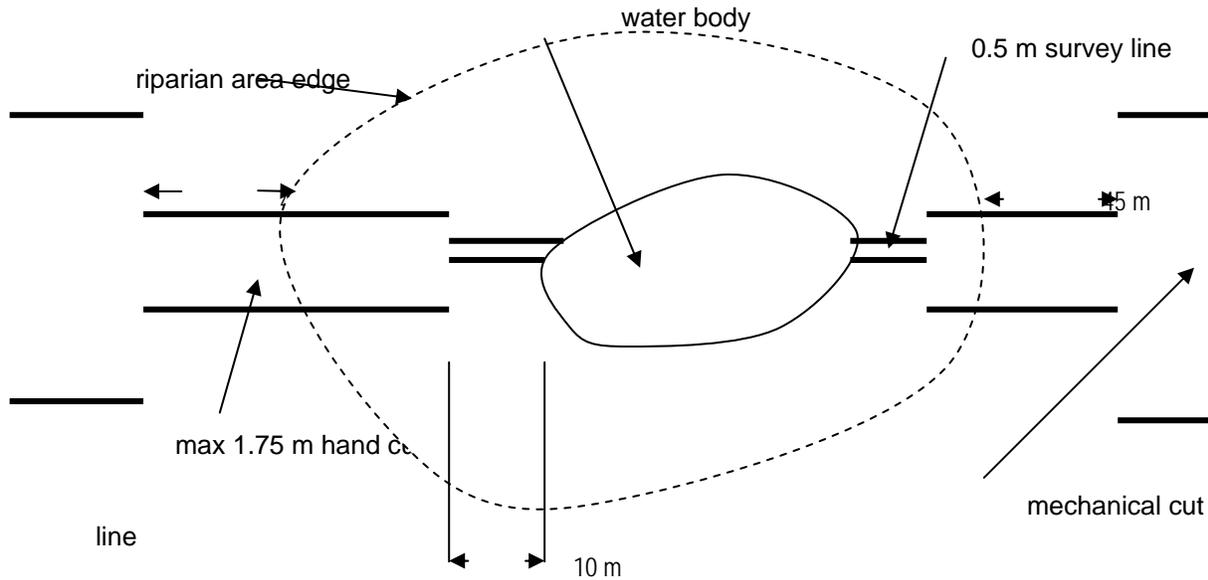
Buffers are to be used on all crossings where a mechanical crossing has not been approved.

Buffers of primarily undisturbed vegetation are required for protection of many riparian areas associated with watercourse crossings and water bodies. A 10 m buffer is required from the water's edge on water bodies, and from the bank immediately next to the water channel on watercourses. **All program lines must terminate at this point.** Only the 0.5 m survey line of site can touch the water body. Drilling shot holes is not permitted within 45 m of riparian areas.

An additional buffer of 45 m is required outside the edge of the riparian area, and no mechanical equipment is permitted within this buffer. Hand-cut lines may be permitted.



3.5.1.2 Riparian Area Buffer(Water Body)

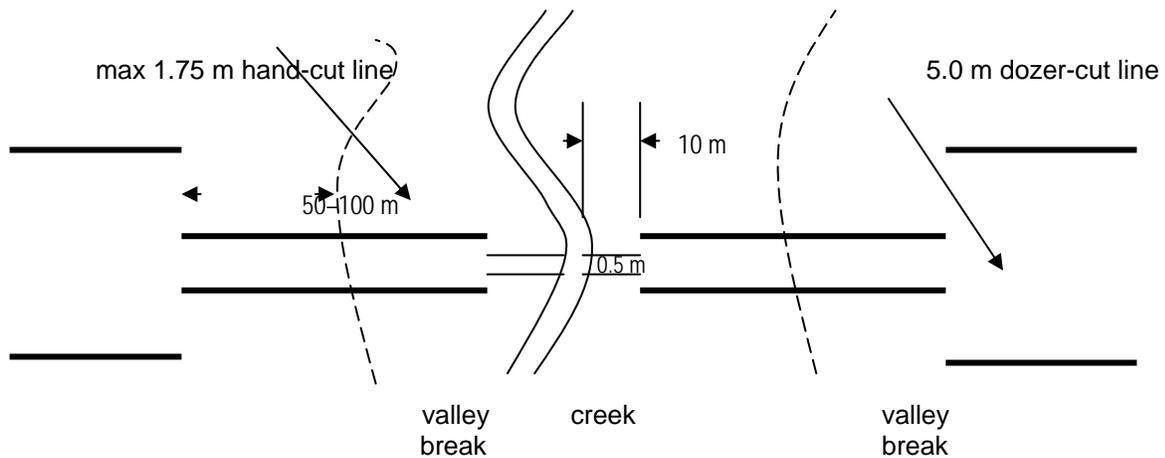


Where riparian areas are extensive (i.e., 800 m or greater), consideration may be given to waiving the required 45 m buffer if alternative measures are taken to prevent flowing holes and protect riparian habitat.

