



NIRB Application for Screening #125480

Cambridge Bay, NU. Freshwater Creek Riverbed Restoration

Application Type: New

Project Type: Access Road

Application Date: 8/13/2019 4:06:55 PM

Period of operation: from 0001-01-01 to 0001-01-01

Proposed Authorization: from 0001-01-01 to 0001-01-01

Project Proponent: Jim MacEachern
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DETAILS

Non-technical project proposal description

English: The Hamlet of Cambridge Bay, NU is upgrading, in stages, the Existing Freshwater Creek Crossing located on the road to the local Cemetery some 2.5 km to the NW of town. Presently, there is a 30 m long Bailey Bridge on the crossing. The east end of this bridge rests directly on a high river bank. The west end is supported on a gravel-rock fill Causeway projecting into the river and blocking nearly one third of the Natural River Channel. This Causeway is subject to progressive yearly erosion, and associated siltation of the river, with need for significant repairs every several years. The last major washout was in 2010 when the bridge was closed for traffic for a few weeks. In the last few years the Hamlet has gradually installed a 45 m long New Bridge alongside the existing one. The abutments of the New Bridge are located beyond the High Water Mark of the Natural River Bed. The remaining Work on the Bridge Upgrading includes:

- Removal of the existing Bailey Bridge:.
- Excavation-Removal from the Causeway, and the adjacent upstream Buffer Berm some 1,600 cubic meters mixture of gravel and rock. This Work is considered Alteration of the Riverbed. During Work, temporary siltation of the watercourse downstream from the crossing will take place. The Plan is to carry out the work this fall, at low water, within a time window established by the NIRB, DFO, NWB and other appropriate Regulators. The Long Term Impact of the proposed Alteration is highly positive. The erosion of the Riverbanks and Riverbed will be practically eliminated and 600 sq m fish habitat will be recovered.

French: Not Available

Inuktitut: Not Available

Inuinnaqtun: Ikaluktutiak, Nunavummi. Nuna Immap Attanni, Kuraan'ngmi igaqvik Hannahiman'nahuat iniqtiqluruKugaaq Miqhanun NaonaitqutHamletkut Ikaluktutiammi, Ikaaquin'nmiq Hanahimang'nahuat kuran'ngmi, utqaup illuhikviq hanaianni. Tadjia kuraap ikan'ngnia takitjuta 30m. Ikaaqlik Kivaatani king'ngitqijauyuq uatamin. Ikaaqlik uataami illijauhijamjuk kan'nganut ujaqait. Ujarait niruqhipkaqtijuq kugaaq ingilrapjuta, Kuraap immam haquriqammi nuna illuviup illarija kuranmun'ngaqpakpak ihuqtitivaqpuqlu. Taimailirang'ngammi kuraaq imma, hanajauqatainaktuk nuna. 2010mi kuraap imma king'ngqhiraluarammi, ikaaqlik ummiqhimavaktuk, Hamletkut nuttavjangmik ikaqvingmik illiriramiik, takitjuta 45m. Hanianiituk Ikaqvingmi. Kivataani, Uataamilu kingitqijauyuq. Hanajauhijam'nahuaq imma: •Unguvaqtinnahuaktut tamna Baileyamik ikarvik attiqhimayuq. •Unguvaqtihihaman'nahut ujangangmik, hirangminglu kurangmin, ukumaitjuta 1600 kiquqaritjuttaKuraap Nuna imma hanahiman'nahuaramiuq ihuqtitiniangmiuq. Immaiqtilliriangmirummi kuraak havaqhimangnuhaqtat hamlet-kut havaaktit. Hapkuat NIRB, DFO, NWB allaitlu katimariyait taima havaquramiik ikaarvingmik. Hivullihapqut nagutqhiniq taimma. Nuna kuraap attanim illuviuplu nuna kattaralangilimain'niarunnaqut. Imma 600 kiquqaritjuta, ikaluitlu ingilrajuta hanaiyauhimanahuaq.

