

**Ministry of Forests, Lands and Natural Resource Operations**  
**Interim Process Specification for**  
**CCA Treatment of Coastal Douglas-fir Wood**

<b>Version Date</b>	The significant changes to this version of the specification (compared with the original April 2009 version) include:
June 7, 2011	<ul style="list-style-type: none"> <li>• Broadened the specification to apply to all types of bridge components (not only bridge deck components)</li> <li>• Revised and expanded “Quality Inspections” section</li> <li>• Added requirement for the supplier to send documentation of the inspector’s qualifications to the ministry for review and approval prior to contract award</li> <li>• Revised required qualifications of the treatment inspector</li> <li>• Revised communication requirements for treatment acceptance prior to shipment</li> <li>• Added requirement for a signed <i>Statement of CCA Treatment Process Conformance</i> (new form provided)</li> <li>• Added requirement for documented confirmation of <b>Coastal</b> Douglas-fir wood supply</li> <li>• Revised details related to submission of documentation to the ministry</li> </ul>
November 28, 2012	<ul style="list-style-type: none"> <li>• Supplied new contact information for McElhanney Consulting Services Ltd.</li> </ul>
July 15, 2013	<ul style="list-style-type: none"> <li>• Revised section on “Required Documentation Deliverables”</li> <li>• Minor formatting edits</li> </ul>

This process specification is for the supply, preservative treatment, and quality inspection of Coastal Douglas-fir wood using **Chromate Copper Arsenate, Type C (CCA)** treatment. This specification applies to preservative treated sawn lumber supplied for use in Ministry of Forests, Lands and Natural Resource Operations (the ministry) bridges. It does not apply to treated wood used for wood piling or for treated wood used in saltwater applications.

**CCA Treatment Processes and Procedures**

1. For the combination of CCA and Coastal Douglas-fir, it is recognized that it is difficult to meet the minimum preservative penetration (and sometimes retention) results specifications in CSA Standard 080 Series-08 (CSA 080). Therefore, treatment will not be required to achieve the end-result penetration and retention requirements specified in CSA 080 although that would be a desirable outcome. To attain the best treatment possible for the combination of CCA and Douglas-fir, the focus will be on quality assurance activities to maximize the preservative penetration and retention in Douglas-fir. The following treatment processes and procedures must be followed, and inspected for conformance as provided in clauses 3 to 5 below, to meet product quality expectations:
  - a. Apply CCA treatment using processes and procedures (e.g., steam limits) that conform with CSA 080, for use category UC 4.1 and for “Wood for Highway Construction”, above ground, exterior use for bridge construction, unless otherwise specified herein.
  - b. Prior to treatment, wood must be dried to an average moisture content of between 23 and 30%. The wood must be heat treated before or after preservative treatment to 56 degrees Celsius for 30 minutes. Heat treatment processes must be conducted in accordance with the heat treatment guidelines contained in the Canadian Food Inspection Agency (CFIA) document PI-07 entitled, “The Technical Heat Treatment Guidelines and Operating Conditions Manual.”
  - c. Wood must be incised, on all faces, to a depth of 10 mm and to an incision density of 4,500 per square metre.

- d. CCA solution strength must be between 2 and 2.5% concentration.
- e. Preservative solution temperature must be between 20 and 25 degrees Celsius.
- f. Minimum initial vacuum time must be 30 minutes after reaching full vacuum as per CSA 080.
- g. Treatment pressure must be between 150 and 180 psi for a minimum of 6 hours.
- h. The wood must be frame-cut, pre-cut to size and length prior to treatment.

### **Best Management Practices for Environmental Protection**

- 2. To minimize preservative migration (loss) from CCA treated wood intended for use in aquatic and wetland applications, the supplier must:
  - a. produce CCA treated wood products in accordance with the “Best Management Practices for the use of treated wood in aquatic and other sensitive environments” (Best Management Practices) issued by the *Western Wood Preservers Institute, Wood Preservation Canada, Southern Pressure Treaters’ Association,* and *Timber Piling Council,* available at <http://preservedwood.org/portals/0/documents/BMP.pdf>
  - b. apply appropriate post-treatment procedures to maximize preservative fixation in accordance with CSA O80 while also avoiding conditions that would cause losses in mechanical properties.