3.5.2 Wildlife Buffers

A buffer is required where wildlife protection corridors are in place (see section 3.4.2 – Critical Wildlife Zones). The buffer is the valley and is 50–100 m (usually 100 m in the Green Area) beyond the valley breaks. Line cutting with dozers must terminate at this point. This buffer does not apply to crossings (usually existing) that are approved as vehicle crossings (including quads).

3.5.2.1 Wildlife Corridor Buffer



Where multiple benches exist in some of the major rivers valleys (e.g., Peace River), mechanical equipment (dozers) may be allowed over the breaks down to a bench level. This is a site-specific call, and is subject to approval from the FO or PLO.

3.5.3 Trumpeter Swan Lake/Water Body Buffers

- | | |
|-----------------------------------|--|
| ▪ Seismic lines greater than 4.5m | 800 m from the edge of the lake/water body |
| ▪ LIS seismic lines 2.5m to 4.5m | 500 m from the edge of the lake/water body |
| ▪ LIS lines up to 2.5 m | 100 m from the edge of the lake/water body |
| ▪ Heli-portable sites | 100 m from the edge of the lake/water body |
| ▪ Survey line of sight | Nil (can go up to edge of lake/water body) |
| ▪ Minimal impact lines | Nil (can go up to edge of lake/water body) |

3.6 Existing Lines

The overall objective is to reduce the footprint on the landscape and protect regrowth on existing 7-8 m wide straight lines. As the regrowth on these lines approaches the 2 m height a new LIS line adjacent to these lines may minimize the footprint. In site-specific instances, an existing straight line maybe favourable for reuse and in other instances it may not be. This should be discussed with the Land Manager at the planning and scouting stage of the program and documented within the GFR.

Where existing lines have substantial regrowth preference may be given to locating LIS lines adjacent to these lines. To make this decision, consideration must be given to:

- Timber types;
- Rotational age;
- Terrain;
- Technical reasons (e.g. well ties); and
- Regeneration.

For 2D programs, existing lines must be considered for reuse if:

- They are parallel to and within 400 m of the proposed 2D lines;
- There is minimal regrowth;
- It is being utilized for access; or
- There are obvious signs of continuous disturbance.

For 3D programs, existing lines must be considered for reuse if:

- They are within the perimeter of a 3D program; and
- They are at a distance approximately equal to the line spacing.

Where an existing line is favourable for reuse, the reuse portions are expected to be:

- Narrow and meandering around patches of enhanced growth.
- In more open forest stands the meandering may include some of the open area adjacent to the original line.

Where an existing line is not favourable for reuse, new cut LIS lines:

- Within 150 metres of an existing line must not exceed 3 metres in width unless approved by the Land Manager
- Must be rationalized by the proponent and provide ASRD with the reasons for not using the existing line.

Maps from the department should not be considered the only source of existing line information, as they may not always be current. In addition, not all seismic lines shown on maps are considered existing (i.e., a seismic line where the majority of the line has coniferous/deciduous regrowth greater than 2 m in height is not considered existing). It is crucial to look for and identify additional existing lines in the field through the Program Evaluation (see section 3.3).

3.7 Program and Line Access

Aside from program lines being used as access, other allowable access includes;

Turn-arounds on a 2D program:

- Turn-arounds will consist of natural opening whenever possible and/or new cuts.
- Turn-arounds will be allowed at a 500m interval, which includes new cuts defined as anything over 2m in height and natural openings.
- If necessary, turn-arounds will also be allowed at the end of the line.
- Turn-arounds that occur at creek crossings must be discussed and agreed to by the land manager.
- Turn-arounds should avoid areas that have been planted.

Perimeter access on a 3D program:

The perimeter of a 3D program may have receiver lines cut wider to facilitate the moving of equipment and personnel. This must be discussed with the local Forest Officer (FO) or Public Lands Officer (PLO). The proposed access must be:

- Identified during program evaluation.
- Clearly identified on the preliminary map.

Access shown on the preliminary program map will be the only access approved. If other portions of lines, trails, etc., are required for access, additional approval must be obtained from the FO/PLO.

All new cuts must be:

- Kept to a minimum size.
- Reflected on the final plan.
- Included on the final line width sheets for Timber Damage Assessment (TDA).

Access using an area held under a Licence of Occupation (LOC) must also be clearly identified on the preliminary map. Approval for access must be obtained from the LOC holder as per the Exploration Regulation.

3.8 Evaluation of Impacts on Streams and Water Bodies

3.8.1 Watercourses

Geophysical operations have a high potential for causing environmental impacts and damage when they encounter streams or other watercourses. Before any geophysical activity occurs, the crossings must be identified and carefully evaluated to ensure the best crossing locations and method(s) have been selected. On-site evaluation is crucial where crossings are involved (see section 3.3).

Note: The bed and shore of most watercourses and water bodies are owned by the Crown.

