BRITISH COLUMBIA
The Best Place on Earth

Ministry of Forests and Range Minister's Office

MEMORANDUM

File: 280-20
Ref: 126104

OCT 26 2010

To: Madeline Maley, A/Regional Executive Director, Southern Interior Region
Greg Rawlings, A/Regional Executive Director, Northern Interior Region

From: Pat Bell
Minister

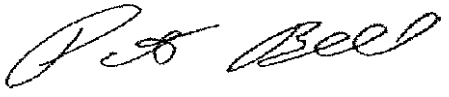
Re: Amendment No. 3 to the *Interior Appraisal Manual*

I hereby approve Amendment No. 3 to the *Interior Appraisal Manual* and attach a copy for your use. The following has been amended:

Section 1.1	Section reference updated for Applicable Volume.
Section 1.3	Reference to titles of Information Papers updated.
Section 1.4(2)	Coniferous added for clarification.
Section 2.2.1.2	Revised text for clarification of a Mountain Pine Beetle reappraisal after the July 1, 2010 Minister's directed reappraisal.
Section 3.5.2(2)	Spelling error corrected.
Table 3-4	Fort Nelson Point of Appraisal removed due to expiry.
Section 4.1 (3)	Spelling error corrected.
Section 4.3	Section redrafted for clarity.
Section 4.3.1.1.3(3)	Section reference updated.
Section 4.3.1.1.4	Revisions for clarity.
Section 4.3.2.3 and 4.3.2.5	Section reference updated.

Section 4.3.3.1(1)	Section reference corrected.
Section 5.1.1	Revised text to allow for an indicated upset stumpage rate greater than 70% of final estimated winning bid.
Section 5.1.1(6)	Revised text for cruise based billing.
Section 6.1	Revised title for clarification.
Table 6-1, 6-2, 6-4 & 6-5	Tables updated with new average sawlog stumpage rates by forest zone and species.

This amendment will come into force on November 1, 2010. Further amendments or revisions to this manual require my approval.



Honourable Pat Bell
Minister

Attachment – *Interior Appraisal Manual*

pc: Murray Stech, Director, Pricing Branch

BRITISH COLUMBIA
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Ministry of
Forests
and Range

MANUAL REVISION TRANSMITTAL

FOR FURTHER INFORMATION OR IF YOU HAVE A CHANGE OF ADDRESS, PLEASE CONTACT:	**MANUAL TITLE** Interior Appraisal Manual	
Bob Bull Senior Timber Pricing Forester (Interior) Pricing Branch Ministry of Forests 1st Floor, 1520 Blanshard Street Victoria, BC V8W 3K1 Phone: 250 – 356-7709 Email: Bob.Bull@gov.bc.ca FAX: 250 - 387-8393	**AMENDMENT** Amendment No. 3	**ISSUE DATE** November 1, 2010
	MANUAL CO-ORDINATOR Judy Laton Publications/Administrative Co-ordinator	
	AUTHORIZATION (Name, Title) Murray Stech Director, Pricing Branch	

Please make the following changes to your copy of the above Ministry manual.

ACTION (Remove/Insert)	(VOL.) CHAPTER-SECTION-SUBJECT TABLE OF CONTENTS	PAGE(S)	COMMENTS
Remove	Table of Contents	i - iv	After Table of Contents Tab
Insert		I - iv	
Remove	Chapter 1	1 - 2 7 - 10	After Chapter 1 Tab
Insert		1 - 2 7 - 10	
Remove	Chapter 2	5 - 6	After Chapter 2 Tab
Insert		5 - 6	
Remove	Chapter 3	11 - 12	After Chapter 3 Tab
Insert		11 - 12	
Remove	Chapter 4	1 – 12 15 - 22	After Chapter 4 Tab
Insert		1 – 12 15 - 22	
Remove	Chapter 5	1 - 4	After Chapter 5 Tab
Insert		1 - 4	
Remove	Chapter 6	1 – 4 11 - 12	After Chapter 6 Tab
Insert		1 – 4 11 - 12	
Remove	Index	1 - 4	After Index Tab
Insert		1 - 4	
INSERT	Letter from Minister and Transmittal Sheet		After Amendments Tab

Table of Contents

4 Tenure Obligation Adjustments

5 Stumpage Rate Determination

6 Miscellaneous Policies

Appendices

Index

Tables

Introduction 1

1.1 Definitions

In this manual:

"Act" means *Forest Act*;

"Agreement" means a form of agreement granting rights to harvest Crown timber referred to in section 12 of the *Act,* or a pulpwood agreement;

"Anniversary date" means the annual recurrence of the month and day when the term of the cutting authority began;

"Applicable Volume" means:

a. Except as provided in section 2.2.1(e) and 4.3(13), and subject to paragraph (b) of this definition, where the harvesting is authorized on a cutting authority area under an agreement other than a BCTS licence, applicable volume means the total net coniferous volume,

b. Where the cutting authority or the agreement under which the cutting authority is issued is cruised based or requires harvesting in deciduous stands and the deciduous timber has not been reserved, applicable volume means the sum of the total net coniferous volume and the total net deciduous volume,

c. Where the harvesting is authorized on a cutting authority area under a BCTS licence, applicable volume means the sum of the total net coniferous volume and the total net deciduous volume;

"**Appraisal Data Submission (ADS)"** means the information required by the person who determines the stumpage rate to determine that rate including the appraisal map, cruise information (including the required reports and the ASCII cruise data files unless otherwise specified by the director of Pricing Branch) and any other information required by the regional manager or district manager, in the form required by the director, or the Interior Stumpage Rate Request Form, signed by a registered professional forester (RPF) or registered forest technologist (RFT), registered with the Association of British Columbia Forest Professionals;

"BCTS" means BC Timber Sales;

"BCTS licence" means a timber sale licence entered into under Section 20 of the *Act* or Section 21 as it was before it was repealed;

"Billing history record" means a record of log scale data derived from a record kept by Pricing Branch of log scale data reported on stumpage invoices issued by the Pricing Branch for timber scaled under section 94 of the *Act*;

"Bonus Bid" means a bonus bid described in section 103(1)(d) of the *Act*;

1.2 Terms of Reference

1. Pursuant to section 105 of the *Forest Act* the provisions of this manual are policies and procedures to be used in the determination, redetermination and variance of stumpage rates in the Northern Interior Forest Region and in the Southern Interior Forest Region and Manning Park.

1.2.1 Responsibility for Stumpage Determination

1. The following employees of the ministry are authorized to determine, redetermine and vary rates of stumpage:

    a. regional managers, regional timber pricing co-ordinators, and employees of the regional revenue sections, and

    b. director and employees of Pricing Branch.

2. The employees of the Timber Administration section, Resort Development Branch of the Ministry of Tourism, Culture and the Arts are authorized to determine or redetermine stumpage rates in accordance with section 6.8(1) or (2).

1.2.2 Stumpage Appraisal Parameters

1. The stumpage appraisal parameters are compiled, calculated, and/or adopted by Pricing Branch.

2. Once approved by the director they become an integral part of this manual.

3. The parameters are published by Pricing Branch.

4. Current and historical parameters may be found at the following web site:

http://www.for.gov.bc.ca/hva/

1.2.3 Minimum Stumpage Rate

A stumpage rate determined using this manual shall not be less than the prescribed minimum stumpage rate.

1.3 Numbering and Calculation Conventions

1. The following exemplifies the numbering system used in this manual:

1. =	Chapter.
1.1 or 1.1.1. =	Section.
1.1.1 (2) =	Section with subsection.
1.1.1(2)(a) =	Section with subsection and paragraph.
Table 4-2 =	Table 2 within chapter 4.

