APPLICATION FOR WATER LICENSE AMENDMENT

Supplemental Technical Information for Water Crossings (Water License 8BW-CLY0810)

Road between Clyde River and Cape Christian

1. Water Body name:
Only the Clyde River has a name. Location is provided in the Description of the Undertaking

2. Site Photo, site map or air photo detailing the location
See description of the Undertaking

3. Other Agencies contacted to date
GN Department of Community and Government Services and DFO

4. Need for the project and alternatives considered
Access to Cape Christian for the remediation work is required for the labour crew and for equipment and supplies. The alternatives would be to blast and crush rocks to produce gravel to repair the airstrip at Cape Christian (which is too soft) and use a charter to support the clean up operation. This alternative would require significantly more energy consuming and would create more environmental impacts. Furthermore, the residents of Clyde River would not see to much economical benefit from such an alternative.

5. General condition of the sites
i. Slope of banks smooth, less than 6:1
ii. Description of substrate compacted gravel (since it was used for years when the Cape Christian site was operational)
iii. Vegetation (on banks, in-stream, to be removed) very sparse for creek crossings 2a and 7a. Well vegetated for creek crossings 3a that will be installed during frozen ground conditions.
iv. Expected flow rates during time of construction low to very low since ATVS and pickup trucks use the road and cross all the sites
v. Channel meander pattern straight line

6. Existing Habitat
i. Fish Community (species/common names) at and near the site Based on a fish assessment study, creek #2 is fish bearing. Also, from recent observation (a perch was seen), the creek #7 is also fish bearing. Even if no assessment was made on the creek #3, the surface area will be considered for compensation.
ii. Use of impacted area as spawning, nursery, rearing, food supply or migration route see the fish assessment study
iii. Presence of sensitive habitat see the fish assessment study
iv. Assessment of impact to fish and fish habitat see the fish habitat compensation and monitoring plan

7. Construction Details
i. In water work timing restriction for fishery no in water work will be done
ii. Proposed start date and completion date (see Description of the Undertaking)
iii. Type of crossing, (see Description of the Undertaking)
iv. Method of installation (see Description of the Undertaking)
v. Dimensions of pipe or structure (see Description of the Undertaking)
vi. Machinery to be used (see Description of the Undertaking)

vii. Construction sequence (timing restriction may need to be taken into account) (see Description of the Undertaking)
viii. Sedimentation and erosion control measures silt fences install downstream during installation
i**x. Monitoring during construction** pictures taken before, during and after
x. Other mitigation measures crew will be trained
xi. Assessment of impact to fish and fish habitat there should be no impact
xii. Bank stabilization (size range of material) well graded gravel is not readily available. Geotextile will be used to stabilize banks
xiii. Cumulative impacts to area Once the span free bridge is constructed, residents of Clyde River and Federal government representatives that are involves with the assessment, clean up and post-construction monitoring will no longer go across the Clyde River with vehicles, therefore having a positive impact for the fish habitat. With the re-routed portion constructed, a more sustainable and solid road will be available for resident of Clyde River and therefore, passages into the toundra using ATVs will be limited.
xiv. Contingency plan none proposed
xv. Revegetation proposed none proposed
xvi. Proposed post-construction monitoring (photos taken of the site before construction, during construction and after construction; photographs should be taken form the same reference point for easy comparison) will be done

8. Bridge
i. Bridge dimensions and type (already constructed)
ii. Any structures (abutments, pilings, piers) that will be placed in the water, on a temporary or permanent basis (already constructed)
iii. Anticipated changes to the existing channel/shoreline morphology as a result of the proposed works No
iv. Activities or structures that may cause a temporary or permanent barrier to movement of fish or flow of water No
v. Coffer dams, dewatering, temporary watercourse diversions, excavation and temporary crossings No
vi. Total area of impact (m2) 0 m^2 in the fish habitat
vii. Stabilization method and materials used at bridge abutments(include details of material size range) (already constructed)

9. Culvert Installation
i. Culvert dimensions (height and width or diameter, length) (see Description of the Undertaking)
ii. Culvert type/material (see Description of the Undertaking)
iii. Impact to fisheries ability to migrate through the culvert Culverts will be properly embedded
iv. Need to realign the channel? No, culverts will be installed in the existing channels
v. Open bottom or natural substrate inside? No
vi. Slope of culvert less that 4%
vii. Installation of baffles, rock weirs or other structures No