



Timber harvest planning and operating ground rules

Canfor-Whitecourt
Forest Management Plan/Agreement
Area-Specific Addendum

Alberta 

2022

Canfor (Whitecourt) Forest Products, Ltd.

**FOREST MANAGEMENT AGREEMENT SPECIFIC
ADDENDUM-TIMBER HARVEST PLANNING AND
OPERATING GROUND RULES**

**Canfor (Whitecourt) Forest
Products, Ltd.**

**ALBERTA
AGRICULTURE, FORESTRY
AND RURAL ECONOMIC
DEVELOPMENT**

ENDORSEMENTS

Canfor (Whitecourt) Planning and Operating Ground Rules, having been prepared in accordance with Section 16 (2) of FMA 9700034 O.C. 81/2014, and hereby endorsed this 24th day of June, 2022.

Canfor (Whitecourt)

HER MAJESTY THE QUEEN in right of Alberta as represented by the Minister of Agriculture, Forestry and Rural Economic Development

Original Signed

Original Signed

Per:

Per:

(print name)

Ken Greenway

(print name)

(title)

Executive Director

(title)

Preamble

The *Forests Act*¹ provides for and defines the powers of the Lieutenant Governor and Minister with respect to establishing regulations related to forestry in Alberta. The *Forests Act* provides for the establishment of forest management units as a mechanism for allocation and disposal of timber and specifies the method of disposal of Crown timber through forest management agreements, quota certificates and timber permits. The *Forests Act* was proclaimed in 1973 and was most recently amended on May 1, 2021. The *Forests Act* gives authority for the regulation of the management of all forest-based values, while providing for the sustainability of Alberta's forests. Alberta defines sustainability as "management to maintain and enhance the long-term health of forest ecosystems, while providing ecological, economic, social and cultural opportunities for the benefit of present and future generations."

The Timber Harvest Planning and Operating Ground Rules – FMA Specific Addendum (the "Addendum") is a reference manual that provides regulatory guidance and direction to be used by timber harvest planners, forest operators and other forestry professionals involved in implementing forest management plans (FMP). Items within the Addendum are required for implementation of unique or specific strategies within the FMP and/or are specific to an individual FMA. The Addendum will work in concert with the standardized Provincial Timber Harvest Planning and Operating Ground Rules (Provincial OGR). The Addendum is Section 4 to Sections 1, 2 and 3 in the Provincial OGR. Rules found in the Addendum will supersede those found in the Provincial OGR when they address the same objective.

¹ <https://open.alberta.ca/publications/f22>

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List of Tables

Table 1.SHS Assessment (Variance Reporting) **Error! Bookmark not defined.**

List of Acronyms

AAC	Annual Allowable Cut
AFMPS	Alberta Forest Management Planning Standard
ALSA	Alberta Land Stewardship Act
AOP	Annual Operating Plan
ARIS	Alberta Regeneration Information System
ATV	All-Terrain Vehicle
AVI	Alberta Vegetation Inventory
AWCS	Alberta Wetland Classification System
CA	Compartment Assessment
DBH	Diameter at Breast Height
DFA	Defined Forest Area
DLO	Department License of Occupation
FGR	FMP-specific Ground Rule
FMA	Forest Management Agreement
FMP	Forest Management Plan
FMU	Forest Management Unit
FMWSI	Forest Management Wetland Stewardship Initiative
FWIMT	Fish and Wildlife Internet Mapping Tool
FOMP	Forest Operations Monitoring Program
GDP	General Development Plan
GPS	Global Positioning System
GRS	Geotextile Reinforced Structure
GTA	Grazing Timber Agreement
ID	Identification
KWBZ	Key Wildlife Biodiversity Zone
LOC	License of Occupation
OGR	Operating Ground Rule
PGR	Provincial Ground Rule
PSP	Permanent Sample Plot
RFMA	Registered Forest Management Area
ROW	Right-of-Way
RPF	Registered Professional Forester
RPFT	Registered Professional Forest Technologist
RSA	Reforestation Standard of Alberta
SFM	Sustainable Forest Management
SHS	Spatial Harvest Sequence
SSR	Stand Structure Retention
TFA	Temporary Field Authorization
THPS	Timber Harvest Planning Standards
TMR	Timber Management Regulation
VOIT	Values, Objectives, Indicators and Targets

Introduction

Ground rules are the standards used in planning, conducting and monitoring forest management activities and include:

- timber harvest planning requirements – requirements for the development of operational plans;
- operating ground rules – rules that govern timber operations and road work; and
- reporting requirements – requirements for monitoring and reporting to Alberta the progress, results and effects of forest management activities.

The Timber Harvest Planning and Operating Ground Rules found in the Provincial OGR and the Addendum define the practices used in planning and conducting timber harvest operations that constitute the methods used to implement decisions made in the Forest Management Plan (FMP) and any applicable [Alberta Land Stewardship Act \(ALSA\)](#) regional plans. In the event that these strategic plans do not exist, the ground rules shall establish practices that are followed relative to forest management operations and activities. While adherence to the listed Ground Rules is an expectation, there are any number of circumstances where a deviation from a rule may be deemed necessary by a timber disposition holder while planning or conducting operations. As such, requests to deviate from any of the listed Ground Rules may be possible but these requests are subject to a review and an approval decision by Alberta to ensure that the likely outcomes do not compromise our sustainability objectives.

Provincial and Addendum OGR's provide a minimum standard that applies to all timber disposition holders operating on Crown land in Alberta. These rules ensure that timber disposition holders are meeting the same expectations for common components of FMPs.

It is acknowledged that all FMUs in the province are somewhat dissimilar in both physical and non-physical attributes and as such, a standardized approach is not applicable or possible. Alberta recognizes that timber disposition holders must be able to implement customized strategies that are unique to their specific Forest Management Agreement (FMA) or approved in the FMP. FMP-specific addendums are supplemental to the OGRs and have been negotiated with the applicable Forest Management Agreement (FMA) Holder where additional ground rules are needed to address specific strategies in an FMP or unique physical or non-physical landscape attributes. These are meant to be a small list related to specific FMP requirements and not a preferred deviation or exceptions from the Provincial OGRs.

These Addendum OGRs replace existing ground rules regardless of where the timber disposition holder is in the FMP planning cycle and will supersede rules in the Provincial OGR where there are rules addressing the same objective.

Authorizations and Legislation

Approval of operational plans by Alberta, specifically by Forestry Division or as amended from time to time, does not imply authorization under other provincial legislation and policy. It is the responsibility of the timber disposition holder to understand the regulatory requirements of other applicable legislation, seek advice from the appropriate regulatory agency and obtain any other necessary approvals or permits.

Approval of operational plans by Alberta does not imply authorization under federal legislation and policy which include, but not limited to, the federal [Fisheries Act](#)², [Species at Risk Act](#)³ and [Migratory Birds Convention Act, 1994](#)⁴. It is the responsibility of the timber disposition holder to understand the regulatory requirements of federal legislation, seek advice from the appropriate federal agencies (e.g. [Department of Fisheries and Oceans](#), [Environment Canada](#)) and obtain any other necessary approvals or permits.

² <https://laws-lois.justice.gc.ca/eng/acts/f-14/>

³ <https://laws.justice.gc.ca/eng/acts/S-15.3/>

⁴ <https://laws-lois.justice.gc.ca/eng/acts/M-7.01/page-1.html>

Authorization of the AOP does not constitute waiver or exemption from the OGRs, nor is authorization of the AOP verification of compliance with the OGRs.

This Agreement inures to the benefit of and is binding upon the Crown and Her heirs, successors and assigns, and the Company and its successors and assigns.

Validation

Alberta relies on the competence and professionalism of forest management professionals to apply sound forestry principles and practices. Alberta requires submissions to be validated by a forest management professional as described in Annex 2 of the [Alberta Forest Management Planning Standard](#).

Organization of this Manual

Ground rules are separated into topics and all ground rules are presented in the same format which includes the following parts:

Purpose – a statement of what the topic is designed to accomplish.

Discussion –background information, research knowledge and reasons for the identified topic. The discussion shall focus on why a ground rules is necessary. (Alternative actions or solutions could also be discussed here.)

Best Management Practices – proactive and voluntary practical methods or practices used during forest management to achieve results related to sustainable forest management. Best management practices are provided to identify good planning techniques and procedures that will reduce undesirable impacts of forest management activities on Crown land and its competing resources.

Ground Rules – the regulatory requirements presented as definitive statements of the results to be achieved and a clear indication of what is expected. Ground rules as much as possible are:

- relevant;
- practical;
- based on scientific evidence, traditional knowledge and collective experience;
- flexible and applicable in a variety of ecological conditions;
- measureable;
- clearly presented for consistent interpretation and application;
- supported by technical terminology and definitions; and
- achievable.

4.1 Timber Harvest Planning Requirements

4.1.1 Planning Process {MWFP 3.1}

PURPOSE

The operational planning process is designed to expedite the implementation of the FMP. Where management direction has not been established through an approved FMP, then required decisions shall be made during this operational planning process.

DISCUSSION

The planning process includes five main components:

1. Approved Forest Management Plan (FMP)
 - Spatial Harvest Sequence (SHS) for first two 10-year periods;
 - Approved Long Term Road Network.
2. General Development Plan (GDP) - The GDP gives a comprehensive description of a timber disposition holders proposed harvest strategy, road building plans, and reclamation operations for a five-year period, and includes all licences and permits. The GDP is used to guide integration of activities. (see section 4.1.2)
3. Forest Harvest Plan (FHP) – The FHP is a map and associated report describing the laid out harvest plan. (see section 4.1.3)
4. Annual Operating Plan (AOP) – The AOP describes operations in detail through a series of components that shall be submitted together at the same time, or under separate cover on a schedule approved by Alberta:
 - a) Operating Schedule and Timber Production;
 - b) Applicable Forest Harvest Plans;
 - c) General Development Plan;
 - d) Compartment Assessments as required;
 - e) Reforestation Program;
 - f) Road Plan.(see section 4.1.4)

4.1.2 General Development Plan (GDP) {MWFP 3.3}

PURPOSE

To provide a forecast of activities for the next five years to:

- Guide the integration of activities;
- Schedule timber disposition administration activities;
- Predict cut control status;
- Co-ordinate the development and reclamation of roads.

DISCUSSION

The primary components of the GDP include a forecast of the areas scheduled for harvest for a five year period and a summary of variance from the SHS for existing FHPs or long-term road plans outlined in the FMP. The GDP must also include the current status and forecast of the respective AACs and cut control period for each of the timber disposition holders within the planning area. This could be either a joint submission by all timber disposition holders or separate submissions containing consistent information between timber disposition holders.

In addition to outlining the projected wood supply forecast, the GDP shall also include details regarding road requirements and fish and wildlife issues within the planning area. The General Development Plan is the stage in operational planning in which Indigenous Consultation is conducted. Indigenous Consultation shall follow existing Government policy identified in:

[The Government of Alberta's Policy on Consultation with First Nations on Land and Natural Resource Management, 2013](#)⁵.