The *Water Act Code of Practice for Watercourse Crossings* applies to all vehicle crossings over watercourses. Exemptions apply to some watercourse crossing types, as outlined in Schedules 2 and 4 of the *Water (Ministerial) Regulation*.

Crossing Types Exempted From the Code of Practice for Watercourse Crossings

White Area

Non-fishbearing Watercourses	Fishbearing Watercourses
Most ice bridges and snowfills	Most ice bridges and snowfills
One-span bridge crossing	

Green Area

All Watercourses
<ul style="list-style-type: none"> • Most ice bridges and snowfills • One-span bridge crossing • Logfills where no flow is present (frozen to the bottom)

See Schedule #2 of the *Water (Ministerial) Regulation* for a list of watercourses that require an approval under the *Water Act* for an ice bridge or snowfill.

Culvert-type crossings where the watercourse flow does not exceed the capacity of a 1.5 m culvert are exempted in the Green Area and in non-fishbearing watercourses in the White Area. However, culvert crossings are generally not used by the seismic industry.

The applicable Code of Practice Management Area Map must be consulted to determine the type of crossing appropriate for any activity that may impact the identified watercourse. The Code and maps outline where certain types of crossing may be used, and identify certain locations where new crossings are not permitted

Note: **No crossing for mechanical equipment is permitted** over a **Class A** watercourse or tributaries within 2 km of the coded (Class A) stream. Alternatives include:

- using an existing crossing if a structure is in place (e.g., bridge),
- crossing on foot.

Restricted Activity Periods apply to any crossing that will disturb the banks or active stream channel (any in-stream activity; e.g., fording a stream).

Note: If a Code of Practice crossing is required, a notice is to be attached to the GFR that will be forwarded to Water Management.

3.8.1.1 Requirements

All crossing locations and the type of crossing are to be clearly marked on the preliminary program map using the appropriate symbol for hard copy submissions, or numbers for digital plan submissions. (See section 7.0 of the GFR Form for symbols and numbers.) Code of Practice crossing (those that are not exempted) must be indicated separately.

Crossings that pose any risk of erosion or other possible environmental concerns must be identified and the measures planned for mitigating the concerns must be explained fully. Photographs may help to explain the details, but these are optional.

Summer operations may be possible in some parts of the province; however, if numerous watercourses have been identified, the program may have to be deferred to frozen ground conditions.

3.8.2 Water Bodies

Boxes are provided to indicate the proposed energy source. The policy and procedures for geophysical approvals regarding water bodies depends on whether the program is proposed for summer or winter.

Winter Programs

The following are the policy/procedures for geophysical approvals for **winter** programs on water-covered areas where explosive charges are proposed.

White Area

Category	Frozen to Bottom	Not Frozen to Bottom
Fishbearing	No drilling holes	No drilling holes
Non-fishbearing	Drilling holes permitted; all holes must be cemented	No drilling holes
Trumpeter Swan Lake	No drilling holes. Note required buffers as per section 3.5.3–Trumpeter Swan Lake/Water body Buffers	No drilling holes. Note required buffers as per section 3.5.3–Trumpeter Swan Lake/Water body Buffers

Green Area

Category	Frozen to Bottom	Not Frozen to Bottom
Fishbearing	No drilling holes	No drilling holes
Non-fishbearing with no outlet*	Drilling holes permitted; flowing holes must be cemented.	Drilling holes permitted, but flowing holes must be cemented.
Non-fishbearing with outlet*	Drilling holes permitted; flowing holes must be cemented.	Drilling holes permitted but all holes must be cemented.
Non-fishbearing with history of flowing hole problems, with or without outlets*	Drilling holes permitted; all holes must be cemented	Drilling holes permitted; all holes must be cemented.
Trumpeter Swan lakes	No drilling holes. Note required buffers as per section 3.5.3–Trumpeter Swan Lake/Water Body Buffers.	No drilling holes. Note required buffers as per section 3.5.3–Trumpeter Swan Lake/Water Body Buffers.

*Outlet means having surface drainage capability or potential.

Summer Programs

The following are the policy/procedures for geophysical approval for **summer** programs on water-covered areas where air/water guns or explosives are proposed.

Category	Permitted Activities	Not Permitted Activities
Fishbearing	Air and water guns	No drilling holes
Non-fishbearing greater than 5 m in depth	Air and water guns	No drilling holes
Non-fishbearing less than 5 m in depth	Drilling holes permitted; all holes must be cemented	N/A
Trumpeter Swan Lakes	Air and water guns after Sept. 30 only. Note required buffers as per section 3.5.3–Trumpeter Swan lakes/water bodies buffers	No drilling holes. No activity April 1 to Sept 30, includes flying over lakes.

Note: Authority to use air and water guns must be received from Water Management.

Note: Implanting charges into the mud or bottom of a water body is a viable alternative to drilling holes in non-fishbearing water bodies that are not frozen to the bottom. This option requires specific approval from Water Management and SRD.

