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# New Coast Appraisal Manual Highlights

The new *Coast Appraisal Manual* includes clarification to policy, an update to the market pricing system, and an update of the tenure obligation adjustments and specified operations to March 1, 2016. By section, the significant changes are as follows:

Section #	Comment
1.1	Added definition
2.1	Updated name change for Great Bear Rainforest
2.1.2	Updated link
2.2.2(1)	Revised cutting authority configuration requirement
2.2.4, 2.2.4(2)	Revised cutting authority configuration requirement and updated name change
2.3.1, 2.3.2	Updated links
3.3	Consequential change related to Section 3.6
3.3.7	Name change
3.4(2)(a)	Log values and quarterly adjustments
3.6	Identifies manual to use
4.2	Revised section title and updated list of variables. Updated average number of bidders table

4.2.1	Defines use of average log market value schedules
4.2.2.1	Updated section
4.2.4	Haul distance in calculation of stumpage rate
4.3	Updated Estimated Winning Bid equation
4.4	Numbering revision
4.4.2	Updated Inland Water Transportation cost estimate
4.4.3	Updated Clayoquot Sound Operating cost estimate
4.4.6	Updated Tree Crown Modification cost estimates
4.4.7	Updated Ecosystem Based Management Operating cost estimate
4.4.8	Added Long Haul cost estimate
4.4.9	Added High Development cost estimate
4.5	Numbering revision
5.2	Updated forest planning and administration cost
5.3.1.1(2)	Revises tributary cutting authority rule, and limits the application of new road construction costs to 5 years



7.2	Updated rates for community forest agreements and woodlot licences
7.2.1(b)	Revised wording for Northern Coast Zone
7.3(7)	Revised tributary wording
7.7(3)	Updated silviculture cost adjustment for linear tenures
7.10	Updated name change for Great Bear Rainforest
Appendix 1	Updated Equipment and Labour Rates
Appendix 1X	Added weblink for Amortization Agreement Form

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# **1 Definitions and Interpretations**

## 1.1 Definitions and Interpretations

In this manual:

“**Act**” means *Forest Act*;

“**Accurate**” for the purposes of Section 105.1 of the *Act* as it applies to this manual means submitted in accordance with the requirements of this manual;

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

“**Appraisal Data Submission (ADS)**” means the information required by the person who determines the stumpage rate to determine the stumpage rate including a forest professional’s signed submission in the form required by the director and any other information required by the regional manager or district manager;

“**Billing history record**” means a record of log scale data derived from a record kept by the Timber Pricing Branch of log scale data reported on stumpage invoices issued by the Timber Pricing Branch for timber scaled under Section 94 of the *Act*; and for greater certainty does not include billing data from cruise based cutting authorities; but for any cutting authority with an effective date prior to October 1, 2012, the billing history record to be used in a minister-directed reappraisal under Section 3.3.8 shall include billing data from cruise based cutting authorities;

“**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;

“**Bonus Bid**” means a bonus bid described in Section 103(1)(d) of the *Act*;

“**Bonus Offer**” means a bonus offer described in Section 103(2) of the *Act*;

“**Coast Area**” means West Coast and South Coast forest regions or Coast Forest Region;

“**Coast Mountain Forest District**” means that part of the Coast Mountain forest district that is within the geographic boundaries of the Great Bear Rainforest North;

“**Coniferous cruise volume**” means that part of the total net cruise volume which is coniferous timber;

“**Controlled Recreation Area**” means controlled recreation area as defined in the *Resort Timber Administration Act*;

“**Cruise based billing cutting authority**” means a cutting authority where under Section 106 of the *Act* the stumpage payable is calculated using information provided by a cruise of the timber conducted before the timber is cut;

"**Cutting authority**" means:

- a. a cutting permit issued under a forest licence, a timber sale licence, a timber licence, tree farm licence, a community forest agreement, a community salvage licence, a woodlot licence, a master licence to cut, a forestry licence to cut, or First Nations woodland licence;
- b. a timber sale licence that does not provide for the issuance of a cutting permit,
- c. all other licences to cut, or
- d. a road permit;

"**Cutting authority area**" means the area where timber may be harvested under authority of;

- a. a cutting permit,
- b. a timber sale licence that does not provide for the issuance of a cutting permit,
- c. a licence to cut, or
- d. a road permit;

"**Deciduous timber**" means timber that is any of the alder, birch, cottonwood and maple species;

“**Detailed engineering**” means non-tabular;

"**Director**" means director of Timber Pricing Branch of the Ministry of Forests, Lands and Natural Resource Operations;

"**District manager**" means:

- a. Except as provided in paragraph (b) of this definition, the district manager or district manager’s designate;
- b. Where the cutting authority area being appraised or reappraised is located in a controlled recreation area designated under the *Resort Timber Administration Act*, then district manager means an employee of the Ministry to whom the minister has delegated the minister’s powers and duties under Section 2 of the *Resort Timber Administration Act*;

“**Effective Date**” means, unless otherwise specified in the manual:

- a. the date the stumpage rate is determined when required for advertising for competitive award, or

- b. the effective date of the cutting authority when the stumpage rate is determined for a cutting permit or a direct award licence;

**“Executive Director, BCTS”** means Executive Director, BCTS or Executive Director, BCTS’ designate;

**“Forest Professional”** means a Registered Professional Forester (RPF) or a Registered Forest Technologist (RFT) or a special permit holder acting within the scope of their permit, registered and in good standing with the Association of British Columbia Forest Professionals;

**Great Bear Rainforest North (GBRN)”** means all Crown land that is within the geographic boundaries of:

- (a) the GBR North Timber Supply Area as prescribed by regulation;
- (b) the Mid Coast and North Coast Timber Supply Areas as designated or prior designated, as applicable, by the Minister under the Act; and
- (c) that part of Tree Farm Licence No. 25 within the Coast Mountain and North – Island-Central Coast Forest Districts, or within Forest Licence A91438;

**“Harvest Area”** means the area indicated for harvest on an appraisal map submitted by the licensee;

**“Helicopter Selection”** means the harvesting of single trees within standing residual timber that have been felled and then removed using a helicopter;

**“Hogged Tree Material”** means tree residues or by-products that have been shredded into smaller fragments by mechanical action and is made from post-harvest material where a waste assessment has been made. Where the post-harvest material is removed from an area that is or was a cruise based billing cutting authority, a waste assessment is not required;

**“Immature coniferous timber”** means coniferous timber that is younger than 121 years old;

**“Intact cutblock”** means 90% or more of a cutblock’s total net cruise volume approved under the cutting authority remains unharvested (standing, felled or decked);

**“Licensee”** means the holder of a cutting authority;

**“Low grade”** means grades ‘X’ and ‘Y’ of all species and ‘U’ grade hemlock and balsam;

**“Main Access Road”** means a long-term (i.e., in use for more than ten years) mainline road that is tributary to the appraised cutting authority area, or is used to transport bulk fuels, supplies, equipment or harvesting crews necessary to carry out day-to-day



harvesting activities on that area, and has an average stabilized subgrade width greater than seven metres;

"**Manual**" means *Coast Appraisal Manual*;

"**Mature coniferous timber**" means coniferous timber that is 121 years old or older;

"**Minister**" means Minister of Forests, Lands and Natural Resource Operations;

"**Ministry**" means Ministry of Forests, Lands and Natural Resource Operations;

"**Net cruise volume**" means the gross volume of all species listed in Section 4.2.3(1), plus alder, birch, cottonwood and maple in the cutting authority area minus the volume of decay, waste and breakage in that timber unless otherwise specified in the *Cruising Manual*;

"**Old growth coniferous timber**" means coniferous timber that is 141 years old or greater;

"**Problem forest stands**" means a cut block approved by the district manager for inclusion in the coast problem forest stand pilot project under Section 2.2.3;

"**Regional manager**" means regional executive director of the Ministry or except for Section 2.1.1(1)(a), regional executive director's designate;

"**Regulations**" means regulations under the *Act*;

"**Remaining volume**" means the total net cruise volume of a cutting authority area minus the total volume of timber in the billing history record of the cutting authority area on the effective date of the reappraisal of the cutting authority area;

"**Road Permit**" means road permit or the timber mark for a road permit that is associated with the applicable tenure listed in Section 115(1) of the *Act*;

"**Scale Based cutting authority**" means a cutting authority where under Part 6 of the *Act*, the stumpage payable is based on a scale of the timber harvested from the cutting authority area;

"**Second growth coniferous timber**" means coniferous timber that is less than 141 years old;

"**Selling price zone 51**" means the table of coast market pricing system log values for old growth coniferous timber, approved by the Director, Timber Pricing Branch;

"**Selling price zone 52**" means the table of coast market pricing system log values for second growth coniferous timber, approved by the Director, Timber Pricing Branch;

"**Skyline**" means any method of yarding where the logs are fully suspended above the ground by a short span, long span, or multi-span system using a carriage with standing or running lines;

"**Stumpage Appraisal Parameter**" means the BC Consumer Price Index and applicable Coast Domestic or Export-Adjusted Log Values approved by the Director;

"**Timber Pricing Branch**" means Timber Pricing Branch of the Ministry of Forests, Lands and Natural Resource Operations;

"**Timber Sales Manager**" means the timber sales manager or the timber sales manager's designate;

"**Total net cruise volume**" of a cutting authority area (tncv) is the product of the net cruise volume per hectare of the cutting authority area (ncv/ha) multiplied by the total merchantable timbered area to be harvested under the cutting authority (tmta). Expressed

$$tncv = \frac{ncv}{ha} \times tmta$$

as an equation:            ha            ;

"**Tributary cutting authority area**" means a cutting authority area from which timber must be transported over the road that is developed, or a cutting authority area to which bulk fuels, supplies, equipment and harvesting crews necessary to carry out the day-to-day harvesting activities on that area must be taken on a regular basis over the road that is developed;

"**Unit cost**" means cost estimate expressed in dollars per cubic metre;

"**Woodchips**" means timber that has been cut into small pieces by a chipper and is made from post-harvest material where a waste assessment has been made. Where the post-harvest material is removed from an area that is or was a cruise based billing cutting authority, a waste assessment is not required.



## 2.1 Terms of Reference

1. Pursuant to Section 105 of the *Act*, the provisions of this manual are the policies and procedures to be used in the determination, redetermination and variance of stumpage rates for Crown timber harvested in the Coast Area (except Manning Park) and including all cutting authority areas within the Great Bear Rainforest North.

### 2.1.1 Responsibility for Stumpage Determinations

1. The following employees are authorized to determine, redetermine and vary rates of stumpage:
  - a. The director, and employees of the Timber Pricing Branch of the Ministry, and
  - b. Regional managers, regional appraisal coordinators and employees of the regional revenue sections, of the Ministry.
2. The employees of the Timber Administration Section, Resort Development Branch of the Ministry are authorized to determine or redetermine stumpage rates in accordance with Section 7.8(1) or (2).

### 2.1.2 Market Pricing System Parameters

1. The Market Pricing System parameters are compiled, calculated and/or adopted by Timber Pricing Branch.
2. Once approved by the director they become an integral part of this manual.
3. The parameters are published by Timber Pricing Branch.
4. Current and historical parameters may be found at the following web site:

<http://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/coast-timber-pricing/coast-appraisal-parameters>

### 2.1.3 Minimum Stumpage Rate

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

## 2.2 Numbering System

The following exemplifies the numbering system that is used in this manual.

- 1. = Chapter
- 1.1 or 1.1.1.1 = Section
- 1.1.1.1 (2) = Section with subsection
- 1.1.1 (2)(a) = Section with subsection and paragraph.
- Table 4-2 = Table 2 within Chapter 4

### 2.2.1 Calculation Conventions

1. Every calculation required to be performed will be performed to the full capacity of a calculating machine with the results truncated at four places of decimals and rounded to two places.
2. A result from 5 to 9 will be rounded upward and a result from 1 to 4 will be rounded downward.
3. Each calculation of a tenure obligation adjustment or specified operation adjustment expressed in dollars per cubic metre will be rounded to the nearest cent.
4. 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.

### 2.2.2 Cutblocks within a Cutting Authority Area

1. Except as provided for in subsections 1(c), 2, 5 and Section 2.2.4, all cutblocks within a cutting authority area must:
  - a. have each of their geographic centres within the same appraised point of origin area as identified in Section 4.2.5.3; and
  - b. be fully contained within the same timber supply block, or in the case of a cutting authority area under a tree farm licence, be contained within the same forest district.
  - c. For a cutting authority issued under Section 20 of the *Forest Act* within the Great Bear Rainforest North:
    - i. have each of their geographic centres within the same appraised point of origin area as identified in Section 4.2.5.3; and
    - ii. must be located and fully contained within only:

- i. the Mid Coast; or
- ii. the North Coast

Timber Supply Area, as designated or prior designated, as applicable, by the Minister under the Act.

2. A cutting authority approved by the district manager under Section 2.2.3:
  - a. is not constrained by subsection 1 above;
  - b. must be located anywhere within the same timber supply area, or in the case of a tree farm licence or first nations woodland licence, be contained within the same forest district, where the licensee is entitled to harvest under the licence that the cutting authority has been issued under; and
  - c. is not eligible for an extended road amortization agreement.
3. Helicopter single standing stem selection as described in Section 4.4.4 must not be combined with any other harvest method within the same cutting authority area.
4. Except as provided in subsection (3) of this section, there are no other restrictions on what types of harvest methods may be used in or which types of timber can be contained in a cutting authority area.
5. The road right of way that provides access to and is sold as part of a BCTS licence, is exempt from the requirement to be located within the same timber supply block or tree farm licence as the BCTS licence.

