TREVOR WILLSON, P.Eng.

December 16, 2022

Her Excellency the Right Honourable Mary Simon
Governor General of Canada
Rideau Hall
1 Sussex Drive
Ottawa, ON K1A 0A1

Dear Governor General Simon,

I am leading a team to construct a high quality trail bridge in Jasper National Park. It is over Simon Creek, on the historic Athabasca Pass Trail.

The Métis First Nation, now living east of Jasper National Park, have a long history of using the Athabasca Pass Trail. They have hunted, fished and guided explorers in what is now Jasper National Park, for over 200 years. Their ancestor, Thomas the Iroquois, led David Thompson over Athabasca Pass in 1811. Using this pass, Thompson expanded the fur trade to the west of the Rocky Mountains. This pass, and the trail to it, were the main route between what is now Alberta and British Columbia, before the era of roads and railways.

In a spirit of reconciliation between the Métis and Parks Canada, the Métis propose that this bridge be named "Thomas the Iroquois Bridge". This will commemorate Thomas' extensive knowledge of the land and crucial role in guiding Thompson over this pass. David Thompson is well known, but Thomas the Iroquois deserves much more recognition for his significant contribution to the history and development of Alberta.

I really like your Coat of Arms, of which reconciliation between peoples of Canada is a major theme. You mentioned that it speaks to your lifelong commitment to bridge-building and family, and of your hopes for a future where we respect and share each other's stories to help foster better relationships between peoples.

The motto "Ajuinnata", meaning persevere or never give up in Inuktitut, is very applicable to the restoration of the Athabasca Pass Heritage Trail. 20 people have volunteered over 1500 hours to this work already, over 4 years.

This project has strong and wide spread public approval, as shown by the attached (7) Letters of Support. It is consistent with the Management Plan for Athabasca Pass National Historic Site.

In 2018, the Columbia-Shuswap Regional District commissioned the Golden and Area A Trail Strategy, which includes the Athabasca Pass Heritage Trail. After extensive community consultation and stakeholder engagement, at the top of the list of Key Findings was the public's request for the restoration of cultural and historic trails.

Could you please request that Steven Guilbeault, Minister of Environment and Climate Change, approve this project?

No funds or work are required from Parks Canada, as this project is privately funded. It follows all the code requirements, is designed in a very environmentally friendly manner, and will have Professional Engineer drawings and project management. A team of skilled volunteers is ready to complete this project in Spring, 2023. We have already restored the Athabasca Pass Heritage Trail on the west side of the pass in British Columbia. The bridge over Simon Creek is the last hurdle to the full restoration of this historic trail.

More details are attached, for your reference.

Best Regards,

Trevor Willson

Trevor Willson, P.Eng.

cc:
Steven Guilbeault, Minister of Environment and Climate Change
Alan Fehr, Superintendent, Jasper National Park
Jasmine Ramratan, Acting Superintendent, Jasper National Park

Attachments
Table of Contents

• Simon Creek Bridge Lifting Plan

• Interpretive Display at Moab Lake (east trailhead) “Welcome to the Athabasca Pass Trail. Ahead of you lies an ancient Aboriginal travel route across the mountains.”

•Preapproved Routine Impact Assessment for Land-Based Trails – Parks Canada. This covers trail bridges, and encourages conservation gains such as clearspan bridges. Noisy activities are encouraged to be scheduled outside of peak visitor season (ex. April), and during periods of low creek flow (ex. April).

• Maps, Athabasca Pass Heritage Trail – West Side Restoration, 2021-2022

• Photos of Volunteers and Completed Trail Restoration Work

• Tonquin Caribou Definition – There is no historical evidence of caribou using the Simon Creek drainage.

• Caribou Breeding Strategy – Jasper National Park

• Environmental Certifications for MicroPro Sienna advanced eco-friendly wood treatment

• Gabion diagrams and technical information

Blaine Calkins MP
Red Deer—Lacombe

www.blainecalkinsmp.ca
@BlaineCalkins
@BlaineCalkins
@BlaineFCalkins

HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

December 7th, 2022
Ottawa, Ontario

The Honourable Steven Guilbeault
Minister of Environment and Climate Change
Confederation Building, Suite: 322
Ottawa, Ontario
K1A 0A6

Dear Minister Guilbeault,

As the Official Opposition Shadow Minister for Hunting, Fishing, and Conservation, I have been informed about an application to Parks Canada for the Simon Creek Bridge project. Permission is requested to construct the 100ft fibreglass equestrian bridge in Jasper National Park.

The bridge is needed for the Athabasca Pass Heritage Trail as it will allow hikers to walk from the east trailhead, Moab Lake, all the way west up to Athabasca Pass. The trail has a deep history as it was the main route between Alberta and British Columbia long before they were Provinces of Canada. The Athabasca Pass was used by fur traders before roads and railways existed.

Moreover, the developers are in contact with Shuswap, Ktunaxa, and Metis First Nations, who all support the project. The Metis Nation, in particular, wants to see the completion of this project as they have hunted, fished, and guided explorers through the Pass for over 200 years. They would like this bridge to be called "Thomas the Iroquois Bridge" in honour of Thomas the Iroquois, who led David Thompson over the Athabasca Pass.

There is a need for further reconciliation to build bridges and a more peaceful common future between the federal government and Indigenous peoples. Bridges, not only in metaphorical terms but actual bridges like this one to be constructed at the Athabasca Pass. It will make the trail passable for hikers all year round, and not just in winter. It will also enhance awareness and understanding of the very meaningful Indigenous history of the Athabasca Pass Heritage Trail.

Private funding, professional engineer drawings, and logistical planning as part of the project management have been completed. The fieldwork will be done by experienced volunteers who have successfully restored the west side of the Athabasca Pass. No work or additional funding is required from Jasper National Park.

Thus, I fully support the Simon Creek Bridge project proposal as it is consistent with the Management Plan for the Athabasca Pass Heritage Trail. I hope that, as the former Minister of Heritage of Canada, you understand how significant this project is to commemorate the remarkable contributions to the history and development of Alberta. Now in your current role as Minister of the Environment, I urge you to assist with the approval of the plan and help improve the accessibility of this historic trail.

Regards,

Blaine Calkins, MP for Red Deer – Lacombe
The Official Opposition Shadow Minister for Hunting, Fishing, and Conservation

Ottawa
Room 401, Justice Building, Ottawa, ON K1A 0A6
Tel.: 613-995-8886 Fax: 613-996-9860
blaine.calkins@parl.gc.ca

Constituency
#201-5025 Parkwood Road, P.O. Box 59, Blackfalds, AB, T0M 0J0
Tel.: 587-621-0020 Toll Free: 1-800-665-0865 Fax: 587-621-0029
blaine.calkins.c1@parl.gc.ca

House of Commons

Gerald Soroka

Member of Parliament
Yellowhead
geraldsorokamp.ca

OTTAWA: December 05, 2022

The Honourable Steven Guilbeault
Minister of Environment and Climate Change
Room 322, Confederation Building
House of Commons
OTTAWA ON K1A 0A6

I have been informed of an application to Parks Canada requesting that work proceed on a trail bridge on the Athabasca Pass Heritage Trail, southwest of Jasper, AB, in Jasper National Park. Private funding, professional engineered drawings and project management have been done. No funding is needed from Jasper National Park.

Four teams of volunteers have restored the west side of Athabasca Pass Heritage Trail.Now, restoration of the east side, in Jasper National Park, needs to be done.As you may know, this trail is historic as it was the main route between what is now Alberta and BC, before roads or railways existed.

One bridge is needed, over Simon Creek, to allow hikers to walk from the east trailhead (Moab Lake) West up to Athabasca Pass. Simon Creek is passable to hikers or horses only when there is snow on the ground.

The Metis Nation is quite supportive of the Simon Creek Bridge project. They would like this bridge to be called "Thomas the Iroquois Bridge", in honor of and in commemoration of Thomas, an ancestor of the Metis, who led David Thompson over Athabasca Pass. Naming this bridge after a Metis ancestor will help to enhance understanding and awareness of the very significant Indigenous history of the Athabasca Pass Heritage Trail.

Therefore, I am supporting the above request to allow this project to proceed as it will enable tourists and those living in Jasper and surrounded areas the ability to experience the entire Athabasca Pass travers: a boat ride from Mica Dam area to Wood River Bridge, then a 73km hike.

Sincerely,

Gerald Soroka, MP
Yellowhead

Room 313, Justice Building, OTTAWA ON K1A 0A6

Tel: 613-992-1653; Fax: 613-992-3459

Gerald.Soroka@parl.gc.ca

Box 7887, Stn Main, 119 50th Street, EDSON AB T7E 1V9

Tel: 780-723-6068;Toll: 1-800-268-7117; Fax: 780-723-5060

Gerald.Soroka.C1@parl.gc.ca

ROB MORRISON
Member of Parliament
Kootenay–Columbia

December 9, 2022.

The Honourable Steven Guilbeault, P.C., M.P.,
Minister of Environment and Climate Change
Room 322, Confederation Building
House of Commons
Ottawa K1A 0A6

Dear Minister:

I have been informed of an application to Parks Canada requesting that work proceed on a trail bridge on the Athabasca Pass Heritage Trail, southwest of Jasper, AB, in Jasper National Park. Private funding, professional engineered drawings and project management have been completed and No funding is needed from Jasper National Park.

Four teams of volunteers have restored the west side of Athabasca Pass Heritage Trail. Now, restoration of the east side, in Jasper National Park, needs to be done. As you may know, this trail is historic as it was the main route between what is now Alberta and BC, before roads or railways existed. One bridge is needed, over Simon Creek, to allow hikers to walk from the east trailhead (Moab Lake) West up to Athabasca Pass. Simon Creek is passable to hikers or horses only when there is snow on the ground.

The Metis Nation is quite supportive of the Simon Creek Bridge project. They would like this bridge to be called "Thomas the Iroquois Bridge", in honour of and in commemoration of Thomas, an ancestor of the Metis, who led David Thompson over Athabasca Pass. Naming this bridge after a Metis ancestor will help to enhance understanding and awareness of the very significant Indigenous history of the Athabasca Pass Heritage Trail.

Therefore, I am supporting the above request to allow this project to proceed as it will enable tourists and those living in the northern part of my riding Kootenay Columbia and surrounded areas the ability to experience the entire Athabasca Pass travers: a boat ride from Mica Dam area to Wood River Bridge, then a 73km hike.

Respectfully,

Rob Morrison, M.P.
Kootenay–Columbia

Cranbrook 415 Industrial Road A, Cranbrook, BC V1C 4X9 | TEL 250.417.2250 | FAX 250.417.2253 | E-MAIL rob.morrison@parl.gc.ca
Ottawa 911 Justice Bldg, House of Commons, Ottawa ON K1A 0A6 | TEL 613.995.7246 | FAX 613.996.9923 | E-MAIL rob.morrison@parl.gc.ca
ROBMORRISONMP

Box 6664
Hinton Alberta
T7V 1X8

Mr. Alan Fehr, Superintendent
Jasper National Park
Parks Canada Agency
PO Box 10
Jasper, AB T0E 1E0

December 8, 2022

Dear Mr. Fehr:

I have been in conversation with a gentleman by the name of Trevor Willson. He is very interested in the installation of a new horse bridge over Simon Creek to the south of Jasper townsite on the Athabasca Pass Trail. This route has been out of commission for a number of years now due to the loss of this bridge. The ice built up through the winter months, causing the bridge to be lifted off its gabions, with a warmer than usual spring, creating a very high water flow which carried a lot of ice with it.

The Athabasca Pass Trail has significant historical Importance. It was the first route used extensively in the fur trade era connecting the west side of the Rockies with the Hudson's Bay trading posts. I strongly believe that a bridge replacement across Simon Creek reopening the Athabasca Pass Trail will result in consequential use of this historic route.

RMWS has witnessed an abundance of hardcore hikers in recent years, with Mountain Trails being reopened to the north of Jasper National Park in the Willmore Wilderness Park.

This is a huge opportunity for Parks Canada to do the right thing with no cost to Parks. I understand this Bridge can be replaced and the trail to the top of Athabasca Pass could get cleaned up and be fully funded with no funds or staff time required from Parks Canada.

This is a great reconciliation project highlighted by a historic trail that was so important to so many people for many years, long before Alberta or a National Park was even thought of. Hikers and horseback riders thrive on these old historic trails that meant so much to the First People that traveled in these Mountains.

Let's not miss out on this opportunity; all that is required from Parks Canada is a permit to install a replacement bridge which reopens a whole new world to today's trekkers and history buffs. RMWS, as you know, is an advocate for the Mountain regions of Alberta with an abundance of members with Indigenous background.

This endeavor is fully supported by the Upper Athabasca Valley Elders Council.

Sincerely,

Ken Groat

President
Rocky Mountain Wilderness Society

LEGISLATIVE ASSEMBLY
ALBERTA

Martin Long, MLA
West Yellowhead

December 6, 2022 FILE 22-0765

To Whom It May Concern,

Re Simon Creek Bridge Project in Jasper National Park

This letter is to express my support for the replacement of the bridge over Simon Creek in Jasper National Park. This bridge will allow hikers and equestrians to use the historic Athabasca Pass Trail, from the east trailhead at Moab Lake, up to Athabasca Pass.

It is my hope that the required permits will be granted to allow the work to be completed in the new year. This will allow Canadians and international visitors to visit, experience and cherish this historical and beautiful part of Jasper National Park.

Best Regards,

Martin Long, MLA
West Yellowhead

LEGISLATURE OFFICE: 9820 - 107 Street, Edmonton, AB T5K 1E7 Tel: 780-638-3015 Fax: 780-638-3506
CONSTITUENCY OFFICE: 524B - 50 Street, Edson, AB T7E 1T8 Tel: 780-712-7790 Fax: 587-466-0463
West.Yellowhead@assembly.ab.ca www.assembly.ab.ca

LEGISLATIVE ASSEMBLY
of BRITISH COLUMBIA

Doug Clovechok, MLA
Columbia River - Revelstoke

December 5, 2022

RE: Simon Creek Bridge Project – Jasper National Park

To whom it may concern,

I am taking this opportunity to voice my support for a bridge to be erected over Simon Creek in Jasper National Park. This bridge will allow hikers and equestrians to travel from the east trailhead (Moab Lake) all the way to Athabasca Pass.

It is my hope that the required permits are granted to allow work to commence in the new year and that British Columbians and visitors from around the world can visit and experience this beautiful and historical part of our province.

Respectfully,

Doug Clovechok
Member of the Legislative Assembly
Columbia River – Revelstoke

Constituency Office - Kimberley
362 Wallinger Avenue
Kimberley, BC V1A 1Z4
250-432-2300
Toll Free: 1-844-432-2300

Constituency Office - Revelstoke
107 – 1st Street East
Revelstoke, BC V0E 2S0
250-805-0323
*Direct all mail to Kimberley Office

Legislative Office
Room 016 Parliament Buildings
Victoria BC V8T 2T8
250-952-7256
Doug.clovechok.mla@leg.bc.ca

Jasper-Yellowhead

Historical Society  Museum & Archives

Trevor Willson P.Eng

Dear Trevor, December 9, 2023

The Jasper-Yellowhead Historical Society fully supports your project to restore the Simon Creek bridge on the Athabasca Pass Trail. Our Society has long understood the historical importance of this trail as well as its place as a unique recreational challenge. Of the many multi-day hikes in Jasper National Park the Athabasca Pass trail alone offers a well-documented and obvious connection to travellers of the past.

The trail's length and remoteness naturally limits the volume of use it receives. However, allowing the public the opportunity to complete this sort of traverse in relative safety is a feature the National Parks have been known for. The future possibility of more and meaningful interpretation is also an exciting prospect.

We all understand that Parks Canada's budget has limits and with record numbers visiting our Parks money must be spent on Front Country facilities. Although they don't receive a fraction of the visits that easily accessible attraction by the main roads do, Jasper's mountain trails are iconic and should not be allowed to fade into disrepair.

Trevor, you and your crew have shown the skill and enthusiasm to tackle this project and to do it with little or no cost to Parks Canada. To ensure that Jasper's historic backcountry is safely accessible the JYHS is willing to support this project in anyway we can.

