



APPENDIX D

EPP FOR WINTER CLEARING

Environmental Protection Plan for Winter Clearing on 100 Series Highways

1.0 Introduction

One of the commitments in a CEAA screening is that Right-of-Way (ROW) clearing will be conducted in winter months, in order to minimize disruption to wildlife (in particular nesting birds), as well as minimizing disruption to ground cover which could increase potential for erosion. This portion of the Generic EPP applies **only** for winter clearing. In addition, a 'Project EPP' for construction will be prepared and approved by government regulators and other interested agencies prior to grubbing and further construction.

2.0 Description of the Work

This work applies to clearing of trees within the ROW, including proposed access roads. Access to the ROW will occur at specific locations along the 100 Series Highway designated by the Project Engineer. Vehicles doing the clearing must use a right-in, right-off movement, so they are not in conflict with traffic. Parking will not be permitted on the shoulders. The Contractor will be responsible to follow signing requirements as per TPW's *Traffic Control Manual*.

Clearing shall consist of cutting all trees within areas designated by the Project Engineer except those trees that have been designated by the Project Engineer to be left standing. The limit of clearing shall be 4m from the theoretical slope. The cut off height shall be 300 mm above the ground level or at such heights as approved by the Project Engineer. Slash and other material shall be chipped and left on site. There shall be no burning of material.

Trees of value as merchantable timber **that are the property of the landowner**, cut from the ROW shall be cut to a minimum length of 2.5 m as approved by the Project Engineer. It shall be piled neatly, in one pile per property owner, on abutting properties off the ROW unless otherwise approved or directed by the Project Engineer. The Contractor shall arrange with the abutting property owners with respect to the cutting and piling of such trees and shall pay all costs involved with this phase of the work. For the purpose of this provision all timber with a minimum butt diameter of 100 mm and a length of 2.5 m shall be considered as merchantable timber.

3.0 Environmental Protection Practices.

3.1 On-site Meetings

An on-site meeting with the Project Engineer and such other representative of TPW as may be required, and representatives of the Department of Fisheries and Oceans (DFO), the Nova Scotia Department of the Environment and Labour (DEL), Environment Canada (EC), and the Contractor will be held prior to the commencement of any work. Other meetings will be held as required throughout the duration of the project.

3.2 Protective Measures

3.2.1 Protection of Watercourses and Wetlands

A watercourse is defined as (i) the bed and shore of every river, stream, lake, creek, pond, spring, lagoon or natural body of water, and the water therein, within the jurisdiction of the Province, whether it contains water or not, and (ii) all groundwater.

A wetland is defined as land that is saturated or covered with water long enough to promote vegetation and biological activity which are adapted to a wet environment.

Three principles will be observed to protect watercourses and wetlands during the duration of the project:

1. Water crossing will only be permitted when access by any other means is impractical or impossible.
2. Activities near watercourses will be designed and performed to avoid erosion and sedimentation both during and after construction activities, and
3. Crossings will not result in a restriction or blockage of natural drainage and/or to fish passage.

Equipment is not allowed to enter watercourses, therefore temporary bridges shall be used where crossing of watercourses is necessary. Temporary bridges are defined as portable structures placed across a watercourse for a period of time ranging from less than one day to one or more weeks. The size of the temporary bridge shall be such that they will not result in a restriction or blockage of natural drainage and/or to fish passage. Crossing of temporary bridges by equipment shall be kept to a minimum. Temporary bridges shall be removed when the work in the area is completed. Any temporary bridge locations must first be approved by DEL. **If the Contractor wishes to use a temporary bridge, they must contact the Project Engineer, who will apply for a Water Approval. This approval can take up to 60 days to obtain, and no claims or extensions will be considered.**

A temporary bridge is not required when the watercourse channel is not defined and is vegetated (*i.e.*, not gravel). However, this alternative crossing method will still require DEL approval and the installation of a brush mat to protect the area.

The general mitigation for water crossings are as follows:

- Crossings will be restricted to a single location and will occur perpendicular to the watercourse and at a narrow point on the watercourse. The crossing site must exhibit a stable soil type and gentle approach slopes;
- A buffer zone will be maintained on each side of a watercourse. In this zone, a 3 m wide travel route may be cut. All slashing and construction debris will be removed by hand and disposed of by shipping above the high water mark and away from the watercourse;