2. The calculation of the Interior Average Market Price must be performed in accordance with the specifications contained in the documents titled: "*Specifications: The Interior Market Pricing System*" as updated from time-to-time, and "*Interior Market Pricing System-Update"* as updated from time-to-time.

3. Where a value is specified as a limit, for example a constraint or a requirement for an equation,

   a. The value will be treated as an absolute value, and

   b. An actual measurement or record will not be rounded before use unless otherwise specified in this manual.

4. Each calculation of a tenure obligation adjustment or specified operation expressed in dollars per cubic metre will be rounded to the nearest cent.

1.4 Cutblocks within a Cutting Authority Area

1. Cutblocks within a cutting authority area must:

    a. Constitute a single unit,

    b. Be within the same forest district,

    c. Be tributary to a common point of appraisal (unless included in a blanket salvage permit),

    d. Must not exceed a maximum distance of ten kilometres between the furthest boundaries of the furthest cutblocks, except when required for blanket salvage.

2. A cutting authority shall not include both an authorization to harvest on a cutblock where 35% or more of the net merchantable coniferous timber is red and grey mountain pine beetle attacked Lodgepole pine and an authorization to harvest on a cutblock that does not have those same characteristics.

1.5 Appraisal Data Requirements

1. The cruise and all other pertinent information required for the appraisal must be submitted by the licensee or BC Timber Sales with the appraisal data submission to the district manager.

2. Unless otherwise specified by the Director, cruise data must be gathered and compiled according to the approved interior standard timber merchantability specifications in Table 1-1 below and in accordance with the following Ministry publications:

   a. *Cruising Manual* web site:

      http://www.for.gov.bc.ca/hva/manuals/cruising.htm

   b. *Cruise Compilation Manual*.

3. When requested by the district manager, a copy of the original field data must be supplied by the licensee.

Table 1-1 Interior Standard Timber Merchantability Specifications

Description	
The following standard timber merchantability specifications must be used for all appraisals.	
Stumps (Measured on the side of the stump adjacent to the highest ground.)	
no higher than	30.0 cm
Diameter (outside bark) at stump height	
lodgepole pine: all timber that meets or exceeds	15.0 cm
all other species: all timber that meets or exceeds	20.0 cm
Top diameter (inside bark or slab thickness)	
for all species and ages, except cedar older than 141 years, all timber that meets or exceeds	10.0 cm
Top diameter (inside bark or slab thickness)	
for cedar older than 141 years, all timber that meets or exceeds	15.0 cm
Minimum length	
log or slab	3.0 m

1.5.1 Comparative Cruise Data

1. Comparative cruise data is cruise data from an existing cutting authority area with similar stand and terrain characteristics that is used in the appraisal of a new cutting authority area.

2. The district manager may require the selection of a comparable cutting authority to be in accordance with procedures set out in section 2.10 of the *Cruising Manual*.

method is significantly different from the timber that was harvested on the cutting authority area prior to the transfer of the right to harvest the remaining timber.

2. Except as provided in subsections 3 or 4 of this section, where a changed circumstance has occurred with respect to a cutting authority area, other than a cutting authority area that is subject of a road permit or a cutting authority area with a non-adjusting stumpage rate, the cutting authority area must be reappraised in accordance with section 2.2.1.1.

3. Where a licensee has notified the ministry in writing that a changed circumstance has occurred and the indicated stumpage rate for the cutting authority area has been less than $\$0.25/m^3$ since the cutting authority area was first appraised, and the indicated stumpage rate that would be calculated in a changed circumstance reappraisal would remain less than $\$0.25/m^3$, a changed circumstance reappraisal is not required.

4. Where a licensee has notified the ministry in writing that a changed circumstance has occurred, log transportation activities have been completed on the cutting authority area and the amount of stumpage payable as a result of a changed circumstance reappraisal under section 2.2.1.1 would be reduced, the changed circumstance reappraisal must be done only at the licensee's request.

5. Where a cutting authority is reappraised because of a changed circumstance, any bonus bid or bonus offer in existence does not change and remains in effect.

2.2.1.1 Changed Circumstance Reappraisal Procedure

1. Where the cutting authority was issued prior to August 1, 2005, the licensee must submit an appraisal data submission to the district manager immediately if a changed circumstance has occurred.

2. a. Except for a changed circumstance under section 2.2.1(1)(e), the licensee must submit an appraisal data submission to the district manager within thirty days of completion of log transportation activities or thirty days prior to the expiry of the cutting permit whichever comes first, if the cutting authority must be reappraised because of a changed circumstance under section 2.2.1.

   b. For a changed circumstance under section 2.2.1(1)(e), the licensee must submit an appraisal data submission to the district manager within thirty days of the date when the event that caused the sudden and severe damage stopped on the cutting authority area.

   c. Thereafter the changed circumstance procedure for paragraph (a) or (b) of this section is the same as required by section 2.1(2) to 2.1(7).

3. Where the district manager believes that a changed circumstance has occurred under subsections (1) or (2) of section 2.2.1, and the licensee fails to provide the district manager with an appraisal data submission as described in subsection (2) of this section, the district manager may initiate a changed circumstance reappraisal using information that is available to the district manager and may notify the licensee of that action. Thereafter the changed circumstance reappraisal procedure is the same procedure as that required by section 2.1(6) through 2.1(7).

2.2.1.2 Effective Date of a Changed Circumstance Reappraisal

1. Except as otherwise provided in this section, a reappraisal because of a changed circumstance is effective on the day after the effective date of the most recent appraisal or reappraisal of the cutting authority area prior to the changed circumstance reappraisal.

2. Where the cutting authority to which the reappraisal pertains was issued prior to August 1, 2005, and the date of the changed circumstance is on or after July 1, 2010, the changed circumstance reappraisal is effective on the day after the date the changed circumstance reappraisal stumpage rate is calculated.

3. Where the changed circumstance is a result of sudden and severe damage referred to in subsection 2.2.1(1)(e), the effective date of the reappraisal is the first day of the month following the date when the event that caused the sudden and severe damage stopped on the cutting authority area.

4. Where the most recent reappraisal is a changed circumstance reappraisal under section 2.2.3, the reappraisal shall be effective on the day after the effective date of the most recent appraisal or reappraisal of the cutting authority area that is not a reappraisal under section 2.2.3.

5. Where the most recent reappraisal is a Minister's directed reappraisal under section 2.2.2 or a reappraisal under section 2.2.3, the effective date of a reappraisal under sections 2.2.1(1)(f) or 2.2.1(1)(g) is effective on the day after the date of the most recent appraisal or reappraisal of the cutting authority area that is not a reappraisal under section 2.2.2 dated July 1, 2010 or a reappraisal under section 2.2.3.

3.5.1.3 Secondary Haul

Secondary haul is when logs must be truck hauled between the dewater and reload site to the appraisal point.

3.5.2 Point of Appraisal

1. The points of appraisal that may be considered for use in the appraisal are set out in Table 3-4.

2. The point of appraisal that when used in the calculation of the stumpage rate will produce the highest stumpage rate for the cutting authority area is the point of appraisal used unless:

   a. five years have passed from the date that a milling facility was permanently rendered incapable of producing lumber and chips, and

   b. it was the only milling facility associated with that point of appraisal.

3. Where a point of appraisal cannot be selected under subsection (2) of this section because of the conditions of paragraphs (a) and (b) of that subsection, the point of appraisal that produces the next highest stumpage rate is used.

