



ENVIRONMENTAL IMPACT SCREENING COMMITTEE

Environmental Impact Screening Decision Form

EISC FILE: 10-19-02

Project Title: Gunghi Creek Crossing Replacement

Proponent: Government of the Northwest Territories, Department of Infrastructure

DECISION OF THE SCREENING PANEL:

Section 11.(17) of the IFA requires that, "On receipt of a project description, the Environmental Impact Screening Committee shall expeditiously determine if the proposed development could have a significant negative environmental impact and shall indicate in writing to the government authority competent to authorize the development that, in its view:

- (a) The development will have no such significant negative impact and may proceed without environmental impact assessment and review under the Inuvialuit Final Agreement.
- (b) The development, if authorized subject to environmental terms and conditions recommended by the Screening Committee, will have no such significant negative impact and may proceed without environmental impact assessment and review under the Inuvialuit Final Agreement.
- (c) The development could have significant negative impact and is subject to assessment and review under the Inuvialuit Final Agreement.
- (d) The development proposal has deficiencies of a nature that warrant a termination of its consideration and the submission of another project description".

EISC file 10-19-02 was considered a development subject to screening pursuant to section 11.(1) of the IFA.

Based on the evidence before it, the Screening Panel determined that in the case of **EISC file 10-19-02** The development, if authorized subject to environmental terms and conditions recommended by the Screening Committee, will have no such significant negative impact and may proceed without environmental impact assessment and review under the Inuvialuit Final Agreement. (IFA 11.(17)(b)).

In reaching this 11(17)(b) decision, the Panel provided the following recommendations:

1. The Proponent shall follow all proposed mitigation measures, emergency response plans, and spill contingency plans described in this Decision Letter including those contained in the comments received from the Department of Environment and Natural

Resources. In addition, and unless specifically addressed otherwise in this Decision Letter, the Proponent shall follow its submitted PD and its commitments therein.

2. The Proponent shall contact the Department of Fisheries and Oceans (DFO) - Regulatory Review Unit in Yellowknife, Northwest Territories for a site-specific review of the proposed project activities for the development of satisfactory mitigation measures to avoid harmful alteration, disruption or destruction of fish habitat.
3. The Proponent shall co-develop a Fisheries Management and Monitoring Plan for Gunghi Creek with the Fisheries Joint Management Committee and DFO.
4. The Proponent's standard operating procedures shall ensure that all drip trays are snow and ice free prior to and during use to ensure appropriate containment volumes.
5. The Proponent's mitigation measures should incorporate clearly defined triggers for action whenever possible. Generally speaking, the proposed mitigations are written with qualifiers that make implementation uncertain, e.g., "heavy precipitation". An example of a clear trigger and commitment would be: "construction work will be suspended when TSS reaches a value set by the regulators".
6. The Proponent shall submit a clear project timeline for all stages of construction activities which shall be provided to the Tuktoyaktuk and Inuvik Hunters and Trappers Committee and Community Corporation.
7. If the Proponent is unable to complete the proposed activities by April 15, 2020 as proposed, the EISC shall be notified of any changes to the PD.

Signed on the 8th day of January 2020

David Livingstone, Chair
Signature on File

Shannon O'Hara, Inuvialuit Member
Signature on File

Ron Wallace, GNWT Member
Signature on File

Bengt Pettersson, Yukon Member
Signature on File

Gerald Inglangasuk, Inuvialuit Member
Signature on File

Todd Slack, Canada Member
Signature on File



ENVIRONMENTAL IMPACT SCREENING COMMITTEE

January 17th, 2020

EISC Registry File: [10-19-02]

David B MacDonald
Department of Infrastructure, GNWT
5015-49th Street
Yellowknife, NT
X1A 2L9

Dear Mr. MacDonald:

Project Title: Gunghi Creek Crossing Replacement

Proponent: Government of the Northwest Territories, Department of Infrastructure

Thank you for submitting your project description (PD) to the Environmental Impact Screening Committee (EISC) for the above-named project. The EISC mandate is derived from the *Inuvialuit Final Agreement* (IFA) section 11(36), which states that “no license or approval shall be issued that would have the effect of permitting any proposed development to proceed unless the provisions of IFA section 11(36) have been complied with”.

During its special meeting of January 8th, 2020, the EISC discussed your project proposal and reviewed the Screening Record (Record) compiled over the screening comment period. The EISC determined that the Record was complete for the purpose of making an EISC decision and closed the Record. After closing the Record, the EISC Chair appointed a Screening Panel (Panel) pursuant to Section 11 (19) of the IFA. The Panel then met to determine if the proposed development could have a significant negative environmental impact and whether the development could have a significant negative impact on present or future wildlife harvesting.

Review of the Record

In reaching its decision, the EISC considered the information contained in the PD and comments and advice received from reviewers during the screening comment period, which concluded January 6th, 2019. These considerations are summarized below.

This summary is intended to assist the reader in understanding the EISC’s reasoning and does not mean that the EISC did not consider all other relevant portions of the Record with respect to the matter.