Thank you for your efforts,
Warren Waxer, President, Jasper-Yellowhead Historical Society

Government of Canada Gouvernement du Canada

The Saoyú-?ehdacho Cooperative Management Board meets during the 2015 Knowledge Camp on the peninsula of Saoyú on Sahtú – Great Bear Lake – in the Northwest Territories.

Indigenous relations at Parks Canada

Working together with more than 300 First Nations, Inuit, and Métis communities across Canada, Parks Canada and Indigenous peoples are partners in conserving, restoring, and presenting Canada's natural and cultural heritage.

Strong relationships with Indigenous partners are essential to Parks Canada's work and contribute to the process of reconciliation between Indigenous peoples, the Government of Canada, and other Canadians, based on the recognition of rights, respect, co-operation, and partnership.

The Agency uses guiding principles for working with Indigenous peoples to provide a consistent approach to building mutually respectful relationships in the work we do together. Three priority areas have been identified to put reconciliation into action at Parks Canada:

- Strengthening Indigenous connections with traditionally used lands and waters
- Expanding and ensuring presentation and commemoration of Indigenous histories and cultures
- Increasing economic opportunities related to Indigenous tourism

These initiatives support the recognition and respect of Indigenous rights and enhance cooperation in the presentation of Indigenous histories and cultures at and near Parks Canada administered heritage places.

The implementation of reconciliation activities is supported by a team of experts in Parks Canada's Indigenous Affairs Branch, who provide advice to the Agency on advancing reconciliation with Indigenous peoples in Canada.

Mapping Change

Outlines a path forward with key actions to ensure that Parks Canada's policies and practices support the important work ahead to further advance...

Promising Pathways
A resource guide for Parks Canada team members and those building and managing relationships with Indigenous peoples.

The Land is Our Teacher
Reflections and stories on working with Indigenous Knowledge holders to manage Parks Canada's heritage places.

Working Together: Our Stories
Best practices and lessons learned in Indigenous engagement.

For more information: information@pc.gc.ca

Related links

- Parks Canada: Indigenous connections
- Proposed Indigenous stewardship framework
- Indigenous Cultural Heritage Advisory Council

Date modified :
2022-11-19

Job opportunities

Volunteer

Partner

Contact us

Contact Parks Canada

About the Parks Canada Agency

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National historic sites

National parks

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Minister

The Honourable Steven Guilbeault
Minister of Environment and Climate Change

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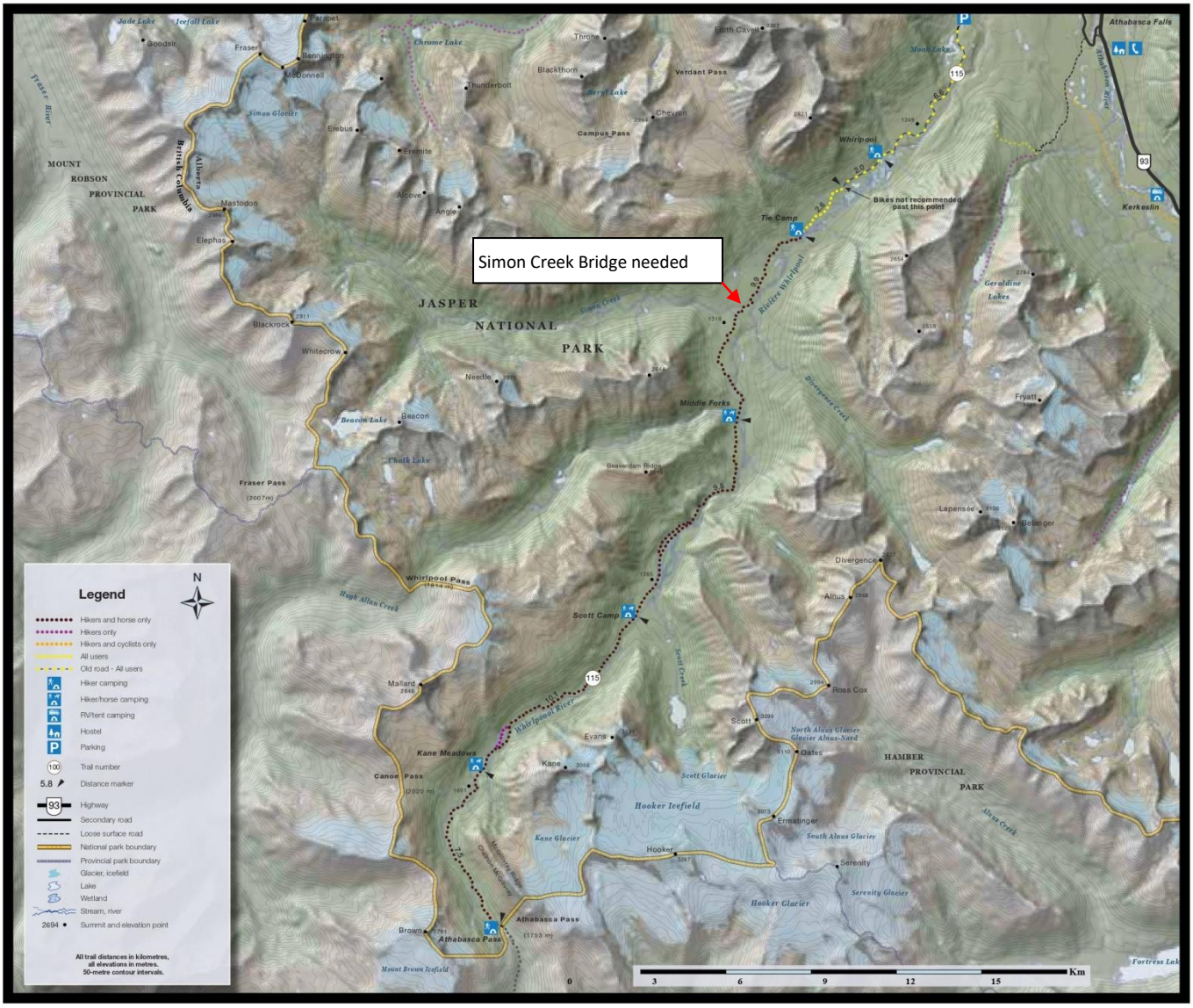


Maps, GPS data and elevations are provided for reference purposes only. Maps are not meant for navigation. Parks Canada Agency (PCA) makes no guarantees, representations or warranties respecting these data, either expressed or implied. PCA assumes no responsibility for damages or other liabilities due to the accuracy, availability, use or misuse of the information herein provided.

Parks Canada Parcs Canada

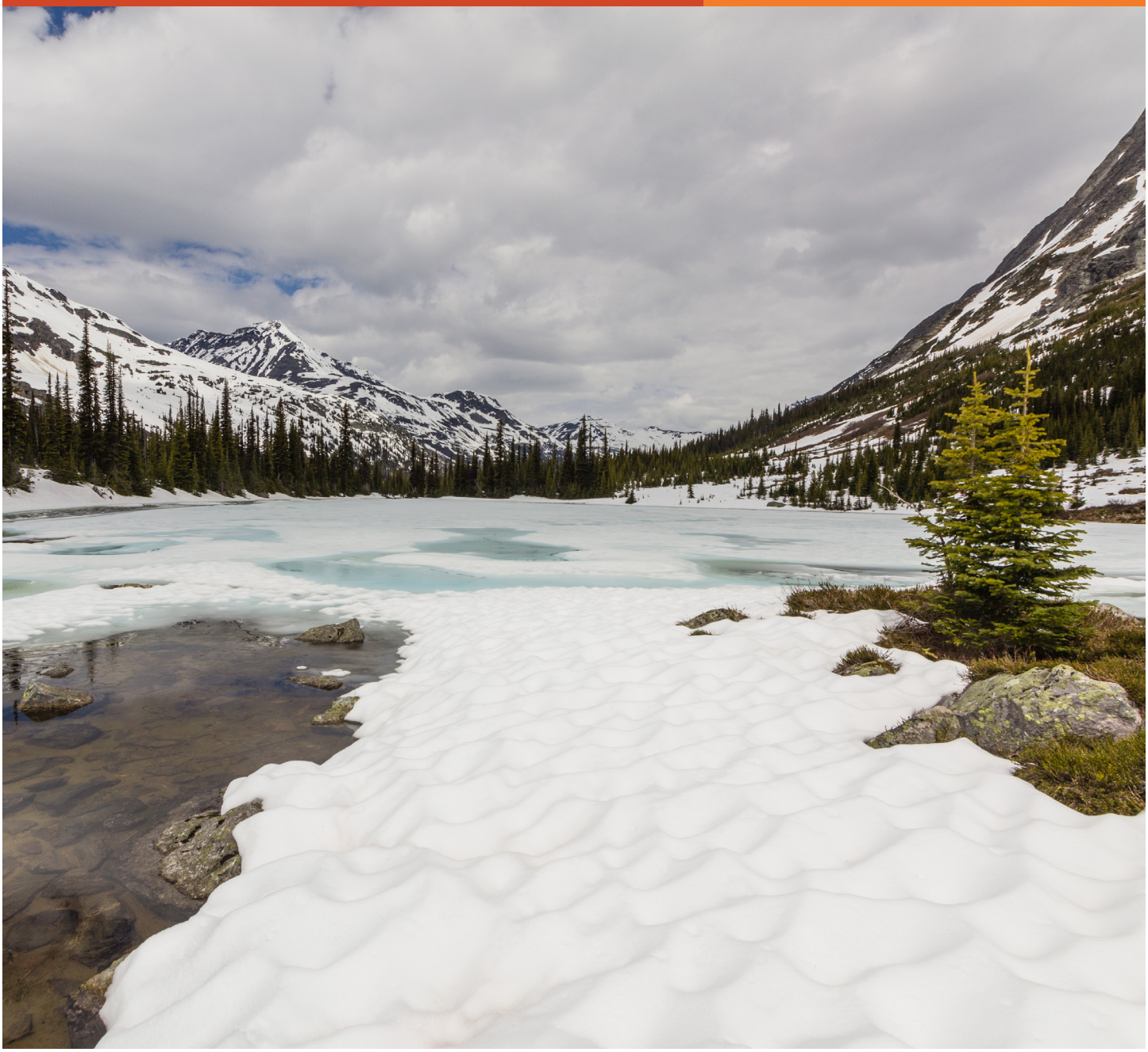
Canada

Athabasca Pass

National Historic Site of Canada

Management Statement

2017



DECEMBER 2017

Athabasca Pass
National Historic Site of Canada

Management Statement

Approval

Approved by:

Alan Fehr — December 22, 2017

Alan Fehr
Field Unit Superintendent
Jasper National Park
Parks Canada

Date

The Parks Canada Agency manages one of the finest and most extensive systems of protected natural and historic areas in the world. The Agency's mandate is to protect and present these places for the benefit and enjoyment of current and future generations. This management statement outlines Parks Canada's management approach and objectives for Athabasca Pass National Historic Site.

Athabasca Pass National Historic Site of Canada is recognized for its role as part of the main fur trade route between Canada and the Oregon Country from 1811 to the mid 1850s.

The Athabasca Pass crosses the height of land that forms the Continental Divide in western Canada and is situated in two provinces, with the Alberta side of the pass located entirely within Jasper National Park. In British Columbia, the Ministry of Forestry, Lands and Natural Resources Operations manages its section of the site as a heritage trail through a 200 m wide corridor. Specifically, the designated place for Athabasca Pass National Historic Site stretches from Kane Meadows in Jasper National Park to the Wood River, a distance of 18 km.

Used by Indigenous people for millennia, the Athabasca Pass and the "Committee's Punch Bowl" at its summit have become iconic features of Western Canadian fur trade history, closely linked with the stories of Thomas the Iroquois, David Thompson and other Canadians, as well as Yellowhead Pass National Historic Site and Jasper House National Historic Site in Jasper National Park. The wilderness setting provides for a strong sense of place and connection to the past.

Management Approach

The Alberta side of the pass falls entirely within Zone II Declared Wilderness Area of Jasper National Park and is administered by Parks Canada. Within British Columbia, the property is recognized as a provincially designated site that requires a permit from the Archaeology Branch with respect to any alterations. In addition, the province has assigned an Old Growth Management Area designation to the two drainages, which means the forested vegetation is managed for old growth attributes.

Parks Canada and the Province of British Columbia will continue to work together to ensure consistent and supportive management and protection of the site, and to increase awareness and appreciation for this unique cultural landscape and its role in Canadian history. This will include a strong relationship with Indigenous Peoples to ensure traditional knowledge, values and use of the site is included in the protection and interpretation of the area.

For a map, please refer to: http://www.pc.gc.ca/en/lhn-nhs/ab/athabasca/visit

Management Objectives

1. Parks Canada works with the Government of British Columbia to ensure the management of the site respects jurisdictions and shared goals and objectives for protection, interpretation, and visitor experience.

2. Parks Canada works collaboratively with Indigenous Peoples in the planning, management and operations of our heritage places and is committed to building mutually beneficial relationships with Indigenous communities, based on trust, respect and understanding. In managing Athabasca Pass National Historic Site, Parks Canada works with interested Indigenous communities associated with Jasper National Park to

incorporate traditional knowledge and values into the protection, interpretation and visitor experience of the landscape.

3. Parks Canada protects the cultural and natural resources of the Pass to ensure the commemorative integrity of the national historic site; to protect the ecosystems of the Declared Wilderness Area; and to ensure the overall ecological integrity of Jasper National Park.

4. Parks Canada works cooperatively with partners and stakeholders to enhance the understanding, awareness and visitor experience opportunities of the site and the family of national historic sites associated with Athabasca Pass and Jasper National Park.

5. Parks Canada facilitates off-site experiences and learning opportunities for people unable to travel the route of Athabasca Pass through an educational and engaging communication and interpretation program.

Link:

Overview of Athabasca Pass National Historic Site:

http://www.pc.gc.ca/en/lhn-nhs/ab/athabasca

For more information, please contact:

Jasper Field Unit, Parks Canada
Telephone: 780-852-6176
Email: pnj.jnp@pc.gc.ca

PO Box 10
Jasper, AB T0E 1E0

Photo cover page: Rogier Gruys/©Parks Canada

Parks Canada Parcs Canada

Development Permit / Building Permit / Restricted Activity Permit (RAP)

ENVIRONMENTAL ASSESSMENT PROJECT DESCRIPTION EXPECTATIONS

Providing a detailed project description is the first step to having your proposed project considered by Parks Canada. It is used by the Development Office and Environmental Assessment specialists to determine if your project is acceptable from a policy perspective, and, if so the type of environmental assessment and review process that will be required.

A properly completed project description form should provide a summary of the: what; why; where; how; when; and, who, about the project. The more information you provide the better. If available, provide maps, site plans, drawings and/or photographs to support the description.

What
Provide a project name and an explanation of what the project consists of, including related activities /developments that will occur to support the project (*e.g.* access roads, staging areas, material sources, *etc.*). If applicable, estimate dimensions of structures and area of disturbance and a basic site plan.

Why
Provide a brief explanation of why the project is being undertaken – the purpose. Explain why it is important to do, and where policy documents support the project, *e.g.* community plans, park management plans.

Where
Describe the project location with a legal description and/or civic address or road name etc.; including locations of any related off-site activities. Describe existing facilities and how they will be affected by the project. Include any available information on site history: previous use, contamination, buried tanks, buried cables, cultural resources, Built Heritage, etc. Identify distance to nearest water body.
Specifically identify:

- any known sensitive/important natural (*e.g.* wildlife corridors, lakes or streams, *etc.*) or cultural resources (*e.g.* archaeological sites, heritage buildings) proximal to the proposed project;
- how the proposal relates to the existing environment and buildings, and to adjacent developments. Include photographs of the site of the proposed project.

How
To the best of your ability**,** provide a basic description/estimate of:

- Construction methods, materials, equipment to be used.
- Excavation/fill requirements - quantity of fill added or removed (source and volume of rock/fill required).
- Vegetation clearing requirements - quantify.
- Site access requirements/methods.
- Identify any toxic/hazardous materials to be used
- Utility requirements, including any changes in capacity or demand (*e.g.* water, electric, natural gas, wastewater).
- Storage and management of materials and equipment including garbage, trade and human waste management plans, identify any requirements for off-site land use
- Site management - security, signage, fencing, vehicle and equipment parking
- Site reclamation/rehabilitation requirements.