[The Government of Alberta's Guidelines on Consultation with First Nations on Land and Natural Resources Management, 2014](#)⁶.

[The Government of Alberta's Policy on Consultation with Metis Settlements on Land and Natural Resource Management, 2015](#)⁷.

[The Government of Alberta's Guidelines on Consultation with Metis Settlements on Land and Natural Resource Management, 2016](#)⁸.

These documents provide direction on the Indigenous consultation processes.

⁵ <https://open.alberta.ca/publications/6713979>

⁶ <https://open.alberta.ca/publications/3775118-2014>

⁷ <https://open.alberta.ca/publications/policy-on-consultation-with-metis-settlements-2015>

⁸ <https://open.alberta.ca/publications/guidelines-on-consultation-with-metis-settlements-2016>

GROUND RULES

- 4.1.2.1 The GDP submission date is May 1 of each year unless otherwise approved by Alberta. Alberta shall respond within 15 business days. The GDP shall be approved subject to an appraisal by Alberta. {MWFP 3.3.1}
- 4.1.2.2 The GDP shall contain a summary of any proposed variances from the long-term road plan in the FMP. Variances must be approved by Alberta. {MWFP 3.3.2}

For sections 4.1.2.3 and 4.1.2.4 the following applies: If agreement between other timber disposition holders and the FMA holder cannot be achieved after substantial discussion, and the process has been well documented, the dispute resolution process under OGR 4.2.11 shall be used.

- 4.1.2.3 The GDP shall describe volume supply by compartment, source and tenure, road standards and construction schedule, and reclamation activities. The plan is a notification to Alberta of proposed activities and exceptions (see 4.1.2.2) to guide future regulatory activities. Other timber disposition holders affected by the GDP must acknowledge receipt of the GDP in writing (email is acceptable) before approval (see section 4.2.11). It is expected that there will be discussion to resolve significant issues with Alberta before the AOP is submitted for approval. {MWFP 3.3.3}
- 4.1.2.4 When a major change in a company's general development strategy is proposed after the GDP is received, a revision may be requested by Alberta where the change may affect issuance of timber dispositions, the orderly review of AOPs, or integration with other timber disposition holders. {MWFP 3.3.4}
- 4.1.2.5 The GDP consists of the following: {MWFP 3.3.5}

1. Schedules with the following information:
 - a) the volumes by area to be harvested each year of the next five-year period;
 - b) timber production summary table for all dispositions;
 - c) DLO road developments showing planning and construction time lines and the status of DLO;
 - d) all roads noted that are to be monitored, and all outstanding and anticipated reclamation work related to DLO road and crossings;
 - e) a brief description of potential issues arising from the proposed harvest activities that have been identified through discussions with Alberta or other known resource users;
 - f) proposed and actual volumes in satellite yards;
 - g) a description of variances (as per 4.1.2.2) from the FMP long-term corridor plan supported by appropriate documentation; and
 - h) status of all non-DLO roads over two years old as per 4.2.7.2.2.
2. A map (of appropriate scale) that shows the following:
 - a) the mill site location;
 - b) existing roads and roads to be constructed);
 - c) satellite yard locations;
 - d) the timber dispositions to be operated; and
 - e) if not otherwise covered in the schedule above (4.1.2.5 (1).) the general location of routes, dispositions and facilities where reclamation work is scheduled and where roads and watercourse crossings are reclaimed.

4.1.3 Forest Harvest Plan {MWFP 3.4}

PURPOSE

To describe the laid out harvest and road design.

DISCUSSION

The primary components of a Forest Harvest Plan (FHP) are a map and report that clearly show and document the harvest area boundaries, roads and water crossings for the compartment. The design shall be valid for five years from the time of approval, unless issues deemed significant by Alberta arise during this period.

FHP's are approved through acceptance and will be considered approved on the date Alberta acknowledges receipt of the work. Alberta shall notify the organization by acknowledging receipt within 5 working days of submission. The notification date will be documented by Alberta as the start date for FHP approval. Alberta shall periodically check the work and supporting documentation to verify its accuracy.

GROUND RULES

4.1.3.1 An FHP shall be approved by acceptance if: {MWFP 3.4.1}

- validated by a forest management professional;
- additions of less than 20% of the area sequenced in the SHS by compartment per decade;
- the harvest area (ha) does not exceed 100% of the total area in the SHS or strata description table by compartment per decade as tracked in the GDP; and
- it adheres to all ground rules as per the FHP checklist. (see Appendix 1)

Where the FHP does not meet one or more of the above standards, the FHP shall undergo a full review by Alberta.

4.1.3.2 If a CA was completed, the FHP shall undergo a full Alberta appraisal to ensure the direction in the CA has been implemented. {MWFP 3.4.2}

4.1.3.3 All FHPs submitted by timber disposition holders who harvest more than 30,000 m³ each year from crown land, must be validated by a forest management professional. Validation means that, the OGRs were followed, the SHS was followed or variances identified, and all affected operators have agreed to the design. (see section 4.2.11) {MWFP 3.4.3}

4.1.3.4 Other forest operators potentially affected by the FHP must identify issues with the FHP and resolve as per 4.2.11. {MWFP 3.4.4}

4.1.3.5 Maps shall accurately show the following information: {MWFP 3.4.5}

- a) the approved forest inventory;
- b) approved SHS and variances from the SHS;
- c) islands of identified structure retention (with unique symbology - see section 4.2.2);
- d) all laid out DLO roads within harvest areas and harvest area boundaries for all timber operators;
- e) all AOP exterior (access) roads, and associated crossing locations and types;
- f) uniquely numbered planned crossing locations on small or large permanent watercourses for AOP in-block (harvest) roads;
- g) current dispositions and reserves, e.g., Registered Trapline boundaries, Alberta permanent sample plot locations;
- h) springs, water source and seepage areas;
- i) watercourses, waterbodies, their classifications and protective buffers; {MWFP 3.4.5 I and 11.4.2}

- j) road corridors and DLO numbers (may be in table format in 4.1.3.6) and differentiate DLO from AOP for both existing and proposed roads;
- k) locations of access control measures where required (existing and proposed);
- l) company current information on previously harvested areas, existing trails, seismic lines, power lines, pipelines and access routes; and
- m) applicable wildlife zones and location of sensitive wildlife sites as per section 2.8.9 of Provincial OGR.

4.1.3.6 In addition to the FHP map, the following information is required: {MWFP 3.4.6}

- a) area (ha), and coniferous and deciduous volume for each proposed harvest area;
- b) summary table of variances from the SHS by compartment for each FHP (see section 4.1.6);
- c) summary table of structure retention;
- d) regeneration stratum for each proposed harvest area;
- e) dispositions issued under Public Lands Act or Forests Act e.g.;
- f) description of how the CA is addressed in the FHP (if applicable);
- g) list of crossing locations and types as per 4.1.3.5 (e) and (f);
- h) access control methods employed;
- i) description of integration with other users (see section 4.2.11); and
- j) digital shape files for all laid out harvest area boundaries as per Spatial Data Directive(s).

4.1.3.7 The company shall follow existing ILM or access development strategies when developing DLO roads. Alberta may approve deviations from these strategies after discussions with the company. {MWFP 3.4.7}

4.1.3.8 Where applicable the following comments shall be mapped and/or described for each harvest area: {MWFP 3.4.8}

- a) block comments may be included on the individual block map;
- b) layout bordering and encompassing riparian management zones when different than the standards in section 2.17 of Provincial OGR;
- c) layout bordering restricted areas, e.g. permanent sample plots (PSPs), private land;
- d) tactics to address forest health issues;
- e) protection of roadside vegetation - applicable or not, and how to be done;
- f) strategies to address sight distance concerns with an attempt to maintain sight distance of 400 m or less from DLO roads important wildlife sites as defined in section 2.8.9 of Provincial OGR (this information can be accessed by using the Fisheries and Wildlife Management Information System (FWMIS), available for resource planning purposes only); and
- g) historical site considerations

4.1.3.9 If not already provided, additional detail may be required when there is higher than average potential for environmental impact. Circumstances may include mitigation strategies related to: {MWFP 3.4.9}

- a) areas of steep topography requiring specific road location and construction or specialized harvesting equipment;
- b) unstable slopes are generally to be avoided but if this is not possible it is necessary to plan operations carefully to minimize impacts;
- c) harvest areas with numerous water source areas, seepages, intermittent, or ephemeral watercourses;
- d) harvest areas that contain sensitive soils (susceptible to erosion, sedimentation, or compaction, e.g.);
- e) harvest areas that contain or border sensitive wildlife zones or sites;
- f) harvest areas located near high-value recreation areas, tourism areas, and facilities;
- g) partial harvests, excluding commercial thinning (CT) and pre-commercial thinning (PCT)

4.1.3.10 Where a Temporary Field Authority is required to open access for the layout of harvest areas, this access shall be incorporated into the road system of the FHP. {MWFP 3.4.10}

4.1.3.11 The FHP shall comply with direction provided in Community Firesmart Plans. {MWFP 3.4.11}

4.1.4 Annual Operating Plan {MWFP 3.5}

PURPOSE

To annually authorize all road, harvest and forest management activities for the operator.

DISCUSSION

The AOP articulates in detail the activities proposed for the current year and must be approved by Alberta before timber operations shall commence. The AOP components include:

- a) Operating Schedule and Timber Production - appraised – Alberta has 30 days to respond
- b) Applicable Forest Harvest Plans - accepted
- c) Compartment Assessments (if applicable) - appraised
- d) Reforestation Program - accepted
- e) Road Plan - accepted
- f) General Development Plan - appraised

Refer to Appendix 1 for forest management professional validation requirements

For timber permit operators and small quota holders who harvest less than 30,000 m³ annually, Alberta has alternate AOP submission requirements.⁹

GROUND RULES

- 4.1.4.1 The AOP submission date is on or before May 1 of each year unless otherwise approved by Alberta. Alberta shall respond within 30 days. The AOP shall be appraised by Alberta with approval subject to the outcome of the review. {MWFP 3.5.1}
- 4.1.4.2 The Operating Schedule and Timber Production, Reforestation Program, Fire Control Plan, and Road Plan, are submitted as in 4.1.4.1 above, unless otherwise agreed to by Alberta. The schedule for submitting any necessary CA, GDP and FHPs may be different. {MWFP 3.5.2}
- 4.1.4.3 Only harvest areas and roads with FHP approval shall be scheduled for operations in the AOP submission. {MWFP 3.5.3}
- 4.1.4.4 The Annual Operating Plan shall contain the following components: {MWFP 3.5.4}
 - a) The map(s) referred to in 4.1.3.5 above
 - b) Administrative and Timber Production Information:
 - I. name of timber disposition holder(s);
 - II. number of the timber disposition(s);
 - III. date of submission and effective period;
 - IV. location of mill where timber will be manufactured or processed, unless alternative reporting has been approved;
 - V. where all volumes (deciduous and coniferous) will be charged (quota, deciduous timber allocation, FMA, Commercial Timber Permit);
 - VI. proposed harvest volume to be harvested by timber disposition;
 - VII. scaling methodology, e.g. weigh scale, other arrangements, (not necessary if otherwise submitted);
 - VIII. utilization standards;
 - IX. declaration or list of resource user notifications, and date of notification (see Sec 2.7, 2.9 and 2.10 of Provincial OGR; i.e. Trapper, grazing, public etc.).
 - c) Operating Schedule – a table which outlines:
 - I. list of harvest areas proposed for harvest (including area and volume by species or species group, with totals);

⁹ TM118 form

- II. list of AOP roads proposed for construction, maintenance or reclamation, except in-block roads and access into blocks < 100 m in length (these are shown on the map and include road class and status). It includes crossings to be built, installed, removed or maintained;
 - III. declaration of outstanding operational items, or an agreement with Alberta on reporting of outstanding operational items; and
 - IV. method of debris disposal.
 - d) Annual Reforestation Program (see section 4.2.6.2)
 - e) Road Plan (see section 4.2.7 of Addendum and 2.14 of Provincial OGR)
 - f) GDP and CA if applicable.
- 4.1.4.5 All amendments to harvest plans must be justified and submitted to Alberta in writing. Forest management professional validation of major amendments is required. Any changes must be incorporated into the as-built plan. {MWFP 3.5.5}
- 4.1.4.5.1 Changes listed in the “Minor Amendments” column require only notification to Alberta. Minor amendments don’t require Alberta’s approval, provided all appropriate background checks have been made and rationale for the change will be provided (changes can be implemented prior to notification but must be reported after implementation or on the next block status report).