1) Nature of Activities

- a) The Government of the Northwest Territories is proposing the replacement of the existing watercourse crossing carrying the Inuvik to Tuktoyaktuk Highway (ITH) over Gunghi Creek, located at ITH km marker 131.2 (approximately 14 km south of Tuktoyaktuk). The existing 2000mm diameter by 38m long corrugated steel pipe that was built in April 2010 requires replacement due to major sagging in the centre of the existing structure. The proposed replacement structure is an open bottom concrete arch bridge 7518mm span by 3500 mm rise by 38.966 m long on a 40° RHF skew.
- b) The required work includes:
 - i. Primary Project Activities

- a. Clearing and grading, stripping and stockpiling of topsoil and subsoil
 - b. Watercourse crossing structure removal and installation
 - c. Installation of signage
 - d. Waste disposal
- ii. Ancillary Activities
 - a. Staging areas
 - b. Traffic management
 - c. Related traffic signage
 - d. Erosion and sediment control
 - e. Water management
- iii. Related Equipment
 - a. Loader, haul truck
 - b. Backhoe
 - c. Auger
 - d. Dozers, excavators

c) Fuel Requirements:

Material Type	Amount	Storage Capacity
Diesel Fuel	3 drums	55 gallons each
Gasoline	3 drums	55 gallons each
Propane	3 cylinders	20 lbs each
Biodegradable Oils	1 container	5 gallons
Biodegradable Lubricants	1 container	5 gallons

d) Waste Management

- i. Spill and emergency response equipment will be stored in the job shack.
- ii. All hazardous material will be 100m away from Gunghi Creek.
- iii. The Spill Contingency Plan will be followed in the event of a spill.

Waste Type	Hazardous or Non-hazardous	Estimated Volume (m3)	Disposal Method
Solid Waste	Non-hazardous	10 m ³	Transported to an approved solid waste facility as required
Sewage	Non-hazardous	1 m ³	Transported to a sewage lagoon facility for disposal or treatment as required
Recyclable Waste	Non-hazardous	1 m ³	Transport to a recycling facility as required
Hazardous Waste	Hazardous	0 m ³	Transported to an approved facility for disposal and treatment
Scrap Culvert	Non-hazardous	1 m ³	Transported to local municipal landfill in Inuvik after the existing culvert is removed

2. Location

- a) The site is located at km marker 131.2 which is approximately 14 km south of Tuktoyaktuk.

3. Duration

- a) 2 months.

4. Timing

- a) February 15, 2020 – April 15, 2020. In stream work to be completed by March 30, 2020 prior to the spring freshet and restricted activity timing window for instream work of April 1 to July 15.

5. Frequency

- a) Once

6. Magnitude of environmental effect

- a) Low-moderate

7. Scale of the environmental effect

- a) The project activities will occur within the existing ITH right-of-way at kilometer 131.2.

8. Nature of environmental effect (potential direct, indirect, cumulative impact)

a) **Geology, Permafrost and Soils**

i. **Potential Effects**

Potential effects to geology, permafrost and soils occur during the construction related activities. These activities include site clearing, soil handling, excavation, grading and reclamation of the land surface. Potential effects of the Project on soil quality may include:

- Admixing, which results in a loss of soil profile integrity, dilution of organic matter and reduction of nutrient status, and possibly changes in water holding capacity (i.e., a reduction in soil quality);
- Permafrost exposure, which results in greater potential of permafrost melt and erosion;
- Compaction, which degrades soil structure, thus reducing permeability and aeration;
- Erosion, which results in loss of soil volume; and
- Contamination by spills or leaks.

These effects may lead to a reduction of soil suitability after restoration.

ii. **Mitigation Measures**

- 1) Construction activities will be scheduled to avoid periods of rapidly changing weather, including heavy rains or rapid snow melt, which could lead to surface run off and soil erosion. Construction will occur during frozen conditions.
- 2) Construction area boundaries and areas of concern will be marked with barriers to ensure that construction personnel know they are working in or near sensitive areas that cannot be disturbed and to limit the area of disturbance to the PDA.
- 3) Topsoil (the organic veneer) will be salvaged and stored separately from underlying mineral soils. Although color change between topsoil and subsoil is a good indicator of the soil profiles, care will be exercised to ensure proper topsoil salvage.
- 4) Soil salvage operations will be conducted with qualified supervision and in a manner to maximize the quality of the soil for future use in reclamation. In particular, topsoil will be

conserved, and measures will be implemented to reduce admixing (e.g., scheduling of topsoil stripping activities during daylight hours).

- 5) Exposure of permafrost layers will be minimized to the extent possible and capped following construction activities in order to reduce the potential for future permafrost melt.
- 6) During construction, stabilization of soil stockpiles, and management of surface run-off (snowmelt, rainfall) will reduce the erosion potential of runoff. Erosion and sediment control (ESC) measures will be used to reduce soil surface exposure, as required, in order to minimize both water and wind erosion.
- 7) To minimize soil compaction, to the extent possible, the following will be implemented:
 - i. schedule construction activities to avoid work on wet soils;
 - ii. minimize the number of repeated passes over areas prone to compaction; and
 - iii. use tracked vehicles rather than conventional tires and rig matting when warranted by soil moisture conditions.
- 8) Temporary ESC measures during construction will be the responsibility of the construction Contractor. ESC measures will be implemented to prevent loss of soils and sedimentation of through erosion.
- 9) A spill prevention and response plan will be designed and implemented as part of the Contractor's ECO Plan during construction to prevent contamination of any soil system, including soils stored for later use, and in the event of accidental contamination during operation, to immediately respond and mitigate the contamination. A Guide to the Spill Contingency Planning and Reporting Regulations (GNWT 2011) will be followed.

iii. **Residual Effects**

Most potential effects on soil quality due to admixing, permafrost melt, compaction or erosion, can be successfully mitigated with the recommended mitigation measures and BMPs, including soil handling, implementation of ESC measures, and reclamation and revegetation as part of the Project design (Appendix A).