When
Provide an estimated schedule/ timeframe for the project - when do you want to start work, construction scheduling (mobilization of equipment, construction stages, clean-up and rehabilitation).

Who - identify the project manager, contractor and contact numbers. Your Parks Canada contact it the Development Officer assigned to your project.

Other
Identify any potential for the project to affect adjacent lands whether Crown or other leaseholders.

Canada

LLYK Development Office
General Phone: 403-522-1186
General Email: pc.llyktownsites.pc@canada.ca

November, 2017

Project Description Template

CLEAR ALL FIELDS

Use this template to prepare a comprehensive description of a proposed project. Provide clear concise information as it will help determine the need for an environmental impact analysis (EIA). A well prepared project description will help move the project proposal forward efficiently. The level of detail should match the complexity of the proposed project and its potential to generate impacts of concern. Please include available designs and site photos.

If you have questions or need help contact the Impact Assessment Officer at the site where you are proposing work.

Project Title: Simon Creek Bridge Replacement and Restoration of Athabasca Pass Trail

Project Contact(s):

Proponent: Trevor Willson, P.Eng.

Project Manager: Trevor Willson, P.Eng. (also Supervisor of all construction)

Contractor/Consultant:

Date of Request: 12/15/2022 MM/DD/YYYY

Proposed Project Start: 01/25/2023 MM/DD/YYYY

PROJECT DESCRIPTION *(to be completed by proponent)*

Project objective: *Provide a brief description of the project elements & related activities or developments needed to support the project (e.g. construction of a yurt, vegetation clearing, new outhouses, trenching for utilities).*

The objective of this project is to install a clear span 100 ft fiberglass bridge, with 6 ft clearance to high water mark, across Simon Creek on the Athabasca Pass Trail. This includes installing professional gabions 6 ft away from the creek bank, high on the grass, on both sides. This project will also clear deadfall off the 49 km Athabasca Pass Trail, creating Indigenous employment and facilitating their connection to this historical Indigenous route. No funds from Parks Canada are required.

Project rationale (optional): *Provide a brief rationale for project (e.g. to support visitor experience objectives, improve public safety, implement actions from the park management plan, etc.).*

Replacing this bridge enables visitors to use this historical trail. Building this bridge is an act of reconciliation between Parks Canada and Indigenous peoples who have used this route for 100's of years. "Indigenous Relations at Parks Canada" states that three priority areas include "Strengthening Indigenous connections with traditionally used lands" and "Expanding and ensuring presentation and commemoration of Indigenous histories". This project exactly completes these two objectives. An interpretive display beside the bridge will "present Indigenous histories and cultures at and near Parks Canada administered heritage places", exactly as requested.
The proposed design is professional and has a design life of at least 50 years. This project is also consistent with the Athabasca Pass NHS Management Plan. The Government of British Columbia has signed a 5 year Stewardship Agreement with the Alpine Club of Canada - Columbia Mountains Section for the maintenance of the Athabasca Pass Heritage Trail - West Side. By permitting this project, Parks Canada works with the Gov't of BC to facilitate visitor and Indigenous use and appreciation of the Athabasca Pass Trail.

Project Description Template

Project location: d*escribe site location & size, include locations of any off-site requirements (e.g. for staging materials, excavating a borrow pit, etc.)*

Primary Location (incl. UTM): The existing crossing of the Athabasca Pass Trail over Simon Creek. GPS: 52.5810, -118.0616

Footprint size: 130 ft long (including ramps) x 6 ft wide

Off-site Location(s): Temporary use of existing Kerkeslin Gravel Pit at GPS: 52.6431, -117.8645. This is for bridge assembly and staging area for helicopters to transport the bridge and materials to Simon Creek. GPS: 52.6437, -117.8669

Footprint size: 375 ft diameter circle

Project phases and activities*: i.e. "how the project will be completed" – through the site preparation, construction, operation and decommissioning phases. The* ***Project Phases & Activities Table*** *on the next page can help organize the information. Include:*

1. *Site preparation/access activities*

   Excavate top soil and substrate down to bedrock 1 m x 2m under (2) new gabions on shore of Simon Creek. Access site by helicopter. Light helicopter drops off volunteers on gravel banks at GPS: (52.5847, -118.0541) and (52.5814, -118.0606). Bridge material dropped by helicopter close to bridge site.

2. *Dimensions of structures, size of excavation, area of disturbance, fill requirements*

   Clear span fiberglass bridge 100 ft long x 7 ft overall width (6 ft usable width) with 12 to 15 ft timber ramps on both sides. Bridge is supported on gabion abutments, made of local rocks and professional (Alberta Transportation spec) gabions wire cages.

3. *Construction activities, methods, materials, equipment to be used*

   Assemble fiberglass bridge in Kerkeslin Gravel Pit, build gabions next to Simon Creek, heavy helicopter lifts bridge 15 km and places it on the gabion abutments. Timber sills are used. Timber ramps, with all material flown in by helicopter assembled on site at Simon Creek. All cutting is done before the timber arrives at Simon Creek, so only assembly is required.

4. *Associated project work (e.g., paving, vegetation removal, excavation, etc.)*

   Installation of a Nameplate on Bridge "Thomas the Iroquois Bridge Simon Creek", similar to the ones on the Athabasca Pass Trail - West Side (see photos). This will commemorate the accomplishments of Thomas the Iroquois, who is an ancestor of the Metis living near Jasper National Park. This sign will be provided at no cost, by the proponent. Installation of a Bridge Capacity Sign on the bridge. Optional interpretive display on north bank describing Thomas the Iroquois, David Thompson and their stories, adventures and accomplishments.

5. *Changes to utilities, capacity or demand, new lines (i.e. water, electric, natural gas, wastewater)*

   None.

6. *Toxic or hazardous materials (e.g. cast in place concrete, chemicals, fuels, paints, solvents, explosives)*

   None, except fuel and oil in chainsaw used to make chutes from deadfall to guide bridge onto its abutments.

7. *Operational requirements: (materials, maintenance procedures, monitoring, waste & wastewater management requirements)*

   Periodic inspection by qualified volunteer bridge inspector.

8. *Site modifications, structure removals, site reclamation activities*

   Clipping willows/branches within 2 m of bridge, remove old gabion from north shore of creek and gabion 2 m from high water mark into creek on north side. Reuse these rocks to make the new professional gabion. Remove old wire and dispose in Jasper.

9. *Plans & drawings attached.*

Project Environment

Other facilities that may be affected:

The Athabasca Pass Trail and campgrounds will experience somewhat higher use by visitors. People who would otherwise wish to visit the Tonquin Valley can be encouraged to visit the Athabasca Pass Trail instead. This will reduce human impact in the sensitive caribou habitat of the Tonquin Valley. There is no historical evidence of caribou using the Simon Creek drainage (Schmiegelow, 2014). Please see attached "Tonquin Caribou Risk Assessment Final Report". XC skiing the Moab Lake Road and to Simon Creek Bridge return is a 44 km ski. This is longer than almost all XC skiers wish to ski in a day. Caribou do not use terrain below 1200 m (Schmiegelow, 2014). The remoteness of this bridge will keep skiers away from the higher country of Kane Meadows and Athabasca Pass.

Site history (previous use, contamination, buried tanks, lines, cables):

Bridges over Simon Creek have existed for many decades, likely since Middle Forks Warden Cabin was built (1930's?) Previous bridges were made of local timber, with only 2.5 ft clearance to high water mark. They were destroyed by icejams, or non professional gabions fell apart, with the bridge falling into the swift creek.

Known cultural resources (e.g. buildings, engineering works, landscapes and landscape features, historical and archaeological objects):

This bridge is on the Athabasca Pass Trail, which has been used by Indigenous travelers and traders for more than 200 years. Thomas the Iroquois led David Thompson over this pass in 1811. He expanded the fur trade west of the Rocky Mountains and mapped the Columbia River down to Astoria, Oregon.

Distance to nearest water body, water crossings, shoreline work:

This bridge will cross Simon Creek. New professional gabions will be installed on the grass bank ~ 2 m from the creek on both sides. Great care will be taken to prevent any soil from entering the creek.

Fish & fish habitat:

No effect at all.

Species at risk, critical habitat, and residence of individuals (if any):

None known.

Other species & habitat:

None known.

Site photos or map attached:

Please see attached

Red flags/ issues:

None

Project timing: *details on proposed project schedule (Terms of Reference, contract package, construction phases & scheduling, in-service targets, reclamation activities).*

A clear span bridge eliminates gabions in the creek, greatly increases the bridge life and is much safer to construct. It is also heavier (15,000 lb for this site), requiring a heavy helicopter to lift it into place. Such a helicopter is only based in the USA, and would normally cost $350,000 CAD to mobilize to Simon Creek, move the bridge and demobilize. A suitable helicopter is available May 1, 2023 after completing work in Fort St. John, and thus costs only $80,000. This is also a time of minimal visitor use of Jasper National Park, and lowest water level, permitting removal of rocks from the gravel bar. The construction work of this project will occur April 21 to May 3, 2023.

Additional details (as required):

Potential for project to affect use of lands or resources by aboriginal persons (as relevant):

The Metis First Nation just east of Jasper National Park has used the Athabasca Pass Trail for more than 200 years. Their Ancestor, Thomas the Iroquois, led David Thompson over this trail in 1811. They definitely wish to use this historic trail again. This new bridge facilitates this use, in a safe manner through the summer, for both hikers and equestrian trail users. Please see letter from Ken Groat, President of the Rocky Mountain Wilderness Society and President of the Upper Athabasca Valley Elders Council.

Other jurisdictions or departments involved in project development, review & approval (as relevant):

None.

Project Description Template

Project Phases and Activities Table				
	Use this table to help identify phases of your project and associated activities.			
	Phases	**Examples of Associated Activities**	Y / N	Details
Project Components	**Construction / Site Preparation**	Supply and storage of materials		Trucks deliver fiberglass bridge components, bolts and pre-cut timber to the Kerkeslin Gravel Pit. The bridge is assembled and the timber is stored 5 days (April 21 - 26) until transported by helicopter to Simon Creek.
		Burning		
		Clearing		Willows within 2 m of the bridge will be clipped.
		Demolition		The existing ramp, made of local timber in 2005, on the north side of Simon Creek, will be demolished. Nails will be removed and disposed of in Jasper. The existing gabion in the creek will be removed / demolished and rocks reused for the new professional gabion.
		Disposal of waste		Wire from existing degraded gabion on north bank and from the gabion 2 m into the creek at high water water will be removed and disposed of in Jasper.
		Blasting/ Drilling		
		Dredging		
		Drainage		
		Excavation		Topsoil / substrate soil will be removed down to bedrock beneath (2) gabions, located ~2 m from creek on grass. Each is 1 m x 2 m. Soil will be spread well away from creek. 2 m3 of rocks from gravel bar beside Simon Creek will be used to fill south gabion. 2 m3 of rocks from existing gabions fill north gabion.
		Grading		
		Backfilling		
		Use of machinery		Battery powered drills will be used to install all timber screws. A small genset may be used to charge the batteries at Simon Creek. Bridge will be assembled with hand tools at Kerkeslin Gravel Pit.
		Transport of materials/ equipment		A heavy helicopter is working in Fort St. John in late April, 2023. It is available at Simon Creek May 1. It will lift the 15,000 lb clear span
		Building of fire breaks		
		Use of Chemicals		A chainsaw, with fuel and oil, will be used to make chutes to guide the bridge ends into place. Absolutely no filling of chainsaw near creek. Zero tolerance for fuel/oil spills.
		Set up of temporary facilities		Volunteer camp on both sides of Simon Creek, near the bridge site, using existing camping areas.
		Other…		If allowed, volunteers would like to build a campfire in the snow at each of 2 construction camps. They will be restored with no trace.
				See attached documents for more details.
	Operation/Implementation Decommissioning	Waste disposal		
		Wastewater disposal		Grey water from cooking disposed in accordance with no trace backcountry camping protocols. Disperse strained water on land 70 m from creek.
		Maintenance		A fiberglass truss bridge with Hot Dip Galvanized Bolts is Extremely Low Maintenance. Skilled volunteers are available for periodic bridge inspection.
		Use		The new Simon Creek Bridge will be available for hikers and equestrian users.
		Use/Removal of temporary facilities		Volunteer camps will be completed removed, with no trace.
		Use of Chemicals		
		Active fire stage		
		Clean-up of prescribed burn		
		Planting		
		Culling		
		Vehicle Traffic		Parks Canada to determine if lifting the bridge over Highway 93 requires this highway to be shutdown by RCMP for 10 min on May 1, 2023.
		Other…		

Report and Permits Requested

Report Requested, by January 25, 2023

- Hydrology Report for Simon Creek Bridge site

Full Construction Permits Requested, by January 25, 2023

After permits are issued, the bridge will be ordered (Jan 27). 2.5 months are required to construct the bridge components plus 1 week to truck them to Jasper. They need to arrive by April 21, 2023 because on that date assembly work starts. On May 1, the heavy helicopter is available.

Early Feb, 2023:

- Land helicopter for surveying. Use drone for surveying.

April 21 – April 30, 2023:

- Land helicopter for volunteer drop-off and pick-up (2 locations)
- Backcountry camping at Simon Creek. There are former campgrounds on both sides of this creek. No trace camping practices.
- Drop by helicopter bridge wood and construction equipment
- Remove rocks by hand from gravel bar on shore of creek*
- Remove rocks/wire by hand from old gabion on north side of creek*
- Install gabions

May 1, 2023:

- Move 15,000 lb bridge by heavy helicopter

* In late April, with snow on the ground, the water level in this creek is historically the lowest. This allows rock removal from a gravel bank with almost no touching of the water. We plan to remove the rocks and wire from the old gabion in the creek, near the north bank, as well.

Late Aug - Early Sept, 2023 :

- Permits for the Indigenous – led Rocky Mountain Wilderness Society to clear deadfall on Athabasca Pass Trail from Moab Lake Trailhead to Athabasca Pass with horses (49 km). 2 m wide trail corridor. The team will only camp in horse camps: Middle Forks (km 21), Scott Camp (km 31) and Kane Meadows (km 41).
- This will occur after a naming ceremony for the "Thomas the Iroquois Bridge" at Simon Creek.