Changes listed in the “Major Amendments” column require the approval of the delegated authority (Alberta) prior to implementation. Alberta will provide the company with feedback and/or approval of the AOP amendment within 10 working days of submission. Any changes that could adversely affect buffers established for the protection of riparian areas, wildlife sites, historic resources, or aesthetic values or any changes not listed will be considered a major amendment.

Minor Amendments (Reportable/Notification Required)	Major Amendments (Delegated Authority Approval Required)
a. Additions to the approved AOP harvest area boundary where the final gross area does not vary from the area in the approved FHP by more than 5% for blocks greater than 10 ha, or more than .5 ha for blocks less than or equal to 10 ha.	For blocks >10 ha, final gross area varies ≥5% from FHP; for blocks ≤ 10 ha, final gross area varies >0.5ha from FHP.
b. Operational deletions that exceed 2 ha to the approved FHP harvest area boundary.	N/A
c. Exterior block roads moved to existing access or conventional seismic lines where re-growth averages less than 3m and within 150 m of the approved AOP access. Exterior block roads requiring the development of new Right-of-Way clearing within 150 m of the approved AOP access.	Exterior block roads moved to existing access or conventional seismic lines where re-growth averages more than 3m or is more than 150m from the approved AOP access. Exterior block roads that require development of new right-of-way (ROW) greater than 150 m of the approved AOP access.
d. Where an approved silviculture strategy exists for roads, the in-block roads and associated watercourse crossings may be moved as required provided there are no	In-block roads and/or watercourse crossings are moved and there is no approved silviculture strategy for roads.

	additional watercourse crossings are required outside of those allowed in (e).	
e.	Watercourse crossing structures that have been upgraded from the approved FHP. Adding crossings to constructed roads for intermittent and ephemeral watercourses.	Adding crossings to constructed roads for small permanent and higher class watercourses. Added crossings not approved as per Tables 9 and 10 of Provincial OGR.

4.1.4.5.2 Notwithstanding the above table, all changes to harvest operations within a timber permit (as defined in the Forests Act and/or Timber Management Regulation) are considered major amendments, and require Alberta's approval. {MWFP 3.5.5.2}

4.1.4.5.3 Any change to harvest area that results in a variance from the approved SHS must be categorized and reported as per 4.1.6. {MWFP 3.5.5.3}

4.1.5 Salvage Planning {MWFP 3.6}

PURPOSE

Salvage planning shall be implemented when necessary to reduce the potential for loss of fibre.

DISCUSSION

Under certain circumstances, planning shall be expedited to reduce the loss of fibre from fire; disease or insect infestation; blowdown or other such unforeseen disturbances.

Salvage planning shall not be used when:

- a) the disturbance regime is slow moving and can be accommodated under conventional planning timeframes and protocols;
- b) the regime is not an imminent threat to green fibre;
- c) fibre loss is deemed to be within an expected range.

Salvage planning does not confer rights to the planner to ignore other values, or the inherent value of a natural disturbance. It does allow for consideration of all values and for prompt, qualified, professional opinion to drive the process. See Directive 2007-01 for further direction on Salvage Planning.

GROUND RULES

- 4.1.5.1 Salvage planning is initiated on the natural disturbance when deemed appropriate by Alberta. {MWFP 3.6.1}
- 4.1.5.2 An FHP for the salvage area should be developed, and shall form part of the AOP. Modified timelines, content and requirements for the FHP shall be considered by Alberta. Detailed requirements may be published from time to time by Alberta. It is expected that there will be substantial discussion to resolve significant issues with Alberta before the FHP is submitted. {MWFP 3.6.2}

4.1.6 Stand Utilization {MWFP 4.1}

PURPOSE

Track variance from the approved Forest Management Plan (FMP) SHS as well as total area harvested in order to:

- Ensure a sustainable harvest level and future forest objectives are maintained through operations adhering to the FMP;
- Improve information for the next FMP, (e.g. landbase, yields);
- Make decisions around Forest Harvest Plan Acceptance

DISCUSSION

The *Alberta Forest Management Planning Standard, Annex 1, Section 6.0 Harvest Planning Standards* indicates scheduling of stands through the FMP - SHS is dependent upon the timber merchantability criteria allocated in the disposition holder's tenure document (e.g., FMA, quota certificate) and the management assumptions used in the timber supply analysis (TSA). Pertinent assumptions are comprised of deletions from the net landbase (e.g., subjective deletions, stream buffers, protected areas) and parameters that determine a stand's eligibility for harvest (e.g. earliest age of harvest). The SHS results from the analysis of these TSA inputs coupled with basic field reconnaissance. The SHS identifies spatially (subunit and location) and temporally (period) the queue of stands that will produce the sustainable timber harvest level (AAC) and desired future forest condition.

Adhering to the SHS is imperative to achieving the timber supply forecasts and the forest conditions expected. With increased levels of variance from the SHS, there is greater risk that the operational harvesting will not allow the FMP to realize its objectives and forecasted outcomes. Operational variance is unavoidable but must be effectively managed.

During the FHP planning process, an operator will select an area over which to plan a series of harvest areas (blocks) for a period of up to 5 years. This is considered the FHP planning unit and is typically smaller than an FMA defined compartment or subunit. Within the FHP planning unit, the timber disposition holder will address all the 1-10 year SHS assigned to that timber disposition holder, deciding on either a harvest prescription, or a decision to not harvest at all (deletion) to delay harvest outside the first 10 year period (deferral) or to delay harvest till later in the first period (bypassed stand). Where deletions, deferrals, or bypassed stands consist of entire AVI polygons, specific justification is required.

Variance shall be monitored and reported where:

- **Merchantable Stands** scheduled in the first decade of the SHS are not harvested in that decade; and
- **Special Features** not identified in the FMP net landbase are encountered during layout or harvesting and are deleted from the SHS.

Timber Harvest Planning and Operating Ground Rules require timber operators to protect special features through detailed harvest planning and careful operations. (E.g. riparian buffers, steep slopes, sensitive sites, cultural/heritage sites, areas with high aesthetic value shall be removed from the SHS.)

Disposition holders shall complete **Table 1** as they monitor the operational implementation of their plans against the SHS.

DEFINITIONS

Additions – Any area planned for harvest, or which has been harvested that is not part of the 10 year SHS in the approved FMP. Additions will be divided into two categories: substantial and slivers.

Actual Harvested Area - is the as-built harvested area in the FHP.

Approved FMP 10 Year SHS – Is the total SHS area within the compartment for the first 10 years of the approved Spatial Harvest Sequence.

Deferral – any area included in the 10-year SHS that will not be harvested during the current FMP. Deferrals are not removed from the contributing landbase, as there is an expectation they will be harvested later in a future FMP. Deferrals will be divided into two categories: Substantial or Slivers. Deferrals are those stands or portions of which are operable, not isolated, and should be available under current technological and economic constraints for future harvest.

Deletion - Any area included in the 10 year SHS that will never be harvested under current planning assumptions and technical constraints. This area shall be tracked spatially and removed from the contributing landbase in the subsequent FMP. Deletions are divided into two categories: Substantial or slivers.

Planned Area For Harvest - Is the total area of the SHS laid out in the FHP, and includes the information for all previously approved FHPs (either planned or as-built) information for the same compartment.

Provincial Base 10 Yield Stratum- One of ten Alberta yield stratum defined in the yield projection Interpretive Bulletin in the Alberta Forest Management Planning Standard (AFMPS)

Slivers- any polygon component of variance (addition, deferral or deletion) less than 2ha in size. Generally these are long, narrow features along the edge of a block. Slivers exclude stand-alone features (blocks not bordering or not being adjacent to SHS polygons). Slivers do not contribute to variance calculations but shall be tracked and reported separately. Sliver deletions and sliver deferrals can be aggregated together (e.g. Sliver Deletions & Deferrals)

Subunit or Compartment - Operational subunits of a Forest Management Unit (FMU) delineated by environmental, operational or watershed characteristics.

FHP Planning Unit- Operational subunit of an FMU, delineated by environmental, operational, or watershed characteristics. An FHP is the operational plan for a planning unit, and may be a compartment, sub-unit or an area of a smaller scale. FHP Planning units are discrete, and FHPs for the same operator cannot overlap spatially with the exception of access routes.

Substantial- any polygon component of variance (addition, deferral or deletion) other than Slivers

Variance – any deviation from the 10-year Spatial Harvest Sequence (SHS) in the approved Forest Management Plan (FMP). Variance is classified as one of three categories: Additions, Deletions or Deferrals.

GROUND RULES

4.1.6.1 For the FHP submission, the timber disposition holder shall submit a map to show the comparison of the 1-10 year SHS to the laid out harvest areas. The map shall distinguish using symbology between: {MWFP 4.1.1}

- substantial deletions;
- substantial deferrals;
- sliver deletions and deferrals (combined);
- substantial additions; and
- sliver additions.

