

**Terms of Reference and Contractor Guidelines**

**Growth Opportunities and the Development  
of a Foundation for an Industrial Strategy  
for Value Added Timber Conversion and  
Utilization in northern BC**

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## **Rationale and Background:**

The conversion of commercially viable northern BC species of trees has long been driven by demand for construction lumber in the North American markets. This has led to conversion policies and grading standards that yield maximum recovery and value in standardized sizes best suiting the dimension markets. Building standards have evolved to suit the type of material available in a sort of “cause and effect” cycle. Attempts at diversification to meet other market needs e.g. demand in Japan, have been minor and adjustments have usually been to trim back to or charge out at the “closest” CLS size.

The system has become so streamlined over the years that even the tenure and timber licensing system now support this narrow strategy. All indicators and benchmarks used in the industry are derived from this approach and sawmills are geared and focused to meet and improve on these measures of success. At each stage of production, technology has been introduced to ensure maximum yield and productivity within the confines of the sizes and species mix allowed by the US dimension market.

These technological advances have also led to a reduction in employment opportunities in the primary sector and government focus and policies now look to the secondary processing sector to fill the gap in employment growth, product diversification and economic development.

Accordingly, a number of secondary processors have evolved to try and utilize the CLS dimension mix and sizing but the economics of efficient conversion dictate that only those adding minimal processing and staying “close” to the construction markets can turn a profit. Typically the “remanufacturers” set up to modify CLS dimension lumber are more likely to succeed whereas “manufacturers” are struggling to survive and many operations have been forced to curtail production. To this is added the increasing competition from plantation grown species now entering the North American markets where fibre costs, clear grades and optimal sizing allow manufacturers in Chile, New Zealand, Europe, Scandinavia, Mexico, South Africa, and others to more efficiently convert timber to suit market needs.

This situation threatens the very survival of the secondary industry as it stands. The acquired efficiencies in low cost primary production, have been at the expense of versatility and flexibility of sawing the non-CLS products required by the secondary manufacturing sector. Something has to be done to alleviate the situation and make way for the full potential of the fibre resource. A new approach and innovative thinking are required to allow the industry an opportunity of meeting its much talked of but seldom achieved potential.

### **Purpose of the Study:**

The objective is to undertake a study that will determine the foundation for an industrial strategy for secondary manufacturers in northern BC to ensure that they become world class manufacturers of wood products and leaders in employment growth. It will determine the elements of change that are necessary to influence government policies and economic development in the region. This may be achieved by investigating the following questions:

- what is the cost of timber to secondary manufacturers and how does this compare to primary manufacturers?
- what sizes and grades other than CLS are needed to meet market needs?
- what secondary products can be profitably produced using CLS sizes and grades?
- is there a middle ground where both CLS sizes/grades and others suited to optimum secondary manufacturing can profitably be produced by primary saw mills?

The purpose is to unleash the full potential of the wood processing sector in northern BC. The single biggest constraint on northern BC wood processors in their ability to compete in global markets, is their dependence on raw material based on CLS sizes, an S4S finish and the present grading system. Relaxation of these constraints might see explosive growth in the secondary wood processing industry where the relative advantages of the inherent wood quality and attributes of northern grown fibre could make the industry highly competitive and successful on a global scale.

Such growth would lead to growth in employment, new manufacturing opportunities, development of engineered wood products and an increased need for education and training to support the growth. Northern BC has a huge resource of untapped potential that could be unleashed to expand the next wave of economic development for the region.

### **Goals:**

- To establish a foundation for an industrial strategy and a basis for government policies for the growth and future prospects of the secondary wood products sector
- To undertake a product - market growth analysis of secondary wood products

- To determine the optimum timber conversion strategy and sawing technology to meet secondary manufacturers needs and growth opportunities
- To examine the cost structure of lumber conversion and its relationship to stumpage for secondary manufacturers
- To investigate how other parts of the world manage their timber supply with respect to timber allocations to secondary manufacturers, subsidies on labour, capital and investment incentives etc..

#### **Timelines and Goals:**

Request for proposals advertised November 16<sup>th</sup>, 1998

Deadline for submission of documents by December 21<sup>st</sup>, 1998

Selection of successful proponent by January 8<sup>th</sup>, 1999

Monthly progress reports available within five working days of calendar month end

Draft report available for steering committee review

Final report submitted

#### **Terms of Reference:**

##### **Setting the Context**

The consultant will briefly set the context of the current situation in northern BC. Consulting existing literature and studies, the consultant will describe the status quo which will be used as a basis for comparison to any recommendations and strategies emerging from this study. This will be accomplished by analysing as a minimum the following areas:

- Literature review of global timber conversion strategies that might be applicable to northern BC
- Review of northern BC fibre base, its attributes and relative merits over other fibre sources
- Review of current lumber sizing policies in northern BC and other global jurisdictions e.g. Scandinavia, Europe, Pinus radiata and other plantation grown timber producers
- Review of current timber valuation, costs and stumpage policies

- Review of current grading standards in northern BC
- Review of current codes and standards for wood products

## **Reference**

The consultant must provide a glossary of terms. In addition, a schedule of standard conversion factors used must be given.

