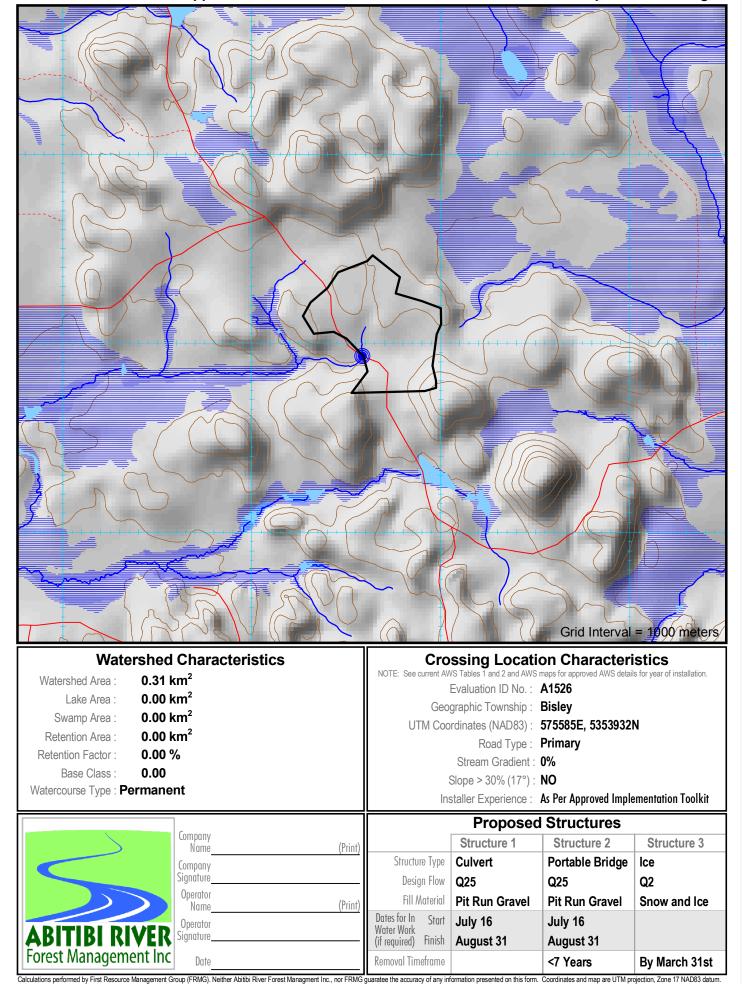
## Abitibi River Forest Appendix 1: Form for Submission of Information on a Proposed Crossing



### Shaded Area for ARFMI Road 324 Office Use Only Network No. Publication Date: December 12, 2023 Abitibi River Forest - S.F.L. # 551832

Proponent: Wahgoshig Resources Inc. c/o P.O. Box 867 New Liskeard, Ontario P0J 1P0 (705) 680-0033 Plan Term: 2022-2032 AWS Year: 2024-25

Culvert Design Options	Q <sub>25</sub>	<b>Q</b> <sub>10</sub>	<b>Q</b> <sub>5</sub>	Q <sub>2.33</sub>	
Design Flow	0.000 m <sup>3</sup> /sec	0.000 m <sup>3</sup> /sec	0.000 m <sup>3</sup> /sec	0.000 m <sup>3</sup> /sec	
1 Round	450mm	450mm	450mm	450mm	
2 Round	N/A	N/A	N/A	N/A	
3 Round	N/A	N/A	N/A	N/A	
1 Arch (BxD)	450x340mm	450x340mm	450x340mm	450x340mm	
2 Arch (BxD)	N/A	N/A	N/A	-	
3 Arch (BxD)	N/A	N/A	N/A	-	
Required Ope	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 stand . For 40% fill, use a round culvert diameter of the Base distance of the corresponding Arch style c