The charts above provide a guide for developing the detailed plan that is required for energy sources which are considered for use on water-covered areas. Space is provided in the GFR Form to describe the plan.

3.9 OPERATIONAL METHODS AND NEW LINE CONSTRUCTION

3.9.1 Line Construction

3.9.1.1 Program Type

- 2-D Program
- 3-D Intense Program
- 3-D Moderately Intense Program
- 3-D Non-Intense Program
- Time Lapse Monitoring Program

3.9.1.2 Line Type

- Source
- Receiver
- Combination

3.9.1.3 Low Impact Seismic (LIS) non heli-portable programs

The objective of low impact seismic (LIS), also referred to as the “path of least resistance”, is to create a narrow continuously meandering line. The maximum average LIS line widths (+/- 0.5 m) is described below in section 3.9.1.3.3. The LIS method will:

- Ensure that the maximum width of a LIS line (2D or 3D) will not exceed 5.0 m unless specifically approved by the Land Manager.

- Include hand or mechanically cut lines.
- Ensure that there is a maximum 200 m line of sight on any line so that wildlife concerns are addressed (see section 3.11.3).
- Avoided larger standing tree by meandering.
- Generally not disturb the soil and ground cover.

In dense timber stands where LIS is not possible, straight-line cuts will be permitted when approved by the land manger. Line cutting will vary due to:

- Forest cover and density.
- Terrain or topography.
- Wildlife issues such as line of sight blockage every 200 m.

Access control on lines that are Cat cut may require access control by implementing rollback on 200m of either side of existing /new access or as per agreement with the Land Manager.

3.9.1.3.3 Line widths for non heli-portable operations

The objective is to create a maximum LIS line width standard for 2D and 3D seismic programs within the province. The following tables will be used in designing a geophysical program. All other restrictions that apply to a program (e.g. wildlife restrictions, cut block restrictions, etc.) must be overlaid and will take precedent over these standards

3D Explosive Programs (Smallest source or receiver line spacing dictates the intensity of a 3D program)		
Intensive LIS Programs (≤ 130 m spacing)	Intermediate LIS Programs (> 130 m ≤ 300 m spacing)	Non-Intensive LIS Programs (> 300 m spacing)
R ≤ 2.0 m width	R ≤ 2.0 m width	R ≤ 2.0 m width (Heli Assist) R ≤ 3.5 m width
S ≤ 3.0 m width	S ≤ 3.8 m width	S ≤ 4.5 m width (allows cat cut)

Note: Heli assist utilizes helicopters to support standard program layout (doesn't include heli-portable programs).

3D NON-Explosive Programs (Smallest source or receiver line spacing dictates the intensity of a 3D program)	
Intensive LIS Programs (≤ 150 m spacing)	Non-Intensive LIS Programs (> 150 m spacing)
R ≤ 2.0 m width	R ≤ 2.0 m width
S ≤ 3.0 m width	S ≤ 4.5 m width

Note: The maximum receiver line width to accommodate quad access and geophones is 2.0 m. Using receiver lines for any type of access, other than quads, is to be reviewed under the access section. Should additional access be required on the receiver lines to accommodate other equipment up to 3.5m wide, additional planning, discussions and clarification with the land manager are required. This will be reflected within the submission of the geophysical field report. For example;

- Why is additional access required?
- What alternatives have been considered and/or dismissed, why?
- are there existing lines that can be used?, or
- How many lines would be widened and show specifically which ones.

2D Explosive (mulch)	2D Non-Explosive
R/S ≤ 4.0 m width	R/S ≤ 4.5 m width

Note: Source lines for the intensive 3D explosive programs will be reassessed to determine if a 2.75m and 2.5m line width can be applied by fall of 2008 and 2009 respectively.

Source lines for the intermediate 3D explosive programs will be reassessed to determine if a 3.0m line width can be applied by fall of 2009.

3.9.1.4 Other

Survey Line of Sight

Survey Line of Sight — 0.5 m maximum width.

A survey line of sight is used to locate shot points, line location, etc. Its width cannot exceed 0.5 m. These lines are for survey purposes only and are not to be used as program lines (e.g., source or receiver lines). There is no TDA charge for these lines.

Heli-portable Site(s)

Heli-Portable drilling sites — maximum 5.0 m diameter.

Heli-portable sites are used for drill locations and do not include the connecting lines between drill sites. The connecting lines can be LIS or minimal impact line types and must be hand cut. Heli-portable seismic excludes all ground access except by foot. All mechanical equipment and vehicles (including ATVs) are prohibited. The only exception is for approved staging areas with existing ground access. Wherever possible, natural clearings should be used for drill site locations. Heli-portable sites may vary in size but cannot exceed 5 m in diameter.

Note: Where minimal clearing was carried out, the requirement to count the site as “new cut” may be waived in writing at the discretion of the inspecting officer.

3.9.1.5 Cut type

There are two cut types: hand cut and mechanical.

