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Basic Impact Analysis
(BIA)

Highway 430 Southeast Hill Climbing Lane Addition

Gros Morne National Park

GMNP-2017-006

March 2017

Parks Canada Parcs Canada

Canada

1. PROJECT TITLE	Highway 430 Southeast Hill Climbing Lane Addition	
2. PROJECT LOCATION (Park, Site, Canal, NMCA)	Gros Morne National Park	
3. PROJECT SITE(S)	Highway 430 - Southeast Hill	
4. PROPONENT	Parks Canada Agency	
5. PROPONENT CONTACT INFORMATION	Darren Fitzgerald, Physical Engineer Parks Canada Agency Box 130, Rocky Harbour, NL. A0K4N0 Tel: 709-458-3403 Cell: 709-458-8672. Email: *Darren.Fitzgerald@pc.gc.ca*	
6. PROJECT DATES	Planned Commencement 2017 04 01	Planned Completion 2018 06 30
7. INTERNAL PROJECT FILE #	GMNP-2017-006	

8. PROJECT DESCRIPTION

Plans are to widen a 2.7km section of Highway 430 from Southeast Brook bridge to the existing eastbound passing lane on Southeast Hill. The expanded road corridor will require forest vegetation clearing, rock blasting, ditching, paving, guide rail replacement and new sign installations. In addition, 2 culverts will be replaced and another 6 will be extended to accommodate widened sections of the existing roadbed.

9. VALUED COMPONENTS LIKLEY TO BE AFFECTED

Natural Resources

- air quality
- soil erosion and runoff silts
- stream water
- flora (roadside vegetation)
- fauna (wildlife habitat)
- rock cliffs

Cultural Resources

- None are anticipated from this project

Visitor Experience

- highway traffic safety
- traffic delays
- heavy equipment use

10. EFFECTS ANALYSIS

Natural Resources

Air quality

- decreased ambient air quality (i.e. dust, equipment emissions, etc.)
- increased ambient noise levels

- temporary increased levels of CO_2
- temporary increased localized temperatures from paving and equipment operation
- off gases from hot-mix asphalt (e.g. PAHs)

Soil and Landforms

- soil contamination
- erosion
- rock slope instability

Water

- adverse modifications to surface drainage patterns
- reduced water quality due to transportation of debris and contamination from petroleum leaks, accidental spills, etc.

Flora

- removal of forest vegetation
- exposing soils can facilitate introduction and population expansion of non-native invasive plant species

Fauna

- disturbance to wildlife causing displacement from their preferred habitat
- disruption of nesting animals by removing forest vegetation and rock blasting during the migratory bird breeding period
- potential risk to aquatic lifeforms by materials runoff into nearby streams

Visitor Experience

- work will cause temporary delays to visitor traffic and access to park facilities
- work may cause temporary adverse effects to visitor experience by changes in viewscapes, restricted access to areas (e.g. Southeast Falls Trail), and noise from work activities and presence of machinery and workers onsite

11. MITIGATION MEASURES

Natural Resources

Soil

1. Excavated ditching materials that cannot be used to backfill other park projects must be transported outside the park for disposal or reuse elsewhere.
2. All removed structures (e.g. culverts, guiderail posts, etc.) not recycled for use in other park projects must be disposed of at an approved site outside the park's boundaries.
3. To mitigate the cumulative effects of petroleum products to soils, roadside vegetation and water quality, regular chainsaw bar lubricant oil must be replaced/substituted with BioLube or a similar vegetable-based chain oil.
4. Spill containment kits must be on site at all times, along with people trained in their use.
5. Contractors are required to stop work and contact Parks Canada immediately if a contaminant spill occurs. The costs involved in a spill incident (the control, clean up, disposal of contaminants, site remediation to pre-spill conditions, etc.) shall be the responsibility of the contractor. The spill site will then be inspected to ensure there is complete containment and removal of contaminants to the satisfaction of Parks Canada.
6. Only freshwater will be used should dust control be required on the project.
7. Hydro-seeding may be required to stabilize exposed soils along some back slopes. A seed mixture of 70% annual rye and 30% creeping red fescue will be required at these sites during the growing season.
8. Excess milled asphalt pavement must be transported outside the park for disposal or reuse elsewhere.
9. An asphalt plant will not be set up in the park.
10. Open fires will not be permitted in the park.