4.1.6.2 Variance shall be reported by Alberta Base 10 stratum. The table shall include the minimum information as per Table 1. A Forest Harvest Plan will be appraised when additions exceed 20% of planned SHS 1-10 year for the particular FHP (see calculation in 4.1.6.3) by compartment, or when substantial additions exceed the combination of substantial deletions

and deferrals by strata. Table 1 shall include cumulative information from all previously approved FHP's in the compartment. {MWFP 4.1.2}

- 4.1.6.3 Variance from the SHS shall be monitored and reported by compartment. The cumulative as-built variance for all FHPs shall be compiled by compartment and reported annually in the GDP (or as otherwise approved by Alberta). The table shall include information as per Table 1 for all compartments operated within the current FMP effective period. {MWFP 4.1.3}

Variance shall be calculated using the following:

$$SHS \text{ Variance (Additions \%)} = \frac{\text{Area of Substantial Additions}}{\text{Area of Approved 10 yr SHS}} \times 100$$

- 4.1.6.4 Where stands are added for harvest, preference should be for stands in the 11-20 year period. Stands currently not part of the net landbase that are found to be productive merchantable landbase may be considered for addition. {MWFP 4.1.4}
- 4.1.6.5 Entire stands or portions of stands may not be deferred unless they form part of a logical future harvest. {MWFP 4.1.6}
- 4.1.6.6 All substantial deletions shall be classified and tracked spatially by the timber disposition holder to allow for incorporation into the subsequent Forest Management Plan net landbase development process. {MWFP 4.1.7}

Table 1.SHS Assessment

Harvest Profile	As-Built										Planned for Harvest (ha)	Combined As-Built & Planned																										
	Harvested (ha)					Variance			SHS Assessment (Excluding Slivers)			Variance		SHS Assessment (Excluding Slivers)																								
						Substantial	Slivers					Substantial																										
Compartment	Company Specific Yield Strata	Provincial Yield Strata	Approved DFA 10 Year SHS	Operator Approved FMP 10 Year SHS	SHS 1-10yr	SHS 11-20yr	SHS 21-70 yr	Contributing Landbase Outside SHS	Non-Contributing Landbase	Total	Additions	Deletions	Deferrals	Additions	Deletions & Deferrals	Total	Total Slivers (%)	SHS Variance (Additions %)	Difference in Area (Subst. Add. - D&D)	Difference in Area Total Harvested - 10yr FMP SHS	SHS 1-10yr	SHS 11-20yr	SHS 21-70 yr	Contributing Landbase Outside SHS	Non-Contributing Landbase	Total	Additions	Deletions	Deferrals	SHS Variance (Additions %)	Difference in Area (Subst. Add. - D&D)	Difference in Area Total Harvested & Planned - 10yr FMP SHS						
100	All	All	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1A	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	2A	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3A	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	::	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#####	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: * Deletions and Deferrals to be provided in shapefile format for next FMP

4.2 Operational Ground Rules

4.2.1 Visual Impacts {MWFP 5.5}

GROUND RULE

- 4.2.1.1 Highly Sensitive areas shall be assessed and tactics shall be employed in the FHP to mitigate the impacts of harvesting and reforestation on visual quality. {MWFP 5.5.1}

4.2.2 Structure Retention {MWFP 7.4}

GROUND RULES

- 4.2.2.1 3% of the area harvested (ha) will be retained as representative merchantable structure retention across the FMA. {MWFP 7.4.1}
- 4.2.2.1.1 Harvest areas less than 8 ha may have less than 3% retention.
 - 4.2.2.1.2 Harvest areas greater than or equal to 8 ha require 3% (as per 4.2.2.1) retention. Any proposed retention less than 1.5% in a given harvest area will require justification in the associated FHP.
 - 4.2.2.1.3 Area from both 4.2.2.1.1 and 4.2.2.1.2 will be used to determine if the 3% target has been met.
- 4.2.2.2 Retention shall be left as islands (undisturbed patches) or as dispersed (single trees/clumps). {MWFP 7.4.2}
- 4.2.2.2.1 Non-merchantable structure may be retained but will not contribute to the overall 3% target.
 - 4.2.2.2.2 Buffers left around sensitive sites (2.8.9 of Provincial OGR) within harvest areas can contribute to the overall 3% target.
 - 4.2.2.2.3 Single tree or dispersed retention shall be calculated using the following formula:
$$\text{Area} = (\text{number of live trees/piece size}^*) / (\text{average volume per ha})$$

*where piece size = number of trees equaling 1 m³ net merchantable volume
- 4.2.2.3 All identified retention will be excluded from harvest for one rotation (based on minimum harvest ages as indicated in TSA). As such, any and all retention must be delineated and identified as per 4.1.3.5 (c) and 4.1.3.6 (c). {MWFP 7.4.3}
- 4.2.2.4 Merchantable volume retained shall be measured and drained from the AAC annually and must be reported to Alberta in an acceptable manner. {MWFP 7.4.4}

4.2.3 Fur Management {MWFP 5.3}

GROUND RULE

- 4.2.3.1 A representative of the forest operator shall personally contact, or send a registered letter to the senior partners of a RFMA during the preparation of the FHP. Information such as cabin locations, trails and other improvements, or concerns shall be noted at this stage. During the development of the FHP information and concerns shall be integrated into the plan. The forest operator shall provide the trapper with a copy of the approved FHP map. {MWFP 5.3.1}

4.2.4 Species of Special Management Concern {MWFP 7.7}

Access management within Woodland Caribou, Grizzly Bear, and Key Wildlife and Biodiversity Zones

GROUND RULE

- 4.2.4.1 Except where identified and agreed upon within the FHP, only temporary access roads shall be used. {MWFP 7.7.1.5}

Woodland Caribou

GROUND RULE

- 4.2.4.2 Areas of concentrated terrestrial lichen growth (where terrestrial lichens are the predominant ground cover) within proposed harvest areas must be delineated in the FHP. DHAPs which identify protection measures must be provided to the operator for these areas. Structure retention in harvest areas within the Caribou range should focus on these lichen areas. Alberta may request a review of these plans at any time. {MWFP 7.7.2.8}

Grizzly Bear

BEST MANAGEMENT PRACTICE

- Retention areas should be used in harvest areas to provide hiding cover and connectivity to forest patches. Buffer strips along permanent roads or primary haul routes should be maintained to reduce sight ability into harvest areas and achieve the recommended 200 m wildlife cover distance. {MWFP 7.7.3.7}
- The fRI sight ability tool should be used as an operational tool to facilitate achievement of line of sight and distance to cover best management practices.

Key Wildlife and Biodiversity Zone

BEST MANAGEMENT PRACTICES

- Use of existing access roads must be described in the FHP, with particular reference to public access management, any proposed road improvements and ongoing maintenance. Potential opportunities for partial or complete route closure and/or reclamation following planned harvesting and silviculture shall be discussed. {MWFP 7.7.5.5}
- Unless otherwise agreed to in the AOP, timber operations within Key Wildlife and Biodiversity Zones should be conducted outside of the period Jan. 15 to April 30. Operations that are approved in an AOP are not subject to this timing restriction. {MWFP 7.7.5.6}

Athabasca Rainbow Trout and Arctic Grayling

DISCUSSION

The FHP shall describe the harvesting program that is agreed will create the desired future forest taking into consideration the full range of values including habitat for species of special management concern.

Arctic Grayling are classified as a “Species of Special Concern” and Athabasca Rainbow Trout are classified as “Threatened” under the Alberta Wildlife Act. One of the greatest contributing factors threatening both species related to the forest industry is the density of linear features (e.g., Class I-IV roads, skid trails, and all pre-existing access). Development of the FHP must focus on ensuring that best management practices related to construction, maintenance and reclamation of roads is in place, with the primary intent being the protection of fish habitat and productivity. This is achieved through the maintenance of natural hydrologic processes, avoiding erosion, and increasing protection of streams where risks to both species are identified.

Timber harvest planning and operating ground rules must reflect the sensitive nature of this species. These operating rules serve three primary purposes:

- a) protection of the long-term integrity, connectivity, productivity and access of Arctic Grayling and Athabasca Rainbow Trout to the spawning, rearing, feeding and overwintering habitat within the watershed;
- b) protection of water quality and quantity metrics that provide a key component of the habitat that supports native fish species within watersheds (e.g. temperature, dissolved oxygen content, natural sediment, avoidance of anthropogenic sedimentation and productivity) to ensure the continued occupancy and use of historical watersheds by both species; and
- c) minimize the industrial footprint and density of linear features intersecting watercourses within Arctic Grayling and Athabasca Rainbow Trout watersheds to reduce the potential for secondary disturbance and mortality from recreational use.

Locations of existing arctic grayling can be identified using the Fisheries and Wildlife Management Information System (FWMIS), and the associated Fish and Wildlife Internet Mapping Tool (FWMIT). {MWFP 7.7.7}

BEST MANAGEMENT PRACTICE

- Within these identified areas operational planning by the company should incorporate the use of Alberta’s Wet Areas Mapping tool to identify areas that are sensitive to disturbance. Field confirmation of these sites including depth to water, potential disruption of groundwater flows, and areas at high risk of erosion in wet or riparian areas can be a useful tool in determining road and crossing location. {MWFP 7.7.7.1}
- Utilizing LiDAR and Wet Areas Mapping, consider retention of merchantable and non-merchantable structure along ephemeral and intermittent streams, to increase thermal buffering of the water or to cover wet areas or conduct operations to avoid wet areas.

GROUND RULE

- 4.2.4.3 Within these identified areas detailed harvest area plans for operations shall be submitted when requested by Alberta. {MWFP 7.7.7.2}

Other Species

GROUND RULES

- 4.2.4.4 In the event that site-specific buffers or other management techniques are not agreed to in the FMP and FHP, the following buffer widths shall apply. In the event that a sensitive site not previously identified during layout and is found during harvest activities it shall be identified, reported (as per Directive 2006-04) and buffered as appropriate and feasible. {MWFP 7.7.8.2}

4.2.5 Recreation {MWFP 5.2}

GROUND RULES

- 4.2.5.1 Operational tactics to mitigate impacts on recreation and tourism shall be described in the GDP and FHP. {MWFP 5.2.1}
- 4.2.5.2 FHPs affecting recreational sites should provide opportunities for the enhancement of endorsed recreational trail whenever possible. {MWFP 5.2.4}

4.2.6 Reforestation/Silviculture {MWFP 8.0}

PURPOSE

To plan and implement silviculture practices that result in reforested stands that meet approved regeneration standards.

DISCUSSION

A reforestation program is required by Alberta under TMR 143.1. The reforestation program is a component of the Annual Operating Plan and contains reforestation prescriptions by strata, and a schedule of treatments for the upcoming year. The proposed reforestation program provides a link between reforestation operations and the FMP. The reforestation program must be based on the most current knowledge of treatments (by strata) which lead to reforestation success in terms of reforestation standards. Reforestation prescriptions are a critical point in the sustainable forest management planning system where growth and yield strata targets from the FMP are delivered through well-planned silviculture treatments. Knowledge of how sites respond to different treatments result in better treatments, and greater probability of success in meeting growth and yield strata targets, for height, stocking, density and ultimately, strata volumes.

An acceptable silviculture process includes:

- site assessment (pre or post harvest) based on ecosite classification;
- a table or 'matrix' of silviculture treatments or tactics for specific strata;
- developing regeneration standards based on yield curve strata targets;
- an annual treatment schedule of activities;
- an assessment/survey system, and feedback mechanisms to ensure regeneration data is used to refine the prescription matrix and, in conjunction with all data sources (including permanent sample plot information), the regeneration standards and post-harvest growth and yield assumptions.