The primary mitigation for potential effects related to accidental spills and releases is prevention through BMPs for fuel storage, re-fueling and spill response. Accidental releases are anticipated to be localized and will be handled immediately as outlined in the spill response plan as part of the Contractor's ECO Plan during construction.

Overall, the residual effects resulting from the Project related to admixing, compaction/rutting, contamination and/or soil erosion, are all considered to be negative, low in magnitude, limited to the PDA in extent, long-term in duration, and reversible. The residual effect resulting from the Project related to permafrost melt is considered to be negative, low in magnitude, limited to the PDA in extent, long-term in duration, and irreversible. Mitigation measures identified to address potential effects on geology, permafrost and soils within the PDA are anticipated to fully mitigate potential negative environmental effects.

a) **Vegetation**

i. **Potential Effects**

Construction activities may result in minor clearing along existing disturbed RoW. Removal of native vegetation can result in exposed soil and create a potential source of sedimentation. Minimizing the spatial extent of vegetation clearing to reduce exposed soil in the PDA, and prompt implementation of ESC measures are anticipated to mitigate the effects on vegetation.

Non-native or invasive plant species (i.e., weeds) often colonize disturbed areas through the dispersal of seeds by wind, water, wildlife or human-related activity. Invasive species are often strong competitors with native species in disturbed environments. Invasive plants can move into adjacent areas and displace or otherwise affect the post-disturbance recovery of native vegetation. Given the nature of the Project, there will be opportunities for weeds to invade disturbed areas. The spread of weeds into disturbed areas typically occurs over a medium time period (1-5 years). However, if native vegetation cover can be reestablished in a timely manner, weed spread is predominantly eliminated.

No rare species (including Species at Risk), or unique vegetation communities have been identified in the PDA. The potential for loss of rare plant populations or unique plant communities due to the Project is considered low largely based on the small footprint of the PDA.

ii. **Mitigation Measures**

The following measures will be implemented to address potential effects of the Project on the vegetation.

- 1) The removal of vegetation will be restricted to the minimal acceptable requirements to avoid potential disturbance to native vegetation communities outside the PDA.
- 2) Disturbed areas will be stabilized, vegetated and/or seeded as soon as possible after construction.
- 3) Prompt implementation of ESC measures of all disturbed areas.
- 4) Implementing measures to reduce the introduction and spread of weeds and invasive plant species, such as washing and inspecting vehicles/equipment prior to its arrival onsite to ensure that they have been cleaned and are free of dirt, mud, weeds and invasive species; utilizing seed weed-free seed mixtures; and monitoring to identify potential locations for control measures; is recommended.
- 5) Post-construction monitoring following winter construction to identify areas of instability and/or erosion. Where vegetation establishment is inadequate, or erosion/instability is identified, remedial measures will be implemented.
- 6) Post-construction monitoring to identify occurrences of weed establishment throughout disturbed areas. Follow-up (e.g., implementing weed control measures) may be required if and where monitoring identifies problem areas (e.g., infestations of weeds designated as prohibited noxious or noxious are identified).
- 7) Weed control methods will be implemented during the construction, reclamation and maintenance phases of the Project in areas where weed problems are identified. The use of herbicides is not recommended within the Project site due to potential runoff into Gunghi Creek.
- 8) Following winter construction, weed control measures, such as mowing, hand picking, seeding of a temporary vegetation cover (annuals) may be required on site until the desired vegetation becomes established.

iii. **Residual Effects**

Minor clearing and grubbing will be required for the construction of the Project. In addition to clearing, indirect disturbances to native vegetation from dust effects in the spring and potential for spread of nonnative plants/invasive weeds were considered. There is expected to be a nil-low potential for the Project to have an effect on rare species or unique vegetation communities. With implementation of recommended mitigation measures, residual effects on vegetation related to direct effects (vegetation clearing) and indirect effects (weeds/invasive species) are predicted to be negative, low in magnitude, limited to the PDA in extent, long-term in duration, and reversible.

b) Wildlife and Wildlife Habitat

i. Potential Effects

Construction related effects on wildlife are expected to be limited. Indirect effects from sensory disturbance is often associated with habitat clearing and construction activities and may discourage most species from using habitat adjacent to the Project. Most wildlife will avoid construction activities and habitats in the immediate vicinity of active work sites during the day and return during periods of inactivity (e.g., overnight). Most bird species are highly susceptible to noise disturbance; however, nesting activities are not expected during the proposed winter construction. Following construction, species are expected to return to adjacent habitats.