11. Dumping leftover asphalt is prohibited within the park. All onsite leftover asphalt must be transported outside the park boundaries for use or appropriate disposal.
12. To prevent materials from escaping from trucks (e.g. ditch materials, rock, hot-mixed asphalt, milled pavement, etc.), all loads must be covered or tarped during transport through the park.
13. Truck box gates must be properly sealed to prevent excavated muck and water from draining out onto the highway during transport through the park.

Water

14. Postpone excavation activities during periods of heavy rains to reduce excess silt and sediment runoff from disturbed soils.
15. Install temporary silt fence or check-dams to control runoff silts during culvert work. Where necessary, these structures should remain in place until soils become sufficiently stabilized.
16. Dewatered sites must be discharged well away from streams, waterbodies and wetlands and be filtered naturally over the forest floor or pumped onto filter fabric to protect ground vegetation.
17. Construct permanent riprap sections to filter runoff where ditches or culverts flow directly or indirectly into streams or waterbodies.
18. Fueling of heavy equipment must not occur less than 100 metres of open water or where drainage could flow to a watercourse or wetland.
19. Fueling of small engines (e.g. generators, chainsaws) will not be permitted within 30 metres of open water and portable containment pads must be used to prevent ground contact by accidental fuel spills.
20. All equipment must be clean of contaminates prior to entering the park and maintained as such when at or near a watercourse or wetland. Equipment must be checked regularly to ensure there are no fuel, lubricant or hydraulic fluid leaks.
21. Heavy machinery or equipment will not be permitted in any stream.
22. Appropriate construction practices must be used to insure that asphalt or mixed concrete does not enter any stream, waterbody or wetland.
23. Hazardous or toxic products cannot be stored less than 100 metres from streams, wetlands and water bodies.

Flora

24. Trees and shrubs must be cut manually and removed from the site, either by being dragged out of sight into forest edges or mechanically chipped and evenly dispersed onsite to a surface depth not greater than 5 cm.
25. To prevent invasive plants and seeds from being transported onto the worksite, all construction equipment, heavy machinery and vehicles must be clean of any soil and mud before entering the park.

Fauna

26. Vegetation clearing and surface grubbing can negatively impact nesting birds. Tree and shrub cutting and removal must not occur during the song bird nesting season (June 1 to July 20).
27. If wildlife (e.g. moose, caribou) enter the work area, give the animal the opportunity to safely escape from the worksite without harm to workers, the general public or itself.
28. The contractor must immediately report to Parks Canada when any wildlife are discovered nesting or denning on or near the worksite.
29. Rock blasting must not proceed while wildlife are observed onsite.
30. To avoid attracting wildlife, workers must insure that no food items are discarded at any worksites. Feeding wildlife is an offence under the Canada National Parks Act Wildlife Regulations.

Visitor Experience

31. Traffic disruption must be kept to a minimum.

32. There are other simultaneous highway projects scheduled along highway 430. Parks Canada will notify park visitors of potential traffic delays on a regular basis.
33. Highway traffic must be controlled when work trucks, vehicles and heavy machinery are turning or using the highway.
34. The Southeast Brook Falls trail access might have to be closed during construction.
35. Proper signage and barricades must be in place to protect park visitors from potential hazards at construction zones, equipment and material storage areas.

Cultural Resources

36. If any historic or prehistoric archaeological artifacts are discovered during any stage of the project, all work must cease and Parks Canada contacted immediately.

