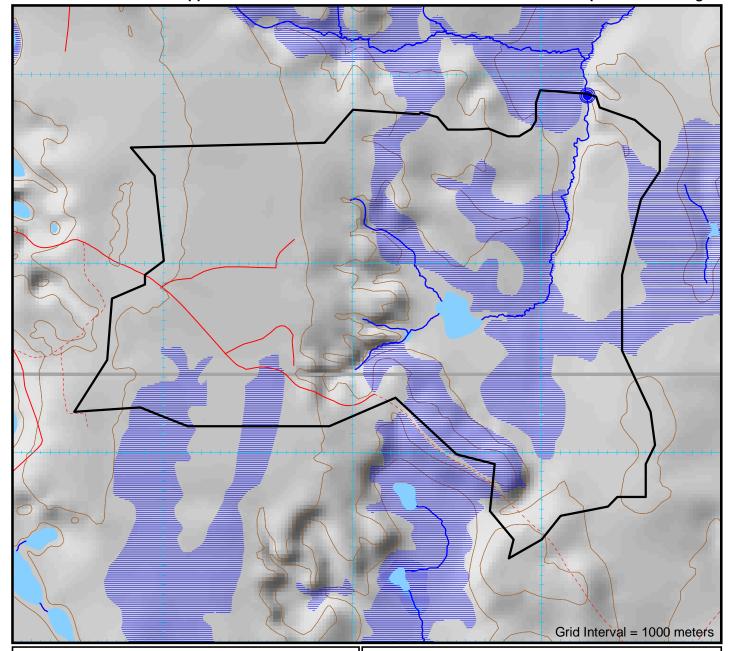
Abitibi River Forest Appendix 1: Form for Submission of Information on a Proposed Crossing



Watershed Characteristics

4.64 km² Watershed Area: 0.04 km² Lake Area: 0.01 km² Swamp Area: Retention Area: 0.04 km² 0.95 % Retention Factor: Base Class: 7.11 Watercourse Type: Permanent

Crossing Location Characteristics

Evaluation ID No.: A3090 Geographic Township: Bond

UTM Coordinates (NAD83): 517244E, 5367888N

Road Type: Operational

Stream Gradient: 0% Slope > 30% (17°): NO

Installer Experience : As Per Approved Implementation Toolkit



Proposed Structures					
	Structure 1 Structure 2		Structure 3		
Structure Type	Culvert	Bridge	Ice		
Design Flow	Q25	Q25	Q2		
Fill Material	Pit Run Gravel	Pit Run Gravel	Snow and Ice		
Dates for In Start Water Work	July 16	July 16			
(if required) Finish	August 31	August 31			
Removal Timeframe	>2 Years	>7 Years	By March 31st		

Calculations performed by First Resource Management Group (FRMG). Neither Abitibi River Forest Managment Inc., nor FRMG guaratee the accuracy of any information presented on this form. Coordinates and map are UTM projection, Zone 17 NAD83 datu

Shaded Area for ARFMI Road Office Use Only Network No. 329	Previously Used Crossing ID	Crossing Evaluation Reference Number	A3090
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Publication Date: February 26, 2024

Fisheries Operational Management Zone (OMZ): Abitibi River Forest - S.F.L. # 551832

Standard for Self-assessed Water Crossing Construction, Removal and/or **Proponent:** Rockshield Engineered Wood Products Decommissioning: Conditions of standard not met for first structure. See red text.

c/o P.O. Box 867 New Liskeard, Ontario Previous Assessment Year (incl. SA): 2024 P0J 1P0 SAR species likely to be impacted: (705) 680-0033 NO Preconstruction photos available: Plan Term: 2022-2032

Culvert Design Options		Q ₂₅	Q ₁₀	Q_5	Q _{2.33}
Design Flow		4.226 m³/sec	3.550 m ³ /sec	2.958 m³/sec	2.282 m³/sec
1 Round		1800mm	1600mm	1500mm	1400mm
	2 Round	1400mm	1400mm	1200mm	1200mm
3 Round		1200mm	1200mm	1000mm	900mm
	1 Arch (BxD)	2060x1520mm MP	2130x1400mm	1880x1260mm	1880x1260mm
	2 Arch (BxD)	1630x1120mm	1630x1120mm	1390x970mm	1390x970mm
3 Arch (BxD) 1390x970mm 1390x970mm		1390x970mm	1390x970mm	1390x970mm	
	Required Opening for bridges is calculated as per the Crown Land Bridge Management Guidelines.				