The movement patterns of animals, particularly mammals and ungulates, may be temporarily disrupted by construction activities. Construction activities are expected to occur during daylight hours, and animal movements may occur during periods of inactivity. Overall, substantial barriers to movement from construction activity are not expected to differ from current levels. As birds are highly mobile, construction and recreational activity not anticipated to cause significant barriers to movement.

Direct mortality of wildlife may occur if clearing is required, however nesting activities are not expected during the proposed winter construction, and any minor clearing involved is anticipated to be localized to the PDA. As the proposed works are scheduled for completion April 15 and only minor clearing will be required, the vegetation clearing timing constraint of May 20 to August 17 will be adhered to.

ii. Mitigation Measures

- 1) Prior to construction a survey will be conducted to ensure no active grizzly/ black bear, wolverine or lynx dens occur within 250 m of the project site. Where dens are identified the appropriate management agency will be identified to determine appropriate mitigation.
- 2) Clearly delineate by staking or flagging any construction access routes, temporary workspaces and environmentally sensitive areas prior to disturbance to minimize clearing necessary for construction workspaces.
- 3) Limit construction to daylight hours to allow animals to move through the project site overnight.
- 4) Use noise reduction equipment to muffle or control noise levels and reduce sensory disturbance to wildlife.
- 5) Ensure waste management plans are adhered to at all times to prevent attraction of wildlife to work site. Waste storage and accidental spill sites should be fenced to prevent wildlife access.

- 6) Limit the size of permanent and temporary workspaces to the greatest extent possible, and reclaim work areas immediately following construction.
- 7) Prohibit pets, firearms or recreational use of all-terrain vehicles in construction sites.
- 8) Do not harass or feed wildlife.
- 9) Record all wildlife observed within or near construction activities for submission to appropriate management agency.
- 10) Store hazardous materials securely in an appropriate location to avoid interaction with wildlife.
- 11) Where caribou approach the construction site or active ungulate mineral/salt licks are observed a temporary suspension of construction may be required to adhere to recommended setback distances outlined in the table below. Where caribou or active mineral/salt licks are observed appropriate the environmental management agencies should be contacted to determine appropriate mitigation.

Wildlife	Feature or Habitat	Setback Distance
Caribou	N/A	500m
Ungulates (general)	Mineral/salt lick	1km

Notes; 1: AANDC et al 2012.

iii. Residual Effects

Residual habitat losses associated with the proposed development are very small and will effect an area that is occupied by the existing crossing structure and ITH roadway RoW. With the implementation of revegetation of the PDA residual effect related to habitat loss is considered to be negative in direction, local in extent, low in magnitude and reversible. Construction activities are anticipated to result in an increased amount of noise and traffic and will likely result in increased sensory disturbance. Due to the overall small scale of the Project and anticipated short construction timeframe, the residual effect related to sensory disturbance is considered to be negative in direction, local in extent, low in magnitude and reversible.

c) Aquatic Environment

i. Potential Effects

Potential direct or indirect construction-related effects to the aquatic environment of Gunghi Creek are discussed below.

Release of Deleterious Substances

There is the potential for the accidental release of contaminants during construction. Contaminants may include sediments, debris, hydrocarbons, and hydraulic fluids. These substances could affect fish health, reproductive success, behaviour or result in direct fish mortalities. These potential effects can be mitigated by avoiding instream construction to the extent possible (e.g., operating machinery from outside of the watercourse), instream worksite isolation techniques where required, implementation of appropriate erosion and sediment control measures, and proper storage and handling of hazardous materials. Residual impacts are expected to be negative, low in magnitude, local in geographic extent, short-term in duration, reversible and isolated.

Fish Passage

The replacement open bottom concrete arch culvert was designed to accommodate fish passage during peak flows for the weakest swimmer (northern pike) of species potentially occurring in Gunghi Creek. As per the DFO Swim Distance & Water Velocity Tool, at the design velocity 0.97 m/s (inlet velocity, Table 9), 50% of northern pike can swim a distance of 13 m, while 87.5% can swim 6 m. Accordingly, the arch culvert design will incorporate rock boulders (Class 2 [800 mm in diameter]) spaced at 5.0 m intervals along the arch culvert invert and reconstructed channel to provide rest areas for fish and promote fish passage. Katopodis and Gervais (2016) have identified that fish have the ability to detect and utilize zones of lower velocity, where the Class 1 riprap along the headslopes and bank margin and Class 2 rock boulders are expected to increase roughness and reduce local flow velocities through flow turbulence and provide resting areas for fish moving upstream. As such, fish passage is anticipated to be accommodated through the replacement structure.

	Depth (m)	Velocity (m/s)	Upstream Velocity (m/s)	Downstream Velocity (m/s)	Freeboard (m)
Q ₁₀₀ (16 m ³ /s)	1.7	0.9	1.7	1.8	1.6
3Q ₁₀ (6.6 m ³ /s) ₂	1.3	1.01	0.97	0.95	2.1
Q ₂ (4.8 m ³ /s)	1.1	0.98	0.87	0.84	2.3
Q _{check} (32 m ³ /s)	2.3	1.1	2.5	2.6	0.7

Notes 1: Wood 2019, provided in Appendix C; 2: 3Q₁₀ is fish passage flow.