Simon Creek Bridge Replacement

Key Features, Construction Plan and Cost Estimate

Trevor Willson, P.Eng. Dec 14, 2022 Rev. B

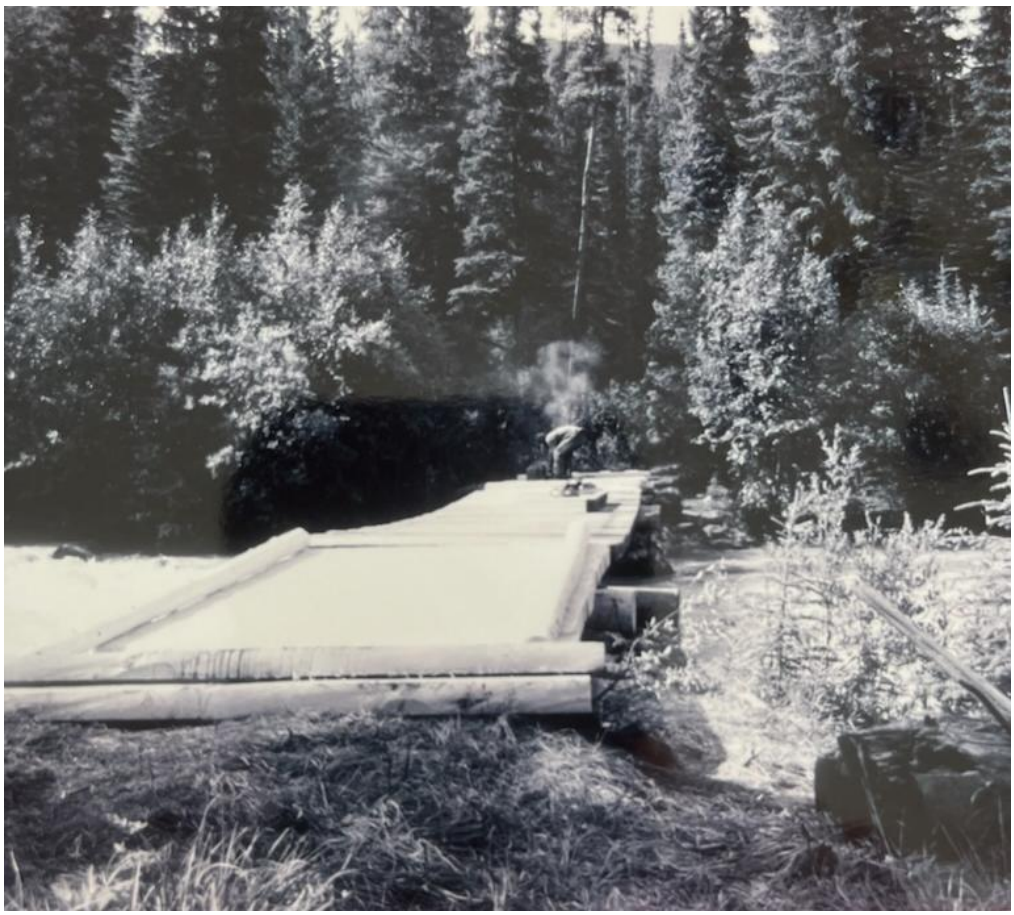
Comments on Site

- Simon Creek, located in Jasper National Park, drains a 16 km valley and is partially glacially fed. It runs from West to East. It is a tributary of the Whirlpool River. The historic Athabasca Pass Trail runs parallel to this river. Lack of a bridge over Simon Creek impedes access to the upper Whirlpool valley and Athabasca Pass National Historic Site.
- Bridge site is at GPS: 52.5810, -118.0616, elev. 1281 m ASL (10 km south of Mt. Edith Cavell in Jasper National Park)
- This creek is not safe to cross at this location by hiker or horseback until there is snow on the ground (November), due to the speed, depth and opaqueness of the creek.
- The creek is estimated at 70 ft wide with well defined banks (see photos below). Banks have not changed since 2005, when the last bridge was built.

Simon Creek Bridge Site July, 2022 28°C Looking South

Gabion is 1 m inland from north edge of creek, in July, 2022 (above) and in 2005 (below)

Simon Creek Bridge Site, 2005



Simon Creek Bridge Site, 2005 Looking North

4 spans, 2 gabions in creek, 1 gabion on north shore

- The previous bridges at this site were multi-span and rested on gabions (wire cage of rocks) in the creek. The underside of these bridges was ~ 2.5 ft above water level.
- The proposed bridge will be 100 ft clear span, with gabions up on the grass, 6 ft back from edge of bank on both sides. Exact span may be somewhat shorter, after receipt of studies mentioned below. 6 ft wide, 54" handrails, rub rails, suitable for packhorses
- The proposed bridge will have no gabions in the creek, and the underside will be ~6 ft above high water level. The gabions will not contact the water, except in a flood. The land is flat in the vicinity of the bridge on both North and South sides, so flood water will be very shallow out of the creek banks.
- There is no indication of alternate channels, or debris on the upstream side of trees, in the vicinity of the bridge site. A hydrology study will be required (and likely is already available from Parks Canada) to determine the 1/50 year water level. Professional survey of the site will be required prior to issuing P.Eng. stamped Issued for Construction drawings.

Proposed Bridge Details

- 100 ft clear span, 6 ft wide, suitable for packhorses, with 2x6 rubrails, 54” high handrails and 2x8 wear planking
- Fiberglass truss design with Hot Dip Galvanized bolts. These materials do not corrode.
- Design life of at least 50 years
- P.Eng. stamped Issued for Construction drawings
- Complies with CSA S6:19, the Canadian Highway Bridge Design Code
- Complies with Parks Canada requirements, per appropriate environmental impact assessment
- Clear span allows the creek to flush out logs and other debris
- No touching of the water, other than to manually retrieve rocks from gravel bar and old gabion for new gabions
- 6 ft (1.8 m) vertical clearance from underside of bridge to high water elevation protects the bridge from floating debris and ice
- Gabion abutments away from the creek, high on the grass banks
- No trees or vegetation are cut in the bridge area. All materials are flown in.
- PT Timber decking and ramps on both sides, to facilitate use by horses
- Fiberglass bridges are Extremely Low Maintenance
- Reuse rocks from existing gabions, remove old gabion wire and recycle in Jasper.
- Built with skilled volunteer labor. Skilled labor available for Maintenance Inspections.
- No trace camping during construction

Similar Fiberglass Truss Bridge

Big Elbow Bridge 2018 98’6” x 6’ wide

Skilled Volunteer Labor

- Volunteer labor, with relevant experience, will be utilized. The author coordinated 16 very experienced volunteers over 5 days in Sept, 2022 to fully restore the Athabasca Pass Heritage Trail on the west side of Athabasca Pass. Many of these volunteers are willing to work on this project. Many are familiar with trail bridge construction and helicopter use. The author has designed and built 9 backcountry trail bridges. He will personally supervise all construction. Another volunteer has designed and built over 30 backcountry trail bridges. The professional Jasper Trail Crew which built the last bridge at this site is also willing to work on this project, on a volunteer basis.
- Volunteers will stay in indoor accommodation in the Jasper area, and commute to the Kerkeslin Gravel Pit worksite. Sunset is 8:50 PM on April 14 in Jasper.
- When at Simon Creek, volunteers will camp in tents. No trace camping practices shall be followed.

Work Plan – Dates Selected Due to Heavy Helicopter Availability May 1, 2023

- Wed, Jan 25: Permit provided by Parks Canada
- Fri, Jan 27: Purchase Order issued to bridge manufacturer. Delivery is 11 weeks + 1 week for trucking to Jasper. Survey work and P.Eng stamped dwgs completed Feb/March
- Thurs, April 20: (6) volunteers arrive and unload timber for bridge decking and ramps, wear planking and rub rails at Kerkeslin Gravel Pit (GPS: 52.6437, -117.8653) (35 km south of Jasper), blocking the access road with a vehicle to prevent theft of timber.

BRIDGE ASSEMBLY – 5 DAYS

- Fri, April 21: truck arrives from at this gravel pit. Volunteers unload bridge components (fiberglass pieces and hardware) off truck.
- Sun to Tues, April 25: Volunteers assemble the fiberglass bridge, in accordance with manufacturer's instructions. Decking is not installed at this time.

GABIONS AND RAMPS INSTALLATION – 5 DAYS

- Wed, April 26: (6) volunteers, construction/camping equipment, gabion cages and timber for ramps and bridge decking are flown by helicopter to (2) camps at Simon Creek Bridge site, one on each side of the creek.
- Decking, wear planks, ramp timbers and rub rails will be dropped off by helicopter with long line close to the bridge site on both sides.
- Volunteers will disembark the helicopter at landing sites (see diagram below).

  North Helicopter Landing Site GPS: 52.5847, -118.0541

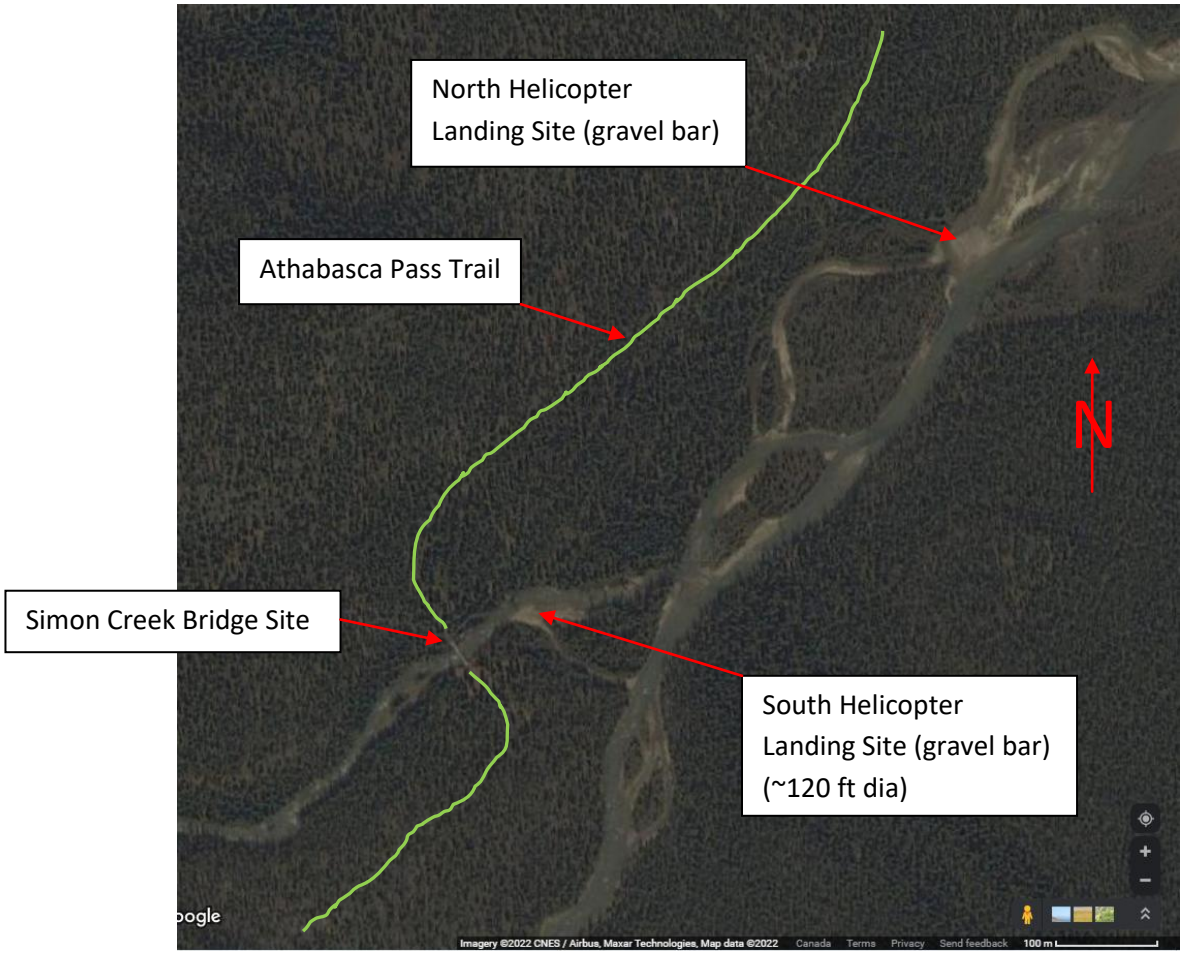
  South Helicopter Landing Site GPS: 52.5814, -118.0606

- Thurs, April 27 – Sun, April 30: Volunteers install gabions, according to the Issued for Construction drawings. Rock transport stretchers are available. Rocks from old gabions will be reused. Additional rocks will be taken from gravel bars of the creek (low water).
- http://www.cascade.ca/wp-content/uploads/2015/05/MGS_Assembly_Guide.pdf
- https://www.youtube.com/watch?v=s_ft6l03uA8&t=26s
- https://www.youtube.com/watch?v=nDpjZ7QLYy0&t=3s
- Volunteers assemble ramps and install timber sills on gabions. All material is precut.
- Temporary wood chutes are installed on timbers to guide bridge into final location.

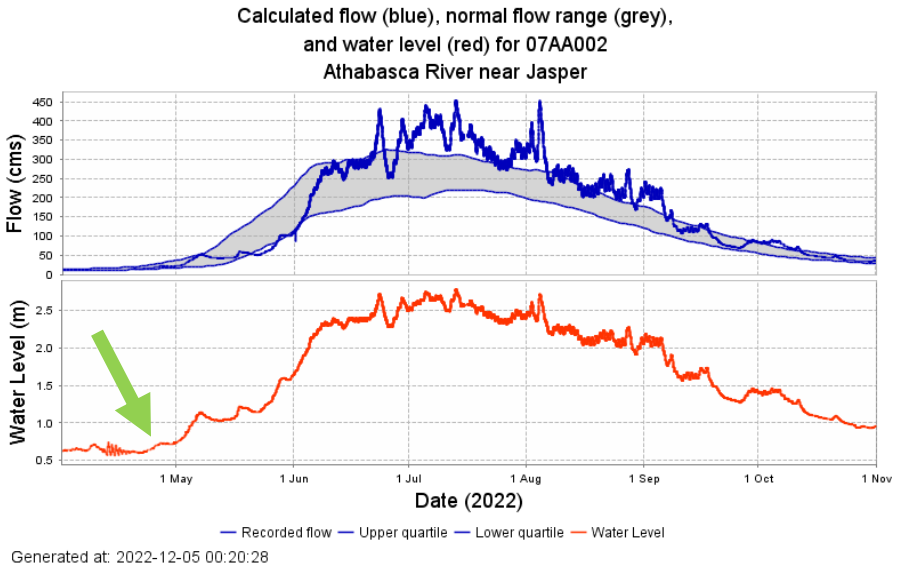
BRIDGE AND DECKING INSTALLATION – 3 DAYS

- Mon, May 1 – Heavy helicopter lifts the assembled fiberglass bridge from the Kerkeslin Gravel Pit to the Simon Creek Bridge site and lowers it onto the bridge abutments (gabions).

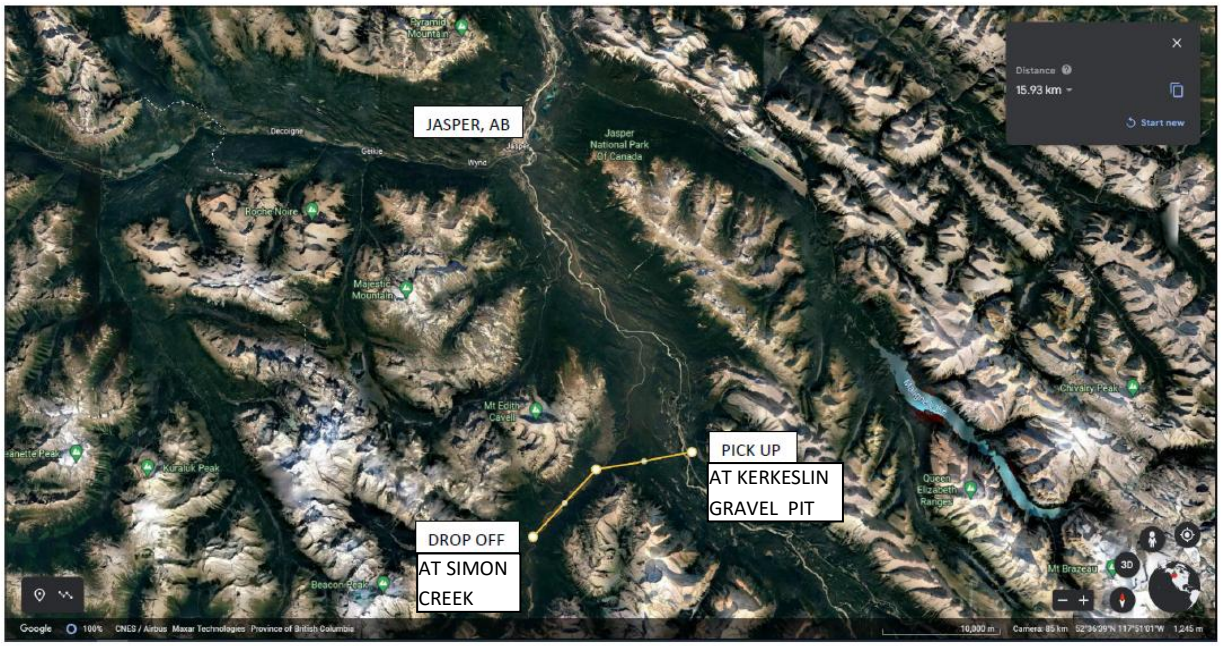
- <u>Mon, May 1 – Wed, May 3</u>
- (4) volunteers install the decking, rub rails and wear planks on the bridge
- Volunteers fly back to Kerkeslin Gravel Pit by helicopter, with all construction equipment.