12. CONSIDERATION OF THE NEED FOR PUBLIC PARPITICATION & ABORIGINAL CONSULTATION

12 a) Need for public participation? NO _X_ YES ____
12 b) Aboriginal consultations required? NO _X_ YES ____

13. OTHER Considerations

Check all that apply

- ☐ Public/stakeholder engagement
- ☐ Aboriginal engagement or consultation
- ☒ Surveillance
- ☐ Follow-up monitoring, required to evaluate effectiveness of mitigation measures and/or assess restoration success
- ☐ Follow-up monitoring, required by legislation or policy (indicate basis of requirement e.g. required by the *Species at Risk Act)*
- ☐ SARA Notification

Parks Canada will regularly monitor the project to ensure that measures to mitigate environmental impacts and insure public safety are being implemented.

14. SIGNIFICANCE OF RESIDUAL ADVERSE EFFECTS

Gros Morne National Park is a designated UNESCO World Heritage Site recognized for its outstanding wilderness environment, exceptional natural beauty and internationally significant geology illustrating the process of continental drift along the eastern coast of North America. An important example of this geological feature exists on Southeast Hill. It is an unconformity between rocks of the Cambrian and Precambrian periods observable beside Highway 430, opposite where lane widening will occur. Under no circumstances must this area be disturbed.

15. SITE INSPECTION

☒	Site inspection required
☐	Site inspection not required

Parks Canada will conduct periodic site inspections to ensure that measures to mitigate environmental impacts and insure public safety are being implemented and functioning.

16. SARA REQUIREMENTS	☒ There are no residual adverse effects to species at risk and therefore the SARA-Compliant Authorization Decision Tool was not required **OR,** the SARA-Compliant Authorization Decision Tool (Appendix 2) was used and determined: ☐ There is no contravention of SARA prohibitions ☐ Project activities contravene a SARA prohibition and CAN be authorized under SARA ☐ Project activities contravene a SARA prohibition and CANNOT be authorized

17. EXPERTS CONSULTED

Include Parks Canada experts. Add as many entries as necessary for the project.

Department/Agency/Institution:	Date of Request: YYYY-MM-DD
Expert's Name and Contact Information	Title:
Contact Information:	
Expertise Requested: Indicate the discipline or subject area in which expertise was sought.	
Response: Summarize, append correspondence as required and add to attachment list in Section ?).	

18. DECISION

NOTE: If the project is identified as likely to cause significant adverse effects, CEAA 2012 prohibits approval of the project unless the Governor in Council (Cabinet) determines that the effects are justified in the circumstances. A finding of significant effects therefore means that the project CANNOT go ahead.

Taking into account implementation of mitigation measures outlined in the analysis, the project is:

☒	Not likely to cause significant adverse environmental effects.
☐	Likely to cause significant adverse environmental effects.

19. REFERENCE LIST

Parks Canada National Best Management Practices Roadway, Highway, Parkway and Related Infrastructure. 2015. 36pp.

20. ATTACHMENT LIST (e.g., BMPs, project area diagrams, sensitive area maps, project execution plan, previous analysis, relevant permits)

- Specifications for Highway 430 Safety and Standards Rehabilitation. Prepared for Parks Canada by Crandall Engineering Ltd. Project No: 1418. March 3, 2017. 219 pp.
- Highway 430 Climbing Lane - IFT Drawings. Prepared for Parks Canada by Crandall Engineering Ltd. Project No: 1418.