4.2.6.1 Planning {MWFP 8.1}

GROUND RULES

- 4.2.6.1.1 The conditions outlined by Alberta must be met prior to planning reforestation of balsam fir or alpine fir as an acceptable species. See Directive 2001-01 or successors. {MWFP 8.1.1}
- 4.2.6.1.2 Harvest layouts bordering previously harvested areas shall avoid damaging regeneration. {MWFP 8.1.2}
- 4.2.6.1.3 Reforestation timelines prescribed by Alberta shall begin at the start of the timber year proceeding the end of the timber year when the harvest area has received skid clearance from Alberta, or from a company representative pursuant to a self-inspection agreement between the company and Alberta. {MWFP 8.1.3}
- 4.2.6.1.4 Reforestation prescriptions shall be based on site assessments (pre or post-harvest) that include considerations specific to the site (e.g. Ecosite field guide for Alberta). {MWFP 8.1.4}
- 4.2.6.1.5 The 'Alberta Forest Genetics Resource Management and Conservation Standards' (FGRMS) shall be adhered to in all silviculture planning and operations. The standards specify rules for seed and vegetative material collection, registration, storage, handling, and improved stock testing. {MWFP 8.1.5}
- 4.2.6.1.6 Notification shall be provided on the AOP checklist that FGRMS section 11.2 has been met. {MWFP 8.1.6}

4.2.6.2 Reforestation Program {MWFP 8.2}

GROUND RULES

- 4.2.6.2.1 The reforestation program shall be submitted: {MWFP 8.2.1}
- a) before April 1 for silviculture operations commencing between May 1 and October 31;
 - b) before September 1 for silviculture operations commencing between November 1 and April 30; or
 - c) as otherwise specified in an FMA, or at a time agreed to by Alberta.
- 4.2.6.2.2 Harvest areas (openings) shall be clearly identified (e.g. maps, spatial files, or delineation on the ground through visual markings). Where stumps are left to delineate areas (e.g. harvest areas) they shall be on average 30 m apart and no higher than 2 m. {MWFP 8.2.2}
- 4.2.6.2.3 The reforestation program shall include the following components and information: {MWFP 8.2.3}
- a) silviculture prescription;
 - b) proposed silviculture treatment schedule;
 - c) maps as requested by Alberta; and
 - d) proposed blocks for declaration in lieu of survey and re-treatment.

a) Silviculture Prescription

The Forest Management Plan contains a Silviculture Strategy table for prescriptions specific to different forest stratum. Variances to the approved strategy in the FMP are outlined in the AOP (Reforestation Program).

Proposals for herbicide application shall be submitted for approval in accordance with approved vegetation management strategies and Alberta requirements. (see Herbicide Reference Manual). Herbicide proposals are a component of the reforestation program in the AOP, but may be submitted separately from the AOP.

Commercial thinning proposals shall be submitted for approval as part of the AOP unless otherwise agreed by Alberta, in accordance with Alberta's requirements.

b) Proposed Silviculture Treatment Schedule

The Silviculture Treatment Schedule shall contain the following information:

- opening number;
- a list of harvest areas and the estimated area (ha) to be treated; and
- the reforestation strata standard for each harvest area (see below for more detail);

The following proposed reforestation activities for each harvest area (or stand) shall be listed:

- I. Site Preparation – mechanical or chemical treatment
- II. Planting – primary species, density range, and notification if outside approved seed zone
- III. Seeding – species and notification if outside approved seed zone
- IV. Leave for Natural – species
- V. Manual Tending – type (cleaning vs spacing or combination)
- VI. Fertilization – type of fertilizer
- VII. Herbicide/Insecticide application – type of chemical and method (ground vs. aerial) and target species for insecticide
- VIII. Commercial Thinning

- IX. Regeneration Surveys – establishment and performance
- X. Cone/cuttings Collection – (if unknown, Alberta shall be notified regarding collections as per the FGRMS in Alberta)
- XI. Let it grow as a retreatment strategy.

If the proposed reforestation activities for a harvest area change after AOP approval, the following items require an amendment to the AOP:

- changing to a treatment not approved in the silviculture strategy table for the specific strata; or
- additional harvest areas to be treated by any means of treatment; or
- any remaining changes require notification to Alberta through ARIS reporting.

If a harvest area is declared sensitive, the forest operator shall provide additional information beyond the strategic and tactical levels (see section 4.1.3.9). This information shall include the actual techniques (e.g. type of site preparation machine) and their expected impact on the harvest area attribute(s) that make it a sensitive site (e.g. providing frequent furrow trenching breaks on downhill run to reduce erosion).

Note that proposals to deploy seed or vegetative material outside the seed zone or breeding region require prior approval of the Provincial Seed Officer at the Alberta Tree Improvement and Seed Centre.

Sample Silviculture Treatment Schedule

Opening Number (ARIS)	Harvest Area (ha)	Preliminary Strata Declaration	Activity	Activity Area (ha)	Season	Comment
5051002412A	10	C	Mounding	4	Winter	

c) Map

As part of the reforestation program, a map may be requested (at Alberta’s discretion, the FHP map may be used) that identifies:

- I. all harvest areas to be treated, and all roads and stream crossings to be constructed or used (designating their season of use);
- II. the reforestation map shall include all harvest areas from integrated operations.

d) A listing of harvest areas where a declaration is proposed in lieu of a survey for areas not likely to meet regeneration standards (per TM Reg 141.61(1) and harvest areas where re-treatment is proposed (per TM Reg 141.6(2.))

- I. blocks where ‘let it grow’ is the retreatment strategy will require survey information supporting re-treatment rationale;
- II. may be submitted for review and approval at any time throughout the year for approval to ensure timeliness of treatments.

4.2.6.3 Silviculture Operations {MWFP 8.3}

GROUND RULES

- 4.2.6.3.1 Herbicide, pesticide and fungicide use shall be performed in accordance with Alberta requirements. {MWFP 8.3.1}
- 4.2.6.3.2 Site preparation equipment shall be cleaned and free of noxious and prohibited noxious weed seed or plant parts before entry into the working area or before mobilizing between projects according to Directive 2001-06. {MWFP 8.3.2}

4.2.6.3.3 Site preparation creating linear disturbance patterns shall be oriented to minimize channelling of water downslope and to ensure sediment is not directly entering watercourses. {MWFP 8.3.3}

4.2.7 Road Classification, Planning and Design {MWFP 11.2}

Road Planning

GROUND RULES

4.2.7.1 Timber disposition holders shall annually submit a road use and reclamation plan along with a construction schedule in the GDP. Proposed variances from the FMP long-term corridor plan require Alberta's approval. The minimum scope of the road construction schedule shall be a five-year forecast with the content requirements being: {MWFP 11.2.1}

Map showing:

- existing Timber disposition holder roads by class including un-reclaimed non-DLO roads;
- other existing roads if the digital information is available;
- proposed forest operator corridors, including corridors approved in the FHP;
- access control points – See section 4.2.9 of Addendum and 2.16 of Provincial OGR-Access Management.

4.2.7.2 Temporary Roads: {MWFP 11.2.2}

4.2.7.2.1 These roads shall be built as per the approved AOP. Only roads with FHP approvals shall be included in the AOP submission. Upon request, within 90 days of construction, as-built road plans shall be submitted to Alberta by the forest operator in a format acceptable to Alberta.

4.2.7.2.2 The forest company shall submit a table or report tracking the status of all their non DLO roads over two years old. These roads shall be reclaimed as soon as timber operations are complete or within three years of construction. This may be submitted as part of the Road Plan in the AOP or in a monthly block status report.

4.2.8 Road Construction, Maintenance and Reclamation

{MWFP 11.3}

GROUND RULE

4.2.8.1 General

- 4.2.8.1.1 Road ROWs shall be cleared according to standards established in Table 3 of Provincial OGR, road comments, and any additional conditions approved in the FHP.
{MWFP 11.3.1}

4.2.9 Access Management {MWFP 11.5}

GROUND RULE

- 4.2.9.1 Where access control has been identified as an objective in strategic land use plans, Alberta shall consult with the forest operator to determine an access control strategy. In the event that a strategic land use plan has not been developed, the FHP shall describe specific access control measures identified in the GDP or FMP (see section 4.1.3). {MWFP 11.5.1}

4.2.10 Aquatic and Riparian Area Protection {MWFP 6.0-Table 2}

GROUND RULES

4.2.10.1 Transitional watercourse classification as per 2.17- Table 4 of Provincial OGR will not be used.

4.2.10.1.1 Small permanent watercourses will share the classification attributes of Table 4 with exception that minimum channel width will be greater than 0.5m.

4.2.10.1.2 Intermittent watercourses will share the classification attributes of Table 4 with exception that channel width will be less than or equal to 0.5m.

4.2.11 Water Crossings {MWFP 11.4}

GROUND RULES

4.2.11.1 The company shall require approval for any crossing structure not listed in Tables 9 and 10 of the Provincial OGR for the appropriate watercourse type. {MWFP 11.4.1}

4.2.11.2 Proposed watercourse crossing locations shall be identified in the FHP. {MWFP 11.4.3}

4.2.12 Deciduous/Coniferous Integration {MWFP 5.1}

GROUND RULE

4.2.12.1 All operators with timber dispositions in an area covered by an FHP must agree in principle with the FHP. If issues raised by a Disposition Holder cannot be resolved after meaningful consultation has taken place, the following dispute resolution process can be implemented. Areas of disagreement will be documented and forwarded to the GoA Senior Forester for discussion with the relevant GoA forester. Depending on the exact nature of the disagreement, Alberta will either: 1) facilitate a dispute resolution process, or 2) direct the operators on areas of disagreement through conditions of approval. If either proponent disagrees with the determination of the Senior Forester, they may appeal the decision to the Delegated Authority. {MWFP 5.1.1}

4.3 Monitoring and Reporting

GROUND RULE

- 4.3.1 Summary information submitted annually as per 3.15 of Provincial OGR must be in a format mutually agreed to by the companies and the Whitecourt Area.

Glossary

Acceptable species

List of tree species contributing to approved AACs, identified in the FMP approval decision.

Access roads

Access roads are those roads that are between harvest areas and have a lifespan of less than three years. The timeline shall begin at the start of the timber year following the end of the timber year when the harvest area has been declared as skid cleared by the timber disposition holder.

Adverse effects

Impairment of or damage to the environment, human health or safety, or property;

Adverse ground conditions

Situations where active operations or activities result in environmental damage to the land such as but not limited to, erosion, soil compaction or soil rutting.

Annual allowable cut (AAC)

The volume of timber that can be harvested under sustained-yield management in any one year, as stipulated in the pertinent approved forest management plan. In Alberta it is the quadrant cut divided by the number of years in that quadrant, usually five.

Annual operating plan (AOP)

A plan prepared and submitted by the timber disposition holder each year, which provides the authorization to harvest. An AOP is a requirement of the Timber Management Regulation.

Approval

Issued by Alberta. The approval decision is prepared outlining significant items considered in plan approval and outlining conditions to be met within specified time

periods by the timber disposition holder or a decision made by Alberta on an AOP.