### **2.2.3 Coast Problem Forest Stands Pilot**

1. A problem forest stand is a cutblock comprised completely of one or more of the following stand characteristics:
  - a. Poor timber types (old growth timber height class 3 or less), or
  - b. located at elevations greater than 700 metres, or
  - c. greater than 80% old growth hemlock/balsam.
2. A cutting authority considered for this pilot must be under a tree farm licence, a First Nations woodland licence or a replaceable forest licence and have one or more cutblocks meeting the criteria of subsection 1.
3. Licensees participating in this pilot must submit appraisal information allowing for the determination of the value differential in accordance with the requirements prescribed by the director.
4. Licensees must not exceed their value allocations for this pilot.

5. Cutting authority applications under this pilot will not be accepted after March 31, 2017.
6. The minister may terminate this pilot at any time.

## 2.2.4 Great Bear Rainforest North (GBRN)

1. This section does not apply to:
  - a. cutting authorities entered into under Section 20 of the *Act*; and
  - b. subject to Section 7.10, to any cutting authority appraised in accordance with Chapter 7; and
  - c. cutting authorities approved under Section 2.2.3.
2. A cutblock(s) within a cutting authority area other than within a cutting authority described in subsection 1 above, for the purposes of the GBRN:
  - a. must be located and contained within the same forest district where the licensee is entitled to harvest under the licence that the cutting authority has been issued under; and
  - b. must be located and fully contained within only:
    - i. the Mid Coast; or
    - ii. the North Coast  
Timber Supply Area, as designated or prior designated, as applicable, by the Minister under the Act; or
    - iii. that part of Tree Farm Licence No. 25 within the Coast Mountain and North – Island Central Coast Forest Districts, or within Forest Licence A91438



## 2.3 Appraisal Data Submission Requirements

### 2.3.1 Cruise Information

1. Except as provided for under subsection 7, and unless otherwise specified by the director, cruise data must be gathered and compiled in accordance with the following Ministry publications and the coast timber merchantability specifications in Table 2-1:
  - a. *Cruising Manual*, at the following website:  
<http://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/timber-cruising/timber-cruising-manual>,
  - b. *Cruise Compilation Manual* at the following website:  
<http://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/timber-cruising/cruise-compilation-manual>

**Table 2-1 Coast Timber Merchantability Specifications**

Description	Mature	Immature
The following coast timber merchantability specifications must be used in all appraisals.		
1. Maximum stump height (measured from the top of the stump down to the highest ground level adjacent to the stump)	30.0 cm	30.0 cm
2. Minimum slab thickness for cedar only	15.0 cm	10.0 cm
3. Minimum top diameter (inside of the bark)	15.0 cm	10.0 cm
4. Minimum length of a log or slab	3.0 m	3.0 m

2. When cruise information is submitted to the district manager or the regional manager in order to determine a stumpage rate or an upset stumpage rate, that information must include:
  - a. The cruise compilation reports, and
  - b. The ASCII data files (i.e. .dat and .red or .pr).
  - c. The CSV (if applicable, also the percent reduction CSV file) for appraisals submitted on or after November 1, 2013, when the cruise was compiled using the 2013.00 version of the approved cruise compilation program.
3. When requested by the district manager, a copy of the original field data and traverse notes must be provided by the licensee.
4.
  - a. The cutting authority area will be appraised using the total net cruise volume of timber authorized for harvest in that area.
  - b. The total area of merchantable timber in the cutting authority area is obtained from the appraisal summary of the cruise compilation report.

5. If the licensee or BCTS modifies its application for a cutting authority the applicant must recompile the cruise data when any of the compiled plots used in the cruise lie outside the boundaries of the proposed cutting authority area.
6.
  - a. Where a boundary of a cutting authority area has been changed after the appraisal or reappraisal of the cutting authority area, every reappraisal of the cutting authority area must use the total net cruise volume of the cutting authority area as it is after the boundary has changed.
  - b. If, after a cruise compilation or recompile was used for an appraisal or reappraisal, the total of all additions or deletions of areas containing merchantable timber made to the cutting authority area exceeds fifteen hectares or fifteen percent of the area containing merchantable timber, whichever is less, the entire cruise must be recompiled.
7. The holders of the following types of agreements and cutting authorities are exempt from the requirement to provide a timber cruise:
  - a. Community forest agreements and woodlot licences under Section 7.2,
  - b. Salvage cutting authorities under Section 7.4,
  - c. Cutting authority areas with less than 2 500 m<sup>3</sup> of timber volume that have been authorized under Section 7.5(1) to use tabular rates,
  - d. Decked timber under Section 7.6(1),
  - e. Linear tenures under Section 7.7 with not more than 2 500 m<sup>3</sup> of timber volume, and
  - f. Controlled recreation areas under Section 7.8.
8. The person who determines the stumpage rate may direct that cruise information be gathered and compiled fully or partially for linear tenures under Section 7.7 with more than 2 500 m<sup>3</sup> of timber volume that have been authorized to use tabular rates.

### 2.3.2 Appraisal Data Forms

1. Unless otherwise specified in paragraph (b) or (c) of this Section, the form of appraisal data submission required by the director for:
  - a. The market pricing system is the Electronic Commerce Appraisal System (ECAS) which can be found at:  
<http://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/electronic-commerce-appraisal-system>
  - b. Miscellaneous timber pricing policies is the miscellaneous appraisal data submission (Misc ADS) which can be found at:  
<http://www.for.gov.bc.ca/rco/revenue>

- c. Community forest agreements and woodlot licences is the Tabular Rate Form for Community Forest and Woodlot (Tab Rate Form), which can be found at:  
<http://www.for.gov.bc.ca/rco/revenue/>

A submission under subsection c) is not required to be made by a forest professional.

### **2.3.3 Appraisal Map**

The appraisal map must be completed in accordance with the requirements of Appendix V of this manual, and must be submitted with the appraisal data submission in ECAS.

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# **3 Appraisals, Reappraisals and Quarterly Adjustments**

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### **3.1 Types of Determination**

1. A stumpage rate is determined, redetermined or varied by:
  - a. an appraisal, reappraisal or a quarterly adjustment,
  - b. an Order-in-Council under Section 105 of the *Act*, or
  - c. a procedure identified in Chapter 7 of this manual.

### **3.2 Appraisal Process**

1. Except where the sawlog stumpage rate or an upset stumpage rate is determined in Chapter 7:
  - a. an appraisal is a process used to determine a stumpage rate for a cutting authority area using the manual in effect on the effective date of the cutting authority.
  - b. the appraisal is effective on the effective date of the cutting authority.
2. A forest professional on behalf of a licensee or BCTS shall submit an appraisal data submission to the district manager when the licensee or BCTS makes an application for a cutting authority.
3. The district manager may require the forest professional to complete and submit an estimated stumpage rate calculation for both helicopter and cable methods of harvesting when the district manager is not satisfied that the method proposed by the licensee or BCTS is the only method that is suitable for the area intended to be harvested.
4. The district manager may review the appraisal data submission and may inform the forest professional of any omissions, or errors, or provisions of the manual that, in the opinion of the district manager, the forest professional may not have considered.
5. The forest professional may consider the district manager's information and may revise the appraisal data submission.
6. The district manager shall give any information supplied by the forest professional under this section to the person who determines the stumpage rate together with any other information that the district manager considers relevant to the appraisal.
7. The person who determines the stumpage rate may review the appraisal data submission, and information supplied by the district manager and may inform the forest professional of any omissions, or errors, or provisions of the manual that, in the opinion of the person who determines the stumpage rate, the forest professional may not have considered.
8. The forest professional may consider the information and may revise the appraisal data submission.
9. The person who determines the stumpage rate shall consider:
  - a. the information provided by the forest professional,
  - b. the information provided by the district manager, and
  - c. any other information available to the person who determines the stumpage rate that is relevant to the appraisal.

10. The person who determines the stumpage rate may change the information in ECAS when determining the stumpage rate.
11.
  - a. For licensees, once Regional revenue staff determines the stumpage rate, Timber Pricing Branch's General Appraisal System will advise those licensees who have been submitted an email address that the stumpage determination has been made.
  - b. The details of the licensee's stumpage determination will be made available on the web in Timber Pricing Branch's GAS application.
12. For BCTS, once Regional revenue staff determines the upset, BCTS will be advised by email from Timber Pricing Branch's General Appraisal System of the upset determination.



### 3.3 Reappraisals

1. Where these policies and procedures require a reappraisal to be performed, except as provided in Section 3.6, the stumpage rate must be redetermined in accordance with the relevant policies and procedures that are or were in effect as the case may be on the effective date of the reappraisal.
2. Except as provided in subsection (3) of this section or sections 3.3.1(1)(d), 3.3.2, 3.3.3, 3.3.4 or 3.3.5 or otherwise directed by the Minister under Section 3.3.8, a reappraisal is a complete reassessment of the cutting authority area at the time of the reappraisal by the person who determines the stumpage rate taking into account:
  - a. a revised appraisal data submission submitted by the licensee in accordance with this manual, and
  - b. information available to the person who determines the stumpage rate.
3. Road development costs originally estimated using ministry approved competitive bids may not be re-estimated in a reappraisal.

#### 3.3.1 Changed Circumstances

1. A changed circumstance on or in relation to a cutting authority area means a circumstance where:
  - a.
    - i. the licensee or a contractor working on the licensee's behalf has harvested or will harvest at least fifteen percent of the volume of timber on the cutting authority area using a harvest method that is different from the harvest method used in the most recent appraisal or reappraisal of the cutting authority area, and
    - ii. the different harvest method when taken into account in a changed circumstance reappraisal will produce the highest stumpage rate within the meaning of Section 4.1.
  - b. there will be a difference of at least fifteen percent between the total road development unit cost in the changed circumstance reappraisal and the total road development unit cost that was used in the most recent appraisal or reappraisal where this difference results from circumstances other than a change in the manual or a change as a result of a stumpage adjustment.

- c. the cutting authority is scale based and land containing merchantable timber has been either added to or deleted<sup>1</sup> from the cutting authority area since the most recent cruise compilation or recompilation that was used in that most recent appraisal or reappraisal that exceeds either:
  - i. fifteen hectares or
  - ii. fifteen percent of the area of the cutting authority area as it was prior to the addition or deletion of the land, or
- d. at least fifteen percent of the total net cruise volume that was used in the most recent appraisal or reappraisal of the cutting authority area has been suddenly and severely damaged, unless the timber was damaged by a fire for which the licensee was responsible and the licensee failed to comply with the *Wildfire Act* and Regulations.
- e. the cutting authority is cruise based billing and there has been a change<sup>1</sup> in the harvest area when compared to the most recent appraisal map submitted that exceeds three hectares.

The area used for cruise based billing shall only be changed to reflect the new area when:

- i. the harvest area has decreased and the cutting authority has been amended,
  - ii. the harvest area has increased, or
  - iii. the change in harvest area described in this subsection triggers a changed circumstance under this Section.
- f.
    - i. the cutting authority is scale-based, consists of two or more cutblocks, has expired or has been surrendered, and one or more intact cutblocks remain and greater than fifteen percent of the cutting authority area remains unharvested.
    - ii. The cutting authority will be reappraised:
      - aa. excluding all applicable appraisal information associated with the intact cutblock(s), provided that at least one cutblock in the cutting authority is not an intact cutblock; or
      - bb. including all applicable appraisal information associated with the timber removed, provided that each cutblock in the cutting authority is an intact block.

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<sup>1</sup> Measured as the absolute change, e.g. an addition of 15 hectares and the subtraction of 15 different hectares is a 30-hectare change for the purposes of this section.

- iii. Planned and existing road development cost estimates associated with the intact cutblock(s) that is excluded from the cutting authority reappraisal may be included in future appraisals or reappraisals.
  - iv. This subsection is only applicable to cutting authorities with an effective date on or after September 1, 2016.
- 2. The licensee must notify the district manager immediately of a changed circumstance.
  - 3. Where the district manager believes that a changed circumstance has occurred, the district manager will notify the licensee of that belief.
  - 4. A cutting authority area other than a cutting authority area that is the subject of a road permit or a cutting authority with fixed rates must be reappraised when a changed circumstance has occurred.
  - 5. Where a cutting authority area is reappraised because of a changed circumstance, any bonus bid or bonus offer in existence prior to the reappraisal does not change and remains in effect.

#### 3.3.1.1 Changed Circumstance Reappraisal Procedure

- 1. Where the cutting authority area must be reappraised because of a changed circumstance, the licensee shall submit to the district manager an appraisal data submission.
- 2. Thereafter, the reappraisal procedure shall be the procedure required by Section 3.2(2) through 3.2(11).

#### 3.3.1.2 Effective Date of Changed Circumstance Reappraisal

- 1. Except as provided in subsections (2) and (3) of this section, a reappraisal because of a changed circumstance under Section 3.3.1(1) 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 changed circumstance is a result of sudden and severe damage referred to in subsection 3.3.1(1)(d), 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.
- 3. A Section 3.3.8 minister directed reappraisal after January 15, 2009, will not be considered an appraisal or reappraisal for the purpose of determining the effective date of the changed circumstance reappraisal.

### **3.3.2 Annual Reappraisal of a Road Permit**

1. Subject to Sections 3.3.7 and 7.3, a cutting authority area that is the subject of a road permit must be reappraised effective February 1 of every year.
2. The stumpage rate determined under subsection (1) of this section will be a fixed stumpage rate until the cutting authority area is reappraised.