- Buffer zones will be between 10 m and 30 m wide on both sides of the watercourse, depending on the topography leading into the watercourse or wetland (this is a *machine exclusion zone*);
- Trees will be felled away from the watercourse during the clearing operation. Trees felled within the high water mark will be removed immediately;
- Approaches to water crossings will be stabilized with brush mats and banks stabilized by placement of a vegetation mat, where necessary. When bank or approach slopes are composed of erodible soil; riprap, filter fabric or other stabilization measures will be used;
- Under no circumstances is the soil to be disturbed within 10 m of any watercourse. These areas are designated as environmentally sensitive. The trees within this buffer zone shall be hand cleared. Trees shall be felled away from the watercourse. This buffer zone distance may be increased/decreased by the engineer at specific culvert locations;
- Machine access for the removal of hand cut timber in buffer zones shall be on brush mats or swamp mats. The mats shall be placed along the centre of the ROW and shall only be as wide as the machine itself. **The machine is to remain at least 10 m (or the agreed to distance) from the ordinary high water mark of the watercourse;**
- Any merchantable timber or non-salvageable material removed from the buffer zone shall be done in such a manner that the surface is not broken and the underlying soil is not exposed;
- Soft areas shall be avoided within buffer zones and clearing is to be abandoned if any rutting should occur;
- There will be no skidding of trees across a watercourse;
- It may be necessary for the contractor to use floatation tires on his vehicles, properly sized for the vehicles so that the ground surface is not broken;
- Before any merchantable timber or non-salvageable material is removed from the buffer zone, the ground must be sufficiently frozen so that machinery does not break the surface and expose the underlying soil;
- Brush matting may be left in the buffer zone on site specific basis with the approval of DFO and DEL;
- All clearing related activities near watercourses will be undertaken in a manner which will avoid erosion and sedimentation both during and following the work; and
- Environmental inspection will occur as soon as possible after the snow melts to evaluate the need for erosion and sedimentation control measures. If required, the Project Engineer will ensure the installation of adequate protection and stabilization measures.

The contractor is hereby advised that the clearing operation can be suspended at any time if environmental concerns warrant.

If there are any watercourses or wetlands of special concern, further mitigation requirements will be specified in the Project EPP and site-specific EPPs for various sections of the highway.

3.2.2 Wildlife and Wildlife Habitat

TPW or its contractors will not disrupt wildlife. Firearms are strictly prohibited in work vehicles and within the ROW.

The ROW crosses wetland habitats. In these areas the work will be undertaken in a manner that minimizes habitat disturbance and does not result in the alteration of wetland hydrology. If the crossing of a wetland is unavoidable, then the measures for crossing watercourses will be utilized.

There is a possibility some species of migratory birds may nest in this area during the winter months. The *Migratory Bird Convention Act* and Regulations apply to this work. If any nesting birds are found, contact TPW immediately. DNR or the Canadian Wildlife Service shall then be contacted.

3.2.3 Heritage Resources

Heritage Resources include sites and artifacts which have archaeological or historic importance or interest. Should artifacts be discovered, all work in the area of discovery will be suspended and the Provincial Archaeologist (902-424-6461) or Curator of Special Places (902-424-6475) will be notified. Work will not continue until permission has been granted.

Prior to starting work, the Contractor shall contact the affected Mi'kmaq community (contact either the Confederation of Mainland Mi'kmaq, Michael Cox, Director of Lands, Environment & Natural Resources at 902-895-6385, or the Union of Nova Scotia Indians, Kim Paul, Environmental Technical Services at 902-539-4107)

3.3 Land Use

Highway ROWs traverse a variety of land uses. The Contractor shall contact landowners of planned work whenever possible, and every effort will be taken to carry out the work in a manner which causes minimum inconvenience to the landowner. Prior to starting any work, the Engineer will familiarize the Contractor with any landowner agreements in order to implement TPW's commitments.

The ROW will be maintained in a clean and neat condition. Litter and construction waste will be removed from the job site and properly disposed of regularly. Whenever possible, a 30 m strip of natural vegetation will be maintained adjacent to residences and roads.

3.4 Special Substances

All necessary precautions to prevent and minimize the spillage, misplacement or loss of fuels and other hazardous materials will be taken. All Acts and Regulations pertaining to special substances

will be followed. The delivery, storage, use and disposal of these hazardous materials will be handled only by trained personnel in accordance with government laws and regulations. The following precautions will be taken:

1. Equipment used will be mechanically sound with no oil or gas leaks. Fuelling or servicing of construction or mobile equipment is not allowed within 75m of a watercourse;
2. Storage of petroleum products is not allowed within water supply watershed boundaries. Pits, greases, gasolines, diesel or other fuels will not be stored within 100 m from any surface water supply; and
3. Waste oils and lubricants will be retained in a tank closed container, and disposed of in an environmentally acceptable manner.

In the event of an oil spill, the Contractor will take the following actions to minimize environmental damage and initiate TPW's emergency response program. Further information is provided in Appendix F.

1. Stop further discharge;
2. Contain the spill;
3. Collect/gather up oil and contaminated soil;
4. Notify the Project Engineer of the spill. All spills shall be reported to DEL Environmental Emergencies (1-800-565-1633); and
5. Dispose of materials in an approved manner and in accordance with the appropriate Provincial Acts and Regulations.

The Contractor will not be permitted to construct machinery maintenance depots, refuelling stations, storage yards, or any type of installation, as determined by the Project Engineer, that could possibly cause contamination to streams and lakes through the disposal of human waste, oil, grease or other deleterious material.

Any material contaminated by the accidental spilling of fuel, anti-freeze, oil or grease that, in the judgement of the Project Engineer, may cause contamination to the streams or lakes, shall be loaded and transported to an area where it can be disposed of in an approved manner.