

Monthly Status Report

Reporting Period
November 2022

1. Introduction

1.1 Project Overview

The Kicking Horse Canyon Project – Phase 4 (KHCP4) is located on the Trans-Canada Highway approximately 4 km east of the Highway 95 junction at Golden BC. It is the final phase of the 26 km-long Kicking Horse Canyon Project which has been incrementally improving the highway to a modern four lane standard at a 100 km/h design speed, including bridge replacements and natural hazard reduction features to improve safety and reliability. The scope of work includes:

- Widening 4 km of two lane and 0.8 km of three lane highway to four lanes
- Highway realignment to a 100 km/h design speed
- Installation of median barrier, wildlife exclusion fencing and passages
- Provision of snow avalanche and rock fall hazard reduction measures; and
- Shoulder widening for cyclists

Construction of the fourth and final phase to complete the remaining – and most difficult – 4.8 kilometres is expected to be substantially complete in winter 2023-24.

Additional information and updates about the Project can be found on the Project's website <https://www.kickinghorsecanyon.ca/>

1.2 Project Delivery

Transportation Investment Corporation, a provincial Crown corporation, is delivering and overseeing this \$601 million Project. The Project is being delivered under B.C.'s Community Benefits Agreement and the Project workforce is being provided by B.C. Infrastructure Benefits Inc. (BCIB)

The Project is cost-shared, with the Government of Canada contributing \$215 million.

Kicking Horse Canyon Constructors (KHCC) was selected to design and construct the fourth and final phase of the Kicking Horse Canyon Project near Golden.

The Project is a multi-phase Project to improve safety and mobility over approximately 26 kilometres of two-lane highway. Three phases of work have been completed. The fourth and final phase to transform the remaining section of about 4.8 kilometres is under construction.

1.3 Project Goals

Based on the Ministry's mandate and results of consultation to date, six primary goals have been identified for the Project:

Transportation: Improve highway safety, capacity, and reliability of the highway corridor.

Financial: Plan and deliver the Project that meets the approved scope, schedule and budget targets cost effectively.

Environment: Reduce wildlife collision rates and minimize impacts on future wildlife movements.

Economic Development: Support the growth of the local and regional economy by improving highway safety and reliability and assist the efficient movement of people and goods along the Project corridor.

Social and Communities: Engage with Indigenous Communities, local communities, and key stakeholders to identify opportunities, issues and information pathways that will inform the delivery of the Project.

Deliverability: Constructable and operable.

2. Project Update

2.1 Project Dashboard

Objectives			Project Status	Comments
Project Delivery	Scope	Meet the approved scope.	●	<ul style="list-style-type: none">The Project includes the widening of 4.8km of Highway 1 to a 4-lane 100km/hr. standard and is being delivered within the approved scope.
	Schedule	Delivered within the approved schedule.	●	<ul style="list-style-type: none">The Project is on schedule to be completed by winter 2023/2024.
	Budget	Delivered within the approved budget. Total Project budget is \$601 million.	●	<ul style="list-style-type: none">Project spending for the month of November 2022 was \$18.3 million and total Project spending to date is \$428.4 million.Total Federal Recoveries to date are \$193.8 million.The Project is forecast to be delivered within budget.
	Safety	Take every reasonable step to ensure that our work is performed safely and in compliance with all applicable safety regulations, and in accordance with government policy.	●	<ul style="list-style-type: none">Workplace Occupational Health and Safety (OHS) committee is in place and active.The Health and Safety Plan for Project work is in place which includes specific COVID-19 protocols.Lost Time Injury Frequency Rate (LTIFR) for the Project remains at 0. The 2021 average Injury Rate for Heavy Construction (Bridge, Overpass, or Viaduct Construction or Repair) is 1.2 as per WorkSafeBC.