### **3.3.3 Annual Reappraisal of Salvage Logging Stumpage Rates**

1. Except where a cutting authority requires the payment of a bonus bid or a bonus offer, where the stumpage rate for a cutting authority has been determined under Section 7.4, the cutting authority area authorized for harvest under that cutting authority must be reappraised effective March 1st of every year.
2. A stumpage rate determined under subsection 1 of this section will be a fixed stumpage rate between the time that the cutting authority area is reappraised and the time that it is subsequently reappraised.

### **3.3.4 Annual Reappraisal of a Linear Tenure**

1. Subject to Section 7.7, a cutting authority area that is the subject of a linear tenure must be reappraised effective March 1 of every year.
2. A stumpage rate determined under subsection (1) of this section will be a fixed stumpage rate until the cutting authority area is reappraised.

### **3.3.5 Annual Reappraisal of a Cutting Authority in a Controlled Recreation Area**

1. Subject to Section 7.8, a cutting authority area within a controlled recreation area must be reappraised annually on the anniversary date of the cutting authority.
2. A stumpage rate determined under subsection (1) of this section will be a fixed stumpage rate until the cutting authority area is reappraised.

### **3.3.6 Annual Reappraisal of a Cutting Authority with Stumpage Rates Determined Under Section 7.5**

1. A cutting authority area with stumpage rates determined under Section 7.5 must be reappraised effective March 1 of every year.
2. A stumpage rate determined under subsection (1) of this section will be a fixed stumpage rate until the cutting authority area is reappraised.











- received by the regional manager; and
- iii. the stumpage rate will be determined using the manual in effect on the effective date of the most recent appraisal or reappraisal prior to the correctable error reappraisal.
- d. i. where the director has determined that a correctable error has been made in the calculation of a quarterly stumpage adjustment, the adjustment must be correctly recalculated unless the cutting authority, the appraisal manual or the application and tender for a timber sale licence specifies that the stumpage rate is fixed, and,
- ii. the effective date of the redetermined rate shall be the first day of the month following the date on which the notice of the correctable error was received by the director.



# **4 Estimated Winning Bid**



## 4.2 Estimated Winning Bid (EWB) Variables

In this section, the estimated winning bid (EWB) equation variables are described in the order that they appear in the EWB equation (refer to Section 4.3). Note that *components* of an applicable, associated EWB variable are marked with an asterisk (\*). For example the *component* CPI is associated with the variable CPIF.

CPIF	CPI divided by 109.3.
*CPI	Monthly BC Consumer Price Index (CANSIM 326-0020, 2002 = 100) multiplied by 1.1787.
ALP	Average coniferous log selling price estimate expressed in \$/m <sup>3</sup> . This is based upon a consideration of log grades and species for the cutting authority area, and schedules of export-adjusted log market values for those cutting authorities that are collected and published by the Timber Pricing Branch.
CEDARCYPRESS	The fraction of the coniferous cruise volume that is cedar and cypress. CEDARCYPRESS is in decimal form, rounded to 2 decimal places.
SLOPE	The average side slope percentage for that part of the cutting authority area that will not be helicopter yarded.
HELI	The fraction of the total net cruise volume, including deciduous volume, of timber in a cutting authority area that must be helicopter yarded or yarded by skyline where logs are fully suspended more than 600 m in a straight line to the centre of the closest possible landing. This is calculated by dividing the total volume of timber that must be helicopter yarded or skyline yarded over 600 m by the total net cruise volume of the cutting authority area. HELI is in decimal form, rounded to 2 decimal places.
VPH	$[1 - (HS + HSSSS)] * NHSVPH + (HS + HSSSS) * 308$ VPH is expressed in m <sup>3</sup> /ha and is rounded to 2 decimal places.
*HS	The fraction of the total net cruise volume, including deciduous volume, of timber in a cutting authority area that will be harvested by a helicopter selection method (excluding helicopter single standing stem selection). HS is in decimal form, rounded to 2 decimal places.
*HSSSS	The fraction of the total net cruise volume, including deciduous volume, of timber in a cutting authority area that will be harvested by helicopter single standing stem selection (Section 4.4.4). HSSSS is in decimal form, rounded to 2 decimal places.
*NHSVPH	Non-helicopter selection volume per hectare is the cruise volume of coniferous timber per hectare for that part of the cutting authority area that will not be harvested by a helicopter selection method or













**Table 4-4: Billing History Record Dates**

<b>Column 1 Date of Appraisal or Reappraisal</b>	<b>Column 2 Billing History Record Ends on the Preceding</b>
January 1 to 31	November 30
February 1 to 28/29	December 31
March 1 to 31	January 31
April 1 to 30	February 28/29
May 1 to 31	March 31
June 1 to 30	April 30
July 1 to 31	May 31
August 1 to 31	June 30
September 1 to 30	July 31
October 1 to 31	August 31
November 1 to 30	September 30
December 1 to 31	October 31

#### 4.2.2.2 Log Grade Percentage Criteria

The person who determines the stumpage rate will apply the following criteria when determining the log grade percentages to be used for the cutting authority area being appraised or reappraised:

1. The log grade percentage is the percentage by volume that a log grade is of the total net cruise volume for the species of timber being considered.
2. Except as provided in subsection (5) and (6) of this Section and Section 4.2.2.4, the log grade percentages for a species of timber are derived from the billing history record.
3. The source of log grade percentages may vary by species of timber.
4. a. Except as provided in paragraph (b) of this subsection, before a two year billing history record for a species of timber can be used in an appraisal or reappraisal, the volume of that species of timber in that two year billing history record must be at least 25 percent of the net cruise volume of that species in





- i. the same licensee that prior to the consolidation held one or more of the consolidated licensees (the "original licensee"), or
- ii. a licensee legally associated to the original licensee,

for the purposes of Section 4.2.2.3.1 or 4.2.2.3.2, the billing history record for the licence resulting from the consolidation will be the two-year history from the common pool of:

- c. all the records for the consolidated licences, and
- d. the records for the licence resulting from the consolidation,

for so long as condition (b) continues to exist.

#### 4.2.2.3 Source of Log Grade Percentages for Each Cutting Authority Area

1. Except for those harvest methods, cutting authorities or cutting authority areas referred to in subsection 4.2.2.2(5), 4.2.2.2(6), 4.2.2.2(7), 4.2.2.2(8), and 4.2.2.2(9) the log grade percentages for each species of timber for the cutting authority area being appraised or reappraised will be determined in accordance with:
  - a. Section 4.2.2.3.1, where the cutting authority area is entirely within the geographic boundaries of one tree farm licence, or
  - b. Section 4.2.2.3.2, where the cutting authority area is entirely within the geographic boundaries of one timber supply area.

**4.2.2.3.1 Log Grade Percentages for a Cutting Authority Area Within the Geographic Boundaries of a Tree Farm Licence**

Where the cutting authority area being appraised or reappraised is entirely within the geographic boundaries of a single tree farm licence area, the log grade percentages for the cutting authority area will be determined in the following manner:

1. a. Where at least eighty percent of the timber in the cutting authority area is second growth coniferous timber, the log grade percentages for that cutting authority area will be determined in accordance with the requirements of subsection 4.2.2.2(5).  
b. Where at least eighty percent of the timber in the cutting authority area is not comprised of second growth coniferous timber, the person determining the stumpage rate will proceed to subsection 2 of this section.
2. a. Where the cutting authority area is the only cutting authority area in the cutting authority and is entirely within the geographic boundaries of a single timber licence, the person determining the stumpage rate will proceed to subsection 3 of this section.  
b. Where subsection 2 (a) of this section is not applicable, the person determining the stumpage rate will proceed to subsection 4 of this section.
3. a. Where the species being considered has a billing history record for cutting permits issued under the timber licence under which the cutting permit that authorizes harvesting on the cutting authority area being appraised or reappraised has been issued that meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the source of the log grade percentages for that species.  
b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection 4 of this section.
4. a. Where the species being considered has a billing history record derived from cutting permits issued under the tree farm licence or licence to cut and their associated road permits authorizing harvest in that part of the tree farm licence area that lies within the geographic boundaries of the forest district that contains the cutting authority area being appraised or reappraised and that billing history record meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the source of the log grade percentages for that species.  
b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection (5) of this section.
5. a. Where the species being considered has a billing history record derived from cutting permits issued under the tree farm licence or licence to cut and their associated road permits authorizing harvest and that billing history meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the

- source of the log grade percentages for that species.
- b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection (6) of this section.
6. a. Where the species being considered has a billing history record for cutting authority areas in that part of the tree farm licence area that lies within the geographic boundaries of the forest district that contains the cutting authority area being appraised or reappraised that meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the source of the log grade percentages for that species.
    - b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection (7) of this section.
  7. a. Where the species being considered has a billing history record for cutting authority areas in a tree farm licence area that contains the cutting authority area being appraised or reappraised that meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the source of the log grade percentages for that species.
    - b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection (8) of this section.
  8. a. Where the species being considered has a five-year billing history for cutting authority areas in a tree farm licence area that contains the cutting authority area being appraised or reappraised, and that record includes at least 100 m<sup>3</sup> of scale for that species then that billing history record will be the source of the log grade percentages for that species.
    - b. Where there is no such billing history record, the person determining the stumpage rate will use the log grade percentages for that species from the cruise compilation.

#### **4.2.2.3.2 Log Grade Percentages for a Cutting Authority Area Within a Timber Supply Area**

Where the cutting authority area being appraised or reappraised is entirely within the geographic boundaries of a single timber supply area, the log grade percentages for the cutting authority area will be determined in the following manner:

1. a. Where at least eighty percent of the timber in the cutting authority area is second growth coniferous timber, the log grade percentages for that cutting authority area will be determined in accordance with the requirements of subsection 4.2.2.2(5).
  - b. Where at least eighty percent of the timber in the cutting authority area is not second growth coniferous timber the person determining the stumpage rate will proceed to subsection 2 of this section.







- b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection 11 of this section.
11. a. Except for the Pacific timber supply area (44), where the cutting authority area being appraised or reappraised is authorized for harvest under a licence to cut or under a cutting permit issued under either a forest licence, timber licence or a licence to cut, or a First Nations woodland licence and the species being considered has a five-year billing history for cutting authority areas in a timber supply area that contains the cutting authority area being appraised or reappraised, and that record includes at least 100 m<sup>3</sup> of scale for that species then that billing history record will be the source of the log grade percentages for that species.
- b. Where there is no such billing history record, the person determining the stumpage rate will use the log grade percentages for that species from the cruise compilation.

#### 4.2.2.4 Damaged Timber

Where the regional manager determines that timber in a cutting authority area is suddenly and severely damaged, then notwithstanding Section 4.2.2.1, 4.2.2.2, 4.2.2.3, 4.2.2.3.1 and 4.2.2.3.2 the log grade percentages for the cutting authority area being appraised or reappraised may be estimated from available site-specific information.

#### 4.2.3 Stand Selling Price

1. The stand selling price shall be calculated in an appraisal or reappraisal by using the net cruise volumes and species selling prices of the following species of timber:

Balsam	Lodgepole Pine
Cedar	White Pine
Cypress	Sitka Spruce
Fir	Engelmann Spruce
Hemlock	

#### 4.2.3.1 Stand Selling Price Calculation

1. Subject to subsection 2 of this section:

- a. a species grade value for a species of timber in a cutting authority area is the product of the percentage of that grade of that species as derived from Section 4.2.2 multiplied by the average log market value for that grade of that species of timber,
- b. a species selling price for a species of timber in a cutting authority area is the sum of all of the species grade values for that species of timber in the cutting authority area,
- c. the rounded species selling price is the species selling price for a species of timber in a cutting authority area rounded to the nearest cent,
- d. a species value is the product of the rounded species selling price multiplied by the species net cruise volume in the cutting authority area, and
- e. the stand selling price is the quotient of the sum of all of the species values in a cutting authority area divided by the total net cruise volume of all of the species in the cutting authority area.

2. For the purposes of determining a stand selling price **for cutting authorities with an effective date:**

- a. **prior to October 1, 2017, in the Pemberton, Yale and Nahatlatch timber supply blocks only; or**
- b. **on or after October 1, 2017, in the Nahatlatch timber supply block only:**
  - i. all spruce is deemed to be Engelmann spruce, and
  - ii. the hemlock and balsam species grade average log market values will be used to determine the species grade values for all spruce in the cutting authority area,

3. For the purposes of determining a stand selling price **for cutting authorities with an effective date:**

- a. **prior to October 1, 2017, in the Pemberton, Yale and Nahatlatch timber supply blocks only; or**
- b. **on or after October 1, 2017, outside the Nahatlatch timber supply block only:**
  - i. Engelmann spruce is identified as the predominant spruce species in the cruise of the cutting authority area, or
  - ii. the district manager determines that Engelmann spruce is the predominant spruce species in the cutting authority area,

the hemlock and balsam species grade average log market values will be used to determine the species grade values of all spruce in the cutting authority area.

























## 5.1 Tenure Obligation Adjustment

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* and subject to subsection 2 of this section, the kinds of costs that may be used in the calculation of a tenure obligation adjustment in the appraisal or reappraisal of a cutting authority area are:
  - a. the forest planning and administration costs,
  - b. the road development costs,
  - c. the road management costs,
  - d. the road use charges,
  - e. the basic silviculture costs, and
  - f. the low volume cost.
2. A cost 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 5.3, 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 5.2.1 of this manual.
3. The tenure obligation adjustment is calculated under Section 5.10.