### **1. Glossary of Terms**

The consultant will provide a definition of terms used in the study. The intention is to avoid any ambiguity in the interpretation of results and to ensure a common understanding among participants in the study. Where appropriate, industry jargon and commonly used terminology will be described.

### **2. Conversion Factors**

A detailed list of conversion factors used in determining results in the study will be provided. This is particularly important due to the somewhat complex and unusual industry norm of mixing imperial and metric conversion factors as well as to the differences encountered between the various types of processing plant.

## **Scope of the Study**

### **Systematic Investigation of Information**

The consultant will undertake a systematic investigation of existing information and undertake an extensive review of the literature. In order to save time and expenses, Forest Renewal BC will provide the consultant with a list of studies and documents in its possession that cover the study area. The consultant must provide a detailed bibliography of relevant material researched as part of the final report.

The consultant may need to add to the information by undertaking a survey of existing businesses and industry associations. The consultant should outline how the required data and information will be gathered and a clear methodology must be given to ensure an acceptable response and that reliable information is collected. It should be noted, that as there is a distinct lack of enthusiasm on the part of businesses to complete yet another survey or questionnaire, the consultant will have to take extraordinary steps to overcome this resistance.

## SWOT analysis of northern softwood fibre attributes relative to competitors

Using published data, the consultant will undertake a SWOT of the northern softwood fibre base to ascertain the relative position of the fibre compared to its potential competitors. As a minimum the analysis will investigate the following physical attributes:

- basic strength properties
- working stress levels
- visual appearance criteria
- machining and related mechanical properties

Where there is insufficient data on a particular species or attribute, this should be noted and recommendations for correction made. Using sophisticated statistical and multiple attribute analysis techniques, the consultant will position the northern fibre base relative to its competitors. Where necessary individual species may be separated to highlight potential advantages that could result in growth opportunities. Likewise, disadvantages leading to an uncompetitive or weak position, should be articulated.

The consultant will present the information using tables, graphs and diagrams or other descriptive means together with a written synopsis clearly identifying opportunities for growth and under utilized potential.

### Market Analysis

The consultant will undertake a broad analysis of international market trends in value added, construction and engineered wood products using existing published material. The purpose is to broadly establish which products have potential for high growth and profitability. Using the SWOT analysis developed above, the consultant will determine where the northern fibre base has a competitive advantage over other wood and alternative materials.

Growth projections and product life cycle analyses will be developed for promising product groups. Consumption patterns and market attractiveness will be articulated showing a sound foundation for strategic product - market growth. The consultant will provide a broad strategy for market development and penetration.

An analysis of pricing mechanisms for attractive products will be developed. Factors underpinning the price mechanism and the stability of future price trends will be investigated. The consultant will provide a strategy for the sales and distribution of products.

### Timber Utilization

The consultant will analyze the optimum conversion of roundwood to lumber in dimensions that best fit the manufacturing process. In particular the analysis will identify which products are best manufactured from the existing CLS dimensions that are currently produced by the majority of primary mills and those which require specific sizing or an alternative conversion strategy.

The analysis will determine the effect of sizing on product yield in primary conversion and the impact this has on secondary manufacturing yields. Factors affecting yield such as scant sizing, planing, surfacing and eased edges, metric conversion, and length class spacing will be investigated in detail. Comparisons will be drawn between the current strategy ie. CLS sizing and those more optimal to the secondary manufacturer. Quantitative examples of how the different approaches to conversion affect overall yield will be developed.

### Raw Material Supply, Valuation and Stumpage

The consultant will undertake a supply chain analysis starting from the current log supply and try to fit this to the identified market opportunities. (It is argued by some that in order to manufacture specific value added products, specific full sawn, lumber sizes must be cut. If these sizes are converted for purposes of the LRF calculation then they show a *lower* recovery when compared to CLS sizes as the scant sizing inherent in the CLS system exaggerates the recovery by incorporating the shrinkage factors of drying and planing).

A detailed costing of the converted log will be developed showing the optimum conversion strategy for CLS and value added products. This will be related to the current stumpage calculation for added value manufacturers. The effects of scant sizes and primary milling costs on stumpage values will be quantified and compared to CLS conversion on an equitable basis.

The consultant will make recommendations of ways and means of equating stumpage calculations for primary CLS conversion and secondary manufacturing needs. Where appropriate, incentives for cutting special



sizes and qualities should be considered and the consultant should list options with a brief discussion of the implications that each might have.

