



**WOODLOT LICENCE**  
**W2062**



**THIS LICENCE**, dated for reference May 31, 2011.

**BETWEEN:**

HER MAJESTY THE QUEEN IN RIGHT  
OF THE PROVINCE OF BRITISH COLUMBIA,  
as represented by THE DISTRICT MANAGER, of the  
MINISTRY OF FORESTS, LANDS AND  
NATURAL RESOURCE OPERATIONS  
7077 DUNCAN STREET  
POWELL RIVER, BRITISH COLUMBIA  
V8A 1W1  
Phone: 604 485-0700 Fax: 604 485-0799  
(the "District Manager")

**AND:**

HARPER LOGGING LTD. AND  
EVANS BAY CONTRACTING LTD.  
PO BOX 299  
HERIOT BAY, BRITISH COLUMBIA  
V0P 1H0  
Phone: 250 285-2325 Fax: 250 285-2305  
(the "Licensee")

**WHEREAS:**

- A. The parties have entered into this Licence pursuant to section 44 of the *Forest Act*,
- B. Applications for this Licence were invited by advertising in the prescribed manner under section 44 (2) of the *Forest Act*,
- C. The Licensee submitted an application for this Licence including:
  - (a) a description of the private land described in this Licence as Schedule "A" Land; and
  - (b) a declaration attesting to the qualifications of the Licensee for a Woodlot Licence,

- D. The District Manager approved the Licensee's application under section 44 (7) of the *Forest Act*,
- E. The District Manager approved a management plan for this Licence under section 44 (10) of the *Forest Act*.

“The Table of Contents and headings in this Licence are included for convenience only and do not form a part of this Licence and in no way define, limit, alter or enlarge the scope or meaning of any provision of this Licence.”

## TABLE OF CONTENTS

1.00	GRANT OF RIGHTS AND TERM .....	4
2.00	OTHER CONDITIONS AND REQUIREMENTS .....	4
3.00	TIMBER VOLUME CHARGED TO THE LICENCE .....	5
4.00	WASTE ASSESSMENT .....	5
5.00	MANAGEMENT PLAN .....	6
6.00	ROADS .....	9
7.00	CRUISE AND APPRAISAL INFORMATION .....	9
8.00	CUTTING PERMITS .....	9
9.00	ACCESS .....	12
10.00	COURT DETERMINED ABORIGINAL RIGHTS AND/OR TITLE .....	12
11.00	REPORTING .....	14
12.00	FINANCIAL AND DEPOSITS .....	14
13.00	REPRESENTATIONS .....	18
14.00	LIABILITY AND INDEMNITY .....	19
15.00	TERMINATION .....	19
16.00	WAIVER .....	20
17.00	NOTICE .....	20
18.00	MISCELLANEOUS .....	21
19.00	INTERPRETATION & DEFINITIONS .....	22
	SCHEDULE “A” .....	28
	SCHEDULE “B” .....	29
	SCHEDULE “C” .....	30

**THE PARTIES** agree as follows:

**1.00 GRANT OF RIGHTS AND TERM**

- 1.01 The term of this Licence is **20 years**, beginning on May 31, 2011.
- 1.02 Subject to this Licence and the forestry legislation the District Manager grants the Licensee:
  - (a) the exclusive right during the term of this Licence to harvest Crown timber from Schedule "B" Land;
  - (b) the right to manage Schedule "B" Land in accordance with this Licence, the forestry legislation, the management plan in effect under this Licence, and operational plans approved in respect of this Licence; and
  - (c) the right to enter Schedule "B" Land for the purpose of exercising a right or fulfilling an obligation under or associated with this Licence.
- 1.03 The Licensee must not harvest timber:
  - (a) from Schedule "A" Land except under a cutting permit; or
  - (b) from Schedule "B" Land except under a cutting permit or road permit.
- 1.04 Subparagraph 1.03 (a) does not apply to:
  - (a) a reserve as defined under the *Indian Act (Canada)*; or
  - (b) a road clearing width on private land.
- 1.05 Subject to paragraph 1.06, the Licensee will not enter, use or occupy Schedule "B" Land except under and in accordance with a cutting permit, road permit, or special use permit authorizing such use or occupation.
- 1.06 Paragraph 1.05 does not apply to temporary use or occupation for the purpose of:
  - (a) carrying out silviculture activities;
  - (b) collecting inventory information;
  - (c) doing engineering layouts and surveys;
  - (d) carrying out protection activities; or
  - (e) fulfilling other obligations of the Licensee under or associated with this Licence.

**2.00 OTHER CONDITIONS AND REQUIREMENTS**

- 2.01 The Licensee is bound by and must comply with the conditions and requirements set out in Schedule "C" to this Licence.

- 2.02 The Licensee must not harvest timber if the timber is specified as reserved timber in a cutting permit, or under an applicable operational plan or the forestry legislation.
- 2.03 The Regional Manager or District Manager, in a notice given to the Licensee, may advise the Licensee that after the date specified in the notice the Licensee may only submit applications for cutting permits for areas of Crown land meeting the requirements set out in the notice.
- 2.04 The requirements referred to in paragraph 2.03 may restrict the areas of land for which the Licensee may submit applications for cutting permits to any or all of the following:
  - (a) a part of the licence area;
  - (b) a type of terrain within the licence area; and
  - (c) a type of timber within the licence area.
- 2.05 Before giving notice under paragraph 2.03, the Regional Manager or District Manager will consult with the Licensee and will consider its comments.

### **3.00 TIMBER VOLUME CHARGED TO THE LICENCE**

- 3.01 The definition of the volume of timber harvested in part 4, division 3.1 of the *Forest Act* applies to this Licence.
- 3.02 The determination of the volume of timber harvested will incorporate the volume of waste determined under part 4.00.
- 3.03 Where the Coast Timber Merchantability Specifications in the Provincial Logging Residue and Waste Measurement Procedures Manual differs from the specifications found in the Appraisal Manual that was in effect on the date of the submission of the application for the cutting permit or road permit, the specifications found in that Appraisal Manual shall govern.

### **4.00 WASTE ASSESSMENT**

- 4.01 The quantity and quality of merchantable Crown timber that could have been harvested under this Licence but at the Licensee's discretion was not harvested, will be determined in accordance with the provisions of Provincial Logging Residue and Waste Measurements Procedures Manual, as amended or replaced from time to time.
- 4.02 The District Manager, in a notice given to the Licensee, may require the Licensee to pay in respect of the volume of timber determined under paragraph 4.01, a monetary assessment for all waste.
- 4.03 The amount of money that the Licensee must pay under a waste assessment will be determined in accordance with the provisions of the Provincial Logging Residue and Waste Measurements Procedures Manual

as they are at the time the quantity and quality of merchantable Crown timber is determined under paragraph 4.01.

- 4.04 For the purpose of conducting the assessment of the volume of timber that was not harvested as described in paragraph 4.01:
- (a) the Licensee must conduct an assessment in accordance with the current Provincial Logging Residue and Waste Measurements Procedures Manual after the Licensee has declared that primary logging has been completed for each cut block; or
  - (b) the District Manager may conduct an assessment in accordance with the current Provincial Logging Residue and Waste Measurements Procedures Manual after the expiry of the term of a cutting permit or Licence or the Licence and/or cutting permit otherwise being terminated, whichever occurs first.
- 4.05 If the District Manager carries out an assessment under paragraph 4.04, the District Manager, in a notice given to the Licensee, may require the Licensee to pay the costs reasonably incurred by the District Manager in carrying out the assessment.

## **5.00 MANAGEMENT PLAN**

- 5.01 The Licensee must submit a proposed management plan to the District Manager on or before a date specified by the District Manager in a notice given to the Licensee.
- 5.02 A proposed management plan submitted under paragraph 5.01 or subparagraph 5.04 (b) must:
- (a) be prepared in accordance with:
    - (i) any directions of the District Manager; and
    - (ii) any applicable handbook;
  - (b) be consistent with:
    - (i) this Licence;
    - (ii) the forestry legislation;
    - (iii) higher level plans under the *Forest Practices Code of British Columbia Act* or the *Forest and Range Practices Act*;
  - (c) include inventories of the timber resources in the licence area, prepared in the manner, presented in the format and meeting the specifications referred to in:
    - (i) any directions of the District Manager; and
    - (ii) any applicable handbook;

- (d) include any other inventories and information regarding the development, management and use of the licence area that the District Manager requires to determine the allowable annual cut for the licence area;
- (e) propose an allowable annual cut for the licence area which considers the following:
  - (i) inventories and other information referred to in subparagraphs 5.02 (c) and 5.02 (d);
  - (ii) timber harvest specifications applicable to the timber resources in the licence area;
  - (iii) the management and conservation of non-timber resource values in the licence area, including visual quality, biological diversity, soils, recreation resources, cultural heritage resources, range land, wildlife, water and fish habitats;
  - (iv) the control of forests health factors or salvage of timber damaged by catastrophic events;
  - (v) silviculture practices and forest health factors that may impact on timber production;
  - (vi) the anticipated impact of the reductions to the productive portion of the licence area due to permanent roads, landings, pits and trails; and
  - (vii) any other factors that may impact on the allowable annual cut for the licence area;
- (f) contain a rationale for the proposed allowable annual cut referred to in subparagraph 5.02 (e) prepared in accordance with:
  - (i) any directions of the District Manager; and
  - (ii) any applicable handbook;
- (g) if required in:
  - (i) any directions of the District Manager; or
  - (ii) any applicable handbook;

provide some or all of the information referred to in this paragraph in the form of maps meeting the requirements of the District Manager or the handbook, as the case may be; and
- (h) contain:
  - (i) a commitment to update the inventories and information referred to in subparagraphs 5.02 (c) and 5.02 (d) if required by the District Manager, and;
  - (ii) the Licensee's goals for the Woodlot Licence.

- 5.03 The District Manager, within three months after the date on which the District Manager receives a proposed management plan submitted under paragraph 5.01 or subparagraph 5.04 (b), will in a notice given to the Licensee approve the proposed management plan, subject to such conditions as the District Manager considers necessary or appropriate, if:
- (a) the District Manager is satisfied that the proposed management plan meets the requirements of paragraph 5.02;
  - (b) the proposed management plan includes inventories and information referred to subparagraphs 5.02 (c) and (d) which are satisfactory to the District Manager; and
  - (c) the District Manager has determined an allowable annual cut for the licence area, based on the proposed management plan.
- 5.04 If the District Manager does not approve a proposed management plan under paragraph 5.03:
- (a) the District Manager, within three months after the date on which the District Manager receives the proposed management plan, will specify in a notice given to the Licensee why the District Manager has not approved the proposed management plan; and
  - (b) the Licensee, within one month after the date on which the Licensee is given the notice referred to in subparagraph 5.04 (a), must submit a new or revised proposed management plan to the District Manager.
- 5.05 Subject to paragraph 5.06, the management plan in effect under this Licence expires three months after the date upon which the Licensee is required to submit a proposed management plan pursuant to a notice given to the Licensee under paragraph 5.01.
- 5.06 If:
- (a) the District Manager, within three months after the date on which the District Manager receives a proposed management plan submitted under paragraph 5.01, has neither:
    - (i) approved the proposed management plan under paragraph 5.03; nor
    - (ii) given the Licensee a notice referred to in subparagraph 5.04 (a); and
  - (b) there is a management plan in effect under this Licence;
- then the term of the management plan referred to in subparagraph (b) is deemed to be extended until such time as the District Manager approves the proposed management plan under paragraph 5.03, or gives the Licensee a notice referred to in subparagraph 5.04 (a), as the case may be.

- 5.07 The Licensee must manage both Schedule "A" Land and Schedule "B" Land in accordance with the management plan in effect under this Licence.
- 5.08 A management plan approved by the District Manager under:
- (a) section 44 (10) of the *Forest Act*; or
  - (b) paragraph 5.03;
- is deemed to be part of this Licence during the period the management plan remains in effect.

## **6.00 ROADS**

- 6.01 If the District Manager consents to a road closure or restriction in accordance with the forestry legislation, the Licensee must comply with any directions of the District Manager with respect to the closure or restriction, including directions regarding the type, location and marking of barricades and the posting of warning notices.

## **7.00 CRUISE AND APPRAISAL INFORMATION**

- 7.01 Unless otherwise authorized by the District Manager, the Licensee must ensure that cruise data submitted under this Licence are:
- (a) compiled in accordance with the Cruise Compilation Manual as amended from time to time; and
  - (b) based on cruises carried out in accordance with the Cruising Manual prepared by the Ministry of Forests, Lands and Natural Resource Operations as amended from time to time.
- 7.02 The Licensee must ensure that appraisal data submitted under this Licence are:
- (a) compiled in accordance with; and
  - (b) include all data required under;
- the policies and procedures approved by the Minister from time to time under section 105 of the *Forest Act* for the forest region in which the licence area is located.

## **8.00 CUTTING PERMITS**

- 8.01 Subject to paragraphs 8.02, 8.03 and 8.04, the Licensee may submit an application to the District Manager for a cutting permit to authorize the Licensee to harvest one or more proximate areas of land within the licence area which are either:
- (a) identified in a woodlot licence plan for which the Licensee may, during the term of the woodlot licence plan, apply for a cutting permit; or

- (b) exempted under the *Forest and Range Practices Act* from the requirement for a woodlot licence plan.
- 8.02 Before submitting an application for a cutting permit, the Licensee must compile:
  - (a) cruise data; and
  - (b) appraisal data;in accordance with the requirements of part 8.00, for the areas of Schedule "B" Land to be included in the application.
- 8.03 An application for a cutting permit submitted under paragraph 8.01 must:
  - (a) be in a form acceptable to the District Manager;
  - (b) include:
    - (i) a map to a scale acceptable to the District Manager showing the areas referred to in the application; and
    - (ii) the cruise data and appraisal data referred to in subparagraphs 8.02 (a) and 8.02 (b); and
  - (c) if required by the District Manager, identify the sequence in which the areas of land referred to in the application for the cutting permit would be harvested if the cutting permit is issued.
- 8.04 The areas of land shown on the map referred to in clause 8.03 (b) (i) must be consistent with areas referred to in paragraph 8.01
- 8.05 Subject to paragraphs 8.06 through 8.15 inclusive and paragraph 8.04, upon receipt of an application for a cutting permit submitted under paragraph 8.01, the District Manager will issue a cutting permit to the Licensee if:
  - (a) there is a management plan in effect under this Licence;
  - (b) the District Manager is satisfied that:
    - (i) the requirements of paragraphs 8.01 through 8.04 inclusive have been met; and
    - (ii) the cruise data and appraisal data referred in subparagraphs 8.02 (a) and 8.02 (b) are adequate for the purpose of determining stumpage rates for timber harvested from Schedule "B" Land;
  - (c) the location of the areas of land referred to in the application for the cutting permit, and the types of terrain and timber, meet any conditions or requirements referred to in part 3.00;
  - (d) the District Manager is satisfied that any sequence of harvesting referred to in subparagraph 8.03 (c) is appropriate;

- (e) the District Manager is satisfied that activities and operations under or associated with the cutting permit will be consistent with this Licence, the forestry legislation, operational plans, and the management plan referred to in subparagraph (a).
- 8.06 The District Manager may consult trappers, guide outfitters, range tenure holders and other licenced resource users, who may be affected directly or indirectly by activities or operations under or associated with a cutting permit, engaged in or carried out on areas of land referred to in an application for the cutting permit.
- 8.07 The District Manager may consult other resource agencies for the purpose of determining whether activities and operations under or associated with a cutting permit, engaged in or carried out on areas of land referred to in an application for a cutting permit, meet the requirements of the forestry legislation.
- 8.08 The District Manager may impose conditions and requirements in a cutting permit to protect the interests of trappers, guide outfitters, range tenure holders and other licenced resource users, and ensure activities and operations under or associated with the cutting permit meet the requirements of the forestry legislation.
- 8.09 The District Manager may consult an aboriginal group who has an aboriginal interest or proven aboriginal right, including aboriginal title, or a treaty right, that may be affected by activities or operations carried out under or associated with a cutting permit.
- 8.10 The District Manager may impose conditions in a cutting permit to address an aboriginal interest or proven aboriginal right, including aboriginal title, or a treaty right.
- 8.11 The District Manager may refuse to issue a cutting permit if, in the opinion of the District Manager, issuance of the cutting permit would potentially result in an unjustifiable infringement of an aboriginal interest or proven aboriginal right, including aboriginal title, or a treaty right.
- 8.12 The District Manager may refuse to issue a cutting permit if a required operational plan has not been approved for an area of land referred to in the application for the cutting permit.
- 8.13 If the District Manager:
  - (a) determines that a cutting permit may not be issued because the requirements of paragraph 8.05 have not been met;
  - (b) is carrying out consultations under paragraph 8.06, 8.07 or 8.09; or
  - (c) refuses to issue a cutting permit under paragraph 8.11 or 8.12;the District Manager will notify the Licensee within 45 days of the date on which the application for the cutting permit was submitted.

8.14 A cutting permit must:

- (a) identify the boundaries of the areas of Crown land which, subject to this Licence and the forestry legislation, the Licensee is authorized to conduct operations;
- (b) specify a term which does not exceed four years;
- (c) specify a timber mark to be used in conjunction with the timber harvesting operations carried out under the cutting permit;
- (d) specify whether, for the purpose of determining the amount of stumpage payable in respect of timber removed under the cutting permit, the volume or quantity of timber is to be determined using information provided by:
  - (i) a scale of the timber; or
  - (ii) a cruise of the timber conducted before the timber is cut;and
- (e) include such other provisions, consistent with this Licence, as the District Manager considers necessary or appropriate.

8.15 The District Manager may amend a cutting permit only with the consent of the Licensee.

8.16 The Licensee is required to make application to the District Manager for an extension to a cutting permit at least 45 days before expiry of the cutting permit in a form as required by the District Manager.

8.17 A cutting permit is deemed to be part of this Licence.

## **9.00 ACCESS**

9.01 Nothing in this Licence authorizes the Licensee to in any way restrict the Crown's right of access to Crown lands.

9.02 The Regional Manager or District Manager may:

- (a) enter onto Schedule "A" Land; and
  - (b) use roads owned or deemed to be owned by the Licensee;
- for the purpose inspecting the Licensee's activities under or associated with this Licence, and for the purpose of fulfilling an obligation or exercising a right under this Licence.

## **10.00 COURT DETERMINED ABORIGINAL RIGHTS AND/OR TITLE**

10.01 Notwithstanding any other provision of this Licence, if a court of competent jurisdiction:

- (a) determines that activities or operations under or associated with this Licence will unjustifiably infringe an aboriginal right and/or title, or treaty right;
- (b) grants an injunction further to a determination referred to in subparagraph (a); or
- (c) grants an injunction pending a determination of whether activities or operations under or associated with this Licence will unjustifiably infringe an aboriginal right and/or title, or treaty right;

the Regional or District Manager, in a notice given to the Licensee, may vary or suspend this Licence in whole or in part, or may vary or suspend, or refuse to issue a cutting permit or road permit to the Licensee so as to be consistent with the court determination.

10.02 Subject to this Licence and the forestry legislation, if:

- (a) under paragraph 10.01, the Regional or District Manager has varied this Licence or a cutting permit or road permit issued to the Licensee;
- (b) a court of competent jurisdiction subsequently overturns, sets aside or dissolves the determination or injunction referred to in that paragraph; and
- (c) it is practical to do so;

the Regional or District Manager, at the request of the Licensee, will vary the Licence or permit to reflect as closely as possible, for the remainder of its term, the terms and conditions of the Licence or permit prior to the variation under paragraph 10.01.

10.03 Subject to this Licence and the forestry legislation, if:

- (a) under paragraph 10.01, the Regional Manager or District Manager has suspended this Licence or a cutting permit or road permit issued to the Licensee;
- (b) a court of competent jurisdiction subsequently overturns, sets aside or dissolves the determination or injunction referred to in that paragraph; and
- (c) it is practical to do so;

the Regional or District Manager, at the request of the Licensee, will reinstate the Licence or permit for the remainder of its term.

10.04 Subject to this Licence and the forestry legislation, if:

- (a) under paragraph 10.01, the District Manager has refused to issue a cutting permit or road permit;
- (b) a court of competent jurisdiction subsequently overturns, sets aside or dissolves the determination or injunction referred to in that paragraph; and

- (c) it is practical to do so;  
the District Manager, at the request of the Licensee, will issue the permit.

## **11.00 REPORTING**

- 11.01 The Regional Manager or District Manager, in a notice given to the Licensee, may require the Licensee to submit a report containing such information as the Regional Manager or District Manager requires regarding:
- (a) the Licensee's performance of its obligations under or in respect of this Licence; and
  - (b) the processing, use or disposition of the timber harvested under this Licence;
- if the information is not included in any other reports which the Licensee must submit under the forestry legislation.
- 11.02 Upon receipt of a notice referred to in paragraph 11.01 the Licensee, on or before the date specified in the notice, must submit a report to the Regional Manager or District Manager containing the required information.
- 11.03 Subject to paragraph 11.04, the Regional Manager or District Manager may include the information contained in a report submitted under paragraph 9.02 in any reports prepared by the Ministry of Forests, Lands and Natural Resource Operations for public review.
- 11.04 Subject to the *Freedom of Information and Protection of Privacy Act*, the Regional Manager or District Manager will not disclose information provided in confidence by the Licensee in a report submitted under paragraph 11.02.

## **12.00 FINANCIAL AND DEPOSITS**

- 12.01 In addition to any money payable in respect of this Licence or a road permit, the Licensee must pay to the Government:
- (a) upon receipt of a notice, statement or invoice issued on behalf of the Government:
    - (i) stumpage under part 7 of the *Forest Act* at rates determined, redetermined and varied under section 105 of that Act in respect of timber removed under a cutting permit or road permit; and
    - (ii) waste assessments under part 4 of this Licence calculated in accordance with the Provincial Logging Residue and Waste Measurements Procedures Manual; and

- (b) upon entering into this Licence, a bonus offer in the amount of \$63,000.00, as tendered in your application dated **October 5, 2009**.
- 12.02 During the term of this Licence, the Licensee must maintain with the Government a deposit in the amount prescribed under the *Forest Act* or the regulations made under that Act, in a form acceptable to the Minister, as security for the Licensee's performance of its obligations under or in respect of this Licence or a road permit.
- 12.03 If the Regional Manager or District Manager gives the Licensee a notice that an amount has been taken under this part from the deposit, the Licensee, within four weeks of the date on which the notice is given, must pay to the Government, in a form acceptable to the Minister, an amount sufficient to replenish the deposit.
- 12.04 If the Licensee fails:
  - (a) to pay money that the Licensee is required to pay to the Government under:
    - (i) this Licence or a road permit; or
    - (ii) the forestry legislation in respect of this Licence or a road permit; or
  - (b) to otherwise perform its obligations under:
    - (i) this Licence or a road permit; or
    - (ii) the forestry legislation in respect of this Licence or a road permit;

the Regional Manager or District Manager, after at least four weeks notice to the Licensee, may instruct the Ministry of Finance to take from the deposit:

- (c) an amount equal to the money which the Licensee failed to pay;
  - (d) an amount sufficient to cover all costs incurred by the Regional Manager or District Manager in remedying the Licensee's failure to perform its obligations; or
  - (e) an amount equal to the Regional Manager's or District Manager's estimate of the costs which the Regional Manager or District Manager could reasonably expect to incur in remedying the Licensee's failure to perform its obligations; and
- for that purpose a security included in the deposit may be realized.
- 12.05 A notice referred to in paragraph 12.04 must specify:
  - (a) the money which the Licensee has failed to pay or the obligation which the Licensee has failed to perform; and
  - (b) the amount the Regional Manager or District Manager intends to instruct be taken from the deposit.

12.06 Subject to paragraphs 12.08, 12.09 and 12.10, if:

- (a) the Ministry of Finance, under paragraph 12.04, takes from the deposit an amount equal to the Regional Manager's or District Manager's estimate of the costs which the Regional Manager or District Manager could reasonably expect to incur in remedying the Licensee's failure to perform its obligations; and
- (b) the costs incurred by the Regional Manager or District Manager in remedying the Licensee's failure to perform its obligations are less than the amount taken from the deposit;

the Government will as soon as feasible return to the Licensee an amount equal to the difference between the amount taken from the deposit and the costs incurred by the Regional Manager or District Manager.

12.07 If:

- (a) the Ministry of Finance, under paragraph 12.04, takes from the deposit an amount equal to the Regional Manager's or District Manager's estimate of the costs which the Regional Manager or District Manager could reasonably expect to incur in remedying the Licensee's failure to perform its obligations; and
- (b) the costs incurred by the Regional Manager or District Manager in remedying the Licensee's failure to perform its obligations are greater than the amount taken from the deposit;

the Ministry of Finance may take from the deposit an additional amount equal to the difference between the costs incurred by the Regional Manager or District Manager and the amount originally taken from the deposit, and for that purpose a security included in the deposit may be realized.

12.08 If the Ministry of Finance, under paragraph 12.04, takes from the deposit an amount equal to the Regional Manager's or District Manager's estimate of the costs which the Regional Manager or District Manager could reasonably expect to incur in remedying the Licensee's failure to perform its obligations, the Regional Manager or District Manager is under no obligation to remedy the Licensee's failure.

12.09 If:

- (a) the Ministry of Finance, under paragraph 12.04, takes from the deposit an amount equal to the Regional Manager's or District Manager's estimate of the costs which the Regional Manager or District Manager could reasonably expect to incur in remedying the Licensee's failure to perform its obligations;
- (b) the Regional Manager or District Manager does not remedy the Licensee's failure to perform its obligations; and

- (c) the Regional Manager or District Manager gives a notice to the Licensee indicating that the Government will not be remedying the Licensee's failure to perform its obligations;

subject to paragraph 12.10, the Government may retain the amount taken from the deposit under paragraph 12.04.

12.10 If, after receiving a notice referred to in paragraph 12.09, the Licensee:

- (a) remedies the failure to perform its obligations; and
- (b) gives a notice to that effect to the Regional Manager or District Manager within three months of the date on which the notice referred to in paragraph 12.09 is given to the Licensee, or within such longer period as the Regional Manager may approve;

the Government will return to the Licensee an amount equal to the difference between the amount taken from the deposit and any costs incurred by the Regional Manager or District Manager in respect of the Licensee's failure to perform its obligations.

12.11 If the Regional Manager or District Manager considers that:

- (a) any activity or operation that may be engaged in or carried out under this Licence is likely to cause damage to persons or property; and
- (b) the deposit is insufficient to indemnify the Government for any liability which the Government might incur as a consequence of the activity or operation;

the Regional Manager or District Manager may require the Licensee to maintain with the Government a special deposit, in a form acceptable to the Minister, in the amount determined by the Regional Manager or District Manager, and the Licensee must comply.

12.12 If the Licensee fails to:

- (a) remedy any damage resulting from an activity or operation referred to in paragraph 12.11; or
- (b) compensate any person who suffers a loss as a result of an activity or operation referred to in paragraph 12.11;

the Regional Manager or District Manager, after at least four weeks notice to the Licensee, may instruct the Ministry of Finance to take an amount from the special deposit sufficient to indemnify the Government for any liability which is or may be incurred by the Government as a consequence of a failure referred to in subparagraph (a) or (b).