- Hand cut — a line cleared using a chainsaw or some other hand-held cutting device. Hand cut lines may range slightly in width, but seldom exceed 2.5 m.
- Mechanical cut — a line cleared using some type of mechanical equipment such as a dozer or hydro-axe, but not a chainsaw. The line widths range from 2.5–6 m.

3.9.1.6 Equipment

The type of equipment such as line clearing, cutting equipment, energy source and program layout used must be identified. Type of equipment used for energy source and program layout will dictate the line width required.

3.9.1.7 Additional Mitigation Measures

Additional imitative measures may be necessary regardless of which type of seismic or line cutting is used. These are as follows:

- Helicopter-assisted operations.
- One-pass operations using helicopters or ATVs to transport crew members and supplies.
- Use of enviro-drills and/or heli-drills.

3.9.1.8 Detours

Detours around difficult terrain may be permitted if it is clearly shown that other lines cannot be used to access both sides of the obstacle. Detours are permitted in order to access preferred watercourse crossing locations on new cut lines, providing mechanical watercourse crossings were approved. When detours are used, the continuation of the original line is approved as being an approved line type that is hand cut.

Note: A detour can start back down the line.

3.9.2 Textual Description of Program Operations

In this open text area of the GFR Form (section 8.2), the applicant is to provide a more detailed description as to how the seismic program will be carried out. The following points are to be included. There may be other items added as well, depending on the program.

- Program commencement date.
- Any additional mitigation measures (see section 3.9.1.7).
- The pattern and spacing of lines used for 3-D programs.
- Energy source equipment type—dynamite drill type(s), vibroseis, etc., as well as the size, whether tracked or wheeled, and the required maximum line width for each.
- Recording equipment and method(s) and/or pattern(s) of recording.
- Line construction methods to be used in dense stands.
- Various other methods, precautions and considerations that will be used to mitigate other environmental concerns
- Helipads—size and number required. (Where minimal clearing was carried out, the requirement to count the site as “new cut” may be waived in writing at the discretion of the inspecting officer.)
- Any other relevant information about the program

3.10 TIMBER MANAGEMENT AND TIMBER DAMAGE ASSESSMENT (TDA) REBATE

3.10.1 General

If the program falls within a Forest Management Agreement (FMA) area, a timber licence or permit area, indicate the FMA holder, licensee or permit holder (section 9.0 of the GFR Form).

If the program falls within any of the following, additional considerations may be required to reduce the impacts. These are outlined below.

Cutblocks

- Use existing lines.
- Reduce line width.
- Use high blade.
- Use LIS and avoid reforested trees.

Currently Scheduled Logging Area

- Defer until logging completed (if possible).
- Merchantable trees should be hand-fallen and left for salvage by the log contractor.

Reforested Areas (excludes MOF and CAFRA Blocks)

- Avoid area where possible.
- Use existing lines within the reforested area.
- Use LIS and avoid reforested trees.

3.10.2 Measuring Line Width for TDA Purposes

Line width for TDA charges should always be measured at a known point (e.g., shot point), with the recommended frequency of measurement being every 500 m. There are 3 scenarios that may occur when trying to measure line width.

- Where dense stands exist, the line width can be measured from tree to tree (i.e., using standing trees) across the line.
- Where there is a windrow on one side of the line and no identifiable disturbance on the other side, line width will be based on the equipment size used to construct the line as specified at the commencement meeting with the land manager. The line width measurement will include the windrow and the measurement will be taken from the residual and/or the toe on the outside edge of the windrow and include equipment width.
- Where there is no physical evidence of disturbance then the line width will be determined by the equipment used to construct the line as specified at the commencement meeting with the Land Manager.
- Limbing trees for a survey line-of-site is not considered measurable as a line unless the limbing has been severe enough to kill the tree. The limb[s] should be cut back only enough to allow equipment to pass, **without** removing the entire limb at the trunk unless absolutely necessary for operational purposes. Hazard reduction work off line does not count for TDA purposes (e.g., heliportable operations).
- Form GEO 46D, the final plan new cut summary data sheet must be filled out and submitted with the final plan.

3.10.3 Timber Damage Assessment (TDA) Rebate

Where the LIS lines avoid merchantable trees on non-FMA lands and on FMAs listed in Box B of the TDA (GEO 33), a 50 percent rebate (reduction of rate) on the TDA may be available. Since a more thorough inspection is required to ensure LIS has been properly conducted, it must be indicated that this rebate is being requested at the time of application (GFR Form section 9.0).

Note: If the appropriate box has not been filled in on the GFR, no rebate will be considered.

No rebate will be provided for the following:

- Scrub or bush land;
- Open or treed muskeg;
- Non-productive land;
- Any D density coniferous stands regardless of height class;
- C density coniferous stands with a height class of 0, 1 or 2; or
- C and D density deciduous stands with a height class of 0, 1 or 2.