4. The process in subsection (3) of this section is continued until a point of appraisal can be selected without being excluded by the conditions of paragraphs (2)(a) and (b).

5. Except for Table 3-3 and Appendix VI, the selling price zone in Table 3-4 for the point of appraisal selected under paragraphs (2), (3) or (4) must be used in the appraisal.

Table 3-4 Points of Appraisal

Northern Interior (Zone 5)			
Bear Lake	Fort St. James	Mackenzie	Smithers
Burns Lake	Fraser Lake	Prince George	Strathnaver
Clear Lake	Houston	Quesnel	Vanderhoof
Engen	Isle Pierre		

Skeena (Zone 6)		
Terrace	Hazelton	Kitwanga

Southern Interior (Zone 7)			
Adams Lake	Galloway	Merritt	Thrums
Armstrong	Grand Forks	Midway	Valemount
Canal Flats	Kamloops	Okanagan Falls	Vavenby
Canoe	Kelowna	Princeton	Westbank
Castlegar	Lavington	Radium	Ymir
Craigellachie	Lumby	Revelstoke	
Creston	McBride	Slocan	
Elko			

South Cariboo (Zone 8)				
100 Mile House	Chasm	Lytton	Squamish	Williams Lake

Fort Nelson - Peace (Zone 9)	
Chetwynd	Fort St. John

5. The following Points of Appraisal will expire on the dates indicated: Okanagan Falls (November 30, 2012), Kamloops (May 12, 2013).

Tenure Obligation Adjustments 4

4.1 Tenure Obligation Adjustment (TOA)

1. Except where a cutting authority area is the area authorized for harvest under a timber sale licence entered into under section 20 of the *Act* or section 21 as it was before it was repealed, and subject to subsection (2) of this section, the types of costs that may be used in the calculation of the tenure obligation adjustment in the appraisal or reappraisal of a cutting authority area are:

    a. the total administration cost,

    b. development cost,

    c. the total road management cost, and

    d. the total silviculture cost.

2. A cost referred to in subsection 1 of this section may only be used in the appraisal or reappraisal of a cutting authority area if:

    a. except for the low volume cost, the holder of the cutting authority authorizing harvesting on the cutting authority area will incur that kind of cost:

        i. when exercising an authority or carrying out an obligation under the cutting authority, or

        ii. subject to section 4.3, when carrying out an activity on a road when acting under the authority of the Crown, a road permit holder, a road use permit holder, or a private road owner, or

    b. in the case of a low volume cost, where that cost may be calculated under section 4.2.2 of this manual.

3. In this chapter:

    a. “development” means road development, cattleguards, fencing and pipeline crossings.

    b. "road" includes a bridge, drainage and any other pertinent structure that is part of the road.

4. The tenure obligation adjustment is calculated under section 4.9.

4.2 Administration Costs

4.2.1 Forest Management Administration (FMA)

Forest management administration costs are those costs directly related to supervision and administration of the activities listed below:

- Office Operations,
- Scaling,
- Cruising,
- Environmental Protection,
- Consultants fees (section 4.3.3),
- Archaeological surveys,
- Waste and Residue surveys,
- Right-of-way easements,
- Foreshore and other land leases,
- Tree marking Beetle probing & Pheromone baiting,
- Engineering (road layout, survey including geotechnical surveys, and design, other than those applicable as engineered cost estimate).
- Suitable Secondary Stand Structure Survey.

The forest management administration cost estimate in an appraisal is determined as follows:

$$\$/m^3 = 2.99238 + (0.17217 \times \text{CP slope \%})$$

Where:

CP Slope % - is the cutting permit average slope from the Cruise Appraisal Summary Report.

4.2.2 Low Volume Cost Estimate (LVCE)

Fully appraised cutting authorities are eligible for a low volume cost estimate where the licence to which the cutting authority belongs has an allowable annual cut of Crown timber greater than 0 m^3 and less than 3 000 m^3:

$$= \ 8.35/m^3$$

4.2.3 Total Administration Costs (TAC)

$$\text{TAC } (\$/m^3) = \text{FMA } (\$/m^3) + \text{LVCE } (\$/m^3)$$

4.3 Development

1. The total development cost estimate in an appraisal or reappraisal must be determined in accordance with and subject to the conditions of this section.

2. There are two categories of development, namely:

   a. New construction projects.

   b. Reconstruction and replacement projects.

3. A development cost estimate that may be calculated under this section is calculated for each road, bridge or other drainage structure that is required to be newly constructed, reconstructed or replaced by the licensee on Crown land, or as provided in section 4.3.1.1.2, in order for the licensee to access Crown timber that it is authorized to harvest.

4. The total development cost estimate is the total of all of the development cost estimates that are calculated under subsection 3 in accordance with the procedures in the document titled "*Specifications: the Interior Market Pricing System.*"

5. The two methods of estimating development costs are as follows:

   a. Tabular cost estimate: A tabular cost estimate is made in accordance with sections 4.3.2 through 4.3.2.6 when the project is a new construction project, other than a situation listed in section 4.3.3(7).

   b. Detailed engineering cost estimate (ECE): an ECE is made in accordance with sections 4.3.3 and 4.3.3.1 when:

      i. a new construction project is a situation listed in section 4.3.3(7), or,

      ii. the project is a reconstruction or replacement project.

6. Subject to section 4.3.1.1.4 and to subsection (13) of this section, the development cost estimate of a project, or the licensee's share of the cost of a project, that has been authorized may only be used in the appraisal or reappraisal of the licensee's first fully appraised tributary cutting authority area that is authorized for harvest by the licence under which or because of which that authorization has been given.

7. A development cost allocation made in accordance with section 4.3.1.1 applies to all development cost estimates made under this section.

8. Where a licensee undertakes a new construction project or a reconstruction or replacement project using materials that it has either purchased from a person who is not at arm's length from the licensee or that it has previously used at another location, the cost estimate of the project may only include the cost of:

a. dismantling the materials at the site where they were previously used,

b. transporting the materials to the project location, and

c. installing the materials at the project location.

9. No costs authorized for use in an appraisal under this section may be used in an appraisal as road management costs.

10. No development cost estimate for a project may be included in an appraisal or reappraisal where the project has been paid for in full by the provincial or federal government.

11. Where a road that is administered by the Ministry of Transportation and Highways requires reconstruction or an upgrade in order to be used for the hauling of Crown timber, the cost of the project may not be used in an appraisal or reappraisal unless:

    a. the use of the cost of that project has received prior approval from the director of Pricing Branch, and

    b. it is based on competitive bids from persons operating at arm's length from the licensee that undertakes the project.

12. Where the cost of an authorized project is shared by two or more licensees, a licensee's share of the total development cost estimate may be apportioned in accordance with section 4.3.1.1.4.

13. Where a reconstruction and replacement project was not planned at the time of the appraisal of the first cutting authority area and was not used in either the appraisal or reappraisal of that cutting authority area, the cost estimate of that project may be used in the appraisal of the tributary cutting authority area from which harvested timber is the first to be transported over that project.

14. The development cost estimate for a reconstruction or replacement project may not exceed the development cost estimate that would have been made if the project had been a new construction project at that same location.

15. No cost may be considered in an appraisal or reappraisal if the cost was as a result of the licensee's negligence, failure to follow an approved plan, or failure to comply with the law.