12.13 A notice referred to in paragraph 12.12 must specify:

- (a) the nature of the Licensee's failure; and

- (b) the amount the Regional Manager or District Manager instructs be taken from the special deposit.

12.14 Subject to the *Forest Act* and the regulations made under that Act, the Government will return to the Licensee:

- (a) the deposit, less deductions made under paragraphs 12.04 and 12.07, when:
  - (i) this Licence expires, or is surrendered; and
  - (ii) the Regional Manager or District Manager is satisfied that the Licensee has fulfilled its obligations under this Licence; and
- (b) a special deposit, less deductions made under paragraph 12.12, when the Regional Manager or District Manager is satisfied that the Government is no longer at risk of being held liable as a consequence of an activity or operation referred to in paragraph 12.11.

### **13.00 REPRESENTATIONS**

13.01 The Licensee represents and warrants that the Licensee:

- (a) a Canadian citizen or permanent resident of Canada who is 19 years of age or older;
- (b) is the owner of all Schedule "A" Land;
- (c) does not hold more than one other Woodlot Licence or control a corporation that holds more than one other Woodlot Licence;
- (d) has the ability to undertake and complete its obligations under the Licence within the term;
- (e) has the ability to carry out its obligations in a safe and environmentally sound fashion;
- (f) has reviewed the licence area and has fully informed itself of all matters relating to the Licence; and
- (g) has no legal or other reason why it cannot enter into the Licence.

13.02 All representations and warranties made in paragraph 13.01 are material and will conclusively be deemed to have been relied upon by the Crown, notwithstanding any prior or subsequent investigations by the Crown, and they will continue in full force and effect for the term of this Licence.

## **14.00 LIABILITY AND INDEMNITY**

14.01 The Licensee must indemnify the Crown against and save it harmless from all claims, demands, suits, actions, causes of action, costs, expenses and losses faced, incurred or suffered by the Crown as a result, directly or indirectly, of any act or omission of:

- (a) the Licensee;
- (b) an employee or agent of the Licensee;
- (c) a contractor of the Licensee who engages in any activity or carries out any operation, including but not restricted to harvesting operations, under or associated with this Licence or a road permit; or
- (d) any other person who on behalf of or with the consent of the Licensee engages in any activity or carries out any operation, including but not restricted to harvesting operations, under or associated with this Licence or a road permit.

14.02 For greater certainty, the Licensee has no obligation to indemnify the Crown under paragraph 14.01 in respect of any act or omission of:

- (a) an employee, agent or contractor of the Crown, in the course of carrying out his or her duties as employee, agent or contractor of the Crown; or
- (b) a person, other than the Licensee, to whom the Crown has granted the right to use or occupy Crown land, in the course of exercising those rights.

14.03 Amounts taken under part 12.00 from the deposit or a special deposit, and any payments required under part 4.00 or part 12.00 are in addition to and not in substitution for any other remedies available to the Crown in respect of a default of the Licensee.

14.04 The Government is not liable to the Licensee for injuries, losses, expenses, or costs incurred or suffered by the Licensee as a result, directly or indirectly, of an act or omission of a person who is not a party to this Licence, including but not restricted to an act or omission of a person disrupting, stopping or otherwise interfering with the Licensee's operations under this Licence by road blocks or other means.

## **15.00 TERMINATION**

15.01 If this Licence expires and is not replaced under section 46 of the *Forest Act*, or is surrendered, cancelled or otherwise terminated:

- (a) all cutting permits will immediately terminate; and

- (b) timber, including logs and special forest products, cut under the authority of this Licence and which are still located on Crown land, will vest in the Crown, without right of compensation to the Licensee;
- (c) unless otherwise agreed to between the District Manager and the Licensee prior to the surrender, cancellation or termination of this Licence, title to all improvements, including roads and bridges, constructed by the Licensee on Crown land under the authority of this Licence will vest in the Crown, without right of compensation to the Licensee; and
- (d) the Licensee may continue to enter Schedule "B" Land for a period of one month after the expiry or termination of this Licence for the purpose of removing the Licensee's property.

15.02 The Licensee will not take away any improvements or remove any timber referred to in subparagraph 15.01 (b), unless authorized to do so by the Regional Manager.

15.03 If the Licensee commits an act of bankruptcy, makes a general assignment for the benefit of its creditors or otherwise acknowledges its insolvency, the Licensee is deemed to have failed to perform an obligation under this Licence.

## **16.00 WAIVER**

16.01 No waiver by the Crown of any default non-compliance by the Licensee in the strict and literal performance of or compliance with any provision of the Licence will be deemed to be a waiver of the strict and literal performance of or compliance with any other provision, condition or requirement of the Licence or to be a waiver of, or in any manner release the Licensee from compliance with any provision, condition or requirement in the future, nor will any delay or omission by the Crown in the exercising of any right hereunder in any manner with respect to non-compliance impair the exercise of any such rights in the future.

## **17.00 NOTICE**

17.01 A notice given under this Licence must be in writing.

17.02 A notice given under this Licence may be:

- (a) delivered by hand;
- (b) sent by mail; or
- (c) subject to paragraph 17.05, sent by facsimile transmission;

to the address or facsimile number, as applicable, specified on the first page of this Licence, or to such other address or facsimile number as is specified in a notice given in accordance with this part.

- 17.03 If a notice is given under this Licence, it is deemed to have been given:
- (a) if it is given in accordance with subparagraph 17.02 (a), on the date it is delivered by hand;
  - (b) if it is given in accordance with subparagraph 17.02 (b), subject to paragraph 17.04, on the eighth day after its deposit in a Canada Post Office at any place in Canada; and
  - (c) if it is given in accordance with subparagraph 17.02 (c), subject to paragraph 17.05, on the date it is sent by facsimile transmission.
- 17.04 If, between the time a notice is mailed in accordance with subparagraph 17.02 (b) and the time it is actually received, there occurs a postal strike, lockout or slowdown that might reasonably affect delivery of the notice, the notice is not deemed to be given until the party actually receives it.
- 17.05 If a notice is sent by facsimile transmission, the party sending the notice must take reasonable steps to ensure that the transmission has been successfully completed.
- 17.06 Either party may, from time to time, advise the other party by notice in writing, of any change of address of the party giving such notice and, from and after the giving of such notice, the address specified will, for purposes of this Licence, be considered to be the address of the party giving such notice.

## **18.00 MISCELLANEOUS**

- 18.01 The Licensee must:
- (a) comply with the forestry legislation; and
  - (b) ensure that its employees, agents and contractors comply with these Acts, regulations and standards when engaging in or carrying out activities or operations under or associated with this Licence.
- 18.02 Nothing in this Licence is to be construed as authorizing the Licensee to engage in any activities or carry out any operations otherwise than in accordance with the requirements of the forestry legislation.
- 18.03 This Licence will enure to the benefit of, and be binding on, the parties and their respective heirs, executors, successors and permitted assigns.
- 18.04 The laws of British Columbia will govern the interpretation of this Licence and the performance of the parties' obligations under this Licence.
- 18.05 Any power conferred or duty imposed on the Regional Manager or District Manager under this Licence may be exercised or fulfilled by any person authorized to do so by the Regional Manager or District Manager.

- 18.06 The Licensee must comply with the requirements of all legislation applicable to activities or operations under or associated with this Licence, including but not restricted to the *Workers Compensation Act*, *Health Act*, and *Employment Standards Act*, and the regulations made under those Acts.
- 18.07 The Schedules to this Licence are deemed to be part of this Licence.
- 18.08 Nothing in this Licence authorizes the Licensee to in any way restrict the Government's right of access to the licence area, or the right of any other authorized entrant, user or occupier of these areas.
- 18.09 Subject to this Licence and all applicable legislation, including but not restricted to the forestry legislation, the Minister will ensure that the obligations under this Licence of the Ministry employees referred to in this Licence are fulfilled.
- 18.10 The Licensee must:
- (a) comply with the forestry legislation; and
  - (b) ensure that its employees, agents and contractors comply with the forestry legislation when engaging in or carrying out activities or operations under or associated with the Licence.
- 18.11 Nothing in this Licence entitles the Licensee to have an area of Schedule "B" Land to be replaced with another area, or to have rights awarded under another Licence under the *Forest Act*, in the event:
- (a) timber is damaged or destroyed by pests, fire, wind or other natural causes;
  - (b) an area of land is deleted from the licence area under the forestry legislation, or under any other Act or regulation; or
  - (c) this Licence expires, is surrendered, is cancelled or otherwise terminated.
- 18.12 At the request of the Regional Manager or District Manager, the Licensee will survey and define on the ground any or all boundaries of the licence area.
- 18.13 Where harvesting of timber has been authorized under this Licence, the District Manager in a notice to the Licensee, may require the Licensee to carry out a legal survey on the portions of the area to be operated upon that are adjacent to any private land boundaries.

## **19.00 INTERPRETATION & DEFINITIONS**

- 19.01 This Licence is divided into parts, paragraphs, subparagraphs, clauses and subclauses, illustrated as follows:

- 1.00 part;
- 1.01 paragraph;

- (a) subparagraph;
- (i) clause;
- (a) subclause;

and a reference to a subparagraph, clause or subclause is to be construed as a reference to a subparagraph, clause or subclause of the paragraph, subparagraph or clause, as the case may be, in which the reference occurs.

19.02 In this Licence, unless the context otherwise requires:

“aboriginal interest” means a potential aboriginal right and/or aboriginal title that has not been proven through a court process;

“cutting permit” means a cutting permit issued under this Licence;

“District Manager” means:

- (a) a District Manager appointed under the *Ministry of Forests and Range Act*, for a forest district in which all or part of the licence area is situated; and
- (b) any person authorized by the District Manager to exercise a power or fulfill a duty under this Licence;

“*Forest Act*” means the *Forest Act*, R.S.B.C. 1996, c. 157, as amended from time to time, or the successor to this Act, if it is repealed;

“*Forest and Range Practices Act*” means the *Forest and Range Practices Act*, S.B.C. 2002, c. 69 as amended from time to time, or the successor to this Act, if it is repealed;

“forestry legislation” means, but is not restricted to:

- (a) the *Forest Act*;
- (b) the *Forest Practices Code of British Columbia Act*;
- (c) the *Forest and Range Practices Act*; and

the regulations and standards made under those Acts;

“*Forest Practices Code of British Columbia Act*” means the *Forest Practices Code of British Columbia Act*, R.S.B.C. 1996, c. 159, as amended from time to time, or the successor to this Act, if it is repealed;

“Government” means the Government of the Province of British Columbia;

“handbook” means a guideline, guidebook, policy, procedure, or manual set or approved by the Ministry for preparation of a management plan or the preparation of inventories and other information to be included in a management plan;

“harvest” means;

- (a) cut,
- (b) remove;

(c) cut and remove;

"licence area" means Schedule "A" Land and Schedule "B" Land;

"management plan" means the management plan prepared and approved for this Licence in accordance with part 5 of this Licence;

"merchantable Crown timber" means timber that meets or exceeds the timber merchantability specifications described in the Provincial Logging Residue and Waste Measurement Procedures Manual, as amended or replaced from time to time;

"Minister" means the Minister responsible for administering the *Forest Act*;

"person" includes a corporation and a partnership and an Indian Band, unless the context requires otherwise;

"primary logging" means felling timber and yarding or forwarding the timber to central landings or road sides, but does not include removing the timber from these landings or road sides;

"remove" means the removal of timber from the licence area and

"removed" and "removing" have the corresponding meanings;

"Regional Manager" means;

(a) a Regional Manager appointed under the *Ministry of Forests and Range Act*, for the forest region in which all or part of the licence area is situated; and

(b) any person authorized by the Regional Manager to exercise a power or fulfill a duty under this Licence;

"road permit" means a road permit entered into under the *Forest Act* which provides access to timber harvested, or to be harvested, under this Licence;

"Schedule "A" Land" means the private land described in the Schedule "A" to this Licence;

"Schedule "B" Land" means the Crown land described in Schedule "B" to this Licence;

"special deposit" means a special deposit referred to in paragraph 12.11;

"special use permit" means a special use permit issued under the *Forest Act* before June 15, 1995, or under the *Forest Practices Code of British Columbia Act* on or after June 15, 1995, to authorize the Licensee to use or occupy Crown land within the licence area;

"waste" means merchantable Crown timber that could have been cut and removed under this Licence but that the Licensee at his discretion does not cut and remove, and as defined in the Provincial Logging Residue and Waste Measurement Procedures Manual, as amended from time to time;

“woodlot licence plan” means a woodlot licence plan referred to in the *Forest and Range Practices Act*, that is prepared or approved by the Minister in respect of the Licence.

- 19.03 Unless otherwise provided in paragraph 19.02, if a word or phrase used in this Licence is defined in the *Forest Act*, the *Forest and Range Practices Act*, or the *Forest Practices Code of British Columbia Act* the definition in the Act applies to this Licence, and where the word or phrase in the Act is replaced by a new word or phrase, this Licence is deemed to have been amended accordingly.
- 19.04 If a provision of the *Forest Act*, the *Forest and Range Practices Act*, or the *Forest Practices Code of British Columbia Act* referred to in this Licence is renumbered, the reference in this Licence is to be construed as a reference to the provision as renumbered.
- 19.05 In this Licence, unless the context otherwise requires:
- (a) the singular includes the plural and the plural includes the singular;  
and
  - (b) the masculine, the feminine and the neuter are interchangeable.

IN WITNESS WHEREOF the Licence has been executed by the District Manager and the Licensee on the date first written above.

SIGNED by the )  
District Manager )  
on behalf of Her Majesty )  
the Queen in Right of )  
the Province of )  
British Columbia )  
in the presence of: )

J Perrin )  
Signature )

T. Perrin )  
Printed Name )

THE COMMON SEAL of )  
the Licensee was affixed )  
in the presence of: )

                     )  
Signature )

                     )  
Printed Name )

(or)

SIGNED, by the Licensee  
in the presence of:

R. H. Bohlin )  
Signature )

Ronald H. Bohlin )  
Printed Name )

Brian Hawrys  
Brian Hawrys, R.P.F. District Manager  
Sunshine Coast District

June 30, 2011  
Dated

c/s

H. Graham  
Harper Graham, President  
Harper Logging Ltd.

June 20<sup>th</sup> - 2011  
Dated

AND

THE COMMON SEAL of )  
the Licensee was affixed )  
in the presence of: )  
)

\_\_\_\_\_  
Signature )

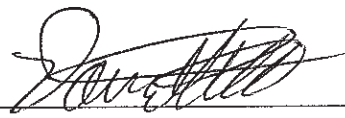
\_\_\_\_\_  
Printed Name )

(or)

SIGNED, by the Licensee  
in the presence of:

  
\_\_\_\_\_  
Signature )

Ronald H. Bohlin  
\_\_\_\_\_  
Printed Name )

  
\_\_\_\_\_  
David William Ray Graham, President  
Evans Bay Contracting Ltd.

June 20 / 2011  
\_\_\_\_\_  
Dated

c/s

## **SCHEDULE "A"**

### **1.00 DESCRIPTION OF NON CROWN LANDS**

- 1.01 The private land subject to this Licence is as described on the attached Exhibit "A" map.
- 1.02 The reserve land subject to this Licence is as described on the attached Exhibit "A" map.

## **SCHEDULE "B"**

### **1.00 DESCRIPTION OF CROWN LANDS**

- 1.01 The Crown land subject to this Licence is as described on the attached Exhibit "A" map.

**SCHEDULE "C"**  
**OTHER CONDITIONS AND REQUIREMENTS**

**1.00 SCHEDULE OF OPERATIONS**

1.01 None.

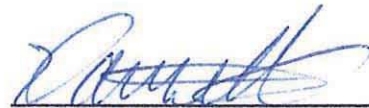
# WOODLOT LICENCE # 2062

## WOODLOT LICENCE PLAN #1

First Term  
2011 to 2021

Harper Logging Ltd and  
Evans Bay Contracting Ltd.  
Box 299  
Heriot Bay, BC  
E-mail: [harplog@hotmail.com](mailto:harplog@hotmail.com)  
[grahamda84@hotmail.com](mailto:grahamda84@hotmail.com)  
Phone: (250) 202-0619

Authorized Licensee Signature:



Signature

May 1, 2011

Date

## DISCLAIMER

- Recognizing the special nature of management on a woodlot licence, this disclaimer forms part of the Woodlot Licence Plan (WLP) for Woodlot Licence Number 2062 and advises that:
  - The decision to operate under one or more of the Default Performance Requirements provided in the Woodlot Licence Planning and Practices Regulation (WLPPR) is the sole responsibility of the woodlot licence holder, and involved no detailed oversight or advice from the prescribing registered professional forester. This disclaimer is signed on the explicit understanding and information provided by government that, the use and achievement of a Default Performance Requirement, meets the expectations of government with respect to the management of woodlot licences;
  - The undersigned Registered Professional Forester has been retained to provide advice on the practice of professional forestry with regard to items such as alternative performance requirements, applicable results and strategies and other required measures that do not have a default performance requirement provided in the WLPPR

Signed

Name: Paul J. Kutz

RPF # 2390

Contact phone number (250) 283-2963



Email: paulkutz@cablerocket.com

Seal:

# TABLE OF CONTENTS

<b>I. CONTENT FOR A WOODLOT LICENCE PLAN (WLP)</b>	<b>5</b>
1.0 PLAN AREA	5
2.0 MAP AND INFORMATION	5
3.0 AREAS WHERE TIMBER HARVESTING WILL BE AVOIDED	10
4.0 AREAS WHERE TIMBER HARVESTING WILL BE MODIFIED	10
5.0 CONSERVING AND PROTECTING CULTURAL HERITAGE RESOURCES	13
6.0 WILDLIFE TREE RETENTION STRATEGY	15
7.0 MEASURES TO PREVENT INTRODUCTION OR SPREAD OF INVASIVE PLANTS	18
8.0 MEASURES TO MITIGATE EFFECT OF REMOVING NATURAL RANGE BARRIERS	20
9.0 STOCKING INFORMATION FOR SPECIFIED AREAS	20
10.0 PERFORMANCE REQUIREMENTS	21
SOIL DISTURBANCE LIMITS	21
PERMANENT ACCESS STRUCTURES	21
STOCKING STANDARDS	21
WIDTH OF STREAM RIPARIAN AREAS	21
WIDTH OF WETLAND RIPARIAN AREAS	21
WIDTH OF LAKE RIPARIAN AREAS	21
RESTRICTIONS IN A RIPARIAN RESERVE ZONE	21
RESTRICTIONS IN A RIPARIAN MANAGEMENT ZONE	22
WILDLIFE TREE RETENTION	22
COARSE WOODY DEBRIS	22
RESOURCE FEATURES	23
<b>APPENDICES</b>	<b>24</b>
<i>Deciduous Management</i>	32

## II. SUPPLEMENTAL INFORMATION TO SUPPORT OF THE PROPOSED WOODLOT LICENCE PLAN ..... 34

1. REVIEW AND COMMENT.....	34
a) <i>Advertising</i> .....	34
b) <i>Referrals</i> .....	35
c) <i>Copy of Written Comments Received</i> .....	35
d) <i>Revisions Made as a Result of Written Comments Received</i> .....	38
e) <i>documents, reports and maps were reviewed in the preparation and submission of the WLP:</i>	39
2. EFFORTS MADE TO MEET WITH FIRST NATIONS .....	41
3. EXEMPTIONS .....	42
4. RATIONALE IN SUPPORT OF PROPOSED ALTERNATIVE PERFORMANCE REQUIREMENTS .....	42
5. COPIES OF NEWSPAPER ADVERTISEMENTS .....	44
6. MFLNRO COMMENT AND REVIEW OF WLP FOR WL2062 .....	46

# **I. CONTENT FOR A WOODLOT LICENCE PLAN (WLP)**

## **1.0 PLAN AREA**

☒ This current plan covers strictly the Crown portion of Woodlot 2062, located on Read Island. At the time of writing this WLP, no decision around the management of the private land has been made; therefore, an amendment to the plan will be required to include that portion into the plan prior to the commencement of any operations.

This Woodlot Licence 2062 Woodlot Plan #1 is consistent with the objectives established by government in land use plans. The broad objectives set by government are found in Section 9 of the WLPPR. Additional land use objectives, as well as any other objectives and designations which may apply to the Woodlot licence area, are found in Section 10. In addition, the Sunshine Coast Forest District (SCFD) has provided the Objectives Matrix that is used to determine relevant and current FRPA Values and Elements.

The holder of Woodlot Licence 2062 is Harper Logging Ltd. and David Graham, based out of Heriot Bay, BC. The Woodlot area, located within the Sunshine Coast Forest District and on Read Island is made up of an aggregate of six blocks totalling 800 hectares of crown lands (Schedule B). They are as follows:

Block 1:	118.75 ha
Block 2:	225.91 ha
Block 3:	57.43 ha
Block 4:	254.08 ha
Block 5:	77.89 ha
Block 6:	65.91 ha

The Annual Allowable Cut level as approved by the Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) is 2087 m<sup>3</sup> per year. A map is provided in the attached appendix.

The operable forest cover is primarily age class 4 and 5 second growth, Douglas fir leading stands that were restocked by natural regeneration following logging. The Woodlot contains a variety of terrain from gently rolling to areas of steep rock outcrops.

## **2.0 MAP AND INFORMATION**

The development of this Woodlot Licence Plan is intended to identify areas in which harvesting activities will be avoided or modified to protect resource features, manage resource values, and address areas with other special interest of sensitive areas. The areas above are located, identified and discussed within the text and mapping components of this plan. Furthermore, management strategies are highlighted and performance requirements defined as spelled out in the Woodlot regulations.

In the opinion of the author, this Woodlot Plan is consistent with the MFLNRO objectives as per the Sunshine Coast District's "Objectives Matrix".

The main access route through the Woodlot Licence originates at Evan's Bay where Harper Graham maintains a log dump and local dock. From Evan's Bay roads provide access west and south towards Rosen Lake and east towards Evening Mountain. The Woodlot 2062 is also adjacent in many places to Woodlot 0046, held and managed by Harper Logging Ltd. No publicly scheduled ferry routes serve Read Island; therefore, access is somewhat restricted to the general public. It should be noted that there are a small number of private residences located on Read Island along with a small school that is located in Surge Narrows.

Recent work completed for the submission of this WLP includes: a general mapping review and update of blocks, roads, and tenure lines and a review of the WLP to ensure consistency with the objectives stated by the Minister of Environment regarding both the winter survival of specified ungulate species and the survival of a Species at Risk (notice) applicable to the Sunshine Coast Forest District.

The Woodlot License Plan Map (Appendix 1) includes the following information:

- Forest cover,
- Topography,
- Location of known streams and wetlands,
- The location of public utilities (transmission lines),
- Contiguous areas of sensitive soil,
- Domestic water supply intakes (known),
- Existing roads,
- Recreation trails,
- Known scenic areas (per Sunshine Coast Forest District June 2009 map "Read Island – Visual Quality Objectives and Contours"),
- Private property within and adjacent to the woodlot,

The following does not apply to the woodlot and is not shown:

- Wildlife habitat areas,
- OGMA's
- Ungulate winter ranges,
- Community watersheds or fisheries sensitive watersheds,
- Licensed community water supply intakes and infrastructure,
- Temporary or permanent barricades to restrict vehicle access.

**Other information pertaining to the Woodlot Licence Plan is described in words (text) as follows:**

- **Biogeoclimatic Ecosystem Classification**

The woodlot is within the CWH xm biogeoclimatic sub zone where the average rainfall can range from 110 to 270cm/yr. Past fire occurrence and logging have resulted in a forest cover primarily composed of Coastal Douglas fir (Fdc), accompanied by Western Hemlock (Hw) and minor amounts of Western Red Cedar (Cw). On the wetter and richer sites deciduous species including maple (Mb) and Red Alder (Dr) and Grand Fir (Bg) can be found. Throughout the Woodlot Licence area the majority of sites are zonal. The general terrain of the woodlot is rolling with numerous rock outcrops, some in the form of prominent rock bluffs. Slopes range from flat to vertical (at bluffs), but are generally moderate in the operable forested areas.

- **Wildlife Notice-Minister of Environment**

The Notices for wildlife rely on the Identified Wildlife Management Strategy Version 2004 (IWMS) to guide the identification of suitable habitat required for the survival of species at risk.

Notice- Indicators of the Amount, Distribution, and Attributes of Wildlife Habitat Required for the Winter Survival of Ungulate Species in the Sunshine Coast Timber Supply Area.

*Critical Mountain Goat Winter Habitat is not found within this license.*

Notice- Indicators of the Amount, Distribution, and Attributes of Wildlife Habitat Required for the Survival of Species at Risk in the Sunshine Coast Timber Supply Area.

A. Coastal Tailed Frog: The Notice amount calls for a maximum of 30ha, not exceeding an impact to the MTHLB of 20 ha.

*The SCFD requirement has been met with the creation of a Frog management area located s.18 managed by BC Timber Sales (BCTS).*

B. Marbled Murrelet:

*No nest of the Marbled Murrelet is known to exist on this plan.*

*The Notice amount calls for:*

- 1) *All suitable nesting habitat within the non-contributing land base.*
- 2) *All suitable nesting habitat located within OGMA.*
- 3) *Suitable nesting habitat to a maximum of 495 ha of MTHLB.*

In order to be consistent with the Notice criteria, future harvest areas are to be selected for conservation management in the Cortes LU based on;

- a) All suitable nesting habitat within the non-contributing land base,
- b) All suitable nesting habitat located within OGMA, and
- c) Suitable nesting habitat to a maximum impact of 495 ha

Note 1: For the case of a Wildlife Habitat Area, the spatial delineation is maintained by government as part of the Order that legally establishes the WHA. Since the Notice was given, 11 WHAs have been established in the Howe Landscape Unit and 2 WHAs have been established in the Brittain Landscape Unit. These 13 WHAs account for an impact on the Mature THLB of 428 ha, which leaves only 67 ha available for future WHAs within the THLB in the SCFD.

Note 2: Inventory work completed in 2003, 2004, and 2005 to identify high priority Marbled Murrelet habitat remains in draft and is not shown. Refinements of suitable nesting habitat provided by acceptable inventory methods will be preferred to the habitat algorithm initially proposed by the Habitat Recovery Team until such time as the final WHA amounts are identified in the SCFD.

Note 3: Currently, the Cortes Landscape Unit Plan is in the draft stage.

➤ *Old Growth Management Areas (OGMA's):*

These have been preliminarily selected within the Landscape Unit. On Read Island, there are several draft OGMA's selected; however, none of the Draft OGMA shapes and locations are identified within the Woodlot Licence Plan area.

➤ *Grizzly Bear:*

The Cortes Landscape Unit is not known to have any Grizzly Bear populations.

➤ *Vananda Creek Sticklebacks:*

The Cortes Landscape Unit is not known to have any Stickleback populations.

