NUNAVUT IMPACT REVIEW BOARD
Nunavutmi Kanogillivallanikot Ellitohaiyeoplotik Katimayiit

May 22, 2003

To: Phyllis Beaulieu
A/Licensing Administrator
Nunavut Water Board
Gjoa Haven, NU

Re: Char River Bridge Project (CG&T)
NIRB: 03UN040 NWB: NWB4CHA

Enclosed is the completed NIRB Screening Decision Report on the above-mentioned project.

NIRB has screened this application for eco-systemic and socio-economic impacts of the proposal.

NIRB's indication to the Minister is: 12.4.4 (a) the proposal may be processed without a review under Part 5 or 6; NIRB may recommend specific terms and conditions to be attached to any approval, reflecting the primary objectives set out in Section 12.2.5;

Please contact me at (867) 983-2593 if you have any questions about the Screening Decision Report.

Yours truly,

Gladys Joudrey
Environmental Assessment Officer
Nunavut Impact Review Board

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NUNAVUT IMPACT REVIEW BOARD
Nunavutmi Kanoglilivallanikot Eliittohaiyoqlotik Katimayilit

SCREENING DECISION

Date: May 22, 2003

Thomas Kudloo
Chairperson
Nunavut Water Board

Dear Minister:

RE: Screening Decision of the Nunavut Impact Review Board (NIRB) on Application:
NIRB 03UN040 NWB NWB4CHA DFO
Char River Bridge Project (CG&T)

Authority:

Section 12.4.4 of the Nunavut Land Claim Agreement states:

Upon receipt of a project proposal, NIRB shall screen the proposal and indicate to the Minister in writing that:

a) the proposal may be processed without a review under Part 5 or 6; NIRB may recommend specific terms and conditions to be attached to any approval, reflecting the primary objectives set out in Section 12.2.5;
b) the proposal requires review under Part 5 or 6; NIRB shall identify particular issues or concerns which should be considered in such a review;
c) the proposal is insufficiently developed to permit proper screening, and should be returned to the proponent for clarification; or
d) the potential adverse impacts of the proposal are so unacceptable that it should be modified or abandoned.

Primary Objectives:

The primary objectives of the Nunavut Land Claims Agreement is referenced in the screening section 12.4.4 (a) are set out in section 12.2.5 of the Land Claims Agreement. This section reads:

In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of the residents of Canada outside the Nunavut Settlement Area.

The decision of the Board in this case is 12.4.4 (a) the proposal may be processed without a review under Part 5 or 6; NIRB may recommend specific terms and conditions to be attached to any approval, reflecting the primary objectives set out in Section 12.2.5;

Reasons for Decision:

NIRB's decision is based on specific considerations that reflect the primary objectives of the Land Claims Agreement. Our considerations in making this decision included:

- the potential impacts to the terrain from heavy equipment and vehicles which may cause rutting and erosion;
- the potential impacts to the stream bed and banks, and increased sedimentation of water courses causing damage to fish habitat;
- the potential impact to the ecosystem from accidental spillage of petroleum products; and
- community support for the project.

Terms and Conditions:

- That the terms and conditions attached to this screening report will apply.

Wildlife

1. The Permittee shall ensure that there is no damage to wildlife habitat in conducting this land use operation.
2. The Permittee shall make all efforts to minimize harassment to wildlife including not conducting operations in sensitive areas during critical time periods (denning, nesting, staging, spawing or overwintering etc.).
3. The Permittee shall construct and maintain all structures placed in streams frequented by fish, in such a manner that will not obstruct passage of fish in accordance with Section 20 of the *Fisheries Act*.
4. The harmful alteration, disruption or destruction of fish habitat is prohibited under Section 35 of the *Fisheries Act*. No construction or disturbance of any stream/lake bed or banks of any definable watercourse is permitted unless authorized by DFO.