3.10.4 Timber Salvage

Timber salvage is not required on minimal impact lines, survey line of sight, and heli-portable drill sites. If merchantable timber avoidance is not properly carried out on LIS lines timber salvage may be required.

In specific Timber Salvage Areas where the stem spacing makes timber avoidance impractical then spray cutting technique should be used, with the trees damaged as little as possible.

One of the following must be completed for seismic programs that require timber salvage:

- A request for waiver of timber salvage if no merchantable timber exists on the program area
- A Timber Salvage Plan

Where a Timber Salvage Plan is applicable, it should be attached to the GFR Form (Appendix 1 – Timber Salvage Plan Supplement Page of the GFR Form). The following information is required from the Timber Salvage Plan, along with a completed TM 88 Form or other signed agreement:

- Species of wood to be salvaged;
- Volume of wood to be salvaged;
- Request for a waiver if amount is too small to require salvage;
- Identification of who will purchase (receive) the salvaged wood, if volume warrants; and
- Identification of who will remove the salvaged wood and when

3.11 Miscellaneous

3.11.1 Campsites

All campsites required for the program must be approved, regardless of type. Each campsite must be indicated and its specific location provided on the preliminary map for approval. If the location changes after the program has been approved, irrespective of the reason, an additional campsite approval is required.

Note: Some land managers may require the company to take out a Miscellaneous Permit (MLP) for any campsite that is used for more than one year, or is considered to be an “open camp”.

3.11.2 Waste Disposal

If the campsite has been approved as part of the program approval or by a TFA, the following is required for waste disposal:

- Waste from the campsite (e.g., garbage from kitchen operations) is to be collected and disposed of at an approved landfill site.
- Kitchen sumps are to be constructed in impermeable soil, and disposed of as per health requirements.
- Debris from line construction, such as lath and flagging, is to be collected and disposed of at an approved landfill site.

3.11.3 Line of Sight

Any new seismic line that is less than 1 m wide does not require a 200-m line of sight.

3.11.4 Contacts

The company or person who scouted the program, the licensee representative, and the person(s) who prepared the report must be provided, along with a telephone number of where they can be reached and the date the report was signed. If the licensee representative is an agent, this information must also be included.

3.11.5 Weeds

Equipment and vehicles should be free of weeds/weed seeds to ensure weed species are not transported onto public or private land. Care must also be taken when doing any seeding to ensure weed seeds are not introduced. Before seed is purchased, it is advised that a weed seed analysis be obtained for the mixture.

3.11.6 Enforcement of the GFR Form and the Policy and Procedures Document

These procedures and the contents of the GFR Form are an integral part of the approval as per Condition #326. Core conditions within these procedures apply to every program on public land. These core operating conditions are listed in Appendix II, and are broken down into two groups:

1. Core Administrative Clauses: All the administrative clauses that appear on all programs.
2. Core Operating Clauses: The field operating conditions that apply to all programs.

4.0 GLOSSARY OF TERMS

Adverse ground conditions — weather conditions (rain, melting snow) resulting in environmental damage that would continue or accelerate if operations continue (e.g., erosion, siltation).

Approval conditions — terms of the exploration program approval that outline both the administrative and operational requirements for the program. Conditions are enforced through the *Exploration Regulation*.

Critical wildlife zones — areas that are considered important to maintain for wildlife habitat and/or the protective aspects of these areas. The majority of these are ungulate winter ranges, primarily associated with river valleys that provide thermal cover and food.

Currently scheduled logging area — stands of timber identified for operations in a currently approved cut plan (AOP) for a harvest area.

Debris disposal — the total or partial disposal of unsalvageable timber, brush, roots and other woody debris. It is mainly required to reduce fire hazard, but may also be necessary for aesthetic reasons where there is the potential or existence of recreational development.

Existing lines — linear disturbance on the landscape from previous conventional (straight) seismic lines, and/or LIS lines, which remain visible on the ground and/or from the air (air photos).

Fishbearing — waters that support resident populations of fish species or have consistent “fish habitat” characteristics. Some water bodies may provide seasonal support to fish populations.

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 water bodies, including plants and other life forms that interact to make fish life possible.

Fish — includes species harvested for domestic, recreational and commercial purposes, and species of management concern. Also includes parts of fish, eggs, sperm, spawn and juvenile stages of fish.

Forest Management Agreement Areas (FMA) — large, continuous blocks of provincial Crown land in the Green Area that have been allocated to a forest company primarily for timber management.

Helicopter-assisted operations — ground-based geophysical operations using rotary wing aircraft as support for moving manpower and equipment.

Integrated Resource Plans — Cabinet-approved policy documents that provide broad direction on land and resource management and use. They establish guidelines for allowable activities within specific areas and outline surface access restrictions.

Non-fishbearing — waters with no resident populations of fish species. Note: these areas may still possess “habitat” characteristics.

Occupied public (Crown) land — land that is occupied or presently under disposition, under reservation for a specified use, within a Forest Management Agreement Area, or within a subdivision.