Helicopter Landing Sites near Simon Creek Bridge Site



Construction in late April avoids the high water flows in the summer



Heavy Helicopter Flight Path

PICK UP BRIDGE GPS LOCATION: 52.643812, -117.865502

DROP OFF BRIDGE GPS LOCATION: 52.580997, -118.061579 (ONTO BRIDGE ABUTMENTS)

Kerkeslin Gravel Pit

GPS: 52.643722, -117.866916

Proposed landing area for Heavy Helicopter, directly over the fiberglass bridge

Simon Creek Bridge Cost Estimate

Qty	Item (Assume 1.35 CAD/USD)	Supplier	Cost (CAD)
	BRIDGE, INSTALLATION, GABION ABUTMENTS		
1	Fiberglass Truss Trail Bridge, 100 ft long, 6 ft wide, 4.5 ft handrails, suitable for horse use, built to CSA S6:19 Canadian Highway Bridge Design Code requirements		$125,600 USD
(1)	Delete 3x12 timber decking from bridge quote		($11,650 USD)
1	Add 3x12 timber decking for bridge (50 pieces at 12 ft)		$3,798
1	USA PE stamped drawings and calculations		$2,600 USD
1	Trucking unassembled bridge parts to Jasper area gravel pit, where assembly will occur		$11,500 USD
1	Resin Surcharge		$3,600 USD
1	CBSA fees at Canadian border (no tariffs on fiberglass)	Duty website	$700
1	Heavy helicopter transport of assembled bridge (15,000 lb, with no decking) from Kerkeslin Gravel Pit to bridge site. This is available May 1, 2023, due to other work in Fort St. John area. **Normal price including flying to/from is ~ $350,000 CAD.**		*$80,000 (est.)*
2	Gabions, 1 m x 1 m x 2 m (no rocks included)		$400
	REPORTS, DRAWINGS, ENGINEERING		
1	Hydrology Report	From Parks Canada, due to previous work at this bridge site	$0
1	Surveying topography in vicinity of bridge site, in early Feb, 2023	TBD	$4,200
1	Helicopter to transport surveyor and assistant to bridge site, inspect Simon Creek helicopter landing areas	TBD	$5,000 (est.)
1	Helicopter to transport volunteers, hand tools and 8,600 lb of timber to Simon Creek, from Kerkeslin Gravel Pit, and return volunteers afterwards	TBD	$8,000 (est.)
1	Conceptual design drawing for bridge		$2,500

1	P.Eng. stamped construction drawings to CSA S6:19 for bridge, ramps, gabion abutments, etc.		$17,700
	FOOD AND ACCOMMODATION FOR VOLUNTEERS		
72	Food for volunteers, $50/person/day: 6 x 5 days + 6 x 5 days + 4 x 3 days	various	$3,600
30	Accommodation for gravel pit volunteers: 6 x 5 days, $100/day	TBD, Jasper area	*$3,000 (est.)*
	TIMBER, RAMPS, HARDWARE		
	All timber in this project is MicroPro Sienna ecologically certified brown treated lumber.		
17	Rub rails for inside of bridge handrails, (1) each side x 100 ft: 2x6 x 12 ft, 17 pieces. This prevents a pack horse's packs from hitting the bridge. $23.68 each		$403
68	GRK RSS Screws, 3" x 3/8", to connect rub rails to bridge handrails, 4 per piece of rub rail. $1 each		$68
34	Wear planks over decking, 2x8 x 12 ft, full length of bridge, 4 pieces wide, $32.22 each		$1,134
204	GRK RSS Screws, 3" x 3/8", to connect wear planks to decking, 6 per plank, $1 each		$204
4	Bridge Sills: 8x8 x 6 ft (2 per end of bridge)		$360
8	Bridge Sill Bolts/Nuts/Washers: 10", Hot Dip Galvanized, $17 each set		*$136 (est.)*
8	Bolts from Bridge to Sills, GRK RSS Screws, 8" x 3/8", $3.50 each		$28
4	Ramp Sills: 6x6 x 6 ft, $66.76/2 each		$134
8	Ramp Beams: 6x6 x 12 ft, $66.76 each		$534
2	End Plate for Ramp Beam, for one ramp: (2) 2x6 x 6 ft (2) 2x6 x 12 ft., $23.68 each		$48
18	Ramp Decking for one ramp: (8) 3x12 x 6 ft Extra Long for Post Braces: (4) 3x12 x 12 ft Steps: (3) 3x12 x 6ft $75.95 / 12 ft piece x 18 pieces.		$1,367
12	12 extra pieces of 3x12 decking: Timbertown has a minimum order of 80 pieces. (50 for bridge, 18 for ramps, 12 extra)		$911
(12)	Sell extra pieces of 3x12 x 12 ft decking	TBD	($911)
	Ramp Rails/Posts/Supports for one side of one ramp: 2x6 x 12 ft: 2 for handrail, 1 midrail ($23.68 x 3)		$728

	4x4 x 12 ft: 1 for toekick ($26.44 x 1) 4x4 x 52.5": 4 for posts ($20.23 x 2)(9') 4x4 x 48": 4 for post 60° supports ($17.62 x 2)(8') 4x4 x 48": 1 for end support ($17.62 x 0.5)(8')		
150	GRK RSS Screws, 5" and 6" x 5/16", to connect end plates, handrails, midrails, toekicks, posts, post 45° supports (48) 5", (90) 6", (12) 9"		$191
112	GRK RSS Screws, 6" x 5/16", 4 per decking piece x 28 pieces. Bridge chutes will use some of these screws. Then screws will be reused after chutes are removed. $1.12 each. Bridge chutes (to guide bridge into final location) to be made of local deadfall.		$126
32	GRK RSS Screws, 12" x 3/8", ramp beam to sill, 4 per beam x 8 beams, $4 each		$128
	TRANSPORT, ETC.		
1	Bobcat to clear snow at Kerkeslin Gravel Pit prior to volunteers arriving	TBD, in Jasper	*$600 (est.)*
1	Trailer rental to bring lumber from Calgary, one week		$750
1	Truck 1,290 km @ $0.61/km: 420 km x 2 to/from Calgary + 100 km getting lumber + 35 km x 2 x 5 days commuting to gravel pit	various	$787
1	Exact distancing device, to locate gabions		$160
	PROFESSIONAL PROJECT MANAGEMENT		
1	Professional Engineer/Project Manager/Construction Manager, 80 h (office) + 14 days x 9 h/day (field) = 206 h @ $150/h = $30,900. Provided at no charge	Trevor Willson, P.Eng.	$0
	Subtotal		**$314,912**
	GST		$15,726
	Contingency @ 2%		$6,290
	Total (CAD)		**$336,527**

DESIGN DATA:

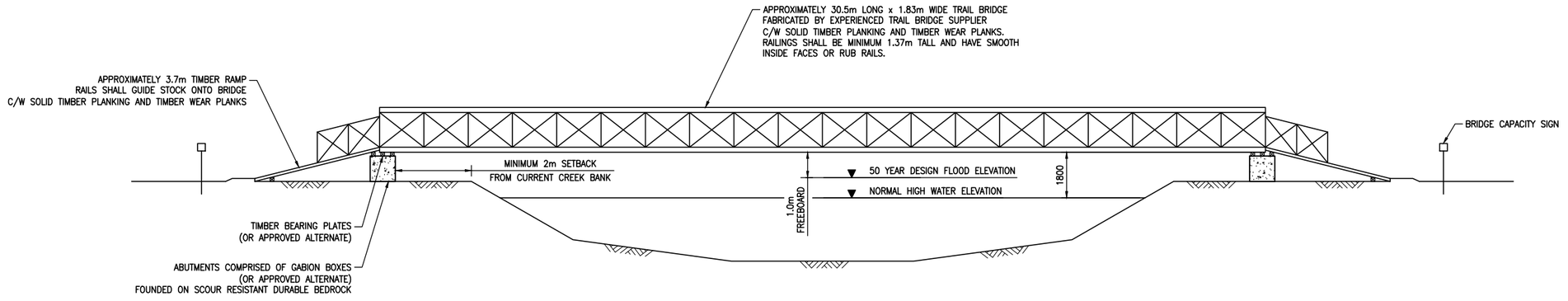
APPROXIMATE ELEVATION:	1281m
SNOW LOAD	Ss = 3.0 kPa Sr = 0.1 kPa
MEAN HOURLY WIND PRESSURE:	1/10 YEAR = 0.25 kPa 1/50 YEAR = 0.32 kPa
SEISMIC DESIGN:	Sa (0.2) = 0.287 Sa (0.5) = 0.910 Sa (1.0) = 0.101 Sa (2.0) = 0.0460 Sa (5.0) = 0.0170 Sa (10.0) = 0.0051 PGA = 0.132 PGA = 0.101
MINIMUM SPECIFIED LIVE LOADS:	UNIFORMLY DISTRIBUTED PEDESTRIAN LOAD = 3.1 kPA EQUESTRIAN LOAD = 680 kg MINIMUM HOOF LOAD = 460 kg IN A 100mm X 100mm AREA

NOTES:

1. 1/50 YEAR FLOOD ELEVATION SHALL BE OBTAINED BY A HYDROLOGY STUDY.
2. ACCURATE TOPOGRAPHY SHALL BE OBTAINED VIA FIELD SURVEY.
3. BRIDGE COMPONENTS SHALL BE DESIGNED TO MEET THE LATEST EDITION OF CSA S6 CANADIAN HIGHWAY BRIDGE DESIGN CODE.

SIMON CREEK BRIDGE LOCATION

LATITUDE: 52° 34' 51.24"
LONGITUDE: 118° 3' 41.82"



BRIDGE CROSS SECTION

SCALE 1:100

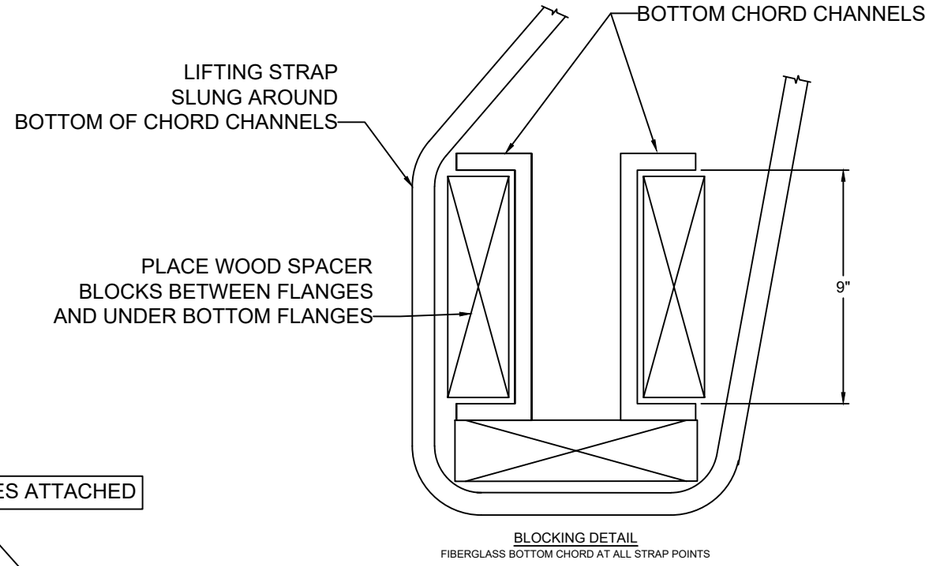
DWG. No.	REFERENCE DRAWINGS
–	–

REV.	REVISIONS	DATE	BY	CHK'D	APP'D
A	ISSUED FOR REVIEW	2022.12.07			

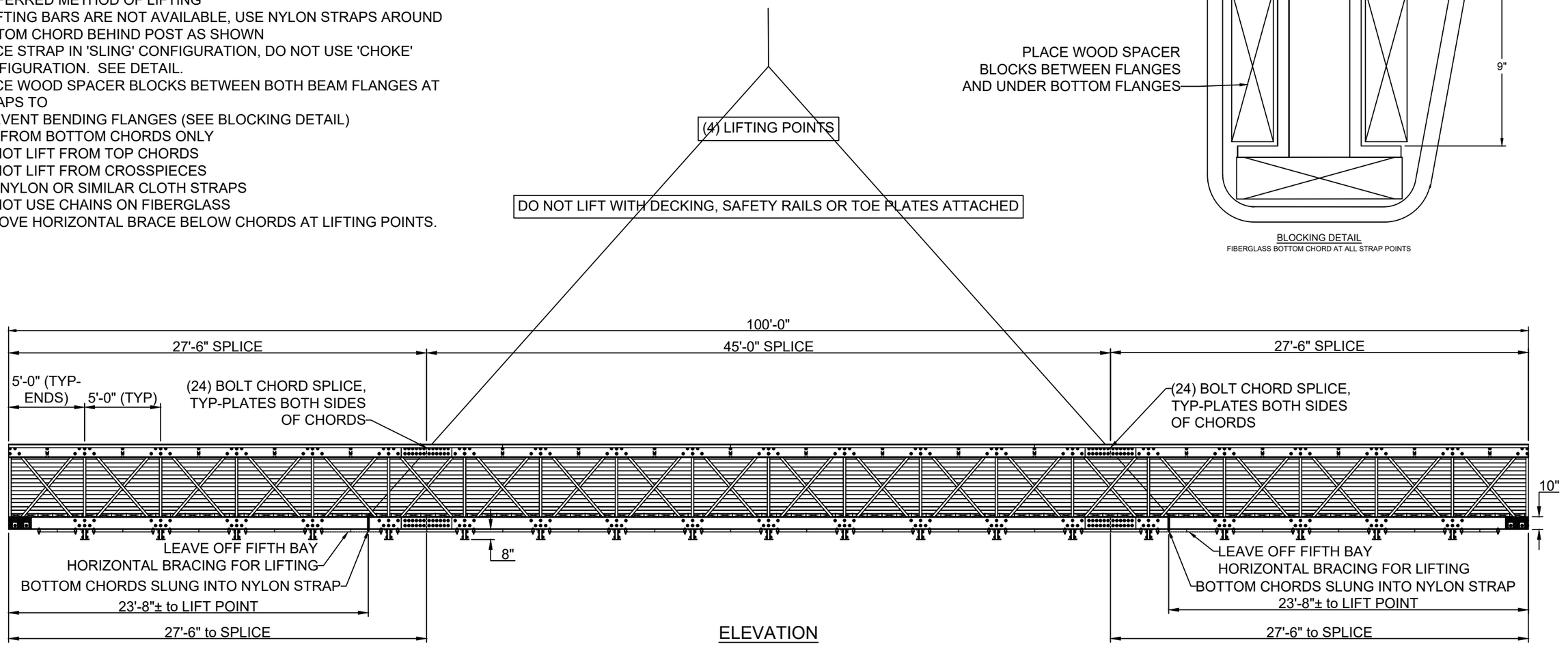
BECK PROJECT: 18061	CLIENT:
DATE: 2022.12.01	PROJECT: SIMON CREEK BRIDGE REPLACEMENT
DRAWN BY: WVM	ATHABASCA PASS TRAIL – JASPER NATIONAL PARK
CHECKED:	CONCEPTUAL DESIGN
APPROVED:	SCALE: 1:100 / DWG. No. 18061-C-001 / REV. A

LIFTING NOTES:

1) MAXIMUM ESTIMATED LIFTING WEIGHT IS 14,000 LBS. (DECKING, SAFETY RAILS AND TOE PLATES NOT INCLUDED IN LIFTING WEIGHT)
2) RIGGING ATTACHMENTS SHOWN ARE SCHEMATIC ONLY
3) PROPER RIGGING FOR LIFTING IS THE INSTALLER'S RESPONSIBILITY
4) MINIMUM RECOMMENDED WIRE ROPE SIZE FOR LIFTING IS 5/8"
5) DO NOT INSTALL WITH DECKING ATTACHED
6) DO NOT INSTALL WITH SAFETY RAILS OR TOE PLATE ATTACHED
7) USE OF STEEL LIFTING BARS UNDER BOTTOM CHORD IS THE PREFERRED METHOD OF LIFTING
8) IF LIFTING BARS ARE NOT AVAILABLE, USE NYLON STRAPS AROUND BOTTOM CHORD BEHIND POST AS SHOWN
9) PLACE STRAP IN 'SLING' CONFIGURATION, DO NOT USE 'CHOKE' CONFIGURATION. SEE DETAIL.
10) PLACE WOOD SPACER BLOCKS BETWEEN BOTH BEAM FLANGES AT STRAPS TO PREVENT BENDING FLANGES (SEE BLOCKING DETAIL)
11) LIFT FROM BOTTOM CHORDS ONLY
12) DO NOT LIFT FROM TOP CHORDS
14) DO NOT LIFT FROM CROSSPIECES
15) USE NYLON OR SIMILAR CLOTH STRAPS
16) DO NOT USE CHAINS ON FIBERGLASS
17) REMOVE HORIZONTAL BRACE BELOW CHORDS AT LIFTING POINTS.