➤ *"Queen Charlotte" Goshawk\*\*:*

The notice identifies the amount distribution and attributes consistent with the habitat required. The Woodlot holder anticipates that the area being set aside be built around active nest sites. There are currently no known active nests within the area to which the Notice applies, managed under this Woodlot License Plan.

\*\* To determine suitable Northern Goshawk habitat (*Accipiter gentiles laingi*) a habitat supply model was developed for the Sunshine Coast Forest District, (shared between major licensees) that could accurately predict amounts of suitable habitat based on available forest cover attributes. From this model three-goshawk management areas located in the s.18 have been spatially identified. The amounts and impacts associated for the three goshawk management areas meet the Notice requirement and fulfil the district (SCFD) requirements until such time as WHA's are officially declared.

- There currently is no Notice for Survival of Regionally Important Wildlife.

### 3.0 AREAS WHERE TIMBER HARVESTING WILL BE AVOIDED

As per a commitment made by the MFLNRO an area of timber along the Read Island Road in DL182 will be retained and not harvested. In addition, this polygon has been removed from the inventory used in the timber supply analysis. However, although this reserve will not be harvested it will continue to be part of the area that is included in the woodlot licence area. The area is identified on the attached WLP map as "No Harvest Area".

### 4.0 AREAS WHERE TIMBER HARVESTING WILL BE MODIFIED

One area within the Woodlot 2062 has been identified by the MFLNRO, as requiring a "modified harvest" – this area is specifically along the Steam Boat Trail. This area runs through DL 783 (Block 6) which connects the government wharf on Evans Bay at the north end and the Read Island Road at the south end. According to many local residents this trail is recognized as having significant recreational and historical values on Read Island. In an email from a Ministry of Transportation representative (Max Walker, Area Manager, BC MoT) he offered the following comments regarding the status of the trail:

*"I would like to make a note of clarification regarding the status of Steamboat Trail.*

*The northern portion of Steamboat Trail from Read Island Road down to wharf has been established as gazetted public road. It has a r/w width as established by a ministry survey. A Section 4 road (now Section 42 of the Transportation Act) is basically limited to the width of the travelled surface and ditches if any. Roads of this type do not have any additional r/w and only come into being by being in public use and having approved government expenditure. To the best of my knowledge, the southern portion of the trail may be public but it is not road."*

As referenced in the WL2062 Management Plan, the Woodlot Licence plan would address and consider the significance of this trail when planning road and harvesting activities in the vicinity of this trail. Based on some preliminary reconnaissance of the area there are several key control points that must be utilized in order to provide for a safe road and provide for an efficient operational harvesting plan. The plan for harvesting this area is as follows:

- Establish a 50m buffer on each side of the trail (i.e. 100 m wide strip). This strip represents a total of 9.4 ha
- Within the buffered area, at any time no more than a total of 20% (approx. 1.9 ha) of the stand may be harvested.
- The next entry into the stand for harvesting will not occur until the regenerating stand has been declared Free Growing (which requires meeting minimum height requirements).

- Harvesting above this level may only occur in order to mitigate a safety concern (e.g. blowdown across the trail) and will be discussed with Ministry officials prior to the commencement of harvest.

The trail is shown on the Woodlot Licence Map.

☒ Riparian reserve zones (RRZs) are not planned for regular harvesting other those specified by regulation (as outlined in the WLPPR Sect 39) such as tree removal for safety, the purpose of creating trails, carrying out a sanitation treatment or salvaging of a windthrow tree. Streams classifications that contain a RRZs are outlined in Table 1 and are denoted by a red line on the map.

☒ Riparian Management Zones (RMZs). Table 1 below outlines how timber harvesting will be modified based on the stream and lake classification. Depending of the present stand structure, terrain, windthrow risk and block configuration the retention level will be uniform, grouped or spatially distinct. In general, understory and unmerchantable timber and other conifers of good form and vigour will be maintained as much as possible to provide cover, maintain stream bank stability and natural stream flow.

Road construction within riparian management zones will be avoided where possible, unless alternate locations would result in a higher risk of environmental damage. Where encroachment is unavoidable, impacts will be minimized through the use of narrow right of ways, silt fencing, grass seeding, etc. Riparian management areas will be protected throughout all phases of forestry operations through careful stream assessments and classifications, applying appropriate prescriptions that meet the general objectives as stated above, and through appropriate supervision of operations in the vicinity of these areas. A documented rationale will be placed on file and signed off by a qualified member of the Association of BC Professional Foresters for any areas requiring an encroachment.

☒ Scenic Areas within the Woodlot are shown on the attached map. Harvest areas within the approved scenic area polygons contain a variety of Visual Quality Objectives. The layout strategies to meet the objectives will be accomplished by locating blocks using existing screens such as topography whenever possible. Small opening sizes and utilizing partial harvesting systems such as the retention silvicultural system will also be used whenever ground conditions permit. Also, at the Site Plan stage, visual concerns can be modelled and remedied prior to harvesting if problems are perceived.

Table 1: Modification of harvesting in RMZ's by riparian classification.

Riparian Class	RMA		Intent of RMZ Management	Species to Retain	RMZ Retention Level Post Harvest (% basal area)
	RRZ Width (m)	RMZ Width (m)			
S1 (Fish bearing) > 20m Width	50	20	<ul style="list-style-type: none"> <li>Maintain integrity of the RRZ.</li> <li>Manage windthrow hazard to the reserve zone</li> <li>Maintain wildlife attributes within RMA such as wildlife tree cover, nesting and perching habitat and diversity of vertical forest structure.</li> </ul>	Fd, Cw, Hw, Pw, Ss, Dr and Mb	25-100%
S2 (Fish bearing) 5-20m Width	30	20	<ul style="list-style-type: none"> <li>Maintain integrity of the RRZ.</li> <li>Manage windthrow hazard to the reserve zone</li> <li>Maintain wildlife attributes within RMA such as wildlife tree cover, nesting and perching habitat and diversity of vertical forest structure.</li> </ul>		25-100%
S3 (Fish bearing) 1.5-5m wide	20	20	<ul style="list-style-type: none"> <li>Maintain integrity of the RRZ.</li> <li>Manage windthrow hazard to the reserve zone</li> <li>Maintain wildlife attributes within RMA such as wildlife tree cover, nesting and perching habitat and diversity of vertical forest structure.</li> </ul>	Fd, Cw, Hw, Pw, Ss, Dr and Mb	0-100%
S4 (Fish bearing) < 1.5m wide	0	30	<ul style="list-style-type: none"> <li>Maintain stream bank integrity</li> <li>Provide shaded cover, LWD and litter, i.e.: Retain under story conifers, and other non-merch species and vegetation where possible.</li> </ul>		0-100%
S5 (non-Fish) ≥3m wide	0	30	<ul style="list-style-type: none"> <li>Minimize debris transport to lower reaches of stream</li> <li>Retain under story Cw, and other non-merch species and vegetation where possible.</li> </ul>		0-100%
S6 (non-Fish) ≤3m wide	0	20	<ul style="list-style-type: none"> <li>Minimize debris transport to lower reaches of stream</li> <li>Retain under story Cw, and other non-merch species and vegetation where possible.</li> </ul>		0-100%
W1 (wetland >5ha)	10	40	<ul style="list-style-type: none"> <li>Maintain integrity of the RRZ.</li> <li>Maintain wildlife attributes within RMA such as wildlife tree cover, nesting and perching habitat and diversity of vertical forest structure</li> </ul>		0-100%
W3 (wetland 1-5ha)	0	30	<ul style="list-style-type: none"> <li>Maintain wildlife attributes within RMA such as wildlife tree cover, nesting and perching habitat and diversity of vertical forest structure</li> </ul>		0-100%
W5 (wetland complex)	10	40	<ul style="list-style-type: none"> <li>Maintain integrity of the RRZ</li> <li>Maintain wildlife attributes within RMA such as wildlife tree cover, nesting and perching habitat and diversity of vertical forest structure</li> </ul>		

## **5.0 CONSERVING AND PROTECTING CULTURAL HERITAGE RESOURCES**

Within WL2062 a number of Cultural Heritage Resource Features have been identified. A March 31, 2009 report was provided to the MFLNRO by Archipelago Maritime Heritage entitled "Archaeological Overview Assessment (AOA) of Woodlot 2062 Read Island". In terms of archaeological potential, the AOA report has identified and defined areas of high, medium, low and unknown potential throughout the Woodlot. The AOA further makes recommendations for further archaeological work in areas of moderate, high and unknown potential areas.

While planning and implementing proposed activities, potential impacts on archaeological resources will be minimized. In order to accomplish this, Harper Logging Ltd. will endeavour to identify objects, sites, or locations of traditional aboriginal societal practices during field layout and site plan stages. In addition, a review of the AOA and considerations of the outlined recommendations will be conducted prior to the completion of the planning process.

First Nations information sharing will be with the following Bands or Societies that have a Traditional Territory within Woodlot 2062. These include the Klahoose, Homalco, and Comox First Nations along with the Nanwakolas Council Society and the Laich-Kwil-Tach Treaty Society. Consultation with these bands is ongoing during the planning stages to avoid or minimize impacts on archaeological resources. Documentation of all information sharing with affected First Nations is included within the supplemental information (Part 2) of the plan.

On an annual basis, commencing the year after the WLP comes into effect, Harper Logging Ltd. will attempt to contact the First Nations that have an asserted traditional territory with the defined area to discuss the harvesting and road building activities planned for the upcoming year of operations. In addition, a request will be made to the First Nation for any new information regarding any potentially affected Cultural Heritage Resource not previously identified to Harper Logging Ltd. Any new information received will be forwarded to the MFLNRO, Lands and Mines.

The following results and strategies (Table 2) for managing cultural heritage values will apply.

Table 2: Cultural Heritage Values and Associated Results and Strategies

Cultural Heritage Value	Result and Strategy
<b>Cedar</b>	<p><i>Result:</i></p> <ul style="list-style-type: none"> <li>• Enable continued access to red cedar for traditional use by local First Nations</li> </ul> <p><i>Strategy:</i></p> <ul style="list-style-type: none"> <li>• Based on availability of stock and ecological suitability a component of Cedar will continue to be planted in the woodlot to ensure a long-term supply.</li> </ul>
<b>Traditionally Used Plants</b>	<p><i>Result:</i></p> <ul style="list-style-type: none"> <li>• Enable continued access to traditionally used plants for traditional use by local First Nations.</li> </ul> <p><i>Strategy:</i></p> <ul style="list-style-type: none"> <li>• When local First Nations have indicated specific interest in traditional use plants, the licensee will identify the presence of such plants in planned harvest areas and communicate this to the interested First Nations prior to cutting permit submission. This is to allow for review by the local First Nations and that any collections of traditional use plants can be initiated by the local First Nations prior to harvest.</li> <li>• A no-pesticide use policy is implemented in this Woodlot Licence. Manual brushing and early planting of large stock is the preferred method to overcome brush problems.</li> </ul>
<b>Cultural Heritage Resources</b>	<p><i>Result:</i></p> <ul style="list-style-type: none"> <li>• Harvest plans will consider identified cultural heritage resources.</li> </ul> <p><i>Strategy:</i></p> <ul style="list-style-type: none"> <li>• The Licensee will share information with local First Nations upon request and be available for field reviews.</li> </ul>

If the licensee or any personnel connected with the Woodlot Licence operation finds evidence of tradition use or cultural heritage values, the MFLNRO Aboriginal Liaison Officer will be notified and all work will cease within the immediate (20 m) area. The licensee will cooperate fully, as requested by the MFLNRO Aboriginal Liaison Officer.

## 6.0 WILDLIFE TREE RETENTION STRATEGY

Note: The proportion of the Woodlot Licence area that is occupied by wildlife tree retention areas is specified in the “PERFORMANCE REQUIREMENTS” section of this plan.

### INDIVIDUAL WILDLIFE TREES

#### a) Species and Characteristics:

The following table describes the species and characteristics of individual trees that will guide the selection of wildlife trees when they are chosen to be retained.

Table 3: Wildlife Tree Value and Characteristics (All Species)

<b>HIGH (at least two of the listed characteristics)</b>	<b>MEDIUM</b>	<b>LOW</b>
<ul style="list-style-type: none"><li>• Internal decay (heartrot or natural/excavated cavities present)</li><li>• Crevices present (loose bark or cracks suitable for bats)</li><li>• Large brooms present</li><li>• Active or recent wildlife use</li><li>• Current insect infestation</li><li>• Tree structure suitable for wildlife use (e.g., large nest, hunting perch, bear den, etc.)</li><li>• Largest trees on site (height and/or diameter) and/or veterans</li><li>• Locally important wildlife tree species</li></ul>	<ul style="list-style-type: none"><li>• Large, stable trees that will likely develop two or more of the above attributes for High.</li></ul>	<ul style="list-style-type: none"><li>• Trees not covered by High or Medium categories.</li></ul>

Throughout WL2062 a number of veteran (old growth) trees, mostly Douglas fir are scattered throughout the license area. These trees add structural and biological complexity of the second growth forest and will be retained as wildlife trees (except as itemized in item b) below). In some cases second growth trees will be retained as wildlife trees to supply wildlife and biological diversity values and/or for the recruitment of future vets, to vary the age classes on the Woodlot, to reduce wind fetch in long openings, and/or act as a seed source or visual screen.

WL2062 has an individual wildlife tree management strategy that is predicated on retaining trees that have existing wildlife use and valuable characteristics. There will be many individual trees that are composed of a variety of species, age and form. Within this wildlife tree population there will be an increasing value for wildlife overtime as the majority of the high value trees are Douglas fir and red cedar that are long lived species and will remain structurally strong for long periods even after death. Due to the number of scattered wildlife trees within the Woodlot when one individual tree is lost it will not materially affect the potential wildlife trees available for the wildlife tree users. In fact, even the trees that may fall will continue to provide wildlife habitat and biodiversity values as large woody debris.

## **b) Conditions Under Which Individual Wildlife Trees May Be Removed:**

Specific conditions that influence the decision of where individual wildlife trees may be removed include:

- ✓ Worker safety
- ✓ The significance of forest health risk to surrounding stands
- ✓ The ability to retain other wildlife trees to perform as suitable wildlife habitat, and
- ✓ The availability of wildlife trees and CWD in adjacent openings.
- ✓ The desire to re-assign the Wildlife tree as part of an amended site plan.

Alternatives to removal of a wildlife tree will be given priority such as the establishment of a 'no work zone' or widening of a riparian width to protect the feature balanced with tree removal farther away from the feature within the RMA. All workers involved with the removal of potential wildlife trees will be informed of developed standards prior to fieldwork to help mitigate unnecessary removals.

## **c) Replacement of Individual Wildlife Trees:**

Individual trees will be replaced if they are of "high" wildlife value. Replacement trees will be selected using criteria outlined above with a preference for selecting trees that have two or more high wildlife tree value characteristics. If possible, retain stems within stream side reserves.

## **WILDLIFE TREE RETENTION AREAS**

### **a) Forest Cover Attributes:**

Wildlife tree retention areas (WTRAs) are planned preferably in fully constrained areas for long term retention (e.g. riparian reserve zones). Under the WLPPR 52 (1) the amount of WTRA's must be no less than 8% of the area of the Woodlot. The regulation also indicates that the WTRA does not have to be mapped as the location of good WTRA's can change over time based on changing forest management decision making.

Given the multitude of variables considered in locking down the reserves (fish streams, resource features, visual buffers, ocean zones, large trees, recreation features, recruitment areas, unique species/form, wildlife anchors, special places, perching presentation, vistas, bluffs, wetland anchors, productivity evaluation etc.) the reserves include some representative larger trees (DBH > average operational cruise) with moderate to high value to wildlife and regenerating stands with future wildlife potential.

The wildlife tree retention areas retain a high number of trees that have existing wildlife use and valuable characteristics. There will be many individual trees that are composed of a variety of species, age and form. Within this wildlife tree population there will be an increasing value for wildlife over time as the majority of the high value trees are Douglas fir and red cedar that are long lived species. The naturally recruitment of wildlife trees

can occur over time as trees age and either take on old growth like characteristics (wildlife habitat) or turn into snags and eventual biodiversity value as large woody debris.

**b) Conditions Under Which Trees May Be Removed from Wildlife Tree Retention Areas:**

Stand-specific issues that influence the decision of where salvage may be appropriate for WTRA's include:

- ✓ Worker safety
- ✓ The significance of forest health risk to surrounding stands including the salvage of windthrow timber
- ✓ The ability to retain other wildlife trees to perform as suitable wildlife habitat, and
- ✓ The availability of wildlife trees and CWD in adjacent openings.
- ✓ The desire to re-assign the Wildlife Tree Retention areas as part of an amended site plan.

Salvage of wind thrown timber is permitted within WTRA's when not in a RRZ, unless the area loses significant character of the function supplied by the wildlife tree area. This would generally occur in wind-throw impacts of 25% to 50% of the dominant or co-dominant trees. This would focus on removal of downed timber only, protecting the standing green.

If more significant amounts of wildlife trees are lost due to wind-throw or other catastrophic events (exceeds 50% of the dominant or co-dominant trees) in a wildlife tree area then salvage of the damaged and remaining stems is permitted.

The salvage of portions of the WTRA either singles, clumps, or impacted areas created for improved safety to people is good forest management. Individual trees may be felled but not removed if considered a safety hazard.

Salvage of the area will be allowed considering other environmental constraints and the replacement strategy below.

**c) Replacement of Trees Removed from Wildlife Tree Retention Areas:**

No strategy for the specific replacement of individual trees felled as danger trees posing a hazard within a defined distance of a cutting-authority is presented as this will not threaten the long-term function or integrity of WTRA's.

Where salvage/harvest is planned and authorized within a non RRZ wildlife tree patch, the replacement with another suitable area in size, value and species composition will be assessed. This area must meet the target amount. When all or part of a WTRA is salvaged, the salvaged area should be replaced with other suitable habitat in the nearest possible location. If a WTRA suffers blow down, but is not salvaged, it will not be replaced. Replacement areas must have equal or better wildlife values. For non-riparian WTRA's attempts will be made to incorporate important features such as snags, and other significant wildlife features.

## 7.0 MEASURES TO PREVENT INTRODUCTION OR SPREAD OF INVASIVE PLANTS

There is only one invasive species (Scotch Broom) of potential concern although it is not currently a problem on the woodlot. There is no range use on the woodlot. The introduction or spread of invasive plants, specifically Scotch Broom into the Woodlot is unlikely under current forest management practices. In the event that Scotch Broom or another invasive species does become established the strategies listed below will be implemented.

The holder of this Woodlot will use three complimentary strategies to counter the introduction or spread of invasive plant species. These include:

### 1) Prevention and Control

- The holder's foresters will be encouraged to review the MOE's alien species web site and review the identification, control and management of invasive plants.
- The goal of this WLP is to annually identify known sites of invasive plants and sites that are at high risk to invasive plant establishment through their forest practices within the area under this plan
- Preventative measures to minimize the occurrence and spread of invasive plants will include grass seeding of exposed soils following soil disturbance where the introduction or spread of invasive plants is likely. Seed mixtures used for the above purposes or for those under Section 29 of the WLPPR will be assessed to ensure that their use does not introduce other invasive species.
- If moderate to high risk invasive plants are likely to establish in cut blocks harvested during the forest regeneration phase, the Holder of this WLP will through normal reforestation practices:
  - i. Establish a stand of coniferous and/or deciduous crop trees consistent with the applicable stocking for the area on or before the regeneration date; and
  - ii. Meet Free Growing requirements consistent with the applicable stocking standards on or before the late Free Growing Date so that the stand will form a closed canopy to suppress seed and vegetative production of shade intolerant invasive plants.

### 2) Detection of Invasive Plant Species

- Invasive plants will be detected through the normal planting surveys, regeneration survival surveys and free-to-grow surveys.
- Action plans will be developed to combat the spread of invasive plants, if the introduction or spread is likely to be the result of the WLP holder's forest practices. When discovered, invasive plants will be mapped and reported to the MFLNRO.

### 3) Management or Elimination of Invasive Plant Species

- If invasive plants are discovered and if the introduction or spread is likely to be the result of equipment, machinery, or clothing, then: (a) prior to transport the cleaning of tires, tracks, bucket, undercarriage, etc. on machines will be completed and (b) the removal of burrs or plant components from clothing should be normal practice.

## **8.0 MEASURES TO MITIGATE EFFECT OF REMOVING NATURAL RANGE BARRIERS**

There are no range tenures on Read Island; therefore, no measures or activities are required or proposed.

## **9.0 STOCKING INFORMATION FOR SPECIFIED AREAS**

Unless exempted by the District Manager, the stocking standards indicated below apply to areas where the establishment of a free growing stand is not required and harvesting is limited to commercial thinning, removal of individual trees, small pockets of damaged or diseased timber (i.e. windthrow) or a similar type of intermediate cutting, and for harvesting special forest products.

☒ For the purposes of section 12 and 34(3) of the WLPPR the Uneven-aged Stocking standards for single-tree selection, as found in the MoF publication "Reference Guide for FDP Stocking Standards", are adopted. Specified areas include:

- Areas subject to commercial thinning,
- The removal of individual trees, or
- Areas subject to single/group tree selection or
- Other types of intermediate cutting and /or
- Areas subject to the harvest of special forest products.

For the purposes of this plan, commercial thinning, the removal of individual trees, single/group selection, intermediate cutting, salvage of windthrow or the harvest of special forest products may take place anywhere within the woodlot except in designated areas where harvesting will be avoided. The delineation of specific areas will be conducted in conjunction with the pre-harvest mapping as per Section 33 of the WLPPR. For salvage of scattered windthrow or root rot mortality, openings of up to 0.1ha in size are acceptable, not requiring regeneration. For openings greater than 0.1ha even-aged stocking standards will apply.

## **10.0 PERFORMANCE REQUIREMENTS**

### **SOIL DISTURBANCE LIMITS**

- ☒ Default WLPPR s.24(1)(b):
- 8% of Net Area to be Reforested

### **PERMANENT ACCESS STRUCTURES**

- ☒ Default: WLPPR s.25:  
The maximum area occupied by permanent access structures is as follows:
1. For Cutblocks  $\geq 5$  ha – 7% of the total cutblock area
  2. For Cutblocks  $< 5$  ha – 10% of the total cutblock area
  3. For the Total Woodlot Licence Area – 7% of the total Woodlot Licence area

### **STOCKING STANDARDS**

- ☒ Alternative WLPPR s. 35(1)(a): The stocking standards, regeneration dates and free growing dates are indicated in Appendix II. In addition, a set of footnotes and rationales are provided for the Alternative Stocking Standards.

### **WIDTH OF STREAM RIPARIAN AREAS**

- ☒ Default WLPPR s.36(4)(b):  
The minimum width of the riparian reserve zone, riparian management zone and riparian management area are as described in WLPPR s.36(4)(b).

### **WIDTH OF WETLAND RIPARIAN AREAS**

- ☒ Default: WLPPR s.37(3)(b) The minimum width of the riparian reserve zone, riparian management zone and riparian management area are as described in WLPPR s.37(3)(b).

### **WIDTH OF LAKE RIPARIAN AREAS**

- ☒ Default: WLPPR s.38(2)(b) The minimum width of the riparian reserve zone, riparian management zone and riparian management area are as described in WLPPR s.38(2)(b).

### **RESTRICTIONS IN A RIPARIAN RESERVE ZONE**

- ☒ Default: WLPPR s.39(1) Cutting, modifying or removing trees in a riparian reserve zone is limited to the purposes described in Section 39(1) of the WLPPR.

## **RESTRICTIONS IN A RIPARIAN MANAGEMENT ZONE**

- ☒ Default: WLPPR s.40(1)(b)(c) or (d) Construction of a road in a riparian management zone is limited to the conditions described in Section 40(1) of the WLPPR without additional conditions to allow road construction being provided in the woodlot licence plan.
- ☒ Alternative WLPPR s.40 Construction of a road in a riparian management zone is limited to the conditions described in Section 40(1) of the WLPPR.
- For the purposes of Section 40(1)(a) of the WLPPR, roads may be constructed in a riparian management zone if a road grade previously existed in this location and it is practicable to re-establish the road on the old grade.
  - Restrictions and conditions on road construction, maintenance and deactivation activities and on cutting, modifying or removing trees in a riparian management zone are as described in Section 40.

## **WILDLIFE TREE RETENTION**

Unless exempted by the district manager, the proportion of the Woodlot Licence area that will be occupied by wildlife tree retention is:

- ☒ Default WLPPR s.52(1)
- The defaults specified in Section 52(1) of the WLPPR is adopted. It specifies that the proportion of the Woodlot Licence area that is dedicated to wildlife tree retention areas have to be no less than the least of the following:
    - The proportion specified for the area in a land use objective, or
    - The proportion specified in the WLP, or
    - 8% of the Woodlot licence area.

## **COARSE WOODY DEBRIS**

Unless exempted by the district manager or the WLPPR, the minimum amount of coarse woody debris to be left on areas where there is a requirement to establish a free growing stand is

- ☒ Default: WLPPR s.54(1)(b)
- Area on Coast – minimum retention of 4 logs per ha  $\geq 5$  m in length and  $\geq 30$  cm in diameter at one end.

## **RESOURCE FEATURES**

Unless exempted by the district manager, the woodlot licence holder will

☒ Default WLPPR s.56(1)(b): Ensure that forest practices do not damage or render ineffective a resource feature.

\*\*\*\*\*

**Note: Only the performance requirements in Part 3 (Practice Requirements) of the WLPPR for which an alternative can be proposed are shown in this Woodlot Licence Plan. The remaining performance requirements in Part 3 are not shown, nor are the performance requirements in Part 4 (Roads).**

## APPENDICES

## **Appendix I: The Woodlot Licence Plan Map**

## Appendix II: Stocking Standards, Regeneration Dates and Free Growing Dates for Free Growing Stands

These stocking standards are proposed as an alternative performance requirement for the purposes of section 35(1) (a) of the Woodlot Licence Planning and Practices Regulation to areas harvested under this woodlot licence plan where the establishment of a free growing stand is required under section 29(3) of the Forest and Range Practices Act.