Personnel

Personnel on site: 6

Days on site: 10

Total Person days: 60

Operations Phase: from 2019-09-14 to 2019-09-29

Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
existing and new bridge location	Dredging	Municipal	th work consists in removal of causeway and buffer berm built long time ago in association with the old bridge	no site of such values are known in te work area	work site located 2.5 km to the north ob Cambridge Bay

Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Cambridge Bay	Jim Mceachern	Municipal Government	2019-08-12

Authorizations

Indicate the areas in which the project is located:

Kitikmeot

Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Nunavut Water Board	General Water Licence	Applied, Decision Pending		
Fisheries and Oceans Canada	Authorisation for window of Work in the river	Applied, Decision Pending		

Project transportation types

Transportation Type	Proposed Use	Length of Use
Air	Contractor's crew will travel to and from Cambridge Bay on scheduled flight	
Land	Crew will travel to and from site with pickup truck using existing access road	

Project accomodation types

Community

Other,

Material Use

Equipment to be used (including drills, pumps, aircraft, vehicles, etc)

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Large Excavator	1	5m x 5m	To be used for excavation of imported material from the riverbed. Equipment will be deployed on shore. Only bucket will be in contact with water
Large wheeled Loader	1	5m x 5 m	Used for removal of the excavated material and place it on the adjacent road approach
Dump Trucks	2	3m x 8m	To haul out excavated material

Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Diesel	fuel	1	350	350	Liters	daily refueling of equipment

Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
0	N/A	N/A

Waste

Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Dredging	Non-Combustible wastes	Estimated less than 10 cu m	During dredging some silt will be washed out and deposited into the Bay	No additional treatment considered

Environmental Impacts:

The continuous erosion and repairs of the existing causeway, as well as the need for fording the will be eliminated. Some 800 sq. m. fish habitat will be recovered.

Additional Information

SECTION A1: Project Info

The Work consists in restoration of riverbed to its original condition. No alternative site was considered

SECTION A2: Allweather Road

No presence of deleterious material is anticipated.

SECTION A3: Winter Road

SECTION B1: Project Info

SECTION B2: Exploration Activity

SECTION B3: Geosciences

SECTION B4: Drilling

SECTION B5: Stripping

SECTION B6: Underground Activity

SECTION B7: Waste Rock

SECTION B8: Stockpiles

SECTION B9: Mine Development

SECTION B10: Geology

SECTION B11: Mine

SECTION B12: Mill

SECTION C1: Pits

SECTION D1: Facility

SECTION D2: Facility Construction

SECTION D3: Facility Operation

SECTION D4: Vessel Use

SECTION E1: Offshore Survey

SECTION E2: Nearshore Survey

SECTION E3: Vessel Use

SECTION F1: Site Cleanup

SECTION G1: Well Authorization

SECTION G2: Onland Exploration

SECTION G3: Offshore Exploration

SECTION G4: Rig

SECTION H1: Vessel Use

SECTION H2: Disposal At Sea

SECTION I1: Municipal Development

Description of Existing Environment: Physical Environment

The Existing Crossing features 30 m long Bailey Bridge. The east end of the Bailey rests on 3.0 meter high river bank. The west end is supported on a gravel-rock fill Causeway projecting into the river and constricting nearly one third of the Natural River Channel. This causeway is subject to progressive yearly erosion, and associated siltation of the river, with need for significant repairs every several years. The last major washout was in 2010 when the bridge was closed for traffic for a few weeks. In the last 6 years the Hamlet has gradually installed a 45 m long Bridge alongside the existing one. The abutments of the New Bridge are metal Bin-walls located beyond the High Water Mark of the Natural River Bed. At no point heavy equipment or bridge elements have been in contact with the river flow during construction, or otherwise. The remaining Work on the Bridge Upgrading is related to restoration of the riverbed to its original width and depth and includes: •Removal of the existing Bailey Bridge, •Excavation-Removal from the Causeway, and the adjacent upstream Buffer Berm some 1,600 cubic meters mixture of gravel and rock. Nearly half of this material is located above the water level, and the other half is below.

Description of Existing Environment: Biological Environment

The fall fish run is estimated to be over by September 15. The dredging will take place within a time window authorised by the DFO

Description of Existing Environment: Socio-economic Environment

The Existing Bridge is designed for light traffic only, i.e. pickup trucks and four-wheelers. Heavy trucks, retrieving gravel on the other side, frequently ford the river a few hundred meters upstream from the bridge crossing, causing siltation and general contamination.

Miscellaneous Project Information

N/A

Identification of Impacts and Proposed Mitigation Measures

Temporary siltation of the stream during dredging

Cumulative Effects

The continuous erosion and repairs of the existing causeway, as well as the need for fording the will be eliminated. Some 800 sq. m. fish habitat will be recovered.