As built

An opening number accompanied by a spatial depiction of the harvest area generated either from cutover photography or from GPS technology capable of 3 m or better accuracy

Audit

An official examination and verification of records, activities, accounts, actions, operations, etc., against stated standards of performance and compliance.

Bared soil

Any soil where the organic layers and vegetation have been removed.

Biological diversity (biodiversity)

The variety, distribution and abundance of different plants, animals and microorganisms, the ecological functions and processes they perform, and the genetic diversity they contain at local, regional or landscape levels of analysis.

Biodiversity has five principal components:

Genetic diversity (the genetic complement of all living things)

Taxonomic diversity (the variety of organisms)

Ecosystem diversity (the three-dimensional structures on the earth's surface, including the organisms themselves)

Functions or ecological services (what organisms and ecosystems do for each other, their immediate surroundings and for the ecosphere as a whole, i.e. processes and connectedness through time and space)

The abiotic matrix within which the above exists, with each being interdependent on the continued existence of the other.
[Dunster]

Borrow pit

A small quarry or excavation, which provides material for use in the construction project.

[Revised from Dunster]

Buck

To cut a felled or downed tree into shorter lengths.

Buffer

1. In protecting critical nesting habitat areas, the buffer is an area of forest land that reduces the impacts of adjacent activities on the critical area. The dangers associated with adjacent disturbances might include wind-throw or wind damage to nest trees and young birds in the nest, increased predation and loss of interior forest conditions.

2. A strip of land between two areas under different management regimes. Pesticide buffer zones are used to limit the possible drift, run-off or leachate of pesticide from a site into other areas, such as waterbodies or creeks. Streamside buffers are used to limit the effects of logging on creeks, such as siltation, loss of shading, loss of nutrient inputs from trees and degradation of riparian zones. The size and composition of the buffer zone depends on its intended function.

3. An area maintained around a sample or experimental plot to ensure that the latter is not affected by any treatment applied to the area beyond the buffer.

4. In GIS work, a new polygon computed on distance from a point, line or existing polygon.

5. In managing biosphere reserves, an area or edge of a protected area. Examples of compatible activities might include tourism, forestry, agroforestry, etc. The objective of the buffer zone is to provide added protection for the core reserve area. [Dunster]

College/Association

The Alberta Association of Forest Management Professionals (AAFMP). Formerly the College of Alberta Professional Foresters (CAPF) and the College of Alberta Professional Forest Technologists (CAPFT).

Commercial thinning

A partial cut where trees of a merchantable size and value are removed to provide an interim harvest while maintaining a high rate of growth on the remaining, well-spaced, final crop trees. Used to capture volume likely to succumb to competition pressures and be lost to forest health damaging agents.

Commercial timber permit (CTP)

A timber disposition issued under Section 22 of the *Forests Act* authorizing the permittee to harvest public timber.

Compaction

A transfer of wheel pressure to soils causing collapse of large air-filled pores, a type of disturbance when tire imprint is often invisible under the duff layer. Soil susceptibility to compaction is maximal when soil is at field capacity, which can be detected by stability of hand cast. Most of soil compaction occurs during the first passes of equipment because soil gains strength with each additional pass.

Compartment

Subset of the FMU used for tracking and reporting SHS variance. Also referred to as stewardship reporting compartment.

Connectivity

A measure of how well different areas (patches or a landscape are connected by linkages, such as habitat patches, single or multiple corridors, or "stepping stones" of like vegetation. The extent to which conditions among late successional/climax forest areas provide habitat for breeding, feeding, dispersal and movement of late successional - or climax-dependent wildlife or fish species. Natural landscapes often tend to be better connected than those that have been heavily influenced and disturbed by human activities. Consequently, there is a body of opinion that the best way to avoid fragmentation of landscapes is to maintain, or re-establish, a network of landscape linkages. At a landscape level, the connectivity of ecosystem functions and processes is of equal importance to the connectivity of habitats. [Dunster]

Corrective actions

May include one or more of the following:

Direct that the work be corrected and re-submitted.

Carry-out an appropriate enforcement response.

For regulated forestry professionals, file a formal complaint with the Association of Alberta Forest Management Professionals.

Corridor

1. A physical linkage connecting two areas of habitat and differing from the habitat on either side. Corridors are used by organisms to move around without having to leave the preferred habitat. A linear habitat patch through which a species must travel to reach habitat more suitable for reproduction and other life sustaining needs. Many corridors, linking several patches of habitat, form a network of habitats. The functional effectiveness of corridors depends on the type of species, the type of movement, the strength of the edge effects and its shape.

2. An area of uniform width bordering both or one side of a lineal feature, such as a stream or route. [Dunster]

Cross-drainage structures

Culverts or other drainage structures that permit water to move from one side of a road to the other, normally under the road grade.

Deactivation

Taking a road out of active use through implementation of erosion control measures, road blocks and/or other methods.

Deciduous timber allocation (DTA)

A timber disposition issued under Section 22 of the *Forests Act* authorizing the permittee to harvest public deciduous timber.

Delegated authority

The Government of Alberta personnel located at the regional or area level charged with supervision of all forest management activities in

a defined region or area. It can also mean someone who is authorized to approve an AOP.

Deleterious material

Any substance that, (a) if added to water, would degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, or (b) any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water. [Section 34(1) of the *Fisheries Act*]

Department License of Occupation (DLO)

A disposition issued by Alberta under the *Public Lands Act* authorizing occupation of a linear corridor, often for an access road.

Designated Trail

A Designated Trail means a trail designated under section 4(1)(a) or (b) of the *Trails Act* (which will take effect May 1, 2022).

Displaced soil

Mixed mineral, surface and sub-surface horizons that have been deposited off the road or disturbed surface to a depth of 15 cm or greater.

Disturbance patterns

The spatial and temporal arrangement of disturbances.

Ditch blocks

Barriers constructed across ditches to retard water flow, to redirect water from the ditch or to form a small catch basin.

Drought

Extended period of below average precipitation causing a lowering of the water table. Generally occurs over several years but locally may happen

seasonally. Signs would be lowering of lake levels and drying of streams that would normally flow all year.

Due diligence

May include one or more of the following:

Taking and documenting steps to ensure that the desired outcome is achieved or that the chances of a negative consequence or outcome is minimized.

Ensuring completeness, correctness, consistency and repeatability.

Demonstrating how conclusions were reached.

Using mechanisms, such as but not limited to checklists and standard operating procedures, to demonstrate that appropriate procedures were followed and to ensure that no relevant steps or considerations were missed.

Keeping and maintaining appropriate files and filing systems as well as document retention policies and practices.

Duff layer

The organic horizons of the soil profile (LFH). Commonly referred to as the forest floor.

Ecological integrity

The quality of a natural, unmanaged or managed ecosystem in which the natural ecological processes are sustained, with genetic, species and ecosystem diversity assured for the future. [Dunster]

Features

The features represented on a map which describe the physical aspects of the harvest design e.g. harvest area boundaries, roads, buffers, wildlife habitat.

Fish passage

Free transit of fish, upstream and downstream, associated with migration or localized movements that are necessary to complete their life cycle. Depending on the context, fish passage is also a route for fish to move between habitat types.

Forest Area Manager

The senior Alberta manager located at a forest area charged with supervision of all forest management activities in a forest area. It may also mean someone else who is authorized to approve an AOP.

Forest health

A condition of the forest; a forest is considered healthy if it can sustain itself to meet the specific forest land management objectives of today or in the future.

Forest health damaging agents

Biological, physiological and environmental agents that have an adverse effect on the health of the forest. These agents include insects, nematodes, micro-organisms (viruses, bacteria, fungi), parasitic plants, mammals, birds, and non-infectious disorders caused by climate, soil, applied chemicals, air pollutants and other physiographic conditions. Previously referred to as insects and diseases.

Forest management activities

Includes all aspects of operational planning, timber operations, road work, monitoring and reporting of timber operations. Essentially all activities during FMP implementation.

Forest management agreement (FMA)

A contract between the province of Alberta and the FMA holder whereby the province provides an area-based Crown timber supply. In return, the FMA holder commits to the following:

Managing the timber resource on a perpetual sustained yield basis.

Taking into consideration a broad range of forest values in determining forest management practices.

Meeting defined economic objectives, including capital investment and job creation.

Seeking out new business opportunities that provide measurable economic benefits for both the province and the FMA holder.

The FMA gives the FMA holder the right to access Crown fibre. In return, the FMA holder commits to forest management responsibilities, which may change from time to time.

Forest management professional

A regulated member of the Association of Alberta Forest Management Professionals on one of the following registers:

Registered Professional Forester (RPF)

Registered Professional Forest Technologist (RPFT)

Registered Professional Forester Conditional (RPF-C)

Registered Professional Forest Technologist Conditional (RPFT-C) [AAFMP]

Forest management plan (FMP)

A long-term plan used to outline higher-level management objectives, sustainability and timber production assumptions for a forest management agreement (FMA).

Forest management unit (FMU)

An administrative unit of forest land designated by the Minister, as authorized under Section 14(1) of the *Forests Act*.

Forest officer

An employee of Alberta appointed in accordance with the *Public Service Act*¹⁰ who represents the Minister in the administration of the *Forests Act*, the *Timber Management Regulation*, the *Public Lands Act*, and the Forest and Prairie Protection Act and Regulations on public forested lands.

Forests Act

The legislative statute that authorizes the Minister to administer and manage the forested lands of Alberta.

Full review

An evaluation of the acceptability for approval of a submitted document involving referrals to government departments, independent experts or

others as appropriate, and a risk analysis prior to Alberta granting approval to the submitting timber disposition holder.

Ground rules

Standards for operational planning and field practices that must be measurable and auditable and based forest management plan objectives.

Guideline

A preferred or advisable course of action respecting land and resource management. Guidelines imply a degree of flexibility, based on administrative judgment or feasibility of applying the guideline, and are consequently not normally enforceable through legal means.

Harvest area

Treed areas harvested, usually in one season, for the purpose of obtaining wood for the production of various wood products such as lumber and pulp. A specified land area with defined boundaries where timber harvesting is scheduled, or has occurred. Also referred to as a block, cutblock or opening.

Hiding cover

See "sight distance."

High water mark

Stream course water levels corresponding to the top of the unvegetated channel or lakeshore.

Harvest area design

The stands identified for harvest that meet forest management objectives in the absence of a SHS.

Harvest level

A volume or area of timber determined through timber supply analysis available for harvest on an annual sustainable basis within a DFA. A harvest level is not an AAC unless approved by the Minister.

¹⁰

<https://www.qp.alberta.ca/1266.cfm?page=p42>

[.cfm&leg_type=Acts&isbncln=9780779828074&display=html](https://www.qp.alberta.ca/1266.cfm?page=p42)

Harvest roads

Temporary roads located within a harvest area. Formerly referred to as in-block roads.

Inoperable

Classification of a forest site based on the potential to harvest timber on that site, as affected by physiographic characteristics, moisture regime and harvesting equipment/technology.