BLOCKING DETAIL
FIBERGLASS BOTTOM CHORD AT ALL STRAP POINTS



ELEVATION

REVISION NO.	DESCRIPTION	DATE
0	ORIGINAL SUBMITTAL	12/09/2022

DRAWN DEW	12/09/2022
CHECKED JHM	12/09/2022
QA	
MFG	

DRAWINGS ARE:
FOR APPROVAL PURPOSES ONLY
NOT FOR CONSTRUCTION

TITLE
Simon Creek Bridge Lifting Plan

SIZE	TOLERANCE	BRIDGE PROJECT NO.	REV
B	±1/16"		0

SCALE N.T.S.

SHEET 1 OF 1

Interpretive Display at Moab Lake parking lot, July, 2022. Note the words: "Welcome to the Athabasca Pass trail. Ahead of you lies an ancient Aboriginal travel route across the mountains."

Preapproved Routine Impact Assessment Land-Based Trails

Parks Canada National Office
IAA 2019

Preapproved Routine Impact Assessments (PRIA) are pre-determined environmental management and mitigation measures for a defined class of routine, repetitive projects or activities with well understood and predictable effects. Approved PRIAs are an acceptable Impact Assessment pathway as they fulfill Parks Canada's obligations under the *Impact Assessment Act* (IAA) as a manager of federal lands.

This PRIA applies to the maintenance, repair, modification or expansion of an existing land-based trail, as defined by the Parks Canada Trail Classification System (i.e., Type 1, 2, 3). This can include activities such as corridor clearing, trail tread protection, minor repairs to the trail tread or trail structures, such as clearing water diversion measures, and repairing broken deck boards; and correcting trail issues such as short trail re-routes, creating water diversion measures and raising or hardening the trail tread.

New trail construction is not permitted but limited trail widening, extension and rerouting is. It does not include trailhead infrastructure such as kiosks, washrooms, benches (refer to Prefabricated Structures and Frontcountry Areas PRIAs), water trails; and winter trails. Refer to the Roads and Related Infrastructure PRIA for maintenance or repairs (e.g., paving) to existing parking lots and pull off areas.

Routine maintenance with no clear beginning and end, such as ongoing vegetation maintenance or snow removal is not included in this PRIA. Environmental concerns from ongoing maintenance can be addressed in a Field Unit Standard Operating Procedure.

Incorporating conservation gains and environmental design is encouraged in all Parks Canada projects. Design improvements, opportunities to upgrade infrastructure or undertake restoration work to ensure wildlife connectivity, maintain hydrology, improve aquatic habitat and reduce human wildlife conflict should be considered (e.g., clearspan bridges, culvert upgrades, improved sightlines, elevated boardwalks).

This and other proactive planning and design mitigations should be discussed at an early stage. Refer to the Parks Canada Trail Infrastructure Standard (Draft) for requirements, (i.e., mandatory measures, procedures and practices) for the design, construction, maintenance, inspection and assessment, and decommissioning of trail infrastructure. The standard is part of a series of instruments which aim at achieving sustainable trail systems supporting the three elements of the Parks Canada mandate: protection of natural and cultural heritage, education and visitor experience. Other instruments include Trail Principles, Trail Concept Planning Process, and the Trail Classification System. For more information, contact a member of the Visitor Experience Infrastructure, Trails Team.

Definitions:

Trails are built or natural linear assets, or a suggested route with no physical assets. Trails are primarily used for recreational purposes (e.g., pedestrian, horseback, cycling, multi-use) and not for vehicle use. Trails also allow Parks Canada staff to access areas otherwise not accessible to perform specific tasks. There are a variety of trail surfaces including native material, crushed rock,

mineral soil, concrete, asphalt, and chip-seal coat. For the purpose of this PRIA a trail includes the trail corridor itself and any trail structures directly within or adjacent to the corridor.

Trail structures may include rock or log steps, bog bridges, puncheons, plankwalks, boardwalks, floating boardwalks, stairs, viewing platforms, handrails, fences/barriers, signage (e.g., trail markers, interpretive panels), lighting systems, surface and water diversion structures (e.g., grade dips), culverts and trail bridges.
Trail expansion means an increase in the trail tread footprint (i.e., limited widening, extension and rerouting).

Fish habitat means water frequented by fish and any other areas on which fish depend directly or indirectly to carry out their life processes, including spawning grounds and nursery, rearing, food supply and migration areas (subsection 2(1) of the *Fisheries Act)*.

High water mark is the usual or average level to which a body of water rises at its highest point and remains for a sufficient time so as to leave a mark on the land. (Fisheries and Oceans Canada, 2015). Upper Controlled Water Elevation is used as definition of high water mark in managed waterways.

Protected heritage place refers to federal land, submerged land and water, as well as buildings and structures administered by Parks Canada, including National Historic Sites of Canada and historic canals administered by Parks Canada, National Parks of Canada and National Park Reserves of Canada, National Marine Conservation Areas of Canada (including National Marine Conservation Area Reserves of Canada, Saguenay-St. Lawrence Marine Park and Fathom Five Marine Park) and any national urban parks or other places of heritage value identified in the future.

Qualified environmental professional is someone who has qualifications, certification and/or direct experience in the appropriate discipline of practice (e.g., designated professional status, knowledge and direct field experience in a specified skill or area of expertise relevant to the project).

Waterbody includes a lake, a canal, a reservoir, an ocean, a river and its tributaries and a wetland, up to the annual high water mark, but does not include sewage or waste treatment lagoon, a mine tailings pond, an artificial irrigation pond, a dugout or a ditch that does not contain fish habitat as defined in subsection 2(1) of the *Fisheries Act*.

Scope of Application

This PRIA includes:

- Maintenance, repair, modification or limited expansion of a land-based trail.
- Maintenance, repair or replacement of existing trail structures within or adjacent to the trail corridor. Replacement generally means "like with like" where there is no change in footprint and no increase in the level of environmental impact. However, it is possible to change the design of a trail structure (e.g. trail bridge) where the change will reduce environmental impact (e.g. abutments are not generally recommended) as long as it maintains or reduces the footprint and/or the level of environmental impact as the former structure.
- Minor trail decommissioning and abandonment.

Conditions and Exceptions

This PRIA does NOT apply to the following:

Location:

- Project results in residual adverse effects to sensitive natural or cultural resources (e.g., nests, dens and roosts, fish spawning areas, cultural resources, riparian areas, wildlife corridors, rare ecotypes, shorelines, wetlands or areas of management concern).

Trails:

- Installation of a new trail bridge on the trail or replacement of in water trail bridge structures (see footnote).
- Paving of any unpaved portion of the trail.
- Removal of vegetation with heavy equipment (e.g. skidders, harvesters or excavators).
- Widening of the trail by more than 50 cm on either side.
- Extension of the trail's length by more than 500 m.
- Rerouting the trail such that the new alignment is more than 50 meters from the old trail center line or that the new trail's length is extended by more than 500 meters.

General:

- The project results in **residual** adverse effects on migratory birds or their nests.
    - Refer to the Draft- Parks Canada Guidance on Migratory Birds and associated Draft-Migratory Birds National Conservation Measures.

- The project results in **residual** adverse effects on an individual, a residence or the critical habitat of a listed species at risk under the *Species at Risk Act*.
    - Determine if mitigations are needed to ensure no residual adverse effects to species at risk. Such mitigations should be included in the Supplementary Mitigations section.
- The project is likely to require an approval under the *Canadian Navigable Waters Act* (s. 5(1)). Check if your project is a Major Works in any Navigable Water or Works in Navigable Waters Listed on the Schedule:
    - In cases where the project proposes to construct, place, alter, rebuild, remove or decommission works (including temporary work such as a cofferdam) that are in, on, under, through or across any navigable water, there may be a requirement to apply to Transport Canada, for scheduled waterways, or go through the public resolution process, for unscheduled waters. Verify if the project is a Major Works in any Navigable Water or Works in Navigable Waters Listed on the Schedule.
- The project is likely to require an authorization under the *Fisheries Act* (s.35(1) or 36(3)) DFO project review process to determine whether an authorization is required:
    - In cases where impacts to fish and fish habitat cannot be avoided, a request for review must be sent to Fisheries and Oceans Canada's Fish and Fish Habitat Protection Program Office.

- The project involves the removal of or causes damage to cultural resources of heritage value, for example, heritage buildings designated by the Federal Heritage Buildings Review Office, archaeological sites, historical and archaeological objects, or cultural landscapes.

- The project involves the removal of or causes damage to paleontological resources.

- The project adversely impacts sites of significance to Indigenous peoples or current access and use of areas where hunting, fishing or gathering rights are exercised by Indigenous peoples.

Other Considerations

Use of the PRIA may not be appropriate in circumstances where:

- Work may adversely impact aquatic or terrestrial wildlife habitat connectivity or hydrology.
- The project results in loss of wetland function as defined by the Federal Policy on Wetland Conservation (1991). Wetland functions include the natural processes and derivation of benefits and values associated with wetland ecosystems, including economic production (e.g. peat, agricultural crops, wild rice, peatland forest products), fish and wildlife habitat, organic carbon storage, water supply and purification (groundwater recharge, flood control, maintenance of flow regimes, shoreline erosion buffering), and soil and water conservation, as well as tourism, heritage, recreational, educational, scientific and aesthetic opportunities.
- Work involving full replacement of trail structures such as boardwalks in sensitive environments.

Approved Geographic Areas of Application

This PRIA may be used within all Parks Canada administered protected heritage places, including national historic sites and canals.

Parks Canada Specialists

Impact Assessment:

If there are any questions on how to apply this PRIA, consult a member of the Impact Assessment Team.

Trails:

If there are any questions on trails (e.g., trail concept planning and design) consult a member of the Visitor Experience Infrastructure, Trails Team.

Species at Risk:

If there is any uncertainty regarding potential adverse effects to species at risk, consult a member of the Species Conservation Team.

Environmental Management:

If there are questions on environmental management issues (e.g., treated wood, contaminated sites, hazardous materials or greening operations), consult a member of the Environmental Management Team.

Cultural Resources:

If there is any uncertainty regarding potential adverse effects to known or potential cultural resources (terrestrial and/or underwater), consult a member of the Cultural Management Team or, if applicable, the local Field Unit specialist.

Valued Components and Effects Analysis

Soil/Land Resources

- Soil contamination from wastes (e.g., garbage, litter, sewage, fuel)
- Increased disturbance footprint
- Soil compaction and rutting
- Soil erosion, loss of topsoil and exposure of subsoil
- Change in slopes, landforms and landscape
- Increased sedimentation and erosion
- Trail-side trampling

Air/Noise Quality

- Temporary decreased ambient air quality (e.g., dust, equipment emissions)
- Increased ambient noise level

Water Quality and Fish Habitat

- Reduced water quality due to transportation of debris and contamination (e.g., leaks, accidental spills)
- Localized changes to surface water hydrology
- Modifications to surface drainage patterns
- Erosion and sedimentation
- Loss of cover and food source for fish
- Disruption of critical fish life stages
- Alteration of flow and fish movement patterns
- Loss of habitat and/or changes in abundance and diversity of aquatic flora and fauna due to decreased water quality and physical damage to aquatic habitat

Wildlife and Vegetation

- Wildlife habituation/attraction to artificial food sources
- Impeded/altered wildlife movement
- Habitat destruction or alteration
- Mortality from project activities
- Introduction of invasive species, or expansion of existing populations
- Damage to and removal of vegetation, disturbance of adjacent natural areas, root exposure and physiological distress
- Disturbance or damage to nests, roosts and/or dens and disruption of nesting, roosting and/or denning animals

Visitor Experience

- Reduced quality of visitor experience due to noise and presence of construction equipment
- Reduced accessibility to portions of the site where work is taking place
- Hazard to visitors and staff due to project activities

Cultural Resources

- Adverse effects to the heritage value or character-defining elements of a cultural resource or a heritage place
- Impacts to archaeological resources (known or potential) from displacement or destruction, resulting in loss of heritage value

- Impacts to cultural landscapes, buildings, objects, engineering works

Mitigation Measures

Planning

This section applies to the conceptual, planning and design phases of all projects and activities covered by this PRIA.

1. Utilize all guidance documents available from Visitor Experience Infrastructure-Trails including, but not limited to, the Trail Principles, Trail Concept Planning Process, and the Trail Classification System.
2. Plan extension and rerouting work so each section of the trail is completed as quickly as possible.
3. Consider clearing vegetation in a phased approach given that design changes may be required on site.
4. Clearly identify and avoid sensitive environmental features and habitats.
5. Schedule work to avoid restricted activity periods. If useful, the IA Practitioner can use the Environmental Timing Windows table (Appendix 1) to determine site-specific restricted activity periods and add this information to the table in the Supplementary Mitigations section.
6. Prior to the commencement of structural work or vegetation removal, a qualified environmental professional will complete any pre-work surveys that are required (e.g., invasive alien species, rare plants, species at risk, migratory birds or trees with high potential for wildlife habitat (e.g., snags with cavity nests)). Develop a site and species specific mitigation strategy to be implemented in the event that survey results are positive.
7. Select appropriate equipment and work access routes to reduce damage to riparian vegetation and waterbody banks when using earth-moving equipment.
8. Develop an appropriate approach to mitigate the establishment and/or spread of invasive alien species (IAS) on the site. Additional mitigations shall be included in the Supplementary Mitigations section or the Appendix for regional specific protocols (e.g., Whirling disease protocol).
9. Work with a Cultural Resource Management Advisor and specialists (e.g., archaeologists, historians, and built heritage advisors) to assess the impact of the work/project to cultural resources and on cultural landscapes or character-defining viewscapes and identify necessary mitigation measures.
    - An Archaeological Overview Assessment (AOA) may be required to determine the archaeological potential of the work area. Based on the results from the AOA, an Archaeological Impact Assessment may be required.
    - Cultural Resource Identification may be necessary for resources that have the potential to be cultural resources but have not been evaluated yet.
10. Work with a Parks Canada archaeologist to compare excavation plans to local archaeological resource inventories if available.
11. Use of untreated wood products is recommended when feasible. If there is no alternative to using treated wood, ensure it has been treated with a wood preservative appropriate for the project. Follow procedures in the Parks Canada Guidelines for the Use, Handling and Disposal of Treated Wood.

12. Determine if DFO measures to protect fish and fish habitat, a DFO Fish and Fish Habitat Protection Program letter of advice, or other water-related mitigations are needed. If so, add them either as supplemental mitigations, or as an appendix to the PRIA.
13. Requirement for an Environmental Protection Plan will be determined and approved by Parks Canada prior to starting work. Requirement for plans will be determined by the IA Practitioner and may include:
    - Spill Response Plan
    - Erosion and Sediment Control Plan
    - Hazardous Material Management
    - Reclamation/Revegetation Plan

General Activities

Wildlife

14. Provide wildlife awareness training to on-site workers if required by field unit policy or site-specific advice.
15. On-site workers must be made aware of and subsequently report any incidental sightings of species at risk immediately to designated Parks Canada staff.
16. Control materials that might attract wildlife (e.g., petroleum products, human food and garbage) as part of the waste management plan.
17. If unexpected nests, species at risk or other wildlife are found, cease work in the immediate area and contact designated Parks Canada staff for further direction.
18. Large woody debris that retain moisture are amphibian habitat. It can be saved for restoration projects rather than using them for trails.
19. Conduct activities during daylight hours and avoid critical foraging times (i.e., dusk and dawn) unless otherwise approved by designated Parks Canada staff.
20. Minimize the time excavations remain open and take measures to secure the area when left unattended to reduce the potential for wildlife injury.
21. Never approach or harass wildlife (e.g., feeding, baiting, luring). If wildlife is observed at or near the work site, allow the animal(s) the opportunity to leave the work area.
22. Designated Parks Canada staff must be alerted immediately to any potential wildlife conflict (e.g., aggressive behaviour, persistent intrusion), distress or mortality.