Environmental

5. The Permittee shall ensure that all instream construction is carried out during the low water periods.
6. The Permittee shall limit any instream activity. Machinery is not permitted to travel up the streambed and fording of the stream be kept to a minimum. Fording of the stream should be limited to one general area.
7. The Permittee shall ensure that stream crossings are located to minimize approach grades.
8. The Permittee shall ensure that bank disturbance is to be avoided.
9. The Permittee shall not cut any stream bank or remove any material from below the ordinary high water mark of any stream unless authorized in writing by a Land Use Inspector.
10. The Permittee shall stabilize approaches during construction and upon completion of the project to control run off, erosion and subsequent siltation of the stream.
11. The Permittee shall implement appropriate erosion control measures as required. Methods to control erosion may include revegetation of slopes, drainage ditches and sediment traps.
12. The Permittee shall not deposit or permit the deposit of sediment into any waterbody.
13. The Permittee shall ensure that all equipment is well cleaned and free from contaminated materials, oil and grease.

14. The Permittee shall not conduct mechanized clearing within thirty (30) metres of the normal high water mark of a watercourse in order to maintain a vegetative mat for bank stabilization.
15. The Permittee shall not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging.
16. The Permittee shall suspend operations if rutting occurs.
17. The Permittee shall avoid causing soil damage that disturbs natural drainage patterns or expose permafrost. These areas shall be repaired immediately.
18. The Permittee shall commence and foster revegetation on all parts of the land used. Methods should include scarification and transplanting of native vegetation from other areas.
19. The Permittee shall remove any obstruction to natural drainage caused by any part of this land use operation.
20. The Permittee shall obtain fill materials to be, used from and approved source, and must be clean and free of contaminants.
21. The Permittee shall designate an area for the deposition of excavated and stockpiled materials not within thirty (30m) metres of the high water mark of any waterbody.
22. The Permittee shall not drag or skid debris from clearing activities across watercourses, and all slash and debris is to be disposed above the high water mark so that it does not enter the water.

Archaeological Sites

23. The Permittee shall follow all terms and conditions for the protection and restoration of archaeological resources as outlined by the Department of Culture, Language, Elders and Youths (CLEY) in attached letter.

Waste Disposal

24. The Permittee shall not discharge or deposit any refuse substances or other waste materials in any body of water, or on the banks thereof, which will impair the quality of the waters of the natural environment.
25. The Permittee shall ensure that the land use area is kept clean and tidy at all times.

Fuel Transport and Storage

26. The deposition of deleterious substances into water bodies frequented by fish is prohibited under Section 36 of the *Fisheries Act* unless authorized by regulation. The Permittee shall therefore ensure that any deleterious chemicals, fuel or wastes associated with the proposed project do not enter such waters.
27. The Permittee shall ensure that the transportation of fuel shall be done in compliance with the *Transportation of Dangerous Goods Act and Regulations* requirements.
28. The Permittee shall take all reasonable precautions to prevent the possibility of migration of spilled petroleum fuel or chemicals over the ground surface.
29. The Permittee shall have emergency response and spill contingency plans for fuel transfer and storage as well as any other hazardous liquids at the site in place prior to the commencement of the land use activity.
30. The Permittee shall immediately report all spills of petroleum and hazardous chemicals to the twenty-four (24) hour spill report line (867) 920-8130.

31. The Permittee shall ensure that vehicle and equipment maintenance and servicing shall be conducted only in designated areas and shall implement special procedures to manage fluids, waste and contain potential spills.

Reclamation

32. The Permittee shall remove all scrap metal, discarded machinery and parts, barrels and kegs, buildings and building material upon abandonment.
33. The Permittee shall complete all clean-up and restoration of the lands used prior to the expiry date of this permit.

Other Recommendations

1. NIRB would like to encourage the proponent to hire local people and services, to the extent possible.
2. NIRB advises the proponent to consult with local residents regarding their activities in the area.
3. The Environmental Protection Branch (DOE), Department of Fisheries and Oceans (DFO), Nunavut Impact Review Board (NIRB), and the Nunavut Water Board (NWB) should be advised of any material changes to plans or operating conditions associated with the project.
4. Any amendment requests deemed by NIRB to be outside the original scope of the project will be considered a new project.

Validity of Land Claims Agreement

Section 2.12.2
Where there is any inconsistency or conflict between any federal, territorial and local government laws, and the Agreement, the Agreement shall prevail to the extent of the inconsistency or conflict.