Integrated resource management (IRM)

IRM is an interdisciplinary and comprehensive approach to decision making for the management of natural resources. IRM integrates decisions, legislation, policies, programs and activities across sectors to gain the best overall long-term benefits for society and to minimize conflicts. This approach recognizes that the use of a resource for one purpose can affect both the use of a resource for other purposes and the management and use of other resources. IRM is based on:

Co-operation, communication, co-ordination and the comprehensive consideration of all resource values. This philosophy is centered on the belief that efforts to manage natural resources will be more successful if they are co-ordinated at all levels within government; and

Appropriate consultation before action.

Those who are significantly affected by a decision should have the opportunity to participate in the decision-making process.

Integrated resource plan

A regional plan developed by provincial government agencies in consultation with the public and local government bodies. It provides strategic policy direction for the use of public land and its resources within the prescribed planning area. It is used as a guide for resource planners, industry and publics with responsibilities or interests in the area.

Interests

The wants, needs, concerns and desires of each party that provide motivation to be concerned about an issue or topic.

Issue

The topic to be discussed. The problem to be solved. The theme of the discussion.

Laid out

Field assessment of harvest areas and roads (on the ground) required prior to submission of AOP; also includes the delineation/marketing of both harvest area boundaries and roads on the ground. Examples of delineation/marketing include but are not limited to: ribbon, paint or other means approved by Alberta.

Landing

Any area where logs are gathered for processing or further transport to a mill site.

Landscape

A landscape (or LMU) is a heterogeneous area in which the pattern of the mosaic of local ecosystems or land uses is repeated in similar form throughout kilometres wide area (after Forman 1986). Landscapes may coincide with a climatic, physiographic or ecological boundary; however, landscapes are not strictly ecologically based and include human use and modification of the area.

Large residual tree

A residual tree with a diameter measured at breast height (DBH) greater than the approximate average merchantable tree DBH of the harvest area.

Logfill

Water crossings constructed with logs placed in a channel, bed or on landscape parallel to the flow of the water.

Mass-wasting

Movement of large masses of land, soil or regolith (i.e., slumping, landslides, rock slides and massive undercut erosion).

Mature stands

Stands that have reached rotation age or have a decreasing growth rate.

Natural variation of the landscape

For the purpose of harvest planning, is the range of stand polygon sizes prior to harvest within the compartment boundary.

Operational plan

Any of GDP, AOP, or reforestation program.

Pattern

The arrangement of forest stands or harvest units.

Permanent roads

Roads that will be in use for more than three years issued under a *Public Lands Act* disposition (LOC or DLO).

Pre-commercial thinning

A silvicultural treatment to reduce tree density in young stands, carried out before the stems reach merchantable size. The intent is to concentrate the site's growth potential on fewer trees thereby accelerating stand development and reducing the time to final harvest, retaining more live crown, creating opportunities for future commercial thinning activities and improving stand operability.

Provincial Base 10 strata

An Alberta-wide standardized classification of forested stands with ten categories based on tree species composition. Also referred to as minimum strata. Assignment rules provided in the Yield Projection Interpretive Bulletin of the *Alberta Forest Management Planning Standard*.

Quota

The timber quota is a share of the allowable cut of coniferous timber within a forest management unit.

Reclamation

Permanent removal of water crossings; re-contouring of road crown and ditches; reseeding or planting of the former ROW.

Recreation site

Includes areas designated by Alberta as ecological reserves, wilderness areas, wildland parks, provincial parks, heritage rangelands, natural areas and recreation areas.

Reforestation

Any operation involving seed management; seedling production; site preparation; tree planting; seeding; regeneration or reforestation surveying; stand cleaning; stand tending; stand thinning; tree improvement; fertilization; drainage; pruning or site analysis that is carried out in the course of forest renewal.

Reforestation strategy table

For each managed stand yield stratum plus each operational stratum identified in an FMP, outlines the desired future forest condition and the series of harvest, reforestation and maintenance treatments expected to be followed in order to attain the desired outcome. Details the typical silviculture prescriptions to be implemented operationally in order to meet reforestation standards and create the desired future forest, and identifies strategies for minimizing the effects of site and climatic limitations on survival and productivity of seedlings. Previously referred to as the silviculture matrix.

Regeneration

The renewal of a tree crop by natural or artificial means. It may also refer to the young crop itself.

Reserve

In its strictest sense, an area of land designated as being off-limits to any exploitive activities that might change the nature of the area. Not all reserves are so tightly controlled. [Dunster]

Residual structure

Standing structure that is taller than 2 m, within a harvested area. Areas buffered for sensitive ecological or wildlife habitat may be included for residuals. Required buffers for lakes and small and large permanent streams are not included. This includes non-merchantable trees and shrubs, live merchantable trees, snags and stubs.

Residual tree

A live canopy tree that is spatially within a harvested area. Areas buffered for sensitive ecological or wildlife habitat may be included for residuals. Required buffers for lakes, small and large permanent streams are not included.

Resources

Physical and intrinsic features of the land, including but not limited to timber, wildlife, water and soil.

Review

Acceptance or appraisal conducted by Alberta.

Right-of-way (ROW)

A cleared area, usually linear, containing a road and its associated features such as shoulders, ditches, cut and fill slopes, or the area cleared for the passage of utility corridors containing power lines or over- or under-ground pipelines.

Typically, the right-of-way is a specially designated area of land having very specific rights of usage attached. Rights-of-way may be owned by someone else. [Dunster]

Riparian area or management zone

1. Riparian areas on public land are the vegetation zones next to flowing and standing water bodies (e.g., rivers, lakes, sloughs). They are found in all natural regions of the province, from the prairies and foothills to the boreal mixed wood region. [GOA, 1997]

2. Terrestrial areas where the vegetation complex and microclimate conditions are products of the combined presence and influence of perennial and/or intermittent water, associated high water tables and soils that exhibit some wetness characteristics. Normally used to refer to the zone within which plants grow rooted in the water table of these rivers, streams, lakes, ponds, reservoirs, springs, marshes, seeps, bogs and wet meadows. The riparian zone is influenced by, and exerts an influence on, the associated aquatic ecosystem. [Dunster]

Road work

All aspects of road planning, design, construction, maintenance and reclamation.

Rotation

The period of years required to establish and grow even-aged timber crops to a specified condition of maturity.

Ruts

Machine depressions in the soil which are determined by depth and length:

Depth - where the depth of the organic dark humus material is greater than 30 cm, a rut is a depression that shears the organic layer of soil (a sheared organic will expose a vertical face greater than 20 cm of the organic layer). Where the depth of the organic material is less than 30 cm, a rut is a depression exceeding 10 cm into the mineral soil.

Length - An impacted area meeting the rut depth criteria that is greater than 4 m long. A continuous track with a rut less than 4 m because of stumps, logs or rocks lifting the vehicle will still count as a rut if the total length of the smaller holes is greater than 4 m.

Rutting/puddling

A paste-like behavior of wet soil when most of the soil pores are filled with water and soil literally flows from underneath the wheel to the sides and upward forming visible tire imprint into the mineral soil. Intensity/depth of rutting is directly related to the number of equipment passes. Soil is considered susceptible to rutting when it forms a stable hand cast.

Sensitive soil site

Any site that may be prone to soil movement, soil erosion, mass wasting or siltation due to steep slopes, wet ground, seepage areas, springs, fine textured soils or soils prone to mass wasting.

Sight distance

The distance at which 90 per cent or more of an adult big game animal is hidden from the view of

a human. This distance may vary from one stand to another.

Silt fence

Permeable fabric barriers installed along the contour to filter surface water runoff and trap sediment from sheet or overland flow and prevent it from entering streams.

Silviculture activities

Planting, seeding, site preparation, vegetation management, fertilization and all other activities undertaken to establish and grow forests to achieve specified management objectives, needs and values.

Silvicultural systems

Systems that follow accepted silvicultural principles, whereby the tree crops are tended, harvested and replaced to produce a crop of a desired form. This includes even-aged (i.e. clearcutting, shelterwood or seed tree cutting) or uneven-aged (i.e., selection cutting) systems. A planned program of silviculture treatments over the life of a stand, it includes the harvesting and the follow-up tending to the next rotation. [Smith, 1986]

Silviculture

The theory and practice of controlling the establishment, composition, health, structure and growth of forests in order to achieve specified management objectives.

Site preparation

Any action taken in conjunction with a reforestation effort (natural or artificial) to create an environment favourable for survival of suitable trees during the first growing season. This environment can be created by altering the ground cover, soil or microsite conditions; using biological, mechanical or manual clearing; prescribed burning; herbicides or a combination of methods. [Dunster]

Skid trail

An unimproved temporary forest trail suitable for use by equipment such as bulldozers and

skidders in bringing trees or logs to a landing or road.

Small patch of residual trees

A patch of less than 0.2 hectares of undisturbed canopy forest surrounded by harvested area. The patch must be composed of at least four canopy trees. At least two of the trees in the patch should be large residual trees.

Snag

A standing dead tree that is taller than 2 metres.

Soil displacement

A loss of nutrient-rich organic layers, and top mineral soil as a result of harvesting activities. Bare mineral soil is susceptible to raindrop impact causing soil crusting, increased surface runoff, and erosion.

Soil disturbance

In the context of the five per cent maximum allowable area within a harvest area, includes bared landing areas, temporary roads, displaced soils or ruts. Includes: forest floor layers missing; evidence of surface soil removal, gouging and piling surface soil displaced; surface soil may be mixed with subsoil; and/or subsoil partially or totally exposed.

Soil productivity

The capacity of a soil to provide for growth.

Spatial Harvest Sequence (SHS)

The areas scheduled for timber harvesting for the first 20 years. Provided in the FMP.

Species at risk

Any species known to be "at risk" after formal detailed status assessment and designation as "Endangered" or "Threatened" in Alberta. The list of species at risk is maintained by Alberta.

Species group

Conifer or deciduous.

Species of management concern

Species within the forest management planning area that have an identified value (social, economic, ecological) and are managed to

ensure their continued protection and/or use. This includes species that are hunted or trapped, as well as those that are endangered or threatened.

Stand

A community of trees sufficiently uniform in species, age, arrangement or condition as to be distinguishable as a group in the forest or other growth in the area. A stand may also be that polygon as defined in the AVI or Phase III inventory.

Stub tree

A large residual tree that has been “topped off” at approximately 6 m (may be less) to create an artificial snag.

Sustainable forest management (SFM)

Management to maintain and enhance the long-term health of forest ecosystems, while providing ecological, economic, social and cultural opportunities for the benefit of present and future generations.

Temporary field authorization (TFA)

An authority issued under Section 19 of the *Public Lands Act* by an Alberta officer to grant short-term land use activities on public land in the White Area or Green Area. The TFA may or may not be related to an existing disposition that has also been issued under the *Public Lands Act*. The concept is to provide field-level service to an applicant, with access to public land for a specific purpose/use/activity, for a term of less than or equal to one year.