		Objectives	Project Status	Comments
	Quality	Implement an effective Quality Management System.	●	<ul style="list-style-type: none"> Daily quality monitoring ongoing with no major issues observed.
	Environmental	Ensure our work is performed in an environmentally responsible manner.	●	<ul style="list-style-type: none"> Ongoing submission reviews for management plans. Ongoing weekly site surveillance visits.
	Archaeology	Ensure the work is performed in a manner that meets the standards of the Heritage Conservation Act.	●	<ul style="list-style-type: none"> Ongoing reporting.
	Design and Construction	Provide design and technical oversight, coordinate and manage activities on site, and conduct compliance reviews.	●	<ul style="list-style-type: none"> Oversight of Design-Build-Agreement (DBA) Project work. Compliance reviews during construction. Ongoing review of KHCC design and management plans. Regular site surveillance and inspections by Project team. Ongoing traffic management and active traffic monitoring during construction.
	Community Benefits	Work collaboratively with BC Infrastructure Benefits Inc. (BCIB) to successfully implement the Community Benefits Agreement (CBA).	●	<ul style="list-style-type: none"> Ongoing coordination and collaboration with BCIB to implement the CBA and meet workforce requirements.
Partners/Stakeholders	Indigenous Groups	Continue to build and maintain a positive collaborative working relationship.	●	<ul style="list-style-type: none"> Continued collaboration and engagement with Indigenous Groups on key environmental values. Continued engagement with KHCC and Indigenous Groups on contract and employment opportunities.
	Third Parties	Continue to build and maintain positive relationships and secure agreements with Project partners and other third parties.	●	<ul style="list-style-type: none"> Regular communication and coordination with CP Rail. Ongoing reviews of utility designs.
	Public and Stakeholder Engagement	Continue to build and maintain positive relationships with the community and other stakeholders.	●	<ul style="list-style-type: none"> Ongoing work to enhance quality and reliability of traffic notifications. Regular website and social media updates including highway status calendar and stakeholder notices.

Status	Description
●	Managing critical issues, negotiating resolution; action required immediately
●	Managing some issues, negotiating resolution; action required in the near term
●	Stay the Course – no action required

3. Project Documents and Achievements to Date

Project Delivery	Project Planning and Development	<ul style="list-style-type: none"> • <u>Business Case Supplemental Memo (2019)</u> • <u>Cost Report (2019)</u> • <u>Risk Report (2019)</u> • Executed Design-Build-Agreement (November 2020)
	Environmental	<ul style="list-style-type: none"> • <u>Environmental Synopsis Report (2016)</u> • <u>Various Environmental Reports (2005 – 2016)</u>
	Archaeology	<ul style="list-style-type: none"> • Heritage Inspection Permit 2019-0208 (2019) • Archaeological and Heritage Resource Management Plan (AHRMP)_(August 2020) • Site Alteration Permit 2020-0297 (October 2020) and subsequent amendments
	Community Benefits	<ul style="list-style-type: none"> • <u>Community Benefits Agreement (July 2018)</u> • BCIB Health and Safety Program (March 2020) • <u>BCIB Sub-Appendix with the Kicking Horse Project Information (March 2020)</u> • BCIB – Allied Infrastructure and Related Construction Council (AIRCC) Enabling Agreement Executed (May 2020)
	Third Parties	<ul style="list-style-type: none"> • Contribution Agreement – Government of Canada (2017)

4. November Highlights and Three Month Lookahead

4.1 Safety

Scope:	<ul style="list-style-type: none">• Establish Occupational Health and Safety (OH&S) Project delivery objectives and performance measures.• Manage Project OH&S activities and monitor performance metrics.• Ensure the Project complies with relevant WorkSafeBC regulations and government requirements.• Outline relevant health and safety management processes and activities.
Monthly Highlights:	<ul style="list-style-type: none">• An audit is scheduled for early December 2022.• There were no safety stats for November provided by the contractor at the time of this report.• Lost Time Injury Frequency Rate (LTIFR) for the Project is 0, which is less than the WorkSafeBC 2021 average of 1.2 for Bridge, Overpass, or Viaduct Construction or Repair (subsector Heavy Construction).
Three Month Lookahead:	<ul style="list-style-type: none">• Maintain Province's Safety Management Plan for implementation as part of the Design-Build-Finance Agreement to align with KHCC, Transportation Investment Corporation (TIC), the Owner's Engineer (OE) and Ministry of Transportation and Infrastructure requirements.• Conduct orientation and safety training for onsite personnel as required.• Conduct surveillance audits of KHCC's safety management performance.• Prepare for annual avalanche training and awareness.