ID #	Biogeoclimatic Ecosystem Classification		Preferred Species	Acceptable Species	MITD (m)	TSS (sph)	MSSpa (sph)	MSSp (sph)	Regen date (yrs)	FG Date (yrs)	Min. FG Ht by Species		Crop Tree to Brush %
	Zone & Variant	Site Series									Species	Ht (m)	
1028291	CWH xm	01/05	Fd	Pw <sup>5</sup> Hw <sup>8</sup> Cw	2.0	900	500	400	3	20	Fd Pw Hw Cw	3.0 2.5 2.0 1.5	150
1028293	CWH xm	02	Pl Fd	Pw <sup>5</sup> Lw <sup>8</sup>	2.0	400	200	200	3	20	Pl Fd Pw Lw	1.25 2.0 2.5 1.5	150
1033258	CWH xm	03	Fd	Cw Pw <sup>5</sup> Pl <sup>6</sup> Lw <sup>8</sup>	2.0	800	400	400	3	20	Fd Cw Pw Pl Lw	2.0 1.0 2.5 1.25 1.5	150
1033259	CWH xm	05/07	Cw Fd Bg <sup>10</sup>	Pw <sup>5</sup>	2.0	900	500	400	3	20	Cw Fd Bg Pw	2.0 4.0 3.5 2.5	150
1033260	CWH xm	06	Fd Cw Hw	Bg <sup>10</sup> Pw <sup>5</sup>	2.0	900	500	400	6	20	Fd Cw Hw Bg Pw	3.0 1.5 2.0 3.0 2.5	150
1033261	CWH xm	08/09 <sup>1</sup>	Cw Bg	Ss <sup>7</sup>	2.0	900	500	400	3	20	Cw Bg Ss	2.0 3.5 4.0	150
1033262	CWH xm	10	Act Dr <sup>4</sup> Mb <sup>4</sup>		2.0	800	400	400	3	20	Act Dr Mb	4.0 4.0 4.0	150
1033263	CWH xm	11 <sup>1</sup>	Pl <sup>1</sup> Cw		2.0	400	200	200	3	20	Pl Cw	1.25 1.0	150
1033264	CWH xm	12 <sup>1</sup>	Cw	Hw <sup>1</sup> Pw <sup>5</sup> Ss <sup>7</sup>	2.0	800	400	400	3	20	Cw Hw Pw Ss	1.0 1.5 2.5 1.5	150
1033265	CWH xm	13/14 <sup>1,2</sup>	Bg Cw Fd <sup>1</sup>	Ss	2.0	900	500	400	3	20	Bg Cw Fd Ss	3.5 2.0 4.0 4.0	150

Biogeoclimatic Ecosystem Classification			Preferred Species	Acceptable Species	MITD (m)	TSS (sph)	MSSpa (sph)	MSSp (sph)	Regen date (yrs)	FG Date (yrs)	Min. FG Ht by Species		Crop Tree to Brush %
ID #	Zone & Variant	Site Series									Species	Ht (m)	
1033266	CWH xm	15 <sup>1,2</sup>	Cw	Ss <sup>1,2</sup>	2.0	800	400	400	3	20	Cw Ss	2.0 4.0	150
1033267	CWH xm	01/04/06 <sup>1,1</sup>	Dr <sup>1</sup> Mb		2.0	1200	1000	800	3	20	Dr Mb	3.0 3.0	150
1033268	CWH xm	05/07/08/ 09/02/13/ 14 <sup>1,2</sup> /15 <sup>1,2</sup>	Act Dr <sup>1</sup> Mb		2.0	1200	1000	800	3	20	Act Dr Mb	4.0 4.0 4.0	150

Regen date = Regeneration Date F G Date = Free Growing Date	MITD = Minimum distance between well spaced trees of preferred and acceptable species	Crop Tree to Brush % = the height of free growing trees relative to the competing vegetation within a 1 m radius cylinder around the tree.
TSS = Target Stocking Standard (sph = healthy well spaced trees / ha)	MSSpa = Minimum Stocking Standard of well spaced trees of preferred and acceptable species	MSSp = Minimum Stocking Standard of well spaced trees of preferred species

LEFT BLANK INTENTIONALLY

### ***Foot Notes***

- 1 Elevated microsites are preferred
- 2 These sites represent areas with strongly fluctuating water tables. They are often found as mosaics in combination with other sites. Elevated microsites are preferred, either mechanical or natural
- 3 Trees are not acceptable within 10 m of second growth stumps, except Cw, Pw, Lw and deciduous species.
- 4 Dr & Mb are not acceptable on 02 and 04 site series (too dry). Avoid planting in gleyed soils and frost pockets.
- 5 Pw must be free of blister rust within 10 cm of the stem and be pruned as per ministry guidelines or be blister rust resistant stock ( $\geq 50\%$  resistance)
- 6 Restricted to nutrient-very-poor sites and as a minor species only
- 7 Risk of weevil damage, use resistant stock where available; if weevil resistant stock is available Ss may exceed 20% of the free growing stand on 08 & 12 site series or 5% of the free growing stand on 09,13,14,&15 site series on a dispersed basis.
- 8 Hw is not acceptable on site series 04. Lw may be used but strictly on a trial basis. The proportion of the free-growing stand comprised of Hw or Lw if established will not exceed 20%. Lw will not exceed 5% of the free growing stand on site series 02.
- 9 May be planted on prepared mounds.
- 10 Based on past experience and knowledge Bg performs best on areas that are subject to frost and the slightly wetter/richer areas
- 11 Establishment of deciduous species is permitted within these site series provided the site contains a sufficient moisture regime to support deciduous species (i.e. limited salal content).

### *Stocking Standards - General Comments*

This alternative stocking standards table has been developed from the Reference Guide for FDP Stocking Standards dated December 11, 2002, the standards established in the Woodlot Licence Forest Management Regulations (January 31, 2004) Division 2 of Part 6, Schedule A, Table A as well as the correlated guidelines and site interpretation for the Vancouver Forest Region (VFR). Where site series have similar stocking standards, they have been combined. Sections A-K are the most common stocking standards for the Woodlot and will be employed the majority of the time. Sections L&M are the deciduous stocking standards. Rationales for employing these standards are listed below.

Biogeoclimatic unit or BEC means the zone, subzone, variant and site series described in the most recent field guide published by the MFLNRO for the identification and interpretation of ecosystems as applicable to a harvested area.

Where standards units (SUs) are comprised of an un-mappable mosaic of site series, the practice will be to manage for the stocking standards, noted by the ID#, of the dominant site series provided that the tree species are suitable in all site series contained within the SU.

The minimum density post-spacing shown corresponds to the values recommended in the Establishment to free-growing guidebook for the VFR. i.e. the same as the minimum-stocking standard for conifer stands.

Higher stocking is noted for the deciduous stands to ensure self-pruning and may include a conifer component (although mixed stand management is not being proposed). The maximum density post-spacing has been increased to allow for two stage spacing entries in order to manage snow press, blow down risks and provide the opportunity to capture the small-diameter resource.

A limited number of scattered deciduous trees will be tolerated on all conifer plantations: to provide a nurse crop, promote nutrient cycling or for general biodiversity objectives. Allow up to 50 sph as "ghost" trees during surveys on all sites. No deciduous within 10m of each other will be accepted for dispersed single stems due to increased competitive density effects. Should one of the "ghost trees" be encountered within a plot during a free growing survey the conifer tree will be deemed to be not free growing following the normal definition of a free growing tree.

Reduction of inter-tree spacing to 1.5 m is acceptable for the following site-specific conditions: frequent bedrock, large blocky colluvium, hygic sites, and disturbed roadside areas amongst slash accumulations (up to 10 m from the traveled portion of the road). Reduction of inter-tree spacing to 1.0 m is acceptable on mounded sites only.

## *Deciduous Management*

Deciduous management within W2062 is planned strictly as an option – not as the preferred management regime. The establishment of a deciduous crop will only be considered provided the stocking standards as outlined in ID#s L&M can be met. Past experience with deciduous management indicates that within a cutblock only a portion of the area is suitable for the establishment of deciduous. The number of sites within W2062 that may be suitable are limited; therefore, no more than 1-2 hectares of area per year (to a maximum of 10 hectares within a 5-year cut-control period) may be selected for deciduous management.

This WLP wishes to continue to operate in the spirit of not wanting to limit the possibility or opportunity to try regenerating alternative species on a very minor basis and to have the ability to grow a viable stand of quality deciduous for potential future markets.

Although available, the amount of operational information available for the establishment of deciduous stands is known only by few local foresters. As part of the trial basis, Harper Logging Ltd and his forester will seek out information from any local sources to ensure a quality plantation. This may include reviewing of the North-West Hardwood (NWH) FSP and/or discussing regimes with their forester. The information listed below in regards to regimes and establishment of deciduous stands is general in nature and not intended to be a comprehensive guide to establishing a new crop of deciduous tree.

Deciduous production and management is supported by the following research:

- L.Sigurdson et al. 2nd draft report on Weyerhaeuser's Red Alder Management Practices (1998),
- Hibbs et al. The Biology and Management of Red Alder (1994),
- E.B. Petersons et al. FRDA Report 250 . Black Cottonwood and Balsam poplar manager.s handbook for British Columbia (1996).
- P.J. Courtin et al. Forest Research Extension Note 016 - Red Alder management trials in the Vancouver Forest Region (2002).

### Regime:

The product objective is to manage for high quality knot-free sawlogs on a 40 - 50 year rotation. Establish stand with high densities (1500 sph) is required to achieve a target of 1200 stems/ha at free-growing. At approximately age 10 but not before stand height 12 to 16 m space to 900 stems/ha. Dead branch prune the crop trees early and continue density regulation treatments approx. every ten years to maintain good crown forms and eliminate low quality stems. The minimum free growing height criterion for deciduous species is based on the tallest conifer standard for each site series.

The establishment of a second crop conifer layer (Cw, Ss) before or after density treatment is optional. If a cedar or Sitka spruce understory is planted in addition, then the natural pruning of the alder would be enhanced. The removal of the alder at harvest age is

operationally possible, while leaving a fully stocked, semi-mature conifer pole stand behind. Where conifers are established underneath a designated deciduous stand, the stand's regeneration and free to grow status will be measured using the deciduous standards only.

Damage criteria for deciduous species have not been formally established. General free-growing criteria will be adopted, such that well spaced stems will be of good form, health and vigour.

## **II. SUPPLEMENTAL INFORMATION TO SUPPORT OF THE PROPOSED WOODLOT LICENCE PLAN**

### **1. REVIEW AND COMMENT**

#### **a) Newspaper Advertising**

On February 16, 2011 the Public Review and comment period was advertised in two separate Campbell River newspapers: Campbell River Mirror and Campbell River Courier-Islander. These two papers provide for the widest coverage of the Island area. Furthermore, local Read Island residents generally travel to the Campbell River/Quadra area for supplies. Copies of the advertisements are listed below in Section 5.

#### **b) Efforts to make WL2062 Plan Available to local Read Island residents**

As part of the Public Review and comment, on February 23, 2011 Harper Logging Ltd. held an open house at the Read Island logging field office for any interested residents to view the plan and map and ask any questions. Essentially, no local residents attended the open house.

However, during the 30-day review and comment period a number of residents became concerned that the "Steamboat Trail" was going to be logged and wanted to voice their concerns. Their concerns also included that they did not have adequate notice of the WL2062 plan and its content. In response to these concerns a second "Talk and Walk" style meeting was held on March 19<sup>th</sup> 2011 on the Steamboat Trail. A total of 26 residents plus three Harper Logging representatives met to discuss the plan. The meeting was highly charged where many of the residents openly voiced their opinions about logging on Read Island as a whole. Generally, the majority of residents that attended the open house wanted a prohibition against any harvesting within DL783 (which contains the Steamboat Trail). To help the public better understand some possible scenario's surrounding the harvesting of the Steamboat Trail area a small group (6-8) were convinced to walk the trail where a 50m buffer of ribbon had been established prior to the meeting.

At the conclusion of the meeting an additional two-week period was given for any of the residents to provide written comments to Harper Logging on the WL plan. This was past the original public review and comment period date but it was felt important to allow adequate time for the public to comment. During the two-week period a letter writing campaign was held by a number of groups and approx. 120 form letters were sent to Chuck Anderson, of the Ministry of Forests, with copies going to the Licencee. The form letters (not included in the submission as they were sent to the Ministry) all pointed to wanting the removal of DL783 from the WL2062 so that the Steamboat Trail would not be logged. It should also be noted that a comment in the form letter referring to Harper Graham twice "turning it down" (referring to DL783) was taken out of context. Harper Graham was referencing the choices he had during the selection process of lands to be included in the original WL0046 and a subsequent selection of lands during the amalgamation of the WL0046 and TSL chart area. No further action is planned.

c) Referrals

This plan was referred to the District Manager, MFLNRO, Sunshine Coast Forest District, and to the following First Nations for review and comment.

1. Klahoose FN
2. Homalco FN
3. Campbell River FN
4. Cape Mudge FN
5. Nanwakolas Council Society
6. Laich-Kwil-Tach Treaty Society – cc. Letter only that I send to Campbell River and Cape Mudge FN

d) Copy of Written Comments Received

One letter was received back from the Laich-Kwil-Tach Treaty Society and one request for a meeting with the Homalco FN. Please see below.



**Laich-Kwil-Tach Treaty Society**  
1441 Old Island Highway  
Campbell River, B.C.  
V9W 2E4  
Tel: (250) 287-9460  
FAX: (250) 287-9469  
Toll free: 1-888-900-5720  
e-mail: [reception@lkts.ca](mailto:reception@lkts.ca)

March 11, 2011

Paul Kutz, RPF  
Box 299  
Heriot Bay, BC V0P 1H0  
Phone 250-283-2963

Dear Mr. Kutz:

Re: Woodlot Licence W2062 Harper Logging Ltd. on Read Island

The Laich-Kwil-Tach Treaty Society has now had a chance to review the referral sent from Harper Logging Ltd. for new development areas on Read Island on Woodlot Licence WL2062. The Laich-Kwil-Tach Treaty Society (formerly the Hamatla Treaty Society) represents its member Nations, the We Wai Kai (Cape Mudge Band) and Wei Wai Kum (Campbell River Band).

As the courts have confirmed on numerous occasions, both the Provincial and the Federal Governments owe a fiduciary duty of utmost good faith to First Nations. The Supreme Court of Canada made it clear in *Delgamuukw* that this duty can only be satisfied by the involvement of First Nations in decisions taken with respect to our Lands. The Court then went on to say "There is always the duty of consultation." (para. 168). This consultation must, at a minimum, be in good faith with the intention of substantially addressing the concerns of the First Nation whose lands are at issue." The BC Court of Appeal in its February 2002 decision in *Council of the Haida Nation* has further clarified this obligation by confirming that your government is obliged to make an initial assessment of our rights and must not only engage in meaningful consultation, but also must seek an accommodation of our interests (including cultural and economic ones).

At this point the LKTS have no concerns but when Harper Logging is ready to engineer blocks 1-5-6 we will have concerns and want these areas walked with our First Nation

Recon people. We also want the opportunity to comment on the other Blocks after they are engineered.

We may choose to address the issues of Aboriginal rights and title infringement and compensation with respect to this project through the treaty process. We also reserve the right to raise objections if any cultural use or archaeological sites are identified when the project is being carried out. Or if we discover impacts on our rights or interest that we have not foreseen.

Yours truly,



Rod Naknakim  
Chief Negotiator

cc Member Nations



Xwémalhkwu First Nation  
1218 Bute Crescent  
Campbell River, B.C. V9H 1G5  
Phone: (250) 923-4979  
Fax: (250) 923-4987

May 18, 2011

Harper Logging  
Box 299  
Heriot Bay, B.C.  
V0P 1H0

**RE: WLP for Woodlot Licence WL2062**

Dear Paul Kutz:

Thank you for your letter of April 11, 2011. We wish to advise you that further consultation with Xwémalhkwu First Nation will be required. At this time we would like to request a meeting with you. This will give us an opportunity to determine the complexity of the matter and anticipate our requirements for further consultation.

Respectfully,

Rob Harry  
Treaty Land Selection/ Forestry Dept.

e) Revisions Made as a Result of Written Comments Received

None

- f) The following documents, reports and maps were reviewed in the preparation and submission of the WLP:
- W0046 Woodlot Licence Plan #1
  - Provincial Wildlife Tree Policy and Management Recommendations – February 2000
  - Information concerning Wildlife Habitat for the survival of species at risk in the Sunshine Coast Forest District – March 2006
  - Order Establishing Provincial Non-Spatial Old Growth Objectives – June 2004
  - Several Map View plots of the location of Invasive Plant species – May 2007
  - Invasive Plant Map Label Legend
  - Introduction to the Reference Guide for FDP Stocking Standards – March 2007
  - Water\_Pod\_50K, - May 2007
  - Water Licences Report – April 2007
  - SCFD Landscape Unit boundary map
  - Implementation policy for the provincial order of non-spatial old growth objectives.
  - Ministry of Environment Order for: Category of Species at Risk – June 2006
  - Ministry of Environment Approved Wildlife Habitat Areas (WHAs) – March 2007
  - Ministry of Environment Approved Fisheries Sensitive Watersheds – April 2007
  - MFLNRO Notice – Indicators of the amount, distribution and attributes of wildlife habitat required for the winter survival of ungulate species in the Sunshine Coast Timber Supply Area
  - Ministry of Environment Ungulate Winter Range Notices, FPPR section 7 and WLPPR section 9
  - Information concerning wildlife habitat for the winter survival of ungulate species in Sunshine Coast Timber Supply Area
  - Map showing the Proposed Ungulate Winter Range in the Sunshine Coast TSA
  - Ministry of Environment Species at Risk Notices FPPR section 7 and WLPPR section 9 – April 2007
  - Map showing: Material to support the Notice for Species at Risk the Sunshine Coast Forest District. Included on the map were proposed: Grizzly Bear WHAs; Draft Stickleback WHA and Community Watershed Boundaries for the Sunshine Coast Forest District -- February 2005
  - Map showing: Suitable Marbled Mulelet habitat for the Sunshine Coast Forest District – July 2004
  - Ministry of Forest Notice – Indicators of the Amount, distribution and Attributes of Wildlife Habitat required for the survival of species at risk in the Sunshine Coast Forest District – March 2, 2006
  - Proposed Draft Order for the List of Wildlife Habitat Features
  - Ministry of Environment's Proposed List of Wildlife Habitat Features – April 2007
  - Ministry of Environment's Approved Ungulate Winter Ranges -- Updated March 1, 2007
  - NorthWest Hardwood's Cortes FDU map

- Reference Guide for FDP Stocking Standards -- December 11, 2002,
- Woodlot Licence Forest Management Regulations -- January 31, 2004
- WLPPR
- WLFMR
- Forest and Range Practices Act
- Forest Planning and Practices Regulation

## 2. EFFORTS MADE TO MEET WITH FIRST NATIONS

The following First Nations have been provided information relating to the W2062 Woodlot Licence Plan:

- Klahoose FN
- Homalco FN
- Campbell River FN
- Cape Mudge FN
- Nanwakolas Council Society
- Laich-Kwil-Tach Treaty Society – cc. Letter only that I send to Campbell River and Cape Mudge FN

### EXAMPLE LETTER

*Harper Logging Ltd.*

BOX 299  
HERIOT BAY, B.C.  
V0P 1H0 285-2325

February 21, 2011

*Council of Chiefs*

Laich-Kwil-Tach Treaty Society  
1441 Old Island Highway  
Campbell River, BC  
V9W 2E4

Attention: Shirley Johnson, Research Assistant

Dear Ms. Johnson:

I am initiating the process of preparing a Woodlot Licence Plan (WLP) for Woodlot Licence WL2062, located on Read Island.

Recognizing that this woodlot licence area is within the asserted traditional territory of the Campbell River First Nation and Cape Mudge First Nation, I am requesting any information you may be willing to share on cultural heritage resources within the woodlot licence area that is of continuing importance to the communities. The woodlot licence plan requires the preparation of a result or strategy to conserve and protect cultural heritage resources that are of continuing importance to First Nations and are not protected by the *Heritage Conservation Act*.

This Crown Land portion of the woodlot licence covers an area of approximately 777 hectares and has a long term sustainable harvest rate of 2,087 cubic meters (m<sup>3</sup>) per year. To assist us in understanding the cultural heritage resources that may be practised or located in the woodlot licence area, I would appreciate any site specific information on cultural heritage resources that you may be willing to provide. For your convenience and review, I am attaching an electronic copy of the proposed Woodlot Licence Plan area map.

Harper Logging Ltd. would like to meet with representatives of the Laich-Kwil-Tach Treaty Society sometime during the month of March when it is mutually convenient to discuss and obtain any specific information that can be provided to assist in the development of a successful result or strategy. Please contact either Harper Graham by phone at (250) 285-2325 or myself at (250) 283-2963 to discuss when it may be possible to meet; alternatively you may contact me by e-mail at: [paulkutz@cablerocket.com](mailto:paulkutz@cablerocket.com)

In addition, please let me know if you are unable to meet or provide information and I will develop the result and strategy based on the available information. Any comments received by the Laich-Kwil-Tach Treaty Society on or before April 11, 2011 will be submitted as part of the formal review and comment process prior to the final plan being submitted to the Ministry of Forests, Mines and Lands District Manager, for approval.

Yours Truly,  
Harper Logging Ltd.



Paul Kutz RPF  
Forester

c.c. Mr. Brian Kukulies, Ministry of Forests, Mines and Lands  
Chief Robert Pollard and Council (via email), Campbell River First Nations  
Chief Ralph Dick and Council (via email to Brian Kelly), Cape Mudge First Nations

### 3. EXEMPTIONS

### 4. RATIONALE IN SUPPORT OF PROPOSED ALTERNATIVE PERFORMANCE REQUIREMENTS

#### STOCKING STANDARDS

The alternative stocking standards (see Appendix 2) that apply under this Woodlot Licence Plan comprise minor modifications to the default standards to reflect circumstances, experience, and management regimes particular to the woodlot. These are consistent with the licensee's intent to manage the woodlot to produce high quality forest products, maintain site productivity, and explore new concepts for efficient, economic, and low impact forest management as well as to manage a small part of the woodlot for deciduous species.

The table of stocking standards presented in Appendix 2 has been developed from the *Reference Guide for FDP Stocking Standards* dated December 11, 2002 and from the standards established in the Woodlot Licence Forest Management Regulations (January 31, 2004) Division 2 of Part 6, Schedule A, Table A, as well as the related guidelines and site interpretation for the Vancouver Forest Region (VFR). In addition, the establishment of stands and the free growing dates as outlined in the FPPR regulations were considered. The table represents a synthesis of these requirements and describes how they will apply to the woodlot.

The primary differences from the default standards are:

- a) Where site series have similar stocking standards, they have been combined.
- b) The latest free growing date for most site series has been set at 20 years which is consistent with the FPPR regulations,
- c) Sitka spruce (Ss) has been added as an acceptable species on sites with fluctuating water tables where mechanical mounding is undertaken. On wet sites and sites with fluctuating water tables, it is possible to mound in order to create micro planting sites for Sitka spruce, cedar and alder. This is proposed on a small scale and has therefore added Ss as an acceptable species and has reduced the minimum inter-tree distance to 1.0m on mounded sites.

In addition, ID #s L & M have been added to the stocking standards. This table is intended to define the stocking standards that will apply to deciduous (broadleaf) management. The Chief Foresters stocking standards accept black cottonwood (Act), red alder (Dr) and bigleaf maple (Mb) as productive, reliable and feasible regeneration options on several site series within the CWHxm zone.

The use of deciduous species will be implemented in consideration of the Chief Foresters memorandum dated August 22nd, 2000 and the supporting note Common Principles for the Management of Red Alder within the Coast Forest Region. Dated August 2004. The management for deciduous species is proposed on a limited scale and is consistent with the management assumptions adopted in the Management Plan Annual Allowable Cut (AAC) calculation for the Sunshine Coast TSA.

## 5. Copies of Newspaper Advertisements

Welcome Guest!

[Log In or Create an Account](#)

You are searching: [BCClassified.com](#) ([Change Region](#))

[Legal Notices](#) »

Search

Search for

for

in ☒ Legal Notices ☐ Publication

Select a Publication ☐

☒ Filter by Region ☐

BCClassified.com

[Advanced Search](#)

My Saved Ads

☐ PUBLIC VIEWING OF THE

[View Saved Ad List](#)

[Announcements](#)

[Browse Other Categories](#)

[← Back to list of ads](#)

Source: Campbell River Mirror  
Viewed: 263 times

Listed: Wednesday 16 February, 2011

### Public Viewing of the

Public Viewing of the Woodlot Licence Plan for Woodlot 2062 – Read Island The draft 10-year Woodlot Licence Plan for Woodlot Licence WL2062 will be available for public viewing and comments at the Harper Logging field office on February 23, 2011 from 4:00 pm to 8:00 pm. The Plan is now available for review and comments for a period of 30 days, starting with the publication of this notice. Written comments must be received no later than March 18, 2011. Copies of the plan will be located at the Ministry of Forests, Lands and Mines, Sunshine Coast Forest District Office, (7077 Duncan St. Powell River, BC) and at the Licensee's residence in Heriot Bay, Quadra Island, BC. Please call 250-285-2325 to arrange for a viewing. An electronic copy of the plan can also be requested by email from David Graham (grahamda84@hotmail.com) by phone at (250) 202-0619. Written comments should be sent to Harper Graham, Harper Logging Ltd. PO Box 299 Heriot Bay, BC, V0P 1H0. The Woodlot Plan requires all sensitive and highly valued areas of the woodlot to be identified and either placed in reserves or management areas that will have modified harvesting. This Woodlot Licence Plan is located on crown forest land – located on Read Island.

B8 CAMPBELL RIVER COURIER-ISLANDER

CLASSIFIEDS/LIVING

Wednesday, Feb. 16, 2011

family-  
com.  
-2102225  
services  
Post  
a few  
noose  
or all  
Best  
action  
pared  
vidual  
com-  
ds, ca  
22.  
-2102200  
iters  
als  
UE  
r  
cial  
es,  
ig,  
i call  
ig.  
-2102226  
alegal  
ps  
ferral  
ches  
il con-  
yer in  
icpat-  
r a 30  
tation  
Reg-  
once  
ee to  
vices.  
Lower  
or  
(Out-  
-2102204  
offers  
ation

your past. Any Credit. need work. Will sell  
Receive a \$500 Gift \$6000. firm  
Card. www.coast- 250-923-1980.  
lineautocredit.com or  
1-888-252-8235. Classifieds 850-2527

#### 910 Legal and Tenders

##### PUBLIC VIEWING OF THE WOODLOT LICENCE PLAN FOR WOODLOT 2062 - READ ISLAND

The draft 10-year Woodlot Licence Plan for Woodlot Licence WL2062 will be available for public viewing and comments at the Harper Logging field office on February 23, 2011 from 4:00 pm to 8:00 pm. The Plan is now available for review and comments for a period of 30 days, starting with the publication of this notice.

Written comments must be received no later than March 18, 2011. Copies of the plan will be located at the Ministry of Forests, Lands and Mines, Sunshine Coast Forest District Office, (7077 Duncan St. Powell River, BC) and at the Licensee's residence in Heriot Bay, Quadra Island, BC. Please call 250-285-2325 to arrange for a viewing. An electronic copy of the plan can also be requested by email from David Graham (grahamda84@hotmail.com) by phone at (250) 202-0619. Written comments should be sent to Harper Graham, Harper Logging Ltd. PO Box 299 Heriot Bay, BC V0P 1H0. The Woodlot Plan requires all sensitive and highly valued areas of the woodlot to be identified and either placed in reserves or management areas that will have modified harvesting. This Woodlot Licence Plan is located on crown forest land – located on Read Island.