#### **General Standards**

- No watercourse realignment, nor use of explosives is permitted.
  Minimize loss or disturbance to riparian vegetation. Restrict removal of riparian vegetation to the distur footprint required for construction, maintenance and decommissioning of the water crossing. · Install erosion and sediment control measures prior to commencement of construction or decommiss
- 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 • Direct storm water runoff from bridge decks, side slopes, road approaches and ditches away from the
- and into a retention pond or vegetated area. Ensure erosion and siltation in ditch lines adjacent to the watercourse crossing approaches are control 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/decommiss • 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 mus · Complete all in-water construction and decommissioning activities in an uninterrupted fashion and in a
- timeframe to minimize potential for site disturbance. • If installation requires inwater work, do not locate within 100m of spawning or sensitive fish habitat
- eq. rapids, riffles, known overwintering areas.
- Maintain machinery free of fluid and fuel leaks. Wash, refuel and service machinery at least 30m from 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 mann 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 t
- · If machinery fording is required, limit to a one-time event (over and back) per piece of equipment esse implementating the project, and only if using an existing crossing at another location is not available o If minor rutting is likely, watercourse bank and bed protection methods (e.g., swamp mats, pads) are 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 materia
- and erosion or degradation is likely, use a temporary crossing structure or other practice to protect the
- . The one-time fording must adhere to the appropriate in-water timing windows; Fording must occur u conditions and not when flows are elevated due to local rain events or seasonal flooding.

# Self-assessed. Follow conditions of appropriate standard(s).

MNRF Appendix 2: Biologist Risk Evaluation Concerns and Conditions on Construction Structure 1:

Structures 2,3: The crossing is a portable bridge spanning the high water mark and/or a winter crossing; no in-water work is proposed and is low risk following standards and guidelines. This ranking does not authorize any undertaking that results in serious harm to fish, but suggests a low risk of causing serious harm to fish in compliance with the Fisheries Act following best practices such as those described in the DFO measures to avoid causing harm to fish and fish habitat and the standard mitigation techniques outlined in the FMP.

-FRMG Note: Existing crossing site.

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

Crossing Evaluation A1526 Reference Number

Fisheries Opera	itional Management Zo	ne (OMZ):
		Construction, Removal and/or ed-Bottom Round Culvert
Previous Asses	sment Year (incl. SA):	2024
SAR species lik	ely to be impacted:	NO
Preconstruction	photos available:	NO
Within 500m of	Brook Trout stream:	NO
•		

lard diameter. ulvert.	<ul> <li>All calculations are for projecting ends. Total pipe length normally not to exceed 20m.</li> <li>All calculations assume a Headwater Depth of 1.0.</li> <li>MP = Multi-Plate (i.e. SPCSP)</li> </ul>
	Standards for Single, Small Closed-Bottom Round Culverts • This standard applies to single, round, corrugated, dosed-bottom steel, aluminum, or plastic culverts less than or equal
bance	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:
oning to	- Replace an existing open-bottom crossing (e.g., clear span bridge, arch culvert);
erosion.	<ul> <li>Replace an existing closed-bottom culvert larger in diameter than that being installed; or</li> <li>Involve the installation of more than one closed-bottom culvert at the crossing location.</li> </ul>
watercourse	Locate, design and construct to minimize likelihood of angoing outlet scour, culvert undermining or erosion of fill in order to provide stable, non-perched culverts that provide for fish passage.
led using	<ul> <li>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.</li> </ul>
	<ul> <li>Size to a minimum Q25 design flow. If an unmapped stream is encountered and proper analysis cannot be</li> </ul>
ioning activities.	completed to determine Q25, size to ensure it spans from bank to bank.
t be used.	<ul> <li>Do not install where channel slope at crossing location is of a gradient greater than 2.0%.</li> <li>Do not install where slope of road approaches or either bank approach is greater than 30% (17°).</li> </ul>
n appropriate	<ul> <li>Locate where culvert can be embedded below grade of stream bed.</li> </ul>
	<ul> <li>Use site-specific mitigation measures to ensure no ongoing erosion of fill. As a minimum:</li> </ul>
	- 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;
watercourse.	- Place rock at original bank grade to ensure no infilling or narrowing of watercourse;
er that avoids	- 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
he undertaking.	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.
ntial to	<ul> <li>Do not locate within 100 metres of any brook trout spawning or upwelling areas.</li> </ul>
r practical.	<ul> <li>Do not locate on watercourses that flow into, and are within 500m of, known naturally reproducing brook trout lakes.</li> </ul>
e to	<ul> <li>Mix of size, length, slope &amp; drainage area must not increase flows to consistently &amp; predictably impede fish passage.</li> </ul>
	<ul> <li>Install under low-flow conditions and not when flows are elevated due to local rain events or seasonal flooding.</li> </ul>
	<ul> <li>Both interior and exterior of culverts must be corrugated to ensure structural stability and facilitate fish passage.</li> </ul>
Is and silts)	<ul> <li>The grade of the culvert must reflect the grade of the natural watercourse bed.</li> </ul>
hem; Inder low-flow	<ul> <li>Compact backfill adequately around the culvert. Use only dean sand or gravel and compact around the culvert in layers.</li> <li>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.</li> </ul>
ronriate e	standard(s)