Fish Habitat and Channel Area Affected

The proposed works will affect an area that has previously been disturbed by the existing crossing. No critical habitats were identified at the Project site. The proposed works will affect pool habitat, used primarily by migratory fish and is considered to have moderate productive capacity.

Replacement of the existing twin 2000 mm diameter by 38.0 m long culvert with a new 7518 mm span by 3500 mm rise by 38.966 m long open bottom concrete arch bridge will result in a net-gain of 217 m²[3] and alteration of approximately 562 m² of channel area [4] that will remain available to fish. Channel widening through the replacement structure will improve flow conveyance capacity and accommodate fish passage. The proposed replacement structure will provide adequate freeboard to facilitate debris passage over a range of floods. Channel enhancement will also be incorporated to maintain long-term instream habitat diversity and habitat connectivity through the Project site. Channel enhancement features will include Class 2 rock boulders spaced 5 m apart and Class 1 rock riprap along the newly graded streambed, which will also transition smoothly into the natural channel bed and streambank upstream and downstream of the crossing. Overall, productive capacity of fish habitat through the crossing structure is anticipated to improve through reconstructing a wider channel bed and increase in channel area and habitat diversity available to fish in the replacement crossing PDA.

ii. Mitigation Measures

General

- 1) Instream works will be avoided during the restricted activity timing window of April 1 to July 15.
- 2) The construction limits will be conspicuously marked with flagging tape to ensure that construction personnel know the disturbance must remain within the proposed footprint and right-of-way.

- 3) All work will be conducted from above the streambanks, wherever possible, to avoid disturbance to riparian vegetation. Disturbed areas will be stabilized, vegetated and/or seeded as soon as possible after construction.
- 4) An Erosion and Sediment Control Plan (ESCP) will be prepared and implemented. Effective ESC measures will be in place prior to disturbance, during and after construction to prevent sediment from entering the watercourse and wetlands. All ESC measures will be inspected regularly to ensure that they are functioning properly and are maintained, cleaned and/or upgraded as required until complete revegetation of all disturbed areas is achieved.
- 5) Minimize clearing of riparian vegetation (where possible, prune or top vegetation rather than uprooting/grubbing), minimize removal of any instream natural structures (e.g., woody debris, boulders; if removed, return to its original location), and use existing roads, cut lines and trails when accessing the work area to minimize further disturbance within the riparian area (soil compaction, clearing).
- 6) Any excavated areas of the channel bed will be backfilled with material that is the same quality and gradation that was removed.
- 7) Only clean rock, appropriately sized and free of deleterious substances will be used for riprap. These materials will be obtained off site and will not be taken from below the average high-water level of any watercourse;
- 8) Construction will be halted during periods of heavy precipitation.
- 9) All equipment and machinery will be assembled, cleaned and checked for proper mechanical operation prior to entering the work site. Regular inspections will be completed to ensure that hydraulic, fuel, and lubrication systems are in good condition and equipment is free of leaks.
- 10) Biodegradable oils and lubricants (e.g., white lithium greases and vegetable oil hydraulic fluid) will be used in any equipment that will be working in the watercourse.
- 11) Washing, refueling, servicing and staging of machinery and equipment will be conducted at least 100 m from a water body to prevent the entry of any deleterious substances.
- 12) If fuel is to be stored on site, it must be placed within a lined containment berm that is to be located at least 100 m from any water body. The berm is to have a capacity of 110% relative to the volume of fuel being stored.
- 13) All equipment that is to be used will be free of weed species and aquatic invasive species.
- 14) All spoil materials and debris will be removed from the site and properly disposed of above the high-water mark so that they do not enter any water body.
- 15) The Contractor will prepare an emergency spill response plan and contingency measures as part of the Environmental Construction and Operation (ECO) Plan. Information provided in the EMP in Appendix B will also be included in the Contractor's ECO.

Instream Isolation

Where the watercourse is dry or frozen to the channel bottom at the time of work the requirement to isolate does not apply.