### 5.3 Road Development Cost

1. Except as provided in Section 5.3.2, where a road development provides access to Crown timber a road development cost may be estimated for new road construction, and road reconstruction.
2.
  - a. except as provided in subsections (2)(b) and (2)(c) of this section the total net cruise volume is used to calculate the unit cost for new road construction and road reconstruction in an appraisal or reappraisal of a cutting authority area.
  - b. where a road development project was not taken into consideration in a prior appraisal or reappraisal of the cutting authority area, the remaining volume shall be used to calculate the road development unit cost for that project in the reappraisal of the cutting authority area.
  - c. where the reappraisal is because of sudden and severe damage the road development cost is calculated as follows:
    - i. the road construction project costs prior to the sudden and severe damage reappraisal are totalled,
    - ii. the sum of those project costs is the total project cost,
    - iii. from the total project cost calculated in subsection 2(c)(i) of this section is subtracted the product of the total project cost multiplied by the total volume of timber in the billing history record of the cutting authority area on the effective date of the reappraisal, divided by the total net cruise volume of the cutting authority area,
    - iv. the difference calculated in subsection (2)(c)(iii) of this section is then divided by the sum of the remaining volume plus the volume of timber that was suddenly and severely damaged,
    - v. the calculation of the road development cost expressed as an algorithm is:

$$\text{Road Development Cost} = \frac{\text{total project cost} - (\text{total project costs} \times \text{volume in the billing history record})}{\text{remaining volume} + \text{volume suddenly and severely damaged}} / \text{total net cruise volume}$$

3. Except as further provided for in this manual the road development cost for a road development may only be used in the appraisal or reappraisal of a tributary cutting authority area.
4. A road development cost may be amortized in accordance with Section 5.3.2.1.

### 5.3.1 Road Development Cost Proration

1. The provisions of this section apply to each of the road development categories described in sections 5.3.1.1 and 5.3.1.2.
2. Where a road development cost estimate must be prorated under this section, only the Crown share of the road development cost estimate may be used in the appraisal or reappraisal of the cutting authority area.
3.
  - a. where road development on Crown land provides access to both Crown timber and timber that is not Crown timber held by the licensee, or a company legally associated with the licensee then the development cost is prorated between Crown timber and timber that is not Crown timber in accordance with subsection (6) of this section.
  - b. where road development on private land provides access to both Crown timber and timber that is not Crown timber, then the development cost is prorated between Crown timber and timber that is not Crown timber in accordance with subsection (6) of this section.
4. Where a proration is required under subsections (3)(a) or (3)(b) of this section:

$$\text{Crown Share of total estimated cost} = \text{Total Estimated Cost} \times \frac{\text{Crown Timber Volume}}{\text{Total Timber Volume}}$$

Where:

Crown share of total estimated cost	means the dollar amount to be used to determine a cost estimate for the appraisal or reappraisal of the cutting authority being appraised.
Total Estimated Cost	means the total road development cost estimate expressed in \$.
Crown Timber Volume	means the volume of Crown timber that is under the control of the licensee or a company legally associated with the licensee that may be transported over that road.
Total Timber Volume	means the total volume of Crown and privately owned timber that is under the control of the licensee or a company legally associated with the licensee and that may be transported over that road.

5. 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.
6. Appendix III illustrates the proration process.

### 5.3.1.1 New Road Construction

1. New Road Construction includes only subgrade construction, placement of additional stabilizing material, bridges, the construction and installation of drainage structures, and other necessary types of structures pertaining to the road that the regional manager authorizes to be used in the appraisal or reappraisal of a cutting authority area.
2. New road construction costs:
  - a. may only be used in the appraisal or reappraisal of a tributary cutting authority except cutting authorities where all of the timber on the cutting authority area has stumpage rates determined under Chapter 7. .
  - b. for the purposes of (a) above, road construction costs may only be used in an appraisal data submission for a tributary cutting authority with an effective date no later than five (5) years after completion of the new road construction.
3. Tabular road cost estimates:
  - a. where the physical dimensions and conditions of the new road construction fall within the tabular limits set out in Section 5.3.3, a tabular cost estimate will be made using the applicable tables and formulas in this section of the manual.
  - b. each road section cost estimate is determined using the appropriate tables in Section 5.3.3.
  - c. the tabular road unit cost is the sum of the unit cost estimates of all of the road sections.
4. Non-tabular road cost estimates
  - a. non-tabular cost estimates may be calculated in accordance with Section 5.3.4 for the following kinds of new road construction:
    - i. construction and upgrading of main access roads,
    - ii. road construction on uphill side slopes that are over 150 percent,
    - iii. road construction on terrain with two or more gullies over 10 m deep at centreline in a 300 m section,
    - iv. end haul construction requiring removal of excavated material to a spoil area,
    - v. overland construction to provide a roadbed by trucking in material for extensive fill sections,

- vi. switchbacks with over 10 000 m<sup>3</sup> excavation volume to complete the designed grade percent and horizontal alignment,
  - vii. bank height road sections with rock faces exceeding 7.50 metres in vertical height, and
  - viii. projects approved by the regional manager.
- b. the non-tabular road unit cost is the sum of the non-tabular road unit cost estimates.
5. Bridge Cost Estimates
- a. except where a bridge cost estimate cannot be calculated using Table 5-2 or 5-3 each bridge cost estimate must be determined using the appropriate table.
  - b. where the bridge cost estimate cannot be made using one of the appropriate tables, a non-tabular bridge cost estimate may be calculated under Section 5.3.4.
  - c. where bridge materials are reused 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 cost and delivery costs.
  - d. where used bridge materials are purchased by the licensee from a legally non-associated party, only the lowest possible cost of purchasing and shipping those materials may be included in the bridge cost estimate.
  - e. the bridge unit cost is the sum of the bridge unit cost estimates for all of the bridges.
6. Culvert Cost Estimates
- a. except where a culvert cost estimate cannot be calculated using Table 5-4, each culvert cost estimate must be determined using that table.
  - b. where the culvert cost estimate cannot be made using Table 5-4 the non-tabular culvert cost estimate may be calculated under Section 5.3.4.
  - c. the culvert unit cost is the sum of the culvert unit cost estimates for all of the culverts.
7. The total of the unit costs for tabular roads, non-tabular roads, bridges and culverts is the total new road construction unit cost.

### 5.3.1.2 Road Reconstruction

1. Road reconstruction is the:
  - a. replacement of a bridge,
  - b. major structural repair of a bridge,
  - c. redecking of an entire bridge,
  - d. reconstruction of a road,
  - e. resurfacing of a road required because of extensive wear and tear, with a minimum loose depth of 0.1 m over a continuous length of 0.5 km or greater, or
  - f. replacement of a pipe culvert on non-active roads,
  - g. additional resurfacing, required because the road having been permanently deactivated, or a water or slope failure event.
2. A road reconstruction cost estimate may only be used in an appraisal or reappraisal of a cutting authority area when the district manager authorizes the use of that estimate in that appraisal or reappraisal.
3. A road reconstruction cost estimate must be made in accordance with Section 5.3.4.
4. Where road reconstruction projects are associated because of one natural event the reconstruction projects should be grouped into one project cost estimate using a non-tabular cost form.
5. That part of the cost to replace or repair a bridge on a forest service road that is paid for by the Crown, may not be considered in any appraisal or reappraisal.
6. The reconstruction cost estimate of a project may be used in the appraisal or reappraisal of one existing or proposed tributary cutting authority area. The licensee must identify that cutting authority area when the reconstruction cost estimate is submitted in the appraisal data submission.
7. Where bridge materials are reused by the original purchaser at a different site, the bridge reconstruction 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 cost and delivery costs.
8. Where used bridge materials are purchased by the licensee from a legally non-associated party, only the lowest possible cost of purchasing and shipping those materials may be included in the bridge reconstruction cost estimate.
9. The total road reconstruction unit cost is the sum of all of the road reconstruction unit cost estimates for all of the reconstruction projects.

### 5.3.1.3 Total Road Development Cost

1. The total road development cost is the sum of the total new road construction unit cost plus the total road reconstruction unit cost.

## 5.3.2 Existing Roads

1. The following roads may not be considered in the appraisal or reappraisal of a cutting authority area:
  - a. a constructed road that has been previously included in an appraisal or reappraisal of another cutting authority area,
  - b. a road previously constructed to access private timber, or
  - c. a road previously constructed in whole or in part for a purpose unrelated to the harvesting of timber on the cutting authority area being appraised or reappraised.

### 5.3.2.1 Extended Road Amortization

1. Where the development cost estimate in an appraisal of a cutting authority (the “first cutting authority”)
  - a. includes development costs for an authorized project that the licensee requires to access one or more cutting authority areas tributary to the first cutting authority area, and
  - b. exceeds \$4.00/m<sup>3</sup> exclusive of development costs apportioned to the first cutting authority under any prior agreement under this section,

the regional manager may enter into a written agreement with the licensee authorizing distribution of a portion of the development cost estimate, exclusive of previously apportioned costs as specified in paragraph (b) of this section, to one or more cutting authorities that are tributary to, and may be issued under the same licence as, the first cutting authority, and in the case of distribution to two or more such tributary cutting authorities, specifying the apportionment between or among them. The portion of the development cost estimate that the regional manager may agree to apportion under this section is only that which the person who determines the stumpage rate determines is required to access timber that is tributary to the first cutting authority.

2. An agreement under subsection (1) is subject to the following conditions:
  - a. For the purposes of this section, “authorized project” means a project that the person who determines the stumpage rate has accepted as consistent with this manual.
  - b. The agreement must identify any future tributary timber included in the agreement by a unique identifier for each future cutting authority along with the costs being apportioned to each cutting authority identified in the agreement.

- c. The development cost estimate apportioned to a tributary cutting authority under an amortization agreement must be used in the appraisal or reappraisal of the tributary cutting authority in the amount specified in the agreement. The amount specified may not be revised:
  - i. with reference to the cost base of the manual in effect on the effective date of the tributary cutting authority, or
  - ii. to take into account new information submitted by the licensee about the development, unless pursuant to an amendment to the agreement necessitated by a changed circumstance reappraisal as authorized under paragraph (l) of this section.
- d. Costs for in-block development are not eligible for inclusion in the agreement unless the person who determines the stumpage rate is satisfied that they are required to access future tributary timber.
- e. The road portion that may be included in the agreement ends at the far boundary of the first cutting authority being appraised.
- f. The agreement is entered into only for the purposes of determining a stumpage rate and confers no obligation on the Crown to compensate the licensee for any unamortized costs.
- g. The agreement must be signed by the licensee and the regional manager, and must not be for a term, including extensions, longer than ten years unless otherwise approved by the regional manager.
- h. Agreements approved prior to March 1, 2016 are exempt from subsection (g) of this section.
- i. The regional manager and licensee may not amend the agreement to adjust the total amount apportioned or, consequentially, any part amount apportioned to a tributary cutting authority, except as authorized under this subsection.
- j. The apportionment specified in the agreement under this section may be adjusted once during the total term of the agreement, provided the adjustment is between or among only those tributary cutting authorities included in the agreement that have not yet been issued at the time of the adjustment.
- k. One additional tributary cutting authority that was not previously identified in the agreement may be added once during the total term of the agreement.
- l. In the event of a changed circumstance reappraisal of the first cutting authority, the amounts specified in the agreement must be amended to reflect proportionately the new total amount of the apportioned development cost estimate as determined in the changed circumstance reappraisal among only those cutting authorities included in the agreement that have not yet been issued as of the submission date of the changed circumstance reappraisal.



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.

### 5.3.3 Tabular Cost Estimates

A tabular cost estimate must be calculated on the basis that the construction project will be completed using commonly used logging road construction practices and that the roads will have single lane width roads, turnouts and landings.

#### 5.3.3.1 New Road Construction

1. New road construction cost estimate includes the cost of clearing and grubbing, stripping, stump removal, incidental log decking, ditch construction, landing and turnout construction.
2. The estimated cost per kilometre for new road construction is provided for each combination of rock hardness and bank height category.
3. New road section data is recorded using appendix VII and the following criteria:
  - a. road section lengths are measured along the road centreline and recorded to the nearest 0.001 km, and
  - b. the bank height is measured at right angles to the road centreline from the road surface to the top of the rock face.
  - c. road sections are measured over culverts (including wood culverts with a span length less than 4 m).
  - d. total bridge deck length for permanent and portable bridges, and span length on log bridges, is excluded from a road section length.
  - e. rock face height measurement on a through-cut section is taken from the highest side of the two road cuts.
4. If a tabular road section requires the trucking in of additional stabilizing material greater than 3.2 kilometres, use the non-tabular method to estimate the additional cost of trucking this distance.
5. Rock mass classification (RMC) is based on the physical characteristics of rock encountered in forest road development and is the subject of a report commissioned by the Forest Engineering Research Institute of Canada in 1978 and prepared by Piteau & Associates/Geotechnical Consultants. The text and tables in Appendix IV are based on this report and are used to determine the RMC-based factors required for road cost estimates.
6. Rock can be classified into five types referred to as rock mass classification (RMC) values and identified as RMC 1, 2, 3, 4 and 5. For the purpose of determining rock

hardness, 'soft/medium' rock hardness category includes RMCs 1, 2, 3 and 4; 'hard' rock hardness category is equivalent to RMC 5.

7. The steps taken to determine RMC values and apply these to road development cost estimates are:
  - a. examine and record surface hardness, weathering, and block diameter in the field,
  - b. determine subsurface hardness from the table in Appendix IV with this title,
  - c. determine RMC value from the table Appendix IV with this title, and apply selected RMC values to applicable tables and formulas for road cost estimates.
8. In all circumstances where a complete interpretation of the rock mass classification system is required, the Piteau & Associates report is to be consulted directly.