4.2 Quality

Scope:	<ul style="list-style-type: none">• Establish quality objectives and performance measures.• Monitor relevant quality management performance metrics.• Manage Project quality management activities.
Monthly Highlights:	<ul style="list-style-type: none">• Reviewed five (5) Non-Compliance Reports (NCR) received from KHCC, no significant issues found. Suitable corrective actions were identified.• The Quality Advisor conducted an audit on November 24, 2022. No significant issues identified.
Three Month Lookahead:	<ul style="list-style-type: none">• Oversee quality of KHCC work onsite.• Record and distribute daily observation reports of work onsite.• Review KHCC quality records for compliance to the DBA.• Conduct monthly audits of KHCC quality processes.

4.3 Environmental

Scope:	<ul style="list-style-type: none">• Complete environmental reviews of KHCC's submissions.• Support communications team with stakeholder engagement.• Conduct site surveillance and provide environmental support to Project as and when needed.
Monthly Highlights:	<ul style="list-style-type: none">• Reviewed KHCC submissions, permits and designs.• Regular and ongoing site environmental surveillance.• Conducted Spill Management and Emergency Response Audit in November. No significant issues identified.
Three Month Lookahead:	<ul style="list-style-type: none">• Review KHCC's environmental submissions.• Conduct site environmental surveillance.• Continue collaboration with the Golden District Rod and Gun Club and the Ktunaxa Nation Council on bighorn sheep monitoring.

4.4 Archaeology

Scope:	<ul style="list-style-type: none">• Managing, directing, and undertaking all archaeological work, including Archaeology Impact Assessment (AIA), Systematic Data Recovery (SDR), and monitoring.• Providing the Province and KHCC with information for the management of archaeological and heritage resources.• Responding to chance archaeological or heritage finds.
Monthly Highlights:	<ul style="list-style-type: none">• Ongoing reporting.
Three Month Lookahead:	<ul style="list-style-type: none">• Continued work on reporting to meet permitting requirements through winter 2022.• Submit alteration permit amendment requests if chance finds are encountered.

4.5 Design and Construction

Scope:	<ul style="list-style-type: none">• Travel demand forecasting, traffic operations modelling, traffic data collection, and other related engineering services in support of the traffic management regime proposed for the Project.• Provide technical support to the Project team during the review of contractor submittals.• Oversight of DBA Project work.• Compliance reviews during construction.• Develop plans for managing traffic along the alternate route Highway 93/95 during full Project closures.• Establish agreements with other jurisdictions for provision of services along the alternate route.
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Monthly Highlights:

- The extended traffic closure ended on November 25, 2022, 5 days ahead of schedule. Traffic has moved to the newly constructed eastbound lanes in most areas of the Project.
- KHCC has 3 pile installation rigs and 4 available crews on rotation conducting foundation pile installation operations, working primarily on the eastbound lanes underway throughout the Project.
- Sheep's Bridge – Moved all traffic to newly constructed bridge deck. Only miscellaneous metals and guard rails installation remaining.
- Bighorn Viaduct – Traffic now utilizing eastbound lanes with tie ins to westbound lanes still to be completed.
- Bighorn Bridge – Cast in place (CIP) deck and parapets complete except at tie ins with westbound lanes with traffic now using eastbound lanes.
- Lynx Viaduct – CIP deck and eastbound parapet, expansion joint and handrail installation completed with traffic now using eastbound lanes. Westbound foundation piles installation underway.
- Frenchman's Bridge – CIP deck, parapets, deck joints and handrail installation completed with traffic now using eastbound lanes. Placement of westbound lane girders underway.
- Frenchman's Viaduct – CIP deck, parapet and handrail installation completed with traffic now using eastbound lanes.
- Elk Viaduct – Concrete deck, parapet and handrail installation completed with traffic now using eastbound lanes.
- Cut 1 – Upslope rockfall attenuator installation and production blasting and rock excavation underway.
- Cut 3 – All excavation to subgrade completed with subbase and base gravels underway. Rock slope stabilization and drape mesh installation ongoing concurrently.
- Cut 4 – Mechanical rock excavation in the Cut 4 area (Blackwall) is ongoing as required for access to foundation piles, pile caps and stringers.
- Wolf Viaduct – CIP concrete deck, parapets, railings, keyway and expansion joints completed with traffic now using eastbound lanes.
- Bison Upslope Wall – Erosion and worker protection in place and soil/rock anchors and first layer of shotcrete is complete. Second layer of shotcrete (architectural finish) to begin next year.
- Pronghorn Upslope Wall – Work will begin when traffic is switched to eastbound lanes in December.
- Grizzly Viaduct – Parapet closure CIP concrete underway.
- Grizzly Walls – CIP deck installation ongoing for eastbound lanes. Mechanically Stabilized Earth (MSE) wall erection at Grizzly Wall 2 and 3 is ongoing with final grading for the pavement structure underway.
- Blackwall Bridge – CIP concrete deck installation, parapet and expansion joint installation complete with traffic now using eastbound lanes.