Dated May 22/03 at Arviat, NU

Elizabeth Copland, Chairperson

Fisheries and Oceans / Pêches et Océans

Fish Habitat Management
P.O. Box 358
Iqaluit, Nunavut
X0A 0H0

May 8th, 2003

Gladys Joudrey
Nunavut Impact Review Board
Cambridge Bay, Nunavut

RE: DFO environmental assessment advice on the Charr River Bridge, Rankin Inlet, Nunavut

Dear Ms. Joudrey:

The Department of Fisheries and Oceans – Fish Habitat Management is providing advice on the Charr River Bridge proposal submitted by Community Government & Transportation, Government of Nunavut (CG&T). The project proposal involves construction in summer of 2003 to upgrade a watercourse crossing near Rankin Inlet, Nunavut. A bridge will be constructed to replace the existing culvert road crossing across the Charr River. The Charr River is fish habitat for arctic grayling.

Due to the harmful alteration and disturbance of fish habitat posed by the project, a Section 35(2) *Fisheries Act* authorization was deemed necessary prior to commencement of construction. The application for the 35(2) *Fisheries Act* authorization was received on January 17th, 2003. A review of the project is also being conducted under the *Navigable Waters Protection Act* (NWPA). DFO-FHM is providing advice to the Nunavut Water Board, and Nunavut Impact Review Board for environmental assessment purposes. This project is also subject to a screening under the *Canadian Environmental Assessment Act*.

Scope of the Project and Environmental Assessment

The scope of the project is outlined in correspondence submitted by CG&T to DFO and the Nunavut Impact Review Board dated March 12th, 2003. The project involves replacing a gravel watercourse crossing and construction of a bridge across the Charr River in summer 2003 during the open water period.

DFO expressed concern regarding the existing gravel crossing due to frequent wash-outs during the spring freshet (See DFO –FHM correspondence addressed to CG&T April 17th 2002). A subsequent CG&T application to upgrade the watercourse crossing with a pipe arch culvert type gravel road crossing was revised to address concerns regarding wash-outs during high flows (April 29th 2002). Subsequent plans to construct the bridge were submitted by Dillon Consulting Ltd. in early 2003, with supplemental information required under the NWPA. The bridge design plan was revised again in 2003 to increase

the deck elevation of the bridge by 0.81m to allow for additional clearance for ice flows and any potential debris that could catch on the bridge superstructure resulting in velocity increases which would naturally increase potential erosion. The area affected below the high water mark has not been altered. A fish habitat compensation plan was also submitted by Dillon/CG&T in March 2003.

Peter Moore of Dillon Consulting Ltd. has assured DFO-FHM that the bridge has been designed to minimize ice scour and erosion of the stream banks as the current conditions of this site is very prone to bank erosion and ice scouring. The project description is outlined in drawings E1 to E7. The adjacent slopes of the banks will vary from point to point (2:1, 2.5:1, 4:1), however, rock rip-rap of appropriate size will be sued to armor the banks of the watercourse.

Local staff, including GN employees will be trained by a Dillon engineer and/or biologist prior to the commencement of any in-stream works. The project team will also ensure that on-site environmental supervision is present during the entire construction window.

Environmental Effects on Fish Habitat of the Project
Provided that appropriate mitigation measures are implemented there are no significant effects on fish habitat predicted in the project plans. There will be no significant influence on navigation according to the *Navigable Waters Protection Act* provided that outstanding review requirements are satisfied by the proponent. Cumulative environmental effects due to adjacent development projects will be negligible.

Peter Moore of Dillon Consulting indicating that the potential effects of the project are as follows:

Through sound environmental mitigation, the potential impacts to the aquatic environment are negligible. In fact, the construction of a bridge will significantly improve current situations, where each year the road has been known to wash out, carrying sediment laden water downstream. Present conditions at this crossing also cause the ponding of water upstream of the road. This in turn causes all natural silt and sediment moving downstream to fall out and cover the original stream bottom substrate for a distance of 100m upstream of the road.

The sediment plume is expected to remain within the construction site footprint. The proposed project will utilize floating silt curtains, which should limit the transport of sediments downstream, especially under low flow construction conditions.

Due to the timing of the project, construction will occur during extreme low flow and/or dry conditions. any silt which is deposited in the watercourse will be flushed out during the spring freshet prior to the movement of fish back into this area.

Mitigation Measures to Protect Fish Habitat
The work in or around water should be conducted to avoid the sensitive spring upstream migration of arctic grayling. To address sedimentation from land-based activities such as stockpiling, gravel fill and other potential sources of deleterious substances should be stored at an adequate distance from the high water mark. Silt fences should be employed where needed.