Conditions on Culvert Design Options

- · Initial Fisheries Review based on one pipe. Two or more pipes requires a re-assessment.
- Round culvert calculations assume 10% fill. For 20% fill, increase diameter to next highest standard diameter. • For 40% fill, use a round culvert diameter of the Base distance of the corresponding Arch style culvert

General Standards

AWS Year: 2024-25

- No watercourse realignment, nor use of explosives is permitted.
 Minimize loss or disturbance to riparian vegetation. Restrict removal of riparian vegetation to the disturbance footprint required for construction, maintenance and decommissioning of the water crossing.
- Install erosion and sediment control measures prior to commencement of construction or decommissioning to prevent release of sediment or other deleterious substances into watercourse.
- Fill material placed below the normal high water mark must be erosion-resistant and/or protected from erosion. • Direct storm water runoff from bridge decks, side slopes, road approaches and ditches away from the watercourse
- and into a retention pond or vegetated area.

 Ensure erosion and siltation in ditch lines adjacent to the watercourse crossing approaches are controlled using sediment traps such as rock/soil dams or log jams as site conditions warrant.

 Do not block or impede the free passage of water and fish at any time of year up and down stream,
- with the exception of potential and temporary blockage due to water crossing construction/decommissioning activities.
- Abide by fisheries in-water timing windows in the approved FMP and/or forest management guides. Where fishery communities are not well documented, the most restrictive in-water timing window must be used.
- Complete all in-water construction and decommissioning activities in an uninterrupted fashion and in an appropriate
- timeframe to minimize potential for site disturbance.

 If installation requires inwater work, do not locate within 100m of spawning or sensitive fish habitat eg. rapids, riffles, known overwintering areas.
- Maintain machinery free of fluid and fuel leaks. Wash, refuel and service machinery at least 30m from watercourse. Store fuel and other materials for machinery a minimum of 30m from the watercourse
- · Operate machinery on land with tracks/wheels above the normal high water mark, or on ice in a manner that avoids disturbance to the banks of the watercourse and adjacent riparian vegetation areas. Remove all debris from construction and decommissioning work from the site following completion of the undertaking.
- If machinery fording is required, limit to a one-time event (over and back) per piece of equipment essential to
- implementating the project, and only if using an existing crossing at another location is not available or practical.

 If minor rutting is likely, watercourse bank and bed protection methods (e.g., swamp mats, pads) are to
- be used provided they do not constrict flows or block fish passage; Grading of the watercourse banks for the approaches is not permitted;
- If the watercourse bed and banks are steep and highly erodible (e.g., dominated by organic materials and silts) and erosion or degradation is likely, use a temporary crossing structure or other practice to protect them;
- The one-time fording must adhere to the appropriate in-water timing windows; Fording must occur under low-flow conditions and not when flows are elevated due to local rain events or seasonal flooding.

All calculations are for projecting ends. Total pipe length normally not to exceed 20m.

NO

- All calculations assume a Headwater Depth of 1.0.
- MP = Multi-Plate (i.e. SPCSP)

Within 500m of Brook Trout stream:

Standards for Single, Small Closed-Bottom Round Culverts

- This standard applies to single, round, corrugated, closed-bottom steel, aluminum, or plastic culverts less than or equal to 1200mm in diameter that do not require site-specific engineering approval per MNRF's Crown Land Bridge Manual.
- This standard only applies if the project does not:
- Replace an existing open-bottom crossing (e.g., clear span bridge, arch culvert);
- Replace an existing closed-bottom culvert larger in diameter than that being installed; or - Involve the installation of more than one closed-bottom culvert at the crossing location.
- Locate, design and construct to minimize likelihood of ongoing outlet scour, culvert undermining or erosion of fill in order to provide stable, non-perched culverts that provide for fish passage
- Do not locate on meander bends, braided streams, or any other area inherently unstable that may result in alteration
- of natural stream functions or erosion and scouring of the structure. Size to a minimum Q25 design flow. If an unmapped stream is encountered and proper analysis cannot be
- completed to determine Q25, size to ensure it spans from bank to bank.
- Do not install where channel slope at crossing location is of a gradient greater than 2.0%.
- Do not install where slope of road approaches or either bank approach is greater than 30% (17°).
- · Locate where culvert can be embedded below grade of stream bed.
- · Use site-specific mitigation measures to ensure no ongoing erosion of fill. As a minimum:
- Stabilize both inlet and outlet ends with appropriately sized non-erodible material;
- Rock used is clean, free of fine materials and of sufficient size to resist peak flood events;
- Place rock at original bank grade to ensure no infilling or narrowing of watercourse;
- Fill material placed below normal high water mark must be erosion resistant and/or protected from erosion.
- The Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales refers to the normal high-water mark as the edge of vegetation communities capable of providing an effective barrier to the movement of sediment.

 • Do not locate within 100 metres of fisheries spawning or sensitive habitat.
- Do not locate within 500 metres of any brook trout spawning or upwelling greas.
- Do not locate on watercourses that flow into, and are within 500m of, known naturally reproducing brook trout lakes.
- Mix of size, length, slope & drainage area must not increase flows to consistently & predictably impede fish passage.
- Install under low-flow conditions and not when flows are elevated due to local rain events or seasonal flooding.
- Both interior and exterior of culverts must be corrugated to ensure structural stability and facilitate fish passage
- The grade of the culvert must reflect the grade of the natural watercourse bed.
- Compact backfill adequately around the culvert. Use only dean sand or gravel and compact around the culvert in layers.
- Length of culverts must permit banks to be sloped at an angle of 2:1 or a stable angle of repose for the materials used.

Reviewed by MNRF. Follow standard(s) as well as any Appendix 2 conditions.

MNRF Appendix 2: Biologist Risk Evaluation

Concerns and Conditions on Construction

Watershed Thermal Code: UF

MNRF Assigned Thermal Code at Crossing

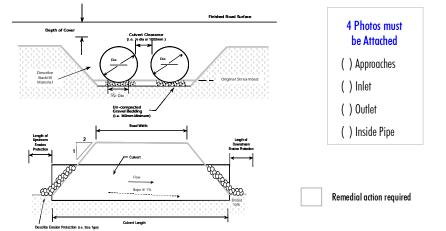
	Structure 1	Structure 2	Structure 3
Risk Evaluation:	LOW	LOW	LOW
Site Inspection Required:	NO	NO	NO

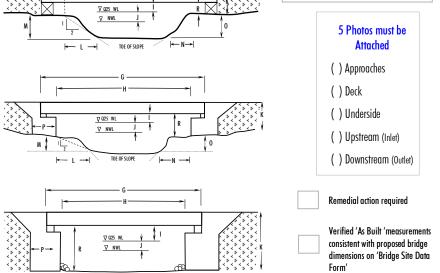
A DUMINI DIAME
ABITIBI RIVER Forest Management Inc

