Forest Road Wetland and Watercourse Crossings Operational Standard

Effective: April 1, 2026

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Adherence to this standard, if imposed as a term of an operating plan that is approved pursuant to *The Forest Resources Management Act*, shall constitute authorization pursuant to section 38(5)(c)(ii) of *The Environmental Management Protection Act*.

This standard does not release the responsible person from obtaining additional approvals that may be required under any federal or other provincial legislation.

Notes:

- From time to time for crossings where there is a higher potential risk of impact the responsible person may require further authorization from **Saskatchewan Water Security Agency (WSA).**
- Beaver dam removal is exempt from the requirement to obtain an Aquatic Habitat Protection Permit (AHPP) if the removal follows the practices set on the WSA website. Removals not consistent with those practices will require an AHPP from WSA (https://wsask.ca/recreation-environment/aquatic-habitat-protection/beaver-dam-removal/).

WATERCOURSE CLASSIFICATION OVERVIEW

Class 1, Permanent Rivers and Streams - rivers and streams, as evident on 1:15,000 forest vegetation inventory maps, aerial photographs, or found during harvesting operations.	**Class 2, Intermittent Streams - An intermittent watercourse as defined in *The Environmental Management and Protection (General) Regulations*.**	**Class 3, Ephemeral Creeks - A watercourse that flows briefly, only in direct response to precipitation in the immediate locality and whose channel is at all times above the water table.**

• Has defined channel (bed and bank)
• Has a distinct boundary
• Has surface connectivity:
  ▪ forms a connection between wetlands or other waterbodies
  ▪ may occur in conjunction with wetlands
  ▪ wetlands along the watercourse boundary
  ▪ watercourse within a wetland complex
• Year-round water flows, except in extreme drought/dry conditions
• Has maintained water velocity
• Includes creeks, streams and rivers
	• Typically has a defined channel (bed and bank)
	• May have a defined boundary – may or may not have a change from aquatic to terrestrial vegetation
	• May have surface connectivity
	• Normally does not experience year-round flow
	• Usually inundated during spring melt or major rain events
		• May or may not have defined channel; however, typically does not but rather a draw or run where water can accumulate or flow
		• Often vegetated
		• Likely no defined boundary
		• Typically, no surface connectivity
		• No year-round flow

WETLAND FLOW CHARACTERISTICS

FLOW CHARACTERISTICS	STAGNANT (No surface water)[1]	MOVING (Slow lateral flow or seasonally fluctuating)	DYNAMIC FLOW (may have significant water level fluctuations both vertically and horizontally from dry conditions to flooding)
	Examples: • Open Bog • Shrubby Bog • Treed Bog • Treed Poor Fen • Conifer Swamp[2]	**A) Slow Lateral Flow** **Examples:** • Graminoid Poor Fen • Graminoid Rich Fen • Shrubby Poor Fen • Shrubby Rich Fen • Treed Rich Fen **B) Seasonally Fluctuating** **Examples:** • Mixedwood Swamp[2] • Tamarack Swamp • Hardwood Swamp[2] • Shrub Swamp[2]	**Examples:** • Emergent Marsh • Meadow Marsh • Open Water • Aquatic Bed

[1] *Wetlands with stagnant flows are typically stable, low flow areas, having no lateral movement of water, despite generally constant saturation below the surface; depending on the year, the water table may be well below to just below the surface.*

[2] *Often associated with flowing water systems, in which case increased water movement and water level fluctuations are expected. Examples provided from Ducks Unlimited's Field Guide of Boreal Wetland Classes in the Boreal Plains Ecozone of Canada*

Additional Information:

Ducks Unlimited Canada. 2014. Boreal Wetlands A Guide for Determining Wetland Classes in the Boreal Plains Ecozone of Western Canada.

Field Guide of Boreal Wetland Classes in the Boreal Plains Ecozone of Canada (2018)

Alberta Wetland Classification System Field Guide (2021)

Table 1. FRI and FMI Land Cover Attributes. Wetland Class in the Forest Inventory Standard.

Operational Guide for Forest Road Wetland Crossings — Ducks Unlimited Canada

"Resource Roads and Wetlands: A Guide for Planning, Construction and Maintenance Special Publication SP-530E (2016)

General:

1. All spoil materials and debris remaining from crossing construction, maintenance, reclamation, or removal activities shall immediately be placed in a location or contained in a manner where it will not be subject to erosion into any surface water or watercourse.