Invasive Alien Species

23. Wash all construction equipment from outside the Parks Canada protected heritage place prior to arrival to minimize risk of introducing IAS, noxious weeds and soils from off-site. Proof that equipment was washed outside the protected heritage place may be requested before equipment is permitted into the protected heritage place.
24. If invasive species are a serious issue, consider more effective cleaning methods such as pump and high pressure hose or high pressure water unit.
25. Ensure machinery already in the protected heritage place is in a clean condition and maintained free of IAS before moving to new sites, within or beyond the protected heritage place.
26. Work in uninfested sites before moving to infested sites.
27. Hand tools, equipment and footwear should be cleaned after working in infested sites to prevent cross contamination.

28. Soil, gravel, erosion and sediment control products or other applicable materials shall not be imported from outside the protected heritage place without approval from the designated Parks Canada staff.
29. If organic material cannot be used in the construction site, it may be used in other parts of the protected heritage place with approval by the designated Parks Canada staff.
30. Minimize ground disturbance, vegetation removal and bare soil exposure (e.g., cover stockpiled material with tarps, plant seeds or plants, cover with natural mulch/ground coverings).
31. Stabilize and revegetate disturbed areas as soon as possible. If there is insufficient time remaining in the growing season, stabilize the site to prevent erosion and vegetate the following spring.
32. Monitor disturbed and re-vegetated areas for several growing seasons to ensure that native vegetation is growing successfully and invasive alien species spread is prevented.
33. Before and after the use of boats and equipment in waterbodies, clean, drain and dry it on land, to prevent the introduction or spread of aquatic invasive/non-indigenous species. Proof this mitigation was applied may be requested before equipment is permitted into the protected heritage place.

Cultural Resources

34. Provide on-site workers with appropriate cultural resource awareness training if required.
35. Avoid cultural resources (including archaeological sites) unless authorized by designated Parks Canada staff.
36. Apply additional mitigation measures (in supplementary mitigation section) as identified by a Parks Canada archaeologist and/or cultural resource management advisor for the immediate area of work.
37. If cultural resources (i.e., structural remains and/or artifact concentrations) are encountered, work must cease in the immediate area, the site secured and the designated Parks Canada staff contacted for further direction.

Visitor Experience

38. If possible, schedule noisy activities outside peak visitor season or adjust hours of noisy work to minimise disturbance to visitors using the area.
39. Close and mark the work site and safety hazards with appropriate signage while active construction, repair or maintenance is underway; consider temporary detours or reroutes as appropriate.
40. If closing the area is not possible, maintain a safe working distance between work activities and visitors. If traffic control is required, a flag person should manage traffic through the construction/hazard area.
41. Keep visitor access trails and roads outside the construction area free of construction materials, waste, machinery and equipment.

In or Near Water Works

42. Work shall comply with the *Fisheries Act* including DFO measures to protect fish and fish habitat, and, if provided, mitigations in the letter of advice from the DFO Fish and Fish Habitat Protection Program (attach in Appendix).
43. To protect aquatic habitat, a 30m buffer zone is generally required from a waterbody, in which no activities can occur (examples include: refueling; storage of hazardous products; long-term stockpiling of soil, aggregate or asphalt; concrete preparation; and removal of

vegetation). However, the appropriate buffer zone will be determined based on site-specific conditions by qualified Parks Canada staff or upon the advice of DFO. Where appropriate, the buffer should also apply to storm drain inlets and outlets.

44. Plan in-water work to respect site-specific restricted activity periods to protect fish, amphibians or reptiles, including their eggs, juveniles, spawning or migrating adults and/or the organisms upon which they feed or as directed by the designated Parks Canada staff.
45. Conduct work during periods of low flow or at low tide; suspend work when flows are elevated due to local rain events or seasonal flooding.
46. When appropriate, an in-stream work plan, or a specific section for work in and around water in an Environmental Protection Plan can be developed by a qualified environmental professional and is subject to approval by the IA Practitioner.
47. Implement erosion and sediment control measures to protect waterbodies, wetlands and riparian environments.
48. Stabilize shoreline or banks disturbed during any project-related activities.
49. Restore bed and banks of the waterbody to the original contour and gradient; if the original gradient cannot be restored due to instability, a stable gradient that does not obstruct the natural water flow should be restored.
50. If replacement rock reinforcement or armouring is required to stabilize eroding or exposed areas, ensure rock is installed at a similar slope to maintain a uniform bank/shoreline and natural stream/shoreline alignment.
51. Disturbance or removal of materials from the banks, shoreline or waterbody bed such as sand, rocks, aquatic vegetation and natural wood debris is prohibited unless approved by the designated Parks Canada staff.
52. When rock material is used in or near a watercourse:
    - Wash aggregate material of fines before placing in or near watercourses or wetlands.
    - Use clean, durable, non-ore-bearing, coarse granular aggregate material that is appropriately sized to resist displacement during peak flood events.
    - Do not obtain rocks from below the high water mark of any watercourse.
    - Do not use acid-generating rock or rock that fractures and breaks down easily.
    - Install rock at a similar slope to maintain a uniform stream bank and natural stream alignment.
    - Ensure rock does not constrict the natural channel width.
53. Secure all materials and deleterious substances (e.g., construction waste and materials, petroleum products, paints) above the high water mark of nearby waterbodies and ensure wastes do not enter waterbodies (e.g., use tarps to capture debris). Any waste that does fall into a waterbody shall be immediately retrieved, provided worker safety is not compromised, and if removal can be done without excessive disturbance of bottom sediment.
54. Concrete mixing activities shall take place over tarps and a minimum of 30m from waterbodies or as otherwise directed by designated Parks Canada staff. Fresh, wet, uncured concrete and concrete dust shall not come into contact with waterbodies. Secondary containment measures such as collection/drip trays and berms lined with air and water-tight material such as plastic and a layer of sand, and double-lined fuel tanks are required.
55. Use anti-leaching concrete for projects that are likely in contact with a waterbody. Provide all workers with proper training on handling and application of anti-leaching concrete.

56. Operate machinery on land above the high water mark to minimise disturbance to the banks, shoreline of waterbodies. Avoid machinery fording of a waterbody unless authorized by designated Parks Canada staff. Approval from a qualified environmental professional is required if no alternative is available and it is outside the timing windows to protect fish. Utilise protection methods (e.g., swamp mats, pads) to protect stream bank and bed.

Erosion and Sediment Control

57. A site specific Erosion and Sediment Control Plan (ESCP) must be approved in advance of starting work in the vicinity of waterbodies, wetlands or riparian environments. It must cover all construction and reclamation periods. Parks Canada IA Practitioner has to determine the project risk and sensitivity of the environment and provide ESCP scale and scope, including whether the ESCP may be included within a general Environmental Protection Plan.
58. The ESCP must be developed by a qualified environmental professional and is subject to approval by the IA Practitioner.
59. Schedule work to avoid wet, windy and rainy periods or very dry periods that may increase erosion and sedimentation.
60. Maintain a stockpile of appropriate erosion and environmental protection materials on site and readily available for use in the event of a silt release. Workers must be knowledgeable in the function and installation of all materials.
61. Select erosion and sediment control measures that correspond with the nature and duration of the project. Measures must be installed before starting work, especially within 30m of a waterbody.
62. Regularly inspect and maintain erosion and sediment control structures during all phases of the project and alter measures when necessary.
63. In the event of erosion and sediment control measure malfunction or of deleterious substance, including sediment, run off (current or impending), work shall stop until measures are adjusted to address the problem.
64. Use erosion and sediment control products made of 100% biodegradable materials (e.g., jute, sisal or coir fibre) when possible. Ensure backing materials are also biodegradable.
65. The use of hay is not permitted due to risk of introducing invasive species. Use of straw must be authorised by designated Parks Canada staff.
66. Erosion and sediment control products should be selected to reduce potential for wildlife entanglement/attraction and prevent introduction of invasive alien species.
67. Minimize the length of time soils are exposed and complete work in one area before commencing work in another area.
68. Maintain effective sediment and erosion control measures until complete revegetation of disturbed areas is achieved unless directed otherwise by designated Parks Canada staff.
69. Immediately stabilize disturbed/exposed areas, shoreline or banks, preferably through revegetation, with native species approved by designated Parks Canada staff. If there is insufficient time remaining in the growing season, the site should be stabilized, (e.g., cover with wood bark or wood chips from on-site debris, leaf litter, or erosion control blankets to keep soil in place) and/or vegetate the following spring.
70. Avoid equipment operation on steep or unstable slopes unless absolutely necessary.
71. Minimize slope length and gradient of disturbed areas. Backslopes must be sloped to a 45-degree angle or less or to match existing side slopes.
72. Manage water flowing onto the site as appropriate for the project:
    - Divert uplands surface runoff away from exposed areas.

- Filter water being pumped/diverted from the site; silt-laden water must not be pumped directly into a waterbody (e.g., pump/divert water to a vegetated area 30m from the waterbody, a constructed settling basin or other filtration system).
- Minimize slope length and gradients of disturbed areas.
- Cover erodible soils with mulch, vegetation, or rip rap.
- Construct check dams or similar devices in constructed swales and ditches.

73. Stockpile topsoil away from subsoil and spoil material and above the high water mark or top of bank of nearby waterbodies. Store excavated soils on tarps to limit damage to underlying vegetation and cover with weighted tarps if left for an extended period of time.
74. Ensure fine materials being transported are covered with tarps or equivalent material.
75. Excavations must be drained (but not directly into a waterbody), backfilled and compacted as soon as possible.
76. Under thawed conditions, backfill material will be compacted prior to topsoil replacement; distribute topsoil over the excavated area.
77. Under frozen ground conditions, material will be sufficiently spread over the excavated site to allow for a settlement under thawed conditions.
78. Remove temporary erosion and sediment control products, especially non-biodegradable materials, when they are no longer required.

Work Site Conditions/Staging/Laydown

79. Key contacts and their respective roles and responsibilities shall be identified prior to work starting and communicated to all on-site workers.
80. People working on the project/activities shall attend a briefing with a designated Parks Canada staff before beginning work at the site. Mitigations that are conditions of the project approval shall be reviewed and explained including the emphasis on ecological/cultural integrity and resource protection when working in a Parks Canada administered protected heritage place.
81. Clearly delineate the work site and restricted areas (e.g., fencing, signs, barricades, flagging tape) to minimize the disturbance footprint and ensure visitor safety; remove when the project is completed.
82. Site access during construction must be restricted to authorized personnel only.
83. Staging areas, material and equipment drop sites, and parking areas must be identified and within an existing disturbed footprint (e.g., roadways, gravel surface, previously disturbed areas with high resiliency) or approved by designated Parks Canada staff.
84. Use existing roadways, trails, disturbed areas or other areas as approved by designated Parks Canada staff for site access, travel within the site and construction activities.
85. Material drop sites (via foot, vehicle, helicopter or boat) must be approved by designated Parks Canada staff.

Equipment Operations

86. Use low pressure or rubber tracked equipment or access matting where feasible to minimize soil compaction and ground disturbance.
87. Select equipment appropriate to the nature of work being conducted (e.g., avoid using large scale machinery when hand tools or smaller scale machinery could be used).
88. Heavy equipment operating on paved surfaces should be equipped with street pads; damage to paved surfaces must be restored to original conditions.
89. Equipment must be properly tuned, clean and free of contaminants, in good operating order, free of leaks (e.g., fuel, oil or grease), and fitted with standard air emission control

devices and spark arrestors prior to arrival on site. Detection of leaks or exhaust issues shall be fixed immediately or work suspended until repairs can be made.

90. Machinery must be stored, maintained and refuelled on a flat surface, outside the dripline of trees and above the high water mark and in such a way as to prevent any deleterious substances from entering a waterbody.
91. Refueling (e.g., excavators, tracked loaders, chainsaws, generators) must not take place in locations where runoff could carry contaminants into drainage pathways. Ensure drip trays are placed under equipment when not in use.
92. Leaks and spills during refuelling must be cleaned up, reported and contaminated materials must be disposed of appropriately. Fuel must never be dispelled or deposited into the environment or any waterbody.
93. Any required cleaning of tools and equipment should be done off-site. If it must be on-site, it must be done in such a way as to prevent any deleterious substances from entering a waterbody.
94. Gas generators must be secured to prevent movement during the operation and set up on an impermeable fuel mat with a berm or within a container that can contain 110% of the volume of fuel in the generator.
95. For helicopter operations:
    - Choose a drop point that is open and easily accessible to the trail or as approved by Parks Canada.
    - Plan multiple drop sites at strategic locations to avoid doubling back on the trail to distribute materials.
    - Helicopter fueling is permitted only at the fueling station or approved by designated Parks Canada staff.
    - All fuel drums require secondary containment during storage.
    - The contractor is responsible for ensuring that a Spill Response Plan for fueling and fuel drum storage is developed prior to start of work.
    - Helicopter operations must not occur within areas of exposed soils where rotor wash will disturb soils or vegetation.
    - Helicopter operations are not to occur within 100 meters of sighted wildlife, raptor nests or any identified sensitive features.

Spill Response Planning

96. Provide a briefing about the Spill Response Plan for all crew members on site and ensure they are aware of the location and use of spill kits and containment devices.
97. Follow all applicable regulations and codes for the management and handling of hazardous waste.
98. Spill containment equipment must be present on-site. A spill contingency response kit including sorbent material and berms to contain 110% of the largest possible spill related to the work must be available on site at each location of potential spills (sites where equipment is working and at refuelling, lubrication, and repair locations).
99. All spills must be contained and cleaned-up as soon as it is possible to safely do so. In the event of a major spill, all other work must stop until the spill has been adequately contained and cleaned up.
100. Notify the designated Parks Canada staff and the emergency contact immediately of any spill. In the event of a major spill, call the first contact authority.

101. Contaminants must be recovered at the source and disposed of according to applicable laws, policies and regulations site (consult with the Environmental Management Team). The site will be inspected by Parks Canada staff to ensure completion to expected standards.

Site Clean-up and Waste Management

102. Leave No Trace wilderness ethic principles shall be communicated to/observed by all of the construction crew.
103. When possible, keep food waste separate from construction waste and remove daily.
104. Petrochemical products, paints and chemicals must be used and stored in such a way as to prevent any deleterious substances from entering the water.
105. All salvageable, non-combustible and non-hazardous materials will be removed, reused and recycled to the greatest extent possible. Remaining material considered to be waste and demolition debris is to be disposed of at an approved disposal facility.
106. Any hazardous material (e.g., creosote treated wood, paints) and pollutants such as fuels and solvents will be separated and disposed of at provincially or territorially certified disposal sites.
107. Contain wastes including construction materials and transport to an approved waste landfill site outside the Parks Canada site unless otherwise directed; cover waste loads during transportation.
108. If hazardous waste or potentially contaminated material is uncovered during excavation or construction, work must stop and excavated materials must be secured onsite in a manner that prevents contamination of the surrounding environment, including leaching. The designated Parks Canada staff must be contacted for further direction.
109. Burning or burying of materials is not permitted unless approved by Parks Canada.
110. Disposal of debris or waste into any drain, and/or waterway, is prohibited.
111. Excess concrete must be disposed of at an appropriate facility outside of the Parks Canada protected heritage place. If excess concrete from pump trucks must be dumped prior to transport outside the protected heritage place, it must be deposited in a location approved by Parks Canada and removed following hardening for disposal at an approved facility.
112. If present, portable sanitary facilities must be serviced on a regular basis and accumulated waste disposed of at a sanitary waste disposal facility. The portable facilities must have sufficient capacity and be managed to ensure waste is not discharged to the receiving environment.