### Wood Quality

The consultant will compare how quality is expressed in CLS and other value added regimes in the world. In particular the effect of the following quality attributes used for construction lumber may not have the same impact on the value added sector. Their impact on the value added sector should be analyzed:

- moisture content
- absence of knots
- absence of wane
- absence of unsound wood
- absence of splits, through checks and shake
- allowable defects

Where appropriate, reference will be made to improved Quality Assurance methods including independent quality management systems, the application of engineering methodology to grades, and the development of clear and dependable product performance criteria.

### Economics

It is commonly argued that value added manufacturers could pay higher prices for lumber if the correct quality and sizing were available. It is also argued that primary processors would satisfy the market provided secondary manufacturers could pay the price. The middle ground lies in the economics of conversion.

Using simulation software and other methods, the consultant will investigate and compare the economics of production between CLS and other regimes with specific reference to the following:

- yield
- productivity
- mill net returns

Attention must be paid to the cost effective placement of the processing facility with respect to the forward or backward integration of the product chain ie. Is it better to have a value added process at the back end of a primary facility or as an independent entity?

#### **Deliverables:**

The consultant will provide five print copies of the completed, final report on the study on or before the deadline date of December ??<sup>th</sup>, 1998. In addition a copy of the report on a diskette in either Microsoft Word for Windows / Windows 95 or WordPerfect for Widows / Windows 95 formats will be provided.

#### **The Final Report**

This must contain at a minimum, the following elements:

- A Table of Contents
- Executive Summary
- Review of the current context
- Detailed Report
- Glossary of Terms
- Conversion Factors
- Bibliography of useful literature used in the study
- Appendices as required

#### **Interim Reports**

The consultant will provide interim reports to the steering committee on a timely basis. These reports will consist of:

- **Draft of the Final Report**  
available for steering committee review by March 31<sup>st</sup> , 1999
- **Monthly Progress Reports**  
available for steering committee review no later than five working days after the calendar month - end for the duration of the study.

## **Evaluation of Proposals:**

All proposals will be evaluated on the following basis:

### **The Consultant**

- qualifications, experience and expertise of the project team
- experience and expertise in the forestry or wood processing industry
- previous work or projects of a similar nature and scope
- local knowledge and experience

### **The Proposal**

- a clear and concise demonstration that the consultant can meet contract terms and terms of reference for the project
- the approach to the scope and structure proposed for the project
- the proposed methodology for the collection of information and data
- the presentation, organization, clarity and layout of the proposal
- an indication of an understanding of the technical needs of the project
- an innovative approach to achieving project goals and objectives

### **Timelines and Scheduling**

- the availability for earliest start date (refer to timelines section above)
- a logical layout of timelines and scheduling of resources for the project
- an indication of consultant's ability to meet tight deadlines / time frames

## **Local Content**

- the extent of visits and interviews with local industry and authorities
- the total time spent in the study area
- the utilization of local resources and expertise

## **References**

- the provision of two or more credible references indicating the consulting firm's and the planned project team's ability to undertake the project
- the evidence of other testimonials

## **Costs**

- a budget for the project
- a detailed breakdown of costs and expenses for the project
- a clear allocation of the costs and expenses of each member of the team showing roles and responsibilities and including payment schedules, fees and other expenses

## **The Process:**

### **Request for Proposals**

The steering committee will advertise a request for proposals to undertake the study. Proponents responding to the request must ensure that their proposal is delivered before 4.00 p.m. on December 21<sup>st</sup>, 1998 to the Project Coordinator located at:

**Forest Renewal BC**

**Omenica-Peace Region**

**200 - 299 Victoria Street**

**Prince George, BC**

**V2N 1V8**

Proponents must provide five copies of their proposal to the steering committee for evaluation. Further information on the project or process may be obtained from the above office or by calling Tim Barry at :

**Phone: (250) 565-4400**

**Fax: (250) 565-4409**

### **Review of Proposals**

The Steering Committee will review all proposals and using the evaluation criteria above, will develop a short list of up to three possible proposals that it deems to have merit. These proposals will be passed on to a selection committee who may interview the proponents and select the best proposal.

## Steering Committee

The steering committee will work with the consultant(s) to coordinate and guide the activities relevant to the project and will review the draft and final project reports prior to final acceptance of them.

The steering committee will:

- select the successful consultant from the short list provided
- meet with the consultant as required
- approve the work plan, methodology and budget of the successful proponent
- provide background material for the consultant
- supervise the activities of the consultant ensuring that they remain within the framework and requirements of the terms of reference
- review the monthly progress reports and provide feedback to the consultant
- recommend the payment of fees and expenses under the contract against approved milestones and the achievement of the defined project goals
- preview the draft report, business plan and feasibility study and will recommend amendments, changes and modifications
- accept or reject the final report