- 1) Any instream works in flowing water conditions will be isolated during construction. 100% of downstream flow should be maintained at all times. Where ice is present, the diverted water will be returned to the watercourse under the ice. All diverted or discharged water will meet the requirements of the federal water quality guidelines (CCME 2002).
- 2) Any bypass pumping or water withdrawal will be conducted as follows:
 - Must pass through a screen with openings that are no larger than 2.54 mm and at a velocity that does not result in the entrainment and entrapment of fish or fish fry.
 - The fish screen must be constructed of materials that can withstand extreme winter temperatures.
 - The screen should be: kept clean of ice and debris, be inspected for damage before each withdrawal, pump should be stopped if any sign of fish impingement or entrainment, and a secondary screen should be kept onsite in case the primary screen gets frozen or damaged.
 - The inlet screen will not be placed directly on the bottom of the water body and will be placed in a manner that prevents disturbance on the channel bed material.
 - All openings for guides and seals will be smaller than the opening width of the screen material (2.54 mm) so fish cannot pass through.
 - Protect large screens with trash racks fabricated of bar (150 mm spacing is typical) or grating in areas where there is debris loading (i.e. woody material, leaves or algae mats).
 - Approach velocity directly in front of the screen will not exceed the designed approach velocity at any location.
 - Ensure there is enough structural support to prevent sagging or collapsing of the screen panel.
 - Where ice is present on the water body, the diverted water will be returned to the water body downstream of the instream worksite, under the ice.
- 3) Materials in isolation berms will be made of non-earthen materials and not introduce clay or silt into any watercourse. Instream works will be confined to the isolated channel section. Accumulations of deposited sediment will be removed from within the isolated area prior to removing the isolation barrier.
- 4) Should the need for dewatering arise, water will be released into a well vegetated area or settling basin and not directly into any water body. Water returning to the watercourse will be of equal or better quality than the water in the watercourse.
- 5) If water, standing or flowing, is present in the isolated work zone at the time of construction, a fish rescue program will be completed prior to the start of instream work to ensure all fish are protected.
- 6) Any fish will be rescued from the isolated area prior to construction and be relocated, unharmed, into an area containing sufficient flow and cover. Fish rescue may require a territorial licence. Rescue operations employing effective methods (e.g. electrofishing, seine netting, minnow trapping) carried out as stipulated in the research licence.

Temporary Access Road -Snow Fill

- 1) It is understood that construction of the temporary access will not require pumping of any water from any nearby water body.
- 2) Construct approaches or access road crossings perpendicular to the watercourse where possible.

- 3) Construct approaches using clean (ambient), compacted snow and ice to a sufficient depth to protect the stream banks or shoreline.
- 4) Where logs are used to stabilize the approach the logs are to be clean and securely cabled together. No logs and woody debris are to be left in the river or on the banks or shoreline.
- 5) The snow bridge should be V-notched once construction is completed to allow it to melt from the center.
- 6) Remove compacted snow from snow fills prior to the spring freshet.

Turbidity Monitoring

Where water is present during construction the Contractor's operations will be subject to the maximum allowable increase in Total Suspended Solids in the watercourse, as specified by the Canadian Water Quality Guidelines (CCME 2002). These guidelines provide threshold levels for water quality monitoring. It is expected the monitoring will support the implementation of recommended environmental protection measures to minimize impacts of construction and to provide a feedback mechanism so that mitigation measures can be adjusted where and when necessary.

iii. Residual Effects

The proposed works will result in a net-gain of 217 m² and alteration of approximately 562 m² of channel area that will remain available to fish. Overall, productive capacity of fish habitat through the crossing structure is anticipated to improve and channel widening through the replacement structure will improve flow conveyance capacity and accommodate fish passage. It is anticipated that residual effects will be offset through the implementation of channel enhancement, which will maintain long-term instream habitat diversity and habitat connectivity through the Project site. Potential effects on aquatic resources will be mitigated through the implementation of construction BMPs and recommended mitigation measures, including the implementation of an ESC Plan. Residual effects are considered to be positive in direction, low in magnitude, local in extent, short-term in duration and irreversible.

d) Archaeology

i. Potential Effects

No archaeological sites have been recorded at or near the Gunghi Creek crossing. Also, the surrounding lands were not identified as having archaeological potential in the overview study (Kaggiak-EBA 2010). The Project will not affect recorded archaeological resources and is unlikely to affect unrecorded archaeological resources.

ii. Mitigation Measures

Since the Project will not affect archaeological resources, no mitigation measures need to be implemented. The Project is, however, subject to reporting requirements should a previously unrecorded archaeological resource be discovered accidentally (see Prince of Wales Northern Heritage Centre 2019a).

iii. Residual Effects

The Project will not result in residual effects with respect to archaeological resources.

9. Ecological context of environmental effect (on wildlife, habitat, biodiversity):

- a) The site is located within Category C and E of the Tuktoyaktuk, Aklavik, and Inuvik Community Conservation Plans
- i. The site is an important fish habitat and important historic and present subsistence harvest area for people of Inuvik and Tuktoyaktuk

10. Wildlife harvesting context of environmental effect (place, timing, etc.)

a)

Community	Designated Area	Site /Management No.
Tuktoyaktuk, Inuvik	Spring/summer/fall/winter caribou harvesting	302C, 306C, 309C, and 315C
Tuktoyaktuk	Spring goose harvesting	304C
Tuktoyaktuk	Spring/fall fishing	305C and 310C
Tuktoyaktuk	Winter wolverine harvesting	314C
Tuktoyaktuk	Grizzly bear denning	322C
Tuktoyaktuk, Inuvik	Caribou herds ² winter range	701E
Tuktoyaktuk, Inuvik	Fish lakes and rivers	704C
Tuktoyaktuk, Inuvik	Tuktoyaktuk-West grizzly bear management	I/GB/04
Tuktoyaktuk, Inuvik	South Beaufort polar bear management area	I/PB/03

Notes 1: THTC et al 2016; and IHTC et al 2016; 2: Tuktoyaktuk Peninsula, Cape Bathurst, and Bluenose-West Caribou herds.

11. Likelihood of environmental effect occurring:

- a) Moderate impact to fish and fish habitat but would improve current conditions based off smaller culvert.