One-pass operations — the progressive movement of heavy equipment throughout the program area with a single pass on any one line within the program. ATV and rotary wing support is used for moving manpower and supplies within the program area.

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.

Private land (also known as freehold land) — land that is not owned by the Crown in the Right of Alberta, or the Crown in the Right of Canada or its respective agents.

Protected areas — areas within Alberta that have been specially designated according to the natural features they possess. Categories include Special Places, Natural Areas, Wildland Parks, Wilderness Areas and Ecological Reserves.

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.

Riparian area edge — the outer edge of riparian areas, adjacent to watercourses or water bodies, where the majority of vegetation types change from aquatic vegetation to terrestrial vegetation. In some cases this edge is marked with a bank.

River valley breaks — the point at which the landscape "breaks" or drops off into the river basin. It is the highest point along the banks that was originally carved by the existing watercourse.

Special Areas — a large block of land in southeast Alberta that was once private (freehold) land. Authority to occupy and use this land must come from the Special Areas Board.

Waste — any solid or liquid material or product or combination thereof, including rubbish, refuse, garbage, paper, packaging, containers, bottles, cans, manure, human or animal excrement, sewage, or the whole or part of an animal carcass, or the whole or part of any article, raw or processed material, vehicle or other machinery that is disposed of.

Watercourse — a river, brook, stream or other natural water channel, and the bed along which it flows.

Water body — any location where water flows or is present, whether or not the flow or the presence of water is continuous, intermittent or occurs only during a flood, and includes but is not limited to wetlands and aquifers.

APPENDIX I. PROVINCIAL GRAZING RESERVES AND AGROLOGISTS

PGR and Area	Contact
Prairie Area Bow Island (2) Hays (1) Lonesome Lake (1) Purple Springs (1) Seven Persons (2) Twin River (1) Pinhorn (2) Sage Creek (2)	(1) Jake Willms Agriculture Centre, #100, 5401-1 Ave. South Lethbridge, AB T1J 4V6 Telephone: (403) 382-4287 Fax: (403) 381-5792 (2) Dean Hystad, Room 106, Provincial Building 346-3rd St. SE Medicine Hat, AB T1A 0G7 Phone: (403) 529-3718 Fax: (403) 528-5213
Lac La Biche Area Wolf Lake Black Bear Thorhild Smoky Lake St. Paul Rannach Minburn	Jim Lindquist Box 417, 5025-49 Ave. St. Paul, AB T0A 3A4 Telephone: (780) 645-6336 Fax: (780) 645-6281
Woodlands and Foothills Areas Connor Creek Sang Lake Pembina Jack Pine	Sue DeBruijn Penn West Petroleum Building. Drayton Valley, AB T7A 1R8 Telephone: (780) 542-6616 Fax: (780) 542-7536
Clearwater Area Buck Mountain Medicine Lake Rocky Mountain House	Sue DeBruijn Penn West Petroleum Building. Drayton Valley, AB T7A 1R8 Telephone: (780) 542-6616 Fax: (780) 542-7536
Peace and Upper Hay Areas Fort Vermilion Manning Whitemud Bear Canyon Three Creeks	Heather Fossum Box 159, Provincial Building Fairview, AB T0H 1L0 Telephone: (780) 835-7528 Fax: (780) 835-3600
Smoky and Lesser Slave Areas Blueberry Mountain Wanham Kleskun Lake Valleyview High Prairie	Heather Fossum Box 159, Provincial Building Fairview, AB T0H 1L0 Telephone: (780) 835-7528 Fax: (780) 835-3600

APPENDIX II. SCHEDULE 1 — CORE CONDITIONS

A. Core Administrative Clauses

1. 004 **IN THIS GEO APPROVAL**, unless the context indicates otherwise:

“**approval (of a departmental officer)**” means a written directive from a departmental officer allowing additional work or modification to previously approved work.

“**exploration approval**” means an approval of a preliminary plan issued pursuant to the Exploration Regulation.

“**department**” means: Alberta Sustainable Resource Development
Public Lands Division
Land Administration
Petroleum Plaza, South Tower
9915–108 Street
Edmonton, Alberta
T5K 2G8
Telephone: (780) 427–3570

“**departmental officer**” means an employee of Alberta Sustainable Resource Development responsible for the management of surface activity on the land.

“**holder**” means the licensee in whose name an exploration approval is issued.

“**land(s)**” means the immediate area where any exploration line is approved to run through as designated on the holder’s preliminary plan map.

“**minister**” means the Minister of Sustainable Resource Development.