2. Old culverts and/or crossing construction, maintenance or reclamation materials other than dirt shall be removed from the site to an approved landfill site or the responsible person's storage facility by December 1st of each year.

3. All rock used for rip rap, armament, gabions or retaining walls shall be free of deleterious substances including sand, silt, loam, and clay.

4. For all disturbed project sites, the responsible person shall stabilize the entire area, including road ditches and disturbed slopes adjacent to any watercourse or surface water by installing erosion and/or sediment controls that have been tailored to site conditions. For reclamation, stabilization includes immediately carrying out activities that promote the re-vegetation of the entire right of way with species that are representative of pre-harvest site conditions and plant communities. If crossing stabilization is not successful, the proponent shall monitor and continue to employ acceptable means of stabilization until the crossing becomes stable. Employing continuous acceptable means of stabilization does not apply to reclaimed sites where a third party has caused damage that has affected stabilization.

5. Storage of hazardous substances and waste dangerous goods and fueling and servicing of equipment and vehicles is prohibited within 100 meters of wetlands, surface water, and watercourses or in an area from which spills will enter surface water or a watercourse.

6. Pre-existing surface and subsurface flow capacity and fish passage shall be maintained across the entirety of the wetland and at the watercourse using crossings to maintain natural hydrological patterns. Culverts shall be embedded unless only utilized during frozen conditions.

7. Crossing construction, maintenance, and reclamation work shall be performed under dry, low saturation, low flow, or frozen conditions, accept in emergency situations. The Area Forester or designate must be notified as soon as possible that emergency work is occurring.

8. Isolation of the work site is required for all in-water work on waters or water with a 1km or less connectivity to fish habitat as defined in the *Fisheries Act* (Canada). Alternative solutions for isolation may be approved by the Area Forester or designate.

9. Any direct or indirect release into water of a substance identified in table 1 or 2 of the Discharge and Discovery Reporting Standard must be reported to the Provincial Spill Line at 1-800-667-7525 as per subsection 38(5) of the *Fisheries Act* (Canada) and The Saskatchewan Environmental Code. Any direct or indirect release into water of a substance such as silt, sand, loam and/or clay, where its release has or will likely have an adverse effect on water quality or aquatic habitat must be reported to a Ministry of Environment Forest Service Forest Operations staff member. As per the Discharge and Discovery Reporting Code Chapter, releases reported to the Forest Service must include location of the discharge, date of discharge (if known), type and estimated quantity of the substance, if fish bearing or potable waters may be or are affected, and details of any action taken in response to the release.

10. All non-compliance with this standard shall be reported to a Ministry of Environment Forest Service Forest Operations staff member within 24 hours following the discovery by the licence holder. A report of non-compliance shall include the location of the non-compliance, and the circumstances related to the non-compliance.

11. A qualified person shall be responsible for the classification and documentation of the network of wetlands, watercourses and associated water features that will intersect planned roads prior to road construction.

12. The Area Forester or designate shall be notified in writing a minimum of 4 days prior to commencement of any new construction and reclamation of crossings. This does not apply to crossings of stagnant and slow lateral flow or seasonally fluctuating wetlands, if that construction or reclamation occurs during frozen or low saturation conditions, or to crossings of ephemeral or intermittent watercourses. A notification made pursuant to this section shall include the following information:

    i. Name of road (or operating area)
    ii. UTM location
    iii. Name of the watercourse (if unnamed state such) or type of wetland
    iv. Type of crossing (include number and size of culverts)
    v. Permanency (i.e., seasonal, temporary or permanent)
    vi. Estimated start and completion dates of work
    vii. Name of project supervisor

13. Unless the responsible person can specifically demonstrate that the following information is within an Environmental Impact statement or assessment, Forest Management Agreement, Forest Management Plan, or operating plan, they must prior to installing or reclaiming a crossing, identify and document information respecting potential adverse effects to fish and wildlife species, vegetative cover, landforms, soil types, wetlands that may be affected by the crossing work. The responsible person must also assess and document measures to mitigate or prevent any potential impact of the proposed installation on aquatic and/or riparian habitats, including erosion and/or sediment control plans.