21. **NATIONAL IMPACT ASSESSMENT TRACKING SYSTEM** *(CEAA 2012 requires PCA submit a report to Parliament annually. EIAs must be entered in the tracking system by the end of April to enable reporting.)*	
☐ Project registered in tracking system ☒ Project not yet registered	
REOMMENDATION AND APPROVAL *(Add additional blocks as required.)*	
Prepared by: [1] Gabrielle Robineau-Charette Gros Morne National Park Resource Management Officer I [2]Randy Thompson Gros Morne National Park Resource Management Officer II Environmental Assessment Practitioner	**Signature:** Randy G Thompson **Date:** 13/03/2017
Recommended by: Trevor Rendell Western Newfoundland and Labrador Field Unit Resource Conservation Manager	**Signature:** Trevor M. Rendell **Date:** March 13, 2017
Approval signature: Geoffrey Hancock Western Newfoundland and Labrador Field Unit Superintendent	**Signature:** **Date:** March 13/17

Appendix 1: Effects Identification Matrix

Section A focuses on direct effects of the project.

Section B focuses on indirect effects that are caused by changes to the environment.

A. Direct Effects									
			Valued components potentially directly affected by the proposed project						
			Natural Resources					Visitor Experience	Cultural Resources
	Phase	Associated Activities	Air	Soil & landforms	Water (surface, ground, culvert crossings, etc.)	Flora (forest vegetation)	Fauna (nesting songbirds, stream fish)	Visitor Safety	Insert heritage values
Project Components	Preparation / Construction / Operation / Decommissioning	Supply and storage of materials	☒	☐	☒	☒	☒	☒	☐
		Clearing	☐	☒	☐	☐	☒	☐	☐
		Disposal of waste	☐	☒	☒	☒	☒	☐	☐
		Blasting/ Drilling	☐	☒	☐	☐	☒	☒	☐
		Drainage	☐	☒	☒	☐	☒	☐	☐
		Excavation	☐	☒	☒	☒	☒	☐	☐
		Grading	☐	☒	☒	☐	☒	☐	☐
		Backfilling	☐	☒	☒	☐	☐	☐	☐
		Use of machinery	☒	☒	☒	☒	☒	☒	☐
		Transport of materials/ equipment	☒	☒	☐	☒	☐	☒	☐
		Hot-mix asphalt paving	☒	☐	☐	☒	☒	☐	☐
		Set up of temporary facilities	☐	☒	☒	☐	☐	☒	☐
		Concrete pouring	☐	☐	☒	☐	☒	☐	☐

A. Direct effects continued

		Valued components potentially affected by the proposed project						
		Natural Resources					Visitor Experience	Cultural Resources
Phase	**Examples of Associated Activities**	Air	Soil & landforms	Water (surface, ground, culvert crossings, etc.)	Flora (forest vegetation)	Fauna (nesting songbirds, stream fish)	Visitor Safety	Insert heritage values
	Wastewater disposal	☐	☒	☒	☒	☒	☐	☐
	Maintenance	☐	☐	☐	☐	☐	☒	☐
	Use	☐	☐	☐	☐	☐	☒	☐
	Planting	☐	☒	☐	☒	☒	☐	☐
	Vehicle Traffic	☐	☐	☐	☐	☒	☒	☐
	Other…	☐	☐	☐	☐	☐	☐	☐

B. Indirect Effects (all phases)							
		Impacts as a result of changes to the environment					
		With respect to non-Indigenous peoples:	With respect to Indigenous peoples:		With respect to visitor experience		
		Health and socio-economic conditions	Health & socio-economic conditions	Current use of lands and resources for traditional purposes	Access & services	Recreation & accommodation opportunities	Safety
Phase	**Natural resource components affected by the project**						
Preparation /construction operation/implementation/decommissioning	Could impacts to air lead to adverse effects?	☐	☐	☐	☐	☐	☐
	Could impacts to soils and landforms lead to adverse effects?	☐	☐	☐	☒	☒	☐
	Could impacts to water (e.g. surface, ground water and water crossings) lead to adverse effects?	☐	☐	☐	☐	☐	☐
	Could impacts to flora (including SAR) lead to adverse effects?	☐	☐	☐	☐	☐	☐
	Could impacts to fauna (including SAR) lead to adverse effects?	☐	☐	☐	☐	☐	☐
	Other...	☐	☐	☐	☐	☐	☐