- (a) The holder shall comply with all relevant laws in the Province of Alberta.
 - (b) A copy of this authority shall be retained on the job site during all phases of your activity, including, if applicable, preparation, construction, development, maintenance and abandonment.
 - (c) For oil and gas activity on land classified as being in the Green Area of the Province, the department may, in addition to any other charges, assess a further charge of 25 cents per acre (62 cents per hectare) on every acre or part acre in this authority to fund the Trapper’s Compensation Program.
 - (d) This authorization should not be construed as assuring that any other relevant approvals from this department or any other department or agency of the Alberta Government will be granted.
2. 392 After completion of operations, you must fulfil all requirements of program reclamation and apply for a Letter of Clearance within two full growing seasons. In instances where reclamation requirements are complex and a time extension is required, you must apply to this office for a time extension.

3. 368 Minor changes to the program, such as the addition, extension, or relocation of a line, may be accommodated by a temporary field authorization (TFA). When requesting field approval, the holder shall contact the departmental officer and arrange a meeting to review.
4. 050 The holder shall supply final plans covering this program to the following at the completion of the program, or before the expiry date of this authority:
 Director, Land Administration
 Public Lands Division
 Alberta Sustainable Resource Development
5. 097 All residents within 400 metres of any seismic line(s) must be notified of planned seismic operations in the area. This notification must be made a minimum of 48 hours prior to commencement of seismic operations, and is required regardless of energy source being used. The notification must contain as a minimum, the name of the licensee and/or permittee, contact name complete with phone number, and describe the energy source.
6. 101 The permittee must inform the department of the commencement date of drilling or surface energy operations and give a location of the party manager. Upon completion of recording operations, the permittee must inform the department by phone or e-mail of the date that recording operations were completed. (Phone: 780-427-3932 or toll free at 310-0000 or e-mail: LFS.seismic@gov.ab.ca).
7. 116 A representative of your company must contact the registered trapper in your program area at least FIVE DAYS PRIOR TO INITIATING YOUR PROGRAM. This must be done by registered mail and we recommend personal communication follow-up. The trapper's name and address can be obtained from the Calgary Information Centre, Department Energy, 3rd Floor Monenco Place, 801-6 Ave. SW, Calgary, AB T2P 3W2, telephone (403) 297-6324. For other information concerning registered traplines, contact the Licensing Section, Fish and Wildlife Division, Alberta Sustainable Resource Development, Edmonton, Alberta, telephone (780) 427-6729 upon receipt of this approval. Your company may be responsible for any damage to traps, snares or other improvements.

B. Core Operation Clauses

8. 178 Activity on the land during adverse ground conditions must be suspended if it is likely to cause unacceptable damage to vegetation and soil. Activity may also be suspended by notice in writing from a departmental officer.
9. 222 The holder shall carry out interim reclamation work concurrently with operations. Reclamation includes debris disposal, slope stabilization, recontouring, restoration of natural drainage(s), replacement of surface soil and revegetation.
10. 275 The holder shall not deposit or push debris, soil or other deleterious materials into or through any watercourse or water body or on the ice of any watercourse/water body.
11. 251 All woody debris and leaning trees must be slashed, limbed and bucked flat to the ground (White Area only).
12. 253 The holder shall dispose of all woody debris, including leaning trees, in accordance with the Forest and Prairie Protection Regulations, Part II, unless otherwise directed by a departmental officer (Green Area only).

13. 298 The holder shall take all precautions and safeguards necessary to prevent soil/surface erosion.
14. 304 The holder shall not create any interruptions to natural drainage, including ephemeral draws, that may result in blockage of water flow.
15. 183 The holder shall not disturb any vegetation within the boundaries of the permanent forest sample plot.

APPENDIX III. AMENDMENT PROCEDURE FOR A GFR

An amended GFR Form is required for amendments to programs; however, only the sections of the GFR Form that will be affected by the program amendment need be amended. For example, if the amendment is solely for the addition of lines, with no changes in procedure, only the map and the LSAS review sections need to be amended. If, however, the addition of lines affects the cutting methods (different terrain), or there are existing lines within 400 m, or an area will be entered that has different environmental concerns, etc., a new GFR Form should be submitted that is clearly marked as being an amendment.

Note: An amended GFR Form is not required for Field Amendments to programs (see below).

FIELD AMENDMENTS

For programs on road allowances or private land, LAB staff will approve field amendments using the White Area criteria.

As a separate approval, Forest Officers and Public Lands Officers may approve Field Amendments to programs on public land for the addition of lines up to the following limits per program:

Amendment	Green Area	White Area
New cutline and/or extension	10 km	3 km
Existing line and/or extension	30 km	5 km
Shift lines	Within the same row of quarter sections only.	Within the same row of quarter sections only.

Note: An LSAS review is required for any new quarter section that is affected by the addition of lines under a Field Amendment, and the GFR Form must be adjusted accordingly.

Note: The requirements for consents and notifications that applied to the original program approval also apply to the amended lines. In addition, these amended lines must be recorded on the line measurement and summary forms as well as on the final plans.

FORMAL AMENDMENTS

LAB can be contacted for the criteria that covers when formal amendments are required, including the \$175 fee. In general, a formal amendment will be required for any change to the preliminary plan or application (excluding the GFR Form as noted above).