4.3.1 (This Section has been left blank)

4.3.1.1 Development Cost Allocation

Where proration is required for section 4.3.1.1.1 and 4.3.1.1.2:

$$\text{Crown Share} = \text{Total Estimated Cost} * \frac{\text{Appraised Timber Volume}}{\text{Total Timber Volume}}$$

Where:

Crown Share ($)	=	Dollar amount to be allocated to stumpage-bearing timber in the cutting authority being appraised.
Total Estimated Cost ($)	=	Dollar amount of the total development cost estimate.
Appraised Timber Volume (m^3)	=	Volume of Crown timber that is tributary to the project and under the control of the licensee or a company legally associated with the licensee, including volume in all areas contributing to the allowable annual cut determination.
Total Timber Volume (m^3)	=	Total volume of Crown and private timber that is tributary to the project and under the control of the licensee or a company legally associated with the licensee.

In all cases volumes are estimated from the latest approved operational or inventory cruise data and maps of the area within the drainage to the height of land.

The Crown share is a dollar amount which is included in the appraisal of a tributary cutting authority, subject to section 4.3.1.1.4.

Development cost estimate is allocated according to the outline below (see also Appendix II).

4.3.1.1.1 Development Cost Estimates on Crown Lands

1. Development providing access to appraised timber only:

   Total estimated costs are included in the appraisal.

2. Development providing access to non-appraised timber only:

   Cost estimates are not included in the appraisal.

3. Development in appraised timber areas providing access to both appraised and non-appraised timber held by the licensee or a company legally associated with the licensee:

   All costs are prorated between appraised and non-appraised timber. The appraised timber portion is then included in the appraisal.

4.3.1.1.2 Development Cost Estimates on Private Land

1. When a new or reconstructed road or structure on private land is required for Crown timber extraction, the estimated cost of the road or structure will be included in the appraisal of a tributary cutting authority according to the procedures of section 4.3.1.1 and the following:

a. If development provides access to appraised timber only, the total estimated costs are included in the appraisal.

b. If development provides access to non-appraised timber only, cost estimates are not included in any appraisal.

c. If development provides access to both non-appraised and appraised timber, all cost estimates are prorated between non-appraised and appraised timber (section 4.3.1.1) and then the Crown portion is included in the appraisal.

4.3.1.1.3 Existing Roads and Structures

1. The following are defined as existing roads for the cutting authority being appraised and are not eligible for inclusion in development cost estimates:

   a. Constructed roads that have been previously considered in appraisals of Crown timber within another cutting authority.

   b. Roads previously constructed and used to haul non-appraised timber (excluding right-of-way).

   c. Roads previously constructed all or in part for purposes unrelated to logging the cutting authority area being appraised.

   d. Roads previously constructed, repaired or reconstructed on private land before August 1, 1996.

2. Winter roads over muskeg or organic soils that use snow and ice for a driving surface are not considered as existing roads.

3. If the existing road requires reconstruction or replacement after August 1, 1996, the cost estimate is made as described in section 4.3. If the existing road is on private land, road and land use charges may be included in the appraisal as per section 4.4.1.

4. A road on private land that has previously been included in an appraisal because it was required for only short term timber extraction shall continue to be included upon reappraisal.

4.3.1.1.4 Extended Road Amortization

1. Except as provided in subsection (3), where the development cost estimate for an authorized project in respect of a road accessing more than one tributary cutting authority exceeds $4.00 per cubic metre, the regional manager may enter into a written agreement with the licensee which authorizes the distribution of the development cost estimate between or among, as the case may be, two or more tributary cutting authorities that are issued under the licence under which or because of which the authorization was given.

2. The agreement is subject to the following conditions:

   a. Future tributary timber included in the extended road amortization agreement must be either within the woodlot licence or an approved cutting permit or cutblocks shown in the licensee's forest development plan, woodlot licence plan or forest stewardship plan in effect on the appraisal effective date.

   b. The road portion that may be included in the agreement ends at the far boundary of the first cutting authority being appraised.

   c. The agreement must indicate the cost estimate that is being distributed to each existing or future cutting authority in the agreement.

   d. The agreement must be signed by the licensee and the regional manager.

   e. The costs apportioned to each cutting authority under the agreement may be adjusted once, in conjunction with this section, at reappraisal using the same ratio for distributing the costs as in the original agreement provided harvesting has not commenced on any of the cutting authority areas included in the agreement.

   f. Previously apportioned costs are not used to exceed the $\$4.00/m^3$ in subsection (1) of this section.

   g. The agreement is entered into only for the purposes of calculating a stumpage rate and confers no obligation on the Crown to compensate the licensee for any unamortized costs.

3. The regional manager will not enter into any new extended road amortization agreements for cutting permits issued under a woodlot licence with an effective date after November 30, 2008.

4.3.2 Tabular Cost Estimates

Tabular costs are determined using the procedures and criteria in this section for the total length of road that the submitting professional certifies is required to remove the timber from the cutting authority area.

4.3.2.1 Subgrade Construction

The subgrade construction cost estimate includes:

- clearing,
- grubbing,
- stripping,
- debris disposal,
- stump removal,
- ditch construction,
- turnout construction (not landings),
- material costs, and

- installation of culverts with diameters under 950 mm or the equivalent cross-section area or single log abutment culverts up to 3.4 m span.

Right-of-way felling and logging is excluded.

4.3.2.2 Subgrade Construction Variables

For appraisal purposes the following subgrade construction variables are recognized:

1. Section length: (L)

    a. Each section should be representative of a single moisture class. Section lengths are recorded to the nearest 0.1 km. Each section should be 1 km or longer, although some individual section lengths less than 1 km but greater than or equal to 0.100 km are acceptable for extreme variations of slope or percent rock. The section length includes that portion traversing through landings. For ground skidding, short roads (up to and including 100 m long) that access single landings are included in the MPS equation (section 3.4) and are not eligible for development cost estimates.

    b. All road segments less than 0.100 km, excluding short ground skidding spurs less than 0.100 km, are to be aggregated with other adjacent road segments, making appropriate adjustments to average site conditions using the distance-weighted averages for the site variables for that section.

    c. A short spur road less than 0.100 km that does not access a single landing may be aggregated with a similar stand-alone non-adjacent road section.

2. Road Types :

   - Snow/Ice Road : - A snow/ice road is a single lane seasonal winter road including turnouts, with a flat road profile that is built with a combination of snow, ice and dirt, on a surface that may or may not have been stumped. The driving surface is built up using multiple layers of snow and ice such that extra stabilizing material costs are not applicable. A flat road profile means the side slope is less than or equal to 15% and there is minimal side cut. Minimal means that cuts into mineral or organic soil must not exceed 0.5 m in depth for distances up to 0.1 km. Seismic lines being used for roads, that have not previously been used as roads, will be considered as new construction and qualify as snow/ice roads provided they fall within the above criteria.

   - Long Term (LT) - A long term road is a road with a continuous raised sub-grade and ditch line (the raised sub-grade and ditch line may be interrupted for short section <100 m in length (e.g., when crossing a short section of rock or at the crest of a hill). In flat terrain the ditch line may simply be the depression created when sub-grade material is excavated to create a raised sub-grade.

   - Short Term (S) - A short term road is a road with the stumps removed and a bladed running surface. There may be elements of ditching and elevated grade, particularly around wet areas but these features are not continuous.

3. Uphill Side Slope: (SLOPE %)

   Uphill side slope percent may show a variation of (+/- 15% about the average) within any section length and represents the average of all slopes in the section to a maximum of 50%. To derive an average for uphill side slope percent, several representative cross-section measurements are taken along the section length and the sum of one-half of the distance on each side of the measurement is applied as a weight against the measurement at that cross-section. The uphill side slope percent is measured at right angles to the road centreline and is recorded to the nearest integer. Where the road is located on a bench, the uphill side slope of the bench is used.