Temporary road

Roads that are part of a harvest area or that connect harvest areas, and are built, used and reclaimed before expiry of the Annual Operating Plan (AOP) or reclaimed within three years of construction.

Temporary planting camp

Camp established to facilitate planting activities. Lifespan of the camp is less than 12 months.

Thermal cover

Generally, an area of at least 10 ha having a coniferous canopy at least 10 m in height, with at least 70 per cent crown closure and a minimum width of 200 m. This cover is used by animals to assist in their temperature regulation during extreme weather conditions.

Timber disposition

Harvesting rights in Alberta are granted through one of three forest tenure systems: forest management agreement, timber quota and Timber permit.

Timber disposition holder

Refers to the company that has a timber disposition.

Timber Management Regulation

The legislative statute that describes the mechanism and regulations by which the forested lands of Alberta are managed. The Regulation is associated with the *Forests Act*.

Timber operation

Any kind of activity involved in cutting, removing, harvesting, manufacturing, transporting or marketing timber or primary timber products, or reforestation.

Trapper

The Senior License Holder of a trapline in a Registered Fur Management Area.

Understory

The trees and other woody species growing under the canopies of larger adjacent trees and other woody growth. [Dunster]

Unstable slope

Slopes of loose or poorly consolidated materials beyond the angle of repose, geological features having a high probability of failure, or soils that will not support loads.

Water regime

Timing of water flow.

Water source area

That portion of a watershed where soils are water-saturated and/or surface flow occurs and contributes directly to streamflow. The area of saturated interflow associated with a stream.

Waterbody

The bed, bank or shore of a lake, pond or other natural body of standing water, whether it contains or conveys water continuously or intermittently.

Watercourse

The bed, bank or shore of a river, stream, creek or other natural body of flowing water, whether it contains or conveys water continuously or intermittently.

Watershed

An area of land, which may or may not be under forest cover, which drains water, organic matter, dissolved nutrients and sediments into a lake or stream. The topographic boundary, usually a height of land, that marks the dividing line from which surface streams flow in two different directions. [Dunster]

Wetland

Land saturated with water long enough to promote wetland or aquatic processes as indicated by the poorly drained soils, hydrophytic vegetation, and various kinds of biological activity that are adapted to a wet environment. According to the [Alberta Wetland Policy](#), wetlands are classified as one of marsh, bog, fen, swamp or open water wetland.

Wildlife

Any species of amphibian, bird, fish, mammal and reptile found in the wild, living unrestrained or free roaming and not domesticated. Some definitions include plants, fungi, algae and bacteria. [Dunster]

Wildlife corridor

A strip of forest with a minimum width of 100 m or a series of forest retention patches that connect two forested areas. These may include merchantable or unmerchantable stems.

Wildlife zone

As defined on Alberta's Wildlife Sensitivity maps.

Windfirm boundaries

Harvest area boundaries established at locations that are stable and that minimize the potential for timber losses from wind.

Sources

AAFMP – Association of Alberta Forest Management Professionals

Dunster, J. and K. Dunster, 1996. Dictionary of natural resource management. UBC Press, Vancouver, B.C.

GOA – Government of Alberta, 1997. About public lands. Managing Riparian Areas.

Smith, D.M. 1986. The practice of silviculture. John Wiley and Sons. New York, N.Y., pp. 329-

Appendix 1 FHP and AOP Checklists

Forest Harvest Plan Checklist

Area _____ Disposition Number _____
 Company _____ Date Disposition Issued _____
 Submission Date _____ Date Disposition Expires _____

APPROVAL ITEM	Yes/No (Company)	INITIAL/DATE (Agriculture and Forestry - AAF)
1) Has the FHP been validated by an RFP?		
2) Are the planned additions <20% of the SHS by compartment/decade?		
3) Is the sum of proposed area to harvest and previously harvested area (since SHS approval) less than or equal to 100% of the SHS area?		
4) Does the FHP adhere to all Ground Rules?		

	Company (Y,N,N/A)	Company Comments (optional)	AAF (Y,N,N/A)	AAF Comments (optional)
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Administrative Considerations

- Has a copy of the FHP been provided to:
 - Area Forester? _____
 - Forest Officer? _____
 - Fish & Wildlife? _____
 - Other? _____
- Is the FHP consistent with approved higher order plans (DFMP, SHS, GDP)? _____
- Has the required disposition been issued and is active? _____
- Is the FHP complete and legible? _____
 - maps _____
 - block tables _____
 - detailed block plans where requested _____
 - contingency plans _____

Utilization

- Has the SHS variance been reported and summarized for the FHP? _____
- Does the utilization standard match tenure document? _____
- Are the deviations from utilization standards identified, explained and justified (rub posts, high stumps, retention, etc)? If there are no deviations, enter N/A. _____

Ground Rule Deviations - Complete if answered "NO" to Approval Item #4 (top of page), otherwise enter N/A

- Have all the blocks containing ground rule deviations been identified? _____
- Has an explanation and justification been provided for all ground rule deviations? _____

Integration with Other Users

- If the plan is not integrated, has an explanation and justification been provided? _____
- Has the recipient of incidental volumes and chargeability been identified? If there are none, enter N/A. _____
- Have all the effected trappers been identified and contacted? If there are none, enter N/A. _____
- Have known trapper cabins, trails and other improvements been identified and integrated into the plan? If there are none, enter N/A. _____
- Have known recreational groups been identified and contacted where issues have been observed? If there are none, enter N/A. _____
- Has a GTA been completed and grazing disposition holders been contacted (Directive 2006-01)? If there are none, enter N/A. _____
- Have the required historical resource assessments been completed and, if necessary, integrated into the plan? _____
- Have all issues raised by other users or the public regarding this plan been documented? If there are none, enter N/A. _____
- Have potential land use conflicts been documented and mitigated (PNT, CNT, road use agreements, etc)? If there are none, enter N/A. _____

Access Management (temporary access only)

- Have access management measures been described and identified (location, timing, signage, etc)? If there are none, enter N/A. _____

Sensitive Sites

- Have aesthetic/recreation concerns been addressed? If there are none, enter N/A. _____
- Have water source areas been identified and potential impacts mitigated? If there are none, enter N/A. _____

Road Design

- Have the location, design and width of temporary road corridors been identified? If there are none, enter N/A. _____
- Has a list of watercourse crossings including watercourse classification been provided? If there are none, enter N/A. _____
- Have any crossings not exempt under the *Water Act* been identified? If they are all exempt, enter N/A. _____
- Have existing access/DLOs which have been integrated into the plan been identified on the map? If there are none, enter N/A. _____

Wildlife

- Have wildlife zones within the planning area been identified and incorporated into the plan (as per OGR Section 7.7)? If there are none, enter N/A. _____
- Have blocks with timing restrictions been identified? If there are none, enter N/A. _____
- Have all known sensitive wildlife sites been addressed (mineral licks, raptor nests, den sites, etc)? If there are none, enter N/A. _____

Insect, Disease & Fire

- Does the FHP comply with direction provided in Community Firesmart Plans? If there are no plans, enter N/A. _____
- Have known insect and disease infestations been identified and described? If there are none, enter N/A. _____
- Have mitigation strategies for infestation, diseases or endangered timber been described? If there are none, enter N/A. _____
- Have debris disposal methods been identified? _____

Silviculture

- Have all watercourse crossings and/or roads that will be maintained for silviculture purposes been identified? _____
- Has a pre-harvest strata declaration been included for each opening? _____

-FHP's are approved through acceptance and will be considered approved on the date Alberta acknowledges receipt of the work.
 -Alberta shall notify the organization by acknowledging receipt within 5 working days of submission.
 -The notification date will be documented by Alberta as the start date for FHP approval.
 -Alberta shall periodically check the work and supporting documentation to verify its accuracy.
 -At any time, approval can be revoked where Alberta learns the FHP is inaccurate or deficient in content.

Company Validation

 Submitting RFP Validation _____ Company _____ Date _____

AAF Validation

 Reviewing RFP Validation _____ Date _____

Note: This Checklist should reflect regional or FMA Operating Ground Rules - this is a template.

Annual Operating Plan (AOP) Checklist

Area _____	Volume Summary (m3)	Comifer	Decision
Company _____	Quadrant Allowable Cut _____	_____	_____
Disposition Number _____	Quadrant Production to date _____	_____	_____
Date Disposition Issued _____	Quadrant Volume Remaining _____	_____	_____
Date Disposition Expires _____	Proposed Production (AOP year) _____	_____	_____
Submission Date _____			

APPROVAL ITEM	YES/NO (Company)	INITIAL/DATE (Agriculture and Forestry - AAF)
Validated by RFP		
AOP has an approved FHP(s)		

	Company (Y,N,N/A)	Company Comments (optional)	AAF (Y,N,N/A)	AAF Comments (optional)
Administration				
- Have digital copies of AOP been provided (if required) to: - Area Forester - Forest Officer - other				
- Have any FHP conditions been addressed? If there are none, enter N/A.				
- Is the Company requesting dues relief with an explanation and justification?				
- Have any amendments to AOP components been submitted and justified (reforestation program, GDP, FHP)?				
Operating Schedule (as per section 3.5.4 c)				
- Has a table been submitted for all blocks scheduled for harvest including area & volume by species with totals?				
- Has a list of temporary roads proposed for construction, maintenance & reclamation including watercourse crossings to be built or installed or removed/maintained been provided?				
- Has a declaration of outstanding operational items, or an agreement with Alberta on reporting of outstanding operational items been provided?				
- Have outstanding operations been identified (debris disposal, hauling, clean-up, reclamation, etc)?				
- Are requested amendments to any AOP components explained (reforestation program, road plan, etc)?				
Applicable Forest Harvest Plans (as per section 3.4)				
- Do all blocks and roads included in the AOP have FHP approval?				
Reforestation Program (as per section 8.2)				
- Is the proposed silviculture treatment schedule provided?				
- Are summaries of stratum declarations, stratum changes, final stratum, OAC adjustments provided?				
- Have all proposed roads and crossings been identified for silviculture use?				
- Proposed blocks are listed for declaration in lieu of survey & re-treatment				
- Are seed inventories sufficient as per FGRMS manual section 11.2 or otherwise approved by AAF?				
Wildfire Protection (as per section 7.3)				
- Is the Forest Protection Supplement complete and provided?				
Road Plan (as per section 11.2)				
- Are all roads scheduled to be built under authority of the AOP planned to have a lifespan of <= 3 years?				
- Is a table tracking the status of all non DLO roads over two years old submitted?				
- Are all required watercourse crossings documented in the monitoring program as per section 11.4.26?				
General Development Plan (as per section 3.3)				
- Has a summary of variance as per section 4.1 been provided?				
- Has a summary of volume supply by area been provided?				
- Has an DLO road construction and reclamation schedule been provided?				
- Has a GDP schedule & map as per section 3.3.5 been provided?				
- Have consultation activities been completed as per the Provincial Indigenous Consultation Guidelines?				

Company Sign Off

Submitting RFP Validation

Company

Date

AAF Sign Off

Reviewing RFP Validation

Date

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