**Table 5-1: Road Cost Estimates Expressed in Dollars per Kilometre of Road Length**

Bank Height Category	Rock Face Height (m)	Cost Estimate per Kilometre (\$/km)	
		Soft/Medium	Hard
OMLB	n/a	61,784	61,784
OMPR	n/a	70,399	70,399
OMRB	n/a	86,208	97,705
TOE	(up to 1.50)	86,208	97,705
MRK	(1.51 – 3.00)	116,626	124,684
HRK	(3.01 – 4.50)	146,905	152,403
XRK	(4.51 – 6.00)	165,766	165,766
XXRK	(6.01 – 7.50)	191,416	191,416

### 5.3.3.2 Bridges and Culverts

1. A cost estimate for a bridge or a culvert may only be made and used in the appraisal or reappraisal of a cutting authority area where its necessity is substantiated by field data.
2. Crib back-fills and all site preparation and bridge protection features are included, as well as material supply and erection. Except where noted below, no adjustment of table values is permitted.
3. Input data within table boundaries is rounded to fit; no interpolation of values is permitted.

**5.3.3.2.1 Log Bridges**

1. Cost estimates for log bridges are based on span lengths (distance between the centres of the top sill logs) and average crib height (distance from the bottom of the bottom sill log to the point where the stringer rests on the top sill log as measured along the centre line of the bridge) from Table 5-2. The average crib height is the numerical average of the crib heights on both banks of the water course.
2. Table 5-2 is used for estimating costs of all timber-decked and gravel surfaced log bridges with span lengths from 3.5 to 20.4 m and crib heights from single log to 5.4m.

**Table 5-2: Log Bridge Cost Estimates Expressed in Thousands of Dollars**

Span Length (m)	Multi-Log Crib Average Crib Height (m)				
	Single Log Sill	1	2	3	4
4	2.7	4.4	7.2	11.2	16.4
5	3.6	5.3	8.2	12.2	17.3
6	4.8	6.5	9.3	13.3	18.5
7	6.1	7.8	10.7	14.7	19.9
8	7.7	9.4	12.3	16.3	21.4
9	9.5	11.2	14.1	18.1	23.2
10	11.5	13.2	16.0	20.0	25.2
11	13.7	15.4	18.2	22.3	27.4
12	16.1	17.8	20.7	24.7	29.8
13	18.7	20.4	23.3	27.3	32.4
14	21.5	23.2	26.1	30.1	35.3
15	24.6	26.3	29.1	33.2	38.3
16	27.8	29.5	32.4	36.4	41.6
17	31.3	33.0	35.9	39.9	45.0
18	34.9	36.7	39.5	43.5	48.7
19	38.8	40.5	43.4	47.4	52.6
20	42.9	44.6	47.5	51.5	56.6

**5.3.3.2.2 Permanent or Portable Bridges**

1. Cost estimates for permanent or portable bridges, built of any material except logs, are based on total span length and average abutment height (distance from the ground surface interface to the bottom contact point with the girders) from Table 5-3. Each bridge abutment must be measured at the mid-point, from the ground surface interface to the bottom contact point with the girders. Each measured abutment height is then added together and averaged to get a resultant abutment height.
2. Table 5-3 is used for estimating costs of permanent or portable bridges with span lengths from 2.0 to 30.4 m and abutment heights from 0 to 6.4 m.

3. Table 5-3 includes costs for supervision, design, site preparation, supply and installation, freight and haulage (excluding barging), and rip-rap to flood design. Barging costs are allowed as an add-on to the tabular cost estimate. If the barging of bridge materials is done in conjunction with other equipment/materials, then the cost of barging the bridge material should be prorated by the licensee. This table covers any bridge with L60 to L165 load rating.
4. Table 5-3 does not apply to:
  - a. multi-span bridges: A construction estimate form must be completed.
  - b. pile driving: Where piles may be driven to depths of 13 m or more, a construction estimate form must be completed for the bridge construction.
  - c. portable bridges that are reused (see Section 5.3.1).
  - d. cost estimates for bridge sizes outside the table limits and pipe culverts greater than the aforementioned sizes require non-tabular cost estimates completed in accordance with Section 5.3.4.
  - e. extra width bridges with one or more additional stringers and/or deck panels installed (i.e., exceeding 4.9 metres in total width between guardrails measured at mid-span).

**Table 5-3: Permanent/Portable Bridge Cost Estimates Expressed in Thousands of Dollars**

Span Length (meters)	Abutment Height (meters)						
	0	1	2	3	4	5	6
2	9.5	15.1	31.7	59.5	98.4	148.4	209.5
3	10.7	16.2	32.9	60.6	99.5	149.5	210.6
4	12.2	17.8	34.5	62.2	101.1	151.1	212.2
5	14.3	19.8	36.5	64.3	103.1	153.1	214.2
6	16.7	22.3	39.0	66.7	105.6	155.6	216.7
7	19.7	25.2	41.9	69.7	108.6	158.6	219.7
8	23.1	28.6	45.3	73.1	111.9	161.9	223.0
9	26.9	32.5	49.1	76.9	115.8	165.8	226.9
10	31.2	36.7	53.4	81.2	120.1	170.1	231.2
11	35.9	41.5	58.1	85.9	124.8	174.8	235.9
12	41.1	46.7	63.3	91.1	130.0	180.0	241.1
13	46.7	52.3	69.0	96.7	135.6	185.6	246.7
14	52.8	58.4	75.1	102.8	141.7	191.7	252.8
15	59.4	64.9	81.6	109.4	148.3	198.3	259.4
16	66.4	71.9	88.6	116.4	155.3	205.3	266.4
17	73.8	79.4	96.0	123.8	162.7	212.7	273.8
18	81.7	87.3	103.9	131.7	170.6	220.6	281.7
19	90.1	95.6	112.3	140.1	178.9	228.9	290.1
20	98.9	104.4	121.1	148.9	187.7	237.7	298.8
21	108.1	113.7	130.3	158.1	197.0	247.0	308.1
22	117.8	123.4	140.0	167.8	206.7	256.7	317.8
23	128.0	133.5	150.2	178.0	216.9	266.8	328.0
24	138.6	144.1	160.8	188.6	227.5	277.5	338.6
25	149.6	155.2	171.8	199.6	238.5	288.5	349.6
26	161.1	166.7	183.4	211.1	250.0	300.0	361.1
27	173.1	178.6	195.3	223.1	262.0	312.0	373.1
28	185.5	191.1	207.7	235.5	274.4	324.4	385.5
29	198.4	203.9	220.6	248.4	287.2	337.2	398.3
30	211.7	217.2	233.9	261.7	300.6	350.6	411.7

**5.3.3.2.3 Culverts**

1. All pipe culverts 0.3 m diameter to 1.8 m diameter are estimated using Table 5-4.
2. All wood culverts up to 3.4 m span length are estimated at \$1000.00 each.

**Table 5-4 Culvert Cost Estimate**

Diameter (m)	Cost per lineal metre	Diameter (m)	Cost per lineal metre
0.3	\$44.00	0.9	\$132.00
0.4	\$63.00	1.0	\$150.00
0.5	\$81.00	1.2	\$238.00
0.6	\$91.00	1.4	\$440.00
0.7	\$98.00	1.6	\$548.00
0.8	\$113.00	1.8	\$650.00

### 5.3.4 Non-tabular Cost Estimates

1. The cost for any of the non-tabular projects identified in Section 5.3.1.1(4)(a) will be estimated by preparing a non-tabular cost estimate. The regional manager may approve a standardized methodology to estimate the cost for the following projects:
  - a. end hauling,
  - b. road reconstruction and replacement,
  - c. stabilizing material, including:
    - i. capping,
    - ii. surfacing,
    - iii. material hauls (greater than 3.2 km),
    - iv. bridge approaches,
    - v. fords,
    - vi. culverts,
    - vii. keyed-in fills,
  - d. overlanding, including:
    - i. trucked in fills,
    - ii. large fills,

- iii. stored fills,
  - e. permanent bridge construction,
  - f. bridge structural repair.
  - g. regional manager approved tributary development projects.
2. The cost information contained in Appendix VIII is to be used in conjunction with the Detailed Engineering Estimates for Coast Stumpage Appraisal - February 1, 2001 and as amended to September 1, 2002.
  3. The following non-tabular cost estimate projects require notification by the licensee to the district manager prior to commencement of construction:
    - a. road reconstruction,
    - b. re-surfacing, or
    - c. permanent bridge construction.

Notification must allow a minimum of fifteen (15) work days, or such other time as may be mutually agreed to between the district manager and the licensee. Such notification is needed to provide time for a field review of pre-construction site conditions.

4. Regional manager approved development projects require notification by the licensee to the regional manager. Sufficient lead time will be determined on a project by project basis.
5. The road development project cost estimate will be based on the data that is required by the regional manager and the equipment and labour rates as specified in Appendix I. Where a piece of equipment required to complete the project is not included in Appendix I then the equipment rate may be obtained from the *2015-2016 Equipment Rental Rate Guide 'The Blue Book'*. Where a required piece of equipment is in neither Appendix I nor the 'Blue Book', approval for any other rate must be obtained from the regional manager for use in the project cost estimate. All equipment rates are assumed to be for a 3 year old machine using the July 1, 2015 cost base.
6. 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 non-tabular cost estimate.
7. Where the cost of a project is the subject of a contract entered into after arms-length competitive bids have been made for the contract, the cost of completing that project may be used as the development project cost estimate where that is authorized by the regional manager.





## 5.4 Road Management Cost

1. A road management cost may be used in the calculation of a tenure obligation adjustment to take into account the licensee's performance of the following activities:
  - a. grading,
  - b. brush control,
  - c. minor surfacing repairs,
  - d. sanding,
  - e. snowplowing,
  - f. ditch maintenance and repair,
  - g. replacement of culverts  $\leq 0.9$  m on active roads,
  - h. slough removal (confined to ditchline),
  - i. deactivation,
  - j. minor repairs to roads due to slides, erosion and flood damage,
  - k. road use charges except those described in Section 5.5.
2. A road management cost may only be included in the calculation of a tenure obligation adjustment for those parts of a cutting authority area where the logs will be transported over a road by truck.
3. The road management cost is \$1.36/m<sup>3</sup>.

## 5.5 Road Use Charges

1. A road use charge may be used in the calculation of a tenure obligation adjustment, if:
  - a. the road to which the road use charge applies is required to transport logs from the cutting authority area to the appraisal log dump,
  - b. the road use charge is not referred to in subsection 2(a), or 2(b) or 2(c) of this section,
  - c. the licensee submits to the district manager with the appraisal data submission:
    - i. a completed Request for Approval of a Road Use Charge Form,
    - ii. a map showing the location of the road and a copy of the written road use agreement, and
    - iii. written confirmation by the regional manager that the road use charge specified in the application, or an amount specified by the regional manager is approved, and
  - d. the term of the road use agreement is completely within the period for which the appraisal or reappraisal shall apply, and
  - e. the licensee promises in writing to submit a copy of every auditable monetary transaction evidencing payment by the licensee for road use when that is requested by the regional manager.
2. A road use charge may not be used in the calculation of a tenure obligation adjustment, if it is:
  - a. a share of road maintenance charge,
  - b. a charge with respect to a road that is declared, determined, built, maintained or modified by the provincial government,
  - c. a charge with respect to a road on Crown land.
  - d. a charge for a road on an Indian reserve or on private land owned by a third party at arm's length from the licensee and not subject to a lease held by the licensee, its affiliate or agent of either the licensee or the third party, unless
    - i. there is no route capable of being used to build a road at a lower cost through Crown land, and



## 5.6 Basic Silviculture Cost

1. Except where basic silviculture performed or to be performed on a cutting authority area is or will be funded by the Crown or an agent of the Crown a basic silviculture cost may be used in the calculation of a tenure obligation adjustment where the licensee is required to perform basic silviculture on the cutting authority area being appraised or reappraised.
2. The basic silviculture cost depends on the geographic location of the cutting authority area being appraised or reappraised as described in Table 5-5.

**Table 5-5: Basic Silviculture Cost**

Where the cutting authority area is located in:	The basic silviculture cost expressed in \$/m <sup>3</sup> is:
Campbell River Forest District	3.04
Chilliwack Forest District	5.77
Coast Mountain (North Coast) Forest District	6.83
Haida Gwaii Forest District	5.09
North Island - Central Coast Forest District	2.83
Sea to Sky (Squamish) Forest District	6.31
South Island Forest District	3.64
Sunshine Coast Forest District	4.31

## 5.7 Low Grade Number

1. The forest district low grade fractions by timber species as shown in Table 5-6 shall be used in the calculation of the tenure obligation adjustment to account for the low grade timber that is not subject to the appraised stumpage rate.
2. The low grade fraction for each timber species to be used in the appraisal or reappraisal of the cutting authority area shall be the fraction by timber species by the forest district in which the cutting authority area is located (refer to Table 5-6).
3. The low grade number to be used in the calculation of the tenure obligation adjustment for a cutting authority area being appraised or reappraised is the sum of the products of the net cruise volume of each timber species in the cutting authority area multiplied by the low grade fraction for that species, divided by the total net cruise volume in the cutting authority area.