DRFMI (rnssi	ng Installation I	Renort		Only certifie	ed inspectors are allowed to condu	ct Forest Operations Inspe	ctions for subm
TIBI RIVER Management Inc	ng marananan	(Must be com	ppleted for each crossing location)		* 'As Built' Culvert I	nstallation Measuren (meters)	nents
Shareholder:		Block ID:		· 	Installed Diameter :		
Contractor:		Pood Name		CULVERT	Structure Length :		
		Road Name:		l n n n	Road Width :		
TE CONDITIONS ENCOUNTER	RED			O	Depth of Cover:		
ossing Located By:		Date Measurements Taken:			Water Depth in Pipe :		
					Number of Culverts :		
Stream Measurements			Foundation Soil Description :		Spacing Between Pipes :		
(meters)			Sand Muck				
Flood Plain Width : A		**	Silt Rubble		* 'As Ruilt' Bridge I	nstallation Measuren	ments
Bankful Width : B		A	Clay Gravel		•	(meters)	
Channel width : C	F E	¥	Channel Type:		Bridge length :	G	
Depth - 25% of Channel : D (1)	D (I)	1 1) D(c) D(r)	Ephemeral Ephemeral		Clear Opening Width :	Н	
Depth - 50% of Channel : D (c)	Notes:		Intermittent		Freeboard (min 0.5m) :	I	
lepth - 75% of Channel : D (r)			Permanent	90	Flood Rise :	J	
Depth - Bankful Flow : E			ADENI Nacifratian Daniel J	BRIDGE	Fill Height :	K	
Depth — Floodplain : F			ARFMI Notification Provided : (ARFMI Advised - 'Change to Operation' made)	•	Left Slope Length :	L	
Stream Velocity : m /sec			FRI Incorrect		Left Slope Rise :	M	
			Unmapped		Right Slope Length :	N	
					Right Slope Rise :	0	
NSTALLATION CONDITIONS					Crib Width :	P	
tallation Supervised By:		Date of installation:			Crib Height :	R	
ossing Permanency :Refer to Structure Removal Timeframe spe	cified in AWS 4 and 5		Exercise Description and Control (V)	Verifia	ation: I have confirmed that the final a	rossing condition	Water Cr Wa
Permanent Temporary Decomp	nissioned Date:		Erosion Prevention and Control (X): (Indicate applicable measures taken)		satisfies the mandatory water cro will not impede future transfer of	ssing standards and	lns
te: Measurements (*) must be included for all	Removal Date:	Stable slopes on s	stream banks and drainage ditch banks	Note	·		7 🔲 Co
octores which remain in place beyond dure of inspection	al Crossing Location on Stream Segment):	-	Course, clean rock to high water mark	Note:	u .		En
	al Crossing Location on Stream Segment):	Re-vegetate or seed	slopes (stream banks and ditch banks)				Cu Se
Bridge Record Form submitted (i.e. MNR /ARFMI)	N		Divert drainage ditches to green belt				No
New Crossing Type: Structure Description		_	Line drainage ditches with rock				No
Box Culvert Steel	Sand	Use rock weirs in	drainage ditches to impede water flow				No Ad
Arch Culvert Plastic	Gravel	Use	filter cloth on upstream side of culverts				Dro
Round Culvert Wood	Rock Rubble		bbing or stripping of ground vegetation				Cro
Portable Bridge Concrete	Other		of ice if fill is used for Winter Crossings)				Ro
eel Stringer Bridge Ford (Engineered)		SSS IIIISI CIOIII (OII 10) V	Other:		of the above activities must be che		e within accepta
Winter Snow Pack			Olliel:	I certify that the	activities inspected are fully complian	nt based on an Signo	ature.

FOIP Report Number : FOIP database

Inspector Name:





Verification :	Water Crossing Activity (X):
I have confirmed that the final crossing condition	Water crossing location same as AWS submission
satisfies the mandatory water crossing standards and	Installation of culvert and size same as described in AWS water shed calculations.
will not impede future transfer of responsibility	No sediments or woody debris left in water body or streams
Natari	Construction materials removed from site
Notes:	Embankment sloped properly (e.g. 2:1) with no possibility of slumping
	Timing restriction met
	Culvert properly installed (i.e. refer to FMP Standards)
	Sediment Control Plan in AWS followed
	No Erosion or Sedimentation present (e.g. filter cloth used to prevent material from entering waterway)
	No signs of equipment or machinery in stream (i.e. culvert installed before equipment progresses past crossing)
	Coarse clean rock used on all culvert crossings
	Natural vegetation protected
	Additional measures used to prevent erosion (e.g. seed, filter cloth, rip rap etc.)
	Drainage ditches properly installed
	Crossing removed before March 31 unless left for silviculture activities
	Road right of way width through unallocated stands , no larger than FMP requirement
	Road right of way width through AOC's (reserves), no larger than FMP requirement
Note: All of the above activities must be checked. 🗸 - Verified to be	within acceptable limits 🗶 - Outside of acceptable limits. Refer to comments for additional details N/A — Not applicable

inspection appropriate to support this decision.

Date: ___

Bridge Used (Identification #):