	<ul style="list-style-type: none"> • Marmot Viaduct - CIP deck, parapet and railing installation complete with traffic now using eastbound lanes. • Caribou Viaduct - Pile cap and girder installation are underway. • Caribou Fill/Wall – Stabilization pile installation ongoing. • Hedgehog Wall/Viaduct – CIP deck, parapet and railings installation complete with traffic now using eastbound lanes. • Conducted a site review and tour on November 22, 2022, with B.C. Ministry of Transportation Bridge Engineering Group.
Three Month Lookahead:	<ul style="list-style-type: none"> • Province review of documents and management plans as they are finalized. • Manage slope survey monitoring consultant. • Undertake site surveillance, inspections, and audits by Project team, including OE Lead Engineer, OE Quality Manager, and OE Safety Advisor. • Preparation for Spring Closure and Commuter Pass Program for 2023. • Commence winter work on westbound lanes in December. • Monitor KHCC traffic management performance through site.

4.6 Indigenous Groups

Scope:	<ul style="list-style-type: none"> • Fulfill Province’s duty to consult and accommodate Identified Indigenous communities and facilitate engagement and collaboration with communities on environmental and socio-economic interests.
Monthly Highlights:	<ul style="list-style-type: none"> • Project team meetings with Indigenous communities. • Continued collaboration with KHCC Indigenous Contracting and Employment Coordinator (ICEC) on employment opportunities for Indigenous Groups.
Three Month Lookahead:	<ul style="list-style-type: none"> • Continue regular meetings with all Identified Indigenous Groups, including the Pespesellkwe, Ktunaxa, and Shuswap Indian Band. • Continue monitoring and collaring of Bighorn sheep with Ktunaxa Nation Council (KNC) and Golden Rod and Gun Club.