#### 800 Auto Insurance Financing & Loans

\$0 DOWN & we make  
your 1st payment at  
auto credit fast. Need  
a vehicle? Good or

Classifieds  
850-2527

912

Polar  
fully fu  
ded we  
Propan  
and plu  
ation b  
Sept  
\$59,00  
askin  
'Immac  
250-95  
We wil  
orts  
trad  
RV, i  
o  
BI  
Ch  
RV Di  
1-86

CLA  
85  
914

NOTIC  
and oth  
DORO  
died cr  
send t  
1879 V  
6R1 b  
which c  
Estate  
having  
notice  
By: Jo  
o/o Su  
1879 V  
V9W 6

March 19<sup>th</sup>, 2011 Attendance Record for Open House

Reef Island Public Meeting  
MARCH 19, 2011 Reef Island.

Shawnai Hollanders  
Sarae Hollanders  
Tanjira Gilbert  
Tom GILBERT  
Violina Hollanders  
Rackford Rayko  
Tom Hollanders  
Fried Hollanders  
Nancy Harris  
Sherla Hollanders  
Jim Shaw  
Ephyr Polk  
Don Buhlin  
Colleen Carter  
Keith Anzell  
Coady Webb  
Gail Webb  
Ken Harris  
Merlin Blixhavn  
Anna Blixhavn  
Renate Kviet  
Richard Gilmore  
Christopher Greenwood  
Jesse Cox  
KATH Kewer  
Lannie Keller

s.22

s.22

## 6. MFLNRO COMMENT AND REVIEW OF WLP FOR WL2062

- The woodlot plan should have the same licensee name(s) and signature(s) as the woodlot document and management plan.

Will confirm

- Section 8 of the WLPPR requires that the mapping include:
  - c) the location and riparian class of streams, wetlands and lakes shown on government-endorsed
    - (i) forest cover maps, Riparian was never a component of FC1 of VRI
    - (ii) terrain resource inventory maps, and TRIM never classified riparian features
    - (iii) fish and fish habitat inventory maps; not available
  - (d) any of the streams identified in paragraph (c) that are fish streams;

I am not seeing anything like that so can we assume that this information is currently unknown / unavailable? Correct

- With respect to Section 4.0 Areas where Timber Harvesting will be Modified – Steamboat Trail:

Generally we are not comfortable approving a plan that states the government specifies specific harvesting modifications or constraints. The specific harvesting constraint you have referred to was only used in the timber supply analysis. How the area is managed is something for the licensee to address.

The plan now provides a specific harvesting plan for conducting operations and management of this “modified harvest” area.

I am confused by the statement that the Steamboat Trail is not on the WLP map. It appears there is a linear feature with a reserve no harvest designation on the map?

Fixed

- Section 6 WILDLIFE TREE RETENTION STRATEGY:

Unlike the WLP for W0046 there is no species priority indicated.

Unlike WL0046 I did not include a commitment for a specific number of individual wildlife trees or species priority by block.

With respect to the sections on Conditions under which trees may be removed, I am unsure what is meant by "The desire to re-assign the Wildlife tree as part of an amended site plan".

The intention was to state that a wildlife tree could be moved around via a Site Plan amendment

- Appendix II Stocking Standards:

ID # 1028291 - Should the site series be 01/05? – Yes, fixed

ID # 1033262 - The approved standard does not seem to include Dr and Mb.

Fixed

ID # 1033265 - No Ss FTG Height Fixed

ID # 1033266 - No Ss FTG Height Fixed

Woodlot Licence # 2062

# Management Plan

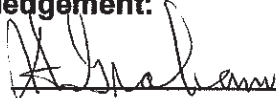
**Licensee**

Harper Logging Ltd. and David Graham *Evans Bay Contracting LTD.*  
PO Box ~~299~~ 596  
Heriot Bay, BC V0P 1H0  
Email: [harplog@hotmail.com](mailto:harplog@hotmail.com)  
Phone: (250) 285-2325  
202 0619  
Sunshine Coast Forest District

Prepared by: Paul J. Kutz RPF

**Licensee Acknowledgement:**

Harper Graham:



Date: Oct 7<sup>th</sup> 2010

David Graham:



Date: Oct. 6/2010

**Submitted by:**

Harper Logging Ltd.

**Approved by:**

District Manager  
Sunshine Coast Forest District



Signature

Signature

# Table of Contents

## WOODLOT LICENCE #2062 MANAGEMENT PLAN

1.0	Licensee's Goals .....	2
2.0	Licensee's Statement of Commitments .....	3
3.0	Resource Inventories	
3.1	Timber Resource Inventory .....	3
3.2	Terrain Stability Inventory .....	4
3.3	Fish Stream Classification Inventory .....	4
3.4	Archeological Overview Assessment .....	4
4.0	Utilization Standards .....	4
5.0	Proposed Allowable Annual Cut .....	6

### 1.0 Licensee's Goals

The goal is to manage the timber resources of Woodlot # 2062 on a sustained yield basis following the principles of integrated resources management.

Harper Logging Ltd. will carry out environmental protection measures by co-operating fully with all governmental agencies concerned with resource management.

To realize the highest possible utilization of the timber resource and operate the licence in a profitable manner.

Woodlot activities will be conducted in compliance with the *Forest Act*, *Forest and Range Practices Act*, *Wildlife Act*, all applicable Regulations that govern the activities within the forest and any other plans which may have an impact on the Woodlot.

Within the Woodlot, there are number of specific integrated resource management goals. These goals are dependent on having sufficient access throughout the Woodlot in order to effectively manage the resources. These goals include but are not limited to:

- Protection and conservation of the non-timber values and resources within the Woodlot area;
- Forest fire protection and suppression;
- Forest health including pest management; and
- Meeting Silviculture obligations

To increase Harper Logging Ltd's knowledge and experience in forestry and to become more involved with the day to day forest management on the Woodlot.

To supplement Harper Logging Ltd's income.

## **2.0 Licensee's Statement of Commitments**

Within WL2062 no additional commitments for specific Management Practices are being proposed. Should funding sources become available, such as FIA, incremental Silviculture activities may be considered.

Currently, the lands identified within the Schedule A lands (private land) of the Woodlot application have been all sufficiently regenerated. Therefore, no additional commitments to regenerate these lands are being proposed.

It should be noted that Section 45(1)(f) (iv) of the Forest Act is covered under other legislation and the specific requirements will be addressed in the Woodlot Licence Plan.

## **3.0 Resource Inventories**

### **3.1 Timber Resources Inventory**

The current forest inventory information for the Crown land portion (Schedule 'B') is based on a 2009 inventory data review for Woodlot Licence 2062. The Schedule B inventory information is shown in Appendix I. This inventory data will be updated as disturbances and other changes occur on the licence area. Updated information will be provided with the next revision to the management plan.

A section of timber has been retained along the Read Island Road in DL182 and reserved from harvest under a commitment made by the Ministry of Forest and Range. This polygon was removed from the inventory used in the timber supply analysis. This reserve will continue but the area is still included in the woodlot licence area. This timber will not be harvested except in the case of the removal of danger trees or as a result of a forest health issue. The area will be shown on the Woodlot Licence Plan map and addressed further within the WLP.

Steam Boat Trail runs through DL 783 (Block 6) connecting the government wharf on Evans Bay at the north end and the Read Island Road at the south end. This trail is a significant recreational and historical resource on Read Island. The significance of this trail will further addressed within the Woodlot Licence Plan and during future planning and harvesting phases. The inventory data also reflects a "partial harvest" planning regime for the management of this resource feature.

Currently, the data collected for the private land portion (Schedule 'A') is of poor quality and not suitable to propose an AAC for the private land portion. However, as more suitable inventory data is collected a revision to the AAC portion of the management plan for the Schedule A lands will be submitted.

### **3.2 Terrain Stability Inventory**

Currently, a Terrain Stability Inventory has not been conducted for Woodlot #2062. However, if during the development of a cutblock the terrain is suspected to be unstable, a Terrain Stability Field Assessment (TSFA) will be considered.

### **3.3 Fish Stream Classification Inventory**

Currently, a Fish Stream Classification Inventory has not been conducted for Woodlot #2062. Where required, a fish stream classification will be conducted on a block by block basis.

It should be noted that Bird Cove Creek, located within DL 182 (Block 3) has been identified as important salmon habitat on which salmon enhancement activities have been carried out. Special care and attention will be applied during the planning and harvesting phases if operations are in close proximity to this creek.

### **3.4 Archeological Overview Assessment**

An Archeological Overview Assessment (AOA) has been completed for Woodlot Licence #2062. A report dated March 31, 2009 was completed by Kevin Robinson of Archipelago Maritime Heritage at the request of Ministry of Forests and Range. As a result of the study the following recommendations were made as they relate to Woodlot #2062:

1. Where the study identified a high or medium potential for archaeological sites including subsurface sites, an Archaeological Impact Assessment (AIA) is required.
2. Where the study identified a medium potential limited to Culturally Modified Trees (CMTs) , or an unknown potential due to an absence of data, it requires a Preliminary Field Reconnaissance (PFR).
3. Where the study has confirmed a low potential with PFR survey coverage, no further work is recommended, not excluding other forms of consultation.

## **4.0 Timber Utilization Standards**

The management objective for the utilization of timber on the woodlot licence area is to conduct harvesting in a manner consistent with the merchantability specifications in the Provincial Logging Residue and Waste Measurement Procedures Manual. The proposed allowable annual cut for the woodlot licence is based on these merchantability specifications for timber utilization.

The specifics will be addressed within the Woodlot Licence Plan.

## **5.0 Proposed Allowable Annual Cut**

Proposed Allowable Annual Cut (AAC) for Woodlot Licence # 2062 is:

Schedule A lands:	TBA	m <sup>3</sup> per year
Schedule B lands:	2087	m <sup>3</sup> per year

A Volume Calculation report has been attached in Appendix I using the model WOODLOT for Windows Version 3.226.

## APPENDIX I

### WOODLOT for Windows Information Used to Calculate the AAC

#### Woodlot Licence Harvest Planning report

Date : 26 April, 2010  
Woodlot Licence# : Read Island - W2062  
Forest District : Sunshine Coast  
Company : Harper Logging Ltd.  
User : Paul Kutz  
Woodlot File : C:\Documents and Settings\Paul Kutz\My Documents\Twin Peaks  
Files\Woodlots\WL2062\Woodlot Management Plan\Read Island\_WL2062.lot  
Scenario : Final Run

#### Model Information:

Woodlot File : Release3.226 - March 29, 2007  
Woodlot Version : Release3.226 - March 29, 2007 - WIN95/98/ME/2000/XP  
VDYP Version : Prod 6.6d4  
TIPSY Version : 3.2m

#### Summary:

Total Net Area : 777.3 ha  
Netdown Area : 357.5 ha  
MAI Existing : 5.05 m<sup>3</sup>/ha/year  
MAI Future : 5.53 m<sup>3</sup>/ha/year  
Harvest Rate : 2,087 m<sup>3</sup>/year

## 1.0 Introduction

This section summarizes information used to calculate a long term harvest rate on Woodlot Licence No.2062 Read Island .The calculated harvest rate can be used to assist in determining the allowable annual cut (AAC). It should be assessed in light of the assumptions used, social and economic considerations in determining the AAC.

Refer to "Section 6.0" for definition of column headers.

## 2.0 Polygon Data

### a) General Information and Current Volumes

Polygon	Own	Area (ha)	Current Age	VAF	PSYU	FIZ	Mgmt Type	Silv Sys	Vol/ha (m³/ha)	Volume (m³)
92K025 426	C	3.0	140	1.00	0194	B	V/T	CC	425	1,275
92K025 423	C	0.2	121	1.00	0194	B	V/T	CC	386	93
92K025 437	C	31.7	24	1.00	0194	B	V/T	CC	11	349
92K025 422	C	5.7	41	1.00	0194	B	V/T	CC	160	917
92K025 421	C	12.3	250	1.00	0194	B	V/T	CC	538	6,615
92K025 439	C	10.0	101	1.00	0194	B	V/T	CC	376	3,758
92K025 438	C	6.6	101	1.00	0194	B	V/T	CC	387	2,556
92K025 440	C	5.9	41	1.00	0194	B	V/T	CC	95	560
92K025 444	C	0.8	308	1.00	0194	B	V/T	CC	575	471
92K025 415	C	16.2	46	1.00	0194	B	V/T	CC	113	1,823
92K025 420	C	12.0	81	1.00	0194	B	V/T	CC	185	2,216
92K025 417	C	3.7	111	1.00	0194	B	V/T	CC	413	1,516
92K025 416	C	1.2	46	1.00	0194	B	V/T	CC	110	134
92K025 419	C	33.9	311	1.00	0194	B	V/T	CC	478	16,214
92K025 418	C	1.0	101	1.00	0194	B	V/T	CC	276	279
92K025 446	C	12.5	91	1.00	0194	B	V/T	CC	366	4,576
92K025 445	C	7.2	158	1.00	0194	B	V/T	CC	494	3,567
92K025 503	C	12.7	81	1.00	0194	B	V/T	CC	413	5,241
92K025 505	C	8.3	25	1.00	0194	B	V/T	CC	0	0
92K025 506	C	8.3	141	1.00	0194	B	V/T	CC	389	3,226
92K025 491	C	0.1	81	1.00	0194	B	V/T	CC	589	71
92K025 501	C	7.4	55	1.00	0194	B	V/T	CC	484	3,560
92K025 502	C	3.4	89	1.00	0194	B	V/T	CC	736	2,502
92K025 508	C	0.4	101	1.00	0194	B	V/T	CC	349	150
92K025 535	C	0.2	311	1.00	0194	B	V/T	CC	567	136
92K025 531	C	12.4	226	1.00	0194	B	V/T	CC	443	5,496
92K025 536	C	18.0	18	---	---	B	T/T	CC	20	360
92K025 529	C	7.2	31	1.00	0194	B	V/T	CC	0	0
92K025 534	C	5.0	31	1.00	0194	B	V/T	CC	0	0
92K025 537	C	22.5	31	1.00	0194	B	V/T	CC	0	0
92K025 538	C	5.0	101	1.00	0194	B	V/T	CC	597	2,985
92K025 528	C	0.6	226	1.00	0194	B	V/T	CC	350	200
92K025 532	C	0.2	311	1.00	0194	B	V/T	CC	478	86
92K025 540	C	5.3	311	1.00	0194	B	V/T	CC	579	3,058
92K025 539	C	4.4	81	1.00	0194	B	V/T	CC	411	1,818
92K025 616	C	14.2	35	1.00	0194	B	V/T	CC	34	478
92K025 633	C	14.0	131	1.00	0194	B	V/T	CC	558	7,816
92K025 634	C	10.0	91	1.00	0194	B	V/T	CC	484	4,838
92K025 632	C	7.1	61	1.00	0194	B	V/T	CC	489	3,473
92K025 619	C	21.7	24	1.00	0194	B	V/T	CC	18	390
92K025 638	C	10.1	91	1.00	0194	B	V/T	CC	546	5,515
92K025 628	C	29.8	138	1.00	0194	B	V/T	CC	589	17,558
92K025 622	C	5.0	8	---	---	B	T/T	CC	0	0
92K025 625	C	7.7	138	1.00	0194	B	V/T	CC	551	4,240
92K025 624	C	5.1	38	1.00	0194	B	V/T	CC	240	1,223
92K025 611	C	0.5	71	1.00	0194	B	V/T	CC	570	273
92K025 627	C	3.5	177	1.00	0194	B	V/T	CC	425	1,506
92K025 626	C	4.8	93	1.00	0194	B	V/T	CC	750	3,594
92K025 646	C	0.1	93	1.00	0194	B	V/T	CC	617	74
92K015 31	C	28.2	93	1.00	0194	B	V/T	CC	617	17,400
92K015 34	C	7.7	38	1.00	0194	B	V/T	CC	240	1,852
92K015 33	C	12.7	130	1.00	0194	B	V/T	CC	370	4,711
92K015 32	C	6.1	93	1.00	0194	B	V/T	CC	621	3,808
92K015 55	C	6.4	111	1.00	0194	B	V/T	CC	484	3,081
92K025 471	C	13.2	21	1.00	0194	B	V/T	CC	6	81
92K025 486	C	1.8	100	1.00	0194	B	V/T	CC	815	1,467
92K025 487	C	8.8	13	---	---	B	T/T	CC	8	66
92K025 488	C	2.5	311	1.00	0194	B	V/T	CC	478	1,196
92K025 489	C	4.5	311	1.00	0194	B	V/T	CC	1,094	4,925

92K025 576	C	0.8	61	1.00	0194	B	V/T	CC	624	499
92K025 578	C	19.8	13	---	---	B	T/T	CC	1	18
92K025 593	C	2.2	81	1.00	0194	B	V/T	CC	414	911
92K025 579	C	3.3	81	1.00	0194	B	V/T	CC	682	2,250
92K025 590	C	0.4	81	1.00	0194	B	V/T	CC	349	140
92K025 643	C	0.7	81	1.00	0194	B	V/T	CC	682	477
92K015 64	C	15.5	90	1.00	0194	B	V/T	CC	675	10,467
92K015 66	C	3.7	161	1.00	0194	B	V/T	CC	1,055	3,904
92K015 63	C	2.4	81	1.00	0194	B	V/T	CC	309	742
92K015 62	C	5.1	91	1.00	0194	B	V/T	CC	493	2,513
92K015 60	C	7.5	81	1.00	0194	B	V/T	CC	450	3,376
92K015 61	C	6.2	121	1.00	0194	B	V/T	CC	361	2,240
92K015 65	C	2.8	91	1.00	0194	B	V/T	CC	301	841
92K015 59	C	5.2	131	1.00	0194	B	V/T	CC	562	2,924
92K015 58	C	1.8	311	1.00	0194	B	V/T	CC	323	582
92K025 629	C	8.6	44	1.00	0194	B	V/T	CC	313	2,694
92K025 631	C	23.7	339	1.00	0194	B	V/T	CC	430	10,198
92K025 667	C	7.4	97	1.00	0194	B	V/T	CC	509	3,770
92K025 635	C	7.4	19	1.00	0194	B	V/T	CC	0	0
92K025 639	C	18.0	18	---	---	B	T/T	CC	20	360
92K025 404	C	7.4	87	1.00	0194	B	V/T	CC	708	5,238
92K025 408	C	23.6	124	1.00	0194	B	V/T	CC	768	18,134
92K025 405	C	24.6	5	---	---	B	T/T	CC	0	0
92K025 296	C	26.4	107	1.00	0194	B	V/T	CC	725	19,129
92K025 297	C	4.8	43	1.00	0194	B	V/T	CC	38	184
92K025 295	C	8.7	97	1.00	0194	B	V/T	CC	226	1,964
92K025 294	C	11.4	132	1.00	0194	B	V/T	CC	660	7,526
92K025 630	C	6.1	144	1.00	0194	B	V/T	CC	322	1,962
92K015 64A	C	9.0	90	1.00	0194	B	V/V	PC	675	6,078
92K025 428	C	0.9	317	1.00	0194	B	V/T	CC	402	361
92K025 425	C	0.2	127	1.00	0194	B	V/T	CC	761	152
92K025 409	C	0.7	47	1.00	0194	B	V/T	CC	199	139
Crown (C)		777.3								275,145
Private (P)		0.0								0
Top-Up (T)		0.0								0
Other (O)		0.0								0
TOTAL		777.3								275,145

**b) VDYP (unmanaged) Specific**

Polygon	SI (m)	CC (%)	Stk Cls	S1	%	S2	%	S3	%	S4	%	S5	%	S6	%
92K025 426	15.1	70	1	PL	52	CW	25	HW	18	FD	5				
92K025 423	14.8	60	1	HW	50	PL	20	FD	20	CW	10				
92K025 437	27.0	10	0	FD	50	HW	40	CW	10						
92K025 422	22.5	40	0	FD	60	HW	40								
92K025 421	14.8	60	1	HW	30	CW	30	FD	30	PL	10				
92K025 439	21.9	50	0	FD	60	PL	40								
92K025 438	21.9	60	0	FD	60	PL	40								
92K025 440	22.5	40	0	FD	60	PL	40								
92K025 444	19.1	70	1	FD	70	CW	20	HW	10						
92K025 415	18.0	45	0	FD	50	HW	40	PL	10						
92K025 420	15.9	50	0	PL	100										
92K025 417	15.8	60	0	HW	50	PL	30	FD	10	CW	10				
92K025 416	18.0	40	0	FD	50	HW	40	PL	10						
92K025 419	19.6	50	1	FD	100										
92K025 418	13.6	50	0	PL	60	HW	20	FD	10	CW	10				
92K025 446	22.5	60	0	FD	60	PL	40								
92K025 445	19.1	60	1	FD	40	HW	30	CW	30						
92K025 503	24.2	40	0	FD	45	HW	30	DR	15	CW	10				
92K025 505	18.0	20	0	FD	30	HW	30	CW	30	PL	10				
92K025 506	20.1	40	1	FD	40	PL	20	CW	20	HW	20				
92K025 491	26.8	60	0	FD	60	HW	40								
92K025 501	27.8	80	0	HW	45	FD	30	BG	10	CW	10	PL	5		
92K025 502	31.9	70	0	FD	82	HW	12	BG	3	CW	2	DR	1		

92K025 508	18.9	80	0	PL	80	FD	10	HW	10								
92K025 535	19.6	60	1	FD	50	CW	30	HW	20								
92K025 531	19.4	50	1	FD	50	PL	30	HW	10	CW	10						
92K025 536																	
92K025 529	14.0	30	0	HW	60	CW	20	FD	20								
92K025 534	14.0	50	0	HW	60	CW	20	FD	20								
92K025 537	14.0	50	0	HW	60	CW	20	FD	20								
92K025 538	25.0	60	0	FD	40	HW	40	CW	20								
92K025 528	17.2	20	1	FD	100												
92K025 532	19.6	50	1	FD	100												
92K025 540	19.6	50	1	FD	50	HW	30	CW	20								
92K025 539	22.5	60	0	FD	60	CW	20	HW	20								
92K025 616	18.0	60	0	FD	60	HW	40										
92K025 633	21.5	70	1	CW	65	FD	20	HW	15								
92K025 634	24.9	50	0	FD	40	CW	40	HW	20								
92K025 632	28.1	70	0	FD	70	HW	20	CW	10								
92K025 619	27.0	50	0	FD	60	HW	35	CW	5								
92K025 638	24.9	70	0	FD	60	CW	30	HW	10								
92K025 628	20.7	60	1	HW	40	CW	35	FD	25								
92K025 622																	
92K025 625	20.7	40	1	HW	40	CW	35	FD	25								
92K025 624	26.9	70	0	HW	50	FD	30	PL	15	CW	5						
92K025 611	29.4	60	0	FD	40	HW	30	CW	30								
92K025 627	16.7	60	1	FD	72	HW	21	CW	5	PL	2						
92K025 626	29.4	60	0	FD	70	HW	20	CW	10								
92K025 646	29.4	40	0	FD	90	HW	10										
92K015 31	29.4	40	0	FD	90	HW	10										
92K015 34	26.9	70	0	HW	50	FD	30	PL	15	CW	5						
92K015 33	16.7	60	1	FD	60	HW	20	CW	20								
92K015 32	29.4	60	0	FD	80	HW	10	CW	10								
92K015 55	22.3	60	0	FD	100												
92K025 471	33.0	30	0	FD	70	CW	20	HW	10								
92K025 486	29.7	60	0	HW	50	FD	40	DR	10								
92K025 487																	
92K025 488	19.6	50	1	FD	100												
92K025 489	29.7	60	1	FD	60	CW	30	HW	10								
92K025 576	36.5	60	0	FD	40	HW	30	CW	30								
92K025 578																	
92K025 593	32.6	60	0	DR	40	MB	30	FD	10	HW	10	CW	10				
92K025 579	30.2	50	0	FD	60	HW	40										
92K025 590	22.5	70	0	FD	60	PL	20	HW	10	CW	10						
92K025 643	30.2	50	0	FD	60	HW	40										
92K015 64	27.5	70	0	FD	60	HW	30	CW	10								
92K015 66	30.0	70	1	FD	70	HW	20	CW	10								
92K015 63	21.5	60	0	PL	70	FD	30										
92K015 62	22.5	60	0	FD	70	HW	20	CW	10								
92K015 60	22.5	70	0	FD	70	HW	20	PL	10								
92K015 61	19.3	60	1	FD	70	PL	30										
92K015 65	20.1	50	0	PL	60	FD	40										
92K015 59	22.7	70	1	FD	90	HW	10										
92K015 58	15.9	40	1	FD	100												
92K025 629	27.0	70	0	HW	50	CW	5	FD	30	PL	15						
92K025 631	18.0	70	1	FD	100												
92K025 667	25.0	50	0	FD	85	CW	10	HW	5								
92K025 635	27.0	10	0	FD	86	CW	7	BG	7								
92K025 639																	
92K025 404	30.0	60	0	FD	50	CW	20	HW	30								
92K025 408	27.0	50	1	FD	31	DR	14	HW	52	SS	2	PW	1				
92K025 405																	
92K025 296	28.0	60	0	FD	50	CW	10	HW	30	PL	10						
92K025 297	14.0	50	0	FD	20	CW	10	HW	40	DR	30						
92K025 295	15.0	70	0	FD	20	PL	80										
92K025 294	24.0	60	1	FD	54	CW	14	HW	29	PL	3						
92K025 630	14.0	30	1	HW	40	CW	35	FD	25								
92K015 64A	27.5	70	0	FD	60	HW	30	CW	10								
92K025 428	14.5	70	1	FD	44	HW	34	CW	18	PL	4						