**Table 5-6: Forest District Low Grade Fractions by Timber Species**

District	BA	CE	CY	FI	HE	LO	SP	WH	Deciduous
Campbell River	0.2057	0.0253	0.1437	0.0124	0.2161	0.0543	0.0304	0.0528	1.0000
Chilliwack	0.2542	0.0283	0.0774	0.0381	0.2658	0.2344	0.0522	0.3592	1.0000
Coast Mountain (North Coast)	0.1694	0.0307	0.0894	0.0652	0.1960	0.0652	0.0529	0.0652	1.0000
Haida Gwaii	0.1037	0.0385	0.0798	0.1037	0.2714	0.0529	0.0265	0.1037	1.0000
North Island - Central Coast	0.1461	0.0277	0.1043	0.0198	0.1668	0.1132	0.0500	0.0212	1.0000
Sea to Sky (Squamish)	0.2715	0.0382	0.2063	0.0444	0.3278	0.1443	0.0456	0.3660	1.0000
South Island	0.1348	0.0206	0.0429	0.0152	0.1638	0.0751	0.0205	0.1378	1.0000
Sunshine Coast	0.0957	0.0193	0.0915	0.0210	0.1678	0.2232	0.0388	0.0261	1.0000

## 5.8 Market Logger Cost

### 5.8.1 Market Logger Cost

1. The market logger cost (MLC) is used in the calculation of the tenure obligation adjustment in an appraisal or reappraisal of a cutting authority area. MLC is expressed in \$/m<sup>3</sup>.
2. Where the volume of second growth coniferous timber in a cutting authority area is less than eighty percent of the volume of all of the coniferous timber in that cutting authority area, the MLC is calculated as follow:

$$\text{MLC} = \frac{8.27 (1 - \text{HW}) - \text{BCTS}}{1 - \text{LG}} + \text{CTSSO}$$

3. Where the volume of second growth coniferous timber in a cutting authority area is at least eighty percent of the volume of all of the coniferous timber in that cutting authority area, the MLC is calculated as follows:

$$\text{MLC} = \frac{6.76 (1 - \text{HW}) - \text{BCTS}}{1 - \text{LG}} + \text{CTSSO}$$

4. For the purpose of subsection 5.8.1(2) and 5.8.1(3):

HW = Is the fraction of the cutting authority area's volume harvested by helicopter to a water drop

LG = Low grade number calculated under Section 5.7

BCTS = BCTS cost from Section 5.8.2

CTSSO = Competitive timber sales specified operation cost from Section 5.8.3

### 5.8.2 BC Timber Sales Infrastructure and Services

The cost of infrastructure and services provided by BC Timber Sales for competitive timber sale licences (minus specified operations in the MPS data set) is \$0.13/m<sup>3</sup>.

### 5.8.3 Competitive Timber Sales Specified Operations Adjustment

The cost of the competitive timber sales specified operation (CTSSO) already included in the competitive timber sale licences that are in the MPS dataset is \$0.25/m<sup>3</sup>.

## **5.9 Return to Forest Management (RFM)**

The return to forest management factor is 1.066.

## 5.10 Tenure Obligation Adjustment

1. The tenure obligation adjustment is used to calculate the stumpage rate for a cutting authority other than a timber sale licence entered into under Section 20 of the *Act*.
2. The tenure obligation adjustment (TOA) is calculated as follows:

$$\text{TOA} = \frac{\text{FPA} + \text{LVC} + \text{RD} + \text{RM} + \text{RU} + \text{BS}}{1 - \text{LG}} * \text{RFM} - \text{MLC}$$

Where:

FPA	= forest planning and administration cost
LVC	= low volume cost
RD	= total road development cost
RM	= road management cost
RU	= road use charges cost
BS	= basic silviculture cost
LG	= low grade number
RFM	= return to forest management
MLC	= market logger cost



## **6 Stumpage Rate Determination**

## **6.1 Stumpage Rate Calculation for a Cutting Authority Entered into Under Section 20 of the Act**

Sections 6.1.1 through 6.1.4 are the policies and procedures for calculating a stumpage rate for a cutting authority that is entered into under Section 20 of the *Act*.

### **6.1.1 Indicated Upset Stumpage (IUSR)**

1. Except as provided by subsections (2), (3), and (4) of this section, the indicated upset stumpage rate for a timber sale licence shall be the greater of:
  - a. seventy percent of the final estimated winning bid (FEWB) for that timber sale licence calculated according to Section 4.5,
  - b. the variable cost to prepare the timber sale (VCU), or
  - c. an IUSR requested by the timber sales manager.
2. Where applications for a timber sale licence with an IUSR determined under Section 6.1.1(1) have been invited but no applications have been received, the IUSR determined by the person authorized to determine the stumpage rate for the re-advertised timber sale licence shall not be less than the VCU when that IUSR is requested by the timber sales manager.
3. Where the executive director, BCTS, does not anticipate that applications for a timber sale licence with an IUSR determined under Section 6.1.1(1) will be received due to market conditions or timber profile, the IUSR shall be equal to the IUSR approved by the executive director, BCTS.
4.
  - a. The IUSR for decked timber that is administered by BCTS shall be the IUSR requested by the timber sales manager.
  - b. If the timber sales manager intends to sell the decked timber competitively requiring a bonus offer, the indicated upset stumpage is the IUSR from (a) of this subsection multiplied by the volume determined by an authorized licenced scaler using a method approved by the minister.
5. Where the invitation to tender for timber authorized for harvest under a timber sale licence 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 *Act*, the indicated upset stumpage shall be the total net cruise volume of the timber sale licence multiplied by the IUSR derived under subsection 1 of this section.
6. The variable cost to prepare the timber for sale (VCU) shall be calculated by the timber sales manager.

### **6.1.2 Prescribed Minimum Stumpage Rate**

The minimum stumpage rate is prescribed by the minimum stumpage rate regulation (BC Regulation 354/87). The current minimum stumpage rate is \$0.25 per cubic metre.

### **6.1.3 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.

### **6.1.4 Stumpage Rate**

1. The stumpage rate is the total of the upset stumpage rate plus the bonus bid that must be paid by the licensee.
2. Where the upset stumpage rate is determined under Section 6.1.1(5) the stumpage rate applies to the timber species and volumes specified by the executive director, BCTS.

## **6.2 Stumpage Rate Calculation for a Cutting Authority Other than a Cutting Authority Entered into Under Section 20 of the Act or a Cutting Authority for which a Stumpage Rate is Determined Under Chapter 7**

Sections 6.2.1 through 6.2.5 are the policies and procedures for determining a stumpage rate for a cutting authority other than timber sale licence entered into under Section 20 of the Act or a cutting authority for which a stumpage rate is determined under Chapter 7.

### **6.2.1 Indicated Rate (IR)**

1. The IR is the difference between the final estimated winning bid (FEWB) determined for the cutting authority under Section 4.5 and the tenure obligation adjustment (TOA) determined under Section 5.10.
2. Expressed as an equation:

$$\text{IR} = \text{FEWB} - \text{TOA}$$

### **6.2.2 Prescribed Minimum Stumpage Rate**

The minimum stumpage rate is prescribed by the Minimum Stumpage Rate Regulation (BC Regulation 354/87). The current minimum stumpage rate is \$0.25 per cubic metre.

### **6.2.3 Reserve Stumpage Rate**

The reserve stumpage rate for a cutting authority is determined by selecting the greater of:

1. the indicated rate, or
2. the prescribed minimum stumpage rate.

### **6.2.4 Upset Stumpage Rate**

The upset stumpage rate is the total of the reserve stumpage rate plus any administration and silviculture levies which may be charged under Section 7.4.1.

### **6.2.5 Total Stumpage Rate**

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

# **7 Miscellaneous Timber Pricing Policies**

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## **7.1 Average Stumpage Rates by District and Species**

1. Timber Pricing Branch shall produce a schedule of average sawlog stumpage rates for each species of timber in each forest district of the Coast Area, and for the Great Bear Rainforest North. Those rates are effective on the date they are approved by the director.

## 7.2 Community Forest Agreements and Woodlot Licences

1. a. Except as provided for under Section 7.2.1, the sawlog stumpage rate (\$/m<sup>3</sup>) for each species of coniferous timber and zone harvested under a cutting authority issued under a community forest agreement or woodlot licence and their associated road permits will be:

Species	Zone	
	Northern Coast	Southern Coast
Balsam	\$1.96	\$0.85
Hemlock	\$1.38	\$1.14
Cedar	\$2.64	\$3.82
Cypress	\$2.51	\$1.23
Fir	\$1.87	\$1.87
Spruce	\$0.57	\$1.85
Other	\$2.11	\$1.80

- b. The Northern Coast Zone is the Haida Gwaii Forest District, Coast Mountain (North Coast) Forest District and that part of the North Island-Central Coast Forest District within TFL 25 and all Crown land within the Mid-Coast Timber Supply Area boundaries as designated or prior designated, as applicable, by the Minister under the Act.
- c. The Southern Coast Zone is the Coast Area except the Northern Coast Zone as defined in 1(b).
- d. The stumpage rate determined under paragraph (a) of this subsection shall be redetermined on March 1st of each year in accordance with this subsection.
2. The sawlog stumpage rate for each species of coniferous timber harvested under a salvage permit issued under a woodlot licence is the rate prescribed in the table in Section 7.2(1)(a) for the zone in which the salvage permit applies.
3. Section 7.3, 7.4, 7.4.1, 7.5 and 7.6 do not apply to community forest agreements, woodlot licences and associated road permits.

### **7.2.1 Woodlot Licences with Cutting Authorities under MPS**

1. Where a cutting authority has been issued under a woodlot licence with an effective date after November 30, 2008, with an extended road amortization agreement that has been entered into under Section 5.3.2.1, the stumpage rate will be calculated using the market pricing system.
2. The sawlog stumpage rate for a road permit is calculated using the procedures in Section 7.3 until a cutting permit has been issued with tabular rates as specified under Section 7.2(1)(a). Stumpage rates for road permits will also change to tabular rates on that date.



### 7.3 Road Permits

1. Except as provided in subsection (2) of this section, and subject to section 7.10 the stumpage rate for a road permit will be determined using Ministry stumpage billing history records.
  2. The stumpage rate for a road permit issued in conjunction with a timber sale licence entered into under Section 20 of the *Act* will be the stumpage rate applicable to the cutting authority that authorizes harvesting in the cutting authority area to which the road permit provides access.
  3. For the purposes of this section a stumpage billing history record of timber harvested under a timber licence where the timber licence area is within a tree farm licence area, will be included with and be considered the stumpage billing history record of timber harvested under the tree farm licence.
  4. a. Where the Ministry has a stumpage billing history record of 500 cubic metres or greater of timber harvested under:
    - i. a licence within the same district as the area to which the road permit applies, the stumpage rate for a road permit is the weighted average sawlog stumpage rate of cutting authorities other than a road permit, for cutting authority areas that are located in the same forest district as the area to which the road permit applies, and that are issued under the licence that entitles the licensee to apply for the road permit, or
    - ii. **multiple licences within the same district as the area to which the single road permit used by the licensee applies**, the stumpage rate for the road permit is the weighted average sawlog stumpage rate of all cutting authorities other than the road permit(s) **and licences entered into under Section 20 of the *Forest Act***, for all cutting authority areas that are located in the same forest district as the area to which the road permit applies, and that are issued under the licence(s) that entitle the licensee to harvest, including the licence that entitles the licensee to apply for the road permit.
  - b. The weighted average stumpage rate is the sum of the stumpage billed for all coniferous sawlogs during the billing period referred to in paragraph (c) of this subsection, divided by the sum of the volume of those species and grades.
  - c. The billing period referred to in paragraph (b) of this subsection for a road permit appraisal or reappraisal, will be updated annually effective February 1st and will be the twelve month period ending November 30<sup>th</sup>.
5. Where there is less than 500 cubic metres in the stumpage billing history records from which the stumpage rate may be determined under subsection (4), and the licence that the cutting authority is issued under does not provide for an allowable annual cut or has an allowable annual cut of Crown timber equal to or greater than 7 000 m<sup>3</sup>, the stumpage rate for a road permit is the weighted average sawlog stumpage rate of:

- a. all cutting authorities other than road permits, that are issued under the licence to which the road permit applies that entitles the licensee to apply for the road permit.
  - b. where there is less than 500 cubic metres in the stumpage billing history record from which the stumpage rate may be determined under paragraph (a) of this subsection, the person determining the stumpage rate will proceed to subsection (c) of this section.
  - c. all the cutting authorities that do not provide for an allowable annual cut or have an allowable annual cut of Crown timber equal to or greater than 7 000 m<sup>3</sup>, other than road permits and timber sale licences entered into under Section 20 of the *Act*, that are for areas located in the same forest district as the area to which the road permit applies.
6. Where there is less than 500 cubic metres in the stumpage billing history records from which the stumpage rate may be determined under subsection (4), and the licence that the cutting authority is issued under has an allowable annual cut of Crown timber less than 7 000 m<sup>3</sup> per year, the stumpage rate for a road permit is the weighted average sawlog stumpage rate of:
- a. All cutting authorities other than road permits and timber sale licences entered into under Section 20 of the *Act*, that are for licences that have an allowable annual cut of less than 7 000 m<sup>3</sup> in the same forest district as the area to which the road permit applies.
  - b. Where there is less than 500 cubic metres in the stumpage billing history record from which the stumpage rate may be determined under paragraph (a) of this subsection, the person determining the stumpage rate will proceed to subsection (c) of this section.
  - c. All cutting authorities other than road permits and timber sale licences entered into under Section 20 of the *Act*, that are for licences that have an allowable annual cut of less than 7 000 m<sup>3</sup> in the same timber supply area as the area to which the road permit applies.
  - d. Where there is less than 500 cubic metres in the stumpage billing history record from which the stumpage rate may be determined under paragraph (c) of this subsection, the person determining the stumpage rate will proceed to subsection (e) of this section.
  - e. All cutting authorities other than road permits and timber sale licences entered into under Section 20 of the *Act*, in the same forest district as the area to which the road permit applies.
7. The cost of a road constructed under a road permit may be eligible for inclusion as a tenure obligation adjustment under Chapter 5 in the appraisal of a tributary cutting authority.
8. All road permits will be reappraised in accordance with Section 3.3.2.