12. Project addresses community concern:

- a) The Tuktoyaktuk Hunters and Trappers Committee noted that the creek is much shallower now with the culvert and would like to see the creek restored to its original depth. The proponents proposed culvert replacement structure will allow for channel bed restoration.

Comments Received by the EISC

Department of Environment and Natural Resources (ENR)

ENR provided several comments and recommendations on Fuel Storage and Spill Contingency Planning and Reporting, Wildlife Disturbance and Harassment, Wildlife Sightings and Encounters, Wildlife Attractants and Waste Management, Northwest Territories Listed and Pre-listed Species at Risk, Wildlife Cumulative Effects Tracking, and Wildlife Abodes. ENR also included 'General Bear Encounter Guidelines' for the Proponent's reference.

Fisheries Joint Management Committee (FJMC)

The FJMC has received reports regarding issues with the Gunghi Creek culvert and is pleased that action is being taken to fix these issues.

The GNWT and consultants should develop and operate under a state-of-the-art fisheries residual impact management plan.

During the Inuvik-Tuktoyaktuk Highway Environmental Impact Review, it was identified that alterations to stream flow and road erosion as potentially detrimental to fish and fish habitat along the highway corridor. These concerns should continue to be considered in ongoing construction and maintenance along the highway corridor. While the concerns are addressed in the project description, diligent monitoring is necessary to ensure their effectiveness, as measures taken for the Inuvik-Tuktoyaktuk Highway have frequently been unsuccessful. The FJMC is willing to work with the Inuvik Monitor Program, as well as the Government of the Northwest Territories and Fisheries and Oceans Canada, to assist in monitoring any residual impacts and impacts that may occur at spring freshet.

In addition to the above comments, the proponent should ensure that their understanding of the Fisheries Act is consistent with the recent amendments (Bill C-68)

Department of Fisheries and Oceans (DFO)

DFO reviewed the project as described and stated that it may result in harmful alteration, disruption or destruction of fish habitat or prohibited effects on listed aquatic species at risk. The project requires a site-specific review and has been sent to the Fisheries Protection Program Regulatory Review unit in Yellowknife. Should DFO determine that the proposed project requires *Fisheries Act* Authorization, regulated timelines will apply.

Transport Canada (TC)

TC stated that under the Canadian Navigable Waters Act (CNWA), the CNWA authorizes and regulates interference with the public right to navigation. There are two types of navigable waterways under the CNWA; non-scheduled and scheduled. Gunghi Creek is not a scheduled navigable waterway. In this case, the Proponent has opted to deposit information on the online registry about the project and public a notice inviting public comments. Where any concerns were put forth by the public and resolved by the Proponent, the works may proceed based on the timelines in subsection 10.2(1) of the Act. If concerns are not resolved, the commenter may request that the Minister direct the owner to submit an application for approval.

Aklavik Hunters and Trappers Committee (AHTC)

The AHTC supports comments made by the Inuvik and Tuktoyaktuk Hunters and Trappers Committee.

Tuktoyaktuk Hunters and Trappers Committee (THTC)

According to the Proponent, THTC president Darrel Nasogaluak provided an e-mail to the Proponent stating that the THTC is very happy to see that the Gunghi Creek culvert will be replaced and wants to be sure that the creek post-construction will be as deep as it originally was as, as it is now much shallower with the culvert.

Inuvik Hunters and Trappers Committee (IHTC)

The IHTC has no comments or concerns.

EISC Decision

After careful deliberation, the Panel delivered an **11(17)(b)** decision:

"The development, if authorized subject to environmental terms and conditions recommended by the Screening Committee, will have no such significant negative impact and may proceed without environmental impact assessment and review under the Inuvialuit Final Agreement."
 [IFA s. 11. (17)(b)]

In reaching this 11(17)(b) decision, the Panel provided the following recommendations:

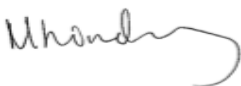
1. The Proponent shall follow all proposed mitigation measures, emergency response plans, and spill contingency plans described in this Decision Letter including those contained in the comments received from the Department of Environment and Natural Resources. In addition, and unless specifically addressed otherwise in this Decision Letter, the Proponent shall follow its submitted PD and its commitments therein.
2. The Proponent shall contact the Department of Fisheries and Oceans (DFO) - Regulatory Review Unit in Yellowknife, Northwest Territories for a site-specific review of the proposed project activities for the development of satisfactory mitigation measures to avoid harmful alteration, disruption or destruction of fish habitat.
3. The Proponent shall co-develop a Fisheries Management and Monitoring Plan for Gunghi Creek with the Fisheries Joint Management Committee and DFO.
4. The Proponent's standard operating procedures shall ensure that all drip trays are snow and ice free prior to and during use to ensure appropriate containment volumes.
5. The Proponent's mitigation measures should incorporate clearly defined triggers for action whenever possible. Generally speaking, the proposed mitigations are written with qualifiers that make implementation uncertain, e.g., "heavy precipitation". An example of a clear trigger and commitment would be: "construction work will be suspended when TSS reaches a value set by the regulators".
6. The Proponent shall submit a clear project timeline for all stages of construction activities which shall be provided to the Tuktoyaktuk and Inuvik Hunters and Trappers Committee and Community Corporation.
7. If the Proponent is unable to complete the proposed activities by April 15, 2020 as proposed, the EISC shall be notified of any changes to the PD.