14. A monthly report summarizing all crossing maintenance shall be maintained by the responsible person. The report shall include the type of maintenance that occurred during the month, and the information required to be kept pursuant to section 12(i) to (vii).

15. The responsible person shall document all crossing inspections that are completed, including indicators of adverse effects. Examples of adverse effects include cattails growing on one side of the road, vegetation die-back, reduced vigor in any vegetation and/or tree stress, such as brown needles and/or leaves resulting from an increase in water table, more vigorous tree growth on one side of the crossing such as black spruce or tamarack resulting from a lowered water table, increased presence of snags on one side of the crossing as a result of tree death from flooding, or water ponding on one side of the crossing.

16. Crossing ledgers, reports, records or other relevant crossing information documented or maintained by the responsible person shall be signed off by a qualified person and must be supplied upon request to Ministry of Environment staff.

Crossing Installation:

17. Regardless of season all crossings in place longer than 1 winter season shall utilize non-frozen earthen fill.

18. Geotextile fabric shall be installed to separate construction layers and to contain imported fill or capping material when introduced to a wetland.

19. In-water work for crossings shall be limited to the placement of new piles for bridges or for one-time crossing of equipment for installation.

20. Pre-install site conditions for channel alignment, elevation, gradient and size (depth and width) shall be maintained.

21. Any temporary crossing shall only utilize clean snow and/or ice within that construction layer.

22. If logs are to be used in temporary crossings they must be scaled (if being utilized) or estimated (if being left and managed as slash) in accordance with provisions of the proponent's approved scaling plan.

Crossing Maintenance:

23. The responsible person shall annually inspect crossings. Inspections should include but are not limited to; maintenance and prevention, the assurance of crossings safety, and crossing function. Annual inspections do not need to occur for stagnant and slow lateral flow or seasonally fluctuating wetlands when the crossing will only be in place during frozen or low saturation conditions.

24. Crossing maintenance shall be conducted for the full duration that the crossing is in place and conducted in a manner that limits adverse environmental and social effects on any connected (i.e., upstream or downstream) watercourse, surface water, or wetland.

25. Where crossings are causing adverse effects to a wetland, watercourse, or surface water the responsible person shall immediately correct the issue causing the adverse effects.

Crossing Reclamation:

26. The responsible person shall return wetlands, watercourses, and surface water sites to their pre-development states compatible with their original gradient, contour, drainage and productivity. Restored watercourses shall approximate the channel alignment and be re-established to the elevation, size (depth and width) and substrate of the pre-install site conditions of the watercourse.

27. If snow/ice was used in combination with culverts, logs, capping material, or other material, that material shall be removed by March 31 following the date of installation.

Glossary

aquatic - related to water including lakes, ponds, rivers, streams and wetlands.

bank - bank as defined in *The Environmental Management Protection Act, 2010*.

bed - bed as defined in *The Environmental Management Protection Act, 2010*.

boundary - boundary as defined in *The Environmental Management Protection Act, 2010*.

crossing – any feature installed in a wetland, watercourse, or surface water that maintains flow, fish passage, or prevents an adverse effect to the wetland or surrounding surface water or watercourses.

defined channel - means a watercourse that has an observable bed and bank.

geotextile - is a geosynthetic material used in road and crossing construction and erosion control purposes. Geotextile is comprised of several products and materials and is available in various levels of tensile strength (woven and non-woven).

low saturation conditions – soil will be generally resistant to deformation or rupture.

qualified person – a qualified person as defined in *The Forest Resources Management Regulations*

responsible person – any person as defined in *The Forest Resources Management Regulations*

surface water – surface water as defined in *The Environmental Management Protection Act*

temporary crossing – snow and/or ice crossings that are removed prior to March 31 following the year of installation.

tree stress - visual cues that a tree is not healthy, including browning of leaves and yellowing of needles

vegetation die-back - a condition in a plant in which the branches or shoots die from the tip inward, caused by any of several bacteria, fungi, or viruses or by certain environmental conditions

water table - the highest underground level at which the rocks and soil in a particular area are completely wet with water

wetland - areas which are seasonally or permanently waterlogged and characterized by vegetation that is adapted for life in saturated / flooded soil conditions

watercourse – a watercourse as defined in *The Environmental Management and Protection (General) Regulations*