According to Peter Moore of Dillon Consulting Ltd:

Specific construction mitigation during all three phases of this project (construction, operation and maintenance) will focus heavily on erosion and sediment control using floating silt curtains, silt fences and rip rap.

a) minimal bank disturbance by construction equipment
b) stock piling of equipment and materials above the high water line
c) regular maintenance of equipment, including fueling, away from watercourse

Fish Habitat Compensation Measures
Dillon Consulting Ltd provided the following information to ensure that "No Net Loss" of fish habitat will be achieved:

Construction of the bridge will enhance habitat at the site and add in-stream habitat at the crossing location. The Fish Habitat Compensation Plan is outlined in Drawing E-3. The new bridge will also allow for uninhibited upstream and downstream fish passage, throughout the open water season. In addition, outlet areas of interceptor ditches will provide backwater staging areas for a variety of fish species during the open water period. These areas will be rip rapped and will provide interstitial spaces for juvenile and YOY fishes to utilize during high flow periods for refugia and cover. Total habitat gained equals for these areas 235 m2. Habitat lost will include areas of heavy armoring (with large rip rap) in and around the bin walls of the bridge. Total area (net loss) of habitat covered by armour stone equals 58m2. The resulting net gain in instream habitat is 178m2.

Follow-up Monitoring and Compliance
Monitoring of turbidity and Total Suspended Solids should be conducted during and after project implementation. A photographic report to ensure that fish habitat compensation measures have been successfully implemented will be submitted to DFO-FHM. A DFO Fishery Officer will conduct a site visit to ensure compliance with the *Fisheries Act*.

Conclusion on Significance of Environmental Effects
There will be no significant environmental effects due to implementation of this project provided that appropriate mitigation measures are implemented. Issuance of a Section 35(2) Fisheries Act authorization and NWPA permits will follow screening under CEAA and the NLCA.

Regards,

Original signed by:

Jordan DeGroot, M.Sc.
Area Habitat Management Biologist
Fish Habitat Management
Department of Fisheries and Oceans- Eastern Arctic Area

Cc: Brian Purdy, CG&T Rankin Inlet
Gladys Joudrey, NIRB

Canada

Jim Wall, NWB
Peter Moore, Dillon Consulting
Keith Pelley, DFO Fishery Officer, Rankin Inlet
Michelle McChristie, INAC
Colette Meloche, EC
Barry Putt, DFO NWPA Supervisor

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Department of
Culture, Language, Elders & Youth

Pithohilikloni

Ministère du gouvernement
Culture Langues, Aînés et Jeunesse

March 23, 2003

Gladys Joudrey
Environmental Assessment Screener
Nunavut Impact Review Board
Box 2379
Cambridge Bay, NU X0E 0C0

Re: Land Use Application NIRB 03UN040 Char River Bridge Project (Government of Nunavut, CG&T)

Due Date: **April 9, 2003**

Dear Ms. Joudrey:

At your request, the Department of Culture and Heritage, Government of Nunavut, has reviewed the above-noted application. Our recommendations follow.

We recommend approval of the above-cited application, as the proponent's proposed activities do not constitute a threat to known archaeological resources.

The attached conditions specify plans and methods of site protection and restoration to be followed by the permittee if an archaeological site is encountered or disturbed in the course of the land use activity.

Sincerely,

Douglas Stenton
Director, Heritage
Department of Culture, Language, Elders and Youth

Encl.

COMMENT FORM FOR NIRB SCREENINGS

The Nunavut Impact Review Board has a mandate to protect the integrity of the ecosystem for the existing and future residents of Nunavut. In order to assess the environmental and socio-economic impacts of the project proposals, NIRB would like to hear your concerns, comments and suggestions about the following project application:

Project Title: Char River Bridge Project
Proponent: CG&T
Location: Rankin Inlet, Nunavut
Comments Due By: Wednesday, April 9, 2003 **NIRB #:** 03UN040

Indicate your concerns about the project proposal below:

- ☑ no concerns
- ☐ water quality
- ☐ terrain
- ☐ air quality
- ☐ wildlife and their habitat
- ☐ marine mammals and their habitat
- ☐ birds and their habitat
- ☐ fish and their habitat
- ☐ heritage resources in area
- ☐ traditional uses of land
- ☐ land harvesting activities
- ☐ community involvement and consultation
- ☐ local development in the area
- ☐ tourism in the area
- ☐ human health issues
- ☐ other: _____

Please describe the concerns indicated above:

Do you have any suggestions or recommendations for this application?