A copy of the decision form for this file is attached to the email notification of this decision.

Both the Decision Letter and the Decision Form for this file will be placed on the file held in the EISC Registry.

If you have any questions regarding this decision, please don't hesitate to contact me directly at 1(867)777-2828, Extension 1014.

Sincerely,



Michel Lindsay
 EISC Coordinator

Attachments:

- 1) EISC Decision Form
- 2) ENR Comment Letter
- 3) DFO Comment Letter
- 4) FJMC Comment Letter

cc: EISC Distribution List

EISC Distribution List

David MacDonald, Project Manager, GNWT
 Jessica Parker, Environmental Biologist, Wood Environment and Infrastructure Solutions
 Larry Carpenter, Chair, Wildlife Management Advisory Council (NWT)
 Jodie Maring, Wildlife Management Advisory Council (NT)
 Rosemin Nathoo, Wildlife Management Advisory Council (NT)
 Lindsay Staples, Chair, Wildlife Management Advisory Council (NS)
 Kaitlin Wilson, Wildlife Management Advisory Council (NS)
 Alan Kennedy, Chair, Fisheries Joint Management Committee
 Emily Way-Nee, Fisheries Joint Management Committee
 Kiyo Campbell, Fisheries Joint Management Committee
 Eli Nasogaluak, Fisheries Joint Management Committee
 Vernon Amos, Chair, Inuvialuit Game Council
 Chanda Turner, RP, Inuvialuit Game Council
 Davonna Kasook, RP, Inuvialuit Game Council
 John Donihee, Chair, Environmental Impact Review Board
 Lenora McLeod, Coordinator, Environmental Impact Review Board
 David Livingstone, Chair, Environmental Impact Screening Committee
 Jennifer Lam, Committee Program Manager, Joint Secretariat
 Chloe Brogan, Community-Based Monitoring Program, Joint Secretariat
 Cassandra Elliott, TLK, Joint Secretariat
 Kayla Hansen-Craik, MPA, Joint Secretariat
 Paulatuk Hunters and Trappers Committee
 Aklavik Hunters and Trappers Committee
 Inuvik Hunters and Trappers Committee
 Olokhtomiut Hunters and Trappers Committee
 Sachs Harbour Hunters and Trappers Committee
 Tuktoyaktuk Hunters and Trappers Committee
 Mardy Semmler, Executive Director, Inuvialuit Water Board
 Bijaya Adhikari, Inuvialuit Water Board
 Duane Smith, Chair, Inuvialuit Regional Corporation
 Kate Darling, General Counsel, Inuvialuit Regional Corporation
 Charles Klengenber, Director of Lands, Inuvialuit Land Administration
 Glenna Noksana, Inuvialuit Land Administration
 Alec Sandra Macdonald, Regulatory Specialist, GLWB
 Erika Tramm-Tizya, Transboundary Specialist, Gwich'in Lands and Resources
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 Nathen Richea Manager Water Regulatory, ENR, GNWT
 Aurora Research Institute
 Naomi Smethurst, Culture and Heritage, ECE, GNWT
 Lorraine Seale, Department of Lands, GNWT

Dan Carmichael, Regional Superintendent, Department of Lands, GNWT
Marsha Branigan, Environment and Natural Resources, GNWT
Loretta Ransom, Environment and Natural Resources, GNWT
Patrick Clancy, Environment and Natural Resources, GNWT
Johnny Lennie, Manager Oil and Gas Planning, PR Division, GNWT
Ian Butters, Manager, Oil and Gas Rights, GNWT
Peter Clarkson, Regional Director, Department of the Executive, GNWT
Don Craik, Superintendent, ITI, GNWT
Lorie Fyfe, Regional Superintendent, Inuvik Region, MACA
Veronique D'Amours-Gauthier, DFO
Fisheries Protection Program, Fisheries and Oceans Canada
Beaufort Sea Partnership
Nelson Perry, Parks Canada Agency
Alison Cassidy, Resource Management Officer, Parks Canada
Eric Reed, Canadian Wildlife Service, ECCC
Environmental Assessment and Marine Program for Yukon, ECCC
Mark Dahl, Senior Oceans Disposal Officer, Environment Canada
EA North NWT
Christy Wickenheiser, National Energy Board
Anne-Marie Hesse, National Energy Board
Dinah Elliott, Environmental Specialist, CIRNAC
Sarah Robertson, Senior Project Officer, CANNOR
Georgina Williston, Senior Environmental Assessment Coordinator, EC
Sarah Chan, Manager of Environmental Affairs, Department of Environment, YTG
Mike Sutor, North Yukon Regional Biologist, Department of Environment, YTG
Stephanie Muckenheim, IFA Implementation and Projects Coordinator, YTG
Brian Groves, Manager of Museums, Tourism, & Culture, YTG
Jodie MacMillan, Development Assessment Archeologist, Heritage Branch, Tourism & Culture
Cameron Eckert, Special Projects Officer, YTG
Carrie Mierau, Yukon Parks Branch, YTG
YESAB, Dawson Office