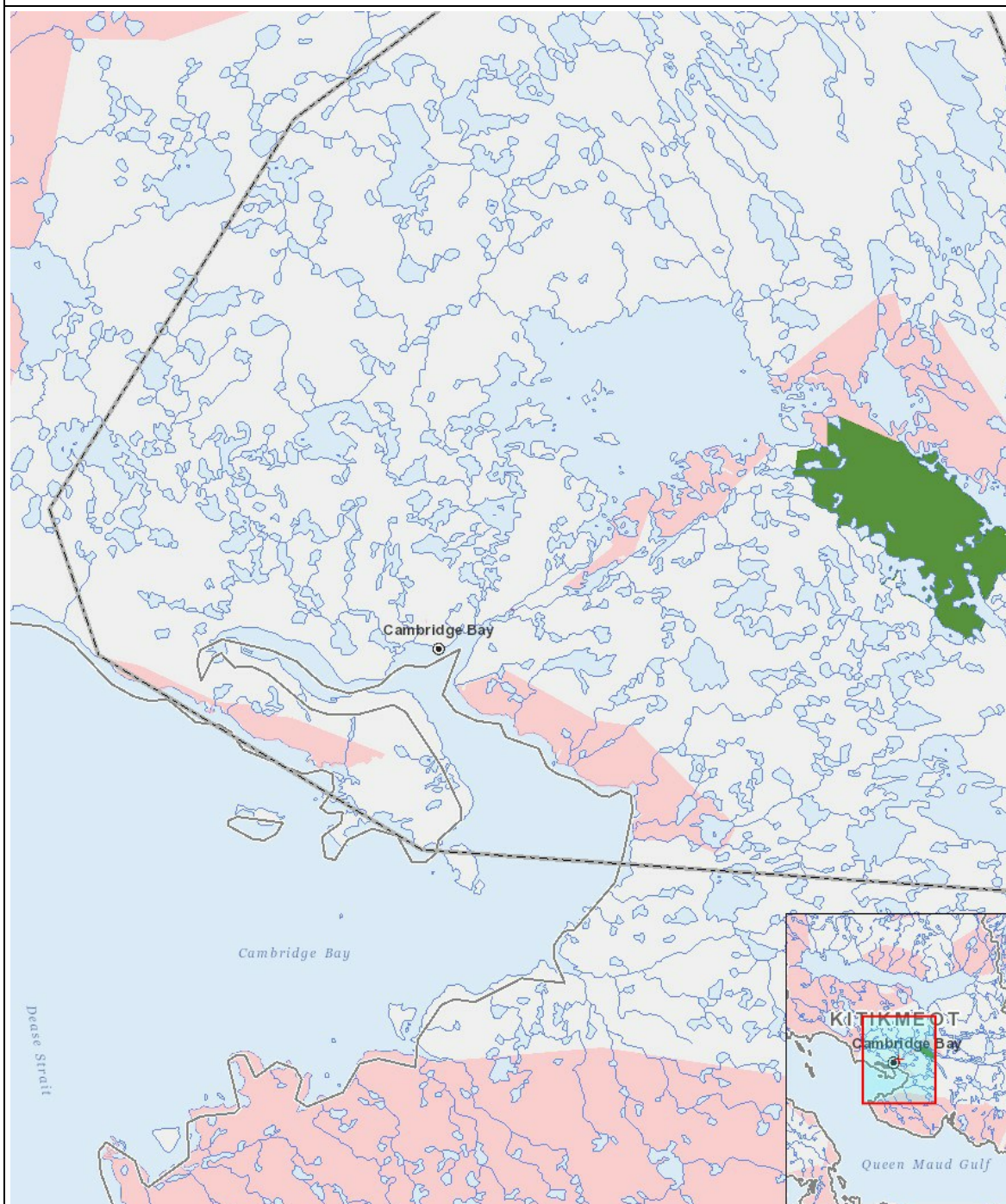
Impacts

Identification of Environmental Impacts

		PHYSICAL	Designated environmental areas	Ground stability	Permafrost	Hydrology / Limnology	Water quality	Climate conditions	Eskers and other unique or fragile landscapes	Surface and bedrock geology	Sediment and soil quality	Tidal processes and bathymetry	Air quality	Noise levels	BIOLOGICAL	Vegetation	Wildlife, including habitat and migration patterns	Birds, including habitat and migration patterns	Aquatic species, incl. habitat and migration/spawning	Wildlife protected areas	SOCIO-ECONOMIC	Archaeological and cultural historic sites	Employment	Community wellness	Community infrastructure	Human health
Construction																										
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Operation																										
Dredging		-	P	-	-	P	-	-	-	-	-	-	-	-		-	-	-	P	-		-	-	P	-	-
Decommissioning																										
-		-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)

Project Location



List of Project Geometries

1	polyline	existing and new bridge location
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