### **Quality Inspections**

- 3. ***Qualifications of third party wood treatment inspector:*** At its cost, the supplier must retain a third party wood treatment inspector with at least one of the following qualifications:
  - a. an accredited inspector from an agency accredited by the Canadian Lumber Standards Accreditation Board (CLSAB) for the CLSAB Treated Wood Program (Although this accreditation program is presently discontinued, the ministry will accept proof of previous accreditation with this program); or
  - b. an accredited inspector from an agency accredited by the American Lumber Standards Committee (ALSC) for the ALSC Treated Wood Program; or
  - c. a qualified treatment inspector who has the following minimum qualifications:
    - i. minimum of 5 years proven experience in the wood treatment inspection industry, and performing sampling and testing of treatment plants’ products on a regular, routine basis.
    - ii. competent in the inspection of treated products of the Coastal Douglas-fir wood species and Chromate Copper Arsenate (CCA) preservative
    - iii. knowledgeable in all aspects of CSA 080 and the “Best Management Practices” document referenced herein
    - iv. experienced in monitoring “treating plant” processes and procedures for the purpose of assuring the uniform application of and conformance with CSA 080 standards and quality control and inspection procedures contained therein.

Prior to award of a purchase order or contract involving the supply of treated wood, and prior to any wood treatment, the supplier must send documentation of the inspector’s qualifications to the ministry for review and approval. The documentation must show how the inspector’s accreditation or experience meets the required qualifications described above. This documentation must be sent by email to the **Ministry HQ Bridge Engineer** ([mike.penner@gov.bc.ca](mailto:mike.penner@gov.bc.ca)) within 4 business days of being advised by the province that the bidder has supplied a low bid. Alternatively

the bidder may supply the required documentation as part of their bid submission to the province.

If an inspector has previously been approved by the ministry in accordance with this process, the bidder need only submit the name of the previously approved inspector.

If the ministry requests additional information pertaining to qualifications of inspectors at any time for the purposes of evaluation (or re-evaluation of previously approved inspectors), a bidder or supplier must supply the requested information within 4 business days of the request.

Prospective bidders who would like to obtain pre-approval of a third party wood treatment inspector in advance of future projects are encouraged to provide the documentation described above to the **Ministry HQ Bridge Engineer** at any time, in order that evaluation and approval may be undertaken in advance of the time constraints of any particular project.

The ministry reserves the right to reject the quote or bid of any bidder that does not provide inspector qualification documentation to the satisfaction of the ministry, in its sole and absolute discretion.

4. ***Inspector's process inspections and "Statement of CCA Treatment Process Conformance"***: The third party wood treatment inspector will carry out inspections at the treatment plant as necessary, and shall verify in writing, in a signed *Statement of CCA Treatment Process Conformance*, that treatment has been carried out in general conformance with clauses 1 and 2 of this process specification. The *Statement of CCA Treatment Process Conformance* form is attached.

**Note:** Prior to pre-treatment inspection, the supplier shall provide the inspector with hard copy evidence (as per clause 7 of this specification) that the wood to be treated is Coastal Douglas-fir.

5. ***Inspector's penetration and retention testing:*** Product acceptance by the ministry is not based on the supplier having to meet the minimum preservative penetration and retention results specifications in CSA 080 for the combination of CCA and Coastal Douglas-fir. However, to assist the ministry in its evaluation of the suitability of this process specification for possible use on future supply orders, third party measurement of the penetration and retention results of the treated wood must be carried out in accordance with CSA 080 at the supplier's cost, and copies of the results must be provided to the ministry.

**Note:** Penetration must be measured and recorded in **metric units (mm)**. It is not acceptable for measurements to be taken in imperial units and then converted to metric units.

6. ***Inspector's acceptance of treated wood products prior to shipment:*** The supplier must obtain the inspector's acceptance of the treated wood products prior to shipment. If the treated lumber is part of a bridge supply order that includes general in-plant inspections performed by McElhanney Consulting Services Ltd. on behalf of the ministry, the supplier must advise the McElhanney Consulting Services inspector, prior to shipment, that the treated wood has been inspected and accepted.

**7. Required Documentation Deliverables:**

- All documentation tabularized below shall be supplied in **electronic Adobe (pdf) format** and provided as a complete package to the specified recipients.
- All documents shall be clearly identified with the purchase order (PO) or contract number, and with the bridge structure numbers pertaining to each applicable structure if the ministry purchase order or contract documents specify structure numbers.
- The supplier shall provide documentation within established time frames to the (1) ministry’s in-plant inspection agency as applicable, (2) Ministry Bridge Engineer responsible for the order (as may be specified), and (3) Ministry HQ records ([FLNREng.Branch@gov.bc.ca](mailto:FLNREng.Branch@gov.bc.ca)) in accordance with the tabular requirements below.