92K025 425	24.0	50	1	HW	50	FD	40	PL	10						
92K025 409	23.0	25	1	FD	60	HW	40								

c) TIPSy (Managed) Specific

Polygon	SI (m)	Dens (s/ha)	Thin (s/ha)	Regen	S1	%	S2	%	S3	%	S4	%	S5	%
92K025 426	15.0	1,100	n/a	Planted	FD	100								
92K025 423	15.0	1,100	n/a	Planted	FD	100								
92K025 437	27.0	1,100	n/a	Planted	FD	80	CW	20						
92K025 422	23.0	1,100	n/a	Planted	FD	80	CW	20						
92K025 421	15.0	1,100	n/a	Planted	FD	100								
92K025 439	22.0	1,100	n/a	Planted	FD	100								
92K025 438	22.0	1,100	n/a	Planted	FD	100								
92K025 440	23.0	1,100	n/a	Planted	FD	80	CW	20						
92K025 444	19.0	1,100	n/a	Planted	FD	100								
92K025 415	18.0	1,100	n/a	Planted	FD	100								
92K025 420	16.0	1,100	n/a	Planted	FD	100								
92K025 417	16.0	1,100	n/a	Planted	FD	100								
92K025 416	18.0	1,100	n/a	Planted	FD	100								
92K025 419	20.0	1,100	n/a	Planted	FD	100								
92K025 418	14.0	1,100	n/a	Planted	FD	100								
92K025 446	23.0	1,100	n/a	Planted	FD	80	CW	20						
92K025 445	19.0	1,100	n/a	Planted	FD	100								
92K025 503	24.0	1,100	n/a	Planted	FD	80	CW	20						
92K025 505	18.0	1,100	n/a	Planted	FD	100								
92K025 506	20.0	1,100	n/a	Planted	FD	100								
92K025 491	27.0	1,100	n/a	Planted	FD	80	CW	20						
92K025 501	28.0	1,100	n/a	Planted	FD	60	CW	40						
92K025 502	32.0	1,100	n/a	Planted	FD	60	CW	40						
92K025 508	19.0	1,100	n/a	Planted	FD	100								
92K025 535	20.0	1,100	n/a	Planted	FD	100								
92K025 531	19.0	1,100	n/a	Planted	FD	100								
92K025 536	27.0	1,100	n/a	Planted	FD	80	CW	20						
92K025 529	14.0	1,100	n/a	Planted	FD	100								
92K025 534	14.0	1,100	n/a	Planted	FD	100								
92K025 537	14.0	1,100	n/a	Planted	FD	100								
92K025 538	25.0	1,100	n/a	Planted	FD	80	CW	20						
92K025 528	17.0	1,100	n/a	Planted	FD	100								
92K025 532	20.0	1,100	n/a	Planted	FD	100								
92K025 540	20.0	1,100	n/a	Planted	FD	100								
92K025 539	23.0	1,100	n/a	Planted	FD	100								
92K025 616	18.0	1,100	n/a	Planted	FD	100								
92K025 633	22.0	1,100	n/a	Planted	FD	100								
92K025 634	25.0	1,100	n/a	Planted	FD	80	CW	20						
92K025 632	28.0	1,100	n/a	Planted	FD	60	CW	40						
92K025 619	27.0	1,100	n/a	Planted	FD	80	CW	20						
92K025 638	25.0	1,100	n/a	Planted	FD	80	CW	20						
92K025 628	21.0	1,100	n/a	Planted	FD	100								
92K025 622	27.0	1,100	n/a	Planted	FD	80	CW	20						
92K025 625	21.0	1,100	n/a	Planted	FD	100								
92K025 624	27.0	1,100	n/a	Planted	FD	80	CW	20						
92K025 611	29.0	1,100	n/a	Planted	FD	60	CW	40						
92K025 627	17.0	1,100	n/a	Planted	FD	100								
92K025 626	29.0	1,100	n/a	Planted	FD	60	CW	40						
92K025 646	29.0	1,100	n/a	Planted	FD	60	YC	40						
92K015 31	29.0	1,100	n/a	Planted	FD	60	CW	40						
92K015 34	27.0	1,100	n/a	Planted	FD	80	CW	20						
92K015 33	17.0	1,100	n/a	Planted	FD	100								
92K015 32	29.0	1,100	n/a	Planted	FD	60	CW	40						
92K015 55	22.0	1,100	n/a	Planted	FD	100								
92K025 471	33.0	1,100	n/a	Planted	FD	60	CW	40						
92K025 486	30.0	1,100	n/a	Planted	FD	60	CW	40						
92K025 487	27.0	1,100	n/a	Planted	FD	80	CW	20						

92K025 488	20.0	1,100	n/a	Planted	FD	100									
92K025 489	30.0	1,100	n/a	Planted	FD	60	CW	40							
92K025 576	37.0	1,100	n/a	Planted	FD	60	CW	40							
92K025 578	22.0	1,100	n/a	Planted	FD	100									
92K025 593	33.0	1,100	n/a	Planted	FD	60	CW	40							
92K025 579	30.0	1,100	n/a	Planted	FD	60	CW	40							
92K025 590	23.0	1,100	n/a	Planted	FD	80	CW	20							
92K025 643	30.0	1,100	n/a	Planted	FD	60	CW	40							
92K015 64	28.0	1,100	n/a	Planted	FD	60	CW	40							
92K015 66	30.0	1,100	n/a	Planted	FD	100									
92K015 63	22.0	1,100	n/a	Planted	FD	100									
92K015 62	23.0	1,100	n/a	Planted	FD	80	CW	20							
92K015 60	23.0	1,100	n/a	Planted	FD	80	CW	20							
92K015 61	19.0	1,100	n/a	Planted	FD	100									
92K015 65	20.0	1,100	n/a	Planted	FD	100									
92K015 59	23.0	1,100	n/a	Planted	FD	80	CW	20							
92K015 58	16.0	1,100	n/a	Planted	FD	100									
92K025 629	27.0	1,100	n/a	Planted	FD	80	CW	20							
92K025 631	18.0	1,100	n/a	Planted	FD	100									
92K025 667	25.0	1,100	n/a	Planted	FD	100									
92K025 635	27.0	1,100	n/a	Planted	FD	100									
92K025 639	27.0	1,100	n/a	Planted	FD	80	CW	20							
92K025 404	30.0	1,100	n/a	Planted	FD	60	CW	40							
92K025 408	27.0	1,100	n/a	Planted	FD	80	CW	20							
92K025 405	25.0	1,100	n/a	Planted	FD	80	CW	20							
92K025 296	28.0	1,100	n/a	Planted	FD	60	CW	40							
92K025 297	14.0	1,100	n/a	Planted	FD	100									
92K025 295	15.0	1,100	n/a	Planted	FD	100									
92K025 294	24.0	1,100	n/a	Planted	FD	80	CW	20							
92K025 630	14.0	1,100	n/a	Planted	FD	100									
92K015 64A															
92K025 428	15.0	1,100	n/a	Planted	FD	100									
92K025 425	24.0	1,100	n/a	Planted	FD	80	CW	20							
92K025 409	24.0	1,100	n/a	Planted	FD	80	CW	20							

d) TIPSy Enhanced Management Variables

Polygon	CT@ (m)	CT To (s/ha)	Fert Year	Fert Vol	S1	GW (%)	S2	GW (%)	S3	GW (%)	S4	GW (%)	S5	GW (%)
92K025 426														
92K025 423														
92K025 437														
92K025 422														
92K025 421														
92K025 439														
92K025 438														
92K025 440														
92K025 444														
92K025 415														
92K025 420														
92K025 417														
92K025 416														
92K025 419														
92K025 418														
92K025 446														
92K025 445														
92K025 503														
92K025 505														
92K025 506														
92K025 491														
92K025 501														
92K025 502														
92K025 508														
92K025 535														



e) Polygon Yields

Polygon	Yield Ex/Fut	Cul. Age	C Vol (m³/ha)	C MAI (m³/ha/yr)	Target Age	T Vol (m³/ha)	T MAI (m³/ha/yr)	PC %	Reentry Year
92K025 426	VDYP	113	349	3.09	121	372	3.08		
	TIPSY	90	164	1.82	60	88	1.47		
92K025 423	VDYP	130	417	3.21	121	386	3.19		
	TIPSY	90	164	1.82	60	88	1.47		
92K025 437	VDYP	69	320	4.64	60	276	4.60		
	TIPSY	80	624	7.80	60	455	7.58		
92K025 422	VDYP	74	390	5.27	60	309	5.14		
	TIPSY	90	510	5.67	60	309	5.15		
92K025 421	VDYP	132	355	2.69	121	324	2.68		
	TIPSY	90	164	1.82	60	88	1.47		
92K025 439	VDYP	93	347	3.73	60	202	3.37		
	TIPSY	90	412	4.58	60	253	4.22		
92K025 438	VDYP	93	358	3.84	60	209	3.48		
	TIPSY	90	412	4.58	60	253	4.22		
92K025 440	VDYP	94	355	3.78	60	207	3.44		
	TIPSY	90	510	5.67	60	309	5.15		
92K025 444	VDYP	99	367	3.71	121	439	3.63		
	TIPSY	100	330	3.30	60	180	3.00		
92K025 415	VDYP	84	297	3.54	60	194	3.24		
	TIPSY	100	286	2.86	60	157	2.62		
92K025 420	VDYP	113	272	2.41	60	115	1.92		
	TIPSY	90	193	2.14	60	111	1.85		
92K025 417	VDYP	106	395	3.73	60	183	3.05		
	TIPSY	90	193	2.14	60	111	1.85		
92K025 416	VDYP	85	296	3.48	60	191	3.18		
	TIPSY	100	286	2.86	60	157	2.62		
92K025 419	VDYP	107	351	3.28	121	393	3.25		
	TIPSY	90	324	3.60	60	204	3.40		
92K025 418	VDYP	111	305	2.75	60	119	1.99		
	TIPSY	100	151	1.51	60	68	1.13		
92K025 446	VDYP	91	366	4.02	60	221	3.68		
	TIPSY	90	510	5.67	60	309	5.15		
92K025 445	VDYP	87	327	3.76	121	426	3.52		
	TIPSY	100	330	3.30	60	180	3.00		
92K025 503	VDYP	67	348	5.19	60	310	5.17		
	TIPSY	80	498	6.23	60	343	5.72		
92K025 505	VDYP	83	238	2.87	60	156	2.59		
	TIPSY	100	286	2.86	60	157	2.62		
92K025 506	VDYP	100	293	2.93	121	349	2.88		
	TIPSY	90	324	3.60	60	204	3.40		
92K025 491	VDYP	66	489	7.41	60	442	7.37		
	TIPSY	80	624	7.80	60	455	7.58		
92K025 501	VDYP	70	633	9.05	60	537	8.95		
	TIPSY	80	743	9.29	60	535	8.92		
92K025 502	VDYP	67	572	8.53	60	509	8.48		
	TIPSY	70	838	11.97	60	696	11.60		
92K025 508	VDYP	86	301	3.49	60	195	3.26		
	TIPSY	100	330	3.30	60	180	3.00		
92K025 535	VDYP	95	337	3.55	121	413	3.42		
	TIPSY	90	324	3.60	60	204	3.40		
92K025 531	VDYP	113	321	2.84	121	343	2.83		
	TIPSY	100	330	3.30	60	180	3.00		
92K025 536	TIPSY	80	624	7.80	60	455	7.58		
	TIPSY	80	624	7.80	60	455	7.58		
92K025 529	VDYP	103	262	2.54	60	115	1.92		
	TIPSY	100	151	1.51	60	68	1.13		
92K025 534	VDYP	103	283	2.74	60	126	2.10		
	TIPSY	100	151	1.51	60	68	1.13		
92K025 537	VDYP	103	283	2.74	60	126	2.10		

	TIPSY	100	151	1.51	60	68	1.13		
92K025 538	VDYP	68	436	6.42	60	382	6.36		
	TIPSY	80	541	6.76	60	378	6.30		
92K025 528	VDYP	120	285	2.37	101	236	2.33		
	TIPSY	90	224	2.49	60	134	2.23		
92K025 532	VDYP	107	351	3.28	121	393	3.25		
	TIPSY	90	324	3.60	60	204	3.40		
92K025 540	VDYP	88	339	3.85	121	440	3.64		
	TIPSY	90	324	3.60	60	204	3.40		
92K025 539	VDYP	81	411	5.08	60	288	4.79		
	TIPSY	90	458	5.09	60	280	4.67		
92K025 616	VDYP	83	316	3.81	60	210	3.50		
	TIPSY	100	286	2.86	60	157	2.62		
92K025 633	VDYP	86	402	4.68	121	522	4.32		
	TIPSY	90	412	4.58	60	253	4.22		
92K025 634	VDYP	80	435	5.44	60	313	5.22		
	TIPSY	80	541	6.76	60	378	6.30		
92K025 632	VDYP	70	566	8.09	60	480	8.00		
	TIPSY	80	743	9.29	60	535	8.92		
92K025 619	VDYP	66	477	7.23	60	431	7.18		
	TIPSY	80	624	7.80	60	455	7.58		
92K025 638	VDYP	80	488	6.11	60	351	5.85		
	TIPSY	80	541	6.76	60	378	6.30		
92K025 628	VDYP	90	416	4.62	121	531	4.39		
	TIPSY	90	366	4.07	60	228	3.80		
92K025 622	TIPSY	80	624	7.80	60	455	7.58		
	TIPSY	80	624	7.80	60	455	7.58		
92K025 625	VDYP	89	385	4.32	121	497	4.11		
	TIPSY	90	366	4.07	60	228	3.80		
92K025 624	VDYP	74	601	8.12	60	478	7.97		
	TIPSY	80	624	7.80	60	455	7.58		
92K025 611	VDYP	64	516	8.06	60	482	8.04		
	TIPSY	80	796	9.95	60	573	9.55		
92K025 627	VDYP	110	327	2.97	121	357	2.95		
	TIPSY	90	224	2.49	60	134	2.23		
92K025 626	VDYP	68	574	8.44	60	503	8.39		
	TIPSY	80	796	9.95	60	573	9.55		
92K025 646	VDYP	70	480	6.85	60	407	6.78		
	TIPSY	80	796	9.95	60	573	9.55		
92K015 31	VDYP	70	480	6.85	60	407	6.78		
	TIPSY	80	796	9.95	60	573	9.55		
92K015 34	VDYP	74	601	8.12	60	478	7.97		
	TIPSY	80	624	7.80	60	455	7.58		
92K015 33	VDYP	104	307	2.95	121	350	2.90		
	TIPSY	90	224	2.49	60	134	2.23		
92K015 32	VDYP	69	477	6.92	60	410	6.84		
	TIPSY	80	796	9.95	60	573	9.55		
92K015 55	VDYP	86	385	4.48	60	251	4.19		
	TIPSY	90	412	4.58	60	253	4.22		
92K025 471	VDYP	68	586	8.62	60	514	8.56		
	TIPSY	70	883	12.61	60	748	12.47		
92K025 486	VDYP	60	538	8.96	60	538	8.96		
	TIPSY	80	848	10.60	60	610	10.17		
92K025 487	TIPSY	80	624	7.80	60	455	7.58		
	TIPSY	80	624	7.80	60	455	7.58		
92K025 488	VDYP	107	351	3.28	121	393	3.25		
	TIPSY	90	324	3.60	60	204	3.40		
92K025 489	VDYP	81	619	7.64	121	833	6.89		
	TIPSY	80	848	10.60	60	610	10.17		
92K025 576	VDYP	59	603	10.23	60	613	10.22		
	TIPSY	70	1,083	15.47	60	924	15.40		
92K025 578	TIPSY	90	412	4.58	60	253	4.22		
	TIPSY	90	412	4.58	60	253	4.22		
92K025 593	VDYP	29	220	7.60	60	361	6.02		
	TIPSY	70	883	12.61	60	748	12.47		
92K025 579	VDYP	63	547	8.69	60	521	8.68		

	TIPSY	80	848	10.60	60	610	10.17		
92K025 590	VDYP	83	358	4.31	60	242	4.04		
	TIPSY	90	510	5.67	60	309	5.15		
92K025 643	VDYP	63	547	8.69	60	521	8.68		
	TIPSY	80	848	10.60	60	610	10.17		
92K015 64	VDYP	68	530	7.80	60	464	7.74		
	TIPSY	80	743	9.29	60	535	8.92		
92K015 66	VDYP	74	641	8.66	121	938	7.75		
	TIPSY	70	616	8.80	60	518	8.63		
92K015 63	VDYP	78	298	3.82	60	221	3.69		
	TIPSY	90	412	4.58	60	253	4.22		
92K015 62	VDYP	79	434	5.49	60	317	5.28		
	TIPSY	90	510	5.67	60	309	5.15		
92K015 60	VDYP	79	439	5.56	60	319	5.32		
	TIPSY	90	510	5.67	60	309	5.15		
92K015 61	VDYP	120	359	2.99	121	361	2.99		
	TIPSY	100	330	3.30	60	180	3.00		
92K015 65	VDYP	84	278	3.31	60	187	3.11		
	TIPSY	90	324	3.60	60	204	3.40		
92K015 59	VDYP	88	406	4.61	121	537	4.43		
	TIPSY	90	510	5.67	60	309	5.15		
92K015 58	VDYP	120	256	2.13	121	258	2.13		
	TIPSY	90	193	2.14	60	111	1.85		
92K025 629	VDYP	74	604	8.16	121	895	7.40		
	TIPSY	80	624	7.80	60	455	7.58		
92K025 631	VDYP	112	329	2.94	60	131	2.18		
	TIPSY	100	286	2.86	60	157	2.62		
92K025 667	VDYP	79	425	5.38	60	311	5.18		
	TIPSY	80	491	6.14	60	345	5.75		
92K025 635	VDYP	72	398	5.52	60	325	5.41		
	TIPSY	70	495	7.07	60	415	6.92		
92K025 639	TIPSY	80	624	7.80	60	455	7.58		
	TIPSY	80	624	7.80	60	455	7.58		
92K025 404	VDYP	64	544	8.49	60	508	8.47		
	TIPSY	80	848	10.60	60	610	10.17		
92K025 408	VDYP	68	486	7.15	60	425	7.09		
	TIPSY	80	624	7.80	60	455	7.58		
92K025 405	TIPSY	80	541	6.76	60	378	6.30		
	TIPSY	80	541	6.76	60	378	6.30		
92K025 296	VDYP	67	499	7.44	60	443	7.39		
	TIPSY	80	743	9.29	60	535	8.92		
92K025 297	VDYP	89	186	2.09	60	113	1.89		
	TIPSY	100	151	1.51	60	68	1.13		
92K025 295	VDYP	118	279	2.36	60	107	1.78		
	TIPSY	90	164	1.82	60	88	1.47		
92K025 294	VDYP	81	459	5.66	60	321	5.35		
	TIPSY	80	498	6.23	60	343	5.72		
92K025 630	VDYP	130	293	2.25	121	271	2.24		
	TIPSY	100	151	1.51	60	68	1.13		
92K015 64A	VDYP	68	530	7.80	60	464	7.74	[20]	[20]
	PC							[20]	[20]
92K025 428	VDYP	112	255	2.28	[135]	301	2.23		
	TIPSY	90	164	1.82	60	88	1.47		
92K025 425	VDYP	87	555	6.37	121	736	6.08		
	TIPSY	80	498	6.23	60	343	5.72		
92K025 409	VDYP	73	358	4.90	[73]	358	4.90		
	TIPSY	80	498	6.23	[80]	498	6.23		
Average Existing			422	5.28		360	5.05		
Average Future			484	5.85		332	5.53		

### 3.0 Harvest Calculation Assumptions

#### a) Initial Cut Order (Site Index)

Polygon	Current Age	Target Age	Available for (yrs)	Regen Delay (yrs)
92K025 576	61	60	1	[1]
92K025 471	21	60	-39	[1]
92K025 593	81	60	21	[1]
92K025 502	89	60	29	[1]
92K025 579	81	60	21	[1]
92K015 66	161	121	40	[1]
92K025 404	87	60	27	[1]
92K025 626	93	60	33	[1]
92K015 32	93	60	33	[1]
92K025 632	61	60	1	[1]
92K025 296	107	60	47	[1]
92K025 501	55	60	-5	[1]
92K015 64	90	60	30	[1]
92K015 64A	90	60	30	[1]
92K025 408	124	60	64	[1]
92K025 619	24	60	-36	[1]
92K025 635	19	60	-41	[1]
92K025 536	18	60	-42	[1]
92K025 487	13	60	-47	[1]
92K025 622	8	60	-52	[1]
92K025 629	44	121	-77	[1]
92K015 34	38	60	-22	[1]
92K025 624	38	60	-22	[1]
92K025 491	81	60	21	[1]
92K025 538	101	60	41	[1]
92K025 667	97	60	37	[1]
92K025 405	5	60	-55	[1]
92K025 634	91	60	31	[1]
92K025 638	91	60	31	[1]
92K025 503	81	60	21	[1]
92K025 294	132	60	72	[1]
92K025 425	127	121	6	[1]
92K025 409	47	[73]	-26	[1]
92K015 59	131	121	10	[1]
92K015 62	91	60	31	[1]
92K025 446	91	60	31	[1]
92K025 590	81	60	21	[1]
92K025 539	81	60	21	[1]
92K015 60	81	60	21	[1]
92K025 422	41	60	-19	[1]
92K025 578	13	60	-47	[1]
92K025 633	131	121	10	[1]
92K025 628	138	121	17	[1]
92K015 65	91	60	31	[1]
92K025 506	141	121	20	[1]
92K025 488	311	121	190	[1]
92K025 535	311	121	190	[1]
92K025 532	311	121	190	[1]
92K025 419	311	121	190	[1]
92K025 531	226	121	105	[1]
92K025 444	308	121	187	[1]
92K025 445	158	121	37	[1]
92K025 508	101	60	41	[1]
92K025 415	46	60	-14	[1]
92K025 295	97	60	37	[1]

## **b) Harvest Constraints**

Constraints to harvest are recognized through a 28% area net down which accounts for 8% wildlife tree retention, 3 % for future and existing roads and 17% that accounts for areas of poor growing site and exposed rock which was evident during the initial Woodlot applicable phase of ground checking. Future adjustments to this figure may occur as better inventory information becomes available. The 3% figure is based on an analysis completed during the re-inventory of adjacent Woodlot #0046. Given the fact that the Woodlot licensee is the same for both WL0046 and WL2062 the road building techniques and methodology for access development will remain similar.

WL2062 contains a variety of Visual quality objectives (ranging from NVS to R) that may result in constraints to harvesting and road building. Harper Logging Ltd. recognizes that the cutblock design must meet the Visual constraints for each particular area. This constraint combined with the typical layout and harvest of small blocks, the topographic features that Read Island has and the use of the retention and clearcut with reserves Silviculture system will allow Harper Logging Ltd. to meet the established VQO's. Therefore, a height constraint has been modelled where by only 20% of the woodlot area may be less than five metres in height at any one time. WOODLOT for Windows models this as 80% of the woodlot has to be over five metres in height at all times. This constraint applies to the entire woodlot licence area but in some area the visually effective green up may occur at greater height. In time, this will be re-evaluated through the use of digital models to verify the validity of height constraints.

Because of the possible harvesting constraint along Steamboat Trail a separate polygon was created including 50m on each side of the trail where partial harvesting is proposed where 20% of the stand is removed with an entry every 20 years.

## **c) Harvest Parameters (Global)**

Minimum Harvest Age	: 55 Years
Minimum Harvest Diameter	: 13 cm
Minimum Harvest Vol/ha	: 300 m <sup>3</sup> /ha
TIPSY OAF1	: 15%
TIPSY OAF2	: 5%
P.C. Adjustment Factor	: 0.80
P.C. Harvest Ages	: Manual - Set by user
Planning Horizon	: 250 years

## 4.0 Harvest Calculation Results

a) Harvest Rate : 2087 m<sup>3</sup>/year

b) Harvest by Polygon: \*\*

Polygon	Own	Queue	Rot	Harvest Area (ha)	Start Year	Harvest Length (yr)	Target Harvest Age	Actual Harvest Age	Actual Harvest (m <sup>3</sup> /ha)	Total Harvest (m <sup>3</sup> )
92K025 576	C	CC	1	0.58	2010	0.17	60	61	624	359
92K025 593	C	CC	1	1.44	2010	0.29	60	81	414	596
92K025 593	C	CC	1	0.14	2010	0.03	60	81	414	60
92K025 502	C	CC	1	1.44	2010	0.51	60	89	736	1,060
92K025 502	C	CC	1	1.01	2010	0.36	60	89	736	748
92K025 579	C	CC	1	1.44	2011	0.48	60	82	688	991
92K025 579	C	CC	1	0.94	2011	0.31	60	82	688	647
92K015 66	C	CC	1	1.44	2012	0.73	121	163	1,058	1,523
92K015 66	C	CC	1	1.22	2012	0.62	121	163	1,058	1,296
92K025 404	C	CC	1	1.44	2013	0.50	60	90	724	1,043
92K025 404	C	CC	1	1.44	2013	0.50	60	90	724	1,051
92K025 404	C	CC	1	1.44	2014	0.50	60	91	730	1,051
92K025 404	C	CC	1	1.01	2014	0.36	60	91	730	741
92K025 626	C	CC	1	1.44	2015	0.54	60	98	779	1,122
92K025 626	C	CC	1	1.44	2015	0.54	60	98	779	1,128
92K025 626	C	CC	1	0.57	2016	0.21	60	99	784	446
92K015 32	C	CC	1	1.44	2016	0.45	60	99	651	939
92K015 32	C	CC	1	1.44	2017	0.45	60	100	656	944
92K015 32	C	CC	1	1.44	2017	0.45	60	100	656	944
92K015 32	C	CC	1	0.09	2017	0.03	60	100	656	62
92K025 632	C	CC	1	1.44	2018	0.39	60	69	558	803
92K025 632	C	CC	1	1.44	2018	0.39	60	69	558	803
92K025 632	C	CC	1	1.44	2018	0.39	60	69	558	809
92K025 632	C	CC	1	0.79	2019	0.21	60	70	566	448
92K025 296	C	CC	1	1.44	2019	0.52	60	116	761	1,095
92K025 296	C	CC	1	1.44	2019	0.53	60	116	761	1,100
92K025 296	C	CC	1	1.44	2020	0.53	60	117	764	1,101
92K025 296	C	CC	1	1.44	2020	0.53	60	117	764	1,106
92K025 296	C	CC	1	1.44	2021	0.53	60	118	768	1,106
92K025 296	C	CC	1	1.44	2022	0.53	60	119	772	1,111
92K025 296	C	CC	1	1.44	2022	0.53	60	119	772	1,112
92K025 296	C	CC	1	1.44	2023	0.54	60	120	775	1,116
92K025 296	C	CC	1	1.44	2023	0.54	60	120	775	1,118
92K025 296	C	CC	1	1.44	2024	0.54	60	121	778	1,121
92K025 296	C	CC	1	1.44	2024	0.54	60	121	778	1,123
92K025 296	C	CC	1	1.44	2025	0.54	60	122	782	1,126
92K025 296	C	CC	1	1.44	2025	0.54	60	122	782	1,129
92K025 296	C	CC	1	0.29	2026	0.11	60	123	785	226
92K025 501	C	CC	1	1.44	2026	0.44	60	71	642	925
92K025 501	C	CC	1	1.44	2026	0.45	60	71	642	934
92K025 501	C	CC	1	1.44	2027	0.45	60	72	651	938
92K025 501	C	CC	1	0.97	2027	0.30	60	72	651	635
92K015 64	C	CC	1	1.44	2028	0.53	60	108	764	1,100
92K015 64	C	CC	1	1.44	2028	0.53	60	108	764	1,102
92K015 64	C	CC	1	1.44	2029	0.53	60	109	768	1,106
92K015 64	C	CC	1	1.44	2029	0.53	60	109	768	1,109
92K015 64	C	CC	1	1.44	2030	0.53	60	110	773	1,113
92K015 64	C	CC	1	1.44	2030	0.53	60	110	773	1,116
92K015 64	C	CC	1	1.44	2031	0.54	60	111	777	1,119
92K015 64	C	CC	1	1.08	2031	0.40	60	111	777	841
92K015 64A	C	PC1	1	1.44	2032	0.28	60	112	781	578
92K015 64A	C	PC1	1	1.44	2032	0.28	60	112	781	578
92K015 64A	C	PC1	1	1.44	2032	0.28	60	112	781	577
92K015 64A	C	PC1	1	1.44	2033	0.28	60	113	785	584
92K015 64A	C	PC1	1	0.72	2033	0.14	60	113	785	292