## **7.5 Cutting Authority Area With Less than 2 500 m<sup>3</sup> of Timber Volume**

1. Where a cutting authority area has less than 2 500 m<sup>3</sup> of timber the stumpage rate may, at the discretion of the regional appraisal coordinator, be determined by using the stumpage rates approved by the director under Section 7.1 for each of those species in the forest district in which the cutting authority area is located.
2. The stumpage rate determined under this section shall be redetermined in accordance with Section 3.3.6.









## 7.9 Miscellaneous Stumpage Rates

### Miscellaneous Stumpage Rates

1. Unless otherwise specified in a cutting authority, Table 7-1 in effect on the date of scale shall be used to determine the stumpage rates for deciduous species, low grade logs and timber in specified areas.

### Special Forest Products

2. Unless otherwise specified in a cutting authority, Table 7-2 in effect on the date of scale shall be used to determine the stumpage rates for the specified products from all sources of Crown timber.

## 7.9.1 Marine Log Salvage

### 7.9.1.1 Beachcomb

A beachcomb rate may apply to logs salvaged in the Vancouver log salvage district under Part 9 of the *Act*, and stray logs salvaged elsewhere in coastal waters.

The stumpage rate for beachcomb is listed in Table 7-1.

### 7.9.1.2 Root Buck

A root buck rate may apply to any species where the roots are attached at the time stray logs are salvaged in coastal waters. Excludes logs salvaged from coastal waters within the boundaries of the Coast Mountain (North Coast) Forest District.

The rate for root buck is listed in Table 7-1.

### 7.9.1.3 Wahleach Island Catchment Basin

The stumpage rate for logs salvaged at Wahleach Island catchment basin operated by B.C. Debris Control Board is listed in Table 7-1.

### 7.9.1.4 Deadhead Logs

A deadhead rate may apply to deadhead logs as defined in the log salvage regulation, salvaged in coastal waters and subject to scaling requirements under part 6 of the *Act*.

The stumpage rate for deadhead logs is listed in Table 7-1.





- iii. on or after January 1, 2017, the stumpage rates by species shall be as approved by the director under subsection 7.10(4), and shall be based on the information provided by a cruise of the timber.
3. Cutting authorities that meet the requirements of Section 2.2.4 and that are located within that part of Tree Farm Licence No. 25 within the Coast Mountain and North Island - Central Coast Forest Districts, or within Forest Licence A91438:
  - a. For all cutting authorities, except road permits, with an effective date:
    - i. prior to June 15, 2016, existing stumpage rates and applicable quarterly adjustments will continue until expiry of the cutting authority.
    - ii. on or after June 15, 2016, the stumpage rates by species shall be as approved by the director under subsection 7.10(4), and shall be based on the information provided by a scale of the timber.
  - b. For timber harvested under the authority of a road permit on or after June 15, 2016, the stumpage rates by species shall be as approved by the director under subsection 7.10(4), and shall be based on the information provided by a scale of the timber.
4. Notwithstanding subsections 2(a)(i) and 3(a)(i), where the source of the timber is the GBRN, the stumpage rate for each species of the GBRN timber will be determined using the schedule of average sawlog stumpage rates for GBRN timber approved by the director.
5. For the purposes of determining the amount of stumpage payable in respect of timber removed from the harvest area under a road permit, a cruise based road permit or an approved amendment to a cruise based road permit, the volume of timber removed will be determined using information provided by a:
  - a. scale of the timber under Sections 7.10(2)(b)(i) and 7.10(3)(b); or
  - b. cruise of the timber under Sections 7.10(2)(b)(ii) and (iii).

# **Appendices**

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## d. Wage Rates (Source: 2014-19 United Steelworkers agreement rates)

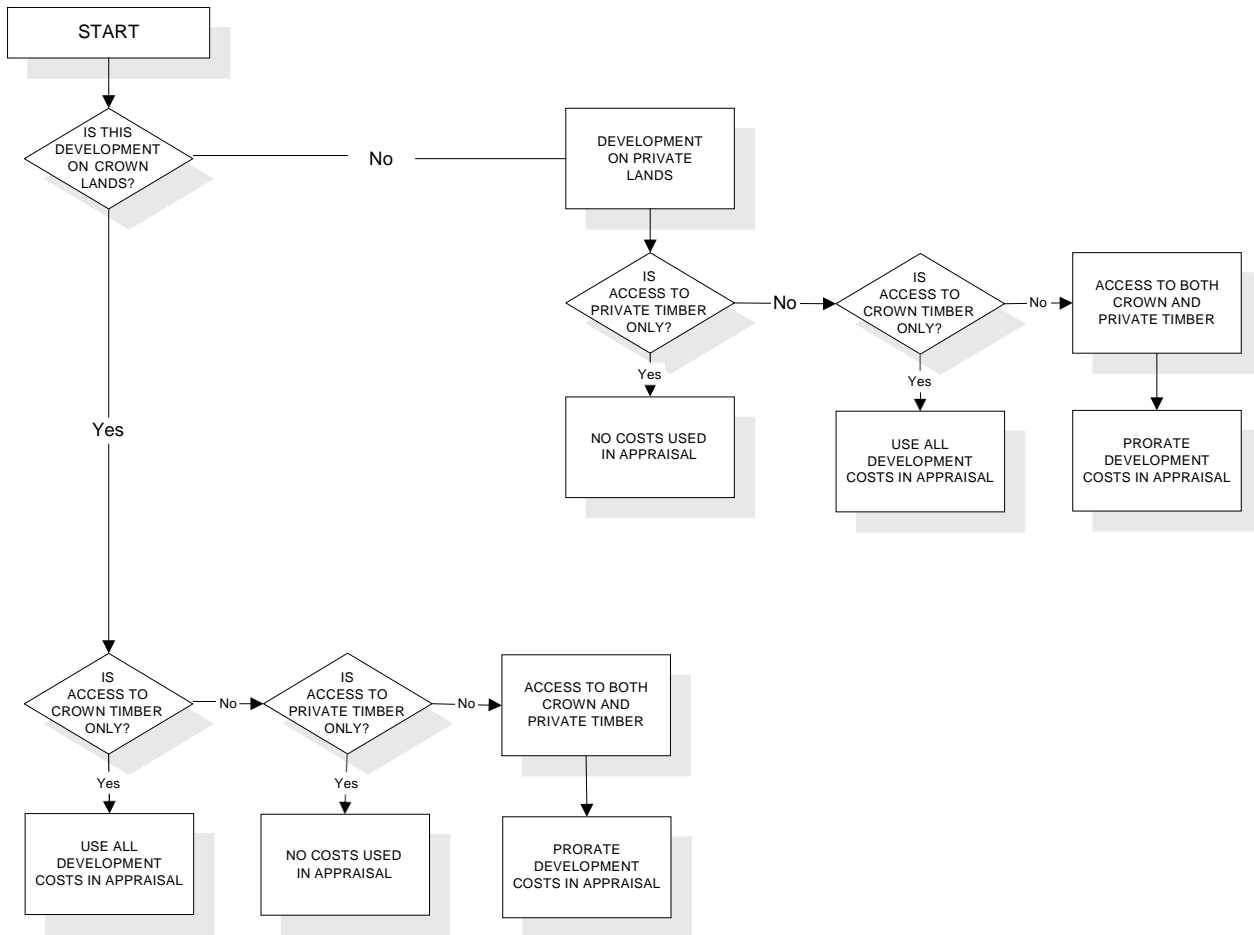
<b>LABOUR DESCRIPTION</b>	<b>GROUP</b>	<b>*\$/HOUR</b>
Labourer	Group I	38.61
Roadman	Group II	38.93
Crib/Culvert Maker, Powderman	Group VII	40.89
Landingman	Group VIII	41.41
Rockdriller & Powderman (for load & blast only)	Group VII & XI	85.09
Bridgeman	Tradesman	50.64
Faller, including powersaw cost		68.04

\*Effective June 15, 2015. Includes 40% for payroll loading





### Appendix III Development Cost Proration



## Appendix IV Rock Mass Classification

Surface Hardness	Weathering on Surface				
	W1	W2	W3	W4	W5
H2	R2	R2	R2, R3	R3, R4	R4, R5
H3	R3	R3	R3, R4	R4, R5	
H4	R4	R4	R4, R5		
H5	R5	R5			

### Hardness Factors:

- H2 Can be scraped and peeled by a pocket knife with difficulty. Shallow indentations (i.e., 1/16 inch to 1/8 inch) made by firm blow of geological pick.
- H3 Cannot be scraped or peeled with a pocket knife. Hand-held specimen can be fractured with single firm blow of hammer end of geological pick.
- H4 Hand-held specimen requires more than one blow with hammer end of geological pick to fracture it.
- H5 Hand-held specimen is very hard and requires many blows of hammer end of geological pick to fracture it.

### Weathering Factors:

- W1 The rock shows no loss of strength or any other effect of weathering other than slight staining on a few discontinuities\*.
- W2 The intact rock is slightly discoloured but not noticeably lower in strength than the fresh rock. The discontinuities are discoloured and some discolouration extends into the rock.
- W3 The intact rock is discoloured and noticeably weakened. Discontinuities are stained and/or contain filling comprising altered material.
- W4 Discolouration and weakening extends throughout rock mass and rock mass tends to crumble somewhat. Rock can be excavated with geological pick.
- W5 The rock is totally discoloured and decomposed and is entirely changed to a soil but the original structure of the rock is mostly preserved.

\* The term discontinuities refers to natural breaks, shears or faults in the bedrock.

Surface Hardness	Average Block Diameter				
	0 to 3"	3" to 6"	6" to 1'	1' to 4'	4'+
R2	RMC1	RMC2	RMC2	RMC2	RMC2
R3	RMC2	RMC2	RMC3	RMC3	RMC3
R4	RMC2	RMC3	RMC4	RMC4	RMC4
R5	RMC3	RMC4	RMC5	RMC5	RMC5

Description of RMC Values:

- RMC1** Rock crumbles under firm blows with the point of a geological pick and can be peeled by a pocket knife (R1). The average block diameter is not important. The rock may be harder (R2) but must have an average block diameter of less than 3 inches. This rock can be excavated by free digging or ripping.
- RMC2** Rock can be scraped and peeled by a pocket knife with difficulty and shallow indentations (i.e., 1/16 inch to 1/8 inch) can be made by a firm blow of a geological pick (R2) and has an average block diameter greater than 3 inches. The rock may be somewhat harder (R3) but must have an average block diameter less than 6 inches or hard (R4) and have an average block diameter less than 3 inches. The rock is usually rippable.
- RMC3** Rock cannot be scraped or peeled with a pocket knife. Hand-held specimen can be fractured with a single firm blow of the hammer end of a geological pick (R3) and has an average block diameter greater than 6 inches. Rock may be harder (R4) but must have an average block diameter of 3 to 6 inches or very hard (R5) and have an average block diameter of less than 3 inches. The rock is usually not rippable.
- RMC4** Hand-held specimen requires more than one blow with hammer end of geological pick to fracture (R4) and has an average block diameter greater than 6 inches. Rock may be very hard (R5) but must have an average block diameter of 3 to 6 inches. The rock must be blasted.
- RMC5** Hand-held specimen is very hard and requires many blows of the hammer end of a geological pick to fracture it (R5) and has an average block diameter greater than 6 inches. The rock must be blasted.

## **Appendix V Appraisal Map Content**

1. The appraisal map(s) submitted with the appraisal data submission must be at a scale of 1:5000 or 1:10000. Additional maps at other scales may also be included as required.
2. At a minimum, the maps shall provide the following information:
  - a. Cutting authority area boundary and block boundaries.
  - b. Delineation of timber to be harvested and timber to be retained within the cutting authority area.
  - c. Delineation of areas by harvest method.
  - d. Delineation of areas where tree crown modification is planned.
  - e. Delineation of areas where destumping for root disease control is required.
  - f. The geographic centre and common junction of the permit for truck haul distance calculations.
  - g. Existing roads.
  - h. Roads to be constructed.
  - i. Location of roads/structures that are the subject of non-tabular estimates.
  - j. Location, size and types of culverts and bridges.
3. For appraisal data submission where an extension is requested reference may be made to the original map submitted.
4. The appraisal map may be attached to the initial appraisal data submission in electronic format prior to the cutting permit being approved.