4. Percent Rock: (ROCK %)

   Rock includes bedrock and large boulders (each greater than 1.5m in diameter). It may be rippable or may require drilling and blasting. Rock percent may show a variation (+/- 15% about the average) within any section length and represents the average of all rock percents in the section to a maximum of 50%. To derive an average percent rock, representative cross-section measurements are taken along the section length and the percent rock calculated. The sum of one-half of the distance on each side of where the measurements were taken is applied as a weight against the percent rock calculated at that cross-section. The percent rock is determined as follows:

$$\text{ROCK \%} = \frac{h^2}{H^2} * 100$$

   Where:

   h = the vertical cut height of all rock measured from the bottom of the ditch.

   H = the total vertical cut height of all materials above the bottom of the ditch.

   To determine the percent rock for roads not yet constructed, constructed roads on similar land/rock forms are used as a guide. Alternately, where estimates of rock volume from commercial road design programs are available for tabular sections, that information may be used to estimate the rock percent.

5. Soil Moisture Regime (SMR):

   Those biogeoclimatic zones/subzones with site series identified as “M”, “VM” or “W” in the shaded area of the table in Appendix III are considered “Wet” for appraisal purposes.

6. Biogeoclimatic Zone Abbreviations Used in This Chapter

SBPS	-	Sub-Boreal Pine-Spruce	IDF	-	Interior Douglas Fir
SBS	-	Sub-Boreal Spruce	MH	-	Mountain Hemlock
ESSF	-	Engelmann Spruce Subalpine Fir	MS	-	Montane Spruce

4.3.2.3 Subgrade Cost Estimate

For each road type, except snow/ice roads, the subgrade cost estimate in $/km is determined from the equation for the appropriate road group.

Road Group	Equation
1	Refer to subsection 4.3.3(7)(n)
2	10195 + (140 * SLOPE%)
3	5067 + (96 * ROCK %) + (2998 * LT)
4	4318 + (52 * SLOPE%) + (2078 * LT) + (1905 * SBS)
5	5111 + (2012 * LT)
6	6686 + (88 * SLOPE%)
7	6288 + (107 * SLOPE%) + (103 * ROCK%) + (6063 * LT) + (4316 * ESSF)
8	2502 + (65 * ROCK%) + (3691 * SBS) + (3128 * SBPS)
9	9525 + (148 * SLOPE%) + (107 * ROCK%) + (4789 * LT) – (6283 * MS) – (6283 * SBPS) - (3938 * IDF) – (6283 * MH)
10	8236 + (247 * SLOPE%)
11	21932 + (334 * SLOPE%) + (463 * ROCK%)
12	5445 + (250 * SLOPE%) + (3543 *SMR) + (4785 * LT) – (3042 * ESSF) ($3492/km set as minimum. If equation yields less than $3492 then use $3492)

Where:

Road groups are defined in Table 4-1.

LT = 1 if a long term road, otherwise = 0

SMR = 1 if Soil Moisture Regime is “wet”.
Otherwise SMR = 0

SBPS = 1 if road construction is within this biogeoclimatic zone.
Otherwise SBPS = 0

SBS = 1 if road construction is within this biogeoclimatic zone.
Otherwise SBS = 0

ESSF = 1 if road construction is within this biogeoclimatic zone.
Otherwise ESSF = 0

MS = 1 if road construction is within this biogeoclimatic zone.
Otherwise MS = 0

MH = 1 if road construction is within this biogeoclimatic zone.
Otherwise MH = 0

IDF = 1 if road construction is within this biogeoclimatic zone.
Otherwise IDF = 0

Table 4-2 Culvert Appraisal Cost Estimates

INSTALLED CULVERT COST ESTIMATE ($)														
	Equivalent Round Diameter (m)													
Culvert	0.3	0.4	0.45	0.5	0.6	0.7	0.8	0.9	.95	1.0	1.2	1.4	1.6	1.8 m
Length	X-Section Area (m^2)													
(m)	0.07	0.13	0.16	0.20	0.28	0.38	0.50	0.64	0.71	0.79	1.13	1.54	2.01	2.54 m^2
9	328	443	512	590	771	984	1231	1510	1661	1821	2544	3397	4382	5498
10	344	472	549	636	837	1074	1347	1657	1826	2004	2806	3755	4849	6089
11	361	501	586	682	902	1163	1464	1805	1991	2186	3069	4112	5316	6680
12	377	530	623	727	968	1252	1581	1953	2155	2369	3332	4470	5783	7271
13	393	559	660	773	1034	1342	1697	2101	2320	2551	3594	4827	6250	7862
14	410	588	697	818	1099	1431	1814	2248	2484	2733	3857	5185	6717	8453
15	426	618	734	864	1165	1521	1931	2396	2649	2916	4120	5542	7184	9044
16	443	647	771	910	1231	1610	2048	2544	2814	3098	4382	5900	7651	9635
17	459	676	808	955	1296	1699	2164	2691	2978	3281	4645	6257	8118	10226
18	475	705	845	1001	1362	1789	2281	2839	3143	3463	4907	6615	8584	10817
19	492	734	882	1046	1427	1878	2398	2987	3307	3645	5170	6972	9051	11408
20	508	764	919	1092	1493	1967	2515	3135	3472	3828	5433	7330	9518	11999
21	525	793	956	1137	1559	2057	2631	3282	3637	4010	5695	7687	9985	12590
22	541	822	992	1183	1624	2146	2748	3430	3801	4193	5958	8045	10452	13181
23	557	851	1029	1229	1690	2235	2865	3578	3966	4375	6221	8402	10919	13772
24	574	880	1066	1274	1756	2325	2981	3726	4131	4557	6483	8760	11386	14363
25	590	910	1103	1320	1821	2414	3098	3873	4295	4740	6746	9117	11853	14954
26	607	939	1140	1365	1887	2504	3215	4021	4460	4922	7009	9475	12320	15544
27	623	968	1177	1411	1953	2593	3332	4169	4624	5104	7271	9832	12787	16135
28	640	997	1214	1457	2018	2682	3448	4317	4789	5287	7534	10189	13254	16726
29	656	1026	1251	1502	2084	2772	3565	4464	4954	5469	7797	10547	13721	17317
30	672	1055	1288	1548	2150	2861	3682	4612	5118	5652	8059	10904	14187	17908

2. Bridges

   Cost estimates for both log bridges and non-log bridges, where required and not included in subgrade cost estimates, are made as detailed engineering cost estimates (section 4.3.3).

4.3.2.5 Additional Stabilizing Material

Additional stabilizing material is the placement of gravel or broken rock on the road subgrade to provide stable support and a running surface for logging equipment using the road during the harvesting of tributary timber (see section 4.3.3(7)(l) for cost estimates pertaining to the use of special materials). Where stabilizing material developed during the subgrade or ditch construction is insufficient, a cost estimate for additional stabilizing material to be trucked in from selected borrow pits may be included in the appraisal.

Unit Cost Estimate

The unit cost estimate ($/km) for the additional stabilizing material includes:

- borrow pit preparation,
- rock drilling, explosives, loading of explosives and blasting,
- loosening and/or pushing materials in borrow pits when required (e.g., compacted or cemented gravel, oversize material, etc.),
- loading gravel trucks,
- truck hauling, and
- spreading and compacting the material.

The cost estimates assume borrow pits are located adjacent to the road side and are not part of the subgrade excavation. If a new road needs to be constructed to access the borrow pit, then an access road cost estimate is required in addition to the in-place unit cost estimates.