92K025 408	C	CC	1	1.44	2033	0.58	60	147	836	1,203
92K025 408	C	CC	1	1.44	2034	0.58	60	148	838	1,207
92K025 408	C	CC	1	1.44	2034	0.58	60	148	838	1,208
92K025 408	C	CC	1	1.44	2035	0.58	60	149	840	1,210
92K025 408	C	CC	1	1.44	2035	0.58	60	149	840	1,212
92K025 408	C	CC	1	1.44	2036	0.58	60	150	843	1,213
92K025 408	C	CC	1	1.44	2036	0.58	60	150	843	1,216
92K025 408	C	CC	1	1.44	2037	0.58	60	151	845	1,217
92K025 408	C	CC	1	1.44	2038	0.58	60	152	847	1,220
92K025 408	C	CC	1	1.44	2038	0.59	60	152	847	1,221
92K025 408	C	CC	1	1.44	2039	0.59	60	153	849	1,223
92K025 408	C	CC	1	1.15	2039	0.47	60	153	849	980
92K015 34	C	CC	1	1.44	2040	0.38	60	68	551	793
92K015 34	C	CC	1	1.44	2040	0.38	60	68	551	796
92K015 34	C	CC	1	1.44	2041	0.39	60	69	559	806
92K015 34	C	CC	1	1.24	2041	0.33	60	69	559	693
92K025 624	C	CC	1	1.44	2041	0.39	60	69	559	812
92K025 624	C	CC	1	1.44	2042	0.39	60	70	568	818
92K025 624	C	CC	1	0.79	2042	0.22	60	70	568	450
92K025 491	C	CC	1	0.09	2042	0.03	60	113	744	64
92K025 538	C	CC	1	1.44	2042	0.48	60	133	690	996
92K025 538	C	CC	1	1.44	2043	0.48	60	134	693	998
92K025 538	C	CC	1	0.72	2043	0.24	60	134	693	499
92K025 667	C	CC	1	1.44	2044	0.43	60	131	626	901
92K025 667	C	CC	1	1.44	2044	0.43	60	131	626	901
92K025 667	C	CC	1	1.44	2044	0.43	60	131	626	904
92K025 667	C	CC	1	1.01	2045	0.30	60	132	628	633
92K025 634	C	CC	1	1.44	2045	0.41	60	126	593	854
92K025 619	C	CC	1	1.44	2046	0.30	60	60	431	620
92K025 619	C	CC	1	1.44	2046	0.30	60	60	431	620
92K025 619	C	CC	1	1.44	2046	0.30	60	60	431	620
92K025 619	C	CC	1	1.44	2046	0.30	60	60	431	629
92K025 619	C	CC	1	1.44	2047	0.30	60	61	439	632
92K025 619	C	CC	1	1.44	2047	0.30	60	61	439	632
92K025 619	C	CC	1	1.44	2047	0.31	60	61	439	637
92K025 619	C	CC	1	1.44	2048	0.31	60	62	447	643
92K025 619	C	CC	1	1.44	2048	0.31	60	62	447	643
92K025 619	C	CC	1	1.44	2048	0.31	60	62	447	646
92K025 471	C	CC	1	1.44	2049	0.35	60	60	514	739
92K025 471	C	CC	1	1.44	2049	0.35	60	60	514	739
92K025 471	C	CC	1	1.44	2049	0.36	60	60	514	744
92K025 471	C	CC	1	1.44	2050	0.36	60	61	523	753
92K025 471	C	CC	1	1.44	2050	0.36	60	61	523	753
92K025 471	C	CC	1	1.44	2050	0.36	60	61	523	761
92K025 471	C	CC	1	0.86	2051	0.22	60	62	532	460
92K025 619	C	CC	1	1.20	2051	0.27	60	65	470	565
92K025 635	C	CC	1	1.44	2051	0.22	60	60	325	468
92K025 635	C	CC	1	1.44	2051	0.23	60	60	325	474
92K015 64A	C	Sub PC	2	1.44	2052	0.10	60	71	553	200
92K015 64A	C	Sub PC	2	1.44	2052	0.10	60	71	553	200
92K015 64A	C	Sub PC	2	1.44	2052	0.10	60	71	553	200
92K025 635	C	CC	1	1.44	2052	0.23	60	61	331	477
92K025 635	C	CC	1	1.01	2052	0.16	60	61	331	334
92K025 536	C	CC	1	1.44	2052	0.32	60	60	455	661
92K015 64A	C	Sub PC	2	1.44	2053	0.10	60	71	553	200
92K015 64A	C	Sub PC	2	0.72	2053	0.05	60	71	553	100
92K025 536	C	CC	1	1.44	2053	0.32	60	61	464	668
92K025 536	C	CC	1	1.44	2053	0.32	60	61	464	668
92K025 536	C	CC	1	1.44	2053	0.32	60	61	464	678
92K025 536	C	CC	1	1.44	2054	0.33	60	62	473	681
92K025 536	C	CC	1	1.44	2054	0.33	60	62	473	681
92K025 536	C	CC	1	1.44	2054	0.33	60	62	473	690
92K025 536	C	CC	1	1.44	2055	0.33	60	63	482	694
92K025 536	C	CC	1	1.44	2055	0.33	60	63	482	694
92K025 634	C	CC	1	1.44	2055	0.43	60	136	620	895
92K025 634	C	CC	1	1.44	2056	0.43	60	137	622	896

92K025 634	C	CC	1	1.44	2056	0.43	60	137	622	897
92K025 487	C	CC	1	1.44	2057	0.31	60	60	455	655
92K025 487	C	CC	1	1.44	2057	0.31	60	60	455	655
92K025 487	C	CC	1	1.44	2057	0.32	60	60	455	661
92K025 487	C	CC	1	1.44	2058	0.32	60	61	464	668
92K025 487	C	CC	1	0.58	2058	0.13	60	61	464	267
92K025 634	C	CC	1	1.44	2058	0.43	60	139	627	903
92K025 638	C	CC	1	1.44	2059	0.50	60	140	720	1,036
92K025 638	C	CC	1	1.44	2059	0.50	60	140	720	1,036
92K025 638	C	CC	1	1.44	2060	0.50	60	141	722	1,040
92K025 638	C	CC	1	1.44	2060	0.50	60	141	722	1,040
92K025 638	C	CC	1	1.44	2061	0.50	60	142	724	1,043
92K025 638	C	CC	1	0.07	2061	0.02	60	142	724	52
92K025 503	C	CC	1	1.44	2061	0.39	60	132	559	805
92K025 503	C	CC	1	1.44	2061	0.39	60	132	559	807
92K025 622	C	CC	1	1.44	2062	0.31	60	60	455	655
92K025 622	C	CC	1	1.44	2062	0.31	60	60	455	655
92K025 622	C	CC	1	0.70	2062	0.15	60	60	455	321
92K025 503	C	CC	1	1.44	2063	0.39	60	134	562	810
92K025 503	C	CC	1	1.44	2063	0.39	60	134	562	810
92K025 503	C	CC	1	1.44	2063	0.39	60	134	562	812
92K025 503	C	CC	1	1.44	2064	0.39	60	135	564	813
92K025 503	C	CC	1	0.50	2064	0.14	60	135	564	284
92K025 294	C	CC	1	1.44	2064	0.51	60	186	735	1,060
92K025 405	C	CC	1	1.44	2065	0.26	60	60	378	544
92K025 405	C	CC	1	1.44	2065	0.26	60	60	378	544
92K025 405	C	CC	1	1.44	2065	0.26	60	60	378	548
92K025 405	C	CC	1	1.44	2066	0.27	60	61	387	557
92K025 405	C	CC	1	1.44	2066	0.27	60	61	387	557
92K025 405	C	CC	1	1.44	2066	0.27	60	61	387	557
92K025 405	C	CC	1	1.44	2066	0.27	60	61	387	564
92K025 405	C	CC	1	1.44	2067	0.27	60	62	396	570
92K025 405	C	CC	1	1.44	2067	0.27	60	62	396	570
92K025 405	C	CC	1	1.44	2067	0.27	60	62	396	570
92K025 405	C	CC	1	1.44	2067	0.28	60	62	396	581
92K025 405	C	CC	1	1.44	2068	0.28	60	63	405	583
92K025 405	C	CC	1	0.43	2068	0.08	60	63	405	175
92K025 294	C	CC	1	1.44	2068	0.51	60	190	739	1,065
92K025 294	C	CC	1	1.44	2069	0.51	60	191	740	1,066
92K025 294	C	CC	1	1.44	2069	0.51	60	191	740	1,066
92K025 294	C	CC	1	1.44	2070	0.51	60	192	741	1,067
92K025 294	C	CC	1	1.01	2070	0.36	60	192	741	747
92K025 425	C	CC	1	0.14	2071	0.06	121	188	906	130
92K025 409	C	CC	1	0.50	2071	0.12	[73]	108	491	247
92K015 59	C	CC	1	1.44	2071	0.43	121	192	620	893
92K015 59	C	CC	1	1.44	2071	0.43	121	192	620	893
92K015 64A	C	Sub PC	3	1.44	2072	0.10	60	71	553	200
92K015 64A	C	Sub PC	3	1.44	2072	0.10	60	71	553	200
92K015 64A	C	Sub PC	3	1.44	2072	0.10	60	71	553	200
92K015 59	C	CC	1	0.86	2072	0.26	121	193	620	536
92K015 62	C	CC	1	1.44	2072	0.46	60	153	674	970
92K015 64A	C	Sub PC	3	1.44	2073	0.10	60	71	553	200
92K015 64A	C	Sub PC	3	0.72	2073	0.05	60	71	553	100
92K015 62	C	CC	1	1.44	2073	0.47	60	154	675	972
92K015 62	C	CC	1	0.79	2073	0.26	60	154	675	534
92K025 446	C	CC	1	1.44	2073	0.37	60	154	539	777
92K025 446	C	CC	1	1.44	2074	0.37	60	155	540	777
92K025 446	C	CC	1	1.44	2074	0.37	60	155	540	777
92K025 446	C	CC	1	1.44	2075	0.37	60	156	541	779
92K025 446	C	CC	1	1.44	2075	0.37	60	156	541	779
92K025 446	C	CC	1	1.44	2075	0.37	60	156	541	779
92K025 446	C	CC	1	0.36	2076	0.09	60	157	542	195
92K025 590	C	CC	1	0.29	2076	0.08	60	147	548	158
92K025 539	C	CC	1	1.44	2076	0.43	60	147	622	895
92K025 539	C	CC	1	1.44	2076	0.43	60	147	622	896
92K025 539	C	CC	1	0.30	2077	0.09	60	148	623	189

92K015 60	C	CC	1	1.44	2077	0.47	60	148	688	990
92K015 60	C	CC	1	1.44	2077	0.47	60	148	688	991
92K015 60	C	CC	1	1.44	2078	0.48	60	149	689	992
92K015 60	C	CC	1	1.08	2078	0.36	60	149	689	744
92K025 422	C	CC	1	1.44	2079	0.37	60	110	535	771
92K025 422	C	CC	1	1.44	2079	0.37	60	110	535	771
92K025 422	C	CC	1	1.25	2079	0.32	60	110	535	668
92K025 578	C	CC	1	1.44	2080	0.26	60	83	378	544
92K025 578	C	CC	1	1.44	2080	0.26	60	83	378	544
92K025 578	C	CC	1	1.44	2080	0.26	60	83	378	544
92K025 578	C	CC	1	1.44	2080	0.26	60	83	378	548
92K025 578	C	CC	1	1.44	2081	0.26	60	84	383	551
92K025 578	C	CC	1	1.44	2081	0.26	60	84	383	551
92K025 578	C	CC	1	1.44	2081	0.26	60	84	383	551
92K025 578	C	CC	1	1.44	2081	0.27	60	84	383	556
92K025 578	C	CC	1	1.44	2082	0.27	60	85	388	558
92K025 578	C	CC	1	1.30	2082	0.24	60	85	388	502
92K025 633	C	CC	1	1.44	2082	0.50	121	203	720	1,038
92K025 633	C	CC	1	1.44	2083	0.50	121	204	722	1,040
92K025 633	C	CC	1	1.44	2083	0.50	121	204	722	1,041
92K025 633	C	CC	1	1.44	2084	0.50	121	205	724	1,043
92K025 633	C	CC	1	1.44	2084	0.50	121	205	724	1,044
92K025 633	C	CC	1	1.44	2085	0.50	121	206	726	1,045
92K025 633	C	CC	1	1.44	2085	0.50	121	206	726	1,046
92K025 628	C	CC	1	1.44	2086	0.52	121	214	750	1,081
92K025 628	C	CC	1	1.44	2086	0.52	121	214	750	1,082
92K025 629	C	CC	1	1.44	2087	0.62	121	121	895	1,289
92K025 629	C	CC	1	1.44	2087	0.62	121	121	895	1,294
92K025 629	C	CC	1	1.44	2088	0.62	121	122	900	1,297
92K025 629	C	CC	1	1.44	2089	0.62	121	123	905	1,303
92K025 629	C	CC	1	0.43	2089	0.19	121	123	905	391
92K025 628	C	CC	1	1.44	2089	0.52	121	217	756	1,090
92K025 628	C	CC	1	1.44	2090	0.52	121	218	757	1,091
92K025 628	C	CC	1	1.44	2090	0.52	121	218	757	1,093
92K025 628	C	CC	1	1.44	2091	0.52	121	219	759	1,093
92K015 64A	C	Sub PC	4	1.44	2092	0.10	60	71	553	200
92K015 64A	C	Sub PC	4	1.44	2092	0.10	60	71	553	200
92K015 64A	C	Sub PC	4	1.44	2092	0.10	60	71	553	200
92K025 628	C	CC	1	1.44	2092	0.53	121	220	761	1,096
92K025 628	C	CC	1	1.44	2092	0.53	121	220	761	1,097
92K015 64A	C	Sub PC	4	1.44	2093	0.10	60	71	553	200
92K015 64A	C	Sub PC	4	0.72	2093	0.05	60	71	553	100
92K025 628	C	CC	1	1.44	2093	0.53	121	221	762	1,098
92K025 628	C	CC	1	1.44	2094	0.53	121	222	764	1,100
92K025 628	C	CC	1	1.44	2094	0.53	121	222	764	1,101
92K025 628	C	CC	1	1.44	2095	0.53	121	223	766	1,103
92K025 628	C	CC	1	1.44	2095	0.53	121	223	766	1,103
92K025 628	C	CC	1	1.44	2096	0.53	121	224	768	1,105
92K025 628	C	CC	1	1.30	2096	0.48	121	224	768	995
92K015 65	C	CC	1	1.44	2097	0.30	60	178	428	616
92K015 65	C	CC	1	0.58	2097	0.12	60	178	428	246
92K025 506	C	CC	1	1.44	2097	0.32	121	228	459	660
92K025 506	C	CC	1	1.44	2097	0.32	121	228	459	661
92K025 506	C	CC	1	1.44	2098	0.32	121	229	459	661
92K025 506	C	CC	1	1.44	2098	0.32	121	229	459	661
92K025 506	C	CC	1	0.22	2098	0.05	121	229	459	99
92K025 488	C	CC	1	1.44	2098	0.33	121	399	478	689
92K025 488	C	CC	1	0.36	2099	0.08	121	400	478	172
92K025 535	C	CC	1	0.17	2099	0.05	121	400	567	98
92K025 532	C	CC	1	0.13	2099	0.03	121	400	478	62
92K025 419	C	CC	1	1.44	2099	0.33	121	400	478	689
92K025 419	C	CC	1	1.44	2099	0.33	121	400	478	689
92K025 419	C	CC	1	1.44	2100	0.33	121	401	478	689
92K025 419	C	CC	1	1.44	2100	0.33	121	401	478	689
92K025 419	C	CC	1	1.44	2100	0.33	121	401	478	689
92K025 419	C	CC	1	1.44	2101	0.33	121	402	478	689

92K025 419	C	CC	1	1.44	2101	0.33	121	402	478	689
92K025 419	C	CC	1	1.44	2101	0.33	121	402	478	689
92K025 419	C	CC	1	1.44	2101	0.33	121	402	478	689
92K025 419	C	CC	1	1.44	2102	0.33	121	403	478	689
92K025 419	C	CC	1	1.44	2102	0.33	121	403	478	689
92K025 419	C	CC	1	1.44	2102	0.33	121	403	478	689
92K025 419	C	CC	1	1.44	2103	0.33	121	404	478	689
92K025 419	C	CC	1	1.44	2103	0.33	121	404	478	689
92K025 419	C	CC	1	1.44	2103	0.33	121	404	478	689
92K025 419	C	CC	1	1.44	2104	0.33	121	405	478	689
92K025 419	C	CC	1	1.37	2104	0.31	121	405	478	654
92K025 531	C	CC	1	1.44	2104	0.32	121	320	464	668
92K025 531	C	CC	1	1.44	2105	0.32	121	321	464	668
92K025 531	C	CC	1	1.44	2105	0.32	121	321	464	668
92K025 531	C	CC	1	1.44	2105	0.32	121	321	464	668
92K025 531	C	CC	1	1.44	2106	0.32	121	322	464	668
92K025 531	C	CC	1	1.44	2106	0.32	121	322	464	668
92K025 531	C	CC	1	0.29	2106	0.06	121	322	464	134
92K025 444	C	CC	1	0.59	2106	0.16	121	404	575	339
92K025 445	C	CC	1	1.44	2107	0.40	121	255	574	827
92K025 445	C	CC	1	1.44	2107	0.40	121	255	574	827
92K025 445	C	CC	1	1.44	2107	0.40	121	255	574	827
92K025 445	C	CC	1	0.88	2108	0.24	121	256	574	504
92K025 508	C	CC	1	0.31	2108	0.07	60	199	466	144
92K025 415	C	CC	1	1.44	2108	0.30	60	144	442	636
92K025 415	C	CC	1	1.44	2108	0.31	60	144	442	637
92K025 415	C	CC	1	1.44	2109	0.31	60	145	443	638
92K025 415	C	CC	1	1.44	2109	0.31	60	145	443	638
92K025 415	C	CC	1	1.44	2109	0.31	60	145	443	639
92K025 415	C	CC	1	1.44	2110	0.31	60	146	444	640
92K025 415	C	CC	1	1.44	2110	0.31	60	146	444	640
92K025 415	C	CC	1	1.44	2110	0.31	60	146	444	640
92K025 415	C	CC	1	0.14	2111	0.03	60	147	445	64
92K025 295	C	CC	1	1.44	2111	0.24	60	198	342	493
92K025 295	C	CC	1	1.44	2111	0.24	60	198	342	493
92K025 295	C	CC	1	1.44	2111	0.24	60	198	342	493
92K025 295	C	CC	1	1.44	2111	0.24	60	198	342	493
92K015 64A	C	Sub PC	5	1.44	2112	0.10	60	71	553	200
92K015 64A	C	Sub PC	5	1.44	2112	0.10	60	71	553	200
92K015 64A	C	Sub PC	5	1.44	2112	0.10	60	71	553	200
92K025 295	C	CC	1	0.50	2112	0.08	60	199	342	173
92K025 576	C	CC	2	0.58	2112	0.40	60	101	1,457	839
92K025 593	C	CC	2	1.44	2112	0.84	60	101	1,206	1,744
92K015 64A	C	Sub PC	5	1.44	2113	0.10	60	71	553	200
92K015 64A	C	Sub PC	5	0.72	2113	0.05	60	71	553	100
92K025 593	C	CC	2	0.14	2113	0.08	60	102	1,213	175
92K025 502	C	CC	2	1.44	2113	0.81	60	102	1,170	1,695
92K025 502	C	CC	2	1.01	2114	0.57	60	102	1,170	1,183
92K025 579	C	CC	2	1.44	2115	0.72	60	103	1,048	1,509
92K025 579	C	CC	2	0.94	2115	0.47	60	103	1,048	987
92K015 66	C	CC	2	1.44	2116	0.58	60	103	845	1,216
92K015 66	C	CC	2	1.22	2117	0.50	60	103	845	1,034
92K025 404	C	CC	2	1.44	2117	0.73	60	103	1,048	1,513
92K025 404	C	CC	2	1.44	2118	0.73	60	104	1,056	1,520
92K025 404	C	CC	2	1.44	2118	0.73	60	103	1,048	1,520
92K025 404	C	CC	2	1.01	2119	0.51	60	103	1,048	1,059
92K025 626	C	CC	2	1.44	2120	0.69	60	104	993	1,430
92K025 626	C	CC	2	1.44	2120	0.69	60	104	993	1,438
92K025 626	C	CC	2	0.57	2121	0.27	60	104	993	565
92K015 32	C	CC	2	1.44	2121	0.68	60	103	986	1,427
92K015 32	C	CC	2	1.44	2122	0.69	60	104	993	1,433
92K015 32	C	CC	2	1.44	2123	0.69	60	105	1,000	1,439
92K015 32	C	CC	2	0.09	2123	0.04	60	105	1,000	94
92K025 632	C	CC	2	1.44	2123	0.65	60	104	932	1,351
92K025 632	C	CC	2	1.44	2124	0.65	60	105	939	1,355
92K025 632	C	CC	2	1.44	2125	0.65	60	105	939	1,351

92K025 632	C	CC	2	0.79	2125	0.36	60	105	939	747
92K025 296	C	CC	2	1.44	2126	0.65	60	106	945	1,361
92K025 296	C	CC	2	1.44	2126	0.66	60	106	945	1,369
92K025 296	C	CC	2	1.44	2127	0.65	60	106	945	1,364
92K025 296	C	CC	2	1.44	2128	0.65	60	106	945	1,361
92K025 296	C	CC	2	1.44	2128	0.66	60	106	945	1,368
92K025 296	C	CC	2	1.44	2129	0.65	60	106	945	1,363
92K025 296	C	CC	2	1.44	2130	0.65	60	106	945	1,361
92K025 296	C	CC	2	1.44	2130	0.66	60	106	945	1,368
92K025 296	C	CC	2	1.44	2131	0.66	60	107	952	1,372
92K015 64A	C	Sub PC	6	1.44	2132	0.10	60	71	553	200
92K015 64A	C	Sub PC	6	1.44	2132	0.10	60	71	553	200
92K015 64A	C	Sub PC	6	1.44	2132	0.10	60	71	553	200
92K025 296	C	CC	2	1.44	2132	0.66	60	107	952	1,371
92K015 64A	C	Sub PC	6	1.44	2133	0.10	60	71	553	200
92K015 64A	C	Sub PC	6	0.72	2133	0.05	60	71	553	100
92K025 296	C	CC	2	1.44	2133	0.66	60	107	952	1,370
92K025 296	C	CC	2	1.44	2133	0.66	60	107	952	1,378
92K025 296	C	CC	2	1.44	2134	0.66	60	108	958	1,382
92K025 296	C	CC	2	0.29	2135	0.13	60	108	958	276
92K025 501	C	CC	2	1.44	2135	0.66	60	108	958	1,380
92K025 501	C	CC	2	1.44	2135	0.66	60	107	952	1,380
92K025 501	C	CC	2	1.44	2136	0.66	60	108	958	1,384
92K025 501	C	CC	2	0.97	2137	0.45	60	109	965	937
92K015 64	C	CC	2	1.44	2137	0.66	60	108	958	1,386
92K015 64	C	CC	2	1.44	2138	0.66	60	108	958	1,381
92K015 64	C	CC	2	1.44	2139	0.67	60	109	965	1,389
92K015 64	C	CC	2	1.44	2139	0.67	60	109	965	1,395
92K015 64	C	CC	2	1.44	2140	0.67	60	109	965	1,390
92K015 64	C	CC	2	1.44	2141	0.67	60	109	965	1,389
92K015 64	C	CC	2	1.44	2141	0.67	60	109	965	1,395
92K015 64	C	CC	2	1.08	2142	0.50	60	110	971	1,049
92K025 408	C	CC	2	1.44	2142	0.56	60	108	802	1,162
92K025 408	C	CC	2	1.44	2143	0.55	60	108	802	1,156
92K025 408	C	CC	2	1.44	2144	0.55	60	108	802	1,155
92K025 408	C	CC	2	1.44	2144	0.55	60	108	802	1,157
92K025 408	C	CC	2	1.44	2145	0.56	60	109	808	1,163
92K025 408	C	CC	2	1.44	2145	0.56	60	108	802	1,159
92K025 408	C	CC	2	1.44	2146	0.55	60	108	802	1,155
92K025 408	C	CC	2	1.44	2146	0.56	60	108	802	1,160
92K025 408	C	CC	2	1.44	2147	0.55	60	108	802	1,155
92K025 408	C	CC	2	1.44	2147	0.55	60	107	797	1,154
92K025 408	C	CC	2	1.44	2148	0.55	60	108	802	1,155
92K025 408	C	CC	2	1.15	2149	0.45	60	109	808	930
92K015 34	C	CC	2	1.44	2149	0.55	60	108	802	1,155
92K015 34	C	CC	2	1.44	2150	0.55	60	108	802	1,155
92K015 34	C	CC	2	1.44	2150	0.55	60	108	802	1,157
92K015 34	C	CC	2	1.24	2151	0.48	60	109	808	1,000
92K025 624	C	CC	2	1.44	2151	0.56	60	109	808	1,165
92K015 64A	C	Sub PC	7	1.44	2152	0.10	60	71	553	200
92K015 64A	C	Sub PC	7	1.44	2152	0.10	60	71	553	200
92K015 64A	C	Sub PC	7	1.44	2152	0.10	60	71	553	200
92K025 624	C	CC	2	1.44	2152	0.56	60	109	808	1,163
92K015 64A	C	Sub PC	7	1.44	2153	0.10	60	71	553	200
92K015 64A	C	Sub PC	7	0.72	2153	0.05	60	71	553	100
92K025 624	C	CC	2	0.79	2153	0.31	60	110	813	644
92K025 491	C	CC	2	0.09	2153	0.03	60	110	813	70
92K025 538	C	CC	2	1.44	2153	0.49	60	109	717	1,032
92K025 538	C	CC	2	1.44	2154	0.50	60	110	722	1,040
92K025 538	C	CC	2	0.72	2154	0.25	60	110	722	520
92K025 667	C	CC	2	1.44	2154	0.44	60	109	639	922
92K025 667	C	CC	2	1.44	2155	0.44	60	110	643	926
92K025 667	C	CC	2	1.44	2155	0.44	60	109	639	921
92K025 667	C	CC	2	1.01	2156	0.31	60	110	643	648
92K025 634	C	CC	2	1.44	2156	0.50	60	110	722	1,040
92K025 619	C	CC	2	1.44	2156	0.56	60	109	808	1,169