At this stage, the bridge design appears adequate to mitigate impacts on water quality/quantity.

Do you support the project proposal? Yes ☑ No ☐ **Any additional comments?**

Name of person commenting: Michelle McChristie of INAC
Position: Regional Coordinator **Organization:** INAC
Signature: M McChristie **Date:** April 7/03

Environment Canada / Environnement Canada

Environmental Protection Branch
Qimugjuk Building 969 P.O. Box 1870
Iqaluit, NU X0A 0H0
Tel: (867) 975-4639
Fax (867) 975-4645

April 9, 2003

Our file: 4703 004

Gladys Joudrey
Environmental Assessment Officer
Nunavut Impact Review Board
P.O. Box 2379
Cambridge Bay, NU X0B 0C0
Tel: (867) 983-2593
Fax: (867) 983-2594

RE: NIRB 03UN040 – Community Government and Transportation – Char River Bridge Crossing, Rankin Inlet, NU

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

The Government of Nunavut, department of Community Government and Transportation, is proposing to design and construct a new crossing structure for the Char River at Rankin Inlet. The existing crossing, which consisted of a 1.2 m culvert, was resulting in yearly washouts and fish habitat damage downstream. The proposed design includes a bridge with a clear span on 12.6 m supported on steel cribs that are filled with granular material for stability.

Environment Canada requires the following information in order to facilitate the review of this project:

- A spill contingency plan, outlining a clear path of response in the event of a spill, indicating that all spills are to be documented and reported to the NWT Spill Response Line at (867) 920-8130.

Environment Canada recommends that the following conditions be applied throughout all stages of the project:

- The proponent shall not deposit, nor permit the deposit of any wastes or sediment into any water body. According to the Fisheries Act, Section 36(3), the deposition of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water, is prohibited.
- In order to help prevent the sedimentation of the Char River during construction, EC recommends that silt curtains, or other similar measure, be used during the construction/installation of the steel cribs.
- Environment Canada recommends that any gravel material to be used in the steel cribs or else where during construction be clean and free of fines.
- Drip pans, or other similar preventative measures, should be used when refuelling equipment on site.

Canada

- The proponent shall ensure that the storage location of any material to be excavated is above the high water mark of any waterbody and located in such a manner as to prevent the material from entering any waterbody frequented by fish.
- Environment Canada recommends that the condition of the silt fences that are to be left in place until native vegetation re-colonizes the area be monitored, and replaced if necessary.

If there are any changes to the proposed project, EC should be notified, as further review may be necessary. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 975-4639 or by email at colette.meloche@ec.gc.ca.

Yours truly,

Colette Meloche
Environmental Assessment Specialist

cc: (Mike Fournier, Northern Environmental Assessment Coordinator, Environment Canada, Yellowknife)

COMMENT FORM FOR NIRB SCREENINGS

The Nunavut Impact Review Board has a mandate to protect the integrity of the ecosystem for the existing and future residents of Nunavut. In order to assess the environmental and socio-economic impacts of the project proposals, NIRB would like to hear your concerns, comments and suggestions about the following project application:

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Indicate your concerns about the project proposal below:

- ☐ no concerns
- ☐ water quality
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- ☐ air quality
- ☐ wildlife and their habitat
- ☐ marine mammals and their habitat
- ☐ birds and their habitat
- ☐ fish and their habitat
- ☐ heritage resources in area
- ☐ traditional uses of land
- ☐ Inuit harvesting activities
- ☐ community involvement and consultation
- ☐ local development in the area
- ☐ tourism in the area
- ☐ human health issues
- ☒ other: _____

Please describe the concerns indicated above:

The proposed development is within the Municipal Boundary, therefore a Development Permit is required.

Do you have any suggestions or recommendations for this application?

Do you support the project proposal? Yes ☒ **No** ☐ **Any additional comments?**

Name of person commenting: Robert Chapple of Rankin Inlet
Position: Community Planner **Organization:** CG&T
Signature: Rob Chapple **Date:** April 4th, 2003