Site Reclamation and Revegetation

113. Post-construction reclamation activities must be detailed in an approved Reclamation Plan, Environmental Protection Plan or other project document prior to construction.
114. Implement Reclamation Plans for the disturbed area immediately following completion of construction. Long delays between vegetation removal and revegetation should be avoided. For some projects, revegetation in smaller phases should be considered to minimize soil exposure.
115. Follow any Field Unit reclamation guidelines where they exist or set revegetation goals appropriate to the ecoregion.
116. Schedule construction so that seeding or planting can coincide with seasonal planting windows (i.e., spring or fall).

117. Salvage of native plants is preferred over purchase of commercial plugs or container stock where possible.
118. Excavate, conserve, store and replace existing site topsoil unless otherwise directed by designated Parks Canada staff. Soil imports from other project sites or outside of the protected heritage place is not generally recommended. However, if required, it must be approved by designated Parks Canada staff.
119. Seed and stabilize bare areas as soon as possible after disturbance, preferably as soon as a significant area is graded and finished and before the next rain event, unless otherwise directed.
120. Do not perform seeding under adverse field conditions such as frozen soils, excessively wet or dry soil, ice or standing water, heavy rain, or high winds.
121. In cases where mulching is necessary to assist with seed establishment, apply it immediately after seeding.
122. Apply seed at a rate appropriate to the seed mixture, seeding method and existing vegetation conditions or as directed by the designated Parks Canada staff.
123. Protect seeded area against erosion or damage as appropriate for the specific site (e.g., erosion control blanket, hydro-mulching, mulching).
124. Some seeding procedures may have to be completed or repeated in subsequent years as per the Reclamation Plan.

Trail Work

General

125. The final route of new trail segments will be determined on site and approved by designated Parks Canada staff.
126. Carefully follow the designed layout for the trail and ensure natural drainage patterns are preserved.
127. Shape loosened soils to match the local terrain.
128. When constructing gravel trails, soil, gravel or other applicable materials shall not be imported from outside the protected heritage place without approval from the designated Parks Canada staff.
129. If excavating, sod mats or topsoil should be salvaged and stockpiled for future rehabilitation. Unless otherwise directed, remaining soil should be broadcasted and raked to a soil thickness of 25 mm or less; ensure that vegetation is uncovered (e.g., on grassy slopes gently rake grass to stand back up).
130. Excess organic material will be broadcast outside the trail tread, taking care not to smother vegetation. If possible, the organic material should be used to restore closed sections of trail or lightly broadcasted down slope of newly maintained or rehabilitated trail.
131. Reclaim materials when feasible (e.g., use non-salvageable woody debris, excavated soil and surface material from new sections of trail on decommissioned sections of trail).

Borrow Pits

132. Borrow pits will be located well off the trail at a distance specified by Parks Canada (e.g., within 10m of the trail) for safety and aesthetic considerations.
133. Borrow pits will not be located adjacent to tree root-balls or within 30m of a waterbody and will not negatively impact surface drainage pathways.

134. Soils from tipped up root-balls of fallen trees will not be disturbed as they provide micro-habitats for small mammals and support plant structure and diversity.
135. Suitable soil deposits will be scouted with a hand auger; look for above average grade deposits (mounds) with a minimal organic layer and vegetation cover.
136. The number of pits required shall be planned to minimise damage to the environment.
137. Organic soils will be stockpiled for later decommissioning of exhausted borrow pits.
138. Salvage and stockpile vegetation will be removed from the top of borrow pit for later decommissioning of exhausted borrow pits. Place the salvaged vegetation in a secure shaded location and keep them moist by covering them with wet burlap.
139. A single access trail to the borrow pit will be created to minimize off trail impact. Flag access route if necessary.
140. Borrow pits will be secured to reduce safety risk to workers, visitors and wildlife.
141. Locations of active borrow pits will be identified and flagged for future use and eventual restoration.
142. Borrow pit and access trails will be restored when exhausted by grading area and covered with stockpiled organic soil. Ensure the restored borrow pit does not pose a safety risk to visitors or wildlife. Any required replanting or reseeding must be done using native plants/seed mixture approved by Parks Canada.

Trails Decommissioning and Abandonment

143. Remove trail structures and any existing trail surfacing material, including underlying geotextile fabric and dispose of as required by designated Parks Canada staff.
144. Completely break up, or scarify, the compacted subsurface of the full length of the old trail tread to 10cm depth, or as otherwise directed by Parks Canada's trail reclamation guidelines. Hardened surfaces will require scarification of at least 20cm depth to promote vegetation rooting and reduce runoff. Leave the soil surface uneven (pitted) to promote regeneration.
145. Cover and camouflage the former trail with topsoil, plants, grasses, dead fall trees, logs and branches and re-plant small trees taken from re-route construction, where feasible.
146. Use stockpiled topsoil from the site to facilitate reclamation activities.
147. Re-grade visible decommissioned trail to match surrounding landscape grades.
148. Reclaim eroded areas and ensure proper erosion control measures are identified and installed in the decommissioned section (e.g., check dams made of logs or rocks fixed across the trail to trap soil; for rocky trails with little soil covering, fill burlap bags with soil and rocks and use as check dams, consider transplanting a local shrub in the bag).
149. Reduce the visibility of the old trail so the transition areas are unrecognizable and the decommissioned trail is effectively closed (e.g., drag logs and branches over the tread and plant deadfall in the ground vertically to block the corridor at eye level; rake leaves and other organic matter over the tread to disguise the area.)
150. Ensure closed sections are clearly blocked off to users and create a natural, seamless transition to the new section; install signs if required.
151. Monitor decommissioned trails for visitor use, erosion, non-native plant and vegetation establishment. Implement corrective actions as required.

Vegetation Removal

General

152. All clearing activities must be flagged and plans pre-approved by designated Parks Canada staff. Trees should only be removed when absolutely necessary (e.g., pose a security threat or situated directly in the path of an approved re-route alignment when no other option is available). Refer to Parks Canada's Trail Classification System for specific clearing dimensions according to trail type.
153. The felling of trees with obvious wildlife use (e.g., snags with cavity nests, large trees with stick nests) should be avoided wherever possible; if unavoidable, approval from designated Parks Canada staff is required.
154. Vegetation clearing during high or extreme fire whether index must be approved by designated Parks Canada staff and may be delayed to prevent risk of wildfire.
155. Clear trees in a phased approach provided that sensitive environmental timing windows can be respected or as directed by designated Parks Canada staff.
    - Conduct work when the ground is frozen or under conditions that limit ground compaction and limit wildlife disruption
    - In the event that clearing is required within sensitive environmental timing windows, a qualified environmental professional must inspect the area prior to construction activities to ensure there will be no adverse impacts to birds, wildlife and their habitat.
    - Ideally, trees should not be cut until required, in case last-minute adjustments are necessary.
156. Protect roots of trees to drip line to prevent disturbance or damage. Avoid traffic, dumping and storage of materials over root zone.
157. Keep all machinery within the existing trail tread unless it would harm a sensitive area. In this case, use an alternative, pre-approved route. Use pre-approved staging areas when the trail is narrow.
158. Carry cut branches and slash away from trail infrastructure and out of trail user view. If this is not possible, spread a minimum of 10 meters away from the trail center line. Spread branches out with cut ends facing away from trail or otherwise directed by designated Parks Canada staff.
159. Burning is not permitted within the protected heritage place unless approved by designated Parks Canada staff.
160. All cut wood is the property of Parks Canada; consult with designated Parks Canada staff to determine appropriate cutting methods, use and disposal of cut wood and other plant material.
161. Vegetation clearing should be conducted using methods that minimize disturbance of the ground and natural features, promote effective reclamation and minimize the potential for the establishment and spread of non-native vegetation.
162. When felling trees, precautions must be taken to minimize damage to surrounding vegetation.
163. Prune limbs close to the tree trunk. For a clean cut, make a shallow undercut first, then follow with the top cut. This prevents the limb from peeling bark off the tree as it falls. Do not use an axe for pruning.
164. If over half of a tree needs pruning, it is recommended to cut it down.

165. Cut stumps as close to ground as possible and camouflage when feasible. If clearing is conducted during winter in snow cover, return to site after snow melt to flush cut stumps as required.
166. All holes left in the tread width from clearing and grubbing shall be filled with suitable material and compacted to ensure a stable, even tread surface.

Riparian Vegetation

167. An undisturbed vegetated buffer zone should be maintained between areas of on-land activity and the high water mark of any waterbody. A 30m buffer zone is a general recommendation, however, but the appropriate buffer zone must be determined based on site specific conditions by qualified Parks Canada staff.
168. If removal of riparian vegetation is unavoidable, it should be kept to a minimum and undertaken only when absolutely required and with approval from designated Parks Canada staff.
    - Tree removal should be avoided. When practical, prune or top vegetation instead of grubbing/uprooting. Ensure the root structure and stability are maintained.
    - Combined vegetation removal activities (e.g., brushing, topping, slashing) should not affect more than one third of the total woody vegetation, such as trees and shrubs, within the buffer zone.
    - Removal will be carried out manually to minimise disturbance and ensure vegetation does not enter waterbodies.
    - Ensure canopy vegetation immediately adjacent to waterbodies is maintained unless deemed a hazard.
169. Leave topsoil and root systems intact on channel banks surrounding the work area in order to assist with bank stability and prevent spread or establishment of invasive alien species or as directed by designated Parks Canada staff.
170. Avoid disturbing or removing materials from the banks or shoreline (e.g., natural wood debris, sand, rocks).

Trail Structures

171. Ensure compliance with current DFO standards and codes of practice (e.g., Interim code of practice: Culvert maintenance or Interim code of practice: Temporary cofferdams and diversion channels). Code of practice may be included in appendix.
172. Boardwalks should be high enough above the existing ground surface to allow grasses and native shrubs to re-vegetate around the structure.
173. Use of untreated wood products is recommended when feasible. If there is no alternative to using treated wood, ensure it has been treated with a wood preservative appropriate for the project. Follow procedures in the Parks Canada Guidelines on the Use, Handling and Disposal of Treated Wood.
174. Avoid use of toxic paints, primers, solvents, degreasers and rust inhibitors.
175. Prevent entry of deleterious substances (examples include: concrete, asphalt, paint, solvents, sandblast material, patching and sealing compounds) directly or indirectly in water. For example:
    - Establish and maintain effective separation of the work from the waterbody.
    - Attach drop cloths or tarps (supported by webbing or netting if necessary) to prevent materials (e.g., paints, paint flakes, primers, solvents) from entering the water, and inspect regularly for signs of failure.

- Stop work if deleterious substances are running off (or are obviously going to run off).
- If treated timber must be cut to size, ensure cutting takes place away from the waterbody. Sawdust must be prevented from entering any waterbody and removed from the park or otherwise disposed of as directed by the designated Parks Canada staff. Application of preservatives on cut edges should be undertaken in a manner that prevents preservative from contaminating the ground and entering a waterbody.

176. When removal and application of protective coatings is required implement the following:
    - Remove paint or protective coatings in a manner that prevents paints, paint flakes, primers, solvents or other waste material from entering the watercourse.
    - When feasible, use tarps to trap and prevent falling debris, spills or drips from entering the watercourse.
    - Store, mix and transfer paints and solvents on land to prevent spills into the watercourse.
    - Contain paint flakes, abrasives and other waste materials and dispose at an approved location; waste materials must not be deposited into watercourses or riparian areas.
177. When removal of debris is required within culverts and around bridge piers and abutments, implement the following:
    - Remove materials by hand when feasible. If machinery is required, operate from land and minimise damage to the bank of the watercourse.
    - Limit removal of accumulated material (e.g., branches, stumps, woody materials, garbage) to the area within the culvert, immediately upstream of the culvert and to that which is necessary to retain culvert function and water flow. For bridges, only remove debris necessary to protect piers and abutments.
    - Remove accumulated material and debris slowly to allow clean water to pass, to prevent downstream flooding and reduce amount of sediment-laden water going downstream.
178. Adequately protect culvert, inlet(s) and outlets(s) with rip rap to prevent erosion and scour around the culvert during high runoff events.
179. Maintain natural streambed material through fish-bearing drainage structures to allow continuous substrate that matches the streambed below and above the crossing, unless otherwise directed.

Water Withdrawal and Dewatering

180. Select waterbodies than can sustain withdrawal without compromising sensitive species.
181. Ensure any flows are temporarily diverted around the portion of the ditch or waterbodies where work is being undertaken.
182. Ensure compliance with current DFO codes of practice (e.g., Interim code of practice: Temporary cofferdams and diversion channels or Interim code of practice: End-of-pipe fish protection screens for small water intakes in freshwater).
183. Any water withdrawal must be approved by the designated Parks Canada staff and additional site-specific mitigations included in the Supplementary Mitigations module.
184. Develop a site-specific dewatering plan before commencing a pump-out sump to dewater excavation sites, with specific details on how and where the water will be discharged and how turbidity will be managed.

185. Site-specific mitigations may be required depending on the conditions of the discharge area (including erodibility of soils), freezing conditions operations, overflow avoidance, decanting and settlement pond reclamation.
186. Capture and relocate any fish trapped within an isolated/enclosed work area and safely relocate them to an appropriate location in the same water body. See mitigations under Fish, Amphibian and Reptile Salvage.
187. Dewater gradually to reduce the potential for stranding fish.
188. Monitor discharge water quality on a regular basis. Should there be any observable turbidity at the discharge point, work should halt until the source is determined and additional mitigation measures are applied.
189. Establish soil and vegetation erosion protection when water is pumped onto land.
190. Remove any excess sediment sources and cap with clean rock or gravel as appropriate.
191. Remove sediment control measures and exclusion fencing in a way that prevents the escape or re-suspension of sediments.

Fish, Amphibian and Reptile Salvage

192. A qualified environmental professional is required to do the salvage. The salvage protocol must be submitted and approved by Parks Canada.
193. Consider time of year for salvaging activities such as cold weather and ice which can make it very hard on animals, salvagers, labourers and equipment.
194. During amphibian salvage, try to move the object they are on.
195. Capture and relocate any animal trapped within an isolated/enclosed work area and safely relocate them to an appropriate location in the same waterbody/environment.
196. If aquatic invasive species are found during dewatering activities, note their presence and abundance and contact the designated Parks Canada staff to ensure compliance with the *Aquatic Invasive Species Regulations*.
197. Relocate any fish as per applicable permits for capturing and relocating fish.
198. Complete salvage before work starts and, if appropriate, repeat if flooding occurs or if isolation is lost.
199. If temporary exclusion fencing is installed to prevent salvaged individuals from returning to the work area during construction, remove it upon completion of the project.

Supplementary Mitigations

200. A few supplementary mitigation(s) may be required to ensure all potential impacts are mitigated.

Approval

Original signed by Julie Tompa on May 6, 2021

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Julie Tompa
Director, Natural Resource Management Branch

Original signed by Kerry Buckley on May 6, 2021

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Kerry Buckley
Acting Executive Director, Asset Management and Project Delivery Branch

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Appendix 1

Example of Environmental Timing Windows Table

(to be deleted or adapted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Fish	AVOID INSTREAM WORK					Least risk window for work in and around freshwater, June 15 – Sept 15				AVOID INSTREAM WORK		
Birds	Reduced risk for harm to birds			AVOID VEGETATION REMOVAL Bird Nesting Period: April - Mid August					Reduced risk for harm to birds			
Bats	Bat in Hibernacula				Bats Nursing Pups						Bat in Hibernacula	
Turtles	Hibernation		Road Mortality		Nesting -avoid disturbance		Road Mortality		Hatchlings – avoid disturbing	Road Mortality	Hibernation	
Snakes	Avoid disturbance of Hibernacula				Road Mortality		Peak : breeding, live young Mitigate road mortality			Migration Road mortality	Avoid disturbance of Hibernacula	
Others:												

Site-Specific Restricted Activity Periods

(to be completed and included in Supplementary Mitigations section)

Site-specific Restricted Activity Periods			
Species	**Applicable**	**Date of Restricted Activity Period**	**Notes or Supplemental Mitigations**
Bird breeding and migration	☐	[….]	
Fish spawning and migration	☐	[….]	
Mammal maternity season or hibernation	☐	[….]	
Reptile migrations, nesting and hatching	☐	[….]	
Amphibian migrations, nesting and hatching	☐	[….]	
Other	☐	[….]	