92K025 619	C	CC	2	1.44	2157	0.56	60	110	813	1,171
92K025 619	C	CC	2	1.44	2158	0.56	60	111	818	1,177
92K025 619	C	CC	2	1.44	2158	0.56	60	110	813	1,172
92K025 619	C	CC	2	1.44	2159	0.56	60	111	818	1,177
92K025 619	C	CC	2	1.44	2159	0.57	60	111	818	1,180
92K025 619	C	CC	2	1.44	2160	0.57	60	112	822	1,184
92K025 619	C	CC	2	1.44	2160	0.57	60	111	818	1,182
92K025 619	C	CC	2	1.44	2161	0.57	60	112	822	1,184
92K025 619	C	CC	2	1.44	2161	0.57	60	111	818	1,184
92K025 471	C	CC	2	1.44	2162	0.89	60	112	1,287	1,858
92K025 471	C	CC	2	1.44	2163	0.89	60	113	1,294	1,867
92K025 471	C	CC	2	1.44	2164	0.90	60	114	1,301	1,875
92K025 471	C	CC	2	1.44	2165	0.90	60	114	1,301	1,874
92K025 471	C	CC	2	1.44	2166	0.90	60	115	1,308	1,883
92K025 471	C	CC	2	1.44	2167	0.90	60	115	1,308	1,883
92K025 471	C	CC	2	0.86	2167	0.54	60	115	1,308	1,135
92K025 619	C	CC	2	1.20	2168	0.48	60	116	841	1,011
92K025 635	C	CC	2	1.44	2168	0.51	60	116	739	1,069
92K025 635	C	CC	2	1.44	2169	0.51	60	117	743	1,070
92K025 635	C	CC	2	1.44	2169	0.51	60	116	739	1,069
92K025 635	C	CC	2	1.01	2170	0.36	60	117	743	749
92K025 536	C	CC	2	1.44	2170	0.58	60	116	841	1,215
92K025 536	C	CC	2	1.44	2171	0.58	60	117	845	1,217
92K015 64A	C	Sub PC	8	1.44	2172	0.10	60	71	553	200
92K015 64A	C	Sub PC	8	1.44	2172	0.10	60	71	553	200
92K015 64A	C	Sub PC	8	1.44	2172	0.10	60	71	553	200
92K025 536	C	CC	2	1.44	2172	0.59	60	118	850	1,224
92K025 536	C	CC	2	1.44	2172	0.59	60	118	850	1,229
92K015 64A	C	Sub PC	8	1.44	2173	0.10	60	71	553	200
92K015 64A	C	Sub PC	8	0.72	2173	0.05	60	71	553	100
92K025 536	C	CC	2	1.44	2173	0.59	60	118	850	1,226
92K025 536	C	CC	2	1.44	2174	0.59	60	119	854	1,230
92K025 536	C	CC	2	1.44	2174	0.59	60	118	850	1,228
92K025 536	C	CC	2	1.44	2175	0.59	60	119	854	1,230
92K025 536	C	CC	2	1.44	2175	0.59	60	119	854	1,237
92K025 634	C	CC	2	1.44	2176	0.53	60	120	768	1,107
92K025 634	C	CC	2	1.44	2177	0.53	60	120	768	1,106
92K025 634	C	CC	2	1.44	2177	0.53	60	119	763	1,101
92K025 487	C	CC	2	1.44	2178	0.59	60	120	859	1,237
92K025 487	C	CC	2	1.44	2178	0.59	60	120	859	1,240
92K025 487	C	CC	2	1.44	2179	0.60	60	121	863	1,243
92K025 487	C	CC	2	1.44	2179	0.60	60	120	859	1,242
92K025 487	C	CC	2	0.58	2180	0.24	60	121	863	497
92K025 634	C	CC	2	1.44	2180	0.53	60	120	768	1,109
92K025 638	C	CC	2	1.44	2181	0.53	60	121	772	1,112
92K025 638	C	CC	2	1.44	2181	0.53	60	121	772	1,116
92K025 638	C	CC	2	1.44	2182	0.53	60	121	772	1,112
92K025 638	C	CC	2	1.44	2182	0.53	60	120	768	1,111
92K025 638	C	CC	2	1.44	2183	0.53	60	121	772	1,112
92K025 638	C	CC	2	0.07	2183	0.03	60	121	772	56
92K025 503	C	CC	2	1.44	2183	0.49	60	121	711	1,029
92K025 503	C	CC	2	1.44	2184	0.49	60	122	715	1,029
92K025 622	C	CC	2	1.44	2184	0.60	60	121	863	1,248
92K025 622	C	CC	2	1.44	2185	0.60	60	122	867	1,250
92K025 622	C	CC	2	0.70	2186	0.29	60	122	867	605
92K025 503	C	CC	2	1.44	2186	0.49	60	122	715	1,029
92K025 503	C	CC	2	1.44	2186	0.50	60	122	715	1,034
92K025 503	C	CC	2	1.44	2187	0.50	60	123	719	1,035
92K025 503	C	CC	2	1.44	2187	0.50	60	122	715	1,034
92K025 503	C	CC	2	0.50	2188	0.17	60	123	719	362
92K025 294	C	CC	2	1.44	2188	0.49	60	122	715	1,031
92K025 405	C	CC	2	1.44	2189	0.54	60	123	781	1,124
92K025 405	C	CC	2	1.44	2189	0.54	60	123	781	1,126
92K025 405	C	CC	2	1.44	2190	0.54	60	124	785	1,130
92K025 405	C	CC	2	1.44	2190	0.54	60	123	781	1,127
92K025 405	C	CC	2	1.44	2191	0.54	60	124	785	1,130

92K025 405	C	CC	2	1.44	2191	0.54	60	124	785	1,134
92K015 64A	C	Sub PC	9	1.44	2192	0.10	60	71	553	200
92K015 64A	C	Sub PC	9	1.44	2192	0.10	60	71	553	200
92K015 64A	C	Sub PC	9	1.44	2192	0.10	60	71	553	200
92K025 405	C	CC	2	1.44	2192	0.54	60	124	785	1,132
92K015 64A	C	Sub PC	9	1.44	2193	0.10	60	71	553	200
92K015 64A	C	Sub PC	9	0.72	2193	0.05	60	71	553	100
92K025 405	C	CC	2	1.44	2193	0.54	60	125	789	1,136
92K025 405	C	CC	2	1.44	2193	0.55	60	125	789	1,141
92K025 405	C	CC	2	1.44	2194	0.55	60	126	793	1,142
92K025 405	C	CC	2	1.44	2194	0.55	60	126	793	1,148
92K025 405	C	CC	2	1.44	2195	0.55	60	126	793	1,143
92K025 405	C	CC	2	0.43	2196	0.17	60	127	797	344
92K025 294	C	CC	2	1.44	2196	0.50	60	126	730	1,052
92K025 294	C	CC	2	1.44	2196	0.51	60	126	730	1,054
92K025 294	C	CC	2	1.44	2197	0.51	60	127	734	1,057
92K025 294	C	CC	2	1.44	2197	0.51	60	126	730	1,055
92K025 294	C	CC	2	1.01	2198	0.35	60	126	730	736
92K025 425	C	CC	2	0.14	2198	0.05	60	126	730	105
92K025 409	C	CC	2	0.50	2198	0.18	[80]	126	730	368
92K015 59	C	CC	2	1.44	2198	0.46	60	126	669	966
92K015 59	C	CC	2	1.44	2199	0.46	60	127	672	968
92K015 59	C	CC	2	0.86	2199	0.28	60	126	669	578
92K015 62	C	CC	2	1.44	2200	0.46	60	126	669	963
92K015 62	C	CC	2	1.44	2200	0.46	60	126	669	963
92K015 62	C	CC	2	0.79	2200	0.25	60	126	669	532
92K025 446	C	CC	2	1.44	2201	0.46	60	127	672	968
92K025 446	C	CC	2	1.44	2201	0.46	60	126	669	964
92K025 446	C	CC	2	1.44	2202	0.46	60	126	669	963
92K025 446	C	CC	2	1.44	2202	0.46	60	126	669	963
92K025 446	C	CC	2	1.44	2203	0.46	60	127	672	968
92K025 446	C	CC	2	1.44	2203	0.46	60	127	672	968
92K025 446	C	CC	2	0.36	2203	0.12	60	126	669	242
92K025 590	C	CC	2	0.29	2204	0.09	60	127	672	194
92K025 539	C	CC	2	1.44	2204	0.41	60	127	590	850
92K025 539	C	CC	2	1.44	2204	0.41	60	126	587	845
92K025 539	C	CC	2	0.30	2205	0.09	60	127	590	178
92K015 60	C	CC	2	1.44	2205	0.46	60	127	672	968
92K015 60	C	CC	2	1.44	2205	0.46	60	127	672	968
92K015 60	C	CC	2	1.44	2206	0.46	60	127	672	968
92K015 60	C	CC	2	1.08	2206	0.35	60	126	669	722
92K025 422	C	CC	2	1.44	2206	0.46	60	126	669	966
92K025 422	C	CC	2	1.44	2207	0.46	60	127	672	968
92K025 422	C	CC	2	1.25	2207	0.40	60	127	672	839
92K025 578	C	CC	2	1.44	2208	0.37	60	127	534	769
92K025 578	C	CC	2	1.44	2208	0.37	60	127	534	769
92K025 578	C	CC	2	1.44	2208	0.37	60	127	534	772
92K025 578	C	CC	2	1.44	2209	0.37	60	127	534	769
92K025 578	C	CC	2	1.44	2209	0.37	60	127	534	769
92K025 578	C	CC	2	1.44	2210	0.37	60	128	537	773
92K025 578	C	CC	2	1.44	2210	0.37	60	128	537	773
92K025 578	C	CC	2	1.44	2210	0.37	60	128	537	774
92K025 578	C	CC	2	1.44	2211	0.37	60	128	537	773
92K025 578	C	CC	2	1.30	2211	0.33	60	128	537	696
92K025 633	C	CC	2	1.44	2211	0.37	60	127	534	771
92K015 64A	C	Sub PC	10	1.44	2212	0.10	60	71	553	200
92K015 64A	C	Sub PC	10	1.44	2212	0.10	60	71	553	200
92K015 64A	C	Sub PC	10	1.44	2212	0.10	60	71	553	200
92K025 633	C	CC	2	1.44	2212	0.37	60	128	537	773
92K025 633	C	CC	2	1.44	2212	0.37	60	128	537	775
92K015 64A	C	Sub PC	10	1.44	2213	0.10	60	71	553	200
92K015 64A	C	Sub PC	10	0.72	2213	0.05	60	71	553	100
92K025 633	C	CC	2	1.44	2213	0.37	60	128	537	773
92K025 633	C	CC	2	1.44	2213	0.37	60	127	534	770
92K025 633	C	CC	2	1.44	2214	0.37	60	128	537	773
92K025 633	C	CC	2	1.44	2214	0.37	60	128	537	773

92K025 628	C	CC	2	1.44	2214	0.33	60	127	483	697
92K025 628	C	CC	2	1.44	2215	0.33	60	127	483	695
92K025 629	C	CC	2	1.44	2215	0.61	60	127	886	1,277
92K025 629	C	CC	2	1.44	2216	0.61	60	128	890	1,282
92K025 629	C	CC	2	1.44	2216	0.61	60	126	882	1,274
92K025 629	C	CC	2	1.44	2217	0.61	60	127	886	1,276
92K025 629	C	CC	2	0.43	2217	0.18	60	127	886	384
92K025 628	C	CC	2	1.44	2218	0.33	60	128	485	699
92K025 628	C	CC	2	1.44	2218	0.33	60	127	483	695
92K025 628	C	CC	2	1.44	2218	0.33	60	126	480	693
92K025 628	C	CC	2	1.44	2219	0.33	60	127	483	695
92K025 628	C	CC	2	1.44	2219	0.33	60	126	480	692
92K025 628	C	CC	2	1.44	2219	0.33	60	125	478	690
92K025 628	C	CC	2	1.44	2220	0.33	60	126	480	692
92K025 628	C	CC	2	1.44	2220	0.33	60	125	478	688
92K025 628	C	CC	2	1.44	2220	0.33	60	124	476	686
92K025 628	C	CC	2	1.44	2221	0.33	60	125	478	688
92K025 628	C	CC	2	1.44	2221	0.33	60	125	478	688
92K025 628	C	CC	2	1.44	2221	0.33	60	124	476	686
92K025 628	C	CC	2	1.30	2222	0.30	60	124	476	616
92K015 65	C	CC	2	1.44	2222	0.29	60	124	426	613
92K015 65	C	CC	2	0.58	2222	0.12	60	124	426	245
92K025 506	C	CC	2	1.44	2222	0.29	60	124	426	615
92K025 506	C	CC	2	1.44	2223	0.30	60	125	429	617
92K025 506	C	CC	2	1.44	2223	0.29	60	124	426	613
92K025 506	C	CC	2	1.44	2223	0.29	60	124	426	613
92K025 506	C	CC	2	0.22	2223	0.04	60	124	426	92
92K025 488	C	CC	2	1.44	2224	0.29	60	124	426	613
92K025 488	C	CC	2	0.36	2224	0.07	60	124	426	153
92K025 535	C	CC	2	0.17	2224	0.04	60	124	426	74
92K025 532	C	CC	2	0.13	2224	0.03	60	124	426	55
92K025 419	C	CC	2	1.44	2224	0.29	60	124	426	613
92K025 419	C	CC	2	1.44	2224	0.29	60	124	426	614
92K025 419	C	CC	2	1.44	2225	0.29	60	124	426	613
92K025 419	C	CC	2	1.44	2225	0.29	60	124	426	613
92K025 419	C	CC	2	1.44	2225	0.29	60	123	424	610
92K025 419	C	CC	2	1.44	2225	0.29	60	123	424	613
92K025 419	C	CC	2	1.44	2226	0.29	60	124	426	613
92K025 419	C	CC	2	1.44	2226	0.29	60	124	426	613
92K025 419	C	CC	2	1.44	2226	0.29	60	124	426	615
92K025 419	C	CC	2	1.44	2227	0.29	60	124	426	613
92K025 419	C	CC	2	1.44	2227	0.29	60	124	426	613
92K025 419	C	CC	2	1.44	2227	0.29	60	123	424	610
92K025 419	C	CC	2	1.44	2227	0.29	60	123	424	613
92K025 419	C	CC	2	1.44	2228	0.29	60	124	426	613
92K025 419	C	CC	2	1.44	2228	0.29	60	124	426	613
92K025 419	C	CC	2	1.44	2228	0.29	60	123	424	612
92K025 419	C	CC	2	1.37	2229	0.28	60	124	426	583
92K025 531	C	CC	2	1.44	2229	0.27	60	123	398	573
92K025 531	C	CC	2	1.44	2229	0.27	60	123	398	573
92K025 531	C	CC	2	1.44	2229	0.28	60	123	398	576
92K025 531	C	CC	2	1.44	2230	0.28	60	124	400	577
92K025 531	C	CC	2	1.44	2230	0.27	60	123	398	573
92K025 531	C	CC	2	1.44	2230	0.28	60	123	398	574
92K025 531	C	CC	2	0.29	2231	0.06	60	124	400	115
92K025 444	C	CC	2	0.59	2231	0.11	60	123	398	235
92K025 445	C	CC	2	1.44	2231	0.27	60	123	398	573
92K025 445	C	CC	2	1.44	2231	0.27	60	123	398	573
92K025 445	C	CC	2	1.44	2231	0.28	60	123	398	574
92K015 64A	C	Sub PC	11	1.44	2232	0.10	60	71	553	200
92K015 64A	C	Sub PC	11	1.44	2232	0.10	60	71	553	200
92K015 64A	C	Sub PC	11	1.44	2232	0.10	60	71	553	200
92K025 445	C	CC	2	0.88	2232	0.17	60	123	398	349
92K025 508	C	CC	2	0.31	2232	0.06	60	123	398	123
92K025 415	C	CC	2	1.44	2232	0.24	60	123	346	498
92K025 415	C	CC	2	1.44	2232	0.24	60	122	344	496

92K015 64A	C	Sub PC	11	1.44	2233	0.10	60	71	553	200
92K015 64A	C	Sub PC	11	0.72	2233	0.05	60	71	553	100
92K025 415	C	CC	2	1.44	2233	0.24	60	123	346	498
92K025 415	C	CC	2	1.44	2233	0.24	60	123	346	498
92K025 415	C	CC	2	1.44	2233	0.24	60	123	346	498
92K025 415	C	CC	2	1.44	2233	0.24	60	122	344	497
92K025 415	C	CC	2	1.44	2234	0.24	60	123	346	498
92K025 415	C	CC	2	1.44	2234	0.24	60	122	344	495
92K025 415	C	CC	2	0.14	2234	0.02	60	122	344	49
92K025 295	C	CC	2	1.44	2234	0.15	60	122	215	310
92K025 295	C	CC	2	1.44	2234	0.15	60	122	215	310
92K025 295	C	CC	2	1.44	2234	0.15	60	122	215	312
92K025 295	C	CC	2	1.44	2235	0.15	60	123	217	312
92K025 295	C	CC	2	0.50	2235	0.05	60	122	215	109
92K025 576	C	CC	3	0.58	2235	0.45	60	122	1,643	947
92K025 593	C	CC	3	1.44	2235	0.93	60	121	1,347	1,947
92K025 593	C	CC	3	0.14	2236	0.09	60	122	1,353	195
92K025 502	C	CC	3	1.44	2236	0.91	60	122	1,315	1,901
92K025 502	C	CC	3	1.01	2237	0.63	60	121	1,309	1,323
92K025 579	C	CC	3	1.44	2238	0.82	60	122	1,181	1,702
92K025 579	C	CC	3	0.94	2239	0.53	60	123	1,187	1,111
92K015 66	C	CC	3	1.44	2239	0.64	60	121	929	1,340
92K015 66	C	CC	3	1.22	2240	0.55	60	122	932	1,141
92K025 404	C	CC	3	1.44	2240	0.82	60	122	1,181	1,707
92K025 404	C	CC	3	1.44	2241	0.82	60	122	1,181	1,706
92K025 404	C	CC	3	1.44	2242	0.82	60	122	1,181	1,704
92K025 404	C	CC	3	1.01	2243	0.57	60	123	1,187	1,196
92K025 626	C	CC	3	1.44	2243	0.77	60	122	1,110	1,606
92K025 626	C	CC	3	1.44	2244	0.77	60	122	1,110	1,603
92K025 626	C	CC	3	0.57	2245	0.30	60	123	1,116	635
92K015 32	C	CC	3	1.44	2245	0.77	60	123	1,116	1,612
92K015 32	C	CC	3	1.44	2246	0.77	60	122	1,110	1,601
92K015 32	C	CC	3	1.44	2247	0.77	60	123	1,116	1,607
92K015 32	C	CC	3	0.09	2248	0.05	60	124	1,122	105
92K025 632	C	CC	3	1.44	2248	0.72	60	124	1,050	1,511
92K025 632	C	CC	3	1.44	2248	0.72	60	122	1,039	1,502
92K025 632	C	CC	3	1.44	2249	0.72	60	123	1,044	1,507
92K025 632	C	CC	3	0.79	2250	0.40	60	124	1,050	831
92K025 296	C	CC	3	1.44	2250	0.72	60	123	1,044	1,508
92K025 296	C	CC	3	1.44	2251	0.72	60	123	1,044	1,505
92K015 64A	C	Sub PC	12	1.44	2252	0.10	60	71	553	200
92K015 64A	C	Sub PC	12	1.44	2252	0.10	60	71	553	200
92K015 64A	C	Sub PC	12	1.44	2252	0.10	60	71	553	200
92K025 296	C	CC	3	1.44	2252	0.73	60	124	1,050	1,513
92K015 64A	C	Sub PC	12	1.44	2253	0.10	60	71	553	200
92K015 64A	C	Sub PC	12	0.72	2253	0.05	60	71	553	100
92K025 296	C	CC	3	1.44	2253	0.72	60	124	1,050	1,511
92K025 296	C	CC	3	1.44	2253	0.72	60	123	1,044	1,511
92K025 296	C	CC	3	1.44	2254	0.73	60	124	1,050	1,516
92K025 296	C	CC	3	1.44	2255	0.73	60	124	1,050	1,513
92K025 296	C	CC	3	1.44	2256	0.72	60	124	1,050	1,511
92K025 296	C	CC	3	1.44	2256	0.73	60	124	1,050	1,518
92K025 296	C	CC	3	1.44	2257	0.72	60	123	1,044	1,507
92K025 296	C	CC	3	1.44	2258	0.72	60	124	1,050	1,512
92K025 296	C	CC	3	1.44	2259	0.73	60	125	1,055	1,519
92K025 296	C	CC	3	1.44	2259	0.72	60	123	1,044	1,509
92K025 296	C	CC	3	0.29	2260	0.14	60	124	1,050	302
92K025 501	C	CC	3	0.66	2260	0.33	60	124	1,050	692

c) Polygons not harvested

Polygon	Own	Harvest Area (ha)	Reason
92K025 426	C	3.0	Polygon excluded from sort order
92K025 423	C	0.2	Polygon excluded from sort order
92K025 437	C	31.7	Polygon excluded from sort order
92K025 421	C	12.3	Polygon excluded from sort order
92K025 439	C	10.0	Polygon excluded from sort order
92K025 438	C	6.6	Polygon excluded from sort order
92K025 440	C	5.9	Polygon excluded from sort order
92K025 420	C	12.0	Polygon excluded from sort order
92K025 417	C	3.7	Polygon excluded from sort order
92K025 416	C	1.2	Polygon excluded from sort order
92K025 418	C	1.0	Polygon excluded from sort order
92K025 505	C	8.3	Polygon excluded from sort order
92K025 529	C	7.2	Polygon excluded from sort order
92K025 534	C	5.0	Polygon excluded from sort order
92K025 537	C	22.5	Polygon excluded from sort order
92K025 528	C	0.6	Polygon excluded from sort order
92K025 540	C	5.3	Polygon excluded from sort order
92K025 616	C	14.2	Polygon excluded from sort order
92K025 625	C	7.7	Polygon excluded from sort order
92K025 611	C	0.5	Polygon excluded from sort order
92K025 627	C	3.5	Polygon excluded from sort order
92K025 646	C	0.1	Polygon excluded from sort order
92K015 31	C	28.2	Polygon excluded from sort order
92K015 33	C	12.7	Polygon excluded from sort order
92K015 55	C	6.4	Polygon excluded from sort order
92K025 486	C	1.8	Polygon excluded from sort order
92K025 489	C	4.5	Polygon excluded from sort order
92K025 643	C	0.7	Polygon excluded from sort order
92K015 63	C	2.4	Polygon excluded from sort order
92K015 61	C	6.2	Polygon excluded from sort order
92K015 58	C	1.8	Polygon excluded from sort order
92K025 631	C	23.7	Polygon excluded from sort order
92K025 639	C	18.0	Polygon excluded from sort order
92K025 297	C	4.8	Polygon excluded from sort order
92K025 630	C	6.1	Polygon excluded from sort order
92K025 428	C	0.9	Polygon excluded from sort order
<b>Total</b>		<b>280.8</b>	

d) Actual average Harvest with constraints and non harvest years over 250 year planning horizon:

Ownership	Harvest Area (ha)	Conifer (m³)	Deciduous (m³)	Total (m³)	Average (m³/yr)
Crown	357.5	520,726	3,095	523,822	2,086
Private	0.0	0	0	0	0
Top-Up	0.0	0	0	0	0
Other	0.0	0	0	0	0
<b>Total</b>	<b>357.5</b>	<b>520,726</b>	<b>3,095</b>	<b>523,822</b>	<b>2,086</b>
<b>Average</b>		<b>2,074</b>	<b>12</b>	<b>2,086</b>	

Hanzlik Rate : 2,728 m³/year

\*\* Net of decay, waste, breakage, VAF and OAFs

**e) Age Constraints Not Met During the following Period(s)**

Age constraints are disabled

**f) Height Constraints Not Met During the following Period(s)**

## **5.0 Conclusions**

**1. Polygons have been removed from the calculation for the following reasons:**

- a) do not produce a minimum volume of 300m<sup>3</sup> at the time of culmination;
- b) polygon is not accessible using ground or cable systems;
- c) removed for other resource management issues; and
- d) operability constraints

**2. Regeneration species make up was based on site index as follows for TIPSy:**

SI <23	Poor 100% Fdc (based on recce change to Cw)
SI 23-27	Medium Fdc 80% and Cw 20%
SI >27	Good Fdc 60% and Cw 40%

Stocking Level 1100 stems/ha.

Operational Adjustment Factors OAF 1 15% and OAF 2 5%.

There is no pruning or fertilization considered.

**3. For TIPSy generated stands utilization is set at 12.5cm DBH For VDYP generated stands: Stands <120 years old utilization is set at 12.5cm DBH Stands >120 years old utilization is set at 17.5 cm DBH.**

**4. The June 2001 Timber Supply Review for the Sunshine Coast Timber Supply Area was used as a guide for this analysis.**

**5. Due to the very productive growing sites on Read Island blocks Harper Logging Ltd. is generally aggressive with the regeneration strategy of replanting the sites within one growing season of harvest. The average regeneration delay equals 1-year.**

## 6.0 Report Abbreviations

Term	Definition
%	Species Composition Percent
[]	Default Variable
(s/ha)	Stems/ha
Available for	Number of years the polygon has been ready to harvest
C Age	Culmination Age
C Vol	Volume at Culmination Age
CC	Clearcut
CT	Commercial Thin
Cul	Culmination
Dens	Initial Density (stems/ha)
FIZ	Forest Inventory Zone
Harvest Area (ha)	Area reduced by the area netdown.
MAI	Mean Annual Increment (m <sup>3</sup> /ha/yr)
Mgmt Type	Management Type (VDYP / TIPSYP / NC / NSR)
NC	Non Commercial
NSR	Non Satisfactory Regeneration
PC	Partial Cut
PC%	Partial Cut percent to harvest
PC1	First Partial Cut
PSYU	Public Sustained Yield Unit
Queue	Reason for harvest (CC, PC1, Sub PC, CT, Road, NSR, NC)
Reentry	Number of years to wait before reentering a partial cut
Regen	Regeneration Type (Natural / Planted)
Road	Road net down
S1-S6	Species Codes 1 to 6
SI	Site Index
Silv Sys	Silviculture System (CC, PC)
Stk Cls	Stocking Class (0 to 4 or R)
Sub PC	Subsequent Partial Cut
T Age	Target Age
T Vol	Volume at Target Age
Target Age	Target harvest age. The actual harvest age will depend on the time the simulation harvests the polygon. See section 4(b) for actual harvest ages.
Thin	Pre-commercial thin to density (stems/ha)
TIPSYP	Table Interpolation Program for Stand Yields
VAF	Volume Adjustment Factor
VDYP	Variable Density Yield Projection



**MAP OF : W2062 Schedule 'A' Lands** (shown in bold black)

FOREST REGION : RCO	TSA : 37	PULPWOOD AGREEMENT:	MGT UNIT TYPE: U
FOREST DISTRICT: DSC	LAND DISTRICT: Sayward Land District		MGT UNIT NO :
ESF SUBMISSION ID : 868707	SCALE : 1:15000	UTM ZONE: 10	DRAWN BY: C/JG
BCGS MAPSHEET NO: 092K.021	AREA/LENGTH: 11.3 ha	NAD : 83	DATE : January 7, 2011