4.7 Third Parties

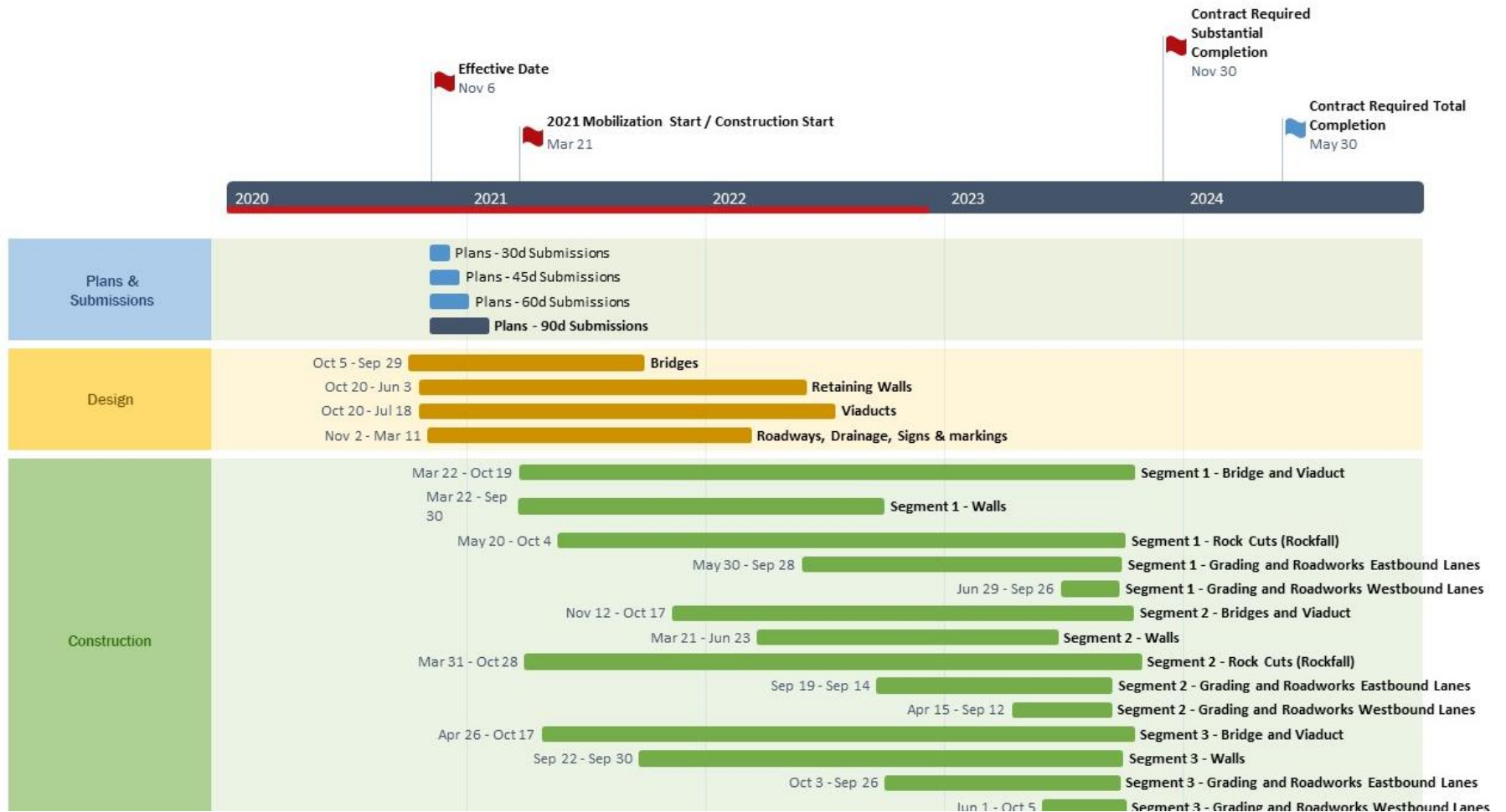
Scope:	<ul style="list-style-type: none"> • Develop utilities and rail agreements as required. • Secure local and regional government approvals as required.
Monthly Highlights:	<ul style="list-style-type: none"> • Regular communication and coordination with CP Rail. • Ongoing reviews of utility designs.
Three Month Lookahead:	<ul style="list-style-type: none"> • Continue implementation of Protocol Agreement. • Ongoing review of KHCC utility designs. • Undertake Phase 2 temporary utility relocation. • Coordinate blasting with CP.

4.8 Public and Stakeholder Engagement

Scope:	<ul style="list-style-type: none">• Manage ongoing public and stakeholder communications and engagement.
Monthly Highlights:	<ul style="list-style-type: none">• Released monthly Project newsletter.• Responded to public/stakeholder inquiries.
Three Month Lookahead:	<ul style="list-style-type: none">• Oversight of KHCC's communication and public engagement obligations and activities.• Build awareness of construction and traffic management activities with media info bulletins/interviews, website updates, newsletters and advisories, and social media.• Continue direct dialogue with key stakeholders.

5. Schedule

The following schedule depicts deliverables, milestones and associated dates and timelines for the implementation phase of the Project, as well as anticipated construction timelines.



6. Project Photos



Figure 1: Bighorn Bridge – Traffic heading through site on the new alignment – November 26, 2022



Figure 2: Cut 1 – Crews installing attenuator posts – November 28, 2022



Figure 3: Cut 4 – Excavation of old highway at east end – November 28, 2022



Figure 4: Caribou Viaduct - Ground preparation for eastbound abutment – November 26, 2022



Figure 5: Elk Viaduct - Excavation of future westbound lanes of the Viaduct – November 25, 2022



Figure 6: Lynx Viaduct – Crews installing piles – November 30, 2022