## Appendix VI Appraisal Log Dumps

### Chilliwack Forest District

District: Chilliwack							
Location	ALD Code	Co-ordinates (Approximately)					
		Latitude			Longitude		
		Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
Coquitlam, Pacific Custom Log Sort	COPA	49	13	22	122	50	35
Delta, Northwest Hardwoods	DENH	49	08	26	123	02	18
Whonnock, Pioneer	WHON	49	10	17	122	29	2
Haney, Northview Sort	HANO	49	12	33	122	35	53
Harrison Bay DLS	HABA	49	14	45	121	57	25
Harrison Lake - 20 Mile Bay	HLTM	49	31	29	121	53	01
Harrison Lake - Bear Creek	HLBC	49	31	38	121	45	41
Harrison Lake – Head	HLHE	49	44	14	122	08	49
Harrison Lake - Silver River DLS	HLSR	49	34	33	121	49	16
Harrison Lake - Trio Creek (Westwood Bay)	HLTC	49	37	56	121	58	07
Hatzic, Dyke Road	HADR	49	08	46	122	14	42
Indian Arm	INDA	49	27	50	122	52	39
Pitt Lake – Head	PLHE	49	32	32	122	35	48
Port Coquitlam, Valiant Sort	POCO	49	14	47	122	44	09
Sardis, Cattermole DLS	SACA	49	08	32	122	03	35
Sardis, Probyn DLS	SAPR	49	08	35	122	04	26



<b>District: Sunshine Coast</b>					
<b>Location</b>	<b>ALD Code</b>	<b>Co-ordinates (Approximately)</b>			
		<b>Latitude</b>		<b>Longitude</b>	
		<b>Degrees</b>	<b>Minutes</b>	<b>Degrees</b>	<b>Minutes</b>
Jervis Inlet - Granville Bay DLS	JEGR	49	50	123	59
Jervis Inlet - Hardy Island	JEHA	49	44	124	11
Jervis Inlet - Hunaechin River DLS	JEHU	50	12	123	58
Jervis Inlet - Killam Bay	JEKI	49	46	123	55
Jervis Inlet - Nelson Island, Annis Bay North	JENN	49	46	124	00
Jervis Inlet - Nelson Island, Vanguard Bay	JEVA	49	45	124	06
Jervis Inlet - Perketts Creek	JEPE	49	52	123	52
Jervis Inlet - Potato Creek	JEPO	50	08	123	48
Jervis Inlet - Queens Reach, Smanit Creek	JEQU	50	10	123	56
Jervis Inlet - Saltery Bay	JESA	49	46	124	10
Jervis Inlet - Seshal Creek	JESE	50	01	123	55
Jervis Inlet - St. Vincent Bay DLS	JESV	49	48	124	05
Jervis Inlet - Stakawus Creek DLS	JEST	50	04	123	46
Jervis Inlet - Treat Creek	JETC	49	50	123	52
Jervis Inlet - Vancouver Bay	JEVB	49	55	123	51
Malaspina Peninsula - Lund	MPLU	49	58	124	45
Malaspina Peninsula - Steamboat Bay	MPSB	50	00	124	47
Malaspina Peninsula East - Malaspina Inlet	MPMI	50	02	124	47
Malaspina Peninsula East - Okeover Inlet	MPOI	49	59	124	41
Malaspina Strait - Stillwater Bay - Stillwater DLS	MSSB	49	46	124	18
Malaspina Strait - Lang Bay	MSLB	49	46	124	21
Maurelle Island - East-West Bay	MIEW	50	18	125	06
Maurelle Island - Florence Cove (Hole in the Wall)	MIFC	50	18	125	09
Maurelle Island - West Side	MIWS	50	15	125	10
Nelson Island - Fearney Point	NIFP	49	39	124	06
Nelson Island - Cockburn Bay	NICB	49	41	124	11





<b>District: Sunshine Coast</b>					
<b>Location</b>	<b>ALD Code</b>	<b>Co-ordinates (Approximately)</b>			
		<b>Latitude</b>		<b>Longitude</b>	
		<b>Degrees</b>	<b>Minutes</b>	<b>Degrees</b>	<b>Minutes</b>
Toba Inlet - Higgins Bay	TOHB	50	22	124	40
West Redonda Island - Desolation	WRDE	50	08	124	46
West Redonda Island - Doctor Bay	WRDB	50	15	124	49
West Redonda Island - Lewis Channel	WRLC	50	12	124	56
West Redonda Island - Redonda Bay	WRRB	50	15	124	57
West Redonda Island - Talbot Cove	WRTC	50	10	124	52
West Redonda Island - Teakerne Arm	WRTA	50	11	124	49



**Coast Mountain (North Coast) Forest District**

<b>District: Coast Mountain (North Coast)</b>					
<b>Location</b>	<b>ALD Code</b>	<b>Co-ordinates (Approximately)</b>			
		<b>Latitude</b>		<b>Longitude</b>	
		<b>Degrees</b>	<b>Minutes</b>	<b>Degrees</b>	<b>Minutes</b>
Alan Reach - Collins Bay DLS	ARCO	53	33	128	44
Alan Reach - Ochwe Bay, Paril Creek Log Dump	ALOC	53	29	128	46
Alan Reach - Proposed BCTS	ALTS	53	25	128	34
Alice Arm - Kitsault	ALKI	55	28	129	27
Alice Arm - Proposed BCTS	AATS	55	28	129	29
Banks Island - Banks Island DLS, Donaldson Lake	BADO	53	28	130	02
Banks Island - Patterson Inlet	BAPA	53	26	129	46
Devastation Channel - Heysham Creek – BCTS	DVHE	53	35	128	48
Devastation Channel - Verney Pass Log Dump	DVVE	53	32	128	51
Devastation Channel - Weewanie Creek	DVWE	53	41	128	47
Douglas Channel - Kitkiata - BCTS	DOKI	53	38	129	15
Douglas Channel - Little Tillhorn DLS	DOTI	53	33	129	10
Ecxstall River - Cuthbert Creek DLS	ETCC	54	05	129	51
Grenville Channel - Farrant Island Log Dump	GRFA	53	19	129	23
Grenville Channel - Baker Inlet	GRBA	53	48	129	53
Kaien Island - Kaien Island DLS	KAIS	54	18	130	15
Kennedy Island - Kennedy Island DLS	KEIS	54	03	130	09
Kumealon Inlet - Kumealon DLS	KUIN	53	52	129	59
Nass Bay - Mill Bay	NBMB	55	00	129	52
Nass Bay - Welda Creek	NBWC	54	56	129	52
Pearse Island - Dogfish Bite	PIDB	55	01	130	11
Pitt Island - Captain's Cove	PICC	53	48	130	11
Pitt Island (South) - Payne Channel Log Dump	PIPC	53	19	129	28
Porcher Island - Hunts Island - BCTS	POHI	54	03	130	33
Porcher Island - Oona River	POOR	53	56	130	15
Porcher Island - Porcher Inlet (North) – BCTS	POPNI	53	59	130	25
Porcher Island - Porcher Inlet (South) – BCTS	POPS	53	58	130	24







<b>District: Campbell River</b>							
<b>Location</b>	<b>ALD Code</b>	<b>Co-ordinates (Approximately)</b>					
		<b>Latitude</b>			<b>Longitude</b>		
		<b>Degrees</b>	<b>Minutes</b>	<b>Seconds</b>	<b>Degrees</b>	<b>Minutes</b>	<b>Seconds</b>
Hardwicke Island – South East at Chancellor Channel	HACC	50	25	12	125	45	50
Johnstone Strait - Bear Bay	JSBB	50	21	38	125	39	09
Johnstone Strait - Eve River	JSER	50	28	06	126	17	21
Johnstone Strait - Hardwicke Island South West	JSHI	50	24	56	125	55	20
Johnstone Strait - Havannah Channel, South of East Cracroft Island	JSHA	50	31	55	126	13	33
Johnstone Strait - Kelsey Bay	JSKB	50	23	49	125	57	40
Johnstone Strait - Naka Creek	JSNC	50	28	38	126	25	16
Johnstone Strait - Port Neville Head	JSPH	50	33	04	125	57	47
Johnstone Strait - Port Neville West	JSPW	50	31	05	126	04	14
Johnstone Strait - South East Bay	JSSE	50	27	41	126	11	58
Johnstone Strait - Tuna Point, Sunderland Channel	JSTP	50	28	16	125	59	00
Kyuquot Channel – Cachalot Inlet	KYCA	50	00	03	127	10	15
Kyuquot Sound - Amai Inlet	KYAM	50	01	27	127	10	23
Kyuquot Sound - Chamiss Bay	KYCH	50	04	01	127	17	11
Kyuquot Sound - Eelstow Passage	KYEE	50	06	04	127	10	35
Kyuquot Sound - Hohoae Island	KYHO	50	02	00	127	14	00
Kyuquot Sound - Kashutl River	KYKA	50	11	06	127	18	02
Kyuquot Sound - Kauwinch River, Kashutl Inlet	KYKR	50	08	12	127	15	56
Kyuquot Sound - Tahsish Inlet	KYTA	50	06	11	127	05	47
Kyuquot Sound - Union Island East	KYUE	50	01	33	127	14	31
Kyuquot Sound - Union Island West	KYUW	50	00	58	127	18	51
Loughborough Inlet - Cooper Reach East	LICR	50	41	44	125	26	48
Loughborough Inlet - Beaver	LIBE	50	30	02	125	37	32
Loughborough Inlet - Heydon Bay	LIHB	50	34	53	125	34	14
Loughborough Inlet - Poison Creek	LIPC	50	38	07	125	31	40
Loughborough Inlet - Poison (North)	LIPN	50	39	15	125	30	51









<b>District: South Island</b>							
<b>Location</b>	<b>ALD Code</b>	<b>Co-ordinates (Approximately)</b>					
		<b>Latitude</b>			<b>Longitude</b>		
		<b>Degrees</b>	<b>Minutes</b>	<b>Seconds</b>	<b>Degrees</b>	<b>Minutes</b>	<b>Seconds</b>
Otter Point Log Sort	OPLS	48	22	10	123	46	16
Saltspring Island, Burgoyne Bay	SIBU	48	47	37	123	31	21
Port Alberni, Ship Creek	PASC	49	13	17	124	48	42
Shoal Island DLS	SHOA	48	52	54	123	38	07
Stewardson Inlet	STEW	49	25	26	126	18	37
Sydney Inlet	SYIN	49	26	07	126	13	43
Stewardson Inlet (Mouth)	STEM	49	26	39	126	17	49
Strait of Georgia - Valdes Island	SGVI	49	03	54	123	39	19
Tofino Inlet - Rankin Cove	TIRC	49	10	30	125	42	21
Uchuklesit Inlet - Silverside DLS	UISI	49	00	22	125	02	11
Uchuklesit Inlet - Snug Cove	UISC	49	00	58	125	01	58
Ucluelet (East)	UCLU	48	58	25	125	34	21
Vargas Island	VARG	49	12	-	125	58	-







<b>District: North Island - Central Coast</b>					
<b>Location</b>	<b>ALD Code</b>	<b>Co-ordinates (Approximately)</b>			
		<b>Latitude</b>		<b>Longitude</b>	
		<b>Degrees</b>	<b>Minutes</b>	<b>Degrees</b>	<b>Minutes</b>
Thompson Sound DLS	THSD	50	48	126	01
Tribune Channel, London Point	TCLP	50	47	126	07
Wakeman Sound	WAKE	51	02	126	31
Walbran Island, Taylor Bay	WITB	51	30	127	36
Wallace Bay - Cousins Inlet	WBCI	52	17	127	45
Watson Island - Turnbull Cove	WITC	50	57	126	49
West Cracroft Island - Port Harvey	WCPH	50	34	126	17
West Cracroft Island - Potts North	WCPN	50	34	126	28
Yeo Cove, Yeo Island	YCYI	52	18	128	11













### VIII.3 Additional Stabilizing Material

1. Stabilizing material is gravel or broken rock which is placed on the road subgrade to provide stable support and a running surface for logging related equipment. Some stabilizing material may be created on site during subgrade construction. If additional stabilizing material is required it may be obtained from the adjacent cut-bank or trucked in.

### VIII.4 Additional Stabilizing Material Cost Estimate

1. The total cost estimate per kilometre for the stabilizing material is:

$$\text{Cost Estimate (\$/km)} = V \text{ multiplied by } U$$

Where:

- a. V is the loose volume of additional stabilizing material expressed in cubic metres of material per kilometre of road, and
  - b. U is the cost estimate of the additional stabilizing material expressed in dollars per loose cubic metre of material.
2. The volume of rock or gravel expressed in cubic metres required to stabilize one kilometre of road which includes the length of turnouts and landings is calculated as follows:
    - a. Where rock is used,  $VR = 1000D (W + 1.0D)$ ,
    - b. Where gravel is used,  $VG = 1000D (W + 1.5D)$ ,

Where:

- i. W is the stabilized road width and has the value of 6.2 metres,
- ii. D is the loose depth of stabilizing material measured in metres determined from the Table VIII-3,
- iii. VR is the volume of rock, and
- iv. VG is the volume of gravel.









## Appendix IX Amortization Agreement Form

(can be found at <https://gww.for.gov.bc.ca/gscripts/his/forms/forms.asp>)



Ministry of  
Forests, Lands and  
Natural Resource Operations

### Amortization Agreement - Coast

This document constitutes an agreement to distribute a portion of the development cost estimate included in the appraisal for the cutting authority indicated below to the tributary cutting authorities identified below in accordance with the *Coast Appraisal Manual* in effect at the time the agreement is signed.

The agreement must be reviewed and approved by the Regional Executive Director (or designate). A copy of this agreement becomes an integral part of the appraisal for each of the tributary cutting authorities identified below.

<b>Complete Legal Name of Licensee:</b>			
<b>Licensee Address:</b>			
<b>Licence:</b>	<b>CP:</b>	<b>Mark:</b>	<b>ECAS ID:</b>
<b>Development Project(s):</b> <i>(attach map showing locations(s))</i>			
<b>TOTAL COST ESTIMATE FOR APPORTIONMENT (\$):</b>		_____	
<b>Cutting Permit</b>		<b>Amount Apportioned (\$)</b>	
<b>Total Amount Apportioned (\$):</b>			

**This agreement is made for appraisal purposes only under the Market Pricing System and does not confer any obligation on the Crown to compensate licensees for any unamortized costs.**

<b>Licensee Representative Name &amp; Title (printed)</b>
<b>Licensee Representative Signature</b>
<b>Date Signed (yyyy/mm/dd)</b>
<b>Approved by Regional Executive Director (or designate)</b>
Name (print)
Date Signed (yyyy/mm/dd)

FS 1423 HVA 2014/08 Please be advised that this information may be released under the Freedom of Information and Protection of Privacy Act





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