**Table of Required Documentation Deliverables (as a complete package)**

Supplier’s Documentation	Time Frame for Submitting Documentation	Supplier to provide documentation to the following party or parties if indicated ‘Yes’		
		In-plant inspection agency (McElhanney Consulting Services) <b>if</b> the treated lumber is part of a bridge supply order that includes general in-plant quality assurance inspections performed by McElhanney Consulting Services.	Ministry Bridge Engineer responsible for order (as may be specified in the PO or contract)	Ministry HQ Records ( <a href="mailto:FLNREng.Branch@gov.bc.ca">FLNREng.Branch@gov.bc.ca</a> )
<ul style="list-style-type: none"> <li>• Completed <b>Statement of CCA Treatment Process Conformance</b> signed by the third party wood treatment inspector</li> </ul>	<p><b>Within 30 days of shipment of the treated wood products and prior to (or at the time of) invoicing</b></p>	Yes if applicable	Yes	Yes
<ul style="list-style-type: none"> <li>• Copies of all <b>process inspection reports</b> prepared by the third party wood treatment inspector</li> </ul>		Yes if applicable	Yes	Yes
<ul style="list-style-type: none"> <li>• Copies of all <b>penetration and retention test results</b>, and any other related documents prepared by the third party wood treatment inspector or collected by the third party inspector in order to confirm the supplier’s adherence to these specifications</li> </ul>		Yes if applicable	Yes	Yes
<ul style="list-style-type: none"> <li>• A copy of the mill certificate or certificate of origin provided by the supplier specifying “Coastal Douglas-fir” and the geographic location from which the Coastal Douglas-fir was harvested (ensuring that the location is west of the Cascade or Coastal Mountain Range heights of land)</li> <li><b>OR</b></li> <li>• A copy of alternative suitable third party documentation (e.g., bill of lading or invoice) provided by the supplier demonstrating that the wood has originated from a Coastal Douglas-fir growing region.</li> </ul>		Yes if applicable	Yes	Yes

## Ministry of Forests, Lands and Natural Resource Operations

### Statement of CCA Treatment Process Conformance

Description of CCA Wood Treatment Order:	
Producer of CCA Treated Wood (give company name and location):	
Ministry Office	Required Delivery Location
Ministry Purchase Order No. or Contract No.	Name of ministry Bridge Engineer (name provided in the purchase order or contract documents)

This is to advise that I am the qualified inspector for this CCA wood treatment order, and I am (check one as appropriate):

an accredited inspector by **INSERT AGENCY NAME**

OR

not an accredited inspector, but qualified by experience and having the minimum qualifications in accordance with the requirements of the Ministry of Forests, Lands and Natural Resource Operations *Process Specification for CCA Treatment of Coastal Douglas-fir Wood*.

I have personally inspected **STATE NUMBER** treated wood pieces containing **STATE NUMBER** Foot Board Measure (FBM) as manifested in the attached supporting documentation.

I have carried out my inspections of the treatment procedures and processes considered necessary to verify compliance with the requirements of the Ministry of Forests, Lands and Natural Resource Operations *Process Specification for CCA Treatment of Coastal Douglas-fir Wood*. Based on these inspections, I hereby give my assurance<sup>1</sup> that, in my opinion the significant aspects of the wood treatment have been carried out in general conformance with clauses 1 and 2 of the ministry's CCA process specification.

I have undertaken the required penetration and retention testing, and I confirm the results of the testing are representative of the CCA treated wood order.

I have attached copies of the following documentation to this statement: **(1)** all process inspection reports; **(2)** all penetration and retention test results and other relevant documentation in order to confirm the supplier's adherence to the specifications; and **(3)** the supplier's evidence demonstrating that the treated wood is Coastal Douglas-fir.

Signature of Qualified Inspector		<i>(If an "accredited inspector," identify credentials here)</i>
Name of Qualified Inspector <i>(please print)</i>	DATE SIGNED YYYY MM DD  .....	
EMPLOYER'S NAME AND ADDRESS <i>(please print)</i>		
PHONE NO.	FAX NO.	E-MAIL ADDRESS

<sup>1</sup> Assurance means that a qualified inspector has undertaken the inspection work at the plant, which in his or her judgement, is considered necessary to ascertain whether the significant aspects of the wood treatment are in general conformance with the ministry's CCA process specification.