Watershed Thermal Code : UF

MNRF Assigned Thermal Code at Crossing



e 2	Structure 3
	LOW
	NO

IBI RIVER AINT MIT CT USSTITU	g Installation I	INUPULI (Must be comp	leted for each crossing location)		* 'As Built' Culvert I	nstallation Measurem (meters)	ents
Shareholder:		Block ID:		<b>_</b>	Installed Diameter :		
				CULVERT	Structure Length :		
Contractor:		Road Name:			Road Width :		
ITE CONDITIONS ENCOUNTEREI	D			Ö	Depth of Cover:		
ossing Located By:		Date Measurements Taken:			Water Depth in Pipe :		
					Number of Culverts :		
Stream Measurements	A	<b>Å</b> Å	Foundation Soil Description :		Spacing Between Pipes :		
(meters)		えん しょうしょう しんしょう しんしん しんしん しんしん しんしん しんしん	Sand Muck				
Flood Plain Width : A			Silt Rubble		* 'As Built' Bridge I	nstallation Measurem (meters)	ents
Bankful Width : B Channel width : C	F TE	- B	Clay Gravel		Bridge length :	G	
Depth - 25% of Channel : D (I)		• • • • • • • • • • • • • • • • • • • •	Channel Type:		Clear Opening Width :	H	
Depth - 50% of Channel : D (c)			Ephemeral		Freeboard (min 0.5m) :		
Depth - 75% of Channel : D (r)	Notes:		Intermittent Permanent	Ж	Flood Rise :	J	
Depth - Bankful Flow : E				BRIDGE	Fill Height :	K	
Depth — Floodplain : F			ARFMI Notification Provided : (ARFMI Advised- 'Change to Operation' made)	<b>B</b>	Left Slope Length :	L	
Stream Velocity : m /sec			FRI Incorrect		Left Slope Rise :	M	
			Unmapped		Right Slope Length :	N	
					Right Slope Rise :	0	
STALLATION CONDITIONS					Crib Width :	Р	
stallation Supervised By:		Date of installation:			Crib Height :	R	
							Water Crossing /
				Verifi	cation :		
	Monin/ Tedi		Erosion Prevention and Control (X): (Indicate applicable measures taken)	Verifi	I have confirmed that the final a	rossing condition ssing standards and	Water cross
Permanent Temporary Decommission	monini / Teur		Erosion Prevention and Control (X): (Indicate applicable measures taken) ream banks and drainage ditch banks		I have confirmed that the final of satisfies the mandatory water cra will not impede future transfer o	rossing condition ssing standards and f responsibility	
Permanent       Temporary       Decommission         ote:       Measurements (* ) must be included for all ructures which remain in place beyond date of inspection       Scheduled Removed	val Date:	Stable slopes on str	(Indicate applicable measures taken)	Verifi	I have confirmed that the final of satisfies the mandatory water cra will not impede future transfer o	rossing condition ssing standards and f responsibility	Installation
Permanent     Temporary     Decommission       ote:     Measurements (*) must be included for all ructures which remain in place beyond date of inspection     Scheduled Remov       rown Land Bridge     NAD 83 (Record Actual Cross	val Date:	Stable slopes on str	(Indicate applicable measures taken)		I have confirmed that the final of satisfies the mandatory water cra will not impede future transfer o	rossing condition ssing standards and f responsibility	Installation No sedimer Construction Embankme Timing rest Culvert proj
Permanent       Temporary       Decommission         lote:       Measurements (* ) must be included for all       Scheduled Remov         tructures which remain in place beyond date of inspection       Scheduled Remov	val Date:	Stable slopes on str C Re-vegetate or seed sl	(Indicate applicable measures taken)		I have confirmed that the final of satisfies the mandatory water cra will not impede future transfer o	rossing condition ssing standards and f responsibility	Installation No sedimer Construction Embankme Timing rest Culvert prop Sediment C No Erosion
Permanent       Temporary       Decommission         lote:       Measurements (*) must be included for all tructures which remain in place beyond date of inspection       Scheduled Removes the	val Date:	Stable slopes on str C Re-vegetate or seed sl	(Indicate applicable measures taken)		I have confirmed that the final of satisfies the mandatory water cra will not impede future transfer o	rossing condition ssing standards and f responsibility	Installation No sedimer Construction Embankme Timing rest Culvert prop Sediment C No Erosion No signs of Coarse clea
Permanent       Temporary       Decommission         lote:       Measurements (*) must be included for all tructures which remain in place beyond date of inspection       Scheduled Remov         irown Land Bridge       NAD 83 (Record Actual Crossing Record Form submitted (i.e. MNR / ARFMI)       NAD 83 (Record Actual Crossing Type:         New Crossing Type:       Structure Description:	val Date:	Stable slopes on str C Re-vegetate or seed sl	(Indicate applicable measures taken)  ream banks and drainage ditch banks Course, clean rock to high water mark lopes (stream banks and ditch banks)  Divert drainage ditches to green belt		I have confirmed that the final of satisfies the mandatory water cra will not impede future transfer o	rossing condition ssing standards and f responsibility	Installation         No sedimer         Construction         Embankme         Timing rest         Culvert prop         Sediment C         No Erosion         No signs of         Coarse clea         Natural veg
Permanent       Temporary       Decommission         lote:       Measurements (*) must be included for all tructures which remain in place beyond date of inspection       Scheduled Remov         irown Land Bridge       NAD 83 (Record Actual Crossing Type:       NAD 83 (Record Actual Crossing Type:         New Crossing Type:       Structure Description:	val Date:	Stable slopes on str C Re-vegetate or seed sl Use rock weirs in d	(Indicate applicable measures taken)  ream banks and drainage ditch banks Course, clean rock to high water mark lopes (stream banks and ditch banks) Divert drainage ditches to green belt Line drainage ditches with rock		I have confirmed that the final of satisfies the mandatory water cra will not impede future transfer o	rossing condition ssing standards and f responsibility	Installation No sedimer Construction Embankme Timing rest Culvert prop Sediment C No Erosion No signs of Coarse clea Natural veg Additional Drainage di
Permanent       Temporary       Decommission         lote:       Measurements (*) must be included for all tructures which remain in place beyond date of inspection       Scheduled Remov         Crown Land Bridge       NAD 83 (Record Actual Cross         Bridge Record Form submitted (i.e. MNR /ARFMI)       New Crossing Type:         New Crossing Type:       Structure Description:         Box Culvert       Steel	val Date:	Stable slopes on str C Re-vegetate or seed sl Use rock weirs in d Use fil	(Indicate applicable measures taken)  ream banks and drainage ditch banks Course, clean rock to high water mark lopes (stream banks and ditch banks) Divert drainage ditches to green belt Line drainage ditches with rock Irainage ditches to impede water flow		I have confirmed that the final of satisfies the mandatory water cra will not impede future transfer o	rossing condition ssing standards and f responsibility	Installation No sedimer Construction Embankme Timing rest Culvert prop Sediment C No Erosion No signs of Coarse clea Natural veg Additional Drainage di Crossing ref Road right
Vote:       Measurements (*) must be included for all tructures which remain in place beyond date of inspection       Scheduled Remov         Crown Land Bridge       NAD 83 (Record Actual Cross (*) (i.e. MNR / ARFMI)       NAD 83 (Record Actual Cross (*) (i.e. MNR / ARFMI)         New Crossing Type:       Structure Description:         Box Culvert       Steel         Arch Culvert       Plastic	val Date:	Stable slopes on str C Re-vegetate or seed sl Use rock weirs in d Use fil No grubb	(Indicate applicable measures taken)  ream banks and drainage ditch banks Course, clean rock to high water mark Course, clean rock to high water mark lopes (stream banks and ditch banks) Divert drainage ditches to green belt Line drainage ditches with rock Irainage ditches to impede water flow Iter cloth on upstream side of culverts	Note	I have confirmed that the final of satisfies the mandatory water cra will not impede future transfer o	ssing standards and f responsibility	Installation         No sedimer         Construction         Embankme         Timing rest         Culvert prop         Sediment C         No Erosion         No signs of         Coarse clea         Natural veg         Additional of         Drainage di         Crossing rei         Road right