For each road, the additional stabilizing material cost estimate ($/km) is determined from the equation for the appropriate road group.

Road Groups	Equation
1	Refer to section 4.3.3(7)(n)
2	8844
3	11947
4	10256 + (473 * D)
5	8414 + (322 * D)
6	10314 + (3527 * LT)
7	10314 + (3527 * LT)
8	16800 – (8491 * SBS)
9	10191
10	4484 + (3585 * D)
11	4484 + (3585 * D)
12	4484 + (3585 * D)

Where:

Road groups are defined in Table 4-1.

D = Distance in kilometres from source of ballast to the centre of the section that requires ballast (rounded to the nearest 0.1 km)

LT = 1 if a long term road, otherwise = 0

SBS = 1 if road construction is within this biogeoclimatic zone. Otherwise SBS = 0

No cost estimate for additional stabilizing material is allowed for any snow and ice roads.

4.3.2.6 Cattle Guards, Fencing and Pipeline Crossings

1. Where the installation of cattle guards, remedial fences or wing fences are required to mitigate the impacts to range barriers resulting from harvesting on the cutting authority area, the following cost estimates apply:

a.	Cattle Guards	$5085 each
b.	Remedial Fences and Wing Fences	$1002 per 100 m (post and wire, post and rail and/or log snake fence construction only)

2. For pipeline crossings, the following cost estimates apply:

	$3132 per single pipe crossing
	$1885 per pipe in multiple pipe crossings (where 2 or more pipes are crossed within the same right-of-way)

3. The cost estimates for subsections (1) and (2) include materials, transportation and installation.

4.3.3 Detailed Engineering Cost Estimates (ECE)

1. Where the tabular cost estimating procedures of this manual cannot be used due to their physical limitations, the cost of a project shall be estimated by preparing a detailed engineering cost estimate. The regional manager may approve standardized procedures to generate cost estimates for use in projects as listed below.

2. Where specific development projects involve detailed engineering cost estimates, the district manager shall be advised of project details no later than 60 days before the start of work on the project.

3. For appraisal purposes, the estimated development project costs are made on the basis of the site-specific data using the definitions found in section 4.3.2.2 for common subgrade construction variables, the culvert costs included in Table 4-2, and the equipment and labour rates specified in Appendix I. Due consideration is given to arm's length competitive bids for any specific project. The Crown is not liable for any difference between the appraisal estimate and the licensee's actual costs.

4. If the ECE is re-estimated once after construction as provided in section 2.2(3) (using more accurate on site information) the new detailed engineering cost estimate replaces the original (used in the initial appraisal). Detailed engineering cost estimates originally estimated using ministry approved competitive bids may be re-estimated once after construction provided the original call to tender included a methodology for adjusting the bid price based on more accurate site information and re-estimation of those costs is performed in accordance with that methodology. ECE's are not re-estimated due to labour and/or equipment rates being updated periodically in Appendix I.

5. Where the actual on–site information is known prior to the appraisal that information shall be used in the ECE as determined by the person who determines the stumpage rate.

6. Where road sections estimated as a detailed engineered cost estimate are contiguous with tabular cost estimates, costs for mobilization and demobilization will only be allowed for special equipment not required for the construction of the tabular roads. The costs for replacement or addition of stabilizing material must be determined using section 4.3.2.5 unless the material is placed in conjunction with geo fabric, geo

grids, corduroy or where the stabilizing material requires processing such as screening or crushing.

7. The following specific situations are considered for detailed engineering cost estimates:

   a. New construction of long term, primary access road sections, that will have 300 000 cubic metres of harvested Crown timber hauled over them annually for at least ten years.

   b. Road construction on uphill side slopes greater than 50 percent.

   c. When rock percent as calculated in section 4.3.2.2(4) is greater than 50 percent, or terrain class 4 and 5.

   d. End haul construction (of roads and landings) requiring removal by truck of excavated material to a separate area to avoid side casting on steep and/or sensitive sites.

   e. Overland construction to provide a roadbed by trucking in material for extensive filling; see page 81 of *Forest Road Engineering Guidebook* for a more detailed description.

   f. Log bridges and non-log bridges (including ice bridges) that are not included in the subgrade cost estimates. Eligible costs are described in section 4.3.3(8).

   g. Structural maintenance of bridges, substructure and cribwork.

   h. Reconstruction of roads and pertinent structures. Cost estimates for reconstruction are not to exceed the tabular cost for new construction under similar conditions.

   i. Upgrade of roads and pertinent structures resulting in a change in the standard of the road and structure or where the licensee was not obligated to carry out road maintenance prior to the appraisal. Where road maintenance obligations exist, road upgrade is limited to widening the running surface, vertical and horizontal realignment, and additional culverts.

   j. i. Replacement or addition of stabilizing material to the existing road running surface or where stabilizing material was not previously used, for uninterrupted road lengths of 0.3 km, or greater.

      ii. Road lengths less than 0.3 km are included in the road management cost estimate.

   k. Culverts greater than 1.8 m in diameter, or culverts greater than 30 m in length regardless of diameter. The cost estimate includes all costs of transporting the culvert to the jobsite and all costs of installation of the culvert to the final

subgrade stage.

l. Placement of additional stabilizing material where geo fabric, corduroy, crushed and/or screened rock/gravel are used.

m. Retaining walls, railway crossings and other structures (such as multiple culverts, baffled culverts, arched culverts and other structures determined by the timber pricing co-ordinator).

n. Subgrade and ballast cost estimate in road group 1, Kalum District. The subgrade and ballast cost estimate will be determined using the detailed engineering cost methodology specified by the Northern Interior Forest Region.

o. The costs of designing and constructing a forwarding road, where the timber pricing co-ordinator is satisfied that it will produce the highest stumpage rate. A forwarding road is not a trail but a road built to a designed standard which includes stripping, grubbing, stumping and primary excavation to establish subgrade that is used for transporting crews and equipment and forwarding timber but not for hauling logs.

8. The data which may be required for excavation and fill estimates are:

a. Plans, profiles, cross-sections showing the ground and design grade lines.

b. Volume summary sheets showing excavation quantities by various soil types, for subgrade and stabilization.

c. Type of construction equipment and quantity of material to be used, or ministry approved competitive bid costing.

d. Location of borrow and waste areas to calculate material haul distances.

9. The data required for bridges, culverts and for other structures are:

a. Where the bridge span is 15.4 m or less and the crib height is 5.4 m or less and a permanent structure is proposed, an economic life cycle comparison between a log structure and the permanent proposal is required.

b. Where the bridge span is greater than 15.4 m, and/or the crib height is greater than 5.4 m or more and for pipe culverts greater than 1.8 m in diameter or 30 m in length: plans, specifications and design for the proposed structure; detailed estimate of costs of materials; equipment and labour or ministry approved competitive bid pricing; amount of timber accessed by the structure and the number of years of use for harvesting all timber are required.

10. Costs that may be included in the detailed engineered cost estimate are:

a. Freight (for materials).

b. Provincial sales tax if applicable (for materials purchased prior to July 1, 2010).

c. Supervision of construction of complex structures by a professional engineer.

d. Bridge Costs

i. In addition to other costs described in this section, bridge costs may include:

- Crib back fills to a maximum distance of 15 m on either end.
- Site preparation.
- Protection features such as rip rap.
- Material and equipment supply and delivery (subject to paragraphs (ii) and (iii) in this subsection).
- Bridge certification by a professional engineer either employed by the licensee or contracted. A maximum of three field visits are permitted unless otherwise approved by the regional timber pricing co-ordinator.

ii. Where bridge materials are re-used by the original purchaser at a different site, the bridge cost estimate may include the cost of dismantling the materials at the site where they were previously used, and transportation to and installation at the different site, but may not include the initial materials and delivery costs.

iii. Where used bridge materials are purchased by the licensee from a legally non-associated party, only the cost of purchasing and transporting those materials approved by the person determining the stumpage rate may be included in the bridge cost estimate in addition to the costs listed above.

e. Site plans, designs and layouts.

f. Where equipment is not, or will not be already on site for adjoining tabular road, bridge or culvert construction, then the costs of mob and demob may be included in the engineered cost estimate.

11. GST/HST and supervision costs other than as stated above, are not to be included in the engineered estimate.

12. Where different timber volumes are used for separate cost estimates, the unit costs are rounded to the nearest cent before totalling.

4.3.3.1 Trending of Detailed Engineering Costs

1. All detailed engineering costs must be adjusted to match the cost base of the manual in effect at the time of the appraisal or reappraisal (refer to Table 4-3). This includes development costs in apportionment agreements, ministry approved competitive bid tenders, and ECE's prepared using Appendix I.

2. ECE Cost Year means:

    a. For ECEs (or portion(s) thereof) which are calculated using this manual, the ECE Cost Year is 2008.

    b. For ECEs (or portions(s) thereof) which are calculated using tenders, materials costs, design and survey costs, etc. the year the costs are based on or incurred is the ECE Cost Year.

    c. Where all components of an ECE have a common ECE Cost Year, the trend factor can be directly determined from Table 4-3.

    d. For new or re-estimated (section 2.2(3)) ECEs where components of an ECE have different ECE Cost Years, it is necessary to trend all components to the Cost Base Year of the manual in effect at the time (based on the effective date of the cutting authority). The Cost Base Year then becomes the ECE Cost Year for future trending.

Stumpage Rate Determination 5

5.1 Stumpage Rate Determination for a Cutting Authority Entered into Under a BCTS Licence

1. Sections 5.1.1 through 5.1.3 are the policies and procedures for determining a stumpage rate for a cutting authority that is entered into under a BCTS licence.

2. a. The Market Pricing System for BCTS can only be used in the appraisal of a BCTS licence and a forestry licence to cut entered into under Section 47.6(3) of the *Act* where data is available to do a full appraisal.

   b. Where the data is not available to do a full appraisal of a cutting authority area, the appraisal must use the procedures outlined in chapter 6 of this manual.

3 a. All upset stumpage rates on Section 20 timber sale licences advertised on or after November 1, 2003 and Forestry Licences to Cut entered into under section 47.6(3) of the *Forest Act* are fixed for the term and all extensions except where:

   i. a reappraisal is done under section 2.2.1(1)(e) due to sudden and severe damage, or

   ii. a Minister's directed reappraisal is done under section 2.2.2,

5.1.1 Indicated Upset Stumpage Rate (IUSR)

1. Except as provided by subsections (2), (3), (4), (5)(b) and (6) of this section, the IUSR for a timber sale licence shall be no less than seventy percent of the final estimated winning bid (FEWB) for that timber sale licence calculated according to section 3.7.

2. Where applications for a timber sale licence with an upset stumpage rate determined under subsection (1) of this section have been invited but no applications have been received, the upset stumpage rate for the re-advertised timber sale shall be equal to the rate approved by the Executive Director, Field Operations.

3. Where the Executive Director, Field Operations, does not anticipate that applications for a timber sale licence with an upset stumpage rate determined under subsection (1) of this section will be received due to market conditions or timber profile, the upset stumpage rate shall be equal to the rate approved by the Executive Director, Field Operations.

4. a. The upset stumpage rate for decked timber or partially harvested timber that is over three years old and is administered by BCTS, shall be the prescribed minimum stumpage rate when requested by the Timber Sales Manager.

b. The upset stumpage rate for decked timber or partially harvested timber that has been decked or felled for three years or less and is administered by BCTS shall be the rate requested by the Timber Sales Manager.

5. a. Except as provided in subsection 5(b) of this section, the upset stumpage rate for a timber sale licence where the volume of deciduous timber to be harvested on the cutting authority area is equal to or greater than sixty percent of the total net cruise volume, shall be determined in accordance with sections 3.4 and 3.7 except that the market price determined under section 3.4 shall use CD = 1.

b. Where an upset stumpage rate for a timber sale licence has been calculated under subsection 5(a) of this section and

i. Applications for the licence have been invited but no applications have been received, or

ii. The Executive Director, Field Operations does not anticipate that application for the licence will be received due to market conditions or timber profile,

then the upset stumpage rate shall be the rate approved by the Executive Director, Field Operations.

6. Where the invitation to tender for timber authorized for harvest under a timber sale requires a bonus offer, and the amount of stumpage payable will be based on a cruise of the timber as authorized under section 106 of the *Forest Act*, the upset stumpage shall be:

a. the upset stumpage value derived using section 5.1.1(1), or

b. the upset stumpage value approved by the Executive Director, Field Operations.

7. The upset stumpage rate determined under subsections (2), (3), (4)(b), (5)(a)(b) and (6) of this section shall not be less than the variable cost to prepare the timber for sale calculated by the Timber Sales Manager.

5.1.2 Upset Stumpage Rate

The upset stumpage rate for a timber sale licence is the greater of:

1. The indicated upset stumpage rate, or

2. the prescribed minimum stumpage rate.

5.1.3 Total Stumpage Rate

1. The stumpage rate is the total of the upset stumpage rate plus the bonus bid or the upset stumpage value plus the bonus offer, if any, that must be paid by the licensee.

2. Where the upset stumpage rate is determined under subsections (1), (2), (3), and (4) of section 5.1.1, the total stumpage rate applies to Grade Code 1 and 2 coniferous sawlogs.

3. Where the upset stumpage rate is determined under subsection (5) of section 5.1.1, the total stumpage rate applies to Grade Code 1 and 2 coniferous and deciduous sawlogs.

4. Where the upset stumpage value is determined under section 5.1.1(6) the upset stumpage value applies to the timber species and volumes specified by the Executive Director, Field Operations.

Miscellaneous Policies 6

6.1 Coniferous Average Sawlog Stumpage Rates by Forest Zone and Species

1. a. Each of the following forest zones referred to in Tables 6-1, 6-2, 6-4 and 6-5 is made up of the following forest districts:

   i. North Central Zone - Fort St. James, Mackenzie, Nadina, Prince George, Quesnel and Vanderhoof Forest Districts.

   ii. North East Zone - Fort Nelson and Peace Forest Districts.

   iii. North West Zone - Kalum and Skeena Stikine Forest Districts.

   iv. South East Zone - Arrow Boundary, Columbia, Headwaters, Kamloops, Kootenay Lake, Okanagan Shuswap and Rocky Mountain Forest Districts.

   v. South West Zone - 100 Mile House, Cascades, Central Cariboo and Chilcotin Forest Districts.

   b. Where a species of coniferous timber is not listed in Table 6-1, 6-2, 6-4 and 6-5, the rate that shall be used for that species of timber is the rate listed in the column headed as OTHER.

Table 6-1 Coniferous Average Sawlog Stumpage Rates in $/m^3 by Forest Zone and Species

FOREST ZONE	BALSAM	CEDAR	FIR	HEMLOCK	LARCH	L. PINE	SPRUCE	Y. PINE	OTHER′
North Central	5.14	-	3.45	5.10	-	4.39	5.93	-	5.04
North East	3.10	-	-	-	-	4.75	6.56	-	5.44
North West	1.50	2.01	-	1.76	-	10.60	8.72	-	3.96
South East	8.85	9.13	6.00	6.73	7.08	8.46	9.17	3.08	7.96
South West	8.68	15.46	6.75	8.68	5.56	6.30	7.62	8.33	6.78

′ Average for the Forest Zone

6.1.1 Community Forest Agreements

1. The sawlog stumpage rate for each species of coniferous timber harvested under any cutting authority issued under a Community Forest Agreement is the rate prescribed in Table 6-2 for the forest zone in which the cutting authority area is located.

2. Sections 1.4(1)(d), sections 6.1.2 through 6.5 and section 6.7 through 6.9 of this chapter do not apply to Community Forest Agreement cutting authorities.

3. The stumpage rate determined under this section is redetermined on August 1 of each year in accordance with this section.

6.1.2 Woodlot Licences

1. Except as provided in subsection (2) of this section, the sawlog stumpage rate for each species of coniferous timber harvested under a cutting permit issued for a woodlot licence with an effective date after November 30, 2008 is the rate prescribed in Table 6-2 for the forest zone in which the cutting authority area is located.

2. Where a woodlot licence cutting permit has been issued with an effective date after November 30, 2008 for the purpose of using amounts from an eligible extended road amortization agreement in an appraisal, then the stumpage rate will be determined using the procedures in this manual excluding this section.

3. Except as provided in subsection (4) of this section, the sawlog stumpage rate for coniferous timber harvested under a road permit issued for a woodlot licence is the rate prescribed in Table 6-2 for the forest zone in which the timber mark applies.

4. Where a woodlot has an eligible extended road amortization agreement before December 1, 2008 the sawlog stumpage rate for a road permit with an effective date on or after December 1, 2008 is calculated using the procedures in section 6.3.

5. The sawlog stumpage rate for each species of coniferous timber harvested under a blanket salvage permit issued for a woodlot licence is the rate prescribed in Table 6-2 for the forest zone in which the blanket salvage permit applies.

6. The stumpage rate determined under subsections (1), (3) and (5) of this section is redetermined on August 1, each year in accordance with this section.

7. Except as provided in subsections (2) and (4) of this section, sections 1.4(1)(d), 6.1.1, 6.1.3 through 6.5, 6.7 and 6.8 do not apply to woodlot licences.

Table 6-2 Community Forest Agreements and Woodlot Licences: Coniferous Average Sawlog Stumpage Rates in $/m^3

FOREST ZONE	BALSAM	CEDAR	FIR	HEMLOCK	LARCH	L. PINE	SPRUCE	Y. PINE	OTHER′
North Central	0.77	-	0.52	0.77	-	0.66	0.89	-	0.76
North East	0.47	-	-	-	-	0.71	0.98	-	0.82
North West	0.25	0.30	-	0.26	-	1.59	1.31	-	0.59
South East	1.33	1.37	0.90	1.01	1.06	1.27	1.38	0.46	1.19
South West	1.30	2.32	1.01	1.30	0.83	0.95	1.14	1.25	1.02

′ Average for the Forest Zone

6.1.3 Incidental Conifer in Deciduous Leading Stands

1. Except as provided in section 5.1.1(5), this section applies to coniferous timber in a cutting authority area where the total volume of all deciduous species to be harvested is greater than 70 percent of the total estimated net volume to be harvested.

2. a. The stumpage rate for each species of coniferous timber must be determined by using the stumpage rate prescribed in Table 6-1 for the forest zone in which the cutting authority area is located.

   b. Where the Crown is responsible for basic silviculture on the cutting authority area, the stumpage rate for each species of coniferous timber shall be the sum of the rate determined under paragraph (a) of this subsection and the silviculture levy determined under section 5.2.4.

3. A stumpage rate determined under subsection 2 shall be redetermined on June 1, of each year in accordance with this section.

6.4 Salvage Timber Stumpage Rates

1. This section applies to cutting authorities issued under licences which do not have an allowable annual cut. Salvaged timber is either post harvest material or damaged timber:

2. Post Harvest Material is either:

   a. wooden culverts and bridges, or

   b. post logging residue.

3. Damaged Timber is timber that:

   a. Has been blown down,

   b. Has been damaged by fire, disease, snow press, or

   c. Will die within one year, as determined by the district manager, as a result of the affects of the mountain pine beetle, or other forest pests.

   d. Will be or has been used for trap trees and associated overflow trees.

4. The criteria and methodology for the calculation of salvaged timber stumpage rates are:

   a. Post harvest material may not be combined in the same cutting authority area with damaged timber.

   b. Except where damage to adjacent or contiguous timber occurs after harvesting is completed on the adjacent primary logging cutting permit area and the harvesting equipment has been demobilized from the area, damaged timber salvage cutting authority areas must be scattered, and not be adjacent to or contiguous with an existing cutting authority area.

   c. Except as provided in subsection (4)(d) of this section the total area of a clearcut salvage harvesting area shall not exceed 5 hectares.

   d. Where salvage of only damaged stems through partial cutting will leave a stand that meets minimum stocking standards, the area harvested may be larger than 5 hectares.

   e. Salvage logging stumpage rates may only be determined for a cutting authority where more than one-third of the total volume of coniferous timber to be harvested in the cutting authority area is damaged timber.

f. Post harvest salvage may only occur after primary logging has been satisfactorily completed and residue and waste assessments have been submitted to and accepted by the Ministry.

g. Salvage cannot occur on a road right-of-way which has an active timber mark associated with it.

h. Except as provided in section 2.2.2, a stumpage rate determined under this section is fixed for the term of the cutting authority and all extensions.

5. Where salvaged timber is damaged timber, the sawlog stumpage rate for each species of coniferous timber shall be the rate in Table 6-4 for the Forest Zone in which the cutting authority area is located.

6. Where the salvaged timber is post harvest material, the sawlog stumpage rate for each species of coniferous timber shall be the rate in Table 6-5 for the forest zone in which the cutting authority area is located.

Table 6-4 Coniferous Average Sawlog Stumpage Rates for Salvage of Damaged Timber by Forest Zone and Species in $/m^3

FOREST ZONE	BALSAM	CEDAR	FIR	HEMLOCK	LARCH	L. PINE	SPRUCE	Y. PINE	OTHER′
North Central	3.08	-	3.11	3.06	-	3.29	5.34	-	3.02
North East	1.86	-	-	-	-	3.56	5.90	-	3.26
North West	0.90	1.81	-	1.06	-	7.95	7.85	-	2.38
South East	5.31	8.22	5.40	4.04	6.37	6.35	8.25	2.31	4.78
South West	5.21	13.91	6.08	5.21	5.00	4.73	6.86	6.25	4.07

′ Average for the Forest Zone

Table 6-5 Coniferous Average Sawlog Stumpage Rates for Salvage of Post Harvest Material by Forest Zone and Species in $/m^3

FOREST ZONE	BALSAM	CEDAR	FIR	HEMLOCK	LARCH	L. PINE	SPRUCE	Y. PINE	OTHER′
North Central	1.29	-	1.73	1.28	-	2.20	2.97	-	1.26
North East	0.78	-	-	-	-	2.38	3.28	-	1.36
North West	0.38	1.61	-	0.44	-	5.30	4.36	-	0.99
South East	2.21	7.30	3.00	1.68	3.54	4.23	4.59	1.54	1.99
South West	2.17	12.37	3.38	2.17	2.78	3.15	3.81	4.17	1.70

′ Average